PRODUCT CATALOG

IDENTIFICATION SOLUTIONS

Image-based code readers, bar code scanners, RFID, hand-held scanners, connectivity

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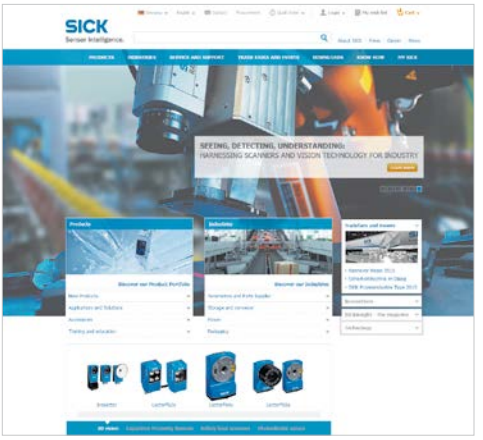
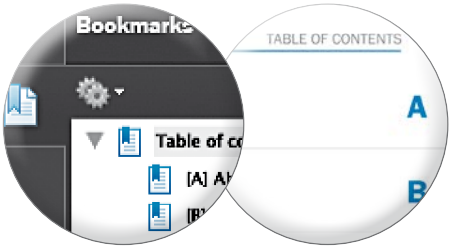


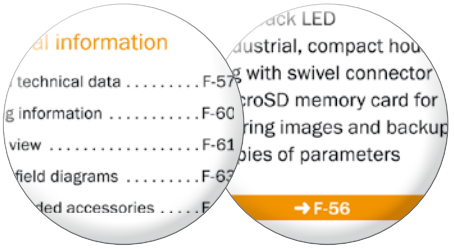
NAVIGATION IN THE PDF DOCUMENT – LINKS DIRECTLY TO THE INTERNET

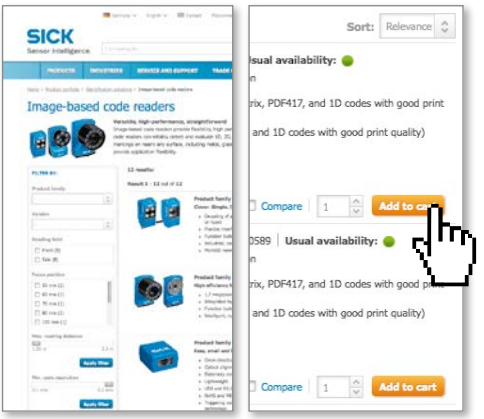
By bookmarks and tables of contents



By links, QR codes and part numbers

By page references





WE DECIPHER YOUR CODE ... ... USING THE VERY LATEST IDENTIFICATION TECHNOLOGY

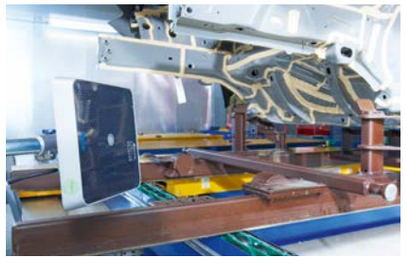
1D code

Stacked code

2D code

OCR

RFID tag



Page	Product		Supported code type					Focussing				Reading distance/scanning range			
			1D code	Stacked code	2D code	OCR	RFID tag	Fixed focus	Adjustable focus	Dynamic focus control	Auto focus	Up to max. 1 m	Up to max. 2 m	Up to max. 5 m	
Image-based code readers															
→ F-56		Lector62x	■	■	■	■			■		■	■			F
→ F-66		Lector63x	■	■	■	■ [1]			■		■		■		F
→ F-74		Lector64x	■	■	■	■ [1]			■					■	F
→ F-80		Lector65x	■	■	■	■ [1]			■	■	■			■	F
→ F-92		ICR80x	■	■	■	■		■				■			F
→ F-96		ICR88x	■	■	■	■				■			■		F
→ F-100		ICR89x	■	■	■	■				■				■	F
Bar code scanners															
→ G-116		CLV61x	■					■				■			G
→ G-124		CLV61x Dual Port	■					■				■			G
→ G-128		CLV62x	■					■				■			G
→ G-136		CLV63x	■					■				■			G
→ G-144		CLV64x	■						■	■		■			G
→ G-150		CLV65x	■						■	■	■		■		G
→ G-156		CLV69x	■						■	■	■			■	G
RFID															
→ H-170		RFH6xx					■					■			H
→ H-176		RFU62x					■					■			H
→ H-182		RFU63x					■							■	H
Hand-held scanners															
→ I-200		IDM12x	■	■											I
→ I-204		IDM14x	■	■				■				■			I
→ I-208		IDM16x	■	■				■				■			I
→ I-214		IDM24x	■	■	■			■				■			I
→ I-220		IDM26x	■	■	■			■				■			I

[1] Available from the second half of 2016.

For typical applications, see → chapter D

A WE DELIVER “SENSOR INTELLIGENCE.”

SICK sensor solutions for industrial automation are the result of exceptional dedication and experience. From development all the way to service: The people at SICK are committed to investing all their expertise in providing with the very best sensors and system solutions possible.

A company with a culture of success

Almost 7,000 people are on staff, with products and services available to help SICK sensor technology users increase their productivity and reduce their costs. Founded in 1946 and headquartered in Waldkirch, Germany, SICK is a global sensor specialist with more than 50 subsidiaries and representations worldwide. The people work with pleasure at SICK.

This is demonstrated by the accolades that the company is regularly awarded in the “Great Place to Work” competition. This lively corporate culture holds strong appeal for qualified and skilled persons. In SICK, they are part of a company that ensures an excellent balance between career progression and quality of life.

Innovation for the leading edge

SICK sensor systems simplify and optimize processes and allow for sustainable production. SICK operates at many research and development centers all over the world. Co-designed with customers and universities, our innovative sensor products and solutions are made to give a decisive edge. With an impressive track record of innovation, we take the key parameters of modern production to new levels: reliable process control, safety of people and environmental protection.

A corporate culture for sustainable excellence

SICK is backed by a holistic, homogeneous corporate culture. We are an independent company. And our sensor technology is open to all system environments. The power of innovation has made SICK one of the technology and market leaders – sensor technology that is successful in the long term.

A

“SENSOR INTELLIGENCE.” FOR ALL REQUIREMENTS

SICK is a renowned expert in many industries, and is entirely familiar with the critical challenges they face. While speed, accuracy and availability take center stage in all industries, technical implementations vary greatly. SICK puts its vast experience to use to provide with precisely the solution you need.

For applications worldwide

Hundreds of thousands of installations and applications go to prove that SICK knows the different industries and their processes inside out. This tradition of uncompromising expertise is ongoing: As we move into the future, we will continue to design, implement and optimize customized solutions in our application centers in Europe, Asia and North America. You can count on SICK as a reliable supplier and development partner.

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For your specific industry

With a track record of proven expertise in a great variety of industries, SICK has taken quality and productivity to new heights. The automotive, pharmaceutical, electronics and solar industries are just a few examples of sectors that benefit from our know-how. In addition to increasing speed and improving traceability in warehouses and distribution centers, SICK solutions provide accident protection for automated guided vehicles. SICK system solutions for analysis and flow measurement of gases and liquids enable environmental protection and sustainability in, for example, energy production, cement production or waste incineration plants.

For performance across the board

SICK provides the right technology to respond to the tasks involved in industrial automation: measuring, detecting, monitoring and controlling, protecting, networking and integrating, identifying, positioning. Our development and industry experts continually create groundbreaking innovations to solve these tasks.

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A SERVICES FOR MACHINES AND SYSTEMS: SICK LifeTime Services

SICK LifeTime Services is a comprehensive set of high-quality services provided to support the entire life cycle of products and applications from plant walk-through to upgrades. These services increase the safety of people, boost the productivity of machines and serve as the basis for our customers' sustainable business success. LifeTime Services range from product-independent consulting to traditional product services and are characterized by extensive industry expertise and more than 60 years of experience.

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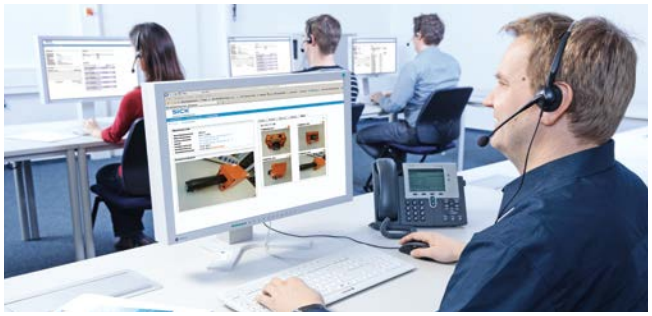


Consulting and design

- Plant walk-through
- Risk assessment
- Safety concept
- Safety software and hardware design
- Validation of functional safety
- CE-conformance check

Product and system support

- Installation
- Commissioning
- Start-up support
- Calibrations
- Telephone support
- 24-hour helpline
- SICK Remote Service
- Troubleshooting on site
- Repairs
- Exchange units
- Extended warranty

Verification and optimization

- Inspection
- Stop time measurement
- Machine safety inspection
- Electrical equipment check
- Accident investigation
- Initial verification
- Performance check
- Maintenance

Upgrade and retrofits

- Upgrade services

Training and education

- Training
- Seminars
- Web training

A

VERSATILE PRODUCT RANGE FOR INDUSTRIAL AUTOMATION

From the simple acquisition task to the key sensor technology in a complex production process: With every product from its broad portfolio, SICK offers a sensor solution that best combines cost effectiveness and safety.

→ www.sick.com/products

Photoelectric sensors

- MultiTask photoelectric sensors
- Miniature photoelectric sensors
- Small photoelectric sensors
- Compact photoelectric sensors
- Cylindrical photoelectric sensors
- Fiber-optic sensors and fibers

Proximity sensors

- Inductive proximity sensors
- Capacitive proximity sensors
- Magnetic proximity sensors

Magnetic cylinder sensors

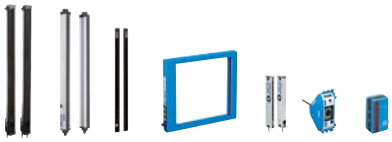
- Analog positioning sensors
- Sensors for T-slot cylinders
- Sensors for C-slot cylinders
- Sensor adapters for other cylinder types

Registration sensors

- Contrast sensors
- Markless sensors
- Color sensors
- Luminescence sensors
- Fork sensors
- Array sensors
- Register sensors

Automation light grids

- Measuring automation light grids
- Switching automation light grids



Opto-electronic protective devices

- Safety laser scanners
- Safety light curtains
- Safety camera systems
- Multiple light beam safety devices
- Single-beam photoelectric safety switches
- Mirror columns and device columns

Safety switches

- Electro-mechanical safety switches
- Non-contact safety switches
- Safety command devices

sens:Control – safe control solutions

- Safety controllers
- Safe sensor cascade
- Safety relays

Gas analyzers

- Gas transmitters
- In-situ gas analyzers
- Extractive gas analyzers

Dust measuring devices

- Scattered light dust measuring devices
- Transmittance dust measuring devices
- Gravimetric dust measuring devices

Analyzer solutions

- CEMS solutions
- Process solutions

A

Traffic sensors

- Tunnel sensors
- Overheight detectors
- Visual range measuring devices

Ultrasonic gas flow measuring devices

- Volume flow measuring devices
- Mass flow measuring devices
- Flow velocity measuring devices
- Gas flow meters
- Flow computers

Motor feedback systems

- Motor feedback system rotary HIPERFACE®
- Motor feedback system rotary HIPERFACE DSL®
- Motor feedback system rotary incremental
- Motor feedback system rotary incremental with commutation
- Motor feedback system linear HIPERFACE®

Encoders

- Absolute encoders
- Incremental encoders
- Linear encoders
- Wire draw encoders
- Safety encoders

Identification solutions

- Bar code scanners
- Image-based code readers
- Hand-held scanners
- RFID

Vision

- Vision sensors
- Smart cameras
- High-end cameras

Distance sensors

- Short range distance sensors (displacement)
- Mid range distance sensors
- Long range distance sensors
- Linear measurement sensors
- Ultrasonic sensors
- Double sheet detection
- Optical data transmission
- Position finders

Detection and ranging solutions

- 2D laser scanners
- 3D laser scanners

Fluid sensors

- Level sensors
- Pressure sensors
- Flow sensors
- Temperature sensors

System solutions

- Customized analyzer systems
- Collision awareness systems
- Flexible automation systems
- Object detection systems
- Profiling systems
- Quality control systems
- Security systems
- Track and trace systems

1D codes, also known as bar codes, are a data encoding technology. With the help of a suitable reader, the information within a bar code can be decoded and assigned to a specific object.

➜ Page B-16

➜ www.sick.com/more-than-a-vision

MORE THAN A VISION

Intelligent questions have more than one answer.
The best technology depends on the task at hand.

In the real world, providing an effective solution for automatic identification requires more than just one technology. With SICK you have a choice. Three technologies, one philosophy: customer needs come first.

For every identification task, the same question is asked: Which technology is best? And as always in life, there is never just one answer for every question. The best possible solution is always tailored to the individual technical and economic conditions of the application.

Three identification technologies have dominated the market for many years: RFID, image-based code readers and laser-based bar code scanners. As the market leader in automatic identification, SICK has not only mastered all the main technologies, but also poses the right questions to ensure the right products are selected from its technology portfolio.

Readers based on camera technology are used to read codes. There are two different types of image-based readers, which include line scan cameras and matrix cameras.
➜ Page B-20

RFID is becoming an increasingly popular identification technology in applications where process reliability is the main priority. RFID, which is used to identify and track products, is ideal for providing more transparent information in complex process flows.
➜ Page B-24

B

1D CODES (BAR CODES)

How it works

The encryption of the information contained in the bar code is based on the binary principle (0 or 1), which uses the information contained in the gaps (typically a reflective element) and the bars (typically an absorbent element). To read the bar code, you use a reader that emits red light (laser) onto the codes and converts the light reflected off the bars and gaps into a binary signal. A processor inside the reader digitizes the analog signal it receives, decodes it and sends the information to the host in a suitable format.

Although laser-based readers are often used to read 1D codes, camera-based technologies can also be used to read these codes. Unlike the laser scanner, the information is not evaluated from the binary signal but from an image.

Depending on the appearance of the object that it is directed at, some of the light emitted by the readers is absorbed by the material, some passes through the surface, and some is reflected back in modified form.

Components of a bar code

The basic components of a bar code are the “quiet zone,” “start character,” “information,” “check digit” and “stop character.”

The information is encoded by arranging the bars and gaps in a specific order (see below). There are two types of bar codes: discrete codes, in which only the bars contain information, and continuous codes, in which both the bars and gaps contain information. The quiet zones are the white zones before and after the code. These zones are necessary to start and stop the reading operation. They must be at least ten times larger than the smallest bar or the smallest gap in the code.

The start and stop characters contain information about the type of code and enable reading in either direction. The information part contains data for identifying either the product or some of its features. Each symbol is represented by a corresponding sequence of gaps and bars. Some code types only represent numerical sequences, while others represent alphanumeric ones. Depending on which type of code is used to encode the information, each section of the code can be represented by a different number of bars and gaps, which makes it possible to influence the density of the bar code.

B

Effect of a bar code's print quality on the received signal

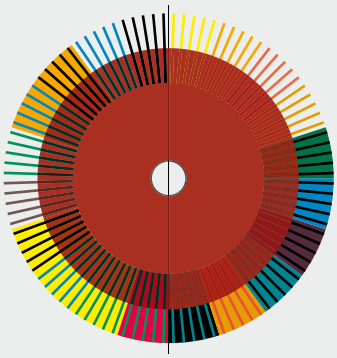
Bar codes that are printed in sub-standard quality create false signals that could be interpreted incorrectly or not at all. The print quality of a bar code is determined by the PCS (print contrast signal).

This is calculated as follows:

$$\frac{\text{background reflection} - \text{bar reflection}}{\text{background reflection}}$$

To ensure reliable reading, the PCS should be ≥ 75 %.

In the bar contrast chart below, you can see bar elements of a high PCS on the left, and on the right, it shows a low PCS. The red surface simulates the reader's laser light. Image-based code readers using white-light illumination can be used to identify red bar codes.



Common 1D bar code types

There are many types of 1D codes. The following five code types are the most common.

Code 2/5 Interleaved

Continuous code is primarily used in industrial environments. **Only numerical characters** are accepted. An information digit consists of five elements (two wide and five narrow) and enables information-dense codes. This is an all numeric bar code that has to printed in small space.

Code 128/EAN 128

Continuous code, mainly used in industrial environments (EAN 128), enables the **complete encoding of the ASCII character set**. The major advantage of this code is the ability to manage large variety and density of information.

Code EAN/UPC

Continuous code is mainly used for the consumer market (UPC codes primarily used in America). Only **numerical characters** are accepted, with a specified length (8 or 13 digits for EAN and 6 or 12 digits for UPC).

Code 39

Discrete code is mainly used in industrial environments. **Alphanumeric characters** are accepted. An information digit consists of nine elements (three wide bars and six narrow ones) and therefore possesses a lower density of information.

Code PDF417

Unlike conventional bar codes, a stacked code illustrates the code information on both the x-axis and the y-axis. In comparison to a bar code, the area required for depicting the code is reduced by means of compression or "stacking". At the same time, however, this area can store more information.

B

Possible alignments of the bar code

There are various options for arranging the encoded objects based on the direction of movement. Depending on the application and the installation situation, a suitable scanner can be used.

Ladder orientation = bar code element parallel to the direction of movement

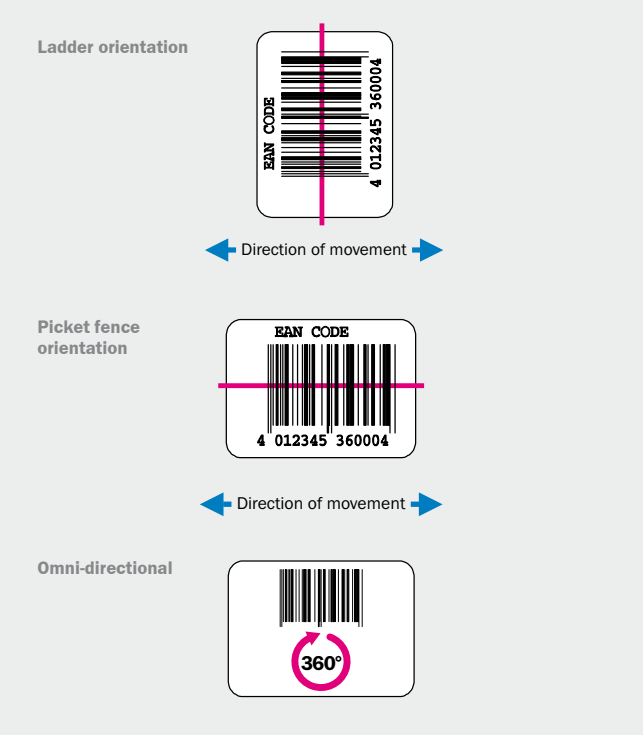
For this type of application, a line scanner is normally used. The line scanner uses the movement of the scanned object to read the code.

Picket fence orientation = bar code element perpendicular to the direction of movement

To satisfy a variety of reading situations, you can select from three different scanner types, including line scanner, raster scanner and scanner with oscillating mirror (see below).

Omni-directional = all rotational orientations

If the alignment of the bar code varies in the application, multiple laser scanners can be used to create an "X" pattern or an image-based code reader can be used to read bar codes independent of orientation.



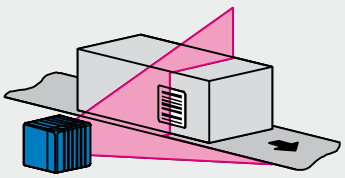
Scanning methods

Laser scanners

Line scanners

Line scanners, which emit a single scan line, use the movement of the bar code to read it. The scanners can be placed at right angles to the bar code or tilted by a few degrees, depending on the alignment of the bar code and the decoding type supported by the reader.

- For fast transport speeds
- Codes must be aligned

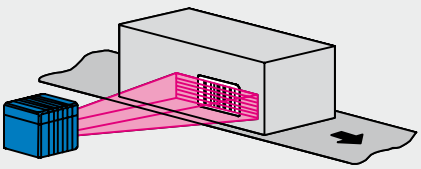


Arrangement of a line scanner's scan line for 1D code on the object and in terms of the direction of movement.

Raster scanners

Raster scanners emit multiple parallel scan lines. They are used for the "picket fence orientation" described above and provide a high degree of redundancy if a code has stains or faulty areas on it.

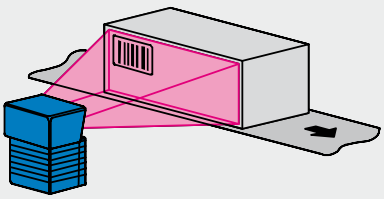
- High degree of decoding reliability
- Codes must be aligned



Arrangement of a raster scanner's scan lines for 1D code on the object and in terms of the direction of movement.

Scanners with oscillating mirror

Scanners with oscillating mirrors have an oscillating scan line. They make it possible to read codes if the bar code position is not firmly defined or multiple codes have to be recorded within the scanned area.



Arrangement of a line scanner with oscillating mirror's scan lines for 1D code on the object and in terms of the direction of movement.

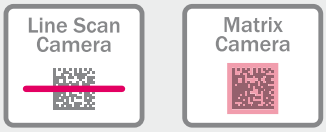
B

Image-based code readers

Image-based code readers offer a high degree of flexibility in terms of code types that can be used, print quality and color, and code orientation. They can identify both 1D bar codes and 2D codes.

- Codes need not be aligned
- Decode 1D and 2D codes
- Image-based code readers allow you to record images for downstream tasks such as OCR reading, image storing and video coding

For details about the camera technology, see ➜ page B-20



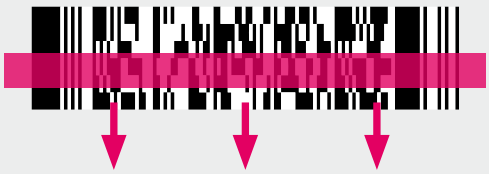
Hand-held scanners

Hand-held scanners can be used as individual scanners or even in conjunction with fixed laser scanners or image-based code readers. They are capable of detecting both 1D and 2D codes, depending on the model. When detecting stacked codes with a line-scan camera, the scanning line must be moved over the code.

- Decode 1D and 2D codes
- Omni-directional code readability
- A target LED or target laser simplifies the process of aiming at the code

More information on hand-held scanners can be found on ➜ page B-23

Reading conventional 1D codes without movement of the scanning line.



Reading stacked codes with movement of the scanning line over the code.

Code reading systems

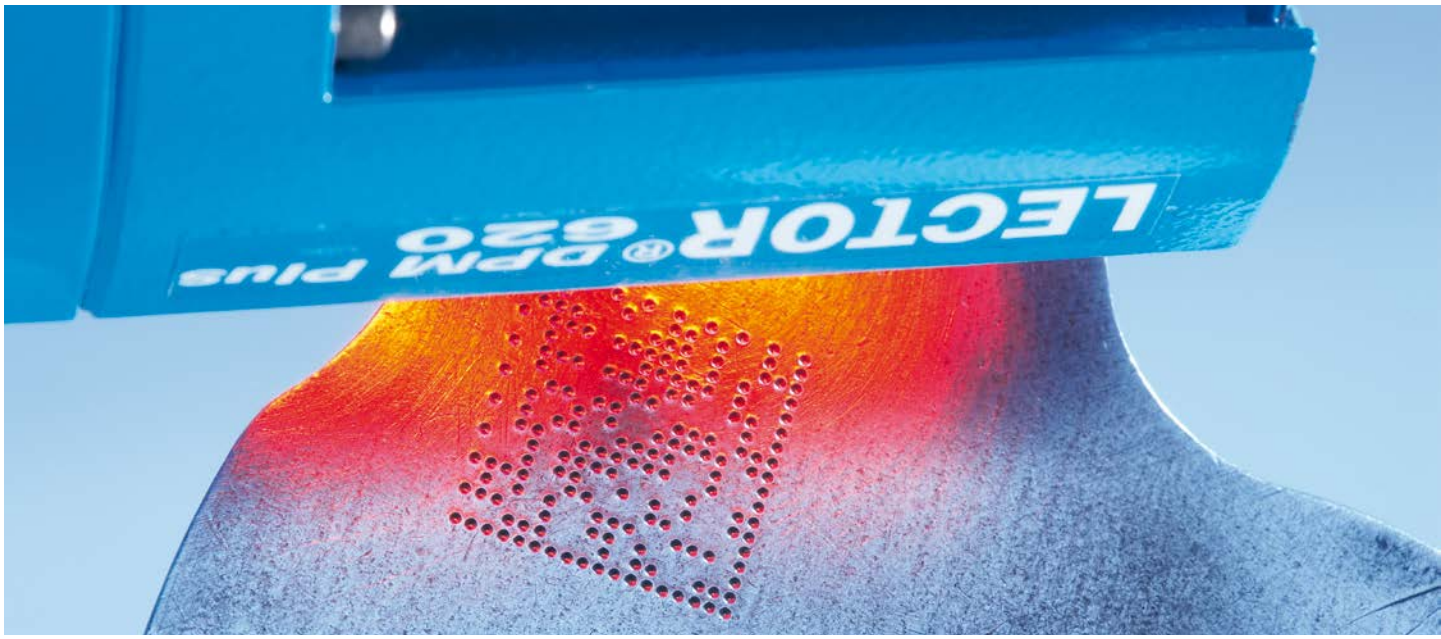
If the application requirements are challenging, a network of multiple code readers technologies can solve almost any task.

- Codes read independent of orientation
- Individual adjustment of the systems to meet your needs
- Multiple sides of an object can be scanned
- Record images for downstream tasks such as OCR reading, image storing and video coding

For details about our individual system solutions, see ➜ page E-40

B

2D CODES



Advantages of 2D codes

The recent popularity of 2D codes is due to its high density of information and minimal space requirements. It is the code of choice for secure identification and verification, seamless parts tracking and reliable variant production control. 2D symbologies are preferred technologies for direct part marking (DPM) applications. The most common Data Matrix codes are the Data Matrix ECC200, QR codes, MaxiCodes, and Aztec codes, with the Data Matrix ECC200 used most frequently in all branches of industry throughout the world. In addition to these, stacked codes such as the PDF417 can also be found in use.

Data Matrix ECC200

QR-Code

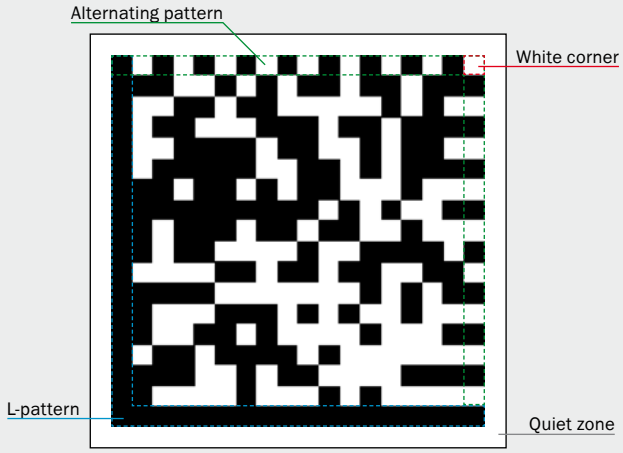
Maxi-Code

Aztec-Code

Particular highlights of the Data Matrix ECC200 include:

- Minimal space requirements with large data capacity (e.g., up to 3,116 numerical characters)
- High degree of scanning reliability due to the error correction algorithm (Reed-Solomon algorithm)
- Large data redundancy, meaning a code can be read even if 30 % of it is destroyed
- Omni-directional readability
- Globally standardized communication through international standards

Typical features of the "Data Matrix ECC200" 2D code



B

Increased flexibility provided by 2D codes

Multiple options for marking and reading 2D codes allow added flexibility.

Marking method

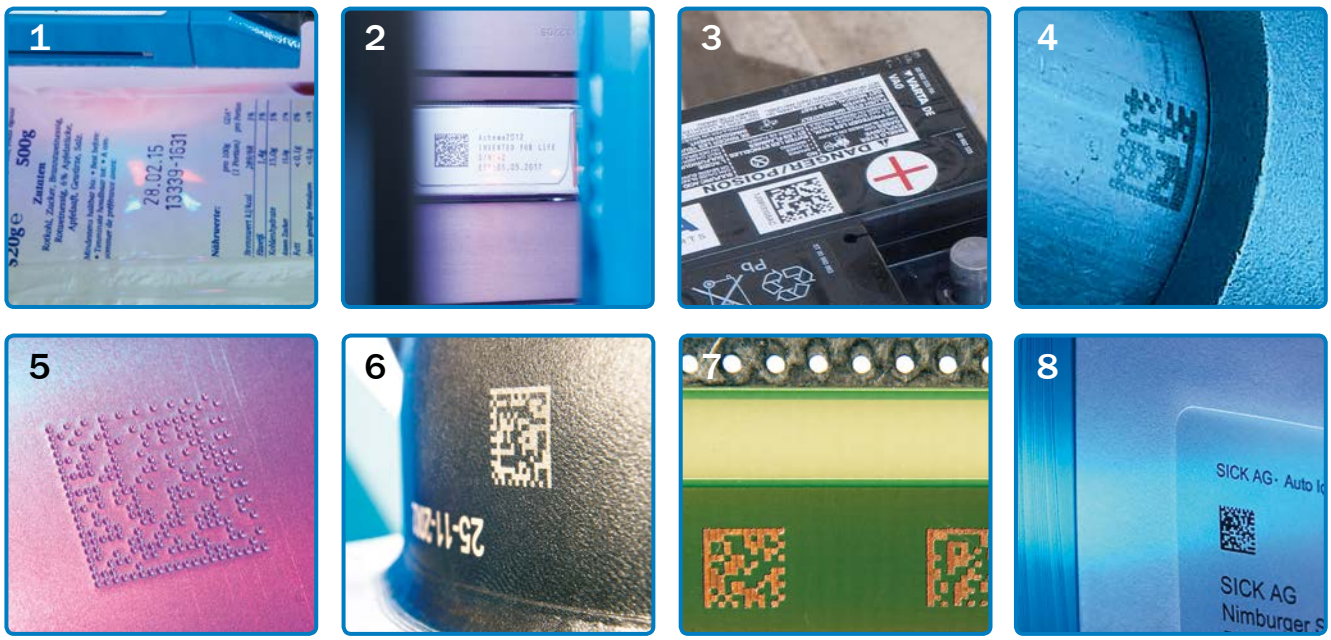
Direct part marking

The option of direct part marking (DPM) is a special feature of the 2D code. The code is applied directly to the object, without the use of a carrier material. This makes the object clearly identifiable throughout its product life. Depending on the application and object material, different methods are used:

- Laser printing
- Inkjet printing
- Dot peening
- Electrochemical etching

Indirect marking

Indirect marking is applied by attaching a label printed with the 2D code to the object.



Marking methods: (1) Embossing unit with color ribbon, (2) Inkjet printing, (3) Label on plastic, (4) Laser on metal, (5) Dot peening on metal, (6) Laser printing on convex plastic, (7) Laser printing on circuit board, (8) Inkjet printing on paper.

B

2D codes scanning methods

Image-based code readers

Image-based code readers are also suitable for reading 1D bar codes.

The line scan camera

The line scan camera reads 2D code information line by line. This information is then converted by software algorithms back into a two-dimensional image. The camera sensors read the individual lines at a very high frequency (e.g., 45 kHz), enabling them to complete identification tasks at very high conveyor speeds. With a large reading range the code can be flexibly positioned and oriented. The triggering takes place on the moving object.

- High resolution
- Identification at very high speeds is possible
- Triggering on object
- Distortion-free reading, even on curved objects

The matrix camera

A matrix camera works like a traditional digital camera where a two-dimensional image is recorded. With an image refresh rate of 25-200 Hz, objects can be identified when standing still or moving at high speeds. With this method, larger depth of field can be achieved. Additionally, it is easy to operate and has flexible lighting options. External LED lights and LED lights integrated into the device can be used to record an optimum image of the bar code for reading

- Large depth of field
- Flexible lighting
- Reading stationary and moving codes
- Simple commissioning

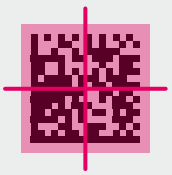
Hand-held scanners

Even hand-held scanners are based on the same principle of operation as a line-scan camera or a matrix camera. Their area of application includes standard tasks in everyday business, office, or laboratory environments (general purpose), as well as more demanding challenges in harsh industrial environments (industrial).

In addition to 1D codes, hand-held scanners from SICK can also read 2D codes in all directions and even allow images to be recorded for downstream tasks. They can either be operated manually or hands-free in presentation mode. Here, the scanner automatically identifies codes that are presented by hand and starts to read them.

In comparison to wired devices, the wireless hand-held scanner models offer a larger working range and are therefore even more flexible.

Reading with a line-scan camera.



Reading with a matrix camera.

B

RFID (RADIO FREQUENCY IDENTIFICATION)

How it works

RFID describes a broad range of technologies that use radio-based identification. The decisive components in an RFID system are the recording/reading unit, also known as an interrogator, and the mobile data carriers, referred to as transponders. The interrogator and transponders communicate via what is known as an air interface.

We differentiate between active and passive technology, and the various radio frequencies used for transmission.

In active systems, transponders have an independent power supply (battery), whereas in passive systems the transponders' electrical supply comes only through the air interface. In industrial automation, passive transponders in the high frequency (HF) range (13.56 MHz) and ultra-high frequency (UHF) range (between 860 MHz and 960 MHz) are most commonly used. This is mainly due to established industrial standards (ISO 18000) and the cost-effectiveness of passive transponders.

In **HF systems**, data transmission takes place within the interrogator antenna's near field. The magnetic alternating field supplies the transponders with energy and implements the data transfer between the recording/reading unit and the transponders. The ranges for recording and reading in the HF range are up to 0.5 m and vary according to the system layout (antenna size, sender power, transponders, metallic surroundings).

UHF systems work in the far field and are suitable for ranges of up to 6 m. The ranges that are possible depend on the sender power, transponders and external variants such as air humidity and metallic surroundings. Due to the physical properties (particularly "field obliteration" by reflections), UHF applications are used with moving objects.

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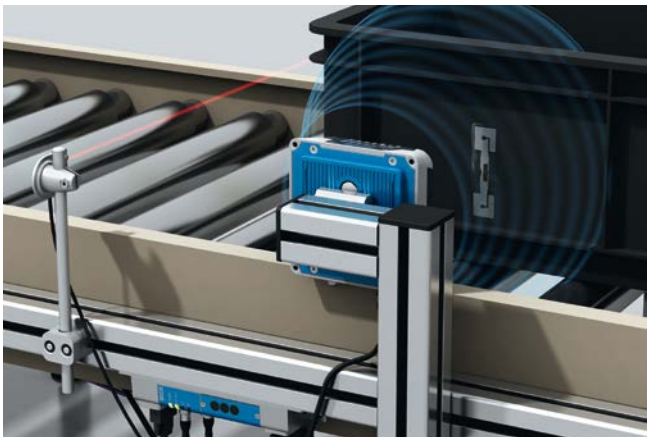
Applications

The use of “intelligent” RFID technology offers major opportunities for optimizing and controlling capacities, such as traceability and reliability. Identification via radio frequency opens up a new dimension of automated data capture. Maximum reliability, high speeds and above-average industrial compatibility are some of the benefits that make this technology ideal for a variety of new applications. This technique has been in widespread use for years to identify small animals and livestock, for immobilizers in automobiles and for admission control in buildings. International standards allow these to be used even in open applications, as well as in the automotive and logistics industries.



Process optimization with RFID

- **Up-to-date and reliable information**
  By combining the material flow with the information flow, the information systems constantly map the current flow of goods. The information in the system is therefore more precise and up-to-date.

- **Avoiding posting errors**
  Typical errors during receiving and issuing of goods, such as incorrectly recorded quantities, incorrectly posted products or forgotten postings, are now avoided.

- **Reducing search times**
  With RFID, postings are automated for transfers. This not only eliminates any manual labor, but also prevents manual errors and reduces costs.

- **Avoiding production downtime**
  Precise mapping of material movements in the information system leads to greater inventory accuracy and better delivery reliability.

- **Optimizing production planning**
  Since each material flow is immediately mapped in the information system, production planning can be scheduled more precisely due to more up-to-date information.

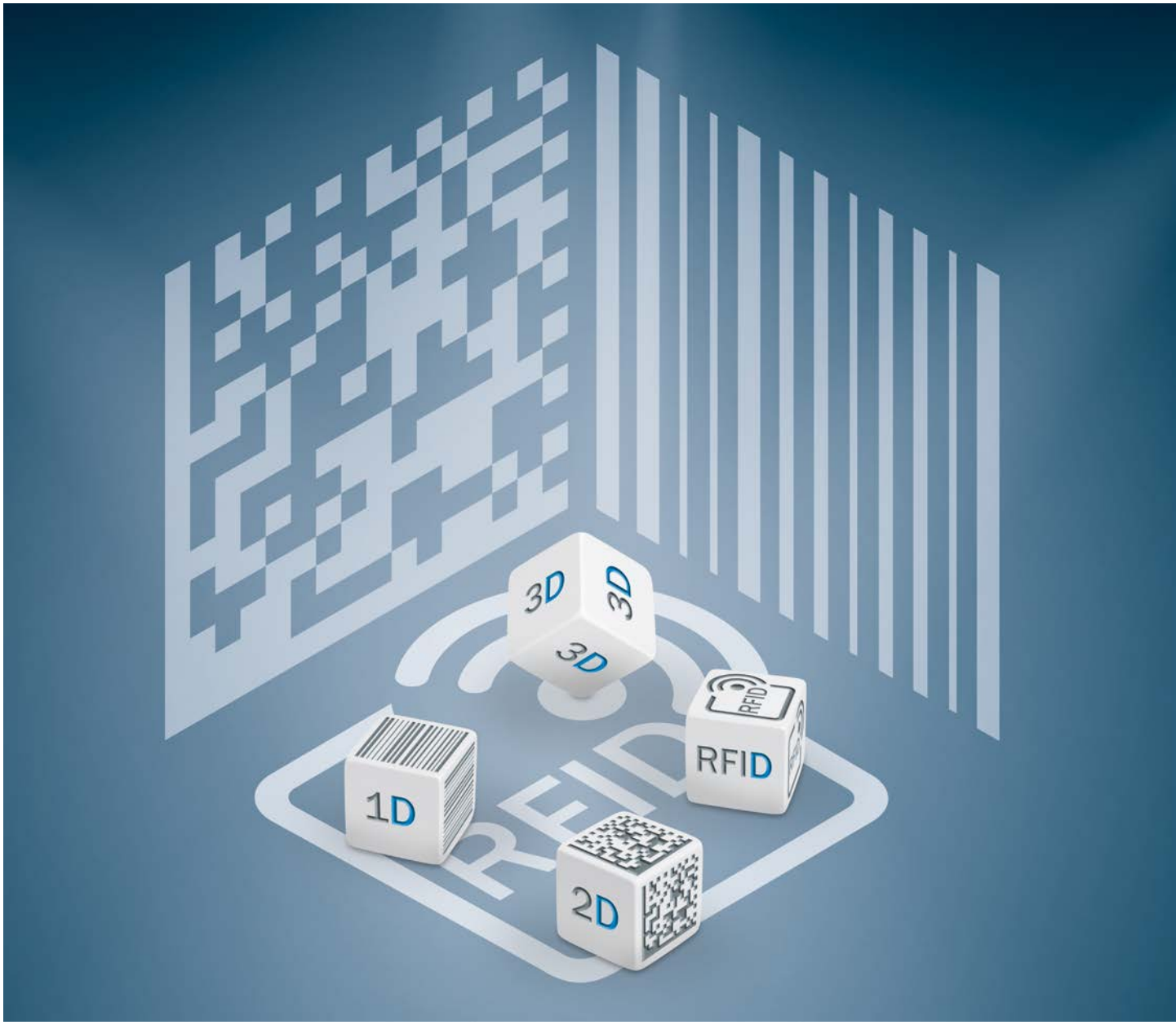
- **Lower capital commitment**
  Increased transparency and improved planning make it possible to reduce excess capacities in containers and release tied-up capital.

- **Remote process control**
  Since data is managed directly on the object, processes can also be controlled without direct access to databases (e.g., ERP systems). This increases plant availability and reduces costs for plant extensions.

Advantages of RFID

- Larger data quantities can be stored on the transponder
- New data can be rewritten to the transponders
- No visual contact required
- Bulk-compatibility, i.e., multiple transponders read simultaneously
- Dirt-resistant and maintenance-free system
- Reusable transponders
- Fully automated data capture possible with little effort

C



How you benefit from using 4D*pro* sensors

- **Investment security** due to the ability to switch between technologies
- **Simple commissioning** even with cross-technology applications
- **Fast and flexible exchange** thanks to standardized connectivity
- **Quick and easy integration** into programmable logic controllers (PLCs) as SICK provides the function blocks **free of charge**
- **Low storage effort** and **low storage costs** due to reduced component variety and accessory parts

You can find more information online at ➜ www.sick-4Dpro.com

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Ensure your investment over the long term

4D*pro* – THE FLEXIBILITY YOU NEED

The sensor manufacturer SICK offers a broad portfolio of identification and vision solutions which are developed and produced in-house. Regardless of which technology you choose today, you can be sure to be flexible in the future with the 4D*pro* concept. All 4D*pro* sensors are compatible and interchangeable. Standardized connectivity, a common user interface, and a common set of accessories – we call this unique combination 4D*pro*.

Standardized connectivity

All 4D*pro* sensors feature the same modular connectivity. This provides the basis for a flexible fieldbus connection combined with high process reliability. What's more, you benefit twice over: the purchase order process is less complicated and the integration effort is reduced.

Common user interface

All 4D*pro* sensors use SICK's universal device configuration software. This means that you can quickly familiarize yourself with all technologies. Data is sent to the control in the required format and the inputs and outputs of the 4D*pro* sensors can be analyzed quickly by an event monitor.

Common set of accessories

All 4D*pro* sensors are supported by the same accessory pool. This reduces both component variety and storage effort, smoothing the way for low storage costs.

4D*pro* sensors are identified by the 4D*pro* mark

Bar code scanners

Image-based code readers

Vision sensors

RFID read/write device

D

TYPICAL APPLICATIONS

We want you to be completely satisfied with our solutions to your sensor requirements. Therefore we take the tasks that you give us very seriously. In this chapter, we present typical applications that use our identification solutions.

The order of the descriptions in the catalog is organized into the following sectors:

- Airport
- Automotive and parts supplier
- Courier, express, parcel and postal
- Electronics
- Industrial vehicles
- Machine tools
- Pharma and cosmetics
- Retail and warehousing
- Rubber and plastics
- Storage and conveyor

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D

SELECTION GUIDE, APPLICATION OVERVIEW

D

	Image-based code readers				
	 Lector62x	 Lector63x	 Lector64x	 Lector65x	 ICR89x
Airport					
Qantas automates self-check-in with SICK technology					
Automotive and parts supplier					
Car body identification					
Identification of the mounting skid					
Mobile identification					
Traceability of parts	■	■			
Traceability of products in the production process					
Traceability of products in the production process		■			
Work station identification					
Courier, express, parcel and postal					
Camera-based identification from multiple sides					■
Decoding codes for an optimal sorting process		■	■	■	
Manual identification of items					
Manual package sorting and loading and unloading processes		■	■	■	
Mobile volume detection for objects and pallets					
Reading ladder barcodes on packages				■	
Electronics					
Advanced identification technology	■	■			
Mobile identification of placement material					
Industrial vehicles					
Driver assistance in narrow aisles with RFID					
Identifying goods using bar codes on a manned forklift truck					
Machine tools					
Mobile identification of production data					
Pharma and cosmetics					
Identification of product content, supplement sheets, labels and packaging using linear or 2D codes	■	■			
Retail and warehousing					
Hand-held scanners in the receiving process					
Rubber and plastics					
Mobile material identification					
Storage and conveyor					
Automated pallet identification with bar codes on pallet feet					
Automated tote identification with bar codes		■			
Automated tote identification with RFID					
Manual pick verification					
Premium automatic pallet identification with bar codes					
Remote control of diverters in package conveyor systems					

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	Bar code scanners							RFID			Hand-held scanners				Page
	 CLV61x	 CLV61x Dual Port	 CLV62x	 CLV63x	 CLV64x	 CLV65x	 CLV69x	 RFH6xx	 RFU62x	 RFU63x	 IDM14x	 IDM16x	 IDM24x	 IDM26x	
						■				■					→ D-32
										■					→ D-32
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D

AIRPORT

Qantas automates self-check-in with SICK technology

Fully automated self-check-in stations for baggage with SICK sensors provide Qantas passengers with a better pre-flight experience. At the fully automated self-check-in stations for flight baggage, the RFID and barcode scanners, automation light grids and laser measurement sensors from SICK offer a high level of reliability and optimum ease of use.

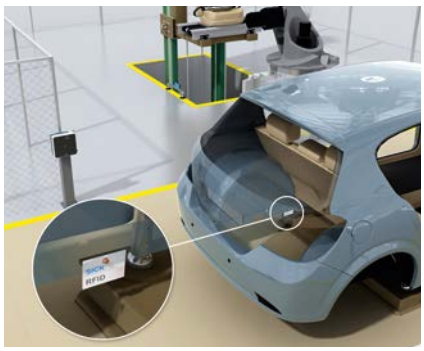
Recommended products

CLV65x G-150
RFU63x H-182
LMS1xx www.mysick.com/en/LMS1xx
MLG . . . . . www.mysick.com/en/MLG

AUTOMOTIVE AND PARTS SUPPLIER

Car body identification

D



The car body is identified reliably using UHF RFID technology at any production step. The RFID transponder – suspended in the wheel arch – is read at the reworking station at quite a distance as it passes. The required manual work steps are output on the basis of the information automatically written to the transponder during production.

Recommended products

RFU63x H-182

Identification of the mounting skid

Before the marriage, correct chassis is checked including power train is connected to the car body. To do this, the RFH630 Interogator identifies an RFID transponder installed permanently in the mounting skid. The information stored in the RFID transponder enables unique assignment of the mounting skid to the corresponding production job.

Recommended products

RFH6xx H-170

Mobile identification

The instrument panels are identified with hand-held scanners. Their reconstruction algorithms reduce manual input. Codes are quickly identified with more than 500 scans per second. The IDM hand-held scanners are available with Bluetooth or WLAN and have PS/2, USB or RS-232 interfaces.

Recommended products

IDM16x I-208
IDM26x I-220

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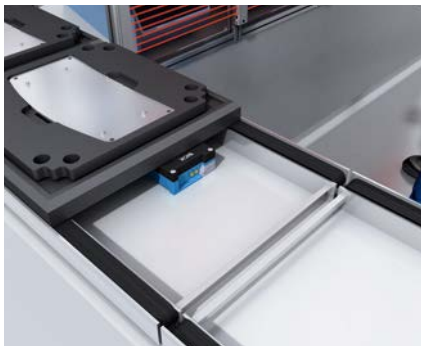
Traceability of parts

The identification, and so to the traceability of parts over the entire production process is quite a challenge. The image-based code reader directly identify marked parts with an extremely high scanning performance. Thanks to the 4D*pro* technology from SICK, a large number of network integrations, such as PROFINET and EtherNet/IP are available.

Recommended products

Lector62x F-56
Lector63x F-66

Traceability of products in the production process



The RFID transponder ensures traceability to all assembly stations. Product information and derived individual production commands on the transponders can be both read and written using the RFH620 interrogators at a frequency of 13.56 MHz.

Recommended products

RFH6xx H-170

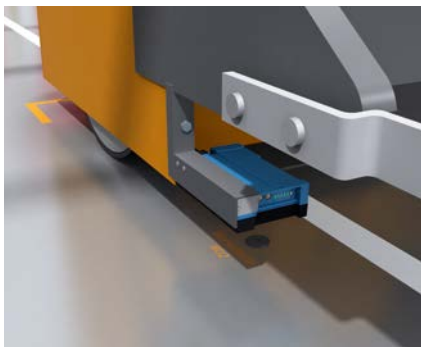
Traceability of products in the production process

When installing instrument panels into the dashboards, comprehensive traceability and identification of the components is a complex task for the sensors. The CLV6xx laser-based bar code scanners or image-based code readers can identify vehicle components like the dashboard with high scanning accuracy. Thanks to the 4D*pro* platform, a wide range of network integration is available (e.g., PROFINET, EtherNet IP as well as a common operating concept). The integrated cloning concept ensures high availability.

Recommended products

Lector63x F-66
CLV65x. G-150

Work station identification



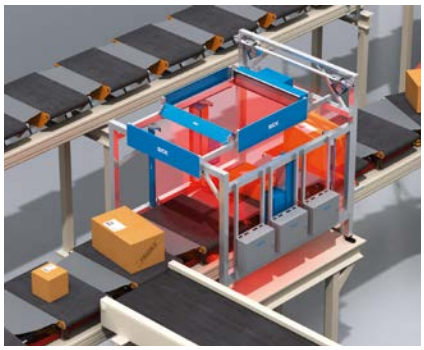
An automated guided vehicle (AGV) travels to a variety of work stations. The RFH620 RFID interrogator reads the ID number of the work station coded in the RFID transponder and forwards this to the system. The RFID technology is non-contact and therefore free of wear even in rough environments.

Recommended products

RFH6xx H-170

COURIER, EXPRESS, PARCEL AND POSTAL

Camera-based identification from multiple sides



The scalable track and trace system ICR89x permits omnidirectional reading of codes on sorter systems. Three high-resolution cameras cover up to five sides. The system supports 1D codes, 2D codes, and postal codes, and image capture for optical character recognition (OCR) and video coding (VC). It is characterized by excellent read rates, even in the case of partially damaged codes and poor quality labels. The Package Analytics Software from SICK provides valuable data for calculating trends and high-resolution images and videos for inspections as well as track and trace.

Recommended products

ICR89x F-100

Decoding codes for an optimal sorting process

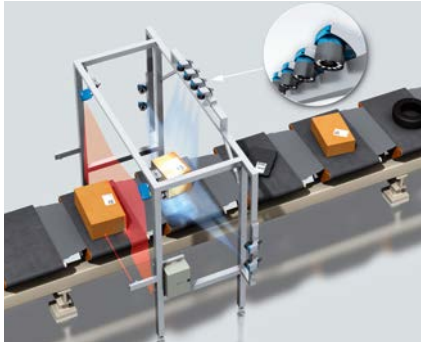


Image-based code reader decodes all normal code types on totes and parcels. Through its dynamic focus, the code reader generates top quality images which are best suited to video coding and OCR reading. Thanks to the integrated tracking function, it is possible, for example, to reduce gaps between objects on belt conveyors, thereby increasing throughput. The system can be scaled to any customer requirements and, if required, can be combined with other identification technologies.

Recommended products

Lector63x F-66

Lector64x F-74

Lector65x F-80

Manual identification of items

After the items are unloaded, they are subjected to identification which manifests the transfer of risk for the subsequent process steps. Wired or wireless hand-held scanners are used to read the 1D or 2D codes on labels in facilities with less volume or at stations for items of unusual shape, weight, or other conditions or for post-processing items that cannot be processed automatically.

Recommended products

IDM26x I-220

Manual package sorting and loading and unloading processes

Throughput optimization, efficiency gains, and improved workplace ergonomics are the main objectives when designing manual sorting stations. The permanently installed image-based code reader helps to meet these objectives. Unlike hand-held scanners, this code reader allows employees to have both hands free at all times. The camera's large reading range and depth of field enables the object to be automatically identified as soon as it is picked. This allows this essential process step to be integrated into the manual sorting process whilst ensuring optimal ergonomics.

Recommended products

Lector63x F-66

Lector64x F-74

Lector65x F-80

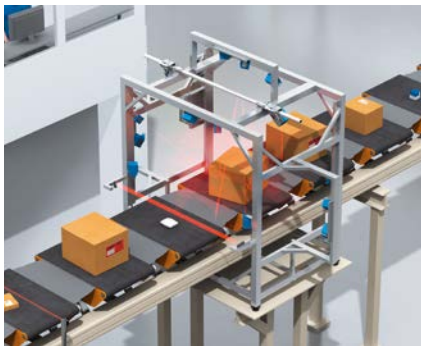
Mobile volume detection for objects and pallets

The VMS volume measurement system was integrated into a mobile solution for the detection of the volume of objects and pallets. The lifting truck with the pallet is moved underneath the measurement station. The bar-code is detected using a hand-held scanner and the volume measurement started. The two VMS measure the width and height of the object. The length is determined as the third dimension by the relative motion of the station in relation to the pallet during the measurement.

Recommended products

IDM16x I-208
IDM26x I-220
DWS Pallet www.mysick.com/en/DWS_Pallet
LMS5xx www.mysick.com/en/LMS5xx

Reading ladder barcodes on packages



Bar code scanners and image-based code readers read ladder barcodes on packages transported on a conveyor.

Recommended products

Lector65x F-80
CLV63x. G-136
CLV64x. G-144
CLV65x. G-150

D

ELECTRONICS

Advanced identification technology

The image-based code readers are used for the reliable identification of directly marked 2D data matrix codes on various work piece carriers. The smart identification algorithms recognize low-contrast or damaged codes. The efficient auto setup function ensures quick and easy commissioning. For integration into a system, the device offers the following common fieldbus technologies: Ethernet TCP/IP, PROFINET, EtherNet/IP, serial interfaces, and CAN.

Recommended products

Lector62x F-56
Lector63x F-66

Mobile identification of placement material

SICK's hand-held scanners demonstrate their strengths when equipping the feeder. Reconstruction algorithms reduce the manual input. Codes are identified fast with more than 500 scans per second. Hand-held scanners are available with Bluetooth or WLAN and have PS/2, USB or RS-232 interfaces.

Recommended products

IDM14x I-204
IDM24x I-214

INDUSTRIAL VEHICLES

Driver assistance in narrow aisles with RFID

RFID transponders in the floor assist forklift truck drivers in critical situations. The RFH6xx attached underneath the forklift truck reads the transponders and passes the position information on to the vehicle control system.

Recommended products

RFH6xx H-170

Identifying goods using bar codes on a manned forklift truck

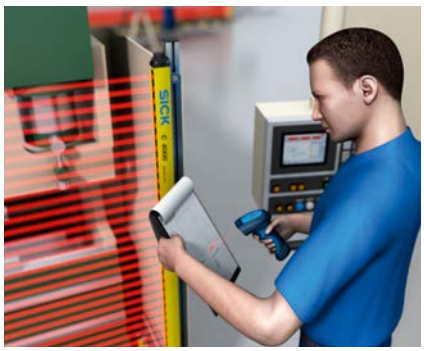
A CLV69x bar code reader identifies the goods on the pallet. The forklift driver receives information (for example the pallet number, type of goods, and units) on a display so that he or she can check that the order has been correctly filled. CLV65x are also used depending on the application parameters.

Recommended products

CLV65x. G-150
CLV69x. G-156

MACHINE TOOLS

Mobile identification of production data



The rugged hand-held scanner is used to read a bar code from an order sheet; this bar code contains all the information required to configure the system for a particular series part. The data is wirelessly transferred to the base station.

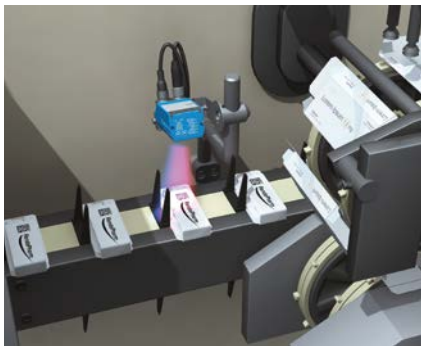
A majority of the system conversion is completed automatically. The operator receives all the information required for the production series on the display.

Recommended products

IDM14x I-204
IDM16x I-208

PHARMA AND COSMETICS

Identification of product content, supplement sheets, labels and packaging using linear or 2D codes



If a product is being packaged, it should be ensured that the right combination of packaging, labels and supplement sheets is being used. Errors lead to costly com-plaints, or even health risks, if people with allergies consume dangerous ingredients due to incorrect product information. The image-based code readers are a reliable way of reading and allocating drug packaging. Intelligent identification algorithms ensure that various 1D, 2D, and stacked codes, and plain text can be read on all kinds of materials. Intuitive setup with aiming laser, focus adjustment, and auto-setup reduces training and installation time and costs to a minimum.

Recommended products

Lector62x F-56
Lector63x F-66

RETAIL AND WAREHOUSING

Hand-held scanners in the receiving process

Hand-held scanners are used to scan bar code data from the shipping manifest or the delivery note into warehouse management systems for tracking receipt of goods in receiving areas.

Recommended products

IDM14x I-204
IDM16x I-208
IDM24x I-214
IDM26x I-220

RUBBER AND PLASTICS

Mobile material identification

To enhance process reliability, the hand-held scanner reads the bar code stickers on the material sacks and transfers the data in the code to the machine controller. This ensures that the right material for the job and product in question is fed to the machine.

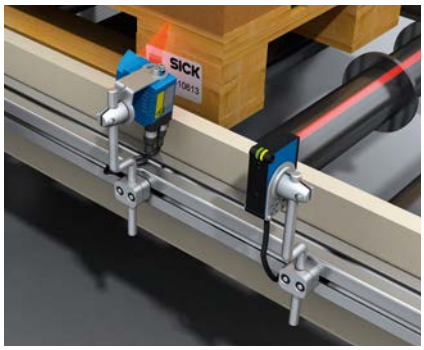
Recommended products

IDM16x I-208
IDM26x I-220

D

STORAGE AND CONVEYOR

Automated pallet identification with bar codes on pallet feet



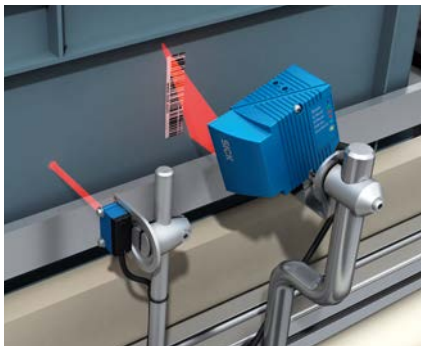
Bar code scanners with a fixed focus, variable focus or auto focus can be used for nearly any reading distance. They enable track and trace functions, product routing, and assignment to storage areas.

Thanks to the use of reconstruction technology, high read rates are achieved even under adverse conditions or when bar codes are partially damaged.

Recommended products

CLV62x. G-128

Automated tote identification with bar codes

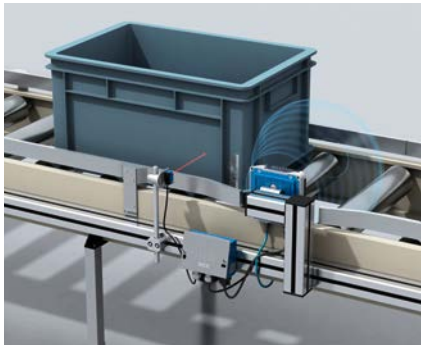


Bar code scanners with a reading field optimized for intralogistics and image-based code readers make it possible to integrate a track and trace function into the process, as well as enable control functions such as routing or assignment to a storage area. High read rates are achieved even under adverse conditions or when bar codes are partially damaged.

Recommended products

Lector63x F-66
CLV61x. G-116
CLV61x Dual Port G-124
CLV62x. G-128

Automated tote identification with RFID

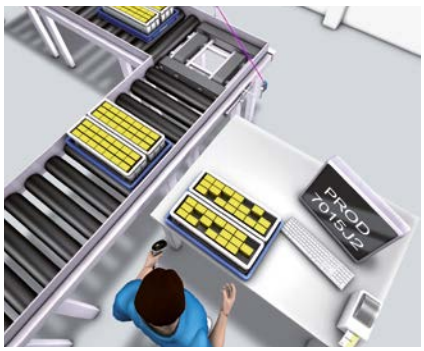


Compact RFID read/write devices, which are optimized for logistics, feature an integrated antenna as well as a definable reading field. This ensures that RFID tags can be assigned correctly even when objects follow one another in quick succession. The devices are compatible with 4D*pro* and can be integrated into industrial Networks.

Recommended products

RFU62x H-176

Manual pick verification



Hand-held scanners are used to check picking orders against a manifest. Individual items and shipping documents can be scanned to confirm order accuracy. GR18S and W100-2 sensors are used to re-direct conveyor direction when a tote is detected.

Recommended products

IDM16x I-208
IDM26x I-220
GR18S www.mysick.com/en/GR18S
W100-2 . . . . . www.mysick.com/en/W100-2

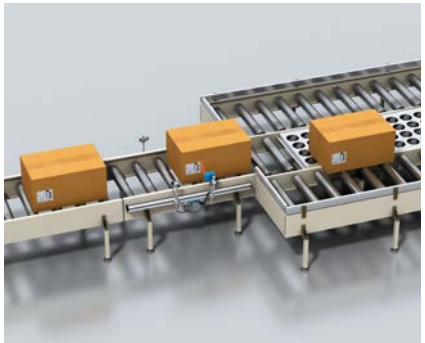
Premium automatic pallet identification with bar codes

CLV69x bar code scanners with real time autofocus function permits track and trace, routing, or assignment to the storage space. Due to expanded SMART+ Code reconstruction, decoding is carried out even more reliably, even at large reading distances and with poor contrast codes. The CLV69x is system-compatible, therefore bar code recording can be carried out in an omnidirectional manner and on up to six sides.

Recommended products

CLV65x. G-150
CLV69x. G-156

Remote control of diverters in package conveyor systems

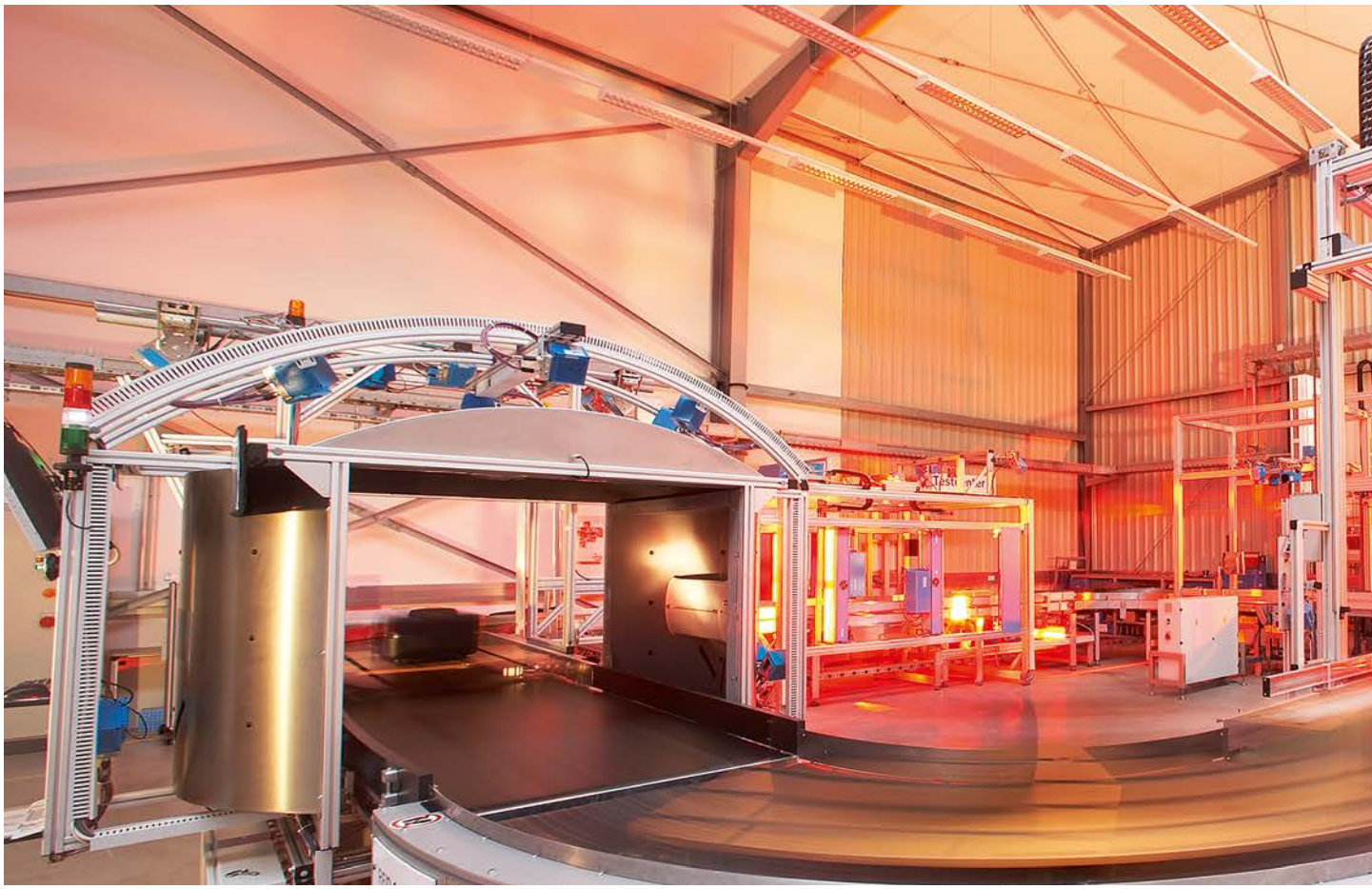


CLV62x bar code scanners read the bar codes of loading equipment on belts. The bar code contains information on the next or final destination of the loading equipment, amongst other things. The belt's diverters are controlled according to the analysis of this information. The fieldbus module CDF600-2 makes line topologies possible. Using the built-in proxy operating mode in the CLV62x and the CDF600-2, only the CLV62x is visible for control and not the CDF600-2. This means that direct access to control of the bar code scanner is possible (GSD and GSDML configuration).

Recommended products

CLV62x. G-128
CDF600-2 . . . . . .J-240

D

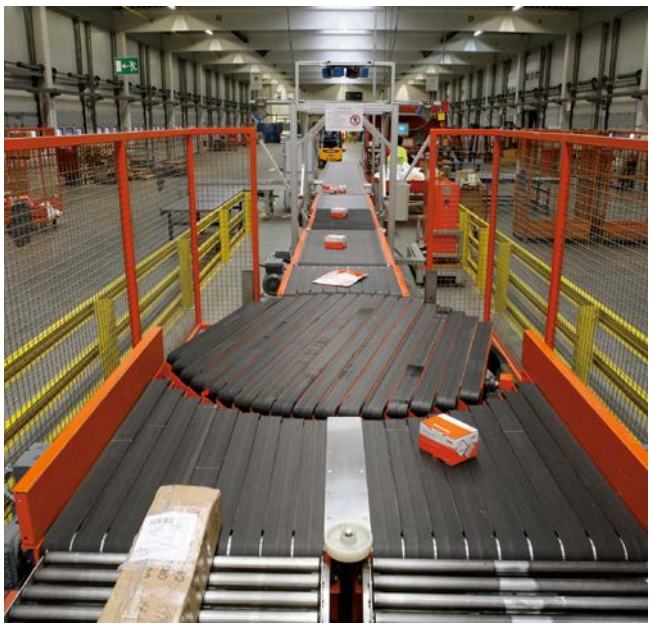


E

Secure – flexible – quick

Our system solutions are backed by years of experience and many successfully installed systems – from simple to combined scanning stations that simultaneously record both product dimension and weight.

SICK's dedicated experts are able to provide the right, high-quality solution -- even for the most challenging applications.



SICK HAS THE SOLUTION FOR YOUR APPLICATION

Our strengths are your benefits

- Individual system design, project planning and implementation
- Comprised of high-performance components
- On-site supervision by our worldwide Service & Support network
- Recommended by well-known and respected companies from around the world

E

Our universal solutions enable us to provide our customers with significant added value and a fast return on investment. We ensure that product flows are accurately recorded so that each product reaches its intended destination quickly and efficiently. Customers will benefit from our experience in designing and implementing customized systems.

SYSTEM SOLUTIONS

We use cutting-edge technology in our components when implementing our system solutions for factory, logistics, and process automation. Our range of services covers everything from ideas and consulting to implementation and after-sales service on site. The high quality of our components and the dedication and expertise of our employees validate the core concept behind SICK: outstanding solutions for demanding tasks.

Track and trace systems – The key to your success in process control

Track and trace systems from SICK identify 1D and 2D codes, read and write to RFID tags, and provide high-resolution images for downstream processes (video coding, OCR, etc.). Furthermore, these systems provide volume and weight measurements. The systems can be certified if necessary. Object contours are verified. Any combination of the functions listed above can be realized with SICK's track and trace systems.

E

Product family ALIS

→ www.mysick.com/en/ALIS

Airport Luggage Identification System – Making sure your luggage gets there

- Optional 100 % redundant design
- Suitable for belt conveyors, tilt tray or cross-belt sorters
- Extremely high read rates
- For T-codes, linear codes and IATA RFID-tags
- Real-time auto focus function
- Uses tried-and-tested high-performance scanners

Product family RFGS Pro

→ www.mysick.com/en/RFGS_Pro

The complete RFID object identification system for logistics applications

- Remotely assigns tags to objects and detects the direction of the moving object
- Remotely distinguishes between moving and static tags and filters them for the host message
- Distinguishes between pallet and person
- Stand-alone gate with integrated controller
- Central interface for all sensors via CAN and TCP/IP network
- Integrated service, monitoring and diagnostic tools

Product family OPS Customized

→ www.mysick.com/en/OPS_Customized

A clear edge in logistics sortation

- Excellent performance
- Real-time auto focus function – no additional components needed for detection of object distances
- Use of SICK high-end scanners
- Cloning modules store the configuration parameters for each scanner and quick release brackets precisely maintain scanner alignment
- Variety of bus connection modules can be integrated

Product family RFMS Pro

→ www.mysick.com/en/RFMS_Pro

Flexible design and high throughput in a single system

- Standard modules with or without antenna
- Self-supporting modules
- Proven assignment algorithm for RFID tags on objects
- Static tag detection and filtering
- Integrated service, monitoring and diagnostic tools
- Object-based data output on relevant interfaces such as Ethernet, serial interface or PROFIBUS

Product family VMS420/520

→ www.mysick.com/en/VMS420_520

The dual-head, high-speed volume measurement system for nearly any shape

- Measurement of length, width and height of any shaped object
- Calculation of the smallest rectangular box that fully encloses the object (box volume)
- Calculation of real volume
- Optimized application software
- All measuring functions are built in the measuring head, no additional evaluation unit is required

Product family DWS Dynamic

→ www.mysick.com/en/DWS_Dynamic

Your "package solution" from a single source

- Legal-for-trade capture of volume and weight data with integrated code reading
- Flexible system design individually adapted for your application
- Highest measurement accuracy – even in rough industrial environments
- Extremely high read rates in combination with proven reliability
- Full integration in existing conveyor systems without reduction of throughput

Product family DWS Static

→ www.mysick.com/en/DWS_Static

Manual Dimensioning, Weighing and Scanning

- Dimensioning, weighing and identification data with the push of a button
- Complete solution with integrated frame and roller conveyor
- Commissioning within a few minutes
- Legal-for-trade approved (according to OIML, MID and NAWI)
- Special versions for irregular and oversized objects available

Product family ICR89x System

→ www.mysick.com/en/ICR89x_System

Faster. More reliable. More brilliant.

- Dual-line CMOS sensor for maximum bar code and OCR read rates
- Maximum scanning frequency up to 30 kHz for high-resolution images (200 dpi) at up to 3.8 m/s
- Large reading field of up to 1,200 mm
- Ability to read all common 1D and 2D codes and postal codes
- Five image output channels for OCR, video coding, archiving, and diagnostics
- Parameter cloning for all components
- Intelligent control standby mode
- Industrial design – an external PC is not required

Product family Lector65x System

→ www.mysick.com/en/Lector65x_System

Your objects are always in focus

- Dynamic focus adjustment
- Tracking function with MSC800
- Integration into the network concept of the MSC800
- JPEG image output in real time
- 2 or 4 megapixel resolution along with a high image capture rate of up to 40 Hz
- Highly versatile customer interfaces and protocols

Product family ICR88x System

→ www.mysick.com/en/ICR88x_System

More compact. More reliable. More brilliant.

- High-end camera system, optimized for applications with short reading distances
- Dual-line CMOS sensor for the best possible read rates
- High scanning frequency of up to 19 kHz for high-resolution images (> 200 dpi)
- All decoders are integrated in the camera
- Maximum reliability, no external PC required
- System can read all common 1D and 2D codes
- Parameter cloning for all components
- Additional track and trace solutions can be integrated

IMAGE-BASED CODE READERS

Versatile, high-performance, straightforward

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Image-based code readers provide flexibility, high performance, convenience and simplicity. Even at fast conveyor speeds, SICK image code readers can reliably detect and evaluate 1D, 2D, DPM (direct part marking), and partially damaged codes. These readers identify markings on nearly any surface, including metal, glass, plastic or paper. Plus, different models, interfaces, and networking capabilities provide application flexibility.

Your benefits

- Robust, omni-directional scanning of 1D and 2D codes easily identifies mis-aligned components
- Suitable for a wide range of applications due to different resolutions and reading distances
- Fast, reliable decoding of low-contrast, directly marked codes improves productivity
- Straightforward, simple operation due to image download capabilities and analysis and operating tools
- Expandable for the future – able to change from 1D to 2D or stacked codes and other new code types within the same system

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WHAT'S YOUR CODE READING CHALLENGE?

The Lector® series of image-based code readers offers you a unique combination of accuracy, reliability and a quick, intuitive setup process.

Covering every imaginable application, the Lector® series offers you a solution to even your most demanding challenges. High conveyor speeds and partially damaged codes? Not an issue. Accurate identification of 1D, 2D and OCR codes on a wide range of different materials? Consider it done. A massive throughput of differently sized objects? We have it covered.

The whole range also offers a wide spectrum of connectivity options enabling you to integrate Lector® series readers seamlessly into new or existing installations. This, coupled with a series-wide user interface, means you're up and running in no time.

With SICK's unparalleled experience in a wide range of industries, proven technology and great connectivity you get the right solution to the toughest challenges every time.

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The Lector62x

Clever. Simple. Industrial.
The most compact reader of the series the Lector62x punches well above its weight. Accurate and reliable identification for 1D, 2D and OCR codes are its specialty, even when the codes are damaged. Lector62x comes in five specialized versions.

The Lector63x

Intelligent. Flexible. Intuitive.
Offering an optimal combination of performance and flexibility in a compact housing, the Lector63x is perfect where higher resolution, greater scanning performance and long range reading really come into play. The Lector63x handles fast moving objects and small codes with ease.

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The Lector64x

Efficient. Adjustable. Functional.
If you like the all around nature of the Lector63x but need more performance, then this is the solution for you. The Lector64x offers even greater processing power and stronger illumination than the Lector63x. These factors in addition to its wide field of view and large depth of field mean the Lector64x can read codes in a wide variety of different positions, object heights, and at different transport speeds.

The Lector65x

Dynamic. Non-Stop. Precise.
With its high resolution and dynamic focus, the Lector65x is in a class of its own. Ideal for extremely high throughput installations such as logistics operations and factory automation. The combination of dynamic focus, 2-4 megapixel resolution and wide field of view makes the Lector65x the class leader.

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MAKING LIFE SIMPLE WITH A POWERFUL, COMMON PLATFORM ACROSS THE RANGE.

Easy to set up, easy to operate, easy to exchange. The whole Lector® series of image-based readers offers a comprehensive range of common features, each one aimed at maximizing performance and reliability while allowing simplicity in use. This solid, common base combined with each reader's individual strengths ensure that the Lector® series really does cover all your needs.

SOPAS Interface.
Comprehensive configuration and monitoring tool that allows simple oversight of the reading process.

IP65/67 housing. With adjustable mounting.
Industry proven housings for tough environments, also allowing multiple mounting options.

Function buttons.
Allow easy set up without connection to PC.

Aiming laser.
Helps locate the center of field of view during setup.

TCP/IP, EtherNet/IP, EtherCAT®, PROFINET, PROFIBUS, Serial, CAN Ports.
Wide range of interfaces enhances flexibility.

USB Interface.
Enables easy plug-and-play analysis.

Audio and visual feedback.
Instant read-feedback in all environments via a green LED and an audio signal.

MicroSD, memory card slot.
Parameter cloning and image storage.

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THE SAME POWERFUL PLATFORM BUT EACH WITH UNIQUE STRENGTHS

THE LECTOR62x

VARIANTS: ECO / PROFESSIONAL / HIGH SPEED / DPM PLUS /OCR

Available in 5 highly specialized versions each engineered to meet your specific needs.

- » Compact housing
- » 0.4 Megapixel
- » Swivel connector
- » Autofocus at teach
- » 1D/2D/DPM/OCR codes

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THE LECTOR63x

VARIANTS: FLEX

The all around reader with flexible optics in a compact housing.

- » S-mount and C-mount
- » 1.9 Megapixel
- » Intelligent filter design
- » Exchangeable illumination
- » 1D/2D codes

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THE LECTOR64x

VARIANTS: FLEX

The functional code reader with impressive depth of field.

- » Dual-port PROFINET
- » 1.7 Megapixel
- » Panorama accessory
- » High power illumination
- » 1D/2D codes

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THE LECTOR65x

VARIANTS: DYNAMIC FOCUS / FLEX

The hard to beat reader with dynamic focus, extremely high throughput and high image quality. Simply a class of its own.

- » Dynamic focus
- » 4.2 or 2.1 Megapixel
- » Panorama accessory
- » High power illumination
- » 1D/2D codes

MAKING IT EASY

OK, you're convinced, Lector® is clearly the way to go. But how do you decide which is the optimum reader for your specific needs? We've put together an easy to use guide to help you make the right choice.

	Code type	Resolution (W x H)	Reading distance	Focus type: Adjustable – During installation the focus is set manually.	Focus type: Dynamic – Uses external sensors and built in focus motors to adjust focus in real-time from object to object.	Focus type: Auto – During installation the reader uses built in focus motors to set the focus for the specific task at hand.
 Lector62x	1D 2D OCR DPM	0.4 Mpx (750 px x 480 px)	30mm - 1000mm			✓
 Lector63x	1D 2D	1.9 Mpx (1600 px x 1200 px)	50mm - 2000mm	✓		
 Lector64x	1D 2D	1.7 Mpx (1600 px x 1088 px)	300mm - 2200mm	✓		
 Lector65x	1D 2D	2.1 Mpx (2048 px x 1088 px) 4.2 Mpx (2048 px x 2048 px)	300mm - 2200mm	✓	✓	✓

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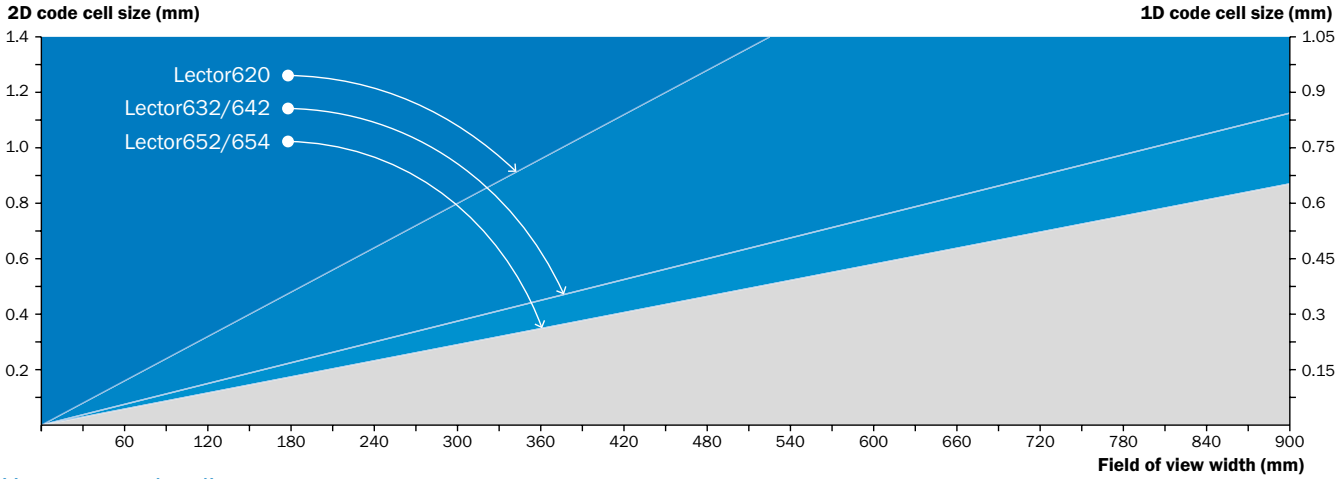
Lector Quick Selector: 1D/2D code cell size and field of view width



How to use the diagrams

1. Identify the cell size of your code, e.g, 1 mm cell size, find it on the y-axis and apply a horizontal line.
2. Identify needed field of view size (width and height), e.g. the belt width of your conveyor is 700 mm, find this value on the x-axis and apply a vertical line.
3. The cross-section of your y- and x-line indicates which Lector variant to use. If the cross-section is in the gray area, you will need multiple Lectors or use the Panorama accessory.

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	Consumer goods			Electronics and Solar			Automotive			CEP		
	End of line aggregation	Date code inspection	Serialization	PCB identification	Quality assurance of DPM codes	Part tracking in assembly	Production control	Tire identification	Long range ID for traceability	Manual parcel sorting	Automated material handling	Tote box identification
		✓	✓	✓	✓	✓	✓					✓
	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓		✓				✓	✓	✓	✓	✓	
	✓		✓					✓	✓	✓	✓	

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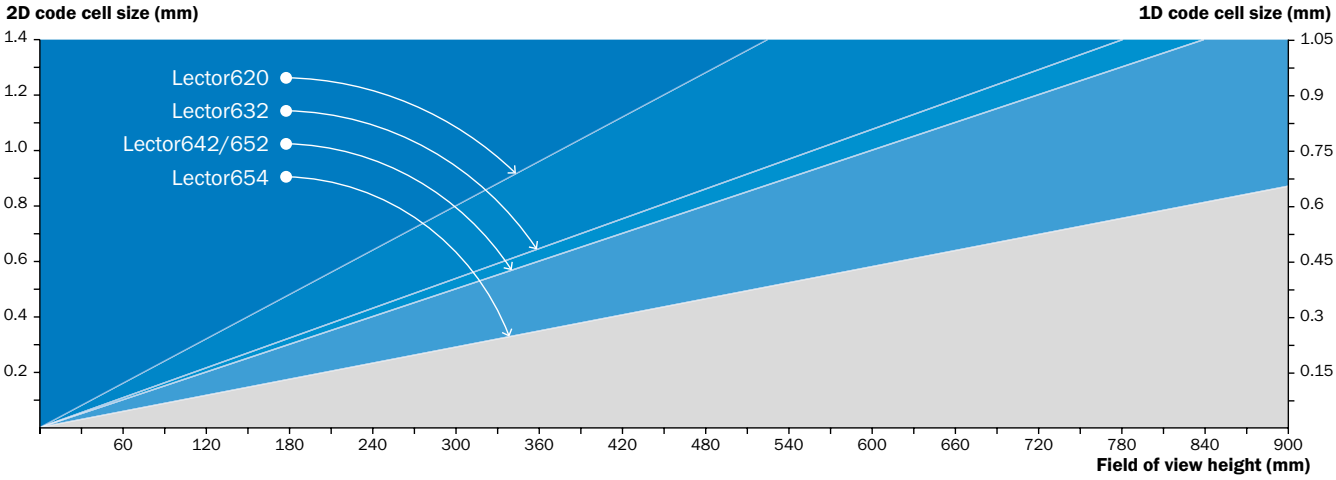
Lector Quick Selector: 1D/2D code cell size and field of view height



This Quick Selector does not cover feasibility aspects such as conveyor speed and depth of field.

PRODUCT FAMILY OVERVIEW

			
	Lector62x	**Lector63x**	**Lector64x**
	Clever. Simple. Industrial.	Intelligent. Flexible. Intuitive.	High efficiency for code reading applications
Technical data overview			
Focus	Adjustable focus / teach auto focus	Adjustable focus	Adjustable focus
Scanning frequency	25 Hz / 60 Hz, WVGA resolution	≤ 50 Hz, at 1.9 megapixels resolution	40 Hz, at 1.7 megapixels resolution
Code resolution	≥ 0.1 mm	≥ 0.1 mm	≥ 0.1 mm
Reading distance	30 mm ... 1,500 mm	50 mm ... 2,200 mm	300 mm ... 2,200 mm
Serial (RS-232, RS-422)	✔	✔	✔
Ethernet	✔ , TCP/IP, FTP (image transmission), PROFINET, EtherNet/IP, EtherCAT® (optional over external fieldbus module CDF600)	✔ , TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2)	✔ , TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2), Dual Port PROFINET
CAN bus	✔ , CANopen, CSN (SICK CAN Sensor Network)	✔ , CSN (SICK CAN Sensor Network)	✔ , CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔ , Optional over external fieldbus module (CDF600-2)	✔ , Optional over external fieldbus module (CDF600-2)	✔ , Optional over external fieldbus module (CDF600-2)
DeviceNet	–	–	–
USB	✔ , USB 2.0	✔ , USB 2.0	✔ , USB 2.0
Weight	170 g	430 g	635 g
At a glance			
	• Decoding of all common 1D, 2D, and stacked codes, as well as optical character recognition (depending on type) • Flexible interfaces: serial interface, USB, and Ethernet • Function buttons, aiming laser, focus adjustment, auto-setup, and green feedback LED • Industrial, compact housing with swivel connector • MicroSD memory card for storing images and backup copies of parameters	• Code reader with 2 megapixel sensor • Flexible optics and filter design • Integrated, changeable high-power lighting • Intuitive user interface, including flexible result string with code analytics options • Function buttons, aiming laser, beeper and feedback indicator • MicroSD card	• 1,7 megapixel resolution; high frame repetition rate of 40 Hz • Integrated high-power LED illumination • Function buttons, aiming laser, optical and audible feedback signal • Intelligent, rapid decoding algorithms
Detailed information	➜ F-56	➜ F-66	➜ F-74

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	Lector65x	ICR80x	ICR88x	ICR89x
				
	Nonstop code reading flexibility	Easy, small and light	More compact. More reliable. More brilliant.	Faster. More reliable. More brilliant.
	Adjustable focus / dynamic focus control / teach auto focus	Fixed focus	Dynamic focus control	Dynamic focus control
	70 Hz, at 2 megapixels resolution, 40 Hz, at 4 megapixels resolution	–	19,100 Hz	19,100 Hz / 30.000 Hz
	≥ 0.1 mm ≥ 0.12 mm	≥ 0.19 mm ≥ 0.25 mm	–	–
	300 mm ... 2,500 mm	50 mm ... 330 mm	0.8 m ... 1.35 m	1.4 m ... 3.3 m
	✔ / –	✔ (only RS-232)	✔ (only RS-232)	✔ (only RS-232)
	✔ , TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2), Dual Port PROFINET	✔ , optional via external connection module (CDM + CMF)	✔ (3) , TCP/IP, FTP	✔ (3) , TCP/IP, FTP
	✔ , CSN (SICK CAN Sensor Network)	✔ , optional via external connection module (CAN232)	✔ (2) , CSN (SICK CAN Sensor Network)	✔ (2) , CSN (SICK CAN Sensor Network)
	✔ , Optional over external fieldbus module (CDF600-2) / –	✔ , optional over external fieldbus module (CDF)	✔ , via MSC800 controller	✔ , via MSC800 controller
	–	✔ , optional via external connection module (CDM + CMF)	–	–
	✔, USB 2.0 / –	– / ✔	–	–
	635 g / 963 g	37 g	28.5 kg	37 kg
	• 2/4 megapixel resolution; high frame repetition rate of 40 Hz • Dynamic focus adjustment from object to object • Integrated high-power LED illumination • Function buttons, aiming laser, optical and acoustic feedback signal • Intelligent, rapid decoding algorithms	• Omni-directional code reading • Optical alignment • Extremely compact • Lightweight • USB and RS-232 versions • RoHS and WEEE compliant • Triggering via button, presentation mode, serial commands or hardware trigger via SICK connection technology	• High-end camera system; optimized for short reading distances • Highest level of integration – all decoders onboard • Highest level of reliability – no external PCs needed • 1D and 2D codes supported • Parameter cloning for all components • High line rate of 19 kHz for high-resolution images (> 200 dpi) • Integration of laser scanners and dimension systems possible	• Dual-line CMOS sensor for maximum bar code and OCR read rates • Maximum scanning frequency up to 30 kHz for high-resolution images (200 dpi) at up to 3.8 m/s • Large reading field of up to 1,200 mm • Ability to read all common 1D and 2D codes and postal codes • Intelligent control standby mode • Industrial design – an external PC is not required
	➜ F-80	➜ F-92	➜ F-96	➜ F-100

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CLEVER. SIMPLE. INDUSTRIAL.

Product description

The Lector62x is a compact, image-based code reader that is specifically designed for industrial requirements. Whether items are mobile or stationary, the Lector62x identifies the most commonly used code types with exceptional reliability, even codes with poor quality. Its highly compact housing ensures flexible integration even where space is limited.
Lector620 Professional: Universal and inexpensive – can handle more than 80% of all code-reading applications.
Lector620 ECO: The attractively priced alternative for simpler applications.
Lector620 High Speed: The top-of-the-line solution for belt speeds of up to 6 m/s.
Lector620 DPM Plus: Excellent performance for the most challenging DPM codes in the automotive and solar industries.
Lector620 OCR: The best choice for optical character recognition.

At a glance

- Decoding of all common 1D, 2D, and stacked codes, as well as optical character recognition (depending on type)
- Flexible interfaces: serial interface, USB, and Ethernet
- Function buttons, aiming laser, focus adjustment, auto-setup, and green feedback LED
- Industrial, compact housing with swivel connector
- MicroSD memory card for storing images and backup copies of parameters

Your benefits

- Intelligent decoding algorithms ensure optimal reading performance, good read rates, and high throughput
- 4D*pro* facilitates quick and easy integration into many industrial networks
- Intuitive setup with aiming laser, focus adjustment, and auto-setup reduces training and installation time and costs
- Simple mounting thanks to a compact housing and swivel connector, even when space is limited
- Quick and efficient analysis of reading performance and code quality
- Cloning systems create backup copies of parameters, ensuring short machine downtimes in the event of malfunctions
- Proven SICK LifeTime Services

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Additional information

➜ www.mysick.com/en/Lector62x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Focus	Adjustable focus (electrically)	Teach auto focus			
Sensor	CMOS matrix sensor, gray scale values				
Light source	Illumination LEDs: visible red light (λ= 617 ± 15 nm), feedback spot: visible green light (λ = 525 ± 15 nm)	Illumination LEDs: visible red light (λ = 617 ± 15 nm), visible blue light (λ = 470 ± 15 nm) Feedback spot: visible green light (λ = 525 ± 15 nm) Aiming laser: visible red light (λ = 630 ... 680 nm) / Il-lumination LEDs: invisible infrared light (λ = 850 ± 25 nm)	Illumination LEDs: visible red light (λ = 617 ± 15 nm), visible blue light (λ = 470 ± 15 nm) Feedback spot: visible green light (λ = 525 ± 15 nm) Aiming laser: visible red light (λ = 630 ... 680 nm)	Illumination LEDs: visible red light (λ = 617 ± 15 nm), visible blue light (λ = 470 ± 15 nm) Feedback spot: visible green light (λ = 525 ± 15 nm) Aiming laser: visible red light (λ = 630 ... 680 nm) / Il-lumination LEDs: visible blue light (λ = 470 ± 15 nm)	Illumination LEDs: visible red light (λ = 617 ± 15 nm), visible blue light (λ = 470 ± 15 nm) Feedback spot: visible green light (λ = 525 ± 15 nm) Aiming laser: visible red light (λ = 630 ... 680 nm)
MTBF	75,000 h				
LED class	1, Irradiance L_B < 10 kW/(m²sr) within 100 s, L_R < 7 x 10^5 W/(m²sr) within 10 s, at a distance of ≥ 200 mm. (IEC 62471 (2006-07) / EN 62471 (2008-09))	1, Irradiance L_B < 10 kW/(m²sr) within 100 s, L_R < 7 x 10^5 W/(m²sr) within 10 s, at a distance of ≥ 200 mm. (IEC 62471 (2006-07) / EN 62471 (2008-09)) 0, Irradiance: E_{IR} < 100 W/m² within 1,000 s at a distance ≥ 200 mm (IEC 62471 (2006-07) / EN 62471 (2008-09)) (depending on type)	1, Irradiance L_B < 10 kW/(m²sr) within 100 s, L_R < 7 x 10^5 W/(m²sr) within 10 s, at a distance of ≥ 200 mm. (IEC 62471 (2006-07) / EN 62471 (2008-09))		
Laser class	–	1, complies with 21 CFR 1040.10 except for the tolerance according to "Laser Notice No. 50" from June 24, 2007 (IEC 60825-1 (2007-3))			
Scanning frequency	25 Hz, WVGA resolution	60 Hz, WVGA resolution			
Code resolution	≥ 0.1 mm [1]			≥ 0.1 mm ... ≥ 0.2 mm [1] (depending on type)	≥ 0.1 mm [1]
Character height	–				≥ 1 mm

[1] Valid for Data Matrix, PDF417, and 1D codes with good print quality.

[2] For details see reading field diagram.

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	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Reading distance	40 mm ... 1,500 mm [1] [2]		30 mm ... 500 mm [1] [2]	30 mm ... 1,000 mm [1] [2] (depending on type)	30 mm ... 300 mm [1] [2]

[1] Valid for Data Matrix, PDF417, and 1D codes with good print quality.
[2] For details see reading field diagram.

Performance

	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Bar code types	GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93				
2D code types	Data Matrix ECC200, GS1 Data-Matrix, PDF417, PDF417 Truncated, QR code			Data Matrix ECC200, GS1 Data-Matrix, PDF417, QR code, PDF417 Truncated, Data-Matrix SEMI PV29-0212 (depending on type)	Data Matrix ECC200, GS1 Data-Matrix, PDF417, QR code, PDF417 Truncated
Code qualification	–	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 15416, ISO/IEC 18004		On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004, ISO TR 29158/AIM DPM	
OCR fonts	–				Trainable fonts
No. of codes per reading interval	1 ... 50				
No. of characters per reading interval	500 (for multiplexer function in CAN operation)				
Internal image storage	135 MB				
Transport speed	2 m/s	4 m/s	6 m/s	4 m/s	

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Interfaces

	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Serial (RS-232, RS-422)	✔				
Function	Host, AUX				
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)				
USB	✔, USB 2.0				
Ethernet	–	✔			
Function	–	Host, AUX, image transmission, OPC DA Server			
Data transmission rate	–	10/100 MBit/s			
Protocol	PROFINET (optional via external connection module CDM), EtherCAT® (optional over external fieldbus module CDF600)	TCP/IP, FTP (image transmission), PROFINET (with special software only), EtherNet/IP, EtherCAT® (optional over external fieldbus module CDF600)			
CAN bus	✔				
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)				
Data transmission rate	20 kbit/s ... 1 Mbit/s				
Protocol	CANopen, CSN (SICK CAN Sensor Network)				
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)				
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)				

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	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Switching outputs	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/ CDM420)	4 (“Result 1”, “Result 2”, 2 outputs via CMC and CDB620/CDM420 or “Result 1”, “Result 2”, “Result 3”, “Result 4” when using the 17-wire cable with open cable end)			
Reading pulse	Switching inputs, non-powered, serial interface, CAN, auto pulse, presentation mode	Switching inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode			
Optical indicators	16 LEDs (5 x status display, 10 x LED bar graph, 1 green feedback spot)				
Acoustic indicators	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)				
Control elements	2 buttons (choose and start/stop functions)				
Configuration software	SOPAS ET				
Memory card	–	Micro SD memory card (flash card) max. 32 GB, optional			
Data storage and retrieval	Images and file logging via MicroSD memory card, internal memory and external FTP				
Maximum encoder frequency	300 Hz				
External illumination control	Via digital output (max. 24 V trigger)				

Mechanics/electronics

	Lector620 ECO	Lector620 Professional	Lector620 High Speed	Lector620 DPM Plus	Lector620 OCR
Electrical connection	1 x 15-pin D-Sub HD male connector (0.9 m)	1 x M12, 17-pin male connector 1 x M12, 4-pin Ethernet female connector Circular plug-in connector	1 x M12, 17-pin male connector 1 x M12, 4-pin Ethernet female connector		
Operating voltage	10 V DC ... 30 V DC				
Power consumption	Typ. 3 W				
Output current	≤ 100 mA				
Housing	Aluminum die cast				
Housing color	Light blue (RAL 5012)				
Protection class	III				
Weight	170 g				
Dimensions	71 mm x 43 mm x 35.6 mm [1]				

[1] Swivel connector is 17.8 mm longer.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2006-03) / EN 61000-6-2 (2009-05)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Electrical safety	EN 60950-1 (2006-04) / EN 60950-1/A11 (2009-03)
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on code

Ordering information

- **Reading field:** side
- **Sensor resolution:** 752 px x 480 px (WVGA)
- **Lens:** integrated

Version	Focal length	Internal lighting	Enclosure rating	Type	Part no.
Lector620 ECO	7 mm	Red	IP 65	ICR620E-H12013 ECO	1054507
Lector620 Professional	7 mm	Red, Blue	IP 65	ICR620S-T11503 Professional	1050589
			IP 67	ICR620S-T11504 Professional	1054375
		Infrared	IP 65	ICR620S-T16503 Professional	1058623
Lector620 High Speed	7 mm	Red, Blue	IP 65	ICR620H-T11503 High Speed	1055890
Lector620 DPM Plus	7 mm	Red, Blue	IP 65	ICR620D-T11503 DPM Plus	1055891
		Blue	IP 65	ICR620D-T17503 DPM Plus Solar	1060912
	12 mm	Red, Blue	IP 65	ICR620D-T31503 DPM Plus	1064255
	18 mm	Red, Blue	IP 65	ICR620D-T51503 DPM Plus	1064256
Lector620 OCR	7 mm	Red, Blue	IP 65	ICR620C-T11503S50 OCR	1062803

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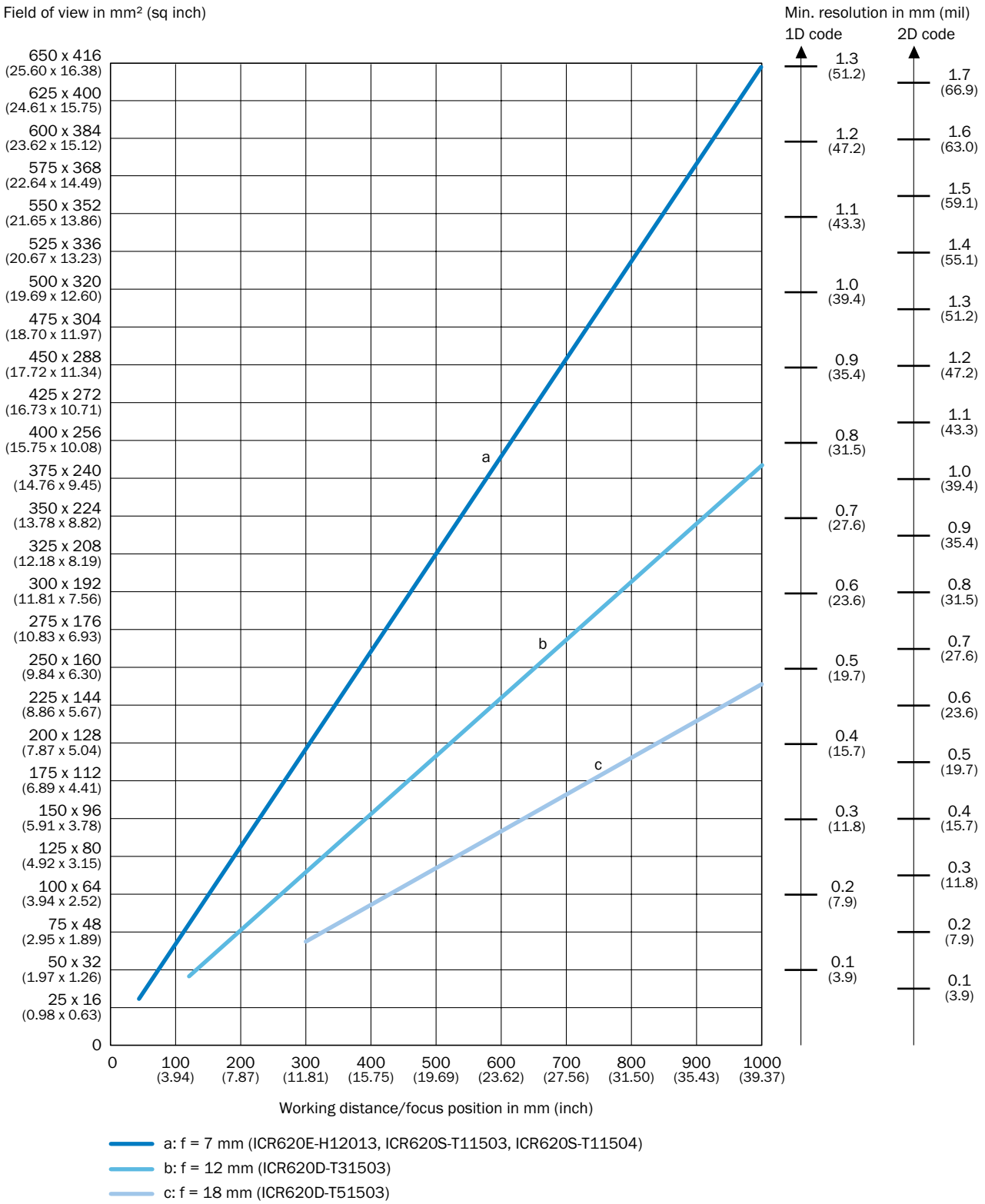
Field of view

Lector620 ECO (ICR620E-H12013), Lector620 Professional (ICR620S-T11504, ICR620S-T11503), Lector620 DPM Plus (ICR620D-T31503, ICR620D-51503)



a: f = 7 mm (ICR620E-H12013, ICR620S-T11503, ICR620S-T11504)
b: f = 12 mm (ICR620D-T31503)
c: f = 18 mm (ICR620D-T51503)

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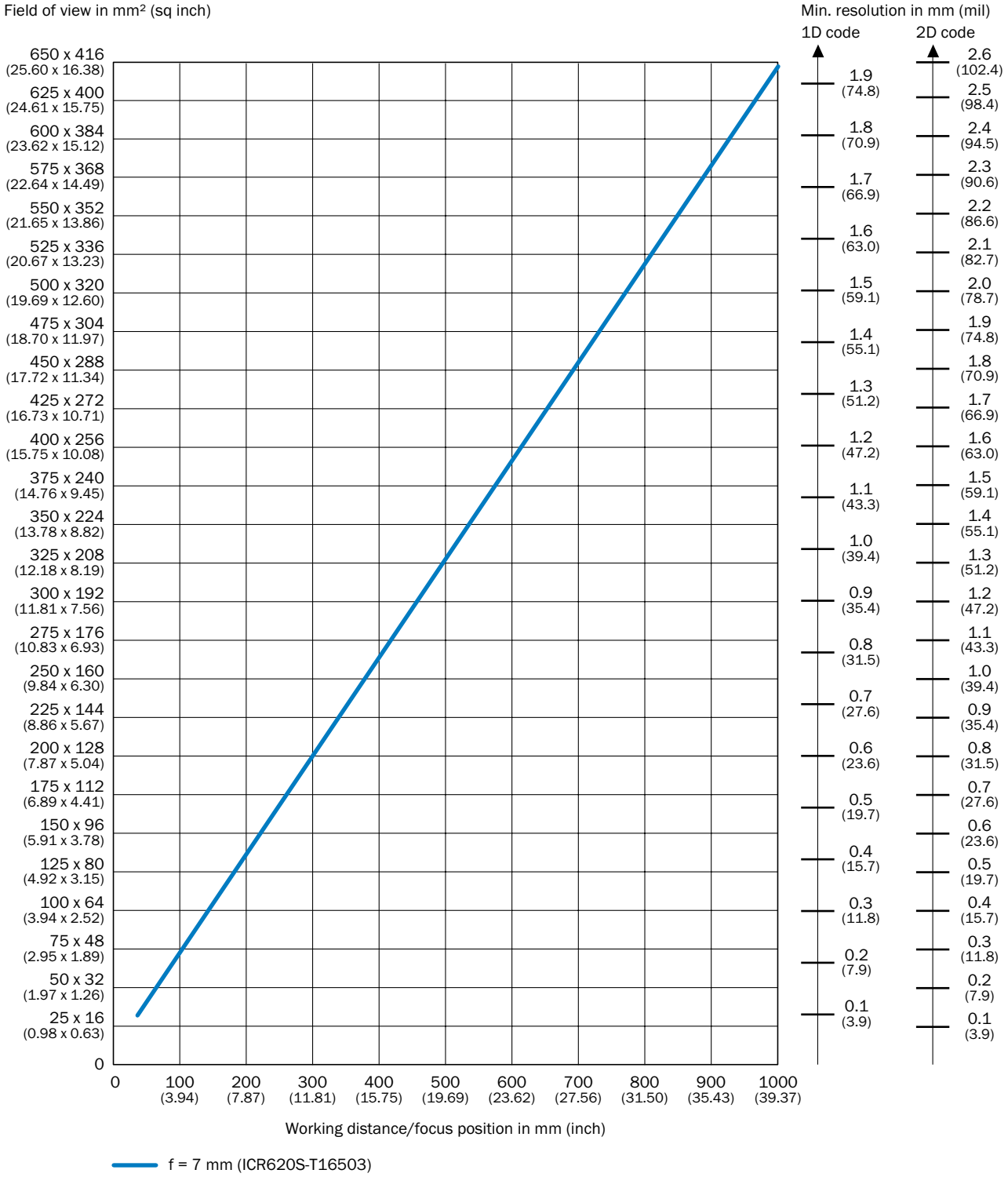
Lector620 Professional (ICR620S-T16503)



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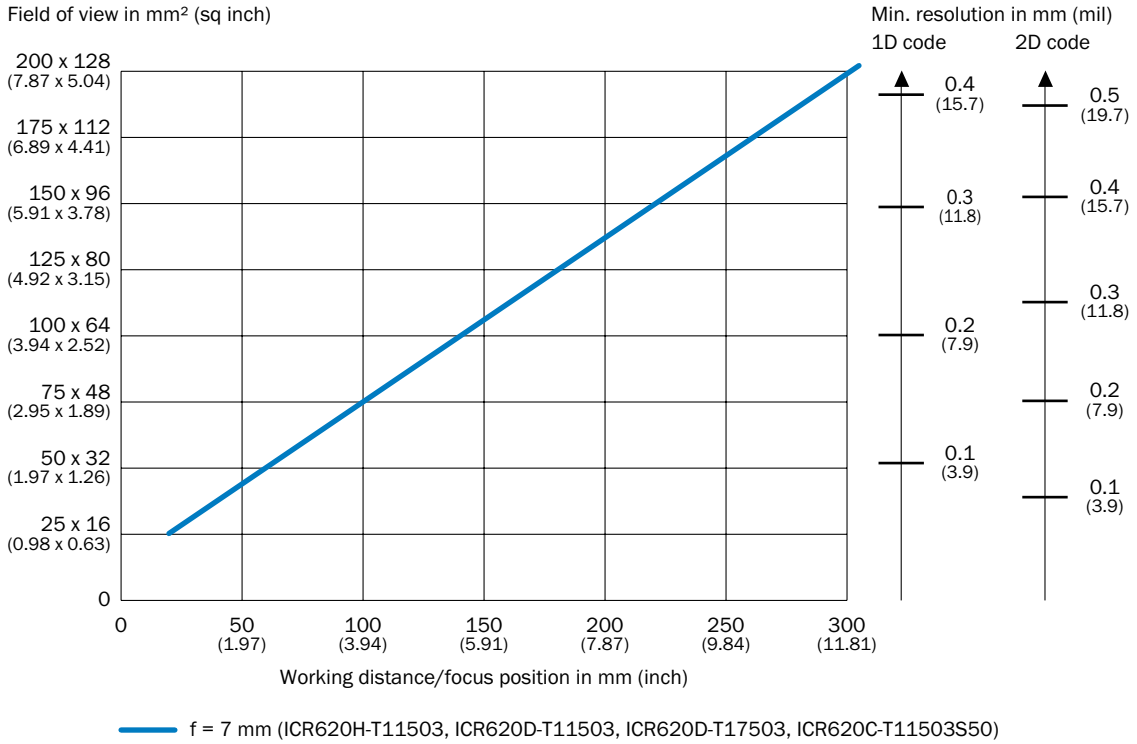
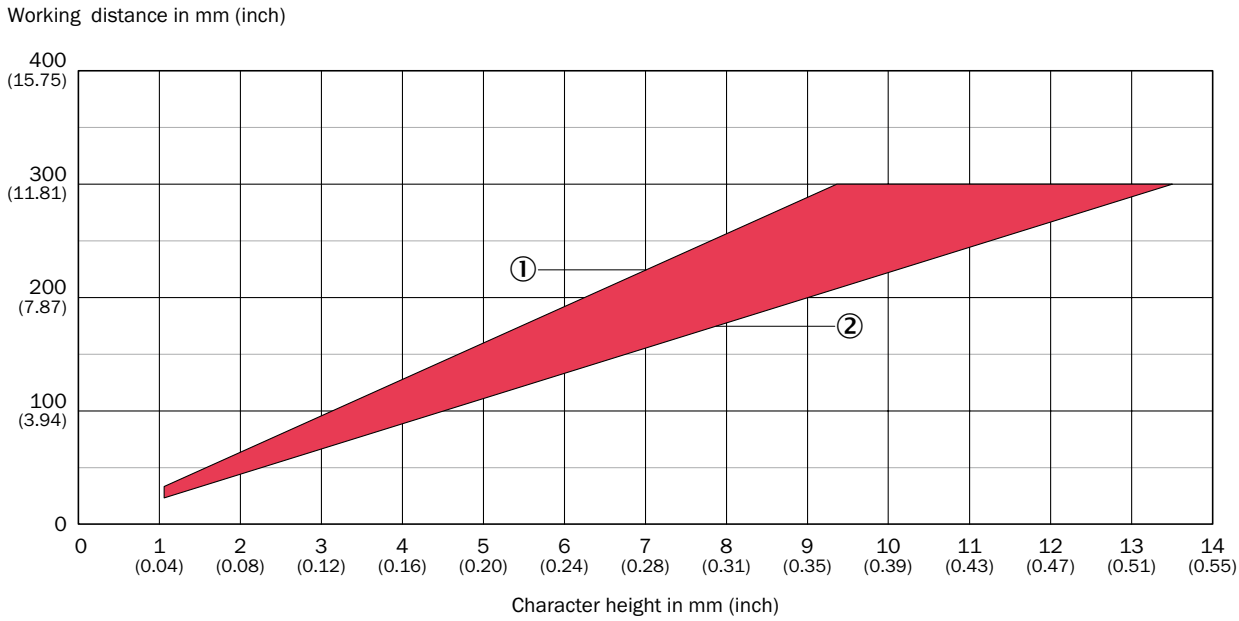
Lector620 High Speed (ICR620H-T11503), Lector620 DPM Plus (ICR620D-T11503, ICR620D-T17503), Lector620 OCR (ICR620C-T11503S50)



f = 7 mm (ICR620H-T11503, ICR620D-T11503, ICR620D-T17503, ICR620C-T11503S50)

Reading field diagrams

Lector620 OCR



① Maximum distance
② Minimum distance

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Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	Lector62x ECO	Lector62x
	Bracket with adapter board	2042902	●	●

Connection systems

Modules

	Brief description	Type	Part no.	Lector62x ECO	Lector62x
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●

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Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2055419	–	●
	Ethernet	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	4-wire	2 m	6034420	–	●
		Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●
	USB 2.0	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106	●	●

More accessories can be found ➜ K-252

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INTELLIGENT. FLEXIBLE. INTUITIVE.

Product description

The Lector63x is a flexible image-based code reader. With its high image resolution, compact housing and exchangeable optical design it is well equipped for a variety of needs. It can easily be used for small codes, in high production speeds or for long-range identification. The Lector63x is easy to handle: quick optical exchange, intuitive user interface, aiming laser, beeper, LED feedback and MicroSD card – simplifying setup, operation and maintenance!

At a glance

- Code reader with 2 megapixel sensor
- Flexible optics and filter design
- Integrated, changeable high-power lighting
- Intuitive user interface, including flexible result string with code analytics options
- Function buttons, aiming laser, beeper and feedback indicator
- MicroSD card

Your benefits

- High-resolution sensor and intelligent processing ensure outstanding reading performance, even under difficult reading conditions
- Flexible optical design and high-power illumination enable small codes to be read at high speeds or in applications with a large reading distance
- Fast, straightforward commissioning thanks to the intuitive user interface; function button for rapid device setup; integrated illumination and aiming laser
- Direct results monitoring thanks to acoustic signal and colored feedback spot on the object
- Few machine downtimes in the event of faults on the production line, thanks to straightforward cloning function using microSD memory card

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Additional information

➜ www.mysick.com/en/Lector63x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

Focus	Adjustable focus (manually)
Sensor	CMOS matrix sensor, gray scale values
Light source	To be ordered separately as accessory Aiming laser: visible red light (λ = 630 nm ... 680 nm)
Laser class	1, complies with 21 CFR 1040.10 except for the tolerance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1 (2007-3))
Scanning frequency	≤ 50 Hz, at 1.9 megapixels resolution
Code resolution	≥ 0.1 mm [1]
Reading distance	50 mm ... 2,200 mm [1]

[1] Depends on lens used, for details see field of view diagram.

Performance

Bar code types	GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93, USPS (Postnet, Planet, USPS4SCB), Australian Post, Dutch KIX Post, Royal Mail, Swedish Post
2D code types	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code
Stacked code types	PDF417
Code qualification	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004

Interfaces

Serial (RS-232, RS-422)	✔
Function	Host, AUX
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
USB	✔, USB 2.0
Ethernet	✔
Function	Host, AUX, image transmission
Data transmission rate	10/100/1,000 Mbit/s
Protocol	TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	250 kbit/s ... 500 kbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 parameter memory in CDB650/CDM420)
Configurable inputs	Encoder input, external trigger
Switching outputs	6 (CDB650: “Result 1”, “Result 2”, “Result 3”, “Result 4”, 2 external outputs via CMC600 or CDM420: “Result 1”, “Result 2”, 2 external outputs via CMC600 or cable with open end: “Result 1”, “Result 2”, “Result 3”, “Result 4”)
Configurable outputs	Good read, External illumination control, free configurable output condition, “device ready”
Reading pulse	Switching inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode
Optical indicators	11 LEDs (5 x status display, 5 x LED bar graph, 1 green/red feedback spot)
Acoustic indicators	Beeper (configurable)
Control elements	2 buttons
Configuration software	SOPAS ET
Memory card	Micro SD memory card (flash card) max. 32 GB, optional
Data storage and retrieval	Images and file logging via MicroSD memory card, internal memory and external FTP

Maximum encoder frequency	1 kHz
External illumination control	Via digital output (max. 24 V trigger) or via external illumination connector

Mechanics/electronics

Electrical connection	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 1 x M12, 8-pin socket (Ethernet, 1 GBit/s) 1 x M8, 4-pin socket (USB) 1 x M12, 4-pin socket (external illumination control)
Operating voltage	24 V DC, ± 20 %
Power consumption	Typ. 10 W, ± 20 %
Output current	≤ 100 mA
Housing	Aluminum die cast
Weight	430 g, without lens and connection cables
Dimensions	108 mm x 63 mm x 46 mm [1]

[1] Only housing without lens and protective hood.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2005-08) / EN 61000-6-3 (2007-01)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Electrical safety	EN 60950-1 (2011-01)
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing

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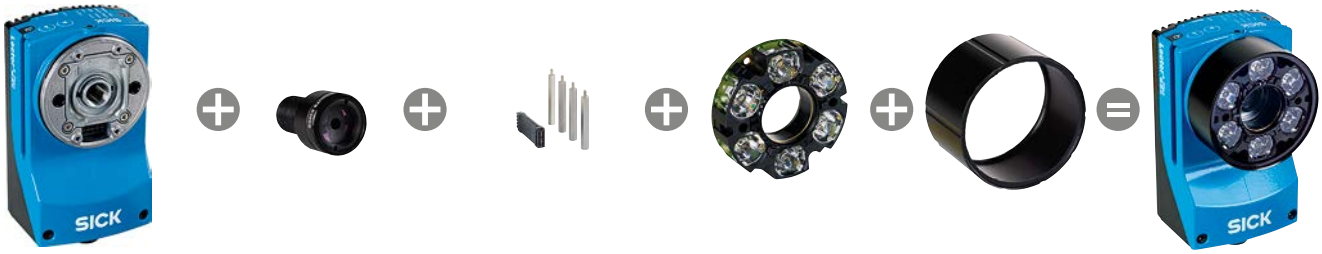
Ordering information

- **Version:** Lector632 Flex
- **Sensor resolution:** 1,600 px x 1,200 px
- **Enclosure rating:** IP 67

Lens	Type	Part no.
Exchangeable (C-mount), to be ordered separately as accessory	V2D632R-MXCXB0 Flex	1075881
Exchangeable (S-mount), to be ordered separately as accessory	V2D632R-MXSXB0 Flex	1067380

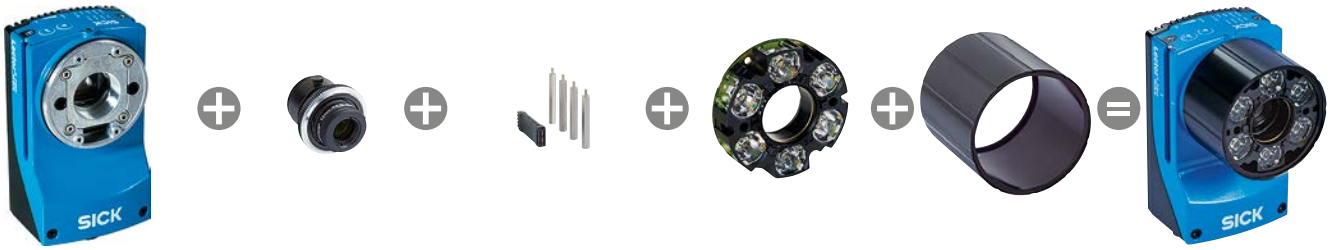
Selection guide

Lector632 S-mount



Body, incl. S-mount adapter (Part no. 2079020)	Lens	Distance bracket and light extension connector	Integratable lighting	Protective hood	Assembled device, incl. all mentioned parts
Lector632 V2D632R-MXSXB0 **Part no. 1067380**	Focal length 9.6 mm Aperture F8 **Part no. 2079336**		Wide, white **Part no. 2078428**	Short **Part no. 2079176**	
	Focal length 12.5 mm Aperture F8 **on request**		Medium, white **Part no. 2078430**		
	Focal length 17.5 mm Aperture F8 **Part no. 5330231**				
	Focal length 25 mm Aperture F8 **Part no. 2076656**	Medium **Part no. 2079501**	Narrow, white **Part no. 2078431**	Medium **Part no. 2079127**	

Lector632 Compact C-mount



Body, incl. C-mount adapter (Part no. 2073188)	Lens	Distance bracket and light extension connector	Integratable lighting	Protective hood	Assembled device, incl. all mentioned parts
Lector632 V2D632R-MXCXB0 **Part no. 1075881**	Focal length 12 mm Aperture F8 **Part no. 2079348**	Medium **Part no. 2079501**	Medium, white **Part no. 2078430**	Medium **Part no. 2079127**	
	Focal length 16 mm Aperture F8 **Part no. 2079346**	Long **Part no. 2079502**	Medium, white **Part no. 2078430**	Long **Part no. 2079204**	
	Focal length 25 mm Aperture F8 **Part no. 2079343**	Medium **Part no. 2079501**	Narrow, white **Part no. 2078431**	Medium **Part no. 2079127**	
	Focal length 35 mm Aperture F8 **Part no. 2079344**	Long **Part no. 2079502**	Narrow, white **Part no. 2078431**	Long **Part no. 2079204**	

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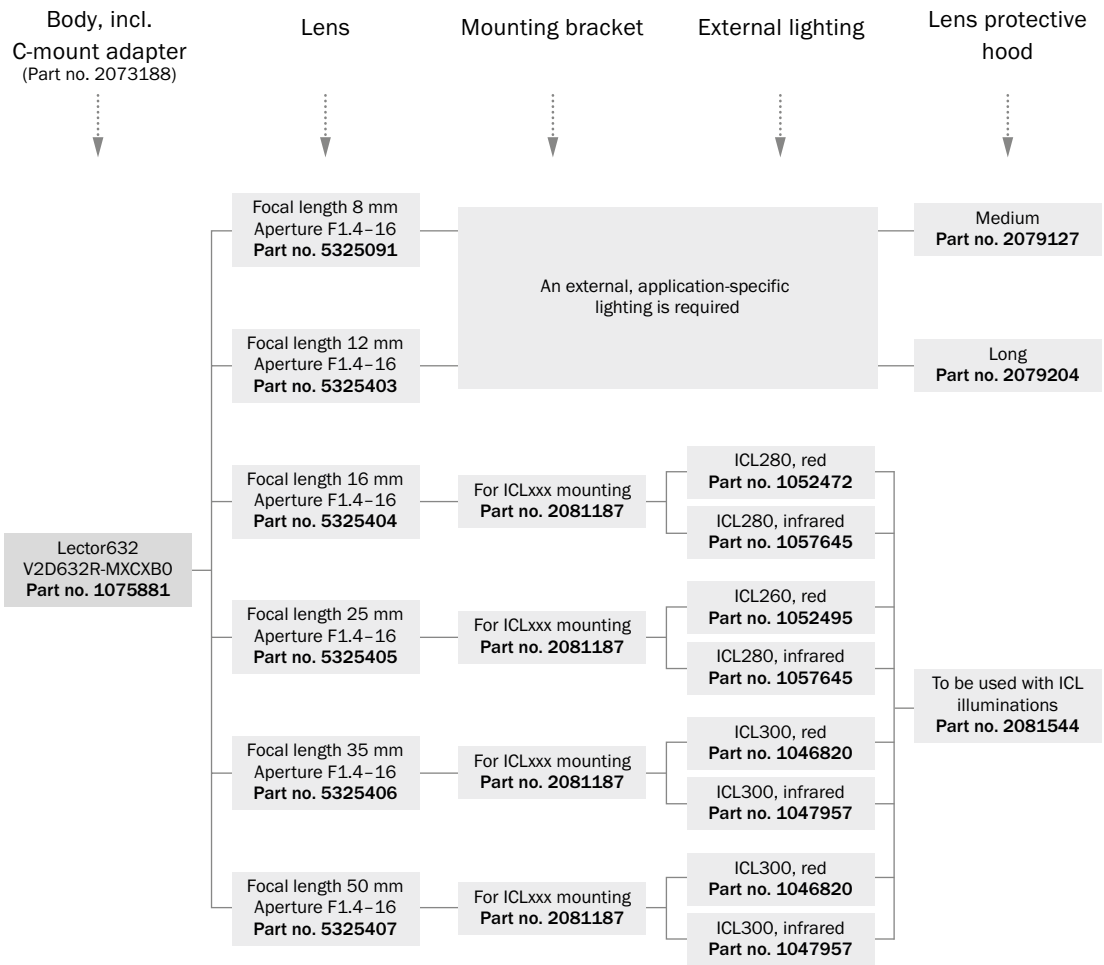
Lector632 C-mount



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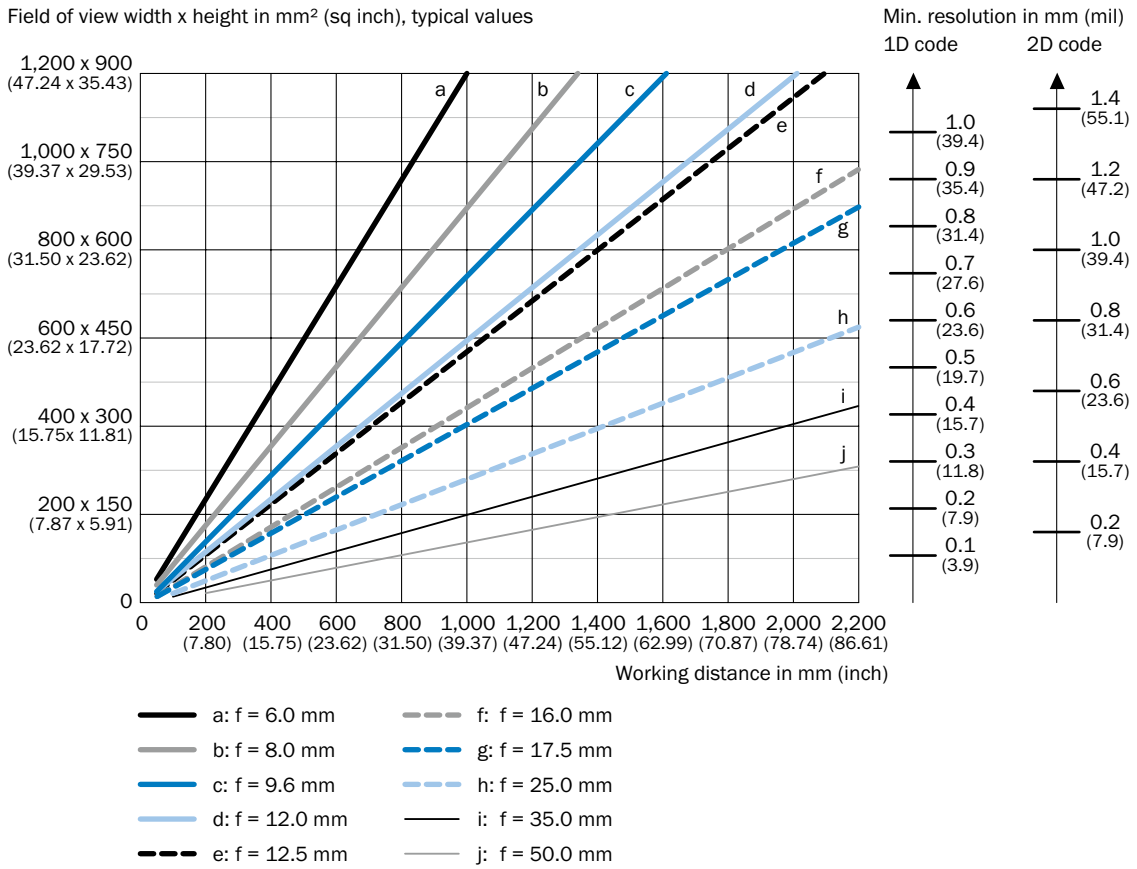
Field of view

Long sensing range of up to 2.2 m working distance



For S-mount and standard C-mount lenses, distance rings are needed for working distances shorter than approximately 10 times the focal length.
For Compact C-mount lenses, distance rings are not needed, but the integratable lighting cannot be used for distances shorter than 300 mm

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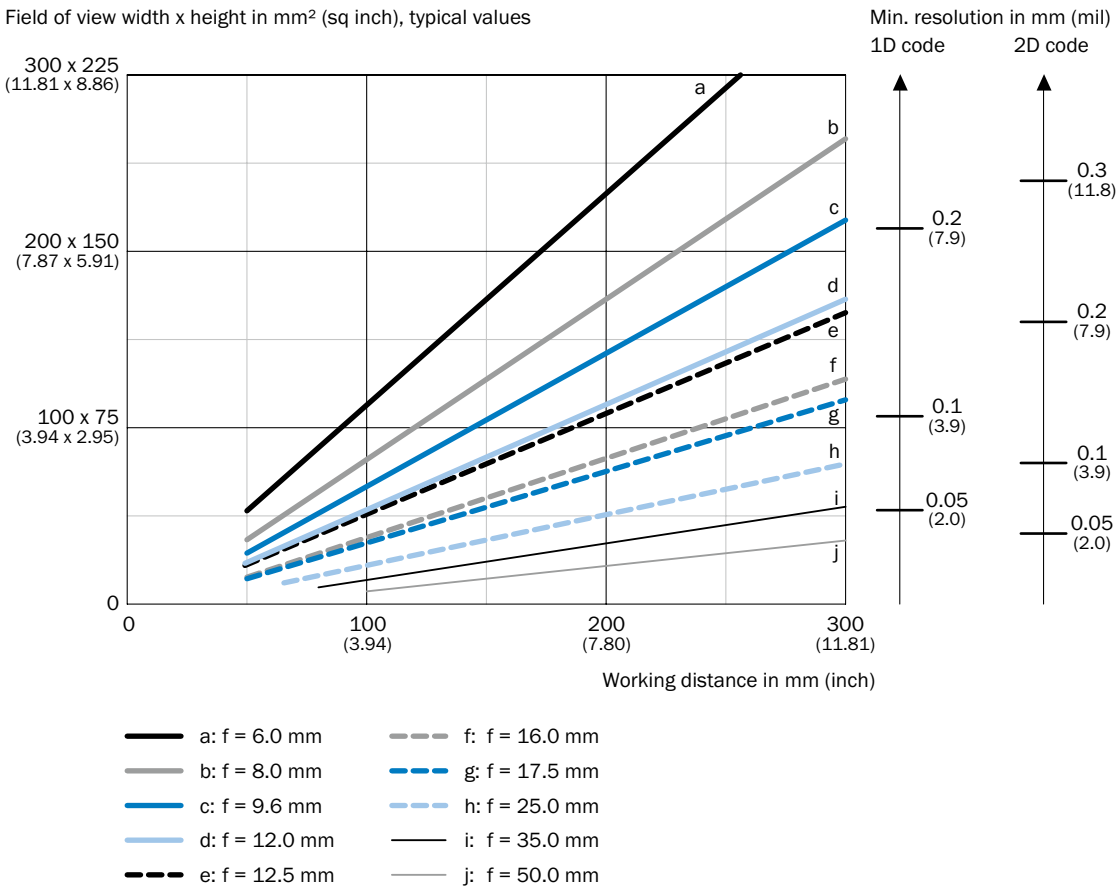
Short sensing range of up to 0.3 m working distance



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For S-mount and standard C-mount lenses, distance rings are needed for working distances shorter than approximately 10 times the focal length.
For Compact C-mount lenses, distance rings are not needed, but the integratable lighting cannot be used for distances shorter than 300 mm

Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Mounting bracket with screws, L-shaped for sliding nuts mounting including skew angle display	2078970

Terminal and alignment brackets

	Brief description	Part no.
 Illustration may differ	Distance bracket and light extension connector for mounting integratable lighting, length 15 mm, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	2079501

Connection systems

Modules

	Brief description	Type	Part no.
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination	CDB650-204	1064114

Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	Drag chain use, suitable for 2 A, suitable for refrigeration	2 m	6053230
	Gigabit Ethernet/PoE	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728

Reflectors and optics

Illuminations

	Brief description	Part no.
	Integratable lighting, lighting color white, suitable for S-mount and compact C-mount lenses with a focal length of 25 mm and 35 mm	2078431

Lens and accessories

	Brief description	Part no.
 Illustration may differ	Compact C-mount 2/3", focal length 25 mm, aperture 8	2079343
	Lens protective hood, enclosure rating IP 67, length 37.7 mm, PMMA, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	2079127

More accessories can be found →K-252

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HIGH EFFICIENCY FOR CODE READING APPLICATIONS

Product description

The Lector642 image-based code reader from SICK provides maximum performance and optimum throughput in logistics and factory automation. With a frame repetition rate of 40 Hz and real-time decoding, the Lector642 can reliably identify 1D, 2D and directly marked codes at the highest possible speed. The 1,7 megapixel image resolution offers a large field of view. The intuitive device equipment – featuring function buttons, auto setup, an aiming laser, an acoustic feedback signal, and a green feedback LED – reduce the amount of work required for training and installation. The microSD memory card can be used to store images or back-up copies of parameters. Due to SICK's 4D*pro* feature, the Lector642 can be integrated into numerous industrial network.

At a glance

- 1,7 megapixel resolution; high frame repetition rate of 40 Hz
- Integrated high-power LED illumination
- Function buttons, aiming laser, optical and audible feedback signal
- Intelligent, rapid decoding algorithms

Your benefits

- Highly flexible code position, object height, and transport speed due to a large field of view and large depth of field
- Cost-effective, straightforward, modular integration of multiple devices adapted to the width of the conveyor belt
- Minimum training and installation work due to intuitive device equipment that includes function buttons, auto setup, integrated illumination, an aiming laser, an acoustic feedback signal, and a green feedback LED
- Intelligent decoding algorithms ensure maximum reading performance and high package throughput, even with codes that are difficult to read
- SICK 4D*pro* platform facilitates quick and easy integration into numerous industrial networks

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Additional information

➜ www.mysick.com/en/Lector64x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

Detailed technical data

Features

Focus	Adjustable focus (manually)
Sensor	CMOS matrix sensor, gray scale values
Light source	Illumination LEDs: (to be ordered separately as accessories) Aiming laser: visible red light (λ = 630 ... 680 nm)
Laser class	1M, complies with 21 CFR 1040.10 except for the tolerance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1 (2007-3))
Scanning frequency	40 Hz, at 1.7 megapixels resolution
Code resolution	≥ 0.1 mm [1]
Reading distance	300 mm ... 2,200 mm, depends on lens used [2]

[1] Depends on lens used.

[2] Depends on lens used, for details see field of view diagram.

Performance

Bar code types	GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93, USPS (Postnet, Planet, USPS4SCB), Australian Post, Swedish Post, Royal Mail, Dutch KIX Post
2D code types	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code
Stacked code types	PDF417
Code qualification	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004
Internal image storage	512 MB

Interfaces

Serial (RS-232, RS-422)	✔
Function	Host, AUX
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
USB	✔, USB 2.0
Ethernet	✔
Function	Host, AUX, image transmission
Data transmission rate	10/100/1,000 Mbit/s
Protocol	TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2) TCP/IP, FTP (image transmission), EtherNet/IP, Dual Port PROFINET (depending on type)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 parameter memory in CDB650/CDM420)
Configurable inputs	Encoder input, external trigger
Switching outputs	6 (CDB650: “Result 1”, “Result 2”, “Result 3”, “Result 4”, 2 external outputs via CMC600 or CDM420: “Result 1”, “Result 2”, 2 external outputs via CMC600 or cable with open end: “Result 1”, “Result 2”, “Result 3”, “Result 4”)
Configurable outputs	Good read, External illumination control, free configurable output condition, “device ready”
Reading pulse	Switching inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode
Optical indicators	21 LEDs (10 x status display, 10 x LED bar graph, 1 green feedback spot)
Acoustic indicators	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)

Control elements	2 buttons (choose and start/stop functions)
Configuration software	f ET
Memory card	Micro SD memory card (flash card) max. 16 GB, optional
Data storage and retrieval	Images and file logging via MicroSD memory card, internal memory and external FTP
Maximum encoder frequency	1 kHz
External illumination control	Via digital output (max. 24 V trigger) or via external illumination connector

Mechanics/electronics

Electrical connection	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 2 x M12, 8-pin socket (Ethernet, P1 not yet with function) 1 x M8, 4-pin socket (USB) 1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 1 x M12, 8-pin socket (Ethernet, 1 GBit/s) 1 x M8, 4-pin socket (USB) 2 x M12, 4-pin female connector (Ethernet, 100 mBit/s) (depending on type)
Operating voltage	24 V DC, ± 20 %
Power consumption	Typ. 20 W, ± 20 %
Output current	≤ 100 mA
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Protection class	III
Weight	635 g
Dimensions	142 mm x 89 mm x 46 mm [1]

[1] Only housing without lens and protective hood.

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Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2005-08) / EN 61000-6-3 (2007-01)
Shock resistance	EN 60068-2-6
Electrical safety	EN 60950-1 (2011-01)
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on code

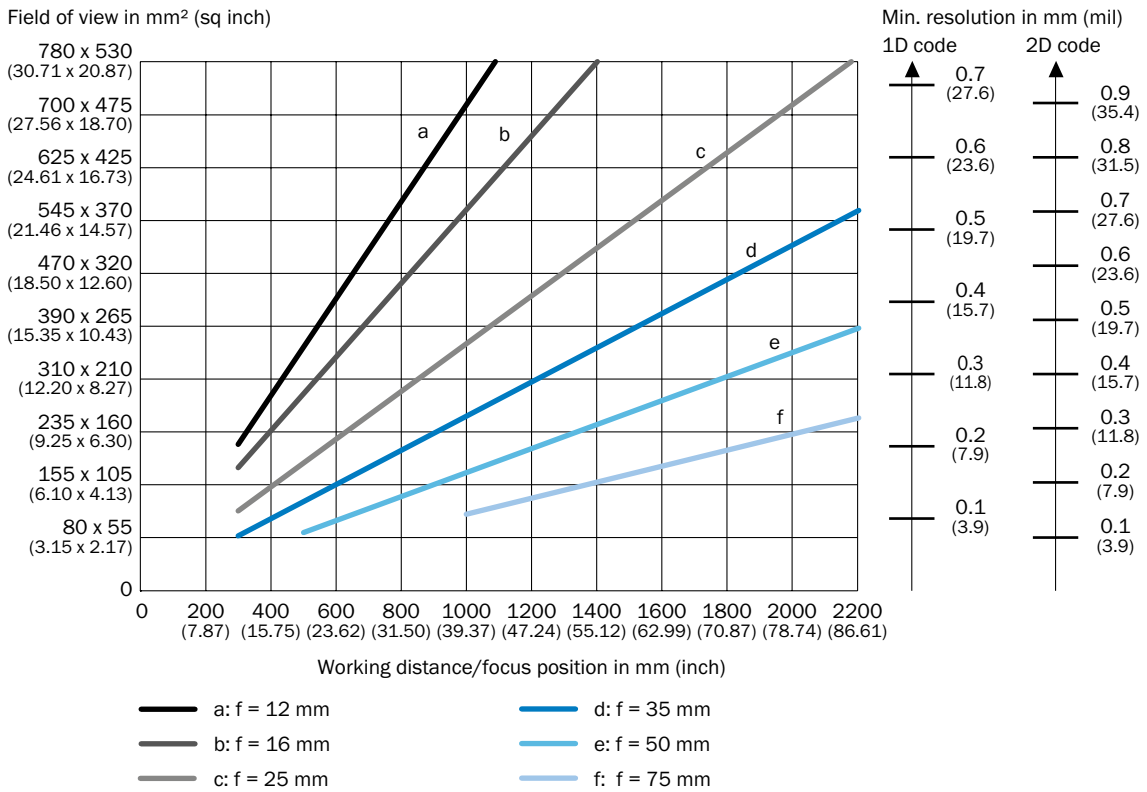
Ordering information

- **Version:** Lector642 Flex
- **Reading field:** side
- **Sensor resolution:** 1,600 px x 1,088 px
- **Lens:** exchangeable (C-mount), to be ordered separately as accessory
- **Enclosure rating:** IP 65

Type	Part no.
V2D642R-MCXXA6 Flex	1070119
V2D642R-MCXXH6 Flex with Dual Port PROFINET	1071472

Field of view

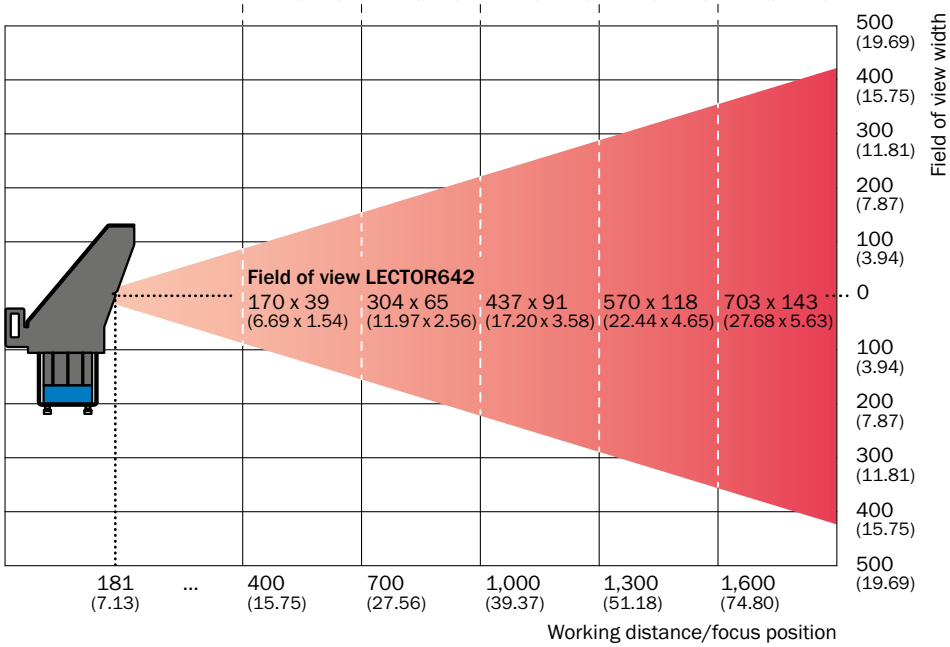
Lector642 Flex



Field of view, Lector642 Flex with Paorama 35 mm

Dimensions in mm (inch/*mil)

Max. code size	35 (1.38)	59 (2.32)	77 (3.03)	91 (3.58)	105 (4.13)
Min. resolution 1D-Code	0.11 (*4.2)	0.18 (*7.1)	0.25 (*9.9)	0.33 (*12.8)	0.40 (*15.6)
Min. resolution 2D-Code	0.14 (*5.7)	0.24 (*9.4)	0.34 (*13.2)	0.43 (*17.1)	0.53 (*20.8)



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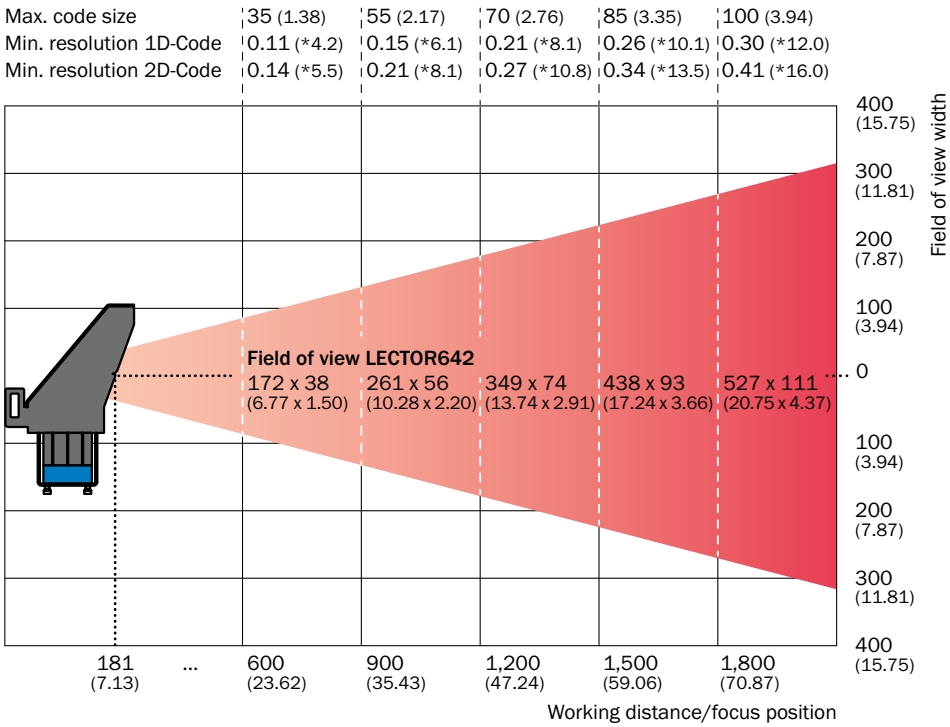
Field of view, Lector642 Flex with Panorama 50 mm

Dimensions in mm (inch/*mil)



Recommended accessories

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Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Mounting bracket with screws including skew angle display	2069169

Connection systems

Modules

	Brief description	Type	Part no.
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination	CDB650-204	1064114

Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	USB 2.0	Male connector, M8, 4-pin, straight	Male connector, USB-A, 4-pin, straight	–	2 m	6051164
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, suitable for 2 A, drag chain use	3 m	6051194

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Gigabit Ethernet/PoE	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728

Reflectors and optics

Lens and accessories

	Brief description	Part no.
	Optic kit 04 including lens with a focal length of 35 mm, white lighting, distance bracket and protective hood	1064794
	Optic kit 05 including lens with a focal length of 50 mm, white lighting, distance bracket and protective hood	1064776

More accessories can be found ➔K-252

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NONSTOP CODE READING FLEXIBILITY

Product description

Maximum performance and optimized throughput: The Lector65x image-based code reader from SICK stands up to the challenges of logistics and factory automation. Thanks to its frame repetition rate of 40 Hz and real-time decoding, it reliably identifies 1D, 2D, and directly marked codes at the highest possible speed. An image resolution of 2/4 megapixels gives it a large field of view. In combination with its dynamic focus, the highest levels of flexibility are achieved for code positioning, object height, and transport speed. The intuitive device equipment – featuring function buttons, auto-setup, aiming laser, an acoustic feedback signal, and a green feedback LED – reduce the amount of work required for training and installation. The microSD memory card can be used to store images or backup copies of parameters. Thanks to SICK's 4D*pro* feature, the Lector65x can be integrated into any numerous industrial networks.

At a glance

- 2/4 megapixel resolution; high frame repetition rate of 40 Hz
- Dynamic focus adjustment from object to object
- Integrated high-power LED illumination
- Function buttons, aiming laser, optical and acoustic feedback signal
- Intelligent, rapid decoding algorithms

Your benefits

- Highly flexible code position, object height, and transport speed due to a large field of view and dynamic focus
- Cost-effective, straightforward, modular integration of multiple devices adapted to the width of the conveyor belt
- Minimum training and installation work due to intuitive device equipment that includes function buttons, auto setup, integrated illumination, an aiming laser, an acoustic feedback signal, and a green feedback LED
- Intelligent decoding algorithms ensure maximum reading performance and high package throughput, even with codes that are difficult to read
- SICK 4D*pro* platform facilitates quick and easy integration into numerous industrial networks

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Additional information

➜ www.mysick.com/en/Lector65x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	Lector652 Flex	Lector652 Dynamic Focus	Lector654 Flex	Lector654 Dynamic Focus	Lector654 Dynamic Focus for Systems
Focus	Adjustable focus (manually)	Dynamic focus control	Adjustable focus (manually)	Dynamic focus control	
Sensor	CMOS matrix sensor, gray scale values				
Light source	Illumination LEDs: (to be ordered separately as accessories) Aiming laser: visible red light (λ = 630 … 680 nm)	Illumination LEDs: blue (λ = 455 nm ± 20 nm) Feedback spot: visible green light (λ = 525 nm ± 15 nm) Aiming laser: visible red light (λ = 630 … 680 nm) / lighting LEDs: white (λ = 6000 K ± 500 K)	Illumination LEDs: (to be ordered separately as accessories) Aiming laser: visible red light (λ = 630 … 680 nm)	Illumination LEDs: blue (λ = 455 nm ± 20 nm) Feedback spot: visible green light (λ = 525 nm ± 15 nm) Aiming laser: visible red light (λ = 630 … 680 nm) / lighting LEDs: white (λ = 6000 K ± 500 K)	Lighting LEDs: white (λ = 6000 K ± 500 K) Feedback spot: visible green light (λ = 525 nm ± 15 nm) Aiming laser: visible red light (λ = 630 nm … 680 nm)
LED class	–	Risk group 2, Irradiance L_B < 10 x 10^3 W/(m^2sr) within 50 s (RG2), L_R < 7 x 10^5 W/(m^2sr) within 10 s (RG1), at a distance of ≥ 200 mm. Risk RG 1 (low risk) corresponding to L_B < 10 x 10^3 W/(m^2sr) within 100 s at distances of > 1 m. (IEC 62471 (2006-07) / EN 62471 (2008-09)) Risk group 1 (IEC 62471 (2006-07) / EN 62471 (2008-09)) (depending on type)	–	Risk group 2, Irradiance L_B < 10 x 10^3 W/(m^2sr) within 50 s (RG2), L_R < 7 x 10^5 W/(m^2sr) within 10 s (RG1), at a distance of ≥ 200 mm. Risk RG 1 (low risk) corresponding to L_B < 10 x 10^3 W/(m^2sr) within 100 s at distances of > 1 m. (IEC 62471 (2006-07) / EN 62471 (2008-09)) Risk group 1 (IEC 62471 (2006-07) / EN 62471 (2008-09)) (depending on type)	Risk group 1 (IEC 62471 (2006-07) / EN 62471 (2008-09))
Laser class	1M, complies with 21 CFR 1040.10 except for the tolerance according to “Laser Notice No. 50” from June 24, 2007 (IEC 60825-1 (2007-3))				
Scanning frequency	70 Hz, With resolution of 2 megapixels		40 Hz, With resolution of 4 megapixels		
Code resolution	≥ 0.1 mm [1]	≥ 0.12 mm [2]	≥ 0.1 mm [1]	≥ 0.12 mm [2]	
Reading distance	300 mm … 2,200 mm, depends on lens used [3]	500 mm … 2,500 mm [3] (depending on type)	300 mm … 2,200 mm, depends on lens used [3]	500 mm … 2,500 mm [3] (depending on type)	670 mm … 2,000 mm [3]

[1] Depends on lens used.

[2] Depends on distance.

[3] Depends on lens used, for details see field of view diagram.

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Performance

Bar code types	GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Code 39, Code 128, Codabar, Code 32, Code 93, USPS (Postnet, Planet, USPS4SCB), Australian Post, Dutch KIX Post, Royal Mail, Swedish Post
2D code types	Data Matrix ECC200, GS1 Data-Matrix, MaxiCode, QR code
Stacked code types	PDF417
Code qualification	On the basis of ISO/IEC 16022, ISO/IEC 15415, ISO/IEC 18004
Internal image storage	512 MB

Interfaces

	Lector652 Flex	Lector652 Dynamic Focus	Lector654 Flex	Lector654 Dynamic Focus	Lector654 Dynamic Focus for Systems
Serial (RS-232, RS-422)	✔				–
Function	Host, AUX				–
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)				–
USB	✔, USB 2.0				–
Ethernet	✔				
Function	Host, AUX, image transmission				
Data transmission rate	10/100/1,000 Mbit/s				
Protocol	TCP/IP, FTP (image transmission), EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2), Dual Port PROFINET				TCP/IP, FTP (image transmission), EtherNet/IP
CAN bus	✔				
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)				
Data transmission rate	20 kbit/s ... 1 Mbit/s				
Protocol	CSN (SICK CAN Sensor Network)				
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)				–
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional CMC600 parameter memory in CDB650/CDM420)				0
Configurable inputs	Encoder input, external trigger				
Switching outputs	6 (CDB650: “Result 1”, “Result 2”, “Result 3”, “Result 4”, 2 external outputs via CMC600 or CDM420: “Result 1”, “Result 2”, 2 external outputs via CMC600 or cable with open end: “Result 1”, “Result 2”, “Result 3”, “Result 4”)				0
Configurable outputs	Good read, External illumination control, free configurable output condition, “device ready”				
Reading pulse	Switching inputs, non-powered, serial interface, Ethernet, CAN, auto pulse, presentation mode				
Optical indicators	21 LEDs (10 x status display, 10 x LED bar graph, 1 green feedback spot)				
Acoustic indicators	Beeper/buzzer (can be switched off, can be assigned a function to signal a result)				
Control elements	2 buttons (choose and start/stop functions)				
Configuration software	SOPAS ET				
Memory card	Micro SD memory card (flash card) max. 16 GB, optional				
Data storage and retrieval	Images and file logging via MicroSD memory card, internal memory and external FTP				
Maximum encoder frequency	1 kHz				
External illumination control	Via digital output (max. 24 V trigger) or via external illumination connector				

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Mechanics/electronics

	Lector652 Flex	Lector652 Dynamic Focus	Lector654 Flex	Lector654 Dynamic Focus	Lector654 Dynamic Focus for Systems
Electrical connection	1 x M12, 17-pin plug (serial, CAN, I/Os, power supply) 2 x M12, 8-pin socket (Ethernet, P1 not yet with function) 1 x M8, 4-pin socket (USB)				1 x M12, 5-pin plug (CAN) 2 x M12, 5-pin female connector (CAN) 1 x M8, 3-pin socket (external illumination) 2 x M12, 8-pin socket (Ethernet, P1 not yet with function)
Operating voltage	24 V DC, ± 20 %				
Power consumption	Typ. 20 W, ± 20 %				
Output current	≤ 100 mA				
Housing	Aluminum die cast				
Housing color	Light blue (RAL 5012)				
Protection class	III				
Weight	635 g	963 g	635 g	963 g	
Dimensions	142 mm x 89 mm x 46 mm [1]	142.8 mm x 90 mm x 106.1 mm	142 mm x 89 mm x 46 mm [1]	142.8 mm x 90 mm x 106.1 mm	142.6 mm x 90 mm x 106.1 mm

[1] Only housing without lens and protective hood.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 (2005-08) / EN 61000-6-3 (2007-01)
Shock resistance	EN 60068-2-6
Electrical safety	EN 60950-1 (2011-01)
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on code

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Ordering information

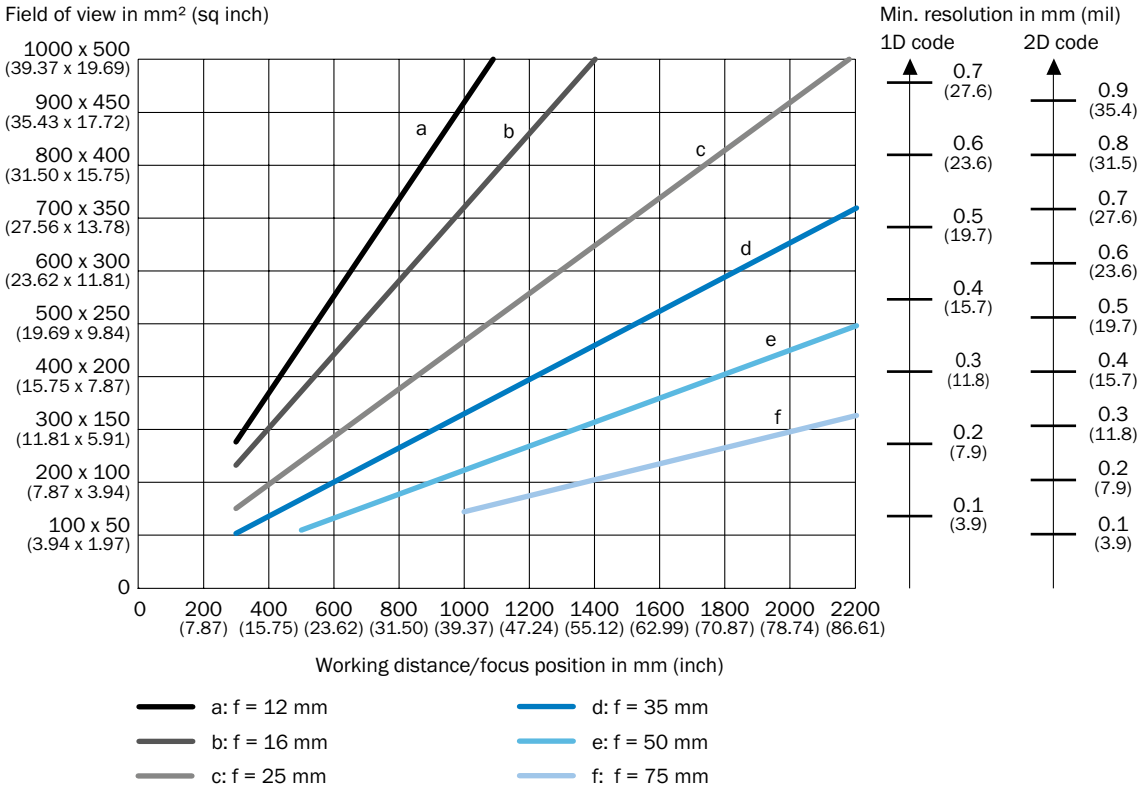
- **Reading field:** side
- **Enclosure rating:** IP 65

Version	Sensor resolution	Lens	Focal length	Internal lighting	Type	Part no.
Lector652 Flex	2,048 px x 1,088 px	Exchangeable (C-mount), to be ordered separately as accessory	–	–	V2D652R-MCXXA6 Flex	1063404
Lector652 Dynamic Focus	2,048 px x 1,088 px	Integrated	40 mm	Blue	V2D652R-MEBKA6 Dynamic Focus	1072317
			54 mm	White	V2D652R-MEWHA6 Dynamic Focus	1063405
			40 mm	White	V2D652R-MEWKA6 Dynamic Focus	1068681
Lector654 Flex	2,048 px x 2,048 px	Exchangeable (C-mount), to be ordered separately as accessory	–	–	V2D654R-MCXXA6 Flex	1060892

Version	Sensor resolution	Lens	Focal length	Internal lighting	Type	Part no.
Lector654 Dynamic Focus	2,048 px x 2,048 px	Integrated	40 mm	Blue	V2D654R-MEBKA6 Dynamic Focus	1072316
			54 mm	White	V2D654R-MEWHA6 Dynamic Focus	1060893
			40 mm	White	V2D654R-MEWKA6 Dynamic Focus	1068680
Lector654 Dynamic Focus for Systems	2,048 px x 2,048 px	Integrated	54 mm	White	V2D654R-MEWHF6 Dynamic Focus for Systems	1063229

Field of view

Lector652 Flex



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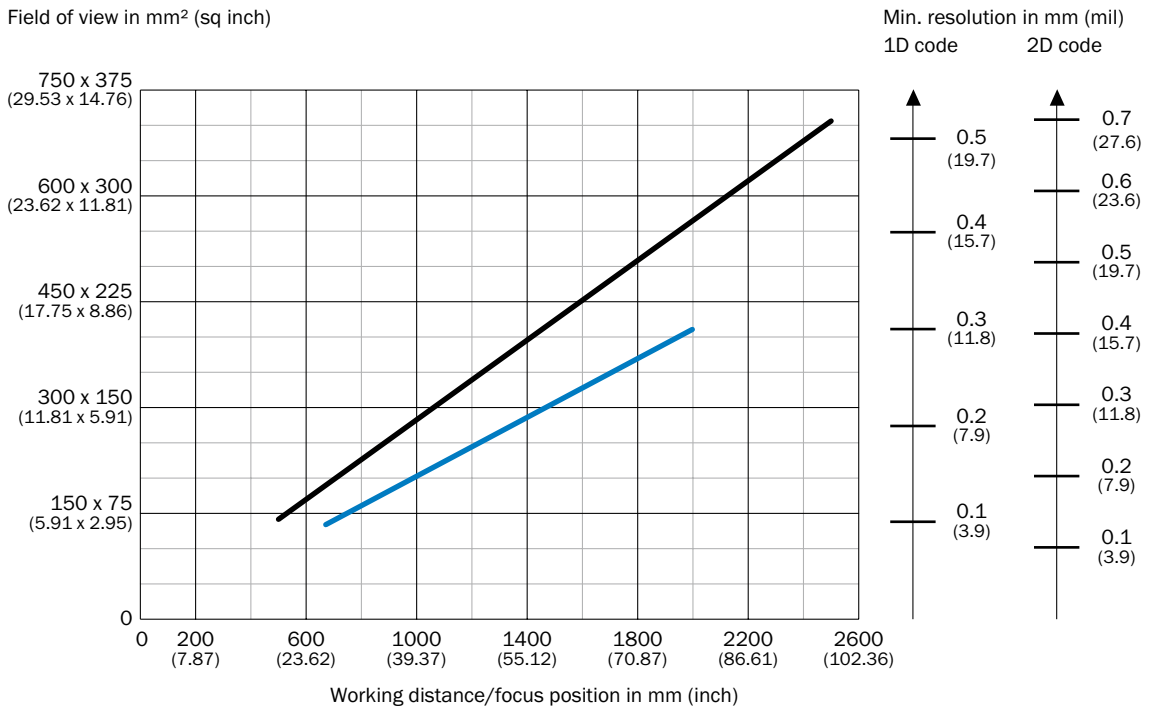
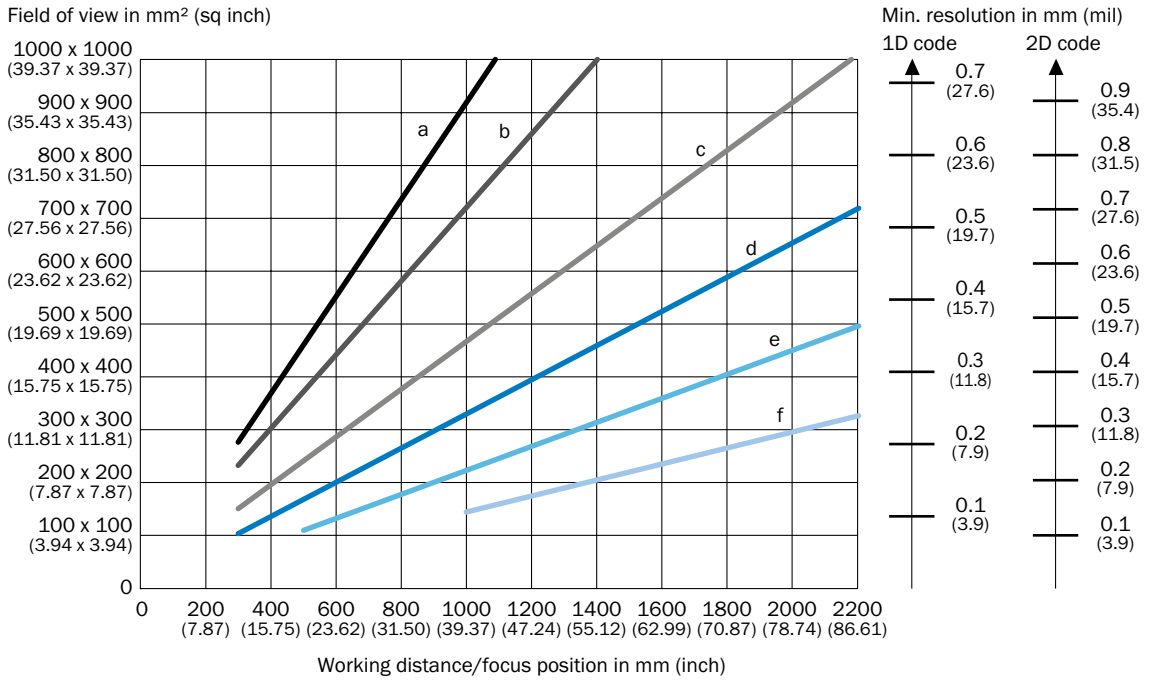
Lector652 Dynamic Focus



f = 40 mm (V2D65xR-xxKxx)
f = 54 mm (V2D652R-xxHxx)

Lector654 Flex

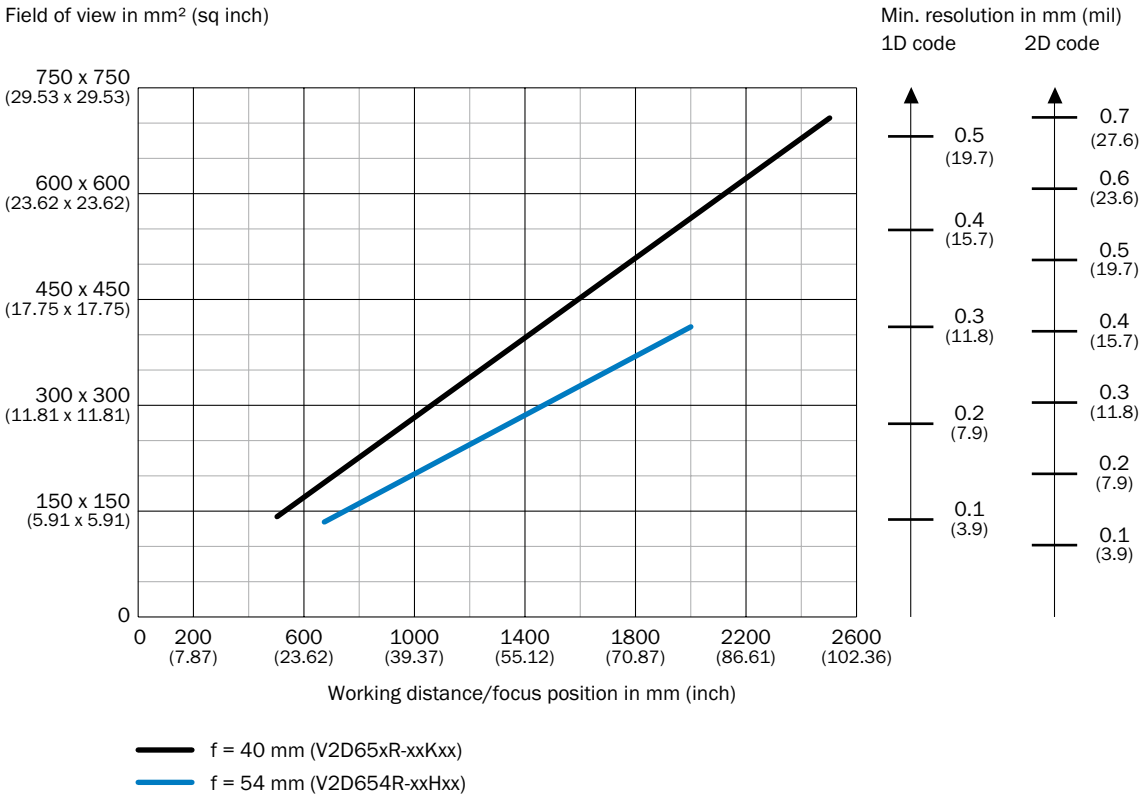


a: f = 12 mm
b: f = 16 mm
c: f = 25 mm
d: f = 35 mm
e: f = 50 mm
f: f = 75 mm

F

Lector654 Dynamic Focus

Lector654 Dynamic Focus for Systems



Field of view Lector65x with Panorama 25 mm

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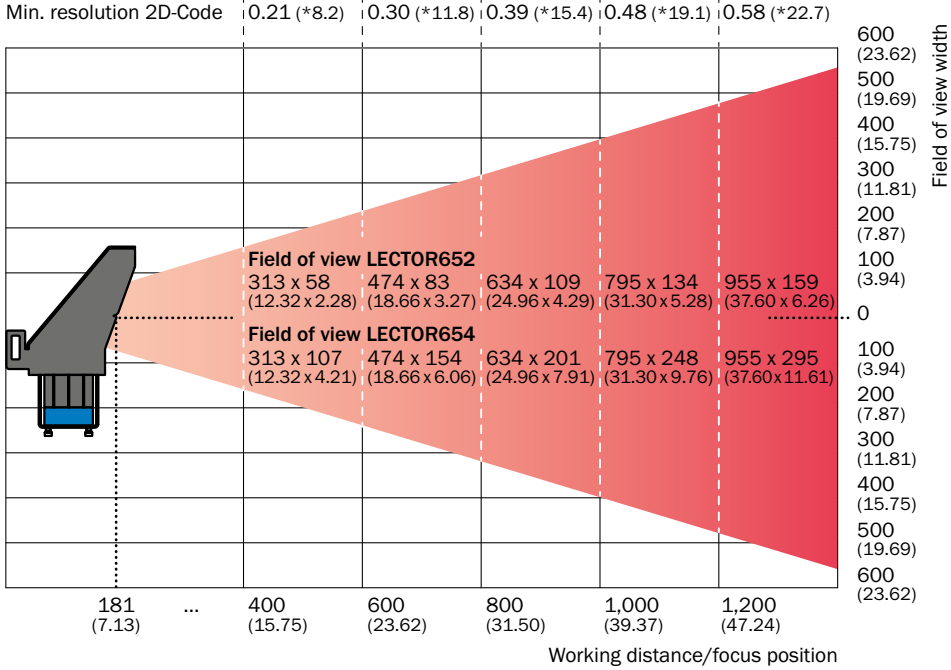
Dimensions in mm (inch/*mil)

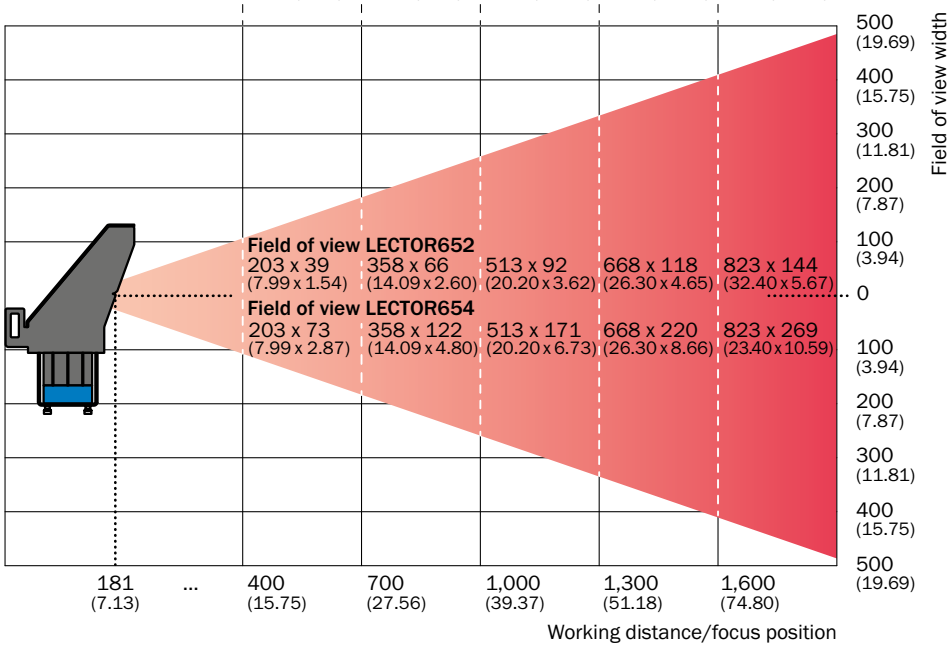
Max. code size	58 (2.28)	83 (3.27)	108 (4.25)	121 (4.76)	134 (5.28)
Min. resolution 1D-Code	0.16 (*6.2)	0.23 (*8.9)	0.29 (*11.6)	0.36 (*14.3)	0.43 (*17.0)
Min. resolution 2D-Code	0.21 (*8.2)	0.30 (*11.8)	0.39 (*15.4)	0.48 (*19.1)	0.58 (*22.7)



Field of view, Lector65x Flex with Panorama 35 mm

Dimensions in mm (inch/*mil)

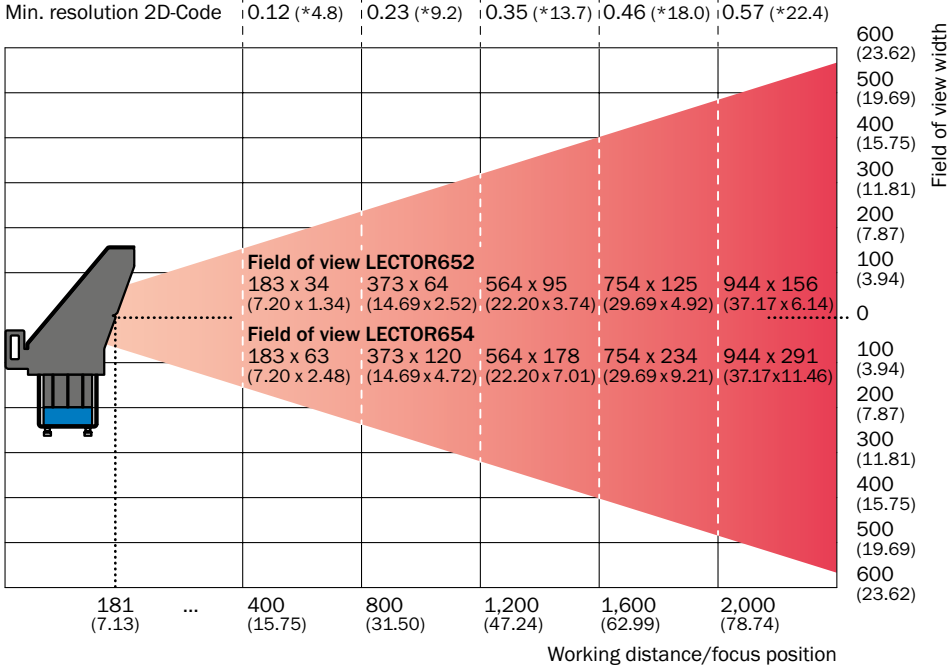
Max. code size	39 (1.54)	66 (2.60)	92 (3.62)	118 (4.65)	144 (5.67)
Min. resolution 1D-Code	0.11 (*4.2)	0.18 (*7.0)	0.25 (*9.9)	0.32 (*12.7)	0.39 (*15.5)
Min. resolution 2D-Code	0.14 (*5.6)	0.24 (*9.4)	0.33 (*13.2)	0.43 (*16.9)	0.53 (*20.7)



Field of view Lector65x Dynamic Focus with Panorama 40 mm

Dimensions in mm (inch/*mil)

Max. code size	34 (1.34)	64 (2.52)	95 (3.74)	125 (4.92)	156 (6.14)
Min. resolution 1D-Code	0.09 (*3.6)	0.18 (*6.9)	0.26 (*10.3)	0.34 (*13.5)	0.43 (*16.8)
Min. resolution 2D-Code	0.12 (*4.8)	0.23 (*9.2)	0.35 (*13.7)	0.46 (*18.0)	0.57 (*22.4)



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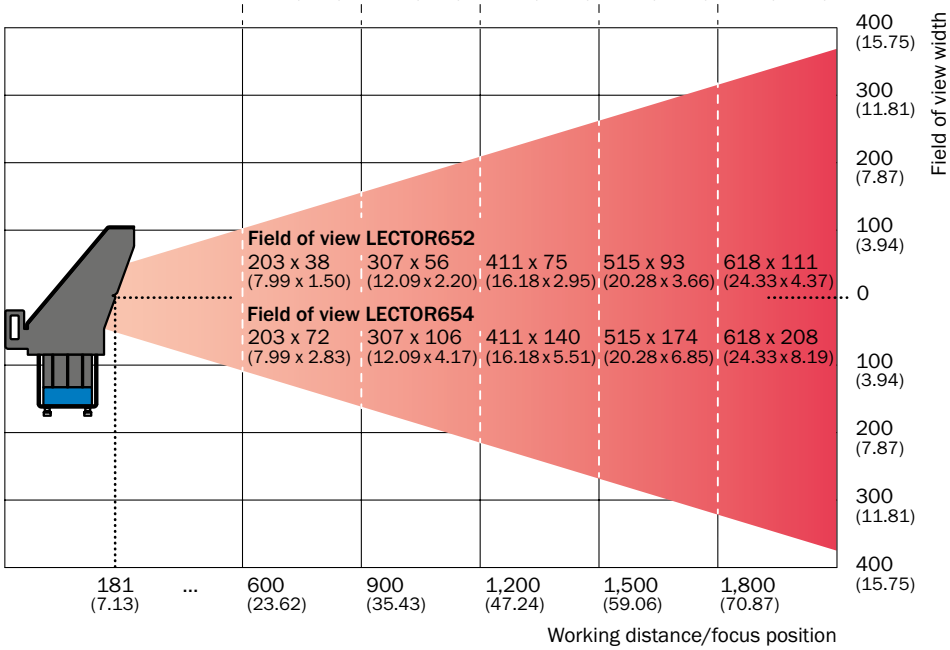
Field of view, Lector65x Flex with Panorama 50 mm

Dimensions in mm (inch/*mil)

Max. code size	72 (2.83)	105 (4.13)	133 (5.24)	162 (6.38)	190 (7.48)
Min. resolution 1D-Code	0.11 (*4.1)	0.16 (*6.1)	0.20 (*8.1)	0.25 (*10.0)	0.30 (*12.0)
Min. resolution 2D-Code	0.14 (*5.5)	0.21 (*8.2)	0.27 (*10.8)	0.34 (*13.4)	0.41 (*16.0)



Field of view Lector65x Dynamic Focus with Panorama 54 mm

Dimensions in mm (inch/*mil)

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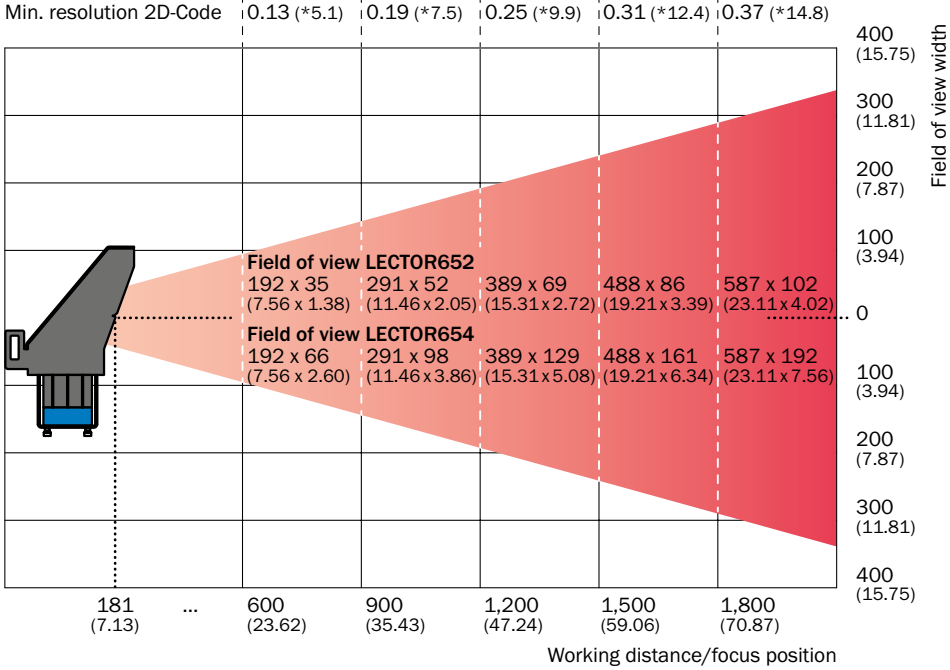
Max. code size	35 (1.38)	52 (2.05)	68 (2.68)	85 (3.35)	102 (4.02)
Min. resolution 1D-Code	0.10 (*3.8)	0.14 (*5.7)	0.19 (*7.4)	0.24 (*9.3)	0.28 (*11.1)
Min. resolution 2D-Code	0.13 (*5.1)	0.19 (*7.5)	0.25 (*9.9)	0.31 (*12.4)	0.37 (*14.8)



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems
	Mounting bracket with screws including skew angle display	2069169	●	●	●

Connection systems

Modules

	Brief description	Type	Part no.	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination	CDB650-204	1064114	●	●	–

Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems
	USB 2.0	Male connector, M8, 4-pin, straight	Male connector, USB-A, 4-pin, straight	–	2 m	6051164	●	●	–
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, suitable for 2 A, drag chain use	3 m	6051194	●	●	–
	Gigabit Ethernet/ PoE	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728	●	●	●

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Reflectors and optics

Lens and accessories

	Brief description	Part no.	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems
	Optic kit 04 including lens with a focal length of 35 mm, white lighting, distance bracket and protective hood	1064794	●	–	–
	Optic kit 05 including lens with a focal length of 50 mm, white lighting, distance bracket and protective hood	1064776	●	–	–

More accessories can be found ➔K-252

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EASY, SMALL AND LIGHT

Product description

The ICR803 is an image code reader family for 1D and 2D codes. It includes LED illumination, imaging technology, and a RS-232 or USB interface in a compact housing. It can read all popular linear, stacked, 2D, and GS1 (RSS) codes, as well as image acquisition – the ICR803 can read codes in any orientation. Because of its omni-directional capabilities, a defined code adjustment is not necessary. The ICR803 series can be integrated in different devices, such as robot systems, access controls and point-of-sale terminals. The ICR803 can be triggered manually, using "presentation mode," or be controlled via serial commands.

At a glance

- Omni-directional code reading
- Optical alignment
- Extremely compact
- Lightweight
- USB and RS-232 versions
- RoHS and WEEE compliant
- Triggering via button, presentation mode, serial commands or hardware trigger via SICK connection technology

Your benefits

- Fast and reliable 1D and 2D code identification
- Read multiple code types with one device, accommodating future code changes
- Easy and fast installation and configuration
- No moving parts and a large reading field reduce adjustments
- Small size makes it easy to integrate in limited spaces

F

Additional information

➜ www.mysick.com/en/ICR80x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	ICR803-A Smart Focus	ICR803-B Mid Range
Version	Smart Focus	Mid Range
Focus	Fixed focus	
Focus position	115 mm	180 mm
Sensor	752 x 480 px	
Light source	Visible red light (LED lighting, 630 nm) Visible green light (LED aiming line, 530 nm)	
Code resolution	≥ 0.19 mm [1] ≥ 0.25 mm [2]	≥ 0.21 mm [1] ≥ 0.38 mm [2]
Reading distance	60 mm ... 160 mm [1] [3]	50 mm ... 330 mm [1] [3]

[1] 1D.
[2] 2D.
[3] For details see reading field diagram.

Performance

Bar code types	Codabar, Code 39, Interleaved 2 of 5, Code 93, Code 128, UPC / GTIN / EAN, RSS, Codablock, Post (only SR/SF): Postnet, Planet Code, Royal Mail, Canada Post (PostBar), Japan Post, KIX (Royal Dutch TPG Post)
2D code types	MaxiCode, Data Matrix, QR code, Aztec, Aztec Mesas, Code 49 and EAN•UCC Composite
OCR fonts	OCR-A, OCR-B
Image capture	BMP, JPEG, TIFF

Interfaces

Serial (RS-232)	✔ / – (depending on type)
Function	RS-232 TTL
Ethernet	✔, optional via external connection module (CDM + CMF)
CAN bus	✔, optional via external connection module (CAN232)
PROFIBUS DP	✔, Optional over external fieldbus module (CDF)
DeviceNet	✔, optional via external connection module (CDM + CMF)
USB	– / ✔ (depending on type)
Function	Keyboard wedge, COM-Port emulation
Acoustic indicators	Beeper (can be switched off, to confirm reading)

Mechanics/electronics

Operating voltage	≤ 5 V DC
Housing	Plastic
Housing color	Light blue (RAL 5012)
Weight	37 g
Dimensions	49 mm x 40 mm x 25 mm

Ambient data

Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +60 °C

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Ordering information

- **Reading field:** front

Version	Connection type	Type	Part no.
ICR803-A Smart Focus	Serial	ICR803-A0201	6034210
	USB	ICR803-A0271	6034212
ICR803-B Mid Range	Serial	ICR803-B0201	6034211
	USB	ICR803-B0271	6034213

Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Bracket with adapter board	2050023

Connection systems

Modules

	Brief description	Type	Part no.
	Small connection module for 5-V hand-held scanners, CLV50x and ICR80x	CDB405-001	1027093

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Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	RS-232 TTL	Female connector, D-Sub, 9-pin	Male connector, RJ45	External power supply necessary, additional connector at D-sub	2.4 m	6033047
	USB	Male connector, USB-A	Male connector, RJ45	Straightened cable	2.3 m	6028232

Power supply units and power cord connectors

	Brief description	Part no.
	Universal AC adapter, input 100 ... 240 V AC, output 5 V DC, including the power cable with European plug (does not fulfill medical standard EN 60601/IEC 60601)	6034941

More accessories can be found ➔K-252

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MORE COMPACT. MORE RELIABLE. MORE BRILLIANT.

Product description

The ICR88x vision system covers the high-end applications for linear and 2D code reading. The modular camera design includes an integrated illumination, focus control functionality and high-performance decoder.
The ICR88x is optimized for small sorter applications. Thanks to the short reading distance the system can be built up with a very compact footprint.

At a glance

- High-end camera system; optimized for short reading distances
- Highest level of integration – all decoders onboard
- Highest level of reliability – no external PCs needed
- 1D and 2D codes supported
- Parameter cloning for all components
- High line rate of 19 kHz for high-resolution images (> 200 dpi)
- Integration of laser scanners and dimension systems possible
- Industrial design for highest reliability

Your benefits

- Compact design without deflection mirrors; easy to install
- Increased read rates due to high-resolution images and powerful decoders
- Possibility of image-output for tracking and analysis
- “One-component-solution” instead of multiple matrix camera arrays
- Maintenance-free system design
- Reduced energy consumption due to reduced lighting and integrated decoder
- Easy configuration with SOPAS engineering tool
- High reliability (80,000 h MTBF); short MTTR (10 min)

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CE

Additional information

➜ www.mysick.com/en/ICR88x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

Scanner design	Image-based code readers (customized)
Focus	Dynamic focus control
Sensor	Line camera
Light source	Visible red light (620 nm)
MTBF	80,000 h
Scanning frequency	19,100 Hz
Reading distance	0.8 m ... 1.35 m [1)]
MTTR (Mean time to repair)	< 10 min
Covered conveyor width	800 mm (200 dpi)
Depth of field	550 mm (200 dpi)
Lens	80 mm (standard)

[1)] For details see reading field diagram.

Performance

Bar code types	GS1-128 / EAN 128, Code 39, Code 128, EAN/UPC with add-on, Codabar, Interleaved 2 of 5
2D code types	Data Matrix ECC200, MaxiCode, others on request
OCR fonts	On request
Print ratio	2:1 ... 3:1
Transport speed	4.8 m/s (100 lpi)
Minimum object distance	≥ 50 mm
Number of objects per second	10

Interfaces

Serial (RS-232)	✔
Function	AUX
Data transmission rate	≤ 57,600 Baud
Ethernet	✔ (3)
Function	AUX, real-time image output
Data transmission rate	1x 10/100 Mbit/s, 2x Gbit/s
Protocol	TCP/IP, FTP
CAN bus	✔ (2)
Function	SICK CAN sensor network (Master/Slave, Multiplexer)
Data transmission rate	10 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, via MSC800 controller
Reading pulse	CAN
Optical indicators	5 LED (status displays)
Memory card	SD card, 128 MB

Mechanics/electronics

Electrical connection	7 x M12 2 x RJ-45 1 x IN/OUT power supply
Power consumption	155 W, typical
Housing	Aluminum die cast, Aluminum extruded profile
Housing color	Light blue (RAL 5012)
Protection class	III (IEC 1010-1)

Weight	28.5 kg
Dimensions	874 mm x 348 mm x 231 mm

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-2 / EN 61000-6-4
Vibration resistance	IEC 68-2-6
Shock resistance	IEC 68-2-27, IEC 68-2-32
Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	95 %, Non-condensing
Ambient light immunity	2,000 lx, on code
Bar code print contrast (PCS)	≥ 40 %

Ordering information

Version	Reading field	Sensor resolution	Enclosure rating	Items supplied	Part no.
ICR880	Front	8,192 px (200 dpi, 1.3 m)	IP 64	Consisting of camera, decoder and lighting	On request

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FASTER. MORE RELIABLE. MORE BRILLIANT.

Product description

The track and trace system based on the line-scan camera ICR89x is the ideal solution for all high-end linear and 2D code reading applications in transport and logistics processes. The outstanding image quality of the integrated ICR89x camera also makes it suitable for use in OCR and video coding applications. The code reading system features a modular camera design, LED illumination, focus control functionality, and a high-performance decoder. The system can be supplemented with additional products such as volume measurement systems, when appropriate for the application.

At a glance

- Dual-line CMOS sensor for maximum bar code and OCR read rates
- Maximum scanning frequency up to 30 kHz for high-resolution images (200 dpi) at up to 3.8 m/s
- Large reading field of up to 1,200 mm
- Ability to read all common 1D and 2D codes and postal codes
- Five image output channels for OCR, video coding, archiving, and diagnostics
- Parameter cloning for all components
- Intelligent control standby mode
- Industrial design – an external PC is not required

Your benefits

- Outstanding image quality thanks to a unique dual-line CMOS sensor that provides high read rates and OCR results
- Intelligent decoding algorithms ensure reliable reading performance and high throughput.
- High scanning frequency for high-resolution images (200 dpi) up to a conveyor velocity of 3.8 m/s
- Integrated verifier for efficient analysis of 1D/2D code quality
- High reliability with 80,000 h MTBF
- Short downtime when devices are replaced thanks to the intelligent cloning module
- High-contrast, even with color printing, due to optional blue/white illumination
- Standby mode minimizes energy consumption

F

CE

Additional information

→ www.mysick.com/en/ICR89x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Reading field	Front
Focus	Dynamic focus control
MTBF	80,000 h
Scanning frequency	19,100 Hz 30,000 Hz
Reading distance	1.4 m ... 3.3 m [1]
MTTR (Mean time to repair)	< 10 min

[1] At 0,3 mm code resolution.

Performance

Bar code types	Interleaved 2 of 5, Codabar, Code 128, Code 39, EAN/UPC with add-on, GS1-128 / EAN 128, postal codes
2D code types	Data Matrix ECC200, MaxiCode, QR code, PDF417, others on request
Print ratio	2:1 ... 3:1
Minimum object distance	≥ 50 mm
Number of objects per second	10

Interfaces

Serial (RS-232)	✔
Function	AUX
Data transmission rate	≤ 56,700 Baud
Ethernet	✔ (3)
Function	AUX, real-time image output
Data transmission rate	1x 10/100 Mbit/s, 2x Gbit/s
Protocol	TCP/IP, FTP
CAN bus	✔ (2)
Function	SICK CAN sensor network (Master/Slave, Multiplexer)
Data transmission rate	10 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔
Function	Via MSC800 controller

Mechanics/electronics

Enclosure rating	IP 64 (DIN 40 050)
Weight	37 kg
Dimensions	2,100 mm x 1,950 mm x 2,100 mm 1,700 mm x 1,600 mm x 2,200 mm 2,450 mm x 2,450 mm x 2,100 mm 3,350 mm x 2,450 mm x 2,100 mm 2,150 mm x 1,800 mm x 2,000 mm 2,200 mm x 2,000 mm x 2,000 mm 3,800 mm x 2,500 mm x 2,100 mm (depending on type)

Ambient data

Ambient operating temperature	0 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C

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Permissible relative humidity	95 %, Non-condensing
Bar code print contrast (PCS)	≤ 40 %

Ordering information

- **Amount object sites/cameras:** 5-side reading (3 cameras)
- **Misalignment of the object:** ± 15°

Read field width	Image resolution	Type	Part no.
600 mm	> 200 dpi (at 3.8 m/s)	System type IRS060-x53xxxx	On request
800 mm	200 dpi (at 3.8 m/s)	System type IRS080-x53xxxx	On request
1,000 mm	170 dpi (at 3.8 m/s)	System type IRS100-x53xxxx	On request
1,200 mm	> 150 dpi (at 3.8 m/s)	System type IRS120-x53xxxx	On request

Type	Part no.
System type IRS060-x55xxxx	On request

- **Amount object sites/cameras:** top or side reading (1 camera)
- **Misalignment of the object:** ± 45°

Read field width	Image resolution	Type	Part no.
800 mm	200 dpi (at 3.8 m/s)	System type IRS080-x11xxxx	On request
1,000 mm	170 dpi (at 3.8 m/s)	System type IRS100-x11xxxx	On request
1,200 mm	> 150 dpi (at 3.8 m/s)	System type IRS120-x11xxxx	On request

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- **Amount object sites/cameras:** 5-side reading (5 cameras) (Technical data are also applicable for 6-side reading.)
- **Misalignment of the object:** ± 45°

Read field width	Image resolution	Type	Part no.
800 mm	200 dpi (at 3.8 m/s)	System type IRS080-x55xxxx	On request
1,000 mm	170 dpi (at 3.8 m/s)	System type IRS100-x55xxxx	On request
1,200 mm	> 150 dpi (at 3.8 m/s)	System type IRS120-x55xxxx	On request

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BAR CODE SCANNERS

Intelligent solutions for logistics and automation

SICK bar code scanners accelerate logistics and automation processes. Their excellent reading performance ensures continuous process flow – even with poor quality or damaged bar codes. A high scanning frequency permits high process speeds, and simple networking improves operational efficiency. Plus, compact connection devices save space and reduce costs. The SICK bar code product portfolio offers the right solution for nearly any task.

Your benefits

- Meets nearly any read requirement due to a large portfolio of products
- Intelligent auto setup function saves time during commissioning
- Integrated code reconstruction technology permits high read rates even if the bar codes are damaged, contaminated or partially covered
- High scanning frequencies make it possible to use in high-speed applications up to 6 m/s
- Less programming time required for the control system, since data can be transmitted to the control system in the desired format
- External parameter cloning enables fast scanner exchange
- Easy machine mounting due to compact connector technology and easy-to-use accessories
- Integrated diagnostic functions simplify system monitoring

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WIDE RANGE OF MODELS

VERSIONS WITHIN THE CLV6 SERIES

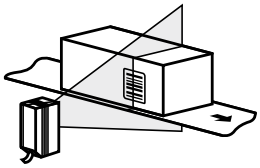
Designs

Front reading window

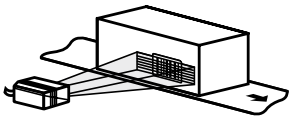
Side reading window, light emission below 105°

Side reading window with oscillating mirror

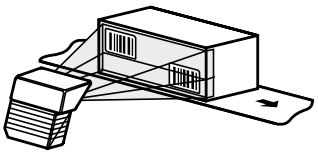
Scanning methods



Line scanner – for reading in tilted positions



Raster scanner – for reading codes redundantly



Oscillating mirror – for reading on large surfaces

Please refer to the selection guide on ➜ page G-112 onwards.

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Flexible interface concept

- PROFINET, PROFINET Dual Port, EtherNet/IP, Ethernet TCP/IP, CANopen, CSN (SICK CAN sensor network), and serial communication on board
- PROFIBUS DP, PROFINET Dual Port, EtherCAT® and other interfaces via external gateways with fieldbus proxies

Uniform configuration concept

All CLV6xx products have a user-friendly configuration system based on SOPAS ET. This uniform, cross-sensor operating system from SICK means users can quickly find their way around without the need for time-consuming training. This also provides flexible adjustment options for the output format. The sorting and filtering function incorporated into SOPAS ET saves PLC programming.

Statistics function

The CLV62x to CLV65x also offer an integrated statistics function, which can be visualized via a user-friendly web server. If required, the SICK Analytics Solutions (Package Analytics) can be accessed. This includes a high-performance information and image management platform for performance control, which is used with SICK data recording systems in sorting tasks.

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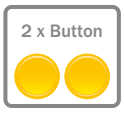
OUTSTANDING PRODUCT FEATURES

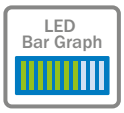
Two function buttons



"Select" and "Start/End" functions, such as

- Starting auto-setup
- Teaching in a match code
- Starting reading diagnostics

LED bar graph



A PC is not required for statical checking of the reading rate. The information can be read directly from the LED bar graph.

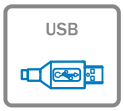
Intelligent auto-setup

Optimizes the bar code scanner automatically to the bar codes that are to be read.

microSD memory card

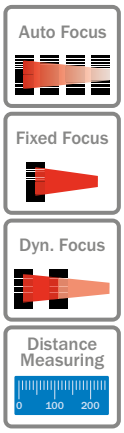
The integrated microSD memory card slot enables easy firmware updating and parameter cloning. If the scanner is being replaced, you simply need to insert the microSD memory card into the new scanner.

USB interface



In addition to the Ethernet interface, the USB interface also enables configuration and observation of the scanner on-site.

Focus



Fixed focus for fixed distances, dynamic focus for reading at dynamic reading distances, and automatic focus position switching in real time with integrated distance measurement (no additional photoelectric sensors required).

SMART620 (code reconstruction)

Reliable reading of even damaged, dirty, and/or partially covered bar codes.

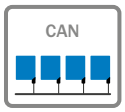
SMART (code reconstruction)

Reliable reading of even damaged, dirty, and/or partially covered bar codes. Reliable reading even in tilted positions. This means that the bar code can be attached in a position that is rotated up to 45 degrees in relation to the scanning beam.

SMART+

The CLV69x sets new benchmarks in computing power and reading performance. It also offers innovative analysis features, creating additional benefits.
The novel image output concept on the CLV69x can be activated for any conceivable reading situation. The device sends the recorded image data to software, which later displays not only the actual image, but also how the current reading situation is progressing in terms of focus.
The data gathered in this way ensures that the decoder is continuously optimized and offers significant advantages for "no-read" analysis.

CAN



The integrated CAN bus supports:

- CANopen® protocol
- SICK CAN sensor network for simple networking of scanners using master/slave or multiplexer/server methods

Cloning plug

Flexible connectors: consisting of a 60-pin Samtec male connector and different connectors that enable the technology to be adapted perfectly to the application in question.

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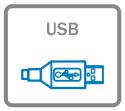
CLV61x, CLV61x DUAL PORT, CLV62x

RELIABLE DECODING, SIMPLE INTEGRATION

Display and status LEDs
For simple visual feedback.

SMART620 (code reconstruction)
Reliable reading of even damaged, dirty, and/or partially covered bar codes.

USB interface
The CLV61x Dual Port features a USB auxiliary interface.



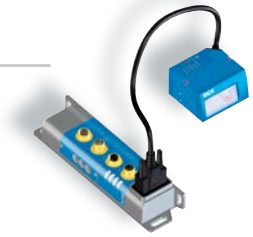
Flexible mounting
Space-saving solution in storage and conveyor systems.

Cable or male connector
The CLV61x is available as a cable version, while the CLV62x is also available as an Ethernet version with a swivel connector.


Cable version


Ethernet version with a swivel connector

Dual port connection
CLV61x and CLV62x: Together with the fieldbus module with either CDF600-2 PROFIBUS DP or CDF600-2 PROFINET.
With its integrated switch, the CLV61x Dual Port offers easy PROFINET connection without an additional fieldbus module. It is available with a swivel connector and integrated power cable.



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Swivel connector unit
Exceptionally simple mounting of the CLV61x Dual Port thanks to a swivel system plug and the SPEEDCON thread. As a result, the scanner can be integrated easily into your network, even under difficult installation conditions.

Fixed focus
The CLV61x, CLV61x Dual Port and CLV62x bar code scanners enable simple and fast adjustment and commissioning thanks to their integrated fixed focus feature.

Line scanner and/or raster scanner
Choose from a line scanner with a simple working area and a raster scanner with an extended working area.

Compact design
Maximum flexibility when mounting.

PRODUCT DETAILS

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CLV63x to CLV65x

SIMPLE MOUNTING AND FIELDBUS CONNECTION

Integrated function buttons
Commissioning without a PC by simply teaching in directly on the device via the function buttons.

SMART (code reconstruction)
Reliable reading of even damaged, dirty, and/or partially covered bar codes. Reliable reading even in tilted positions. This means that the bar code can be attached in a position that is rotated up to 45 degrees in relation to the scanning beam.

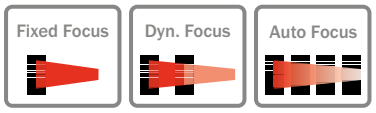
microSD memory card

Cable or male connector
CLV63x to CLV65x are available as cable and male connector versions.

Swivel connector
Exceptionally simple mounting thanks to the swivel connector and the SPEEDCON thread. As a result, the scanner can be integrated easily into your network, even under difficult installation conditions.

Flexible interface concept
PROFINET, Ethernet/IP, Ethernet TCP/IP, CANopen, SICK CAN sensor network, and serial communication on board. PROFIBUS DP and additional fieldbus connection via external CDF600-2 fieldbus modules.

Range of focus types
Fixed focus, dynamic focus, and auto-focus.



Line scanner and/or raster scanner
Choose from a line scanner with a simple working area and a raster scanner with an extended working area.

Oscillating mirror version and designs with side reading windows

Industry-tested IP 65 housing

Integrated event monitor
Analysis tool for commissioning support.

Remote monitoring with integrated web server
For monitoring the reading rate.

Auto-setup
For fast commissioning.

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PRODUCT DETAILS

CLV69x

FLEXIBLE AND HIGH-PERFORMANCE AT THE HIGHEST LEVEL

Function buttons

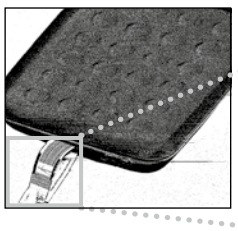
LED bar graph

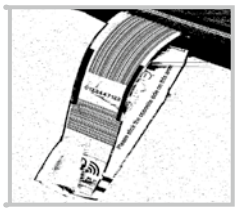
A PC is not required for statical checking of the reading rate.

Blue status LED for visualizing the CAN termination status

SMART+ (code reconstruction)

Additional image output for analysis purposes.





Flexible mounting

Quick action clamps, shock absorbers, and holders are available.

Cloning plug

The flexible cloning plug concept offers maximum flexibility and safety. In addition to the Ethernet and D-Sub versions, CAN and CAN redundant versions are also available. The CLV4 series can be converted using the D-Sub cloning plug.

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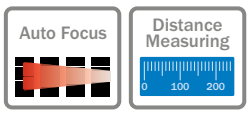
Flexible interface concept

Ethernet/IP, Ethernet TCP/IP, SICK CAN sensor network, and serial communication on board. PROFIBUS DP and PROFINET and additional fieldbus connection via external CDF600-2 fieldbus modules.

Integrated auto-focus

You can rely on excellent reading performance, high-speed processing and maximum levels of reading accuracy. The depth of field and auto-focus function, which is based on an integrated distance measurement concept, enable height-dependent code reading possible within a reading field.



Intelligent application wizard

The integrated application wizard supports commissioning as a master, slave, or stand-alone device. It simplifies commissioning considerably and guides the user through the configuration process.

PRODUCT DETAILS

CLV69x . . . . . Page G-156

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SPECIAL VERSIONS

FOR SPECIAL CHALLENGES

External mirror hood

For shortening the reading distance and enlarging the reading field width. The external mirror hood is particularly suitable for use between two belts located next to each other in cases where there is very little installation space.

IP 69K housing

The IP 69K housing offers maximum resistance. The integrated plastic disk is ideal for use in the food industry. Offers resistance to the chemical cleaning agents typically used in this application area.

CLV6xx with heating

The CLV6xx heating versions can be used in deep freeze applications that reach temperatures as low as –35 °C. There is also a CLV69x version with reading window heating. This means that the bar code scanners are also suitable for applications subject to fluctuating ambient temperatures.

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For more information on special versions available in the CLV6 series, ask your regional SICK sales organization.

SELECTION GUIDE

	Scanner design				Focus			SMART			
	Line scanner	Raster scanner	Oscillating mirror	Heating	Fixed focus	Dynamic focus control	Auto-focus	SMART620	SMART	SMART+	
CLV61x											
CLV610 Mid Range	■	□			■			■			
CLV612 Short Range	■	□			■			■			
CLV615 Long Range	■	□			■			■			
CLV61x Dual Port											
CLV615 Long Range	■	□			■			■			
CLV618 Long Range	■	□			■			■			
CLV62x											
CLV620 Mid Range	■	■			■			■			
CLV621 Long Range	■	■			■			■			
CLV622 Short Range	■	■			■			■			
CLV63x											
CLV630 Long Range	■	■	■	□	■				■		
CLV631 Mid Range	■	■	■	□	■				■		
CLV632 Short Range	■	■	■	□	■				■		
CLV64x											
CLV640 Standard Density	■	■	■	□		■			■		
CLV642 High Density	■		□	□		■			■		
CLV65x											
CLV650 Standard Density	■		■	□		■	■		■		
CLV651 Low Density	■		■	□		■	■		■		
CLV69x											
CLV690 Standard Density	■		■	□		■	■			■	
CLV691 Low Density	■		■	□		■	■			■	
CLV692 High Density	■		■	□		■	■			■	

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■ = applicable
□ = optional

Product features										Reading distance (at code resolution)	Page
Ethernet as connector version on board	microSD memory card	USB interface	Cloning plug	2 function buttons	LED bar graph	Intelligent auto-set-up	Application wizard	IP 69K	Integrated CAN bus	250 500 750 1,000 1,250 1,500 1,750 2,000 ...	
									■	60 mm ... 365 mm (1 mm)	→ G-116
									■	43 mm ... 93 mm (0.2 mm)	→ G-116
									■	25 mm ... 330 mm (0.5 mm)	→ G-116
■		■								25 mm ... 330 mm (0.5 mm)	→ G-124
■		■								44 mm ... 683 mm (1 mm)	→ G-124
■						■		□	■	60 mm ... 365 mm (1 mm)	→ G-128
■						■		□	■	60 mm ... 730 mm (1 mm)	→ G-128
■						■		□	■	55 mm ... 200 mm (0.5 mm)	→ G-128
■	■			■	■	■		□	■	58 mm ... 742 mm (1 mm) [1]	→ G-136
■	■			■	■	■		□	■	87 mm ... 455 mm (0.5 mm) [1]	→ G-136
■	■			■	■	■		□	■	58 mm ... 288 mm (0.5 mm) [1]	→ G-136
■	■			■	■	■		□	■	58 mm ... 840 mm (1 mm) [1]	→ G-144
■	■			■	■	■		□	■	30 mm ... 338 mm (0.2 mm)	→ G-144
■	■			■	■	■			■	125 mm ... 1,625 mm (1 mm) [1]	→ G-150
■	■			■	■	■			■	155 mm ... 930 mm (0.5 mm) [1]	→ G-150
			■	■	■		■		■	500 mm ... 2,100 mm (0.5 mm)	→ G-156
			■	■	■		■		■	500 mm ... 2,200 mm (0.5 mm)	→ G-156
			■	■	■		■		■	400 mm ... 1,600 mm (0.3 mm)	→ G-156

[1] Depending on scanner design.

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PRODUCT FAMILY OVERVIEW

			
	CLV61x	**CLV61x Dual Port**	**CLV62x**
	Reliable Decoding, Simple Integration	The network professional	Powerful scanner – flexible use
Technical data overview			
Focus	Fixed focus	Fixed focus	Fixed focus
Aperture angle	≤ 50°	≤ 50°	≤ 50°
Scanning frequency	400 Hz ... 1,000 Hz	400 Hz ... 1,000 Hz	400 Hz ... 1,200 Hz
Code resolution	0.1 mm ... 1 mm	0.35 mm ... 1 mm	0.15 mm ... 1 mm
Reading distance	25 mm ... 365 mm	25 mm ... 683 mm	45 mm ... 730 mm
USB	–	✔	–
Serial (RS-232, RS-422/-485)	✔ (only RS-232)	–	✔ , AUX (only RS-232)
Ethernet	– / ✔, Optional over external fieldbus module (CDF600-2)	✔	– / ✔
CAN bus	✔	–	✔
PROFIBUS DP	– / ✔, Optional over external fieldbus module (CDF600-2)	–	✔ , Optional over external fieldbus module (CDF600-2)
DeviceNet	–	–	✔ , optional via external connection module (CDM + CMF)
Weight	265 g / 295 g	310.5 g	205 g ... 854 g
At a glance			
	• Optimized reading field for intralogistics applications • Available with SICK CAN sensor network • Configuration with SOPAS ET, the configuration tool for all new SICK products • Available in different versions (CAN, Fieldbus) for use in almost any application • Adjustable scanning frequency of up to 1000 scans per second • Compact design	• Straightforward PROFINET connection • Minimal cabling complexity thanks to line and ring topologies • PROFINET with integrated switch (Dual Port) • Optimal reading field for intralogistics applications • USB interface • Adjustable scanning frequency of up to 1,000 scans per second • Small, compact design	• CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant) • SMART620 code reconstruction technology • Flexible sorting, filtering, and logical functions • High scanning frequency of up to 1,200 Hz • Small housing • Advanced remote diagnostics and network monitoring capabilities available over Ethernet • IP 65 or IP 69K rated (depending on type)
Detailed information	➜ G-116	➜ G-124	➜ G-128

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	CLV63x	CLV64x	CLV65x	CLV69x
				
	Intelligent scanning solution for logistics and automation	Dynamic, multi-functional	Always in auto focus	The highest level of flexibility and power
	Fixed focus	Dynamic focus control	Auto focus	Auto focus
	≤ 50°	≤ 50°	≤ 50°	≤ 60° / ≤ 50°
	400 Hz ... 1,200 Hz	400 Hz ... 1,200 Hz	600 Hz ... 1,000 Hz	400 Hz ... 1,200 Hz
	0.2 mm ... 1 mm	0.15 mm ... 1 mm	0.25 mm ... 1 mm	0.17 mm ... 1.2 mm
	44 mm ... 735 mm	30 mm ... 840 mm	125 mm ... 1,625 mm	400 mm ... 2,200 mm
	–	–	–	–
	✔ , AUX (only RS-232)	✔ , AUX (only RS-232)	✔ , AUX (only RS-232)	✔ , only with cloning plug D-Sub and Ethernet
	– / ✔	– / ✔	– / ✔	✔ , only with cloning plug I/O, CAN IN/OUT or CAN Redundant
	✔	✔	✔	✔
	✔ , Optional over external field-bus module (CDF600-2)	✔ , Optional over external field-bus module (CDF600-2)	✔ , Optional over external field-bus module (CDF600-2)	✔ , Optional over external field-bus module (CDF600-2)
	✔ , optional via external connection module (CDM + CMF)	✔ , optional via external connection module (CDM + CMF)	✔ , optional via external connection module (CDM + CMF)	✔ , optional via external connection module (CDM + CMF)
	250 g ... 1,230 g	250 g ... 1,230 g	320 g / 250 g	1,500 g / 2,200 g
	• Integrated pushbuttons for auto setup and reading diagnostics • Integrated LED bar graph • CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant) • Enhanced SMART code reconstruction technology • Flexible sorting, filtering, and logical functions • High scanning frequency of up to 1,200 Hz • Advanced remote diagnostics and network monitoring capabilities available over Ethernet	• Dynamic focus adjustment enables extended depth of field • Integrated pushbuttons for auto setup and reading diagnostics • CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant) • Enhanced SMART code reconstruction technology • Flexible sorting, filtering, and logical functions • Integrated LED bar graph • Advanced remote diagnostics and network monitoring capabilities available over Ethernet	• Huge depth of field due to auto focus • Integrated pushbuttons for auto setup and reading diagnostics • CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant) • Enhanced SMART code reconstruction technology • Flexible sorting, filtering, and logical functions • Integrated web server provides remote diagnostics and monitoring • Integrated LED bar graph	• Advanced SMART+ code reconstruction technology • New and flexible cloning plug technology • CAN, Ethernet and serial communications available on board (dependent on cloning plug variant) • Large depth of field due to real-time auto focus • Consistent, user-friendly “SOPAS ET” software • Built-in tracking without the use of an additional system controller • Flexible sorting, filtering, and logical functions • Integrated LED bar graph with pushbuttons
	➜ G-136	➜ G-144	➜ G-150	➜ G-156

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RELIABLE DECODING, SIMPLE INTEGRATION

Product description

The CLV61x product family consists of compact, powerful bar code scanners. In order to offer the best solution for the application, different versions are available (CAN, Fieldbus). The CLV615 Fieldbus version was developed specifically for the requirements of intralogistics. Thanks to the optimized reading field for container identification on the conveyor belt, in combination with the intuitive SOPAS ET user interface, quick and easy integration into your conveyor system is possible. The optional connectors, e. g., CDF600-2, enable simple connection to your control system, as well as direct configuration from the control environment. Thanks to the optional configuration cloning module, rapid scanner replacement is also possible in the event of a fault – without having to reconfigure via laptop/PC.

At a glance

- Optimized reading field for intralogistics applications
- Available with SICK CAN sensor network
- Configuration with SOPAS ET, the configuration tool for all new SICK products
- Available in different versions (CAN, Fieldbus) for use in almost any application
- Adjustable scanning frequency of up to 1000 scans per second
- Compact design

Your benefits

- A suitable scanner version for any CLV61x application
- An optimized reading field for container identification on a conveyor belt, in combination with the intuitive SOPAS ET user interface, enables quick and easy integration into your conveyor system
- Compact design enables installation even in applications with limited space
- Less programming time required for the control system, since data can be transmitted to the control system in the desired format
- Depending on the version, the CLV61x bar code scanner can be used as a multiplexer in any SICK CAN sensor network, so additional multiplexers are not required
- The optional configuration cloning module in combination with the quick-release mounting bracket enables very fast replacement time in the event of a fault

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Additional information

➜ www.mysick.com/en/CLV61x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (2008-05), IEC 60825-1 : 2007-03, Ed. 2.0)		
Aperture angle	≤ 50°		
Scanning frequency	400 Hz ... 1,000 Hz		
Code resolution	0.2 mm ... 1 mm	0.1 mm ... 0.2 mm	0.35 mm ... 0.5 mm
Reading distance			
Front	60 mm ... 365 mm [1]	43 mm ... 93 mm [1]	–
Side	45 mm ... 345 mm [1]	28 mm ... 78 mm [1]	25 mm ... 330 mm [1]
Raster height, number of lines, at distance	15 mm, 8, 200 mm		–

[1] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, UPC / GTIN / EAN, Interleaved 2 of 5
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 10 (Standard decoder) 1 ... 6 (SMART620)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	1,500 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Serial (RS-232)	✔		
Function	Host, AUX		
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud		
Ethernet	–		✔, Optional over external field-bus module (CDF600-2)
Protocol	–		PROFINET Dual Port
CAN bus	✔		
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)		
Data transmission rate	20 kbit/s ... 1 Mbit/s		
Protocol	CSN (SICK CAN Sensor Network)		
PROFIBUS DP	–		✔, Optional over external field-bus module (CDF600-2)
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)		
Switching outputs	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)		
Reading pulse	Switching inputs, non-powered, serial interface, auto pulse, CAN		
Optical indicators	1 RGB LED (multifunctional)		
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)		
Configuration software	SOPAS ET		

Mechanics/electronics

	CLV610 Mid Range	CLV612 Short Range	CLV615 Long Range
Electrical connection	1 x 15-pin D-Sub HD male connector (0.9 m)		
Operating voltage	10 V DC ... 30 V DC		
Power consumption	2.8 W		
Housing	Aluminum die cast		
Housing color	Light blue (RAL 5012)		
Protection class	III (VDE 0106/IEC 1010-1)		
Weight	265 g ... 295 g (depending on type)		295 g
Dimensions (L x W x H)			
Front	61 mm x 66 mm x 38 mm		–
Side	80 mm x 66 mm x 38 mm		

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-4 (2007-01) + A1 (2011) / EN 61000-6-2 (2005-08)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

- **Focus:** Fixed focus
- **Connection type:** Cable
- **Enclosure rating:** IP 65
- **Front screen:** Glass

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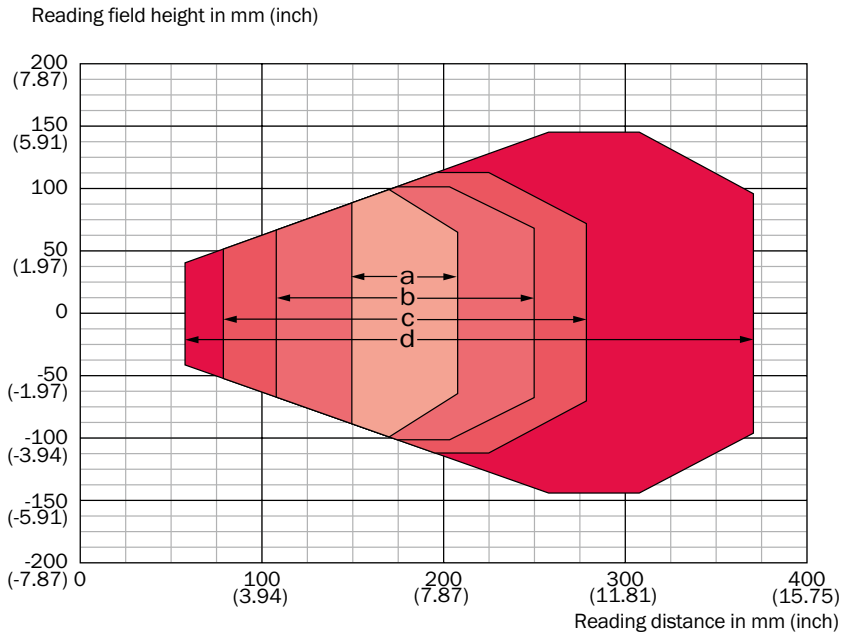
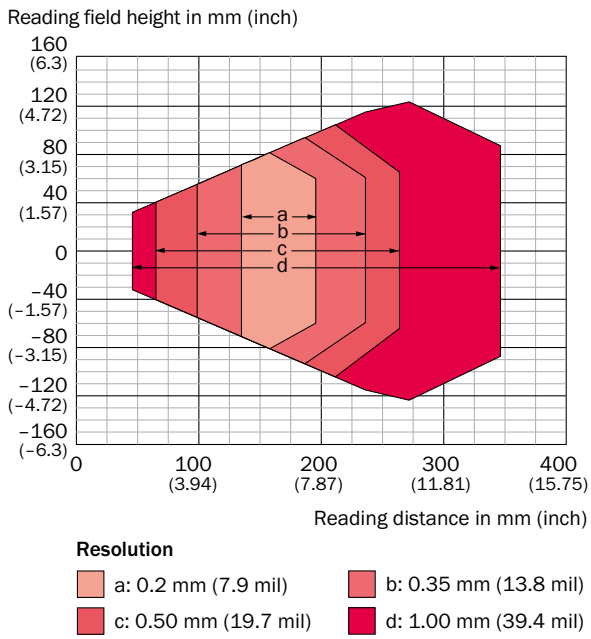
Version	Reading field	Scanner design	Items supplied	Type	Part no.
CLV610 Mid Range	Front	Line scanner	Single scanner	CLV610-C0000	1057125
		Raster scanner	Single scanner	CLV610-C1000	1062846
	Side (105°)	Raster scanner	Single scanner	CLV610-C3000	1071609
CLV612 Short Range	Front	Line scanner	Single scanner	CLV612-C0000	1066271
		Raster scanner	Single scanner	CLV612-C1000	1062861
	Side (105°)	Line scanner	Single scanner	CLV612-C2000	1066272
		Raster scanner	Single scanner	CLV612-C3000	1062862
CLV615 Long Range	Side (105°)	Line scanner	Single scanner	CLV615-F2000	1058334
			Raster scanner	Single scanner	CLV615-F3000	1068240
			Kit including single scanner and fieldbus module PROFIBUS DP (interface 1 x D-Sub, female connector, 9-pin)	CLV615-F2000 CDF600-2100 Kit	1061528
			Kit includes single scanner and fieldbus module PROFIBUS DP (interface 2 x M12, male connector/female connector, 5-pin)	CLV615-F2000 CDF600-2103 Kit	1061529

Reading field diagrams

CLV610 Mid Range, front



CLV610 Mid Range, side



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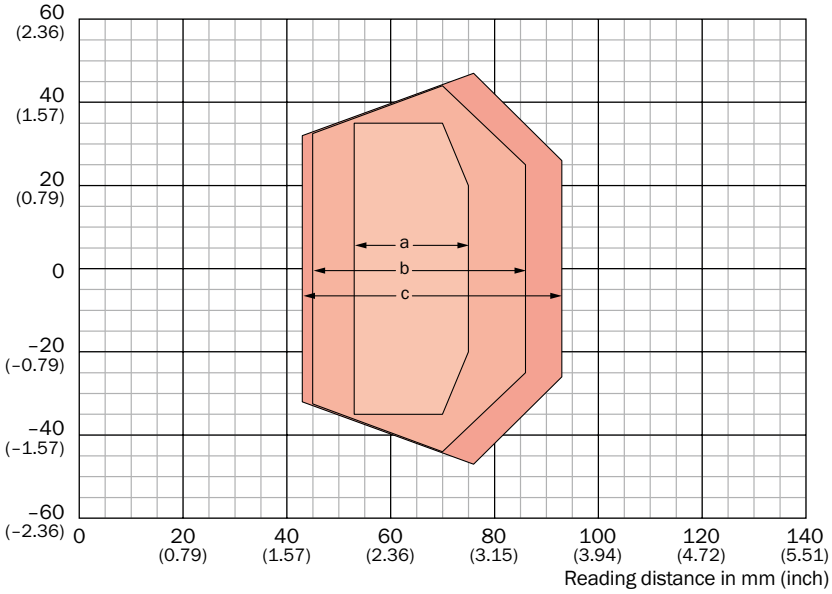
CLV612 Short Range, front

Reading field height in mm (inch)



Resolution

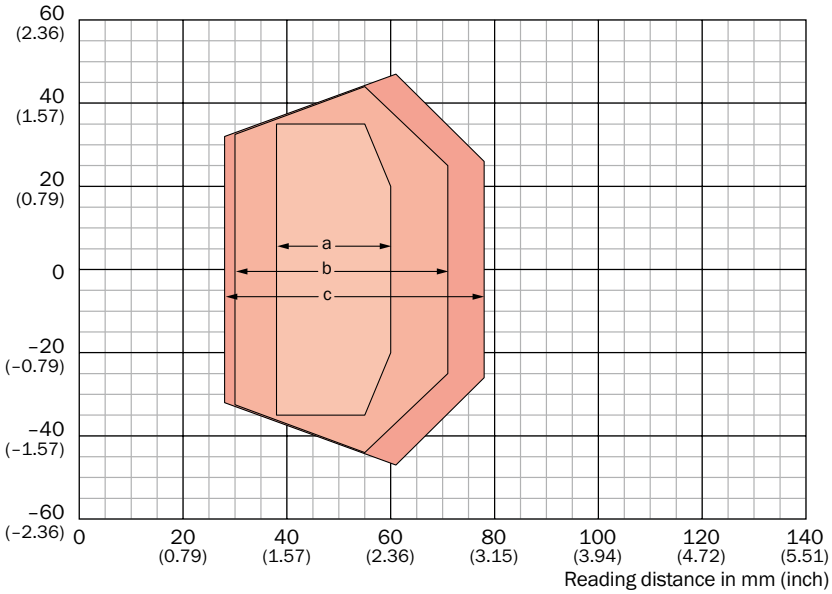
a: 0.10 mm (3.94 mil)

b: 0.15 mm (5.91 mil)

c: 0.20 mm (7.87 mil)

CLV612 Short Range, side

Reading field height in mm (inch)



Resolution

a: 0.10 mm (3.94 mil)

b: 0.15 mm (5.91 mil)

c: 0.20 mm (7.87 mil)

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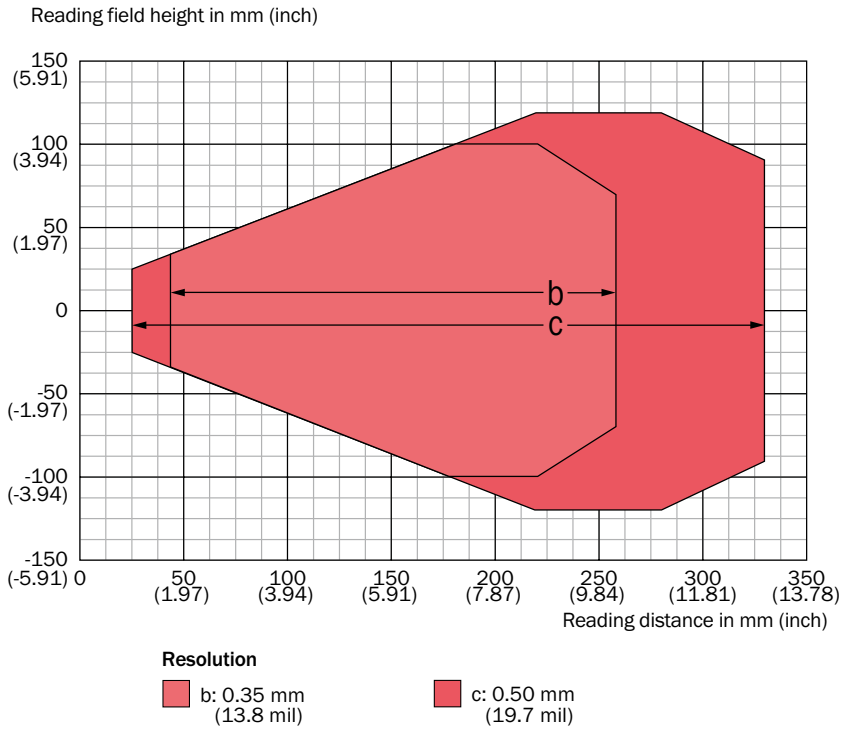
CLV615 Long Range, side



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Bracket with adapter board	2042902

Connection systems

Modules

	Brief description	Type	Part no.
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966
	Modular connection module for one sensor	CDM420-0001	1025362

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Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Serial	Female connec-tor, D-Sub, 9-pin, straight	Female connec-tor, D-Sub, 9-pin, straight	For PC connection	3 m	2014054

More accessories can be found ➜ K-268

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THE NETWORK PROFESSIONAL

Product description

The CLV61x Dual Port product family is made up of compact, high-performance bar code scanners that are specially designed for the requirements of intralogistics. The integrated PROFINET with two facilities for connecting (Dual Port) makes it easy to integrate the bar code scanners into line and ring topologies for control systems. The sensor configuration can either take place directly in the control environment or via the intuitive SOPAS ET user interface for rapid integration into the system. The device also has a USB interface in addition to its Ethernet interface. The status indicator LEDs allow you to diagnose the read results and operational status quickly and effectively.

At a glance

- Straightforward PROFINET connection
- Minimal cabling complexity thanks to line and ring topologies
- PROFINET with integrated switch (Dual Port)
- Optimal reading field for intralogistics applications
- USB interface
- Adjustable scanning frequency of up to 1,000 scans per second
- Small, compact design

Your benefits

- The switch installed within the housing makes it easy to install and implement line and ring topologies
- The cable integrated within the scanner has a 4-pin M12 male connector and provides a single power supply via a flat ribbon cable
- The compact housing with swivel connector makes it easier to mount the sensor – even where space is tight
- Simple configuration process via additional USB interfaces
- The configuration process can either take place directly in the control environment or via the SOPAS ET user interface for rapid integration into your conveyor system

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Additional information

➜ www.mysick.com/en/CLV61x_Dual_Port

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Subject to change without notice

Detailed technical data

Features

	CLV615 Dual Port Long Range	CLV618 Dual Port Long Range
Light source	Visible red light (655 nm)	
MTBF	40,000 h	
Laser class	2 (EN 60825-1 (2008-05), IEC 60825-1 : 2007-03, Ed. 2.0)	
Aperture angle	≤ 50°	
Scanning frequency	400 Hz ... 1,000 Hz	
Code resolution	0.35 mm ... 0.5 mm	0.35 mm ... 1 mm
Reading distance	25 mm ... 330 mm [1]	44 mm ... 683 mm [1]

[1] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, UPC / GTIN / EAN, Interleaved 2 of 5
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 10 (Standard decoder) 1 ... 6 (SMART620)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	1,500
No. of multiple readings	1 ... 99

Interfaces

USB	✔
Function	AUX
Ethernet	✔
Function	PROFINET Device
Data transmission rate	2-port Ethernet in accordance with IEEE 802.3 (baud rate 100 MBit/s, full-duplex transmission, 2-port switch, auto-negotiation, auto-crossover). Maximum data length is limited by the mode of communication (fragmentation protocol) to 4,000 bytes.
Protocol	PROFINET
Switching inputs	1 (via PROFINET Ctrl bits)
Switching outputs	4 (via PROFINET Ctrl bits)
Reading pulse	Non-powered, auto pulse, Fieldbus input, command
Optical indicators	5 LEDs
Configuration software	SOPAS ET

Mechanics/electronics

Electrical connection	1 x “POWER” connection, 4-pin M12 plug (0.9 m), A-coded 1 x “PROFINET P1” connection, 4-pin M12 socket, D-coded 1 x “PROFINET P2” connection, 4-pin M12 socket, D-coded 1 x Micro USB female connector, type B
Operating voltage	10 V DC ... 30 V DC
Power consumption	5 W
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Protection class	III (VDE 0106/IEC 1010-1)
Weight	310.5 g
Dimensions (L x W x H)	80 mm x 96 mm x 38 mm

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-4 (2007-01) + A1 (2011) / EN 61000-6-2 (2005-08)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

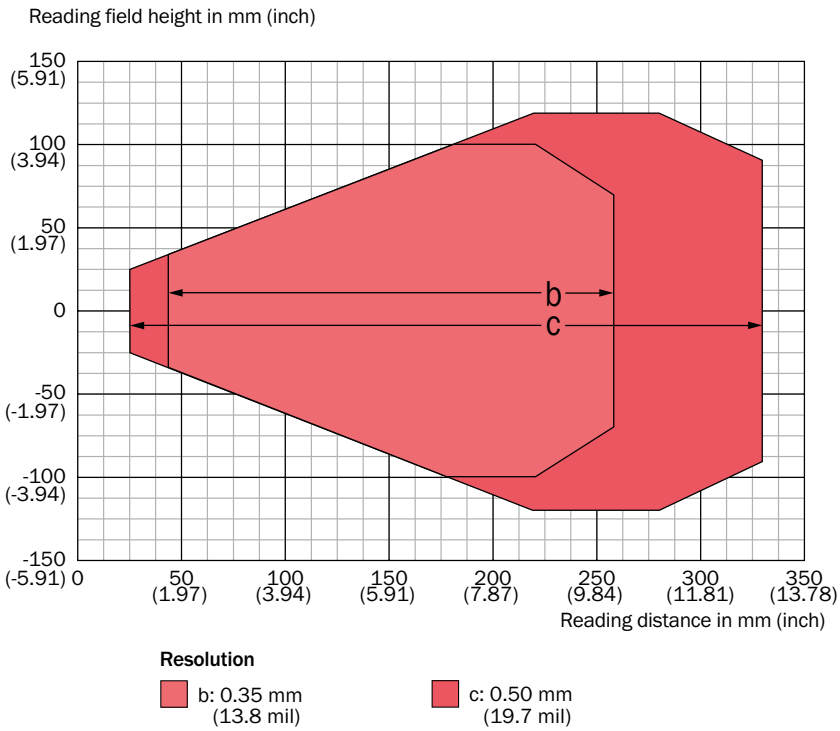
Ordering information

- **Focus:** Fixed focus
- **Connection type:** Cable
- **Enclosure rating:** IP 65
- **Front screen:** Glass
- **Reading field:** side (105°)
- **Scanner design:** Line scanner

Version	Type	Part no.
CLV615 Dual Port Long Range	CLV615-D2410	1068608
CLV618 Dual Port Long Range	CLV618-D2410	1073188

Reading field diagrams

CLV615 Dual Port Long Range, side



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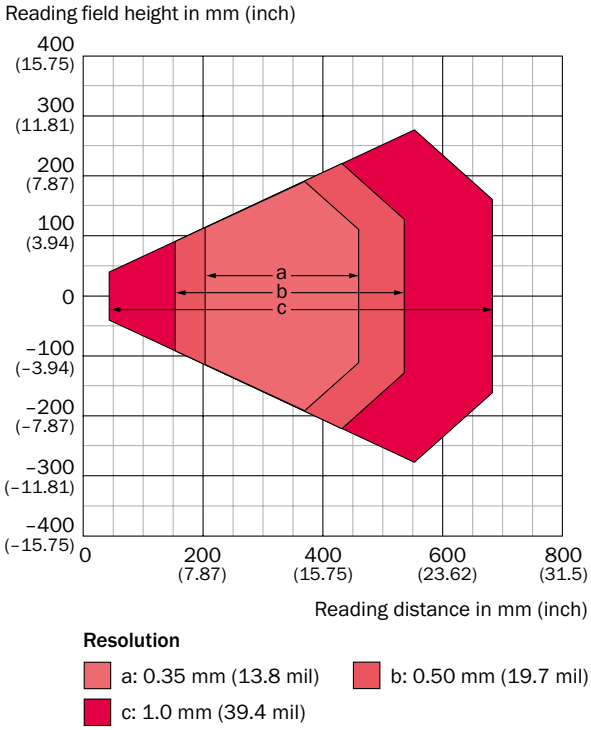
CLV618 Dual Port Long Range, side



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Hanger-shaped mounting bracket	2042800

Connection systems

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Power	Cable	Cable	Black AS-i flat cable for looping in the power supply to 4D*pro* Ethernet sensors, 2-wire, by the meter	–	6022463
		AS-i clip, M12	–	AS-i clip for connection on black AS-i flat cable	–	6022472
	PROFINET	Male connector, M12, 4-pin, straight, D-coded	Male connector, M12, 4-pin, straight	4-wire, CAT5, CAT5e	2 m	6048241
			Male connector, RJ45, 4-pin, straight	4-wire, CAT5, CAT5e	2 m	6048244
	USB 2.0	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106

More accessories can be found ➜ K-268

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POWERFUL SCANNER – FLEXIBLE USE

Product description

The CLV62x series of bar code scanners are compact, powerful tools for a wide range of logistics applications. Speed, power, flexibility and ease of use are the features that define the CLV62x family. The CLV62x combines high reading performance with the SMART620 code reconstruction system, a reading algorithm that can accurately detect bar codes even if they are damaged or partially covered. These scanners are available with the standard serial or embedded Ethernet, including EtherNet/IP and PROFINET communications. Other advanced features, like an embedded web server for remote diagnostics and reading performance statistics give the CLV62x family the kind of high-end performance and flexibility usually expected in more costly scanners.

At a glance

- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- SMART620 code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS ET configuration software
- High scanning frequency of up to 1,200 Hz
- Small housing
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet
- IP 65 or IP 69K rated (depending on type)

Your benefits

- High read rate on damaged and obscured codes using SMART620 code recognition technology
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- No supplementary Ethernet gateway required with Ethernet models – lowers costs
- The CLV62x scanner can be used as a multiplexer in any CAN scanner network from SICK – no supplementary multiplexer necessary
- Real-time decoding at very high speeds
- Small size and simple setup enables fast installation, even in compact machines

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Additional information

➜ www.mysick.com/en/CLV62x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)		
Aperture angle	≤ 50°		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.2 mm ... 1 mm	0.35 mm ... 1 mm	0.15 mm ... 0.5 mm
Reading distance			
Front	60 mm ... 365 mm [1] (depending on type)	60 mm ... 730 mm [1]	55 mm ... 200 mm [1]
Side	45 mm ... 365 mm [1] (depending on type)	60 mm ... 730 mm [1]	55 mm ... 200 mm [1]
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)		

[1] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART620)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	1,500 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)		
Function	Host, AUX		
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud		
Ethernet	– / ✔ (depending on type)		
Function	Host, AUX		
Data transmission rate	10/100 MBit/s		
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional over external fieldbus module CDF600) (depending on type)		
CAN bus	✔		
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)		
Data transmission rate	20 kbit/s ... 1 Mbit/s		
Protocol	CANopen, CSN (SICK CAN Sensor Network)		
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)		
DeviceNet	✔, optional via external connection module (CDM + CMF)		

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	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Switching inputs			
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)		
Ethernet IP 65	3 (“Sensor 1”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)		
Ethernet IP 69K	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB650)	–	
Switching outputs			
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)		
Ethernet IP 65	2 (via CMC600 in CDB620/CDM420)		
Ethernet IP 69K	4 (“Result 1”, “Result 2”, 2 via CMC600 in CDB650)	–	
Reading pulse	Switching inputs, non-powered, serial interface, auto pulse, CAN (depending on type)	Switching inputs, non-powered, serial interface, auto pulse, CAN	
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX)		
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)		
Configuration software	SOPAS ET		

Mechanics/electronics

	CLV620 Mid Range	CLV621 Long Range	CLV622 Short Range
Electrical connection			
Cable	1 x 15-pin D-Sub HD male connector (0.9 m)		
Ethernet IP 65	2 x M12 cylindrical connectors (1 x 12-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) on swivel connector		
Ethernet IP 69K	2 x M12 cylindrical connectors (1 x 17-pin male connector, 1 x 4-pin female connector, D-coded)	–	
Operating voltage	10 V DC ... 30 V DC		
Power consumption	4.5 W		
Housing	Aluminum die cast / Stainless steel (depending on type)	Aluminum die cast	
Housing color	Light blue (RAL 5012) / stainless steel (unpainted) (depending on type)	Light blue (RAL 5012)	
Protection class	III (VDE 0106/IEC 1010-1)		
Weight			
Ethernet IP 65	205 g ... 250 g (depending on type)		
Ethernet IP 69K	854 g	–	
Dimensions (L x W x H)			
Front	61 mm x 66 mm x 38 mm [1)] 85 mm x 154 mm x 84 mm (depending on type)	61 mm x 66 mm x 38 mm [1)]	
Side	80 mm x 66 mm x 38 mm [1)]		

[1)] Swivel connector is 15 mm longer.

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Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

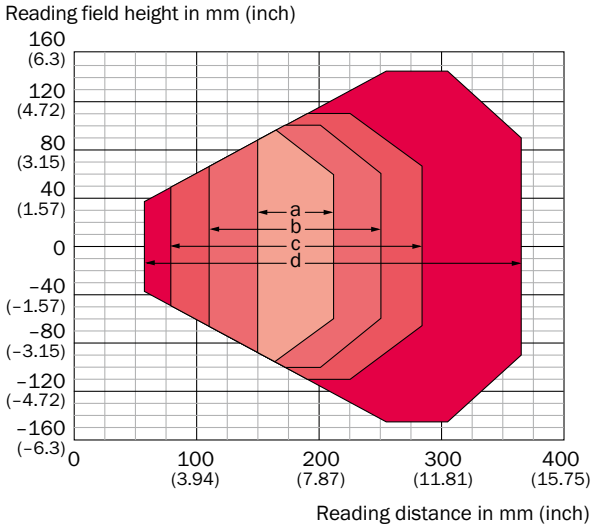
Ordering information

- **Focus:** Fixed focus

Version	Connection type	Enclosure rating	Front screen	Reading field	Scanner design	Type	Part no.
CLV620 Mid Range	Cable	IP 65	Glass	Front	Line scanner	CLV620-0000	1040288
					Raster scanner	CLV620-1000	1041548
				Side (105°)	Line scanner	CLV620-2000	1041550
					Raster scanner	CLV620-3000	1041552
	Ethernet	IP 65	Glass	Front	Line scanner	CLV620-0120	1041547
					Raster scanner	CLV620-1120	1041549
				Side (105°)	Line scanner	CLV620-2120	1041551
					Raster scanner	CLV620-3120	1041553
		IP 69K	Plastic	Front	Line scanner	CLV620-0831S01	1066374
					Raster scanner	CLV620-1831S01	1067933
CLV621 Long Range	Cable	IP 65	Glass	Front	Line scanner	CLV621-0000	1041784
					Raster scanner	CLV621-1000	1041786
				Side (105°)	Line scanner	CLV621-2000	1041788
					Raster scanner	CLV621-3000	1041790
	Ethernet	IP 65	Glass	Front	Line scanner	CLV621-0120	1041785
					Raster scanner	CLV621-1120	1041787
				Side (105°)	Line scanner	CLV621-2120	1041789
					Raster scanner	CLV621-3120	1041791
CLV622 Short Range	Cable	IP 65	Glass	Front	Line scanner	CLV622-0000	1041792
					Raster scanner	CLV622-1000	1041794
				Side (105°)	Line scanner	CLV622-2000	1041796
					Raster scanner	CLV622-3000	1041798
	Ethernet	IP 65	Glass	Front	Line scanner	CLV622-0120	1041793
					Raster scanner	CLV622-1120	1041795
				Side (105°)	Line scanner	CLV622-2120	1041797
					Raster scanner	CLV622-3120	1041799

Reading field diagrams

CLV620 Mid Range, front

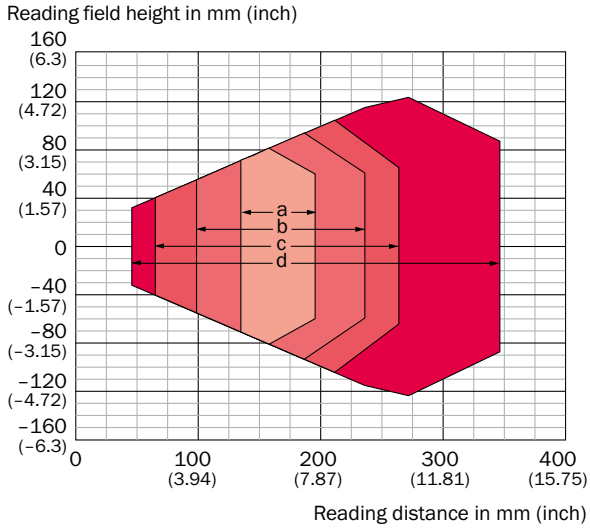


For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

- a: 0.2 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

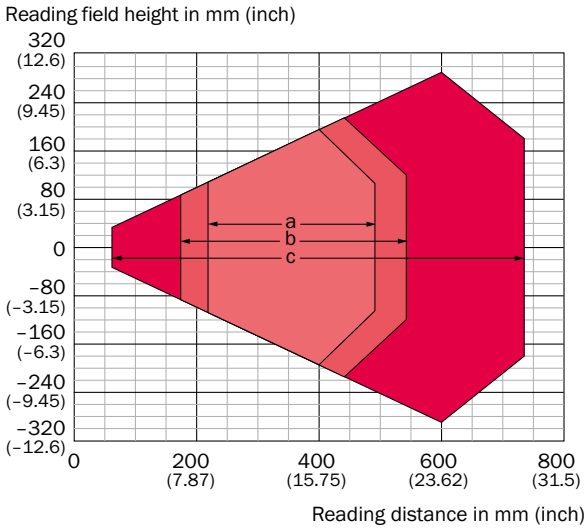
CLV620 Mid Range, side



Resolution

- a: 0.2 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

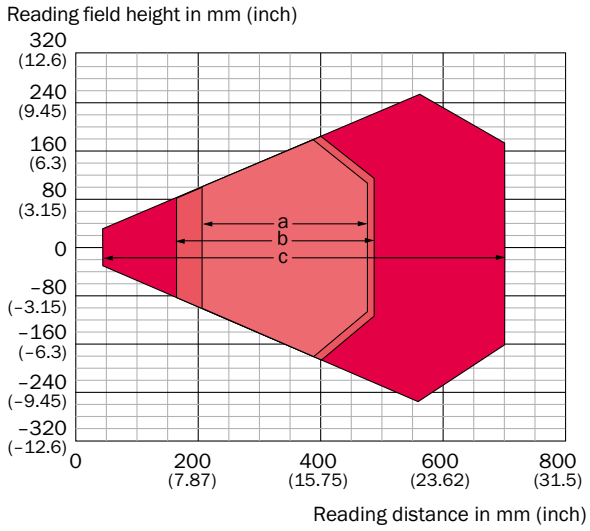
CLV621 Long Range, front



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.00 mm (39.4 mil)

CLV621 Long Range, side



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.00 mm (39.4 mil)

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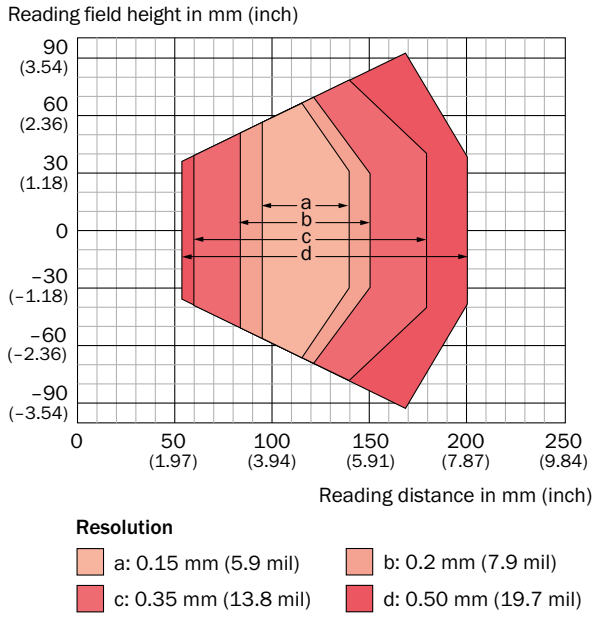
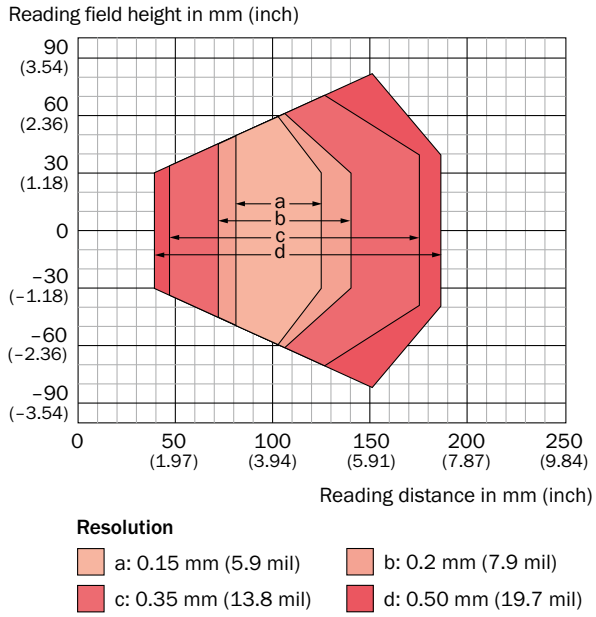
CLV622 Short Range, front



Resolution

- a: 0.15 mm (5.9 mil)
- b: 0.2 mm (7.9 mil)
- c: 0.35 mm (13.8 mil)
- d: 0.50 mm (19.7 mil)

CLV622 Short Range, side



Resolution

- a: 0.15 mm (5.9 mil)
- b: 0.2 mm (7.9 mil)
- c: 0.35 mm (13.8 mil)
- d: 0.50 mm (19.7 mil)

Recommended accessories

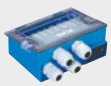
Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K
	Bracket with adapter board	2042902	●	●	–

Connection systems

Modules

	Brief description	Type	Part no.	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114	–	–	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●

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Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●	–
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●	–

More accessories can be found ➜ K-268

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INTELLIGENT SCANNING SOLUTION FOR LOGISTICS AND AUTOMATION

Product description

The CLV63x series of bar code scanners are compact, powerful tools satisfying the needs of a wide range of applications and industries. Newly improved SMART algorithms in the CLV63x are superior when reading damaged and tilted codes. In addition, pushbuttons on the CLV63x and above allow for quick bar code setup without using a computer. Match code teach-in and diagnostic triggering are also possible. In addition to the LED bar graph, the CLV63x has other LED indicators on its body that show communication and scanner performance. The microSD memory card slot allows users to easily clone scanner parameters. Variants include line, raster, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Integrated pushbuttons for auto setup and reading diagnostics
- Integrated LED bar graph
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS ET configuration software
- High scanning frequency of up to 1,200 Hz
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet

Your benefits

- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Easily execute firmware updates using the microSD memory card: no need for a PC
- Enhanced SMART technology reads damaged and partially obscured codes, increasing read rates
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- Real-time decoding at very high speeds
- Increased reading reliability due to high-performance computing power and a high scanning frequency

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Additional information

➜ www.mysick.com/en/CLV63x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Light source	Visible red light (655 nm)		
MTBF	40,000 h		
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)		
Aperture angle	≤ 50°		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.35 mm ... 1 mm	0.25 mm ... 0.5 mm	0.2 mm ... 0.5 mm
Reading distance			
Front	60 mm ... 735 mm [1)] 77 mm ... 718 mm [1)] (depending on type)	90 mm ... 450 mm [1)] (depending on type)	60 mm ... 285 mm [1)] (depending on type)
Side	44 mm ... 683 mm [1)]	74 mm ... 412 mm [1)]	44 mm ... 256 mm [1)]
Oscillating mirror	45 mm ... 659 mm [1)]	78 mm ... 397 mm [1)] (depending on type)	45 mm ... 245 mm [1)]
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)		
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot		
Oscillation frequency	0.5 Hz ... 6.25 Hz		
Angle of deflection	–20° ... 20°		
Heating			
Ethernet	Optional		

[1)] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)
Function	Host, AUX
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud
Ethernet	– / ✔ (depending on type)
Function	Host, AUX
Data transmission rate	10/100 MBit/s
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional over external fieldbus module CDF600) (depending on type)

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CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CANopen, CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, Optional over external fieldbus module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Ethernet IP 65	3 (“Sensor 1”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Ethernet IP 69K	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB650)
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Ethernet IP 65	2 (via CMC600 in CDB620/CDM420)
Ethernet IP 69K	4 (“Result 1”, “Result 2”, 2 via CMC600 in CDB650)
Reading pulse	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN, switching inputs (depending on type)
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
Control elements	2 buttons (choose and start/stop functions)
Configuration software	SOPAS ET
Memory card	MicroSD memory card (flash card) 512 MB, optional

Mechanics/electronics

	CLV630 Long Range	CLV631 Mid Range	CLV632 Short Range
Electrical connection			
Cable	1 x 15-pin D-Sub HD male connector (0.9 m)		
Ethernet IP 65	2 x M12 cylindrical connectors (1 x 12-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) on swivel connector		
Ethernet IP 69K	2 x M12 cylindrical connectors (1 x 17-pin male connector, A-coded, 1 x 4-pin female connector, D-coded)		
Operating voltage	18 V DC ... 30 V DC		
Power consumption	5 W / 6 W (depending on type)		
Housing	Aluminum die cast / Stainless steel (depending on type)		
Housing color	Light blue (RAL 5012) / stainless steel (unpainted) (depending on type)		
Protection class	III (EN 61140)		
Weight			
Ethernet IP 65	250 g ... 420 g (depending on type)		
Ethernet IP 69K	890 g ... 1,230 g (depending on type)		
Dimensions (L x W x H)			
Front	61 mm x 96 mm x 38 mm [1] 85 mm x 154 mm x 84 mm (depending on type)		
Side	80 mm x 96 mm x 38 mm [1]		
Oscillating mirror	95 mm x 96 mm x 41 mm [1]	95 mm x 96 mm x 41 mm [1] 121 mm x 164 mm x 84 mm (depending on type)	95 mm x 96 mm x 41 mm [1]

[1] Swivel connector is 15 mm longer.

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Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

- **Focus:** Fixed focus

Version	Connection type	Enclosure rating	Front screen	Heating	Reading field	Scanner design	Type	Part no.
CLV630 Long Range	Cable	IP 65	Glass	Optional	Front	Line scanner	CLV630-0000	1040706
						Raster scanner	CLV630-1000	1041970
					Side (105°)	Line scanner	CLV630-2000	1041972
						Raster scanner	CLV630-3000	1041974
					Oscillating mirror	Line scanner	CLV630-6000	1041976
	Ethernet	IP 65	Glass	Optional	Front	Line scanner	CLV630-0120	1041969
						Raster scanner	CLV630-1120	1041971
					Side (105°)	Line scanner	CLV630-2120	1041973
						Raster scanner	CLV630-3120	1041975
					Oscillating mirror	Line scanner	CLV630-6120	1041977
		IP 69K	Plastic	–	Front	Line scanner	CLV630-0831S01	1068600
CLV631 Mid Range	Cable	IP 65	Glass	Optional	Front	Line scanner	CLV631-0000	1041978
						Raster scanner	CLV631-1000	1041980
					Side (105°)	Line scanner	CLV631-2000	1041982
						Raster scanner	CLV631-3000	1041984
					Oscillating mirror	Line scanner	CLV631-6000	1041986
	Ethernet	IP 65	Glass	Optional	Front	Line scanner	CLV631-0120	1041979
						Raster scanner	CLV631-1120	1041981
					Side (105°)	Line scanner	CLV631-2120	1041983
						Raster scanner	CLV631-3120	1041985
					Oscillating mirror	Line scanner	CLV631-6120	1041987
		IP 69K	Plastic	–	Front	Line scanner	CLV631-0831S01	1062070
					Oscillating mirror	Line scanner	CLV631-6831S01	1062136

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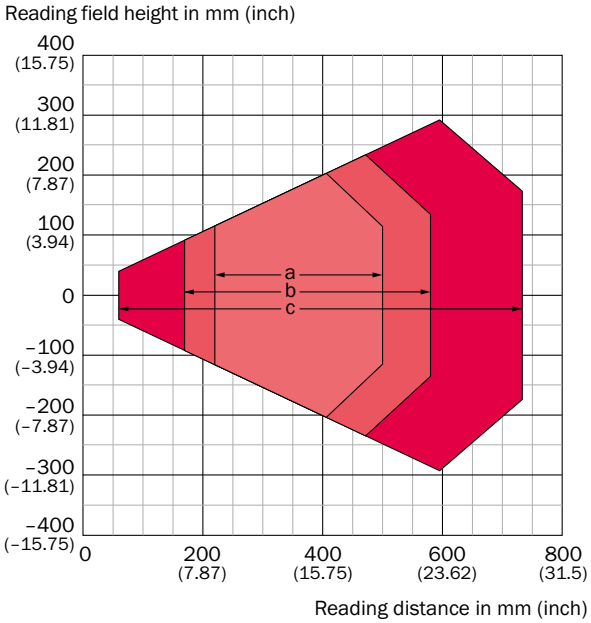
Version	Connection type	Enclosure rating	Front screen	Heating	Reading field	Scanner design	Type	Part no.
CLV632 Short Range	Cable	IP 65	Glass	Optional	Front	Line scanner	CLV632-0000	1041988
						Raster scanner	CLV632-1000	1041990
					Side (105°)	Line scanner	CLV632-2000	1041992
						Raster scanner	CLV632-3000	1041994
					Oscillating mirror	Line scanner	CLV632-6000	1041996
	Ethernet	IP 65	Glass	Optional	Front	Line scanner	CLV632-0120	1041989
						Raster scanner	CLV632-1120	1041991
					Side (105°)	Line scanner	CLV632-2120	1041993
						Raster scanner	CLV632-3120	1041995
					Oscillating mirror	Line scanner	CLV632-6120	1041997
		IP 69K	Plastic	–	Front	Raster scanner	CLV632-1831S01	1062530

Reading field diagrams

CLV630 Long Range, front

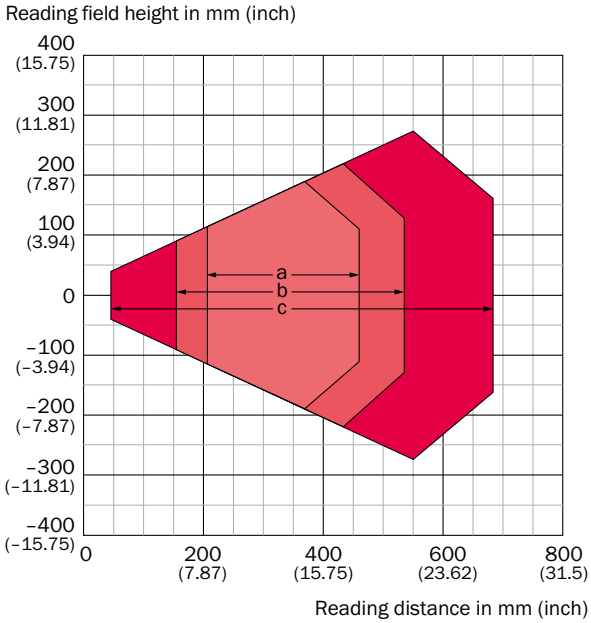


For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

a: 0.35 mm (13.8 mil)
b: 0.50 mm (19.7 mil)
c: 1.0 mm (39.4 mil)

CLV630 Long Range, side



Resolution

a: 0.35 mm (13.8 mil)
b: 0.50 mm (19.7 mil)
c: 1.0 mm (39.4 mil)

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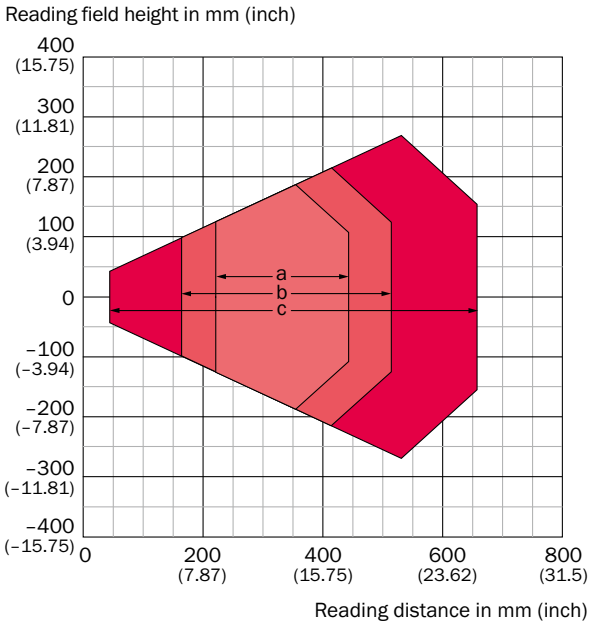
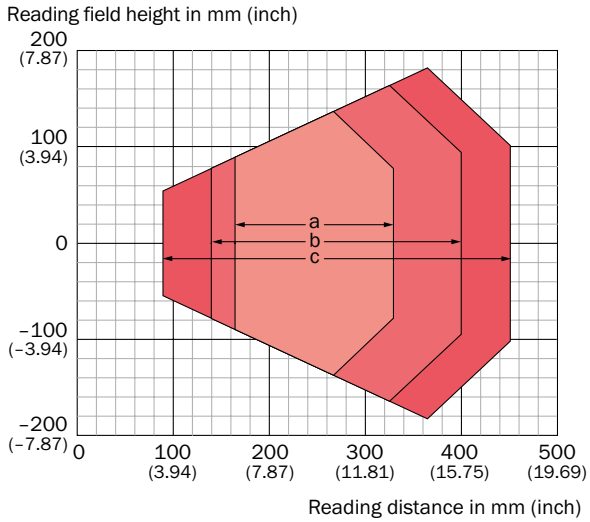
CLV630 Long Range, Oscillating mirror



Resolution

- a: 0.35 mm (13.8 mil)
- b: 0.50 mm (19.7 mil)
- c: 1.0 mm (39.4 mil)

CLV631 Mid Range, front

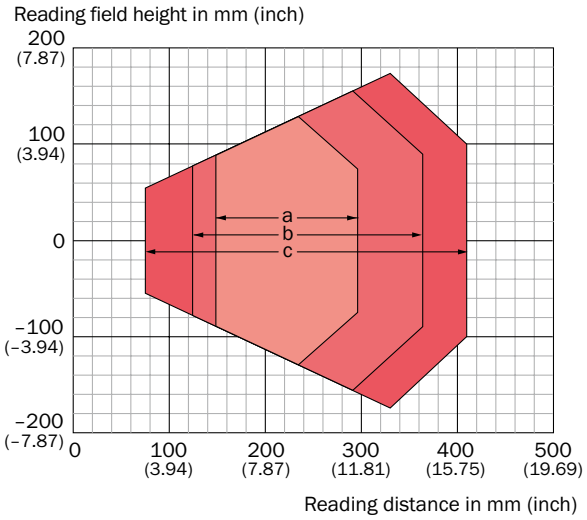


For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

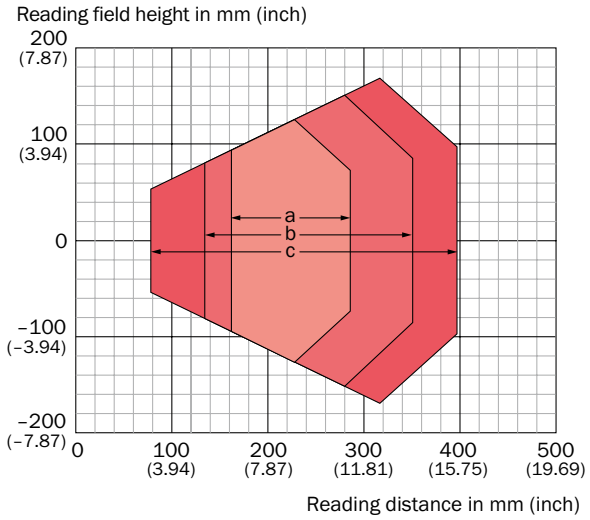
CLV631 Mid Range, side



Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

CLV631 Mid Range, Oscillating mirror



For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

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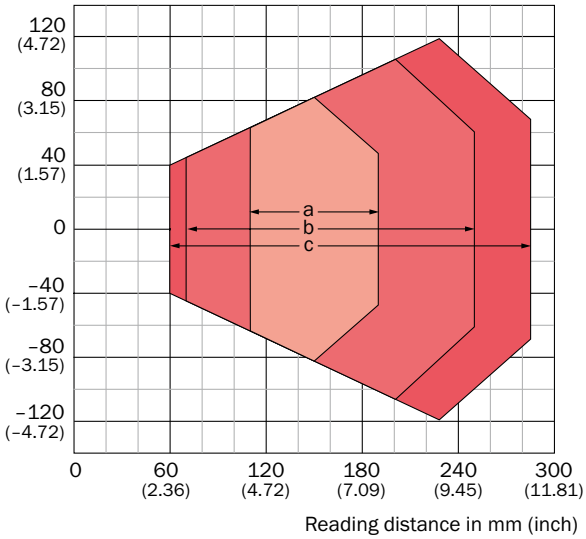
CLV632 Short Range, front

Reading field height in mm (inch)



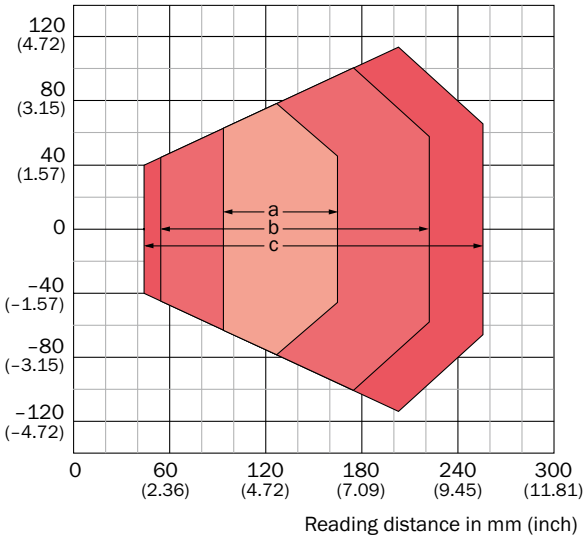
For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

- a: 0.20 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

CLV632 Short Range, side

Reading field height in mm (inch)

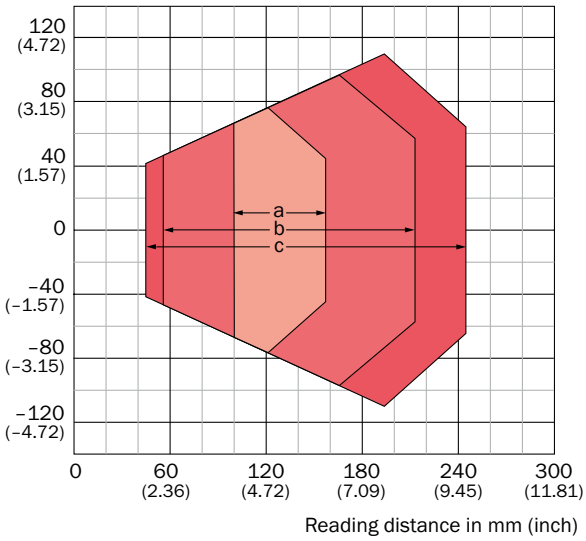


Resolution

- a: 0.20 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

CLV632 Short Range, Oscillating mirror

Reading field height in mm (inch)



Resolution

- a: 0.20 mm (7.9 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

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Recommended accessories

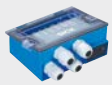
Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Hanger-shaped mounting bracket	2042800	●	●	–
 Illustration may differ	Hanger-shaped mounting bracket, thermally isolated for use with heating devices	2050705	●	●	–

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114	–	–	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●	–
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●	–

More accessories can be found ➜ K-268

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DYNAMIC, MULTI-FUNCTIONAL

Product description

The CLV64x bar code scanners offer dynamic focus adjustment extending the range of the scanner for those applications where fixed focus comes up short but autofocus is outside the budget. Newly improved SMART algorithms in the CLV64x are superior when reading damaged and tilted codes.
Combine single line, raster, oscillating mirror, high density and low contrast variants with exceptional reading performance and flexible data handling capabilities, and you have all the ingredients for solving high-performance applications in the material handling and logistics markets. Variants include line, raster, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Dynamic focus adjustment enables extended depth of field
- Integrated pushbuttons for auto setup and reading diagnostics
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Advanced, easy-to-use SOPAS ET configuration software
- Integrated LED bar graph
- Advanced remote diagnostics and network monitoring capabilities available over Ethernet

Your benefits

- Economical, as only one CLV64x is required for all focus positions
- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Teach-in of match code possible via the pushbuttons
- Easily execute firmware updates using the microSD memory card: no need for a PC
- No supplementary Ethernet gateway required with Ethernet models – lowers costs
- Enhanced SMART technology reads damaged and partially obscured codes, increasing read rates
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- Real-time decoding at very high speeds

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Additional information

→ www.mysick.com/en/CLV64x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV640 Standard Density	CLV642 High Density
Light source	Visible red light (655 nm)	
MTBF	40,000 h	
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)	
Aperture angle	≤ 50°	
Scanning frequency	400 Hz ... 1,200 Hz	
Code resolution	0.2 mm ... 1 mm	0.15 mm ... 0.25 mm
Reading distance		
Front	60 mm ... 840 mm [1] (depending on type)	30 mm ... 345 mm [1]
Side	44 mm ... 738 mm [1]	–
Oscillating mirror	45 mm ... 798 mm [1] (depending on type)	–
Raster height, number of lines, at distance	15 mm, 8, 200 mm 15 mm, 8, 185 mm (depending on type)	–
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot	
Oscillation frequency	0.5 Hz ... 6.25 Hz	–
Angle of deflection	–20° ... 20°	–
Heating		
Ethernet	Optional	

[1] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

	CLV640 Standard Density	CLV642 High Density
Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)	
Function	Host, AUX	
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud	
Ethernet	– / ✔ (depending on type)	
Function	Host, AUX	
Data transmission rate	10/100 MBit/s	
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional over external fieldbus module CDF600) (depending on type)	
CAN bus	✔	
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)	
Data transmission rate	20 kbit/s ... 1 Mbit/s	
Protocol	CANopen, CSN (SICK CAN Sensor Network)	

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	CLV640 Standard Density	CLV642 High Density
PROFIBUS DP	✔, optional over external fieldbus module (CDF600-2)	
DeviceNet	✔, optional via external connection module (CDM + CMF)	
Switching inputs		
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet IP 65	3 (“Sensor 1”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet IP 69K	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB650)	–
Switching outputs		
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet IP 65	2 (via CMC600 in CDB620/CDM420)	
Ethernet IP 69K	4 (“Result 1”, “Result 2”, 2 via CMC600 in CDB650)	–
Reading pulse	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN, switching inputs (depending on type)	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))	
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)	
Control elements	2 buttons (choose and start/stop functions)	
Configuration software	SOPAS ET	
Memory card	MicroSD memory card (flash card) 512 MB, optional	

Mechanics/electronics

	CLV640 Standard Density	CLV642 High Density
Electrical connection		
Cable	1 x 15-pin D-Sub HD male connector (0.9 m)	
Ethernet IP 65	2 x M12 cylindrical connectors (1 x 12-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) on swivel connector	
Ethernet IP 69K	2 x M12 cylindrical connectors (1 x 17-pin male connector, A-coded, 1 x 4-pin female connector, D-coded)	–
Operating voltage	18 V DC ... 30 V DC	
Power consumption	5.5 W / 6.5 W (depending on type)	5.5 W
Housing	Aluminum die cast / Stainless steel (depending on type)	Aluminum die cast
Housing color	Light blue (RAL 5012) / stainless steel (unpainted) (depending on type)	Light blue (RAL 5012)
Protection class	III (EN 61140)	
Weight		
Ethernet IP 65	250 g ... 420 g (depending on type)	250 g ... 320 g (depending on type)
Ethernet IP 69K	890 g ... 1,230 g (depending on type)	–
Dimensions (L x W x H)		
Front	61 mm x 96 mm x 38 mm [1)] 85 mm x 154 mm x 84 mm (depending on type)	61 mm x 96 mm x 38 mm [1)] (depending on type)
Side	80 mm x 96 mm x 38 mm [1)] (depending on type)	–
Oscillating mirror	95 mm x 96 mm x 41 mm [1)] 121 mm x 164 mm x 84 mm (depending on type)	–

[1)] Swivel connector is 15 mm longer.

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Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1996), EN 60068-2-64 (1965)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

- **Focus:** dynamic focus control

Version	Connection type	Enclosure rating	Front screen	Heating	Reading field	Scanner design	Type	Part no.
CLV640 Standard Density	Cable	IP 65	Glass	Optional	Front	Line scanner	CLV640-0000	1042014
						Raster scanner	CLV640-1000	1042016
					Side (105°)	Line scanner	CLV640-2000	1042018
						Raster scanner	CLV640-3000	1042020
					Oscillating mirror	Line scanner	CLV640-6000	1042022
	Ethernet	IP 65	Glass	Optional	Front	Raster scanner	CLV640-1120	1042017
						Line scanner	CLV640-0120	1042015
					Side (105°)	Line scanner	CLV640-2120	1042019
						Raster scanner	CLV640-3120	1042021
					Oscillating mirror	Line scanner	CLV640-6120	1042023
		IP 69K	Plastic	–	Front	Line scanner	CLV640-6831S01	1063932
					Oscillating mirror	Line scanner	CLV640-0831S01	1064718
CLV642 High Density	Cable	IP 65	Glass	Optional	Front	Line scanner	CLV642-0000	1044873
	Ethernet	IP 65	Glass	Optional	Front	Line scanner	CLV642-0120	1044874

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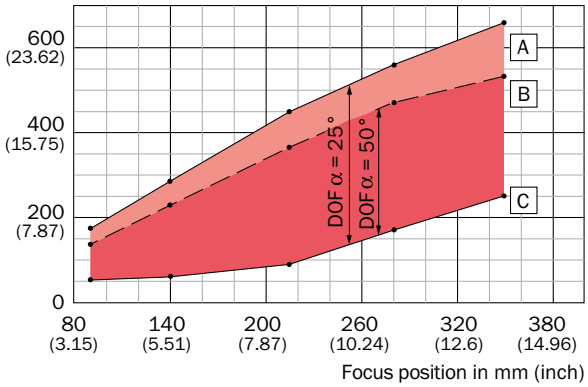
Reading field diagrams

CLV640 Standard Density, front

Reading distance in mm (inch)



For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution 0.5 mm (19.7 mil)

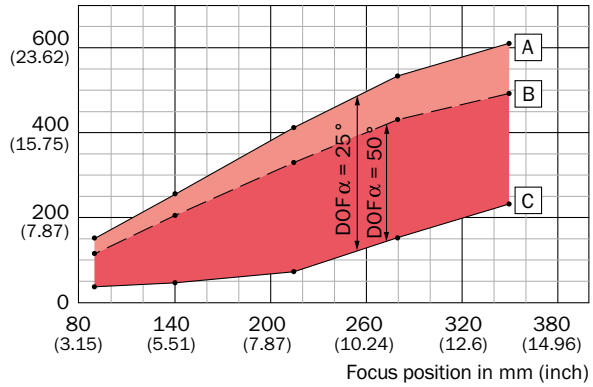
A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV640 Standard Density, side

Reading distance in mm (inch)



Resolution 0.5 mm (19.7 mil)

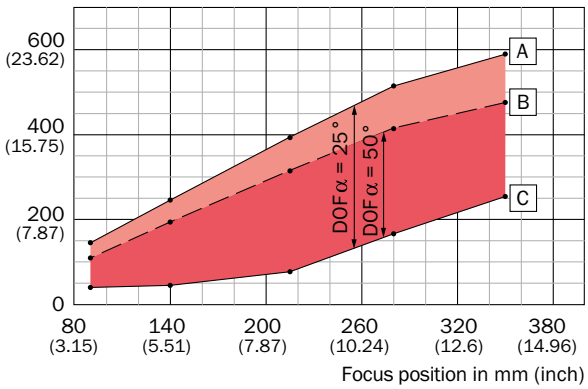
A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV640 Standard Density, Oscillating mirror

Reading distance in mm (inch)



For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution 0.5 mm (19.7 mil)

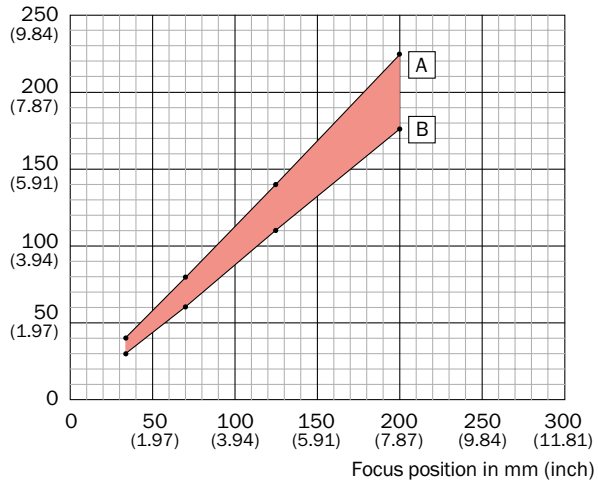
A max. reading distance (aperture angle 25°)

B max. reading distance (aperture angle 50°)

C min. reading distance

CLV642 High Density, front

Reading distance in mm (inch)



Resolution 0.15 mm (5.9 mil)

A max. reading distance (aperture angle 25°)

B min. reading distance

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Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Hanger-shaped mounting bracket	2042800	●	●	–
 Illustration may differ	Hanger-shaped mounting bracket, thermally isolated for use with heating devices	2050705	●	●	–

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114	–	–	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet	CLV62x-64x IP69K
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●	–
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●	–

More accessories can be found ➜ K-268

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ALWAYS IN AUTO FOCUS

Product description

The CLV65x series of bar code scanners use proprietary distance measurement and auto focus technology combined with SMART code reconstruction algorithms and high-performance microprocessor, enabling them to outperform the competition by reading damaged and dirty codes in challenging applications where a large depth of field is required. Reading distances of up to 1,625 mm for a 1 mm module width can be achieved. The CLV65x's auto focus feature, distance measurement technology, and expertly engineered optics give it a competitive advantage in applications where space is limited and a large depth of field is required.
Other advanced features, like an embedded web server for remote diagnostics and reading performance statistics, enhance the performance of the CLV65x family.
Variants include line, side reading window and oscillating mirror versions; available with Ethernet.

At a glance

- Huge depth of field due to auto focus
- Integrated pushbuttons for auto setup and reading diagnostics
- CAN, Ethernet TCP/IP, PROFINET, and EtherNet/IP available on board, no additional gateway needed (depending on variant)
- Enhanced SMART code reconstruction technology
- Flexible sorting, filtering, and logical functions
- Integrated web server provides remote diagnostics and monitoring
- Advanced, easy-to-use SOPAS ET configuration software
- Integrated LED bar graph

Your benefits

- Economical, as auto focus means no versions or additional light barriers are required for focus adjustment
- Intelligent auto setup and multi-function pushbuttons save time during commissioning
- Easily execute firmware updates using the microSD memory card: no need for a PC
- Enhanced SMART technology reads damaged and partially obscured codes, increasing read rates
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is then delivered in the desired format
- Integrated web server provides remote diagnostics and monitoring, no additional software required

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Additional information

➜ www.mysick.com/en/CLV65x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV650 Standard Density	CLV651 Low Density
Light source	Visible red light (658 nm)	
MTBF	40,000 h	
Laser class	2 (EN 60825-1 (A2:2001-03), IEC 60825-1 : 2007-03, Ed. 2.0)	
Aperture angle	≤ 50°	
Scanning frequency	600 Hz ... 1,000 Hz	
Code resolution	0.25 mm ... 1 mm	0.5 mm
Reading distance		
Front	140 mm ... 1,625 mm [1]	170 mm ... 930 mm [1]
Oscillating mirror	125 mm ... 1,570 mm [1]	155 mm ... 880 mm [1]
Front, with polarizing filter	160 mm ... 1,400 mm [1]	–
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot	
Oscillation frequency	0.5 Hz ... 6.25 Hz	
Angle of deflection	–20° ... 20°	
Heating		
Ethernet	Optional	

[1] For details see reading field diagram.

Performance

Bar code types	All current code types, Code 39, Code 128, Code 93, Codabar, GS1-128 / EAN 128, UPC / GTIN / EAN, Interleaved 2 of 5, Pharmacode, GS1 DataBar, Telepen, MSI/Plessey
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000 500 (for multiplexer function in CAN operation)
No. of multiple readings	1 ... 99

Interfaces

Serial (RS-232, RS-422/485)	✔, AUX (only RS-232)
Function	Host, AUX
Data transmission rate	2,400 Baud ... 115 kBaud, AUX: 57.6 kBaud
Ethernet	– / ✔ (depending on type)
Function	Host, AUX
Data transmission rate	10/100 MBit/s
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional over external fieldbus module CDF600) (depending on type)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CANopen, CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional over external fieldbus module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)

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Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Ethernet	3 (“Sensor 1”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Ethernet	2 (via CMC600 in CDB620/CDM420)
Reading pulse	“Sensor 1” switching input, non-powered, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Acoustic indicators	Beeper/buzzer (can be switched off, can be allocated as a result indication function)
Control elements	2 buttons (choose and start/stop functions)
Configuration software	SOPAS ET
Memory card	MicroSD memory card (flash card) 512 MB, optional

Mechanics/electronics

	CLV650 Standard Density	CLV651 Low Density
Electrical connection		
Cable	1 x 15-pin D-Sub HD male connector (0.9 m)	
Ethernet	2 x M12 cylindrical connectors (1 x 12-pin male connector, A-coded, 1 x 4-pin female connector, D-coded) on swivel connector	
Operating voltage	18 V DC ... 30 V DC	
Power consumption	8.5 W / 9.5 W (depending on type)	
Housing	Aluminum die cast	
Housing color	Light blue (RAL 5012)	
Protection class	III (EN 61140)	
Weight	250 g ... 320 g (depending on type)	
Dimensions (L x W x H)		
Front	61 mm x 96 mm x 38 mm [1] (depending on type)	
Oscillating mirror	95 mm x 96 mm x 41 mm [1] (depending on type)	
Front, with polarizing filter	61 mm x 96 mm x 38 mm [1]	–

[1] Swivel connector is 15 mm longer.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2001-10) / EN 61000-6-2:2005
Vibration resistance	EN 60068-2-6 (1995)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	0 °C ... +40 °C
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code
Bar code print contrast (PCS)	≥ 60 %

Ordering information

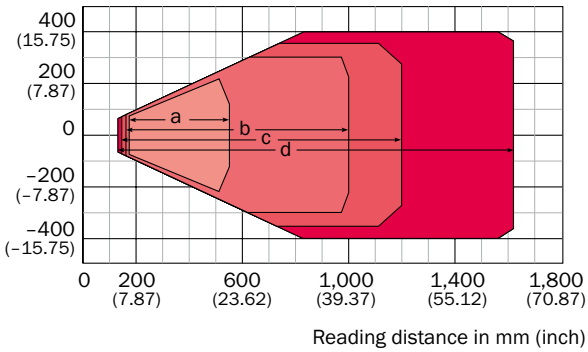
- **Focus:** Auto focus
- **Enclosure rating:** IP 65
- **Front screen:** Glass
- **Scanner design:** Line scanner

Version	Connection type	Heating	Reading field	Type	Part no.
CLV650 Standard Density	Cable	Optional	Front	CLV650-0000	1041290
			Oscillating mirror	CLV650-6000	1042124
	Ethernet	Optional	Front	CLV650-0120	1042121
		–	Front, with polarizing filter	CLV650-0120S01	1051957
		Optional	Oscillating mirror	CLV650-6120	1042125
CLV651 Low Density	Cable	Optional	Front	CLV651-0000	1046557
			Oscillating mirror	CLV651-6000	1046559
	Ethernet	Optional	Front	CLV651-0120	1046558
			Oscillating mirror	CLV651-6120	1046560

Reading field diagrams

CLV650 Standard Density, front

Reading field height in mm (inch)

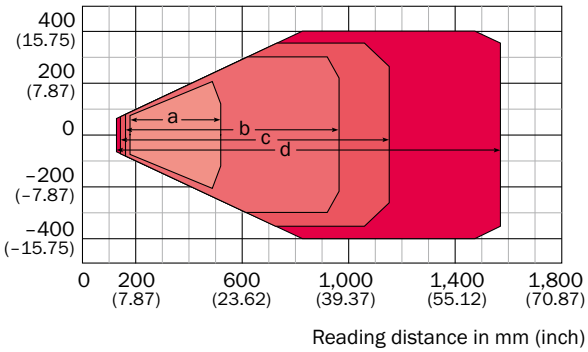


Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

CLV650 Standard Density, Oscillating mirror

Reading field height in mm (inch)



Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

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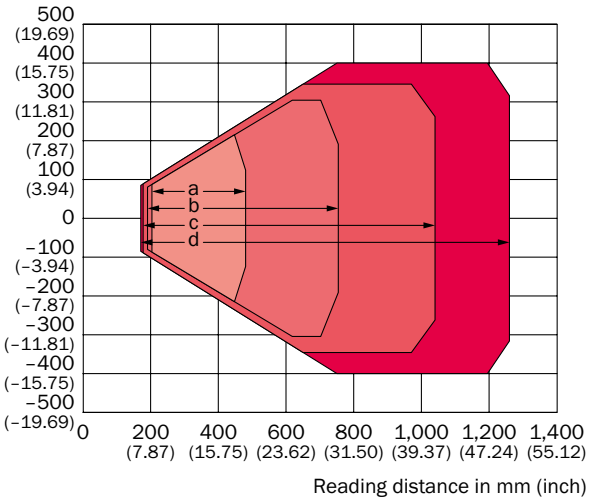
CLV650-0120S01 Standard Density, front, with polarizing filter

Reading field height in mm (inch)



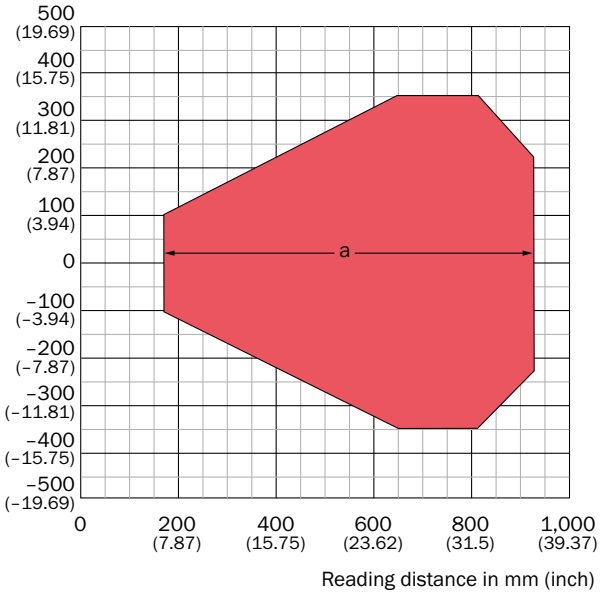
For devices with plastic reading window, the depth of field is reduced by approx. 10 %.

Resolution

- a: 0.25 mm (9.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)
- d: 1.00 mm (39.4 mil)

CLV651 Low Density, front

Reading field height in mm (inch)

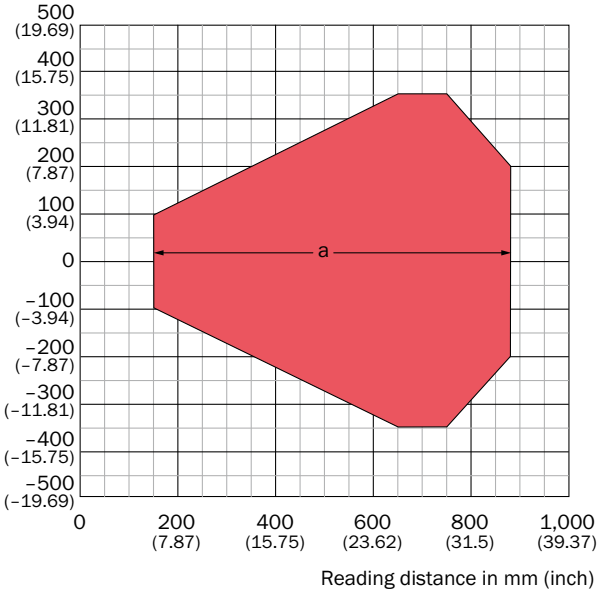


Resolution

- a: 0.50 mm (19.7 mil)

CLV651 Low Density, Oscillating mirror

Reading field height in mm (inch)



Resolution

- a: 0.50 mm (19.7 mil)

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Recommended accessories

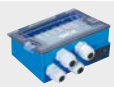
Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet
	Hanger-shaped mounting bracket	2042800	●	●
 Illustration may differ	Hanger-shaped mounting bracket, thermally isolated for use with heating devices	2050705	●	●

Connection systems

Modules

	Brief description	Type	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●
	Modular connection module for one sensor	CDM420-0001	1025362	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV63x-65x cable	CLV63x-65x Ethernet
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●

More accessories can be found ➜ K-268

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THE HIGHEST LEVEL OF FLEXIBILITY AND POWER

Product description

The CLV69x bar code scanner offers excellent reading performance, high-speed processing and a high level of reading accuracy. The auto focus function is based on built-in distance measurement technology and makes it possible to have height-independent code reading within the reading field. Simple and user-friendly configuration is guaranteed using the standard SOPAS ET operating system from SICK. Due to built-in SMART+ code reconstruction technology, the CLV69x can read heavily contaminated or partially damaged bar codes as well as those with a high angle of tilt. With its built-in tracking, the CLV69x can be used without any additional system controller to handle standard applications. The innovative connectivity with built-in parameter storage not only enables fast, simple scanner replacement, but also easy integration into a variety of applications.

At a glance

- Advanced SMART+ code reconstruction technology
- New and flexible cloning plug technology
- CAN, Ethernet and serial communications available on board (dependent on cloning plug variant)
- Large depth of field due to real-time auto focus
- Consistent, user-friendly “SOPAS ET” software
- Built-in tracking without the use of an additional system controller
- Flexible sorting, filtering, and logical functions
- Integrated LED bar graph with push-buttons

Your benefits

- Higher reading rate on damaged, heavily contaminated and partially damaged bar codes using the SMART+ algorithm
- Increased processing allows for faster and more accurate performance on demanding applications
- Fewer costs since no additional Ethernet gateway is required when using the Ethernet clone plug
- Time savings during commissioning thanks to integrated buttons and bar graph
- Increased scanner intelligence enables sophisticated configuration of logical operations, reducing the control system programming effort. Data is delivered in the desired format
- Cost savings since standard applications can be implemented without an additional system controller due to integrated tracking

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Additional information

➜ www.mysick.com/en/CLV69x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CLV690-0/1 Standard Density	CLV691-0/1 Low Density	CLV692-0/1 High Density
No. of distance configurations	≤ 8		
Focus adjustment time	≤ 20 ms		
Focus trigger source	Data interface / switching inputs		
Light source	Visible red light (660 nm)		
MTBF	100,000 h		
Laser class	2 (IEC 60825-1 (2007-3), EN 60825-1 (2008-05))		
Aperture angle			
Front	≤ 60°		
Oscillating mirror	≤ 50° / ≤ 60° (depending on type)		
Scanning frequency	400 Hz ... 1,200 Hz		
Code resolution	0.25 mm ... 1 mm	0.35 mm ... 1.2 mm	0.17 mm ... 0.4 mm
Reading distance	500 mm ... 2,100 mm [1]	500 mm ... 2,200 mm [1]	400 mm ... 1,600 mm [1] (depending on type)
Oscillating mirror functions	Fixed (adjustable position), oscillating (variable or fixed amplitude), one shot		
Oscillation frequency	0.5 Hz ... 4 Hz		
Angle of deflection	–20° ... 20° (can be adjusted via software)		

[1] For details see reading field diagram.

Performance

Bar code types	Interleaved 2 of 5, all current code types, Codabar, Code 128, Code 39, Code 93, GS1-128 / EAN 128, UPC / GTIN / EAN
Print ratio	2:1 ... 3:1
No. of codes per scan	1 ... 20 (Standard decoder) 1 ... 6 (SMART decoder)
No. of codes per reading interval	1 ... 50 (auto-discriminating)
No. of characters per reading interval	5,000
No. of multiple readings	1 ... 100

Interfaces

Serial (RS-232, RS-422/485)	✔, only with cloning plug D-Sub and Ethernet
Function	Host, AUX (only RS-232)
Data transmission rate	300 Baud ... 500 kBaud, AUX: 57.6 kBaud (RS-232)
Ethernet	✔, only with cloning plug I/O, CAN IN/OUT or CAN Redundant
Function	Host, AUX
Data transmission rate	10/100 MBit/s
Protocol	TCP/IP, EtherNet/IP, PROFINET (optional over external fieldbus module CDF600-2), PROFINET Dual Port (optional via external connection module CDF600-2)
CAN bus	✔
Function	SICK CAN sensor network (Master/Slave, Multiplexer/Server)
Data transmission rate	20 kbit/s ... 1 Mbit/s
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional over external fieldbus module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
Switching inputs	6 (“Sensor 1” ... “Sensor 6”)
Switching outputs	4 (“Result 1” ... “Result 4”)

Reading pulse	Switching inputs, serial interface, auto pulse, CAN
Optical indicators	6 LEDs (Ready, Result, laser, Data, CAN, LNK TX, Bar graph for displaying the reading rate percentage (10 LEDs))
Control elements	2 buttons
Parameter storage	Integrated in cloning plug
Configuration software	SOPAS ET

Mechanics/electronics

Electrical connection	Depending on the cloning plug used
Operating voltage	18 V DC ... 30 V DC (depending on type)
Power consumption	15 W ... 17 W 78 W ... 80 W (with heating)
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Protection class	III (EN 60950-1 (2011-01))
Weight	1,500 g / 2,200 g (depending on type)
Dimensions (L x W x H)	
Front	117 mm x 117 mm x 94 mm
Oscillating mirror	182 mm x 128 mm x 97 mm

Ambient data

Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	0 °C ... +40 °C –35 °C ... +35°C (with heating)
Storage temperature	–20 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing
Ambient light immunity	2,000 lx, on bar code

Ordering information

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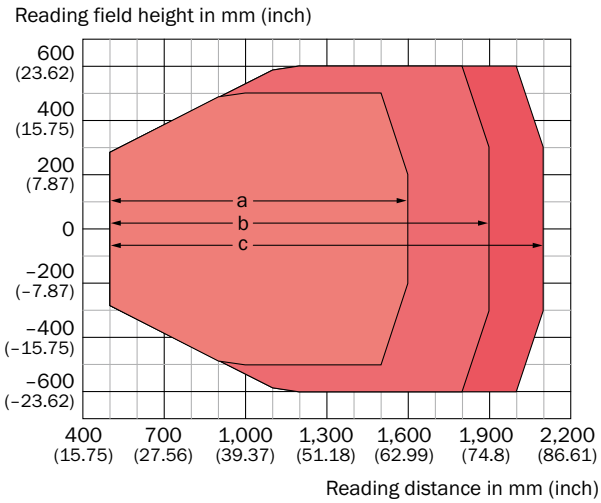
- **Focus:** Auto focus
- **Connection type:** depending on the cloning plug used
- **Enclosure rating:** IP 65
- **Scanner design:** Line scanner

Version	Front screen	Heating	Reading field	Type	Part no.
CLV690-0/1 Standard Density	Glass	–	Front	CLV690-0000	1056600
	Plastic	–	Front	CLV690-0010	1056614
	Glass	With heating	Front	CLV690-0001	1056602
		–	Oscillating mirror	CLV690-1000	1056601
		With heating	Oscillating mirror	CLV690-1001	1056603
CLV691-0/1 Low Density	Glass	–	Front	CLV691-0000	1056604
		With heating	Front	CLV691-0001	1056606
		–	Oscillating mirror	CLV691-1000	1056605
		With heating	Oscillating mirror	CLV691-1001	1056607
CLV692-0/1 High Density	Glass	–	Front	CLV692-0000	1056608
		With heating	Front	CLV692-0001	1056610
		–	Oscillating mirror	CLV692-1000	1056609
		With heating	Oscillating mirror	CLV692-1001	1056611

Reading field diagrams

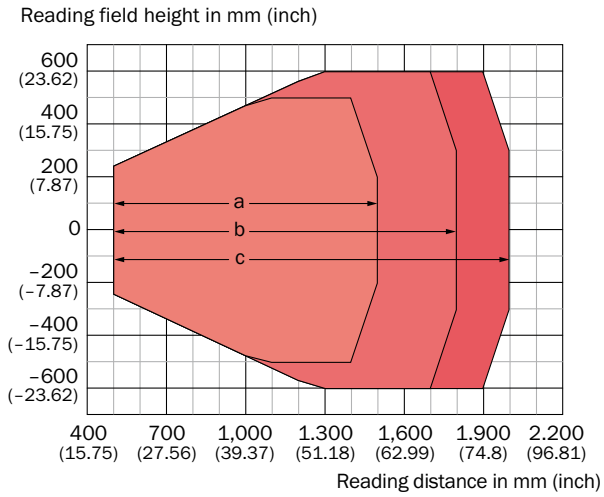
CLV690-0/1 Standard Density, front



Resolution

- a: 0.30 mm (11.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

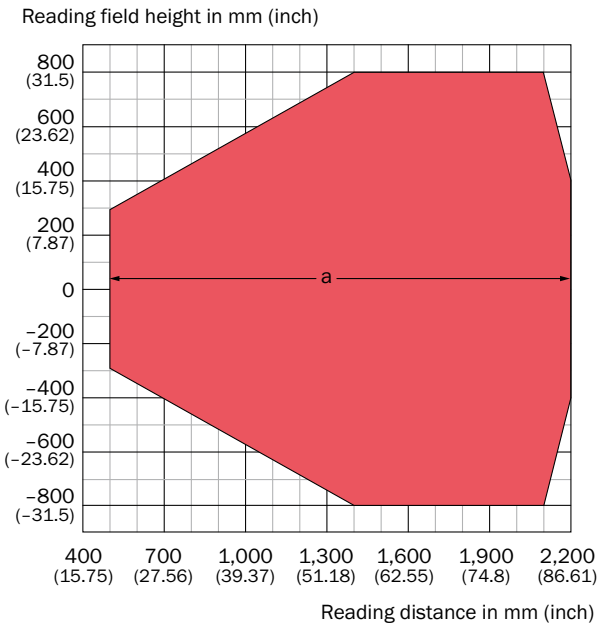
CLV690-0/1 Standard Density, Oscillating mirror



Resolution

- a: 0.30 mm (11.8 mil)
- b: 0.35 mm (13.8 mil)
- c: 0.50 mm (19.7 mil)

CLV691-0/1 Low Density, front

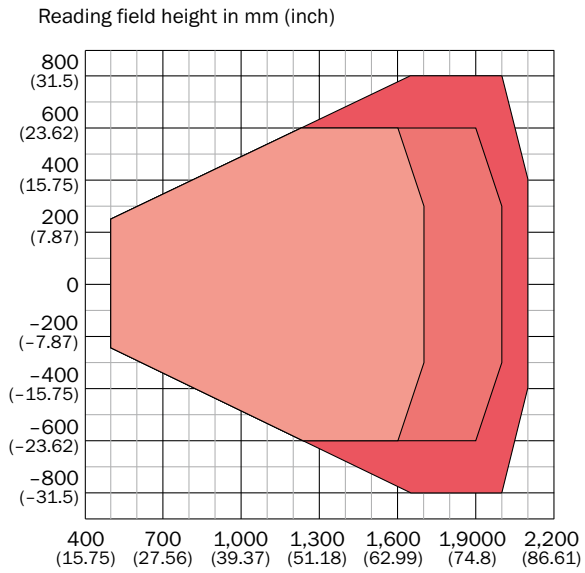


Resolution

- a: 0.50 mm (19.7 mil)

Tilt ±15°, typical specification

CLV691-0/1 Low Density, Oscillating mirror



Resolution 0.5 mm (19.7 mil)

- Tilt ± 45°
- Tilt ± 30°
- Tilt ± 15° (typical values)

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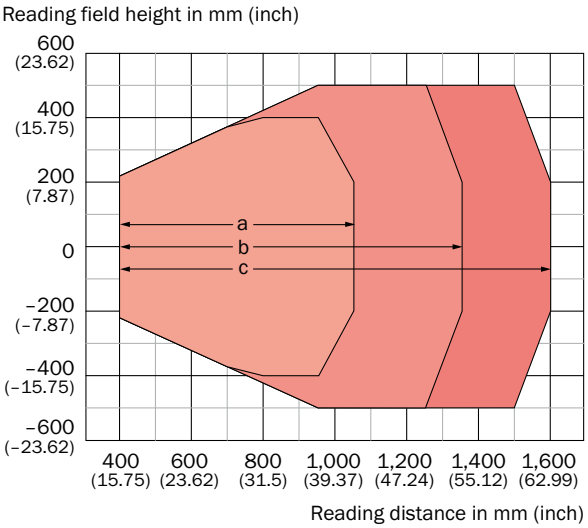
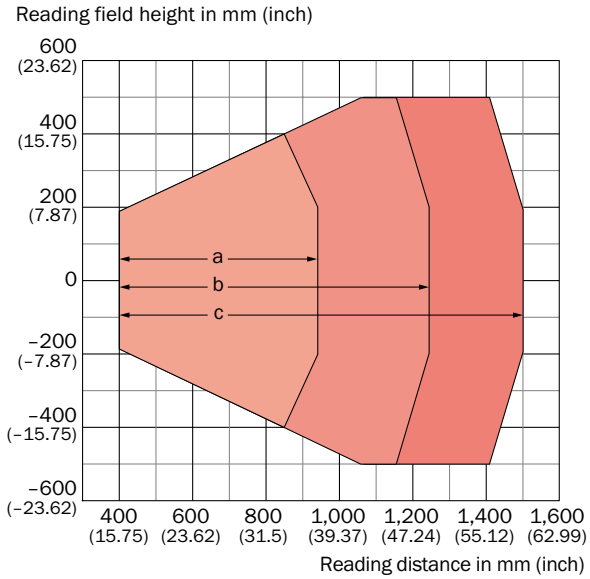
CLV692-0/1 High Density, front



Resolution

- a: 0.20 mm (7.9 mil)
- b: 0.25 mm (9.8 mil)
- c: 0.30 mm (11.8 mil)

CLV692-0/1 High Density, Oscillating mirror



Resolution

- a: 0.20 mm (7.9 mil)
- b: 0.25 mm (9.8 mil)
- c: 0.30 mm (11.8 mil)

Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Simple mounting bracket	2013824

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Terminal and alignment brackets

	Brief description	Part no.
	Quick-action lock system	2016110

Connection systems

Modules

	Brief description	Type	Part no.
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460

	Brief description	Type	Part no.
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2055419
		Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	2 m	6052286
				Drag chain use, suitable for 2 A, suitable for refrigeration	2 m	6053230
		Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	–	Required for connecting a CLV69x (serial)	–	2062450
	Power	Female connector, M12, 5-pin, straight	Cable	3-wire, suitable for refrigeration	5 m	6053224
	Power, CAN	Female connector (AUX), M12, 5-pin Female connector, M12, 5-pin Male connector, M12, 5-pin	–	Required for connecting a CLV69x (CAN)	–	2062453
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414
	Power, CAN, Ethernet	Male connector, M12, 5-pin	Female connector, M12, 5-pin	Required for connecting a CLV69x (CAN/Ethernet)	–	2074708
	Power, Ethernet, serial, CAN	Male connector, M12, 17-pin Male connector, M12, 5-pin Female connector, M12, 4-pin	–	Required for connecting a CLV69x (Ethernet/stand-alone)	–	2062452

More accessories can be found ➜ K-268

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Cloning plugs

Cloning plug inputs and outputs

Brief description	Part no.	Sensor (Sensor 1)	IN0 (Sensor 2)	IN1 (Sensor 3)	IN2 (Sensor 4)	IN3 (Sensor 5)	IN4 (Sensor 6)	Result1	Result2	Result3	Result4	AUX	HOST	CAN1	CAN2	Eth
D-Sub clone plug (with CDM490 connection module)	2062450	●	●	●	●	●	●	●	●	●	●	●	●	●	●	–
I/O clone plug (with CDM420-0006 connection module)	2062452	●	●	–	–	–	–	●	●	●	●	●	●	●	–	●
CAN redundant Ethernet clone plug [1]	2074710	–	–	–	–	–	–	–	–	–	–	–	–	●	●	●
CAN IN/OUT Ethernet clone plug	2074708	–	–	–	–	–	–	–	–	–	–	–	–	●	–	●
CAN IN/OUT clone plug	2062453	–	–	–	●	–	–	–	–	–	–	●	–	●	–	–
CAN redundant clone plug [1]	2062454	–	–	–	●	–	–	–	–	–	–	●	–	●	●	–

[1] No heating.

Assignment of connection to cloning plug

	Brief description	Type	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN redundant Ethernet clone plug	CAN IN/OUT Ethernet clone plug	CAN IN/OUT clone plug	CAN redundant clone plug
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/ spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114	–	●	–	–	–	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	–	●	–	–	–	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	–	●	–	–	–	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	–	●	–	–	–	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	–	●	–	–	–	–
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634	–	●	–	–	–	–
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	–	●	–	–	–	–
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248	–	●	–	–	–	–
	Modular connection module for one sensor	CDM490-0001	1025363	●	–	–	–	–	–

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	Brief description	Type	Part no.	D-sub clone plug	I/O Ethernet clone plug	CAN redundant Ethernet clone plug	CAN IN/OUT Ethernet clone plug	CAN IN/OUT clone plug	CAN redundant clone plug
	Modular system controller	MSC800	On request	–	–	●	●	●	●

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RFID

Intelligent identification

Radio-based RFID technologies in the HF (high frequency) and UHF (ultra high frequency) ranges supplement SICK's industrial automation portfolio. In applications where process-relevant data is modified remotely, RFID makes it possible to store data on writable and rewritable media. And, in contrast to optical solutions, RFID provides reliable identification of all objects – despite dirt and everyday wear.

Your benefits

- Reliable solution for long-term use
- Maintenance-free
- Simple integration into existing machines

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SIMPLE AND CLEVER IDENTIFICATION WITH RFID

The high impetus in global markets produces an ever-increasing competitive pressure. Stringent standards, more and more compact product lifecycles and individual customer requests place high demands on data transparency within a company – RFID from SICK meet these demands.

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Increasingly, global networks are replacing closed added-value chains. The goal here is to achieve best possible efficiency over the entire production and distribution path by means of gap-free data transparency. This is possible using RFID technology (Radio Frequency Identification), which is today defining the trends in contemporary factory and logistics automation. This is how it works: a memory chip that is identified per radio frequency is attached to an object. The data on the chip can be output and re-written as required.

Using RFID technology brings numerous benefits. It accelerates logistics processes are automates identification procedures. The result: a clear reduction in the manual steps that were required previously. Data acquisition is carried out without error and also enables additional data to be recorded. This makes for enhanced process transparency overall.

In **factory automation**, the required information is handled remotely on the object and provides up-to-date information about the steps being performed in the current production flow. This allows an increase in the number of variants and permits a flexible design of production processes.

In **logistics automation**, centralized data management and current data standards ensure transparency along the entire supply chain. They provide common access to important information concerning production-related questions, and span location, national and company boundaries.

Features of RFID

Read without visual contact

Radio-based identification is not adversely affected, not even in contaminated and iced environments.

(Re-)writable data media

Process-relevant data are modified directly at the object and/or stored on the data medium.

Bulk reading

Simultaneous automatic identification of several objects.

Maintenance-free

Contamination or wear poses no problem for identification.

Long service life

Identification technology without mechanical and optical components ensure prolonged service life.

Good reasons for RFID from SICK

Secure investment

Proven global standards adopted.

Compact devices

All devices with integrated antenna, integrated evaluation unit (signal and data processing) and integrated connectivity.

High functionality

- Flexible trigger options and output formats
- Event-independent output behavior (GoodRead/NoRead)
- Digital switching inputs and outputs
- Concept for parameter cloning
- Same SOPAS ET configuration software in all cases

RFH620 ▸ Page H-170

- Cost-efficient compact device

RFH630 ▸ Page H-170

- 1 W transmitting power for large reading range
- Connection for external antenna

RFU62x ▸ Page H-176

- Optimized reading field for applications up to 1 m
- Suitable for deep-freezing down to –40 °C
- Connection type PoE

RFU63x ▸ Page H-182

- 2 W (ERP) transmitting power for large scanning ranges
- Connections for external antennas for gate solutions

Technology	HF (High Frequency)	UHF (Ultra High Frequency)
Products from SICK	**RFH620 and RFH630**	**RFU62x and RFU63x**
Frequency	Uniform worldwide: 13.56 MHz	Regional variance, e.g.: 865–868 MHz (Europe) 902–928 MHz (North America) 920–925 MHz (China) 916–920 MHz (Japan)
Standard	ISO 15693 / ISO 18000-3	ISO 18000-6C
Transmission principle	Load modulation in the near field by means of inductive coupling ⊕ Very well-defined reading range ⊖ Low scanning range	Backscattering in the far field by means of capacitive coupling ⊕ High scanning ranges ⊖ Overranges possible
Scanning range	Up to 0.3 m [1]	Up to 5 m [1]
Data format	Unique ID directly available on each transponder using ISO standard 15693	GS1 data standards Electronic Product Code (EPC)
Data quantity (transponder)	Typical 64 bit (8 bytes) / max. 64 Kbit (8 Kbytes)	Typical 96 bit (12 bytes) / max. 32 Kbit (4 Kbytes)
Typical application processes	Closed circuits with decentralized data management; e.g.: process control within the production line	Open added-value chain; e.g. supply chain over several locations with central database concept
Influencing factors		
Transponder in water	Full functionality	High attenuation, comprehensive reduction in range
Transponder in metal environment	Full functionality while maintaining a minimum distance of 20 mm or when using an on-metal transponder	

[1] Depending on the transponder used and ambient conditions.

PRODUCT FAMILY OVERVIEW

RFH6xx

Intelligent RFID communication

Technical data overview	
Product category	Write/read device with integrated antenna
Frequency band	HF (13.56 MHz)
Version	Short Range / Mid Range
Scanning range	Max. 150 mm Max. 240 mm
Serial (RS-232, RS-422/485)	✔ / –
USB	–
Ethernet	– / ✔
CAN bus	✔
PROFIBUS DP	✔ , optional via external connection module (CDF600-2)
DeviceNet	✔ , optional available externally
Weight	450 g ... 760 g

At a glance

- 13.56 MHz RFID write/read device for ranges up to 240 mm
- Transponder communication according to ISO/IEC 15693 standard
- Compact, industrial design with integrated antenna
- Embedded protocols allow interfacing with standard industrial fieldbus technologies
- Powerful micro-processor executes internally configurable logic
- Flexible trigger control
- Supports parameter cloning via microSD memory card
- Built-in diagnostics

Detailed information ➜ H-170

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	RFU62x	**RFU63x**
	Short-range ultra high frequency scanner	Intelligent technology ensures easy integration
	Write/read device with integrated antenna	Write/read device with integrated antenna / write/read device without integrated antenna
	UHF (860 ... 960 MHz)	UHF (860 ... 960 MHz)
	Mid Range	Long Range
	Max. 1 m	Typ. 5 m Typ. 2 m
	✔ / –	✔
	✔ , USB 2.0	✔ , USB 2.0
	– / ✔	✔
	✔ / –	✔
	✔ , optional via external connection module (CDF)	✔ , optional via external connection module (CDF)
	✔ , optional available externally	✔ , optional available externally
	780 g	3.5 kg
	• Compact UHF RFID read/write device with integrated antenna for scanning ranges of less than 1 m • Standard-compatible transponder interface (ISO/IEC 18000-6C / EPC C1G2) • Supports industry-standard data interfaces and fieldbuses, as well as PoE • MicroSD memory card for parameter cloning • Extensive diagnostic and service functions	• UHF RFID read/write unit for industrial applications • With or without integrated antenna, depending on the type (up to four external antennas can be connected) • Standard-compliant transponder interface (ISO/IEC 18000-6C/EPC G2C1) • Supports common industrial data interfaces and fieldbuses • MicroSD memory card for device parameter cloning • Several diagnostic and service options available
	➜ H-176	➜ H-182

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INTELLIGENT RFID COMMUNICATION

Product description

The RFH6xx is a compact, high frequency (HF) read/write device for ranges up to 240 mm. It is compatible with ISO/IEC 15693. Thanks to its compact design and integrated antenna, it is a cost-effective and flexible solution for logistics. Integrated signal and data processing ensure extremely high identification process speeds. Trigger signals and output control enable use as a locally controlled unit. Compatible with all 4D*pro* accessories, such as CMC600, and uses SOPAS ET operating software.

At a glance

- 13.56 MHz RFID write/read device for ranges up to 240 mm
- Transponder communication according to ISO/IEC 15693 standard
- Compact, industrial design with integrated antenna
- Embedded protocols allow interfacing with standard industrial fieldbus technologies
- Powerful micro-processor executes internally configurable logic
- Flexible trigger control
- Supports parameter cloning via microSD memory card
- Built-in diagnostics

Your benefits

- Reliable identification ensures maximum throughput
- Adapts to changing needs, ensures investment over the long term
- Simple integration saves installation time
- A wide range of functionality ensures flexible solutions
- Maintenance-free
- Uses same connectivity and configuration software as SICK's bar code scanners and image-based code readers – compatible through standardized 4D*pro* platform

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Additional information

→ www.mysick.com/en/RFH6xx

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	RFH620 Short Range	RFH630 Mid Range
Carrier frequency	13.56 MHz	
Output power	200 mW	1,000 mW
Antenna	Integrated	Integrated, additional connection for external antenna (depending on type)
Further functions	Freely programmable data output format, heartbeat, diagnosis, cloning function (microSD memory card or system), updatable firmware, triggering	
Typical access times	Read UID (64 bit/8 Byte): 18 ms Read 1 block (32 bit/4 Byte): 13 ms Write 1 block (32 bit/4 Byte): 16 ms Read 28 blocks (896 bit/112 Byte): 64 ms Write 28 blocks (896 bit/112 Byte): 442 ms	
Data transmission rate	26 kbit/s (default)	

Interfaces

	RFH620 Short Range	RFH630 Mid Range
Serial (RS-232, RS-422)	✔	
Data transmission rate	0.3 kBaud ... 500 kBaud	
Ethernet	– / ✔ (depending on type)	
Data transmission rate	10/100 Mbit	
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)	
CAN bus	✔	
Data transmission rate	20 kbit/s ... 1,000 kbit/s	
Protocol	CANopen, CSN (SICK CAN Sensor Network)	
PROFIBUS DP	✔, optional via external connection module (CDF600-2)	
DeviceNet	✔, optional available externally	
Switching inputs		
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet	3 (“Sensor 1”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Switching outputs		
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)	
Ethernet	2 (via CMC600 in CDB620/CDM420)	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Optical indicators	6 LEDs (Ready, Result, RF, Data, CAN, LNK TX)	7 LEDs (feedback LED, status displays, Ready, Result, RF, Data, CAN, LNK TX)
Acoustic indicators	1 beeper (to confirm reading, adjustable)	
Configuration software	SOPAS ET	

Mechanics/electronics

	RFH620 Short Range	RFH630 Mid Range
Electrical connection		
Cable	1 x Cable with 15-pin D-sub HD male connector	
Ethernet	1 x Swivel connector with 4-pin M12 female connector and 12-pin M12 male connector	1 x Swivel connector with 4-pin M12 female connector and 17-pin M12 male connector
Operating voltage	10 V DC ... 30 V DC	
Power consumption	Typ. 5 W	Typ. 8 W
Housing color	Blue, black	
Enclosure rating	IP 67	
Protection class	III	
Weight	450 g ... 520 g (depending on type)	710 g ... 760 g (depending on type)
Dimensions	147 mm x 88 mm x 39 mm [1]	

[1] Swivel connector is 15 mm longer.

Ambient data

	RFH620 Short Range	RFH630 Mid Range
Electromagnetic compatibility (EMC)	EN 301489-3 V1.4.1 Receiver Class 2	
Vibration resistance	EN 60068-2-6	
Shock resistance	EN 60068-2-27	
Ambient operating temperature	–20 °C ... +60 °C	–20 °C ... +50 °C
Storage temperature	–25 °C ... +70 °C	
Permissible relative humidity	95 %, non-condensing	

Ordering information

- **Product category:** write/read device with integrated antenna
- **Frequency band:** HF (13.56 MHz)
- **RFID standard:** ISO/IEC 15693, ISO 18000-3 Mode 1
- **Radio approval:** global (EN 300330-2 V1.5.1, FCC Part 15)

Version	Scanning range	Connection type	Type	Part no.
RFH620 Short Range	Max. 150 mm [1]	Cable	RFH620-1000001	1044838
		Ethernet	RFH620-1001201	1044839
RFH630 Mid Range	Max. 240 mm [1]	Cable	RFH630-1000001	1054747
		Ethernet	RFH630-1102101	1054746

[1] With RFID ISO card transponder in plane parallel alignment to read/write device antenna; depending on dimensions and quality of transponder.

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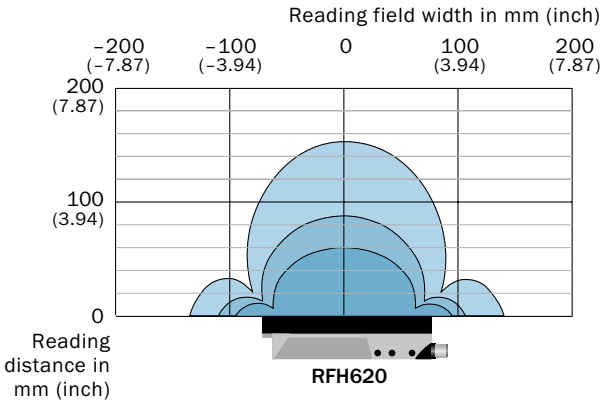
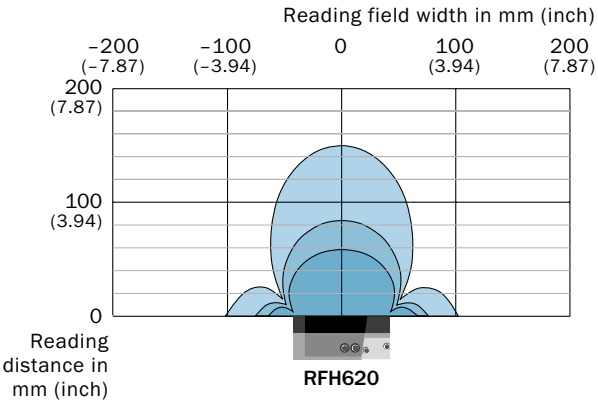
Reading field diagrams

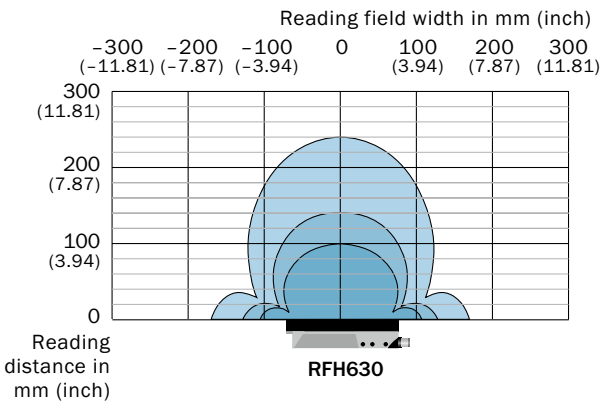
RFH620

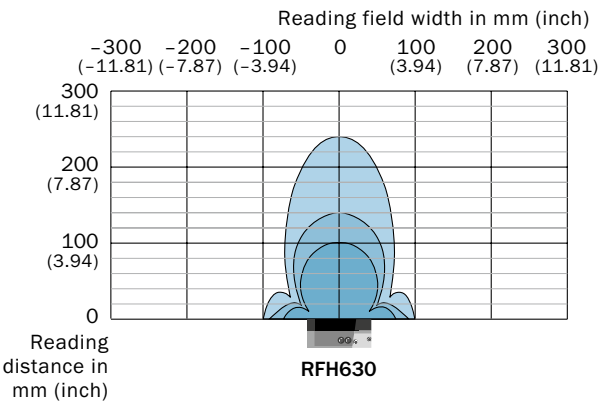




- ISO Card
- Disc 30
- Coin 16

RFH630

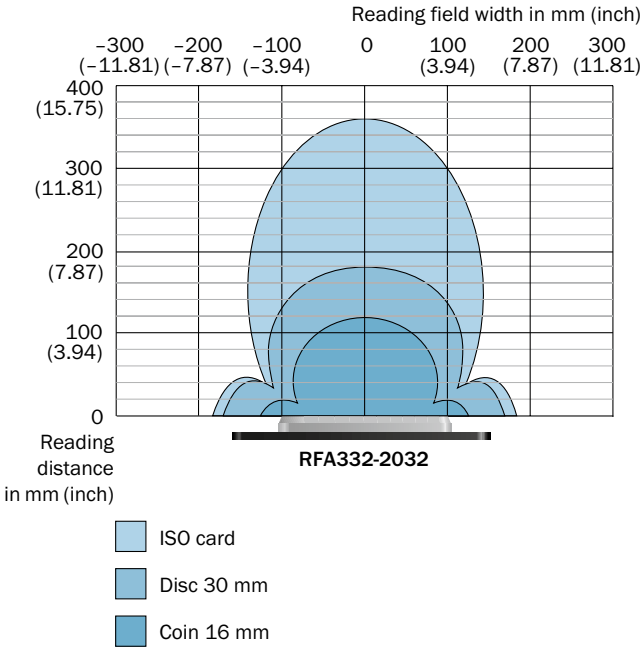




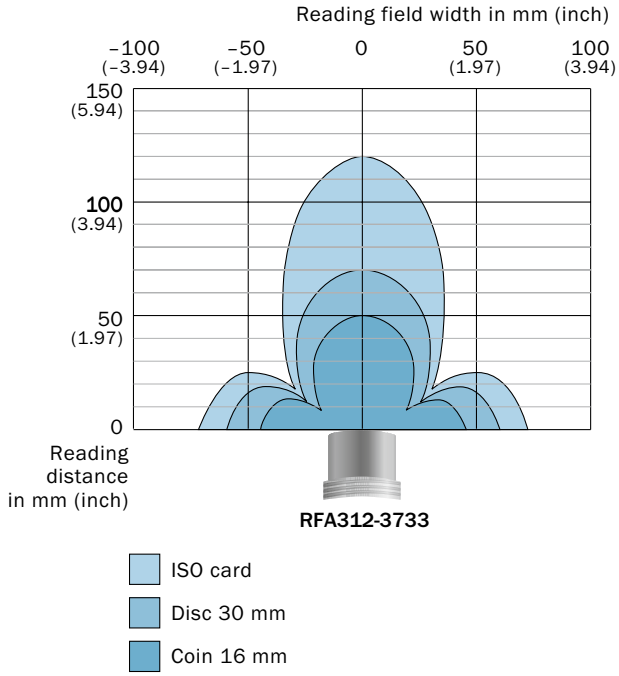
- ISO Card
- Disc 30
- Coin 16

H

RFH630 Ethernet with external antenna



RFH630 Ethernet with external antenna



Recommended accessories

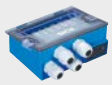
Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Mounting bracket	2048551	●	●	●	●

Connection systems

Modules

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2041834	–	●	–	–
		Female connector, M12, 17-pin, straight		To connection module CDx (except CDB650)	2 m	2055419	–	–	–	●
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, AWG26	2 m	6034414	–	●	–	●

Further accessories

RFID transponder

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet
	HF transponder, PA 6, diameter 50 mm, NXP ICODE SLIX	Disc (50 mm)	6033781	●	●	●	●

More accessories can be found ➜ K-280

H

SHORT-RANGE ULTRA HIGH FREQUENCY SCANNER

Product description

The RFU62x is a UHF RFID read/write device suitable for scanning ranges of up to 1 m. Transponder communication is compliant with the ISO/IEC18000-6C (EPC Class 1 Gen 2) standard. The device can be configured to operate from the SOPAS ET user interface or by sending ASCII commands directly. The well-defined, characteristic read/write range is particularly well-suited for automatic identification over small object distances, e.g., in conveyor technique.

At a glance

- Compact UHF RFID read/write device with integrated antenna for scanning ranges of less than 1 m
- Standard-compatible transponder interface (ISO/IEC 18000-6C / EPC C1G2)
- Supports industry-standard data interfaces and fieldbuses, as well as PoE
- MicroSD memory card for parameter cloning
- Extensive diagnostic and service functions

Your benefits

- Correct assignment and no overshoot thanks to the well-defined read/write range and intelligent filter functions
- Integrated process logic for remote solutions saves additional control and programming effort
- Can be easily integrated into industrial networks thanks to 4D*pro* compatibility
- Firmware upgrades and industry-standard compliance ensure long-term reliability
- Minimum changeover times in case of failure thanks to cloning
- RFU62x can be mounted to metal directly – no loss of range
- Easy operation and installation with SOPAS ET user interface

H

Additional information

➜ www.mysick.com/en/RFU62x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

Version	Mid Range
Carrier frequency	
Europe, South Africa	865.7 MHz ... 867.5 MHz
USA, Canada	902.75 MHz ... 927.25 MHz
Brazilian	902.75 MHz ... 927.25 MHz, 915,25 MHz ... 927,25 MHz
China	920.625 MHz ... 924.375 MHz
Japan	916.8 MHz ... 920.4 MHz
India	865.7 MHz ... 866.9 MHz
Output power	
Europe, South Africa, India	250 mW (ERP, 24 dBm)
USA, Canada, Brazilian, Japan	320 mW (EIRP, 25 dBm)
China	200 mW (ERP, 23 dBm)
Modulation	PR-ASK, DSB-ASK
MTBF	23 years (continuous operation at ambient temperature 50°C)
Heating	
Cable	No
Ethernet	Yes
PoE	No
Antenna	
Europe, South Africa, India	Integrated (circular polarized, axial ration typ. 2 dB, 100° field opening, front to back ratio > 7 dB)
USA, Canada, Brazilian, China, Japan	Integrated (circular polarized, axial ration typ. 3 dB, 100° field opening, front to back ratio > 7 dB)
Service functions	Parameter cloning with integrated microSD memory card slot or externally via CMC module in CDB620
Further functions	Cloning function (microSD memory card or system), diagnosis, updatable firmware, freely programmable data output format, heartbeat, triggering

Interfaces

Serial (RS-232, RS-422/485)	✔ / – (depending on type)
Function	Host, AUX (only RS-232)
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
USB	✔, USB 2.0
Function	AUX
Ethernet	– / ✔ (depending on type)
Function	Host, AUX, PoE (depending on type)
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)
CAN bus	✔ / – (depending on type)
Function	Host
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF)
DeviceNet	✔, optional available externally
Switching inputs	
Cable	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/ CDM420)

Ethernet	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/ CDM420)
PoE	0
Switching outputs	
Cable	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/ CDM420)
Ethernet	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/ CDM420)
PoE	0
Optical indicators	11 LEDs (function configurable via SOPAS ET, alternatively controlling with sw commands, status displays)
Configuration software	SOPAS ET

Mechanics/electronics

Electrical connection	
Cable	1 x 15-pin D-sub HD plug
Ethernet	1 x M12, 17-pin male connector 1 x M12, 4-pin female connector Ethernet
PoE	1 x M12, 18-pin female connector
Operating voltage	10 V DC ... 30 V DC [1] (depending on type)
Power consumption	8 W, with activated heating for temperatures below -20° C + 8 W, standby 3 W (depending on type)
Housing	Die-cast aluminum Plastic (PPS)
Enclosure rating	IP 67
Protection class	III
Weight	780 g
Dimensions	137 mm x 131 mm x 56 mm

[1] With heating (ethernet) 20 V DC ... 30 V DC.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2007) + A1 (2011) / EN 61000-6-2 (2005)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	
Cable	–25 °C ... +50 °C
Ethernet	–40 °C ... +50 °C
PoE	–25 °C ... +50 °C
Storage temperature	–40 °C ... +70 °C
Permissible relative humidity	90 %, non-condensing

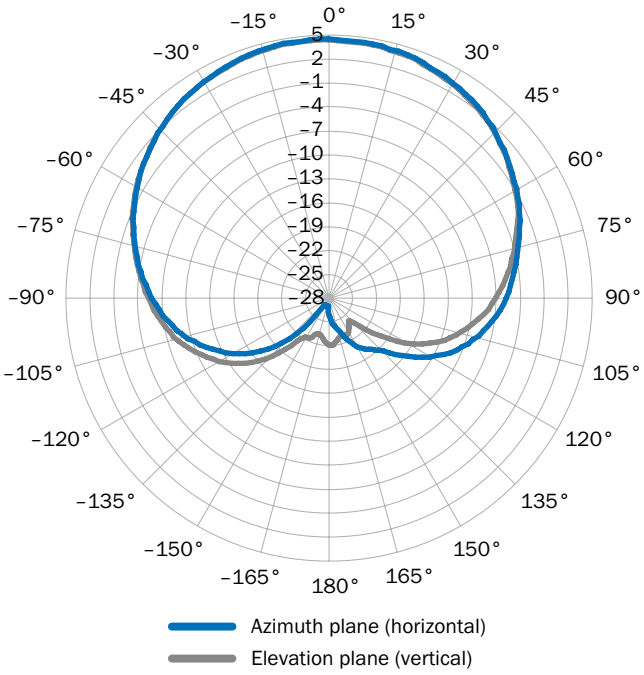
Ordering information

- **Version:** Mid Range
- **Product category:** write/read device with integrated antenna
- **Frequency band:** UHF (860 ... 960 MHz)
- **RFID standard:** EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C
- **Scanning range:** max. 1 m (Depending on transponder used and ambient conditions.)

Connection type	Radio approval	Type	Part no.
Cable	Europe, South Africa	RFU620-10400	1062600
	USA, Canada	RFU620-10401	1062603
Ethernet	Europe, South Africa	RFU620-10100	1062599
	USA, Canada	RFU620-10101	1062602
	Brazilian	RFU620-10104	1069677
	China	RFU620-10105	1068728
	Japan	RFU620-10107	1068727
PoE	Europe, South Africa	RFU620-10500	1062601
	USA, Canada	RFU620-10501	1062604
	India	RFU620-10503	1069453
	Brazilian	RFU620-10504	1070407

Radiation pattern

Measured antenna gain in dBic at 868.5 MHz,
RHCP (right-hand circular polarized)



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Recommended accessories

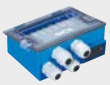
Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	RFU62x Cable	RFU62x Ethernet	RFU62x PoE
	Simple mounting bracket	2071067	●	●	●

Connection systems

Modules

	Brief description	Type	Part no.	RFU62x Cable	RFU62x Ethernet	RFU62x PoE
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	–

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFU62x Cable	RFU62x Ethernet	RFU62x PoE
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	2 m	2055419	–	●	–
	Gigabit Ethernet/ PoE	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728	–	–	●
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, AWG26	2 m	6034414	–	●	–
	USB 2.0	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106	●	●	●

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Further accessories

RFID transponder

	Brief description	Type	Part no.	RFU62x Cable	RFU62x Ethernet	RFU62x PoE
	UHF transponder, global, thermoplastic, 51.5 mm x 47.5 mm x 10 mm, Impinj Monza 4 QT	On-metal Transponder (52 mm x 48 mm x 10 mm)	6052346	●	●	●

More accessories can be found →K-280

H

INTELLIGENT TECHNOLOGY ENSURES EASY INTEGRATION

Product description

The RFU63x is an ultra-high frequency (UHF) RFID solution for industrial environments. Via integrated application management software, the RFU63x is able to solve common industrial applications without any external “middleware” and can, therefore, be used as a stand-alone solution. This is possible due to an integrated filter and data management system. With 4D*pro* compatibility, the RFU63x is easy and cost-efficient to integrate in common industrial environments. Different options for parameter cloning between systems (e.g., integrated microSD memory card feature) reduce maintenance time. The integrated feedback LED can be used to read diagnostic or process feedback.

At a glance

- UHF RFID read/write unit for industrial applications
- With or without integrated antenna, depending on the type (up to four external antennas can be connected)
- Standard-compliant transponder interface (ISO/IEC 18000-6C/EPC G2C1)
- Supports common industrial data interfaces and fieldbuses
- MicroSD memory card for device parameter cloning
- Several diagnostic and service options available

Your benefits

- Intelligent technology allows stand-alone usage
- Highest reading/writing performance
- Flexible integration in common industrial fieldbuses via 4D*pro* compatibility
- Less maintenance time due to an integrated cloning back-up system using microSD memory card
- Easily adapts to application requirements via SOPAS ET parameter setting tool
- Free usable feedback LED quickly provides read results and diagnostic information directly to the user

H

Additional information

➜ www.mysick.com/en/RFU63x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16

Subject to change without notice

Detailed technical data

Features

	Long Range write/read device with integrated antenna	Long Range write/read device without integrated antenna
Version	Long Range	
Carrier frequency		
Europe	865.7 MHz ... 867.5 MHz	
USA, Canada	902.75 MHz ... 927.25 MHz	
Australia	920.25 MHz ... 925.75 MHz	
China	920.625 MHz ... 924.375 MHz	
Japan	916.8 MHz ... 920.4 MHz	
Russia	866.3 MHz ... 867.5 MHz	
South Africa, Saudi Arabia	865.7 MHz ... 867.5 MHz	–
México	902.75 MHz ... 927.25 MHz	–
India	865.7 MHz ... 866.9 MHz	–
Brazilian	902.75 MHz ... 907.25 MHz. 915.25 MHz ... 927.25 MHz	–
Korea	917.3 MHz ... 920.3 MHz	–
Indonesia	923.25 MHz ... 924.75 MHz	–
Singapore	–	920.25 MHz ... 924.75 MHz
Output power		
Europe, China, Russia	2 W (ERP, for integrated antenna, alternatively 30 dBm at external antenna ports, output power adjustable)	30 dBm at external antenna ports, output power adjustable)
USA, Canada, Australia	4 W (EIRP, for integrated antenna, alternatively 30 dBm at external antenna ports, output power adjustable)	30 dBm at external antenna ports, output power adjustable)
Japan	4 W (EIRP, for integrated antenna, alternatively 30 dBm at external antenna ports, output power adjustable) 0.5 W (EIRP, for integrated antenna, alternatively 24 dBm at external antenna ports, output power adjustable) (depending on type)	30 dBm at external antenna ports, output power adjustable)
South Africa, Saudi Arabia, India, Indonesia	2 W (ERP, for integrated antenna, alternatively 30 dBm at external antenna ports, output power adjustable)	–
México, Brazilian, Korea	4 W (EIRP, for integrated antenna, alternatively 30 dBm at external antenna ports, output power adjustable)	–
Singapore	–	30 dBm at external antenna ports, output power adjustable)
Modulation	PR-ASK, DSB-ASK	
MTBF	14 years (continuous operation at ambient temperature 50°C)	
Antenna	Integrated (circular polarized, axial ration typ. 2 dB, 72° field opening, front to back ratio > 17 dB), additionally 3 external antenna ports	4 external antenna ports
Service functions	Parameter cloning with integrated microSD memory card slot or externally via CMC module in CDB620	
Further functions	Cloning function (microSD memory card or system), diagnosis, updatable firmware, freely programmable data output format, heartbeat, triggering	

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Interfaces

Serial (RS-232, RS-422/485)	✔
Function	Host, AUX
Data transmission rate	300 Baud ... 115.2 kBaud, AUX: 57.6 kBaud (RS-232)
USB	✔, USB 2.0
Function	AUX
Ethernet	✔
Function	Host, AUX
Data transmission rate	10/100 Mbit
Protocol	TCP/IP, EtherNet/IP, PROFINET, PROFINET Dual Port (optional via external connection module CDF600-2)
CAN bus	✔
Function	Host
Protocol	CSN (SICK CAN Sensor Network)
PROFIBUS DP	✔, optional via external connection module (CDF)
DeviceNet	✔, optional available externally
Switching inputs	4 (“Sensor 1”, “Sensor 2”, 2 inputs via optional parameter storage CMC600 in CDB620/CDM420)
Switching outputs	4 (“Result 1”, “Result 2”, 2 outputs via optional parameter storage CMC600 in CDB620/CDM420)
Optical indicators	8 LEDs, one of them multi-colored (function configurable via SOPAS ET, alternatively controlling with sw commands, status displays)
Acoustic indicators	1 beeper/buzzer (can be switched off, can be allocated as a result indication function)
Control elements	2 buttons (choose and start/stop functions)
Configuration software	SOPAS ET

Mechanics/electronics

	Long Range write/read device with integrated antenna	Long Range write/read device without integrated antenna
Electrical connection	1 x M12, 17-pin male connector 1 x M12, 4-pin female connector Ethernet	
Operating voltage	18 V DC ... 30 V DC	
Power consumption	< 20 W, with switching outputs not connected and full transmit power	
Housing	Die-cast aluminum	
Housing color	Blue, black, silver	
Enclosure rating	IP 67	
Protection class	III	
Weight	3.5 kg	
Dimensions	239 mm x 239 mm x 64 mm	239 mm x 197 mm x 40 mm

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-4 (2007-09) / EN 61000-6-2 (2009-05)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	–25 °C ... +60 °C
Storage temperature	–30 °C ... +70 °C
Permissible relative humidity	± 90 %, non-condensing

Ordering information

- **Version:** Long Range
- **Frequency band:** UHF (860 ... 960 MHz)
- **RFID standard:** EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C

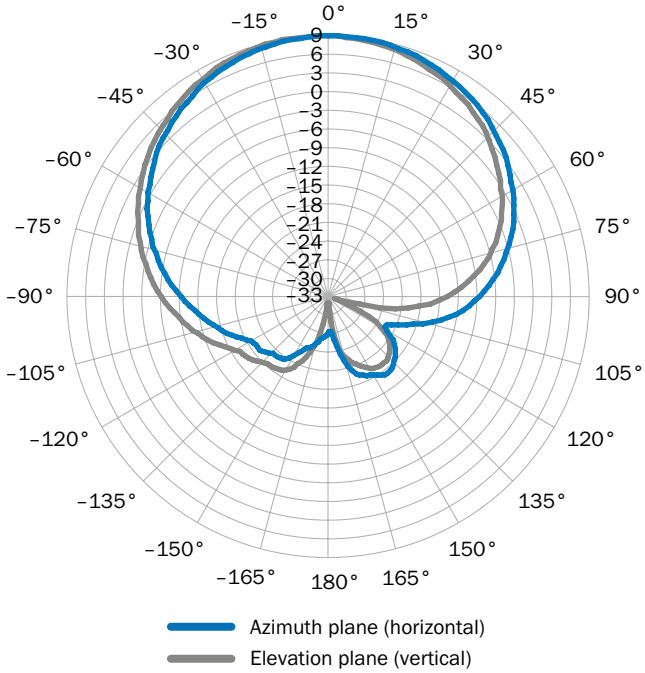
Product category	Scanning range	Radio approval	Type	Part no.
Write/read device with integrated antenna	Typ. 5 m [1]	Europe, South Africa, Saudi Arabia	RFU630-13100	1054396
		USA, Canada, México	RFU630-13101	1054397
		Australia	RFU630-13102	1058775
		India	RFU630-13103	1067473
		Brazilian	RFU630-13104	1068726
		China	RFU630-13105	1057943
		Japan	RFU630-13106	1067133
	Typ. 2 m [1]	Japan	RFU630-13107	1061498
	Typ. 5 m [1]	Russia	RFU630-13108	1070903
		Korea	RFU630-13110	1073442
		Indonesia	RFU630-13112	1074302
Write/read device without integrated antenna	Typ. 5 m [1]	Europe	RFU630-04100	1058117
		USA, Canada	RFU630-04101	1059999
		Australia	RFU630-04102	1073376
		China	RFU630-04105	1073196
		Japan	RFU630-04106	1068569
		Russia	RFU630-04108	1070904
		Singapore	RFU630-04109	1073377

[1] Depending on transponder used and ambient conditions.

Radiation pattern

RFU63x Long Range

Measured antenna gain in dBic at 868.5 MHz,
RHCP (right-hand circular polarized)



Recommended accessories

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.
	Mounting bracket for wall mounting, incl. assembly material	2060912

Connection systems

Modules

	Brief description	Type	Part no.
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR®65x	CDB650-204	1064114
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Power, serial, CAN, digital I/Os	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2049764
	Ethernet	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, AWG26	2 m	6034414
	USB 2.0	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106

Power supply units and power cord connectors

	Brief description	Part no.
	Power supply unit with pre-assembled M12 female connector, 17-pin	2062249

Further accessories

RFID transponder

	Brief description	Type	Part no.
	UHF transponder, global, thermoplastic, 51.5 mm x 47.5 mm x 10 mm, Impinj Monza 4 QT	On-metal Transponder (52 mm x 48 mm x 10 mm)	6052346

More accessories can be found ➜ K-280

H

HAND-HELD SCANNERS

Mobile, fast and flexible

Hand-held scanners from SICK provide fast, flexible code reading capabilities for a wide range of applications. Unlike manual solutions, hand-held scanners make it possible to automatically detect data at high speeds – with nearly no errors. They are ergonomically designed, speed up processes and help eliminate sources of error.

Your benefits

- High productivity thanks to fast and reliable code recognition – no manual repeat entry
- Simple operation thanks to automatic decoding of different codes
- Lightweight, ergonomic housing design makes it easy to use
- Rugged design and reinforced housing (in industrial variants) provides long service life
- Application flexibility due to availability of both wired and wireless device variants
- System solutions form a single source thanks to networking ability with other SICK identification solutions

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THE BEST SOLUTION HANDS DOWN

GENERAL PURPOSE: SIMPLE TO UNDERSTAND AND EVEN EASIER TO GRASP

Whether in the product pick-up shelves at an international Swedish furniture giant. At the lottery counter hoping for the giant jackpot. In the university clinic or the university library. Hand-held scanners are everywhere – in retail stores, in offices and even in laboratories. And since there is generally no getting around SICK when it comes to scanners, we have extended our range of general-purpose hand-held scanners.

A process might call for manual scanning – however, integrating a SICK hand-held scanner means you are also using your brain. Reliable and uncomplicated code reading, well-lit easy to read LED display, low weight and a stable housing. All models are also handy when it comes to ergonomic comfort.

The scanners offer flexibility thanks to Bluetooth capability. And the WIFI model with a color display is only available from SICK. We promise: there is no more clever way of getting a grip on code reading!

8012017/2015-09-16
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INDUSTRIAL: PROGRESS YOU CAN GRIP. AND DROP.

Error-free performance and robustness are also a must when it comes to hand-held scanners. So you can imagine that the engineers from SICK have had their hands full lately. To give you a SICK hand-held scanner for demanding industrial use. So you have to worry even less about code reading compatibility, reliability and operation in future.

For you, this means having SICK quality directly at your fingertips: capable of being integrated into all industrial fieldbusses. For all standard codes. Compact, extremely robust and shock-proof to withstand the knocks of industrial everyday life. Fast and easy to configure. Consistent reads. Well-lit, easy to read LED display. Beeper and vibration signals for loud environments. No tools needed for cable or battery changing.

Also via Bluetooth to offer you a maximum of flexibility. And even as a WIFI model – the only on the market. Which gets you ahead hands down.

AT HAND: ALL THE HAND-HELD SCANNERS YOUR HEART DESIRES

For anyone who has their work cut out reading code, SICK now offers a complete range of hand-held scanners, so you can choose the right device for every requirement. Select the appropriate model:

WHERE WILL THE HAND-HELD SCANNER BE USED?

GENERAL PURPOSE

Offices, sales, and clean environments

What type of code should be read?

- 1D codes
- 1D codes + stacked codes
- 1D codes + stacked codes + 2D codes

INDUSTRIAL

Noisy, dusty, and harsh environments

What type of code should be read?

- 1D codes
- 1D codes + stacked codes
- 1D codes + stacked codes + 2D codes
- directly marked codes

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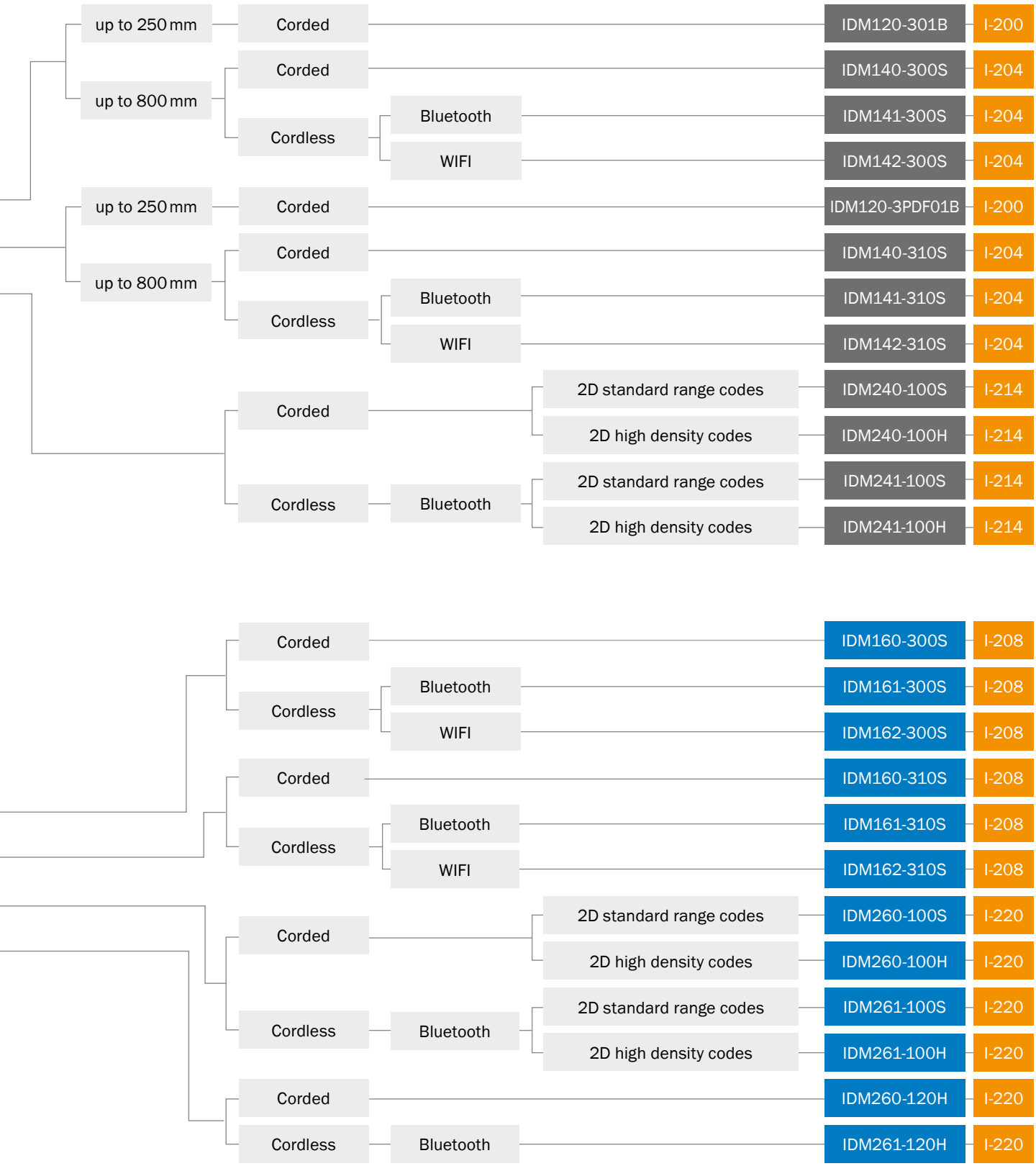
Subject to change without notice

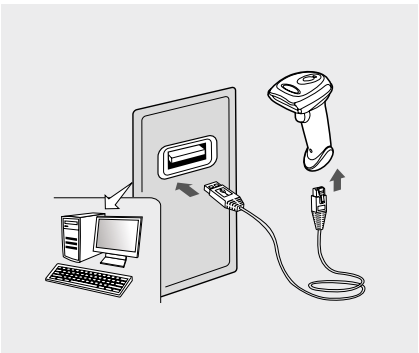
Reading distance



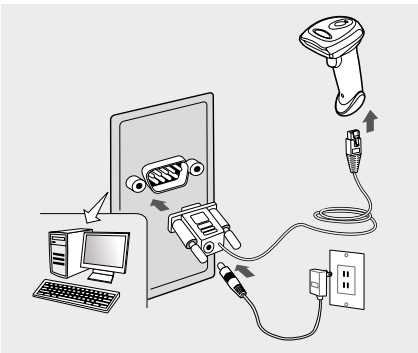
SICK HAND-HELD SCANNERS – THE BEST WAY TO MAKE YOUR CONNECTION

CONNECTIONS TO PC INTERFACES

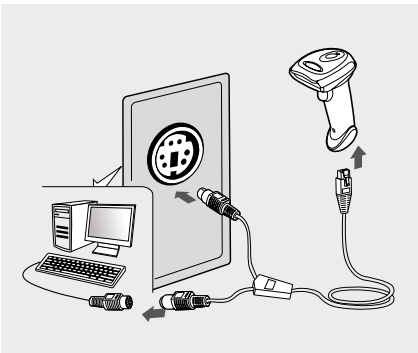
- Direct connection to PC interfaces such as USB or RS-232
- Connection via PS/2



Connection via USB



Connection via RS-232
(requires a power supply unit or voltage via pin 9)



Connection via PS/2

INTEGRATION INTO INDUSTRIAL NETWORKS

- Modular connectivity enables integration into many fieldbus technologies: PROFIBUS DP, PROFINET, Ethernet TCP/IP, EtherCAT®, DeviceNet
- Networking with fixed 1D scanners and 2D cameras, and RFID reading devices (AUX connectivity)

Your benefits:

- Simple commissioning
- Significantly reduced integration effort
- Standardized connectivity ensures problem-free integration into existing SICK identification networks
- SICK is your system supplier for complete identification solutions

HAND-HELD SCANNER OVERVIEW

■ = applicable
□ = optional

	Supported code type				Field of application		Design			Page
	1D	Stacked	2D	2D DPM	General Purpose	Industrial	Corded	Bluetooth	WIFI	
IDM12x										
IDM120 Corded	■	□			■		■			→ I-200
IDM14x										
IDM140 Corded	■	□			■		■			→ I-204
IDM141 Bluetooth	■	□			■			■		→ I-204
IDM142 WIFI	■	□			■				■	→ I-204
IDM16x										
IDM160 Corded	■	□				■	■			→ I-208
IDM161 Bluetooth	■	□				■		■		→ I-208
IDM162 WIFI	■	□				■			■	→ I-208
IDM24x										
IDM240 Corded	■	■	■		■		■			→ I-214
IDM241 Bluetooth	■	■	■		■			■		→ I-214
IDM26x										
IDM260 Corded	■	■	■	□		■	■			→ I-220
IDM261 Bluetooth	■	■	■	□		■		■		→ I-220

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PRODUCT FAMILY OVERVIEW

		
	IDM12x	**IDM14x**
	The entry level scanner	Versatility made easy – from high density to standard range codes
Technical data overview		
Scanner design	1D code hand-held scanner	1D code hand-held scanner
Code resolution	0.076 mm ... 0.1 mm	≥ 0.076 mm
Supported code type	1D, Stacked	1D, Stacked
Serial	✔	✔ / –
Ethernet	✔ , optional via external connection or field-bus module, TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)	✔, optional via external connection or field-bus module, TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600) / –
PROFIBUS DP	✔ , optional via external connection module (CDF600-2)	✔, optional via external connection module (CDF600-2) / –
DeviceNet	✔ , optional via external connection module (CDM + CMF)	✔, optional via external connection module (CDM + CMF) / –
PS/2	✔	✔ / –
USB	✔	✔ / –
Bluetooth	–	✔ , Bluetooth™ V4.0, 2.402 ... 2.4830 GHz / –
WIFI	–	✔ , IEEE 802.11 b/g
At a glance		
	• Reading at contact and distances up to 25 cm • Identification of all popular 1D codes, with PDF version, also stacked codes • Scan rate up to 300 scans/second • Withstands 25 drops from 1.5 m height • Extremely lightweight, only 106 g • Connection as PS/2 and USB keyboard wedge, serial USB or via RS-232 TTL • IP 41 enclosure rating	• Reading distance up to 850 mm • Identifies all popular linear bar codes • Scan rate up to 500 scans/second • Withstands 24 drops from 1.8 m height • Highly visible scan line • IP 41 enclosure rating
Detailed information	➜ I-200	➜ I-204

			
	IDM16x	**IDM24x**	**IDM26x**
	Industrial mobile reliability	Convenient and secure identification of 2D codes	Reliable 2D code identification in harsh environments
	1D code hand-held scanner	2D code hand-held scanner	2D code hand-held scanner / 2D DPM hand-held scanner
	≥ 0.076 mm	≥ 0.08 mm ≥ 0.13 mm	≥ 0.08 mm ≥ 0.13 mm
	1D, Stacked	1D, 2D, Stacked	1D, 2D, Stacked, DPM
	✔ / –	✔	✔
	✔, optional via external connection or field-bus module, TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600) / –	✔ , optional via external connection or field-bus module, TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)	✔ , optional via external connection or field-bus module, TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)
	✔, optional via external connection module (CDF600-2) / –	✔ , optional via external connection module (CDF600-2)	✔ , optional via external connection module (CDF600-2)
	✔, optional via external connection module (CDM + CMF) / –	✔ , optional via external connection module (CDM + CMF)	✔ , optional via external connection module (CDM + CMF)
	✔ / –	✔	✔
	✔ / –	✔	✔
	✔ , Bluetooth™ V4.0, 2.402 ... 2.4830 GHz / –	✔ , Bluetooth™ V4.0, 2.402 ... 2.4830 GHz / –	✔ , Bluetooth™ V4.0, 2.402 ... 2.4830 GHz / –
	✔ , IEEE 802.11 b/g	–	–
	• Identification of all popular 1D codes, with PDF version also stacked codes • Compact housing with up to IP 65 withstanding 50 drops from 2 m on concrete • Good read feedback via LED, beeper and vibrator • Supports all popular corded and cordless interfaces as well as industrial fieldbuses via SICK connectivity • Tool-free exchange of cable and battery • Corded and cordless versions available	• Identification of all current 1D, stacked, and 2D codes • Reliable, secure, and fast code reading • Compact design, light housing • Manual operation and hands-free operation in presentation mode • Corded and cordless variants available	• Identification of all current 1D, stacked, and 2D codes • Reliable, secure, and fast code reading • Rugged, stable housing with IP 65 enclosure rating • Supports all common corded and cordless interfaces as well as industrial fieldbuses via SICK connectivity • Good read feedback via LED, beeper, and vibration • Decoding algorithms ideal for direct part marked codes (depending on type)
	➜ I-208	➜ I-214	➜ I-220

THE ENTRY LEVEL SCANNER

Product description

The IDM12x is a cost-effective, flexible introductory model in the IDM1xx hand-held scanner series. The IDM12x is more than just a contact scanner compared to similar products. It can also identify bar codes up to 25 cm away and up to 120 mm wide. A scan rate of 300 scans per second not only reduces the required scan time but also increases throughput. The ergonomic design, its light weight of just 106 g, and various presentation modes make this device a top choice for users. The scanner meets enclosure rating IP 41 and can withstand multiple drops from a medium height. The device can be easily integrated into existing systems thanks to the variety of interfaces it supports, such as PS/2, USB, and RS-232. The combination of performance, durability, ease of use, and low cost make the IDM12x a great choice with the flexibility to carry out various simple tasks in fields such as point-of-sales, clinical analysis, and general office automation.

At a glance

- Reading at contact and distances up to 25 cm
- Identification of all popular 1D codes, with PDF version, also stacked codes
- Scan rate up to 300 scans/second
- Withstands 25 drops from 1.5 m height
- Extremely lightweight, only 106 g
- Connection as PS/2 and USB keyboard wedge, serial USB or via RS-232 TTL
- IP 41 enclosure rating

Your benefits

- Designed for contact and close-range detection, providing flexible operation
- Increased productivity thanks to short scan time
- Low-cost solution for identifying various code sizes
- High degree of user comfort thanks to ergonomic housing, light weight and optional presentation mode
- The most popular industrial interfaces allow flexible connectivity to PS/2, USB and RS-232 TTL, for example
- Reliable identification reduces the need to manually input data

Additional information

➜ www.mysick.com/en/IDM12x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Scanner design	1D code hand-held scanner
Light source	Visible red light (660 nm)
Scanning frequency	≤ 300 Hz
Code resolution	0.1 mm
Reading distance	0 mm ... 400 mm [1]

[1] For details see reading field diagram.

Performance

Bar code types	Code 39, Code 32, HIBC, Code 93, Code 11, Codabar, Code 128, UCC/EAN-128, UPC-A, UPC-E, MSI/Plessey, UK/Plessey, IATA, Standard and Industrial 2 of 5, Matrix 2 of 5, Interleaved 2 of 5, Mainland China Postal Code, German ITF Postal Code, Telepen, Limited/Expanded GS1 DataBar, Code 39 Trioptic, IATA, UPC / EAN / JAN (with addition)
Stacked code types	PDF417, MicroPDF417, Composite, Codablock (depending on type)

Interfaces

Serial	✔
Function	RS-232 TTL
Ethernet	✔, optional via external connection or fieldbus module
Protocol	TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)
PROFIBUS DP	✔, optional via external connection module (CDF600-2)
DeviceNet	✔, optional via external connection module (CDM + CMF)
PS/2	✔
Function	Keyboard wedge
USB	✔
Function	Keyboard wedge, USB serial
Optical indicators	1 LED (good read)
Acoustic indicators	Beeper, disengageable
Vibration	No
Configuration software	IDM Setup Tool

Mechanics/electronics

Operating voltage	5 V DC, ± 5 %
Current consumption	Operation: typ. 170 mA Standby: typ. 75 mA
Housing color	Black
Enclosure rating	IP 41
Weight	106 g
Dimensions	165 mm x 64.7 mm x 38.7 mm

Ambient data

Shock resistance	24 drops from 1.5 m height on concrete
Ambient operating temperature	–10 °C ... +50 °C
Storage temperature	–40 °C ... +70 °C
Permissible relative humidity	± 95 %, non-condensing
Ambient light safety	80,000 lx

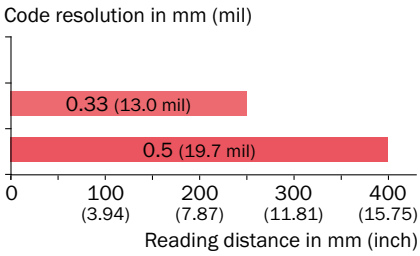
Ordering information

- **Sub product family:** IDM120 Corded
- **Field of application:** General Purpose
- **Version:** Standard Range

Items supplied	Supported code type	Included in delivery	Type	Part no.
Single scanner	1D, Stacked	–	IDM120-3PDF01B	6050063
	1D	–	IDM120-301B	6050059
Kit	1D	6036726 Connection cable 6050059 IDM120-301B	IDM120-3 PS/2 Kit	6050057
		6041540 Connection cable 6050059 IDM120-301B	IDM120-3 RS-232 Kit	6050058
		6050058 IDM120-3 RS-232 Kit 6036722 Power supply unit	IDM120-3 RS-232 Power Kit	1061156
		6036728 Connection cable 6050059 IDM120-301B	IDM120-3 USB Kit	6050056

Reading field diagrams

IDM120-3 Standard Range



Recommended accessories

Mounting systems

Other mounting accessories

	Brief description	Type	Part no.
	Desk holder	Table mount	6036723
	Tripod mount	Tripod mount	6036724

Connection systems

Plug connectors and cables

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	Connection cable	6036728

Power supply units and power cord connectors

	Brief description	Type	Part no.
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722

More accessories can be found ➜ K-290

VERSATILITY MADE EASY – FROM HIGH DENSITY TO STANDARD RANGE CODES

Product description

IDM14x offers high flexibility. The device is able to read all popular 1D bar codes but also stacked codes such as PDF417. Ergonomic design and low weight makes it comfortable to work with IDM14x scanners. For more mobility wireless Bluetooth or WLAN versions are available. All versions have a linear imaging sensor integrated able to read in up to 850 mm distance. Badly printed or damaged codes are no problem anymore. The IDM14x series combines reading performance and flexible choice of corded and cordless versions. It helps solving various tasks inside office, factory or logistics automation.

At a glance

- Reading distance up to 850 mm
- Identifies all popular linear bar codes
- Scan rate up to 500 scans/second
- Withstands 24 drops from 1.8 m height
- Highly visible scan line
- IP 41 enclosure rating

Your benefits

- Increased productivity thanks to high scan rate
- Reliable identification reduces the need to manually input data
- Lightweight, ergonomic design ensures user comfort
- Highly dependable thanks to rugged housing and non-moving parts
- Easy targeting with higly visible scan line for correct aiming

Additional information

➜ www.mysick.com/en/IDM14x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Scanner design	1D code hand-held scanner
Light source	Visible red light (630 nm)
Scanning frequency	≤ 500 Hz
Code resolution	≥ 0.076 mm
Reading distance	20 mm ... 850 mm [1]

[1] For details see reading field diagram.

Performance

	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI
Bar code types	Codabar, Code 39, Code 32, UPC-A, UPC-E, Standard and Industrial 2 of 5, Interleaved & Matrix 2 of 5, Code 128, UCC/EAN-128, Code 11, Code 93, German ITF Postal Code, Mainland China Postal Code, Telepen, MSI/Plessey, UK/Plessey, Limited/Expanded GS1 DataBar, Code 39 Trioptic, IATA, UPC / EAN / JAN (with addition)		
Stacked code types	PDF417, MicroPDF417, Composite, Codablock (depending on type)		
Battery power	–	Over 60,000 scans with full battery	Over 20,000 scans with full battery
Code buffer	–	80,000 Codes (EAN)	–

Interfaces

	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI
Serial	✔		–
Function	RS-232 TTL		–
Ethernet	✔, optional via external connection or fieldbus module		–
Protocol	TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)		–
PROFIBUS DP	✔, optional via external connection module (CDF600-2)		–
DeviceNet	✔, optional via external connection module (CDM + CMF)		–
PS/2	✔		–
Function	Keyboard wedge		–
USB	✔		–
Function	Keyboard wedge, COM-Port emulation		–
Bluetooth		✔	–
Function	–	Wireless operating range up to 100 m (free view), batch function for expansion of the wireless radius, up to seven scanners communicate with one base station	–
Protocol	–	Bluetooth™ V4.0, 2.402 ... 2.4830 GHz	–
WIFI			✔
Protocol	–		IEEE 802.11 b/g
Encryption (WLAN)	–		WEP, WPA, WPA2
Optical indicators	2 LEDs (operational status, good read)	2 LEDs (good read, charge of battery, radio connection status)	2 LEDs (color-display)
Acoustic indicators	Beeper, disengageable		
Vibration	No		
Configuration software	IDM Setup Tool		IDM WLAN setup tool

Mechanics/electronics

	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI
Operating voltage	5 V DC, ± 10 %	3.7 V DC [1]	
Current consumption	Operation: typ. 180 mA Standby: typ. 80 mA		Operation: typ. 495 mA Standby: typ. 195 mA
Housing color	Black/gray		
Enclosure rating	IP 41		
Weight	157 g, without cable	230 g, incl. rechargeable battery	211 g, incl. rechargeable battery
Dimensions	98 mm x 71 mm x 157 mm	97.8 mm x 70.5 mm x 156.2 mm	95 mm x 70.5 mm x 160.5 mm

[1] Rechargeable battery operation.

Ambient data

	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI
Shock resistance	24 drops from 1.8 m height on concrete		50 drops from 1.8 m height on concrete
Ambient operating temperature	–10 °C ... +50 °C		
Storage temperature	–40 °C ... +70 °C		
Permissible relative humidity	± 95 %, non-condensing		
Ambient light safety	100,000 lx		

General notes

	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI
Items supplied	–	The battery is included in delivery	

Ordering information

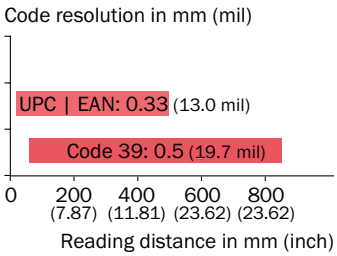
- **Field of application:** General Purpose
- **Version:** Standard Range

Sub product family	Items supplied	Supported code type	Included in delivery	Type	Part no.
IDM140 Corded	Single scanner	1D	–	IDM140-300S	6054538
		1D, Stacked	–	IDM140-310S	6054541
	Kit	1D	6041540 Connection cable 6054538 IDM140-300S	IDM140-300S RS-232 Kit	6054540
			6041540 Connection cable 6054538 IDM140-300S 6036722 Power supply unit	IDM140-300S RS-232 Power Kit	1070948
			6036728 Connection cable 6054538 IDM140-300S	IDM140-300S USB Kit	6054539
IDM141 Blue-tooth	Single scanner	1D	–	IDM141-300S	6054550
		1D, Stacked	–	IDM141-310S	6054553
	Kit	1D	6041540 Connection cable 6053628 Base station 6054550 IDM141-300S 6036722 Power supply unit	IDM141-300S RS-232 Kit	6054552
			6036728 Connection cable 6053628 Base station 6054550 IDM141-300S 6036722 Power supply unit	IDM141-300S USB Kit	6054551
		1D, Stacked	6053628 Base station 6054553 IDM141-310S 6036722 Power supply unit	IDM141-310S Basic Kit	6054792

Sub product family	Items supplied	Supported code type	Included in delivery	Type	Part no.
IDM142 WIFI	Single scanner	1D	–	IDM142-300S	6054562
		1D, Stacked	–	IDM142-310S	6054564
	Kit	1D	6036728 Connection cable 6054562 IDM142-300S 6041266 Charging station 6036722 Power supply unit	IDM142-300S USB Kit	6054563
		1D, Stacked	6036728 Connection cable 6054564 IDM142-310S 6041266 Charging station 6036722 Power supply unit	IDM142-310S USB Kit	6054565

Reading field diagrams

IDM14x-3xxS Standard Range
IDM16x-3xxS Standard Range



Recommended accessories

Mounting systems

Other mounting accessories

	Brief description	Type	Part no.
	Desk holder	Table mount	6036723
	Tripod mount	Tripod mount	6036724

Connection systems

Plug connectors and cables

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	Connection cable	6036728

Power supply units and power cord connectors

	Brief description	Type	Part no.
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722

More accessories can be found ➜ K-290

INDUSTRIAL MOBILE RELIABILITY

Product description

The IDM16x offers high performance barcode reading with its rugged, industrial, and ergonomic housing. The IP 65 enclosure rating ensures protection against dust and water jets. It can withstand 50 drops from 2 m on concrete. Its ergonomic design and low weight as well as quick integration in common industrial networks guarantee maximum user comfort. Thanks to Bluetooth and WLAN version, flexibility and mobility is guaranteed. The IDM16x series is the ideal choice to increase productivity within industrial factory and logistics automation applications.

At a glance

- Identification of all popular 1D codes, with PDF version also stacked codes
- Compact housing with up to IP 65 withstanding 50 drops from 2 m on concrete
- Good read feedback via LED, beeper and vibrator
- Supports all popular corded and cordless interfaces as well as industrial fieldbuses via SICK connectivity
- Tool-free exchange of cable and battery
- Corded and cordless versions available

Your benefits

- Increased productivity and throughput thanks to fast and reliable identification
- Reduced costs thanks to 2-in-1 scan engine: covering standard and high-density codes with a single device
- High reliability thanks to industrial grade and rugged housing
- Intuitive good read feedback for noisy industrial environment via vibration, beeper and LED
- Higher user comfort through ergonomic housing design, well balanced and light weight
- High flexibility and operator mobility with corded and cordless versions
- Quick integration in most corded and cordless PC or industrial networks

Additional information

➜ www.mysick.com/en/IDM16x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

Scanner design	1D code hand-held scanner
Light source	Visible red light (630 nm)
Scanning frequency	≤ 500 Hz
Code resolution	≥ 0.076 mm
Reading distance	20 mm ... 850 mm [1]

[1] For details see reading field diagram.

Performance

	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
Bar code types	Codabar, Code 39, Code 32, UPC-A, UPC-E, Standard and Industrial 2 of 5, Interleaved & Matrix 2 of 5, Code 128, UCC/EAN-128, Code 11, Code 93, German ITF Postal Code, Mainland China Postal Code, Telepen, MSI/Plessey, UK/Plessey, Limited/Expanded GS1 DataBar, Code 39 Trioptic, IATA, UPC / EAN / JAN (with addition)		
Stacked code types	PDF417, MicroPDF417, Composite, Codablock (depending on type)		
Battery power	–	Over 60,000 scans with full battery	Over 20,000 scans with full battery
Code buffer	–	80,000 Codes (EAN)	–

Interfaces

	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
Serial	✔		–
Function	RS-232 TTL		–
Ethernet	✔, optional via external connection or fieldbus module		–
Protocol	TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module-CDF600-2), EtherCAT® (optional via external connection module CDF600)		–
PROFIBUS DP	✔, optional via external connection module (CDF600-2)		–
DeviceNet	✔, optional via external connection module (CDM + CMF)		–
PS/2	✔		–
Function	Keyboard wedge		–
USB	✔		–
Function	Keyboard wedge, COM-Port emulation		–
Bluetooth		✔	–
Function	–	Wireless operating range up to 100 m (free view), batch function for expansion of the wireless radius, up to seven scanners communicate with one base station	–
Protocol	–	Bluetooth™ V4.0, 2.402 ... 2.4830 GHz	–
WIFI			✔
Protocol	–		IEEE 802.11 b/g
Optical indicators	2 LEDs (operational status, good read)	2 LEDs (good read, charge of battery, radio connection status)	2 LEDs (color-display)
Acoustic indicators	Beeper, disengageable		
Vibration	Yes		
Configuration software	IDM Setup Tool		IDM WLAN setup tool

Mechanics/electronics

	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
Operating voltage	5 V DC, ± 10 %	3.7 V DC [1]	
Current consumption	Operation (vibration activated): typ. 230 mA Operation (vibration deactivated): typ. 180 mA Standby: typ. 80 mA		Operation: typ. 495 mA Standby: typ. 195 mA
Housing color	Blue, gray		
Enclosure rating	IP 65		IP 64
Weight	208 g, without cable	220 g, incl. rechargeable battery	
Dimensions	104 mm x 76.3 mm x 176 mm		

[1] Rechargeable battery operation.

Ambient data

	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
Shock resistance	50 drops from 2 m height on concrete		
Ambient operating temperature	–20 °C ... +50 °C		
Storage temperature	–40 °C ... +70 °C		
Permissible relative humidity	± 95 %, non-condensing		
Ambient light safety	100,000 lx		

General notes

	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
Items supplied	–	The battery is included in delivery	

Ordering information

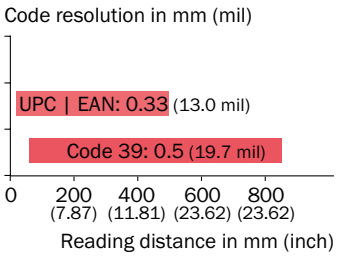
- **Field of application:** Industrial
- **Version:** Standard Range

Sub product family	Items supplied	Supported code type	Included in delivery	Type	Part no.
IDM160 Corded	Single scanner	1D	–	IDM160-300S	6054544
		1D, Stacked	–	IDM160-310S	6054547
	Kit	1D	6045196 Connection cable 6054544 IDM160-300S	IDM160-300S RS-232 Kit	6054546
			6045196 Connection cable 6054544 IDM160-300S 6036722 Power supply unit	IDM160-300S RS-232 Power Kit	1070949
			6045195 Connection cable 6054544 IDM160-300S	IDM160-300S USB Kit	6054545
IDM161 Blue-tooth	Single scanner	1D	–	IDM161-300S	6054556
		1D, Stacked	–	IDM161-310S	6054559
	Kit	1D	6041540 Connection cable 6053629 Base station 6054556 IDM161-300S 6036722 Power supply unit	IDM161-300S RS-232 Kit	6054558
			6036728 Connection cable 6053629 Base station 6054556 IDM161-300S 6036722 Power supply unit	IDM161-300S USB Kit	6054557
		1D, Stacked	6053629 Base station 6054559 IDM161-310S 6036722 Power supply unit	IDM161-310S Basic Kit	6054793

Sub product family	Items supplied	Supported code type	Included in delivery	Type	Part no.
IDM162 WIFI	Single scanner	1D	–	IDM162-300S	6054566
		1D, Stacked	–	IDM162-310S	6054568
	Kit	1D	6036728 Connection cable 6054566 IDM162-300S 6045198 Charging station 6036722 Power supply unit	IDM162-300S USB Kit	6054567
		1D, Stacked	6036728 Connection cable 6054568 IDM162-310S 6045198 Charging station 6036722 Power supply unit	IDM162-310S USB Kit	6054569

Reading field diagrams

IDM14x-3xxS Standard Range
IDM16x-3xxS Standard Range



Recommended accessories

Mounting systems

Other mounting accessories

	Brief description	Type	Part no.	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Desk holder	Table mount	6045192	●	●	●
	Tripod mount	Tripod mount	6045193	●	●	●

Connection systems

Plug connectors and cables

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for key-board wedge or USB Com Port Emulation	1.8 m	Connection cable	6045195	●	–	–
					Connection cable	6036728	–	●	●

Power supply units and power cord connectors

	Brief description	Type	Part no.	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722	●	●	●

More accessories can be found ➜ K-290

CONVENIENT AND SECURE IDENTIFICATION OF 2D CODES

Product description

The IDM24x hand-held scanner securely and reliably identifies two-dimensional codes, and all current linear and stacked bar codes. An innovative, miniaturized matrix camera enables fast and secure code identification, no matter what orientation the code is in. Thanks to its extremely light, ergonomic design, it is easy to hold and enables comfortable triggering. In presentation mode, the scanner automatically identifies codes that are held in front of it and starts reading. With corded and cordless variants available, you are bound to find the ideal solution for any application. The combination of fast and reliable identification of 1D and 2D codes, ergonomic design, and simple operation provides ideal conditions for daily use in an extremely wide range of non-industrial fields of application.

At a glance

- Identification of all current 1D, stacked, and 2D codes
- Reliable, secure, and fast code reading
- Compact design, weighs only 150 g
- Manual operation and hands-free operation in presentation mode
- Corded and cordless variants available

Your benefits

- Only one device for a wide range of different code types
- Fast and accurate identification without manual data entry
- Simple and ergonomic operation, even in scanning-intensive applications
- Flexible application possibilities due to various operating options
- Cordless variant ensures mobility in all applications

Additional information

➜ www.mysick.com/en/IDM24x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Scanner design	2D code hand-held scanner
Light source	Lighting LEDs: visible red light (630 nm)
Scanning frequency	60 Hz
Code resolution	
Standard Range	≥ 0.08 mm [1] ≥ 0.18 mm [2]
High Density	≥ 0.08 mm [1] ≥ 0.13 mm [2]
Reading distance	30 mm ... 380 mm [3] (depending on type)

[1] Valid for Code 39.
[2] Valid for Data Matrix code.
[3] For details see reading field diagram.

Performance

	IDM240 Corded	IDM241 Bluetooth
Bar code types	Codabar, Code 39, Interleaved 2 of 5, Code 93, Code 128, UPC / GTIN / EAN, RSS, Australian Post, China Post, German Post, US Planet, US Postnet, British Post, Intelligent Mail, Japan Post, Korean Post, Dutch KIX Post	
2D code types	Data Matrix, QR code, MicroQR-Code, Aztec, MaxiCode	
Stacked code types	PDF417, MicroPDF417, Code 49, Code 16K, Composite, Codablock	
Battery power	–	Over 60,000 scans with full battery
Code buffer	–	5,000 Codes (EAN, for scanning in batch mode), 100,000 Codes (EAN, for out of range scanning)

Interfaces

	IDM240 Corded	IDM241 Bluetooth
Serial	✔	
Function	RS-232 TTL	
Ethernet	✔, optional via external connection or fieldbus module	
Protocol	TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)	
PROFIBUS DP	✔, optional via external connection module (CDF600-2)	
DeviceNet	✔, optional via external connection module (CDM + CMF)	
PS/2	✔	
Function	Keyboard wedge	
USB	✔	
Function	Keyboard wedge, COM-Port emulation	
Bluetooth		✔
Function	–	Wireless operating range up to 100 m (free view), batch function for expansion of the wireless radius, up to seven scanners communicate with one base station
Protocol	–	Bluetooth™ V4.0, 2.402 ... 2.4830 GHz
Optical indicators	2 LEDs (operational status, good read)	2 LEDs (good read, charge of battery, radio connection status)
Acoustic indicators	Beeper, disengageable	
Vibration	No	
Configuration software	IDM Setup Tool	

Mechanics/electronics

	IDM240 Corded	IDM241 Bluetooth
Operating voltage	5 V DC, ± 10 %	
Current consumption	Operation: typ. 350 mA Standby: typ. 180 mA	Operation: typ. 750 mA Standby: typ. 175 mA
Housing color	Black, gray	
Enclosure rating	IP 41	
Weight	152 g, without cable	230 g, without cable
Dimensions	95 mm x 70.5 mm x 161.7 mm	

Ambient data

Shock resistance	24 drops from 1.8 m height on concrete
Ambient operating temperature	–10 °C ... +50 °C
Storage temperature	–40 °C ... +70 °C
Permissible relative humidity	95 %, non-condensing
Ambient light safety	100,000 lx

General notes

	IDM240 Corded	IDM241 Bluetooth
Items supplied	–	The battery is included in delivery

Ordering information

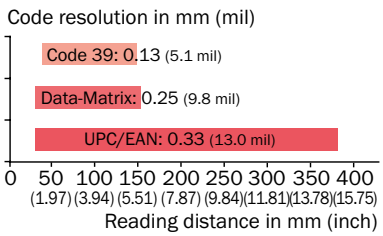
- **Field of application:** General Purpose
- **Supported code type:** 1D, 2D, Stacked

Sub product family	Items supplied	Version	Included in delivery	Type	Part no.
IDM240 Corded	Single scanner	Standard Range	–	IDM240-100S	6050643
		High Density	–	IDM240-100H	6050646
	Kit	Standard Range	6050643 IDM240-100S 6036728 Connection cable	IDM240-100S USB Kit	6050644
			6050643 IDM240-100S 6041540 Connection cable	IDM240-100S RS-232 Kit	6050645
			6050643 IDM240-100S 6041540 Connection cable 6036722 Power supply unit	IDM240-100S RS-232 Power Kit	1064986
		High Density	6036728 Connection cable 6050646 IDM240-100H	IDM240-100H USB Kit	6050647
			6041540 Connection cable 6050646 IDM240-100H	IDM240-100H RS-232 Kit	6050648
			6041540 Connection cable 6050646 IDM240-100H 6036722 Power supply unit	IDM240-100H RS-232 Power Kit	1064984

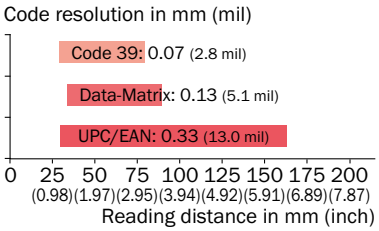
Sub product family	Items supplied	Version	Included in delivery	Type	Part no.
IDM241 Blue-tooth	Single scanner	Standard Range	–	IDM241-100S	6053048
		High Density	–	IDM241-100H	6053051
	Kit	Standard Range	6053048 IDM241-100S 6036728 Connection cable 6053628 Base station 6036722 Power supply unit	IDM241-100S USB Kit	6053049
			6053048 IDM241-100S 6041540 Connection cable 6053628 Base station 6036722 Power supply unit	IDM241-100S RS-232 Kit	6053050
		High Density	6053051 IDM241-100H 6036728 Connection cable 6053628 Base station 6036722 Power supply unit	IDM241-100H USB Kit	6053052
			6053051 IDM241-100H 6041540 Connection cable 6053628 Base station 6036722 Power supply unit	IDM241-100H RS-232 Kit	6053053

Reading field diagrams

IDM2xx-xxxS Standard Range



IDM2xx-xxxH High Density



Recommended accessories

Mounting systems

Other mounting accessories

	Brief description	Type	Part no.
	Desk holder	Table mount	6045192
	Tripod mount	Tripod mount	6036724

Connection systems

Plug connectors and cables

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	Connection cable	6036728

Power supply units and power cord connectors

	Brief description	Type	Part no.
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722

More accessories can be found ➜ K-293

RELIABLE 2D CODE IDENTIFICATION IN HARSH ENVIRONMENTS

Product description

The IDM260x hand-held scanner securely and reliably identifies two-dimensional codes, and all popular linear, stacked or DPM codes. Thanks to its rugged, IP 65-protected housing, the hand-held scanner is able to withstand adverse environmental conditions. Nevertheless, it is light, easy to hold, and can be used simply and intuitively due to its triple read indicator LED, beeper, and vibration. The cordless variants ensure flexibility and mobility. For integration in industrial fieldbuses, e.g., PROFIBUS or PROFINET, SICK connection modules can be used. The combination of reliable code reading, rugged design, and SICK connectors enables use in an extremely wide range of industrial fields of application.

At a glance

- Identification of all current 1D, stacked, and 2D codes
- Reliable, secure, and fast code reading
- Rugged, stable housing with IP 65 enclosure rating
- Supports all common corded and cordless interfaces as well as industrial fieldbuses via SICK connectivity
- Good read feedback via LED, beeper, and vibration
- Decoding algorithms ideal for direct part marked codes (depending on type)

Your benefits

- Only one device for a wide range of different code types
- Fast and accurate identification without manual data entry
- Highly reliable thanks to industrial enclosure rating and rugged housing
- Simple and flexible integration in industrial fieldbus networks using SICK connectors
- Simple, intuitive operation thanks to multiple read confirmation
- Direct expert advice all over the world from the SICK sales and service network
- Low contrast or highly reflective DPM codes are identified reliably

Additional information

➜ www.mysick.com/en/IDM26x

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Scanner design	2D code hand-held scanner / 2D DPM hand-held scanner (depending on type)
Light source	Lighting LEDs: visible red light (630 nm) Aiming laser: visible red light (630 nm)
Scanning frequency	60 Hz
Code resolution	
Standard Range	≥ 0.08 mm [1] ≥ 0.18 mm [2]
High Density	≥ 0.08 mm [1] ≥ 0.13 mm [2]
High Density DPM	≥ 0.08 mm [1] ≥ 0.13 mm [2]
Reading distance	30 mm ... 380 mm [3] (depending on type)

[1] Valid for Code 39.
[2] Valid for Data Matrix code.
[3] For details see reading field diagram.

Performance

	IDM260 Corded	IDM261 Bluetooth
Bar code types	Code 39, Code 39 Trioptic, Code 32, Code 93, Code 11, Codabar, Code 128, GS1-128 / EAN 128, UPC / EAN / JAN (with addition), MSI/Plessey, UK/Plessey, IATA, Interleaved 2 of 5, Standard and Industrial 2 of 5, Matrix 2 of 5, Telepen, GS1 DataBar, Australian Post, China Post, German Post, US Planet, US Postnet, British Post, Intelligent Mail, Japan Post, Korean Post, Dutch KIX Post	
2D code types	Data Matrix, QR code, MicroQR-Code, Aztec, MaxiCode	
Stacked code types	PDF417, MicroPDF417, Code 49, Code 16K, Composite, Codablock	
Battery power	–	Over 60,000 scans with full battery
Code buffer	–	5,000 Codes (EAN, for scanning in batch mode), 100,000 Codes (EAN, for out of range scanning)

Interfaces

	IDM260 Corded	IDM261 Bluetooth
Serial	✔	
Function	RS-232 TTL	
Ethernet	✔, optional via external connection or fieldbus module	
Protocol	TCP/IP (optional via external connection module CDM + CMF), PROFINET (optional via external connection module CDF600-2), EtherCAT® (optional via external connection module CDF600)	
PROFIBUS DP	✔, optional via external connection module (CDF600-2)	
DeviceNet	✔, optional via external connection module (CDM + CMF)	
PS/2	✔	
Function	Keyboard wedge	
USB	✔	
Function	Keyboard wedge, COM-Port emulation	
Bluetooth		✔
Function	–	Wireless operating range up to 100 m (free view), batch function for expansion of the wireless radius, up to seven scanners communicate with one base station
Protocol	–	Bluetooth™ V4.0, 2.402 ... 2.4830 GHz

	IDM260 Corded	IDM261 Bluetooth
Optical indicators	2 LEDs (operational status, good read)	2 LEDs (good read, charge of battery, radio connection status)
Acoustic indicators	Beeper, disengageable	
Vibration	Yes	
Configuration software	IDM Setup Tool	

Mechanics/electronics

	IDM260 Corded	IDM261 Bluetooth
Operating voltage	5 V DC, ± 10 %	
Current consumption	Operation (vibration deactivated): ≤ 350 mA Operation (vibration activated): ≤ 385 mA Standby: ≤ 180 mA	Operation (vibration deactivated): ≤ 750 mA Standby: ≤ 175 mA
Housing color	Blue, gray	
Enclosure rating	IP 65	
Weight	208 g, without cable	220 g, without cable
Dimensions	104 mm x 76.3 mm x 176 mm	

Ambient data

Shock resistance	50 drops from 2 m height on concrete
Ambient operating temperature	–20 °C ... +50 °C
Storage temperature	–40 °C ... +70 °C
Permissible relative humidity	95 %, non-condensing
Ambient light safety	100,000 lx

General notes

	IDM260 Corded	IDM261 Bluetooth
Items supplied	–	The battery is included in delivery

Ordering information

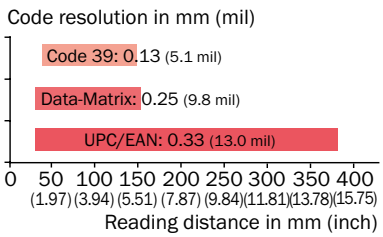
- **Field of application:** Industrial

Sub product family	Items supplied	Supported code type	Version	Included in delivery	Type	Part no.
IDM260 Corded	Single scanner	1D, 2D, Stacked	Standard Range	–	IDM260-100S	6050652
			High Density	–	IDM260-100H	6050655
		1D, 2D, Stacked, DPM	High Density DPM	–	IDM260-120H	1068862
	Kit	1D, 2D, Stacked	Standard Range	6050652 IDM260-100S 6045195 Connection cable	IDM260-100S USB Kit	6050653
				6050652 IDM260-100S 6045196 Connection cable	IDM260-100S RS-232 Kit	6050654
				6050652 IDM260-100S 6045196 Connection cable 6036722 Power supply unit	IDM260-100S RS-232 Power Kit	1064990
			High Density	6050655 IDM260-100H 6045195 Connection cable	IDM260-100H USB Kit	6050656
				6050655 IDM260-100H 6045196 Connection cable	IDM260-100H RS-232 Kit	6050657
				6050655 IDM260-100H 6045196 Connection cable 6036722 Power supply unit	IDM260-100H RS-232 Power Kit	1064988

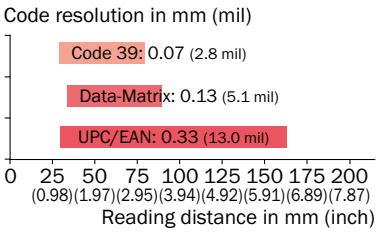
Sub product family	Items supplied	Supported code type	Version	Included in delivery	Type	Part no.
IDM261 Bluetooth	Single scanner	1D, 2D, Stacked	Standard Range	–	IDM261-100S	6053054
			High Density	–	IDM261-100H	6053057
		1D, 2D, Stacked, DPM	High Density DPM	–	IDM261-120H	1070925
	Kit	1D, 2D, Stacked	Standard Range	6053054 IDM261-100S 6036728 Connection cable 6053629 Base station 6036722 Power supply unit	IDM261-100S USB Kit	6053055
				6053054 IDM261-100S 6041540 Connection cable 6053629 Base station 6036722 Power supply unit	IDM261-100S RS-232 Kit	6053056
			High Density	6053057 IDM261-100H 6036728 Connection cable 6053629 Base station 6036722 Power supply unit	IDM261-100H USB Kit	6053058
				6053057 IDM261-100H 6041540 Connection cable 6053629 Base station 6036722 Power supply unit	IDM261-100H RS-232 Kit	6053059
		1D, 2D, Stacked, DPM	High Density DPM	6053629 Base station 1070925 IDM261-120H 6036722 Power supply unit	IDM261-120H Basic Kit	1070926

Reading field diagrams

IDM2xx-xxxS Standard Range



IDM2xx-xxxH High Density



Recommended accessories

Mounting systems

Other mounting accessories

	Brief description	Type	Part no.	IDM260 Corded	IDM261 Bluetooth
	Desk holder	Table mount	6045192	●	●
	Tripod mount	Tripod mount	6045193	●	●

Connection systems

Plug connectors and cables

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.	IDM260 Corded	IDM261 Bluetooth
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for key-board wedge or USB Com Port Emulation	1.8 m	Connection cable	6045195	●	–
					Connection cable	6036728	–	●

Power supply units and power cord connectors

	Brief description	Type	Part no.	IDM260 Corded	IDM261 Bluetooth
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	Power supply unit	6036722	●	●

More accessories can be found ➜ K-293

CONNECTIVITY

SICK connects – complete connectivity from a single source

SICK provides connection devices that easily connect to other devices in your machine, regardless of the selected automatic identification technology. These devices enable easy integration of fieldbus gateways into the modular connection boxes, making it possible to incorporate the scanner, camera or RFID systems into different fieldbus technologies. A fieldbus proxy, external parameter memory, display, and power modules provide a high degree of application flexibility.

Your benefits

- Maximum level of flexibility
- Easy to integrate into industrial machines, even in tight spaces
- Connects to numerous fieldbus technologies, providing increased flexibility
- Integrated connection diagrams simplify mounting
- Adaptable for the future
- Easy access to the connection module, allowing the device to be “embedded” in the machine

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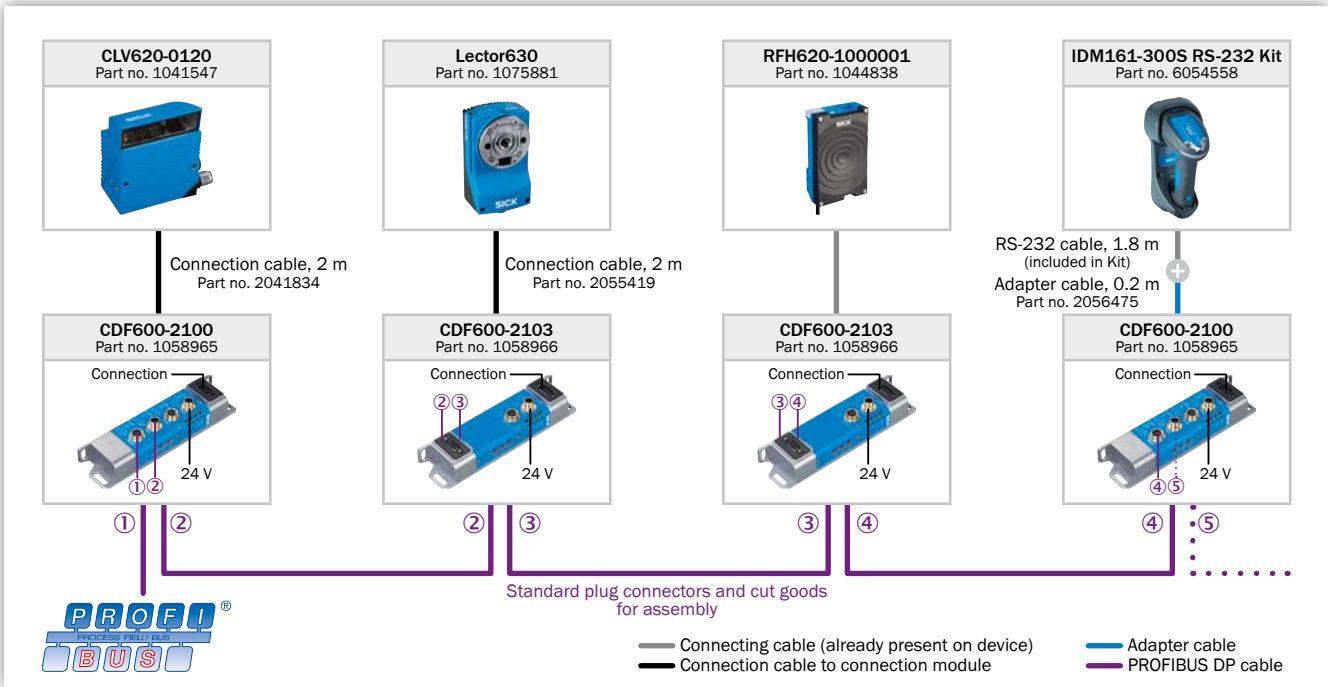
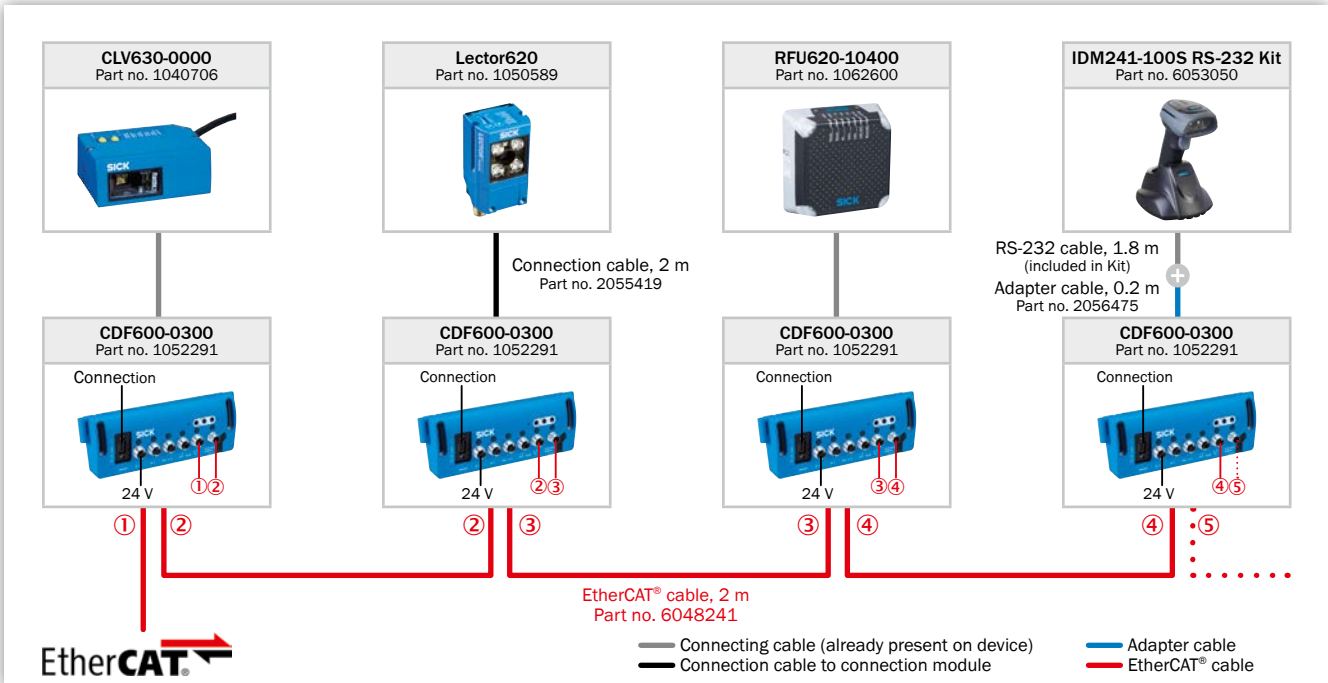
MODULAR CONNECTORS ALL FROM A SINGLE SOURCE

The ability to network sensors is becoming particularly important in the light of demands for cost-effective solutions. SICK has the tools to stand up to this challenge: Through the 4D*pro* platform, it offers a product portfolio that is perfect for fieldbus systems. It gives you the freedom to select the identification and vision technology you require, and enables flexible integration into numerous fieldbus technologies with very little cabling work. The function blocks, available free of charge, keep the amount of work required for integration and programming in the PLC to a minimum. The graphics below show examples of how 4D*pro* sensors can be integrated.

PROFIBUS DP



EtherCAT®



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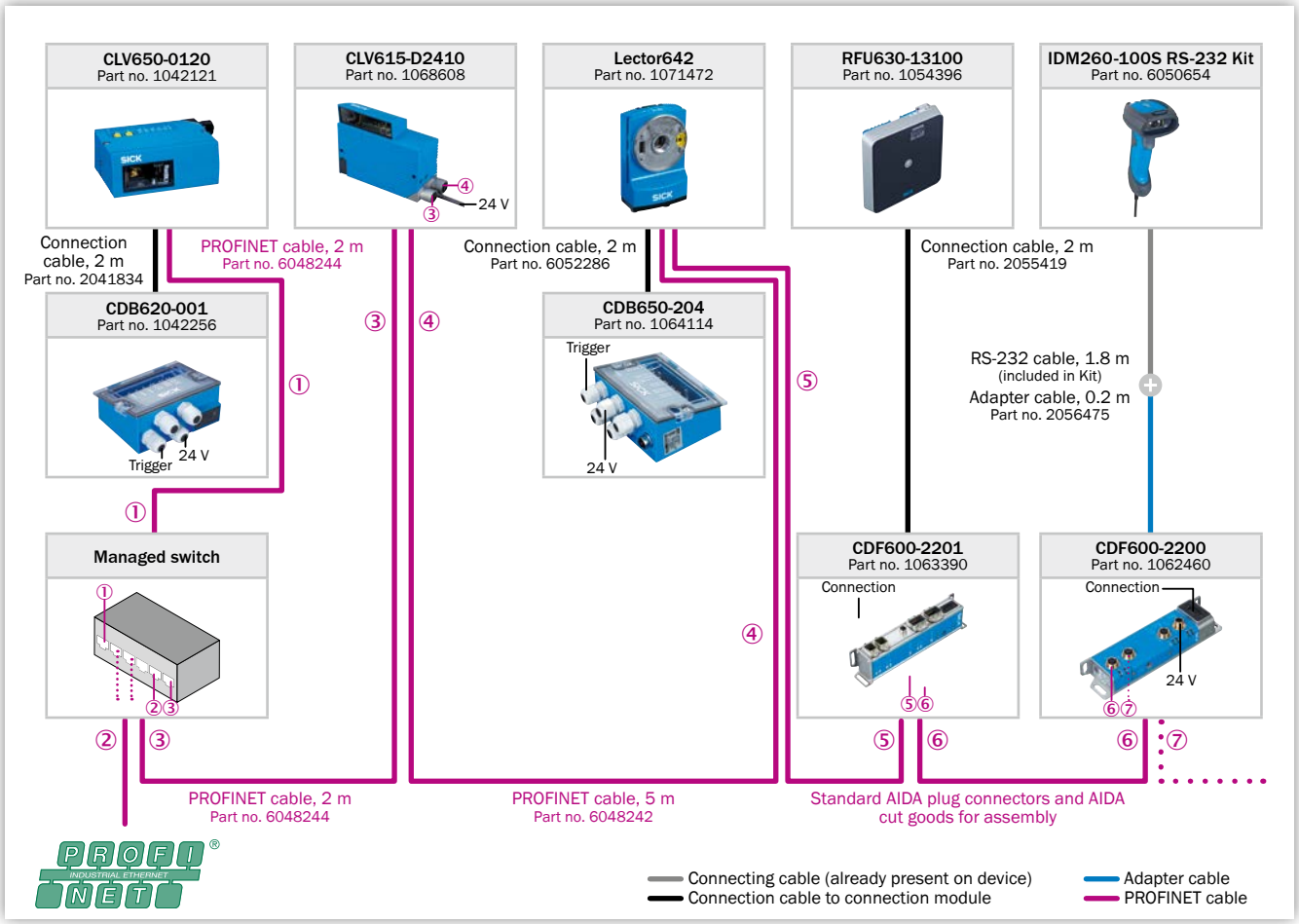
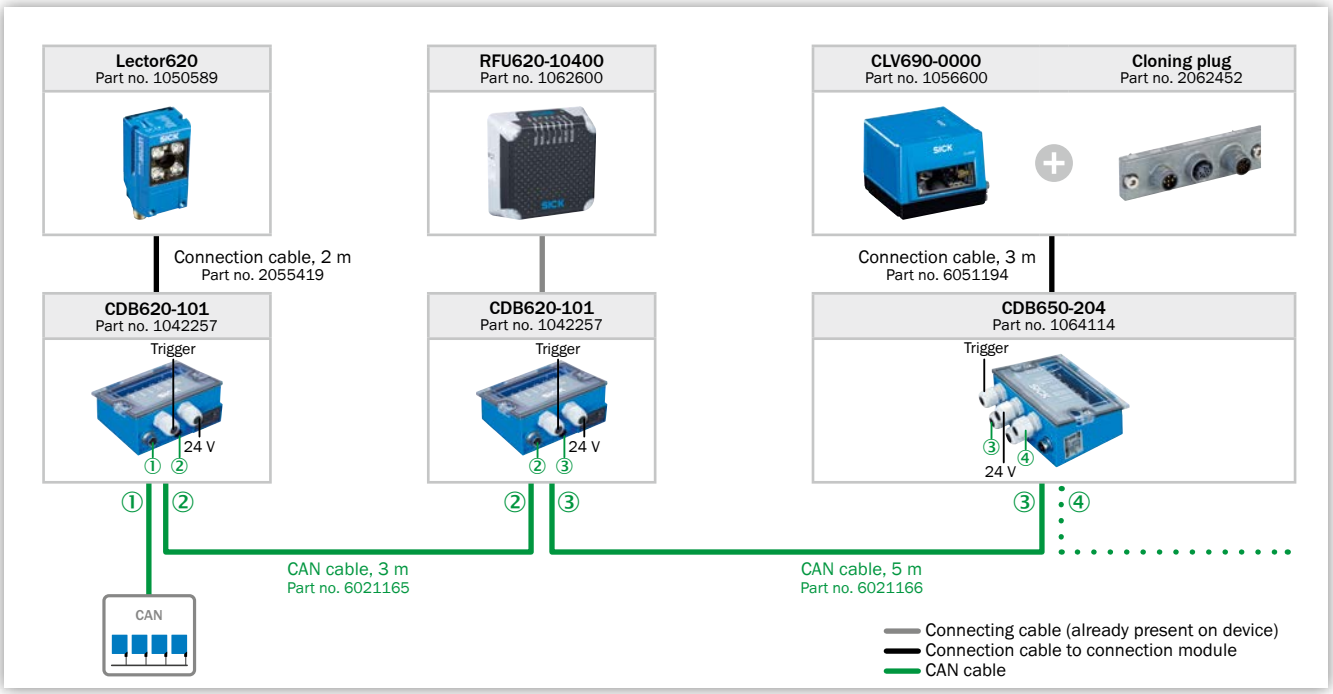
PROFINET



SICK CAN sensor network



PRODUCT FAMILY OVERVIEW

			
	CDB	**CDM**	
	Simplifies 4D*pro* sensor commissioning	Commissioning sensors the easy way – for more flexibility	
Technical data overview			
Supported products	Lector® series ICR80x CLV6 series RFH6xx RFU62x RFU63x Hand-held scanners	Lector® series CLV6 series RFH6xx RFU62x RFU63x Hand-held scanners LMS400	
Cloning module support (CMC)	No / yes	Yes	
Supports display module (CMD)	No	Yes / no	
Supports power supply module (CMP)	No	Yes	
Supports fieldbus gateway (CMF)	No	Yes (PROFIBUS DP, Ethernet, DeviceNet) / No	
Serial (RS-232, RS-422/485)	✔ , depending on sensor connected	✔ , depending on sensor connected	
Ethernet	–	✔, depending on Sensor connected; corresponding CMF fieldbus gateway additionally necessary / –	
CAN bus	– / ✔, depending on sensor connected	✔ , depending on sensor connected	
PROFIBUS DP	–	✔, corresponding CMF fieldbus gateway additionally necessary / –	
At a glance			
	• Connection module for one 4D*pro* sensor • Clearly visible, easily accessible screw- and spring-loaded terminals • Connection diagram on the inside of the lid • Configuration with switches • IP 65 connection for one 4D*pro* sensor using standard connection cable • Basis for CMC600 parameter cloning module • Service plug for direct access to the AUX interface	• Efficient solution to power and connect to SICK's Auto-ID component portfolio • Slots for optional fieldbus modules, parameter memory, display and power supply module • Simple voltage supply of scanner • IP 65 connection of a scanner using SICK standard cable • Direct access to the service interface of the sensor • Connection diagram integrated in lid • Clearly visible and easily accessible screw/ spring-loaded terminals	
Detailed information	➜ J-232	➜ J-236	

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	CDF600-2	**CDF600**
	Simply easy to connect	Easy EtherCAT® connection
	Lector® series CLV6 series RFH6xx RFU62x RFU63x Hand-held scanners	Lector62x CLV61x - CLV65x RFH6xx RFU62x Hand-held scanners
	Integrated	Integrated
	No	No
	No	No
	Integrated (PROFIBUS DP) / Integrated (PROFINET)	Integrated (EtherCAT®)
	✔ (RS-232)	✔ (RS-232)
	– / ✔	✔
	✔, depending on sensor connected / –	✔ , depending on sensor connected
	✔ / –	–
	• Flexible mounting on all standard profiles • Flexible fieldbus connection for PROFIBUS DP and PROFINET (depending on type) • Code switch for setting node address and operating mode (depending on type) • LEDs for status and diagnostics • Plug-in electrical connections • Integrated configuration memory for connected sensors • Compact and flexible	• Simple mounting saves time on installation, commissioning, and provides flexibility for different application environments • All electrical connections are pluggable • Integrated parameter storage • 6 LEDs for status and error display • Integrated CAN interface
	➜ J-240	➜ J-246

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SIMPLIFIES 4D*PRO* SENSOR COMMISSIONING

Product description

The proven Connection Device Basic (CDB) offers a wide range of options for quickly connecting one 4D*pro* sensor – via SICK CAN sensor network, host PCs or PLCs – in accordance with industrial standards. Both the sensor and the connection module meet all IP 65 enclosure rating requirements for dust and water spray protection. In addition, the CDB can connect to a CMC600 parameter cloning module. It can be installed in the provided slot and stores all of the connected 4D*pro* sensor's parameters. When exchanging a sensor, all application-specific parameters are thus copied into the new 4D*pro* sensor of the same type.

At a glance

- Connection module for one 4D*pro* sensor
- Clearly visible, easily accessible screw- and spring-loaded terminals
- Connection diagram on the inside of the lid
- Configuration with switches
- IP 65 connection for one 4D*pro* sensor using standard connection cable
- Basis for CMC600 parameter cloning module
- Service plug for direct access to the AUX interface

Your benefits

- Compact design fits into small spaces
- Two mounting holes for fast, precise installation saves on installation costs
- Clearly labeled, easily accessible screw- and spring-loaded terminals save time when connecting to peripherals
- Quick, easy configuration with switches reduces installation time
- Industrial-standard connection guarantees a reliable application solution
- CMC600 parameter cloning module allows rapid exchange and replacement of connected sensors

Additional information

J

→ www.mysick.com/en/CDB

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8012017/2015-09-16
Subject to change without notice

Detailed technical data

Features

	CDB405	CDB620	CDB650
Supported products	ICR80x Hand-held scanners	Lector62x CLV61x - CLV65x RFH6xx RFU62x	Lector® series CLV62x - CLV64x (depending on type) CLV69x RFH63x RFU62x RFU63x
Cloning module support (CMC)	No	Yes	
Supports display module (CMD)	No		
Supports power supply module (CMP)	No		
Supports fieldbus gateway (CMF)	No		

Interfaces

	CDB405	CDB620	CDB650
Serial (RS-232, RS-422/485)	✔, depending on sensor connected		
CAN bus	–	✔, depending on sensor connected	
Switching inputs	Depending on sensor connected		
Switching outputs	Depending on sensor connected		
Optical indicators	6 LED	9 LED	11 LEDs
Configuration software	SOPAS ET		

Mechanics/electronics

	CDB405	CDB620	CDB650
Operating voltage [1]	18 V DC ... 30 V DC	10 V DC ... 30 V DC	
Power consumption	4 W	1 W	
Housing	Polycarbonat		
Housing color	Blue (RAL 5012)		
Enclosure rating	IP 65		
Protection class	III		
Weight	250 g	260 g	265 g
Dimensions (L x W x H)	124.2 mm x 113.1 mm x 53.9 mm		
Scanner connection	15-pin D-Sub HD socket		17-pin M12 socket, A-coded
Service plug	9-pin D-Sub plug (internal)		

[1] Supply voltage of the connected scanner + 1 V.

Ambient data

	CDB405	CDB620	CDB650
Ambient operating temperature	0 °C ... +40 °C	–35 °C ... +40 °C	–40 °C ... +50 °C
Storage temperature	–20 °C ... +70 °C	–35 °C ... +70 °C	–30 °C ... +75 °C
Permissible relative humidity	≤ 90 %, Non-condensing		

Ordering information

Sub product family	Brief description	Type	Part no.
CDB405	Small connection module for 5-V hand-held scanners and ICR80x	CDB405-001	1027093
CDB620	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256
	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/ socket for CAN, base for CMC600	CDB620-101	1042257
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258
CDB650	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR®65x	CDB650-204	1064114

Recommended accessories

Connection systems

Modules and gateways

	Brief description	Type	Part no.	CDB405	CDB620	CDB650
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259	–	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2042914	–	●	–
		Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2055420	–	●	–
		Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	3 m	6051194	–	–	●
	Serial	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	2014054	●	●	●

More accessories can be found ➜ K-296

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COMMISSIONING SENSORS THE EASY WAY – FOR MORE FLEXIBILITY

Product description

The CDM offers a modular design, ensuring fast connection of a SICK 1D/2D code reader or RFID interrogator to a SICK CAN scanner network, a host computer or a PLC. The CDM supports scanners from the CLV6xx, Lector® series, RFH6xx, RFU6xx, IDM1xx, IDM2xx families as well as the LMS4xx laser scanners. The CDM is rated IP 65. The CDM offers free plug-in slots for additional modules, such as power supply, display or fieldbus gateways (depending on type). The CMC600 Connection Module Cloning unit stores all the parameter values of the connected scanner. The values are automatically copied to a new device if a scanner requires replacement.

At a glance

- Efficient solution to power and connect to SICK's Auto-ID component portfolio
- Slots for optional fieldbus modules, parameter memory, display and power supply module
- Simple voltage supply of scanner
- IP 65 connection of a scanner using SICK standard cable
- Direct access to the service interface of the sensor
- Connection diagram integrated in lid
- Clearly visible and easily accessible screw/spring-loaded terminals

Your benefits

- Easy connection of the sensor to fieldbus systems
- Fast exchange of the sensor through parameter memory CMC
- Fast installation and easy networking save time
- Simple troubleshooting
- Easy diagnosis via optional CMD400 display module

Additional information

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➜ www.mysick.com/en/CDM

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	CDM420	CDM490
Supported products	Lector® series CLV61x - CLV65x CLV69x RFH6xx RFU62x RFU63x Hand-held scanners (depending on type)	CLV69x LMS400
Cloning module support (CMC)	Yes (depending on sensor connected)	Yes
Supports display module (CMD)	Yes / no (depending on type)	
Supports power supply module (CMP)	Yes	
Supports fieldbus gateway (CMF)	Yes (PROFIBUS DP, Ethernet, DeviceNet) No (depending on type)	

Interfaces

	CDM420	CDM490
Serial (RS-232, RS-422/485)	✔, depending on sensor connected	
Ethernet	✔, depending on Sensor connected; corresponding CMF fieldbus gateway additionally necessary / – (depending on type)	
CAN bus	✔, depending on sensor connected	
PROFIBUS DP	✔, corresponding CMF fieldbus gateway additionally necessary / – (depending on type)	
Switching inputs	Depending on sensor connected	
Switching outputs	Depending on sensor connected	
Optical indicators	5 LED	11 LED
Configuration software	SOPAS ET	

Mechanics/electronics

	CDM420	CDM490
Power consumption	Power consumption of the sensor + 0.5 W	
Housing	Polycarbonat	
Housing color	Blue (RAL 5012)	
Enclosure rating	IP 65 [1)] IP 20 [1)] (depending on type)	IP 65 [1)]
Protection class	III	
Weight	800 g / 1,428 g (depending on type)	870 g
Dimensions (L x W x H)	192 mm x 167 mm x 70 mm	
Scanner connection	15-pin D-Sub HD socket	15-pin D-Sub HD socket, 15-pin D-Sub HD male connector
Service plug	9-pin D-Sub plug (internal)	

[1)] When using a SICK scanner standard connecting cable.

Ambient data

	CDM420	CDM490
Ambient operating temperature	–35 °C ... +40 °C (depending on type)	
Storage temperature	–35 °C ... +70 °C (depending on type)	–35 °C ... +70 °C
Permissible relative humidity	< 90 %, Non-condensing	

Ordering information

Sub product family	Brief description	Type	Part no.
CDM420	Modular connection module for one sensor	CDM420-0001	1025362
	Modular connection module for two sensors	CDM420-0004	1028487
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324
	Modular connection module for one sensor, Host and AUX interface available on face plate	CDM420-0101	1025364
	Kit: modular connection module for one sensor, Host and AUX interface available on face plate, power supply CMP400, US power cord	CDM420-0102	1026220
	Modular connection module for one sensor with pre-mounted CMF400 PROFIBUS module (Interface 9-pin D-sub) and integrated CMC parameter cloning module	CDM420-0105	1040002
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248
	Modular connection module for one sensor with pre-mounted CMF400 PROFIBUS module (Interface 2 x M12) and integrated CMC parameter cloning module	CDM420-0205	1029854
CDM490	Modular connection module for one sensor	CDM490-0001	1025363
	Modular connection module for one sensor, Host and AUX interface available on face plate	CDM490-0101	1025365
	Kit: modular connection module for one sensor, Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM490-0103	1026264

Recommended accessories

Connection systems

Modules and gateways

	Brief description	Type	Part no.	CDM420	CDM490
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259	●	●

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDM420	CDM490
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2042914	●	–
		Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2055420	●	–
	Serial	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	2014054	●	●

More accessories can be found ➜ K-296

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SIMPLY EASY TO CONNECT

Product description

The CDF600-2 fieldbus module makes it possible to quickly and easily integrate identification sensors (1D, 2D, RFID) in industrial networks.. There are different versions with various fieldbus interfaces available. The external connection module can be mounted on all standard industrial profiles. The status LEDs provide diagnostics that are visible from both sides. The node address and CDF600-2 operating mode can be set directly on the module using rotary code switches without the use of configuration software. At the same time, the functional design offers protection against accidental adjustment of the node address. While the CDF600-2 can be integrated at an easily accessible point on the handling system, the identification sensor, e.g., the CLV615-F, which is connected with only one cable, can be mounted deep inside the system.

At a glance

- Flexible mounting on all standard profiles
- Flexible fieldbus connection for PROFIBUS DP and PROFINET (depending on type)
- Code switch for setting node address and operating mode (depending on type)
- LEDs for status and diagnostics
- Plug-in electrical connections
- Integrated configuration memory for connected sensors
- Compact and flexible

Your benefits

- Sophisticated two-screw system for fast, flexible mounting on all standard profiles
- Choice of different versions for connecting to industrial field buses
- Code switch that is mounted so it is protected against accidental adjustment and is easily accessible from the outside for easy setup of bus address and operating mode without complex software
- Clear status LEDs that are identifiable on two sides from any viewing direction for simple and effective diagnosis (depending on type)
- Fast installation and easy replacement in the system thanks to plug-in connections
- Integrated cloning module for all configurations of the connected sensor enables very fast replacement time in case of faults
- Compact and rugged design with choice of horizontal or vertical cable direction

Additional information

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→ www.mysick.com/en/CDF600-2

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
Supported products	Lector® series CLV6 series RFH6xx RFU62x RFU63x Hand-held scanners		
Cloning module support (CMC)	Integrated		
Supports display module (CMD)	No		
Supports power supply module (CMP)	No		
Supports fieldbus gateway (CMF)	Integrated (PROFIBUS DP)	Integrated (PROFINET)	

Interfaces

	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
Serial (RS-232)	✔		
Function	AUX		
Data transmission rate	57.6 kBaud		
Ethernet	–	✔	
Data transmission rate	–	2-port Ethernet in accordance with IEEE 802.3 (baud rate 100 MBit/s, full-duplex transmission, 2-port switch, auto-negotiation, auto-crossover). Maximum data length is limited by the mode of communication (fragmentation protocol) to 4,000 bytes.	
Protocol	–	PROFINET	
CAN bus	✔, depending on sensor connected		–
PROFIBUS DP	✔	–	
Function	Slave DP1	–	
Data transmission rate	9.6 kbit/s ... 12 Mbit/s, autodetect	–	
Switching inputs	1		
Switching outputs	0		
Optical indicators	4 LEDs	6 LEDs	8 LEDs
Configuration software	SOPAS ET		

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Mechanics/electronics

	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
Electrical connection	1 x 15-pin D Sub HD female connector (DEVICE) 1 x 5-pin M12 male connector (POWER) 1 x 5-pin M12 female connector (EXT. IN1) 1 x 5-pin M12 male connector (PB IN) 1 x 5-pin M12 female connector (PB OUT) 1 x USB female connector micro B (AUX) 1 x 15-pin D Sub HD female connector (DEVICE) 1 x 5-pin M12 male connector (POWER) 1 x 5-pin M12 female connector (EXT. IN1) 1 x 9-pin D Sub female connector (PROFIBUS) 1 x USB female connector micro B (AUX) (depending on type)	1 x “DEVICE” connection, 15-pin D-sub HD female connector with seal 1 x “POWER” connection, 5-pin M12 plug, A-coded 1 x “EXT. IN 1” connection, 5-pin M12 female connector, A-coded 1 x “PROFINET P1” connection, 4-pin M12 socket, D-coded 1 x “PROFINET P2” connection, 4-pin M12 socket, D-coded 1 x “USB” connection, 5-pin micro-B socket, for configuration/diagnostics, behind screw-mounted cover	1 x “DEVICE” connection, 15-pin D-sub HD female connector with seal 2 x “POWER” connection, 5-pin power male connector, push-pull AIDA compliant 1 x “EXT. IN 1” connection, 5-pin M12 female connector, A-coded 1 x “P1 PROFINET” connection, 8-pin RJ45 female connector, push-pull AIDA compliant 1 x “P2 PROFINET” connection, 8-pin RJ45 female connector, push-pull AIDA compliant 1 x “USB” connection, 5-pin micro-B socket, for configuration/diagnostics, behind screw-mounted cover
Operating voltage	10 V DC ... 30 V DC		
Power consumption	< 5 W, if no sensor is connected and digital switching input is not connected		
Housing	Aluminum (unpainted)		
Housing color	Aluminum (unpainted)		
Enclosure rating	IP 65 / IP 20 (depending on type)	IP 65	
Protection class	III		
Weight	385 g / 375 g (depending on type)	361 g	690 g
Dimensions (L x W x H)	207 mm x 49.5 mm x 40.7 mm		270.1 mm x 74.7 mm x 47.4 mm
Scanner connection	RS-232		

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-3 (2007-01) + A1 (2011-03) / EN 61000-6-2 (2005-08)
Vibration resistance	EN 60068-2-6 (2008-02)
Shock resistance	EN 60068-2-27 (2009-05)
Ambient operating temperature	–35 °C ... +50 °C
Storage temperature	–35 °C ... +70 °C
Permissible relative humidity	< 90 %, Non-condensing

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Ordering information

Sub product family	Brief description	Type	Part no.
CDF600-2 PROFIBUS DP	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966
CDF600-2 PROFINET M12	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460
CDF600-2 PROFINET AIDA	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390

Recommended accessories

Mounting systems

Device protection (mechanical)

	Brief description	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
	Protective cap with lock for PROFINET RJ45 push-pull mounting frame, enclosure rating IP 65	5326204	–	–	●
	Protective cap with lock for power push-pull mounting frame, enclosure rating IP 65	5327762	–	–	●

Connection systems

Plug connectors and cables

	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2042914	●	●	●
		Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2055420	●	●	●
	Power	Female connector, M12, 5-pin, straight, A-coded	Cable	5-wire, drag chain use, UL	5 m	6036384	●	●	–
	Digital I/Os	Male connector, M12, 5-pin, straight	Cable	–	2 m	6026133	●	●	●

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	Signal type/ application	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA
	PROFIBUS DP	Cable	Cable	2-wire, drag chain use	By the meter	6021355	●	–	–
	PROFINET	Male connec-tor, M12, 4-pin, straight, D-coded	Male connec-tor, M12, 4-pin, straight	4-wire, CAT5, CAT5e	2 m	6048241	–	●	–
	USB 2.0	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106	●	●	●

More accessories can be found ➜ K-299

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EASY ETHERCAT® CONNECTION

Product description

The CDF600 fieldbus module integrates the 4D*pro* identification sensors from SICK in EtherCAT® networks. With two screws and a plug-in design suitable for all electrical connections, the CDF600 is very easy to mount on the system. The operating mode is easy to set using rotary switches. The integrated configuration memory saves all parameter values of the connected sensor. When replacing the sensor, the parameter values are automatically copied to the new device. In addition, the fieldbus module has six status LEDs for easy diagnostics. With the integrated CAN interface, the CDF600 can also be used as terminal equipment in SICK CAN sensor networks (CSN).

At a glance

- Simple mounting saves time on installation, commissioning, and provides flexibility for different application environments
- All electrical connections are pluggable
- Integrated parameter storage
- 6 LEDs for status and error display
- Integrated CAN interface

Your benefits

- A two-screw system makes mounting quick and easy
- Electrical installation is quick since all connections are established with plugs
- Auto detect: Sensor and CDF600 detect each other automatically
- Quick sensor exchange due to integrated parameter memory
- Small size and simple setup enables fast installation, even in compact machines
- Easy diagnosis via 6 LEDs

Additional information

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➜ www.mysick.com/en/CDF600

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Detailed technical data

Features

Supported products	Lector62x CLV61x - CLV65x RFH6xx RFU62x Hand-held scanners
Cloning module support (CMC)	Integrated
Supports display module (CMD)	No
Supports power supply module (CMP)	No
Supports fieldbus gateway (CMF)	Integrated (EtherCAT®)

Interfaces

Serial (RS-232)	✔
Function	AUX
Data transmission rate	57.6 kBaud
EtherCAT®	✔
Function	Slave
CAN bus	✔, depending on sensor connected
Switching inputs	2
Switching outputs	2
Optical indicators	7 LEDs (OUT 1/2 doubly occupied)
Configuration software	SOPAS ET

Mechanics/electronics

Electrical connection	1 x 15-pin D Sub HD female connector (DEVICE) 3 x 5-pin M12 female connector (IN 1, IN 2, OUT 1/2) 1 x 5-pin M12 female connector (ECAT OUT) 1 x 5-pin M12 female connector (ECAT IN) 1 x 5-pin M12 male connector (POWER) 1 x 4-pin M8 female connector (AUX)
Operating voltage	18 V DC ... 30 V DC
Power consumption	7 W, if no sensor is connected and digital switching inputs and outputs are not connected
Housing	Aluminum die cast
Housing color	Light blue (RAL 5012)
Enclosure rating	IP 65 [1]
Protection class	III
Weight	590 g
Dimensions (L x W x H)	47 mm x 225 mm x 76.5 mm [2]
Scanner connection	RS-232

[1] When using a SICK scanner standard connecting cable.

[2] Without plugged-in connections.

Ambient data

Electromagnetic compatibility (EMC)	EN 61000-6-4 (2007-01) / EN 61000-6-2 (2005-08)
Vibration resistance	EN 60068-2-6 (1996), EN 60068-2-64 (1965)
Shock resistance	EN 60068-2-27 (1993)
Ambient operating temperature	–35 °C ... +50 °C
Storage temperature	–35 °C ... +70 °C
Permissible relative humidity	90 %, Non-condensing

Ordering information

Sub product family	Brief description	Type	Part no.
CDF600 EtherCAT®	Fieldbus proxy/gateway to connect to a EtherCAT® network	CDF600-0300	1052291

Recommended accessories

Mounting systems

Device protection (mechanical)

	Brief description	Part no.
	Cover for rotary encoding switch of the CDF600 to protect from manipulation, incl. 2 fastening screws	2052296

Connection systems

Plug connectors and cables

	Signal type/application	Connection type head A	Connection type head B	Cable	Cable length	Part no.
	Power, serial, CAN, digital I/Os	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2042914
		Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	3 m	2055420
	Serial	Female connector, D-Sub, 9-pin, straight	Male connector, M8, 4-pin, straight	UL, for connecting the configuration connection to the serial interface of a PC	2 m	6021195

More accessories can be found ➜ K-299

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ACCESSORIES

A winning combination: sensors and accessories from SICK

In order to ensure optimal integration of sensors into your systems, it is essential that your accessories are perfectly tuned to each other. This applies not only to the connection and mounting systems, but also to reflectors and lenses. Reliable signal transmission guarantees productivity – high-quality connectivity components with long service life reduce costs. That is why SICK offers the right connection systems for any application or sector, whether for the material handling, packaging, automotive or food and beverage industry. The extensive range of plug connectors and distributors makes it possible to achieve the right cabling for every application, even under the harshest and most difficult conditions. The requirements of mounting systems for sensors are just as diverse as their areas of application. With its clever mounting concepts, SICK offers the right solutions for mounting, alignment and protection of industrial SICK sensor systems. Efficient and functional.

Image-based code readers

Mounting systems

Device protection (mechanical)

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection	4038847	●	●	●	●	●	●	–	–	–	–
	Weld spark guard for direct mounting in front of front screen on device including fixing screws	2065807	●	●	–	–	–	–	–	–	–	–

Mounting brackets and mounting plates

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Bracket with adapter board	2042902	●	●	–	–	–	–	–	–	–	–
	Mounting bracket (simple bracket)	2020410	●	●	–	–	–	–	–	–	–	–
	Mounting bracket to mount the ICL illuminations	2063992	●	●	–	–	–	–	–	–	–	–
	Mounting bracket for mounting the dome illumination including fixing screws	2068087	●	●	–	–	–	–	–	–	–	–
	Mounting bracket with screws, L-shaped for sliding nuts mounting including skew angle display	2078970	–	–	●	–	–	–	–	–	–	–
	Mounting bracket set consisting of L-shaped cooling plate and L-shaped bracket including skew angle display	2076735	–	–	●	–	–	–	–	–	–	–
	Mounting bracket with screws including skew angle display	2069169	–	–	–	●	●	●	●	–	–	–
	Bracket with adapter board	2050023	–	–	–	–	–	–	–	●	–	–
	Mounting bracket set consisting of mounting angle, cooling plate and screw including skew angle display	2069171	–	–	–	●	●	●	●	–	–	–
	Universal clamping bracket for rod mounting, diameter 12 mm	2076472	●	●	–	–	–	–	–	–	–	–

Terminal and alignment brackets

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Distance bracket and light extension connector for mounting integratable lighting, length 37 mm, used with compact C-mount lenses with focal length of 16 mm or 35 mm	2079502	–	–	●	–	–	–	–	–	–	–
 Illustration may differ	Distance bracket and light extension connector for mounting integratable lighting, length 15 mm, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	2079501	–	–	●	–	–	–	–	–	–	–
	Distance bracket for mounting integratable lighting, length 51.3 mm	2069007	–	–	–	●	●	–	–	–	–	–
	Quick-action lock system	2025526	●	●	–	–	–	–	–	–	–	–
		2016110	–	–	●	●	●	●	●	–	–	–

Other mounting accessories

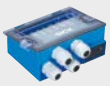
	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Sliding nut, M5, short	5324896	●	●	●	●	●	●	●	–	–	–
	Sliding nut, M4, short	5324897	●	●	●	●	●	●	●	–	–	–
	Sliding nut, M3, short	5324898	●	●	●	●	●	●	●	–	–	–

Connection systems

Adapters and distributors

	Cable	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Lighting trigger and NPN/PNP converter, to be installed in CDB620 and CDM420	2056990	●	●	●	●	●	–	–	–	–	–

Modules

	Brief description	Type	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Small connection module for 5-V hand-held scanners, CLV50x and ICR80x	CDB405-001	1027093	–	–	–	–	–	–	–	●	–	–
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	–	–	–	–	–	–	–	–
	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/socket for CAN, base for CMC600	CDB620-101	1042257	●	●	–	–	–	–	–	–	–	–
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258	●	●	–	–	–	–	–	–	–	–
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination	CDB650-204	1064114	●	●	●	●	●	●	–	–	–	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	●	●	●	–	–	–	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●	●	●	●	●	–	–	–	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	●	●	●	–	–	–	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	●	●	●	●	●	–	–	–	–
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	–	–	–	–	–	–	–	–
	Modular connection module for two sensors	CDM420-0004	1028487	●	●	–	–	–	–	–	–	–	–
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634	●	●	●	●	●	●	–	–	–	–
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	●	●	●	●	●	●	–	–	–	–
 Illustration may differ	Modular connection module for one sensor, Host and AUX interface available on face plate	CDM420-0101	1025364	●	●	–	–	–	–	–	–	–	–

	Brief description	Type	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
 Illustration may differ	Kit: modular connection module for one sensor, Host and AUX interface available on face plate, power supply CMP400, US power cord	CDM420-0102	1026220	●	●	–	–	–	–	–	–	–	–
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248	●	●	●	●	●	●	–	–	–	–
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259	●	●	●	●	●	●	–	–	–	–

Plug connectors and cables

- **Signal type/application:** Power, serial, CAN, digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, M12, 17-pin, straight, A-coded	Cable	17-wire, suitable for 2 A, adapted color coding of open conductor heads, drag chain use, stripped	3 m	2070425	–	●	●	●	●	●	–	–	–	–
				5 m	2070426	–	●	●	●	●	●	–	–	–	–
				10 m	2070427	–	●	●	●	●	●	–	–	–	–
			Drag chain use, suitable for 2 A, suitable for refrigeration	5 m	2075220	–	●	●	●	●	●	–	–	–	–
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.35 m	2056184	–	●	●	●	●	●	–	–	–	–
				0.9 m	2049764	–	●	●	●	●	●	–	–	–	–
				2 m	2055419	–	●	●	●	●	●	–	–	–	–
				3 m	2055420	–	●	●	●	●	●	–	–	–	–
				5 m	2055859	–	●	●	●	●	●	–	–	–	–
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650), drag chain use	3 m	2061605	–	●	●	●	●	●	–	–	–	–
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	0.9 m	6052945	–	●	●	●	●	●	–	–	–	–
				2 m	6052286	–	●	●	●	●	●	–	–	–	–
			To connection module CDB650, suitable for 2 A, drag chain use	3 m	6051194	–	●	●	●	●	●	–	–	–	–
			To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	5 m	6051195	–	●	●	●	●	●	–	–	–	–

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	Drag chain use, suitable for 2 A, suitable for refrigeration	2 m	6053230	–	●	●	●	●	●	–	–	–	–
				3 m	6053231	–	●	●	●	●	●	–	–	–	–
				5 m	6053232	–	●	●	●	●	●	–	–	–	–
	Female connector, D-Sub-HD, 15-pin, straight	Cable	Extension cable, 15-wire, AWG26	2 m	2043413	●	●	–	–	–	–	–	–	–	–
		Male connector, D-Sub-HD, 15-pin, straight	Extension cable, 15-wire, AWG26	2 m	6034417	●	●	●	●	●	●	–	–	–	–
				3 m	6034418	●	●	●	●	●	●	–	–	–	–

- **Signal type/application:** Power

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Cable	Cable	Black AS-i flat cable for looping in the power supply to 4D*pro* Ethernet sensors, sold per meter, 2-wire, by the meter	–	6022463	–	●	–	–	–	–	–	–	–	–
	AS-i clip, M12	–	AS-i clip for connection on black AS-i flat cable	–	6022472	–	●	–	–	–	–	–	–	–	–
	Female connector, M12, 17-pin, straight	Male connector, M12, 4-pin, straight	4-pin for connecting one 4D*pro* sensor, 17-pin to AS-i clip on black AS-i flat cable, drag chain use	1 m	6044574	–	●	–	–	–	–	–	–	–	–
				2.5 m	6044575	–	●	–	–	–	–	–	–	–	–

- **Signal type/application:** Power, CAN

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, M12, 5-pin, straight	Male connector, M12, 5-pin, straight	CAN cable	1 m	6021164	–	–	–	–	–	–	●	–	–	–
				3 m	6021165	–	–	–	–	–	–	●	–	–	–
				5 m	6021168	–	–	–	–	–	–	●	–	–	–

- **Signal type/application:** CAN

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, M12, 5-pin, straight	–	CAN plug, M12, 5-pin, with resistance	–	6021167	–	–	–	–	–	–	●	–	–	–
	Female connector, M12, 5-pin	Cable	5-wire	5 m	6021166	–	–	–	–	–	–	●	–	–	–

- **Signal type/application:** CAN/CANopen

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, M12, 5-pin, straight	Cable	5-wire, shielded on pin 1	10 m	6021175	–	–	–	–	–	–	●	–	–	–

- **Signal type/application:** Ethernet

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	4-wire	2 m	6034420	–	●	–	–	–	–	–	–	–	–
				3 m	6034421	–	●	–	–	–	–	–	–	–	–
				5 m	6034422	–	●	–	–	–	–	–	–	–	–
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●	–	–	–	–	–	–	–	–
				3 m	6044400	–	●	–	–	–	–	–	–	–	–
				5 m	6034415	–	●	–	–	–	–	–	–	–	–
				10 m	6030928	–	●	–	–	–	–	–	–	–	–
				20 m	6036158	–	●	–	–	–	–	–	–	–	–
 Illustration may differ			4-wire, suitable for refrigeration, Ecolab, AWG26	2 m	6050198	–	●	–	–	–	–	–	–	–	–
				3 m	6050199	–	●	–	–	–	–	–	–	–	–
				5 m	6050200	–	●	–	–	–	–	–	–	–	–
				10 m	6050201	–	●	–	–	–	–	–	–	–	–
				20 m	6050596	–	●	–	–	–	–	–	–	–	–
			4-wire, drag chain use, AWG26, robot	5 m	6053217	–	●	–	–	–	–	–	–	–	–
	Male connector, M12, 4-pin, angled, D-coded	Male connector, RJ45, 8-pin, straight	–	5 m	6039488	–	●	–	–	–	–	–	–	–	–

- **Signal type/application:** Gigabit Ethernet/PoE

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728	–	–	●	●	●	●	●	–	–	–
				5 m	6049729	–	–	●	●	●	●	●	–	–	–
				10 m	6049730	–	–	●	●	●	●	●	–	–	–

- **Signal type/application:** trigger input, switching output

Connection type head A	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
Male connector, M8, 3-pin, straight	3-wire	5 m	2031169	–	–	●	●	●	●	●	–	–	–

- **Signal type/application:** serial

	Connection type head A	Connection type head B	Cable	Cable length	Type	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	Data connection cable (RS-232) to PC	2014054	●	●	●	●	●	●	–	–	–	–

- **Signal type/application:** RS-232, USB

	Connection type head A	Connection type head B	Cable	Type	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, D-Sub, 9-pin, straight	Male connector, USB-A, straight	Converter RS-232 to USB (if no RS-232 interface is available with the PC)	Converter RS-232 to USB	6042499	●	●	●	●	●	●	–	–	–	–

- **Signal type/application:** USB 2.0

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, USB-A	Male connector, Micro-B	–	2 m	6036106	●	●	–	–	–	–	–	–	–	–
	Male connector, M8, 4-pin, straight	Male connector, USB-A, 4-pin, straight	4-wire	1.5 m	6051163	–	–	●	●	●	●	–	–	–	–
			–	2 m	6051164	–	–	●	●	●	●	–	–	–	–
			4-wire	3 m	6051165	–	–	●	●	●	●	–	–	–	–

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, USB-A	Male connector, RJ45	Straightened cable	2.3 m	6028232	–	–	–	–	–	–	–	●	–	–
			Coiled cable	2.8 m	6032516	–	–	–	–	–	–	–	●	–	–

- **Signal type/application:** RS-232 TTL

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Male connector, D-Sub-HD, 15-pin	Male connector, RJ45	Straightened cable, connection of ICR803-xxx01 to CDB405-001	2 m	6034935	–	–	–	–	–	–	–	●	–	–
	Female connector, D-Sub, 9-pin	Male connector, RJ45	External power supply necessary, additional connector at D-sub	2.4 m	6033047	–	–	–	–	–	–	–	●	–	–
	Male connector, D-Sub, 9-pin	Male connector, RJ45	Coiled cable, additional power supply needed (42203758-04E)	2.4 m	6012109	–	–	–	–	–	–	–	●	–	–
			Coiled cable, voltage on pin 9, (42203758-03E)	2.4 m	6025955	–	–	–	–	–	–	–	●	–	–

- **Signal type/application:** RS-422 TTL

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Female connector, D-Sub, 9-pin, straight	Male connector, RJ45	Straightened cable, voltage on pin 9 (42203758-03S)	2.4 m	6028186	–	–	–	–	–	–	–	●	–	–

Connection inlays

	Connection type	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Connection inlay (male connector), D-Sub-HD, 15-pin	6010020	●	●	●	●	●	●	–	–	–	–
	Connection inlay (female connector), D-Sub-HD, 15-pin	6010019	●	●	●	●	●	●	–	–	–	–
	Connection inlay (male connector), D-Sub-HD, 9-pin, 15-pin	6009438	●	●	●	●	●	●	–	–	–	–

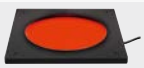
Power supply units and power cord connectors

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Universal AC adapter, input 100 ... 240 V AC, output 5 V DC, including the power cable with European plug (does not fulfill medical standard EN 60601/IEC 60601)	6034941	–	–	–	–	–	–	–	●	–	–
	Universal AC adapter, input 100 ... 240 V AC, output 5 V DC, including the power cable with plug-United-Kingdom (does not fulfill medical standard EN 60601/IEC 60601)	6034942	–	–	–	–	–	–	–	●	–	–
	Australian power cord connector	6034357	–	–	–	–	–	–	–	●	–	–
	EU power cord connector	6034354	–	–	–	–	–	–	–	●	–	–

Reflectors and optics

Illuminations

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Ring lighting, bright field, red lighting color, lighting distance 0.2 m ... 1 m	1048371	●	●	●	–	–	–	–	–	–	–
	Ring illumination, bright field, red lighting color, lighting distance 200 mm ... 1.5 m	1052495	●	●	●	–	–	–	–	–	–	–
	Ring lighting, bright field, red lighting color, lighting distance 200 mm ... 1.1 m	1052472	●	●	●	–	–	–	–	–	–	–
	Ring lighting, bright field spot, infrared lighting color, lighting distance 0.2 m ... 2 m, temperature 0 °C ... +40 °C	1047957	●	●	●	–	–	–	–	–	–	–
	Ring lighting, bright field spot, red lighting color, lighting distance 0.2 m ... 2 m, temperature 0 °C ... +40 °C	1046820	●	●	●	–	–	–	–	–	–	–
	UV illumination, light source ultraviolet, 365 nm, 47 mm x 45 mm x 45 mm	6051200	●	●	●	●	●	●	–	–	–	–
	Integratable lighting, lighting color white, suitable for S-mount lenses with a focal length of 9.6 mm	2078428	–	–	●	–	–	–	–	–	–	–
	Integratable lighting, lighting color white, suitable for S-mount and compact C-mount lenses with a focal length of 12 mm, 16 mm and 17.5 mm	2078430	–	–	●	–	–	–	–	–	–	–
	Integratable lighting, lighting color white, suitable for S-mount and compact C-mount lenses with a focal length of 25 mm and 35 mm	2078431	–	–	●	–	–	–	–	–	–	–
 Illustration may differ	Integratable lighting, lighting color blue, suitable for lenses with a focal length of 12.5 mm and 16 mm	2074009	–	–	–	●	●	–	–	–	–	–
 Illustration may differ	Integratable lighting, lighting color blue, suitable for lenses with a focal length of 25 mm	2074012	–	–	–	●	●	–	–	–	–	–
	Integratable lighting, lighting color blue, suitable for lenses with a focal length of 35 mm, 50 mm and 75 mm	2074007	–	–	–	●	●	–	–	–	–	–
	Integratable lighting, lighting color white, suitable for lenses with a focal length of 12.5 mm and 16 mm	2069006	–	–	–	●	●	–	–	–	–	–
 Illustration may differ	Integratable lighting, lighting color white, suitable for lenses with a focal length of 25 mm	2074001	–	–	–	●	●	–	–	–	–	–
	Integratable lighting, lighting color white, suitable for lenses with a focal length of 35 mm, 50 mm and 75 mm	2069099	–	–	–	●	●	–	–	–	–	–
	Bar light, light source white, outer dimension 109 mm x 28 mm	6035959	●	●	●	●	●	–	–	–	–	–
	Spot lighting set, white lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	6037795	●	●	●	●	●	–	–	–	–	–

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Dark field light, light source white, outer dimension 138 mm x 102 mm	6037800	●	●	●	●	●	–	–	–	–	–
	Square ring light, light source white, outer dimension 70 mm x 70 mm	6035958	●	●	●	●	●	–	–	–	–	–
	Bar light, light source blue, 470 nm, outer dimension 109 mm x 28 mm	6035960	●	●	●	●	●	–	–	–	–	–
	Spot lighting set, blue lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	6037797	●	●	●	●	●	–	–	–	–	–
	Ring light, light source blue, 470 nm, outer diameter 90 mm	6037792	●	●	●	●	●	–	–	–	–	–
	Bar light, light source green, 525 nm, outer dimension 109 mm x 28 mm	6035961	●	●	●	●	●	–	–	–	–	–
	Spot lighting set, green lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	6037796	●	●	●	●	●	–	–	–	–	–
	Back light, light source red, 660 nm, outer dimension 60 mm x 58 mm	6041961	●	●	●	●	●	–	–	–	–	–
	Back light, light source red, 660 nm, outer dimension 120 mm x 118 mm	6041962	●	●	●	●	●	–	–	–	–	–
	Bar light, light source red, 660 nm, outer dimension 109 mm x 28 mm	6035962	●	●	●	●	●	–	–	–	–	–
	Coaxial light, light source red, 660 nm, outer dimension 73 mm x 70 mm	6035964	●	●	●	●	●	–	–	–	–	–
	Flat dome light, light source red, 660 nm, outer dimension 143 mm x 143 mm	6035965	●	●	●	●	●	–	–	–	–	–
	Spot lighting set, red lighting color, incl. 24 V power supply (in 24 V, out max. 7 V)	6037794	●	●	●	●	●	–	–	–	–	–
	Low angle light, light source red, 660 nm, outer diameter 134 mm	6035963	●	●	●	●	●	–	–	–	–	–
	Low angle light, light source red, 660 nm, outer diameter 208 mm	6037798	●	●	●	●	●	–	–	–	–	–
	Dark field light, light source red, 660 nm, outer dimension 138 mm x 102 mm	6037799	●	●	●	●	●	–	–	–	–	–
	Ring light, light source red, 660 nm, outer diameter 50 mm	6035957	●	●	●	●	●	–	–	–	–	–
	Ring light, light source red, 660 nm, outer diameter 90 mm	6037793	●	●	●	●	●	–	–	–	–	–

Lens and accessories

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	C-mount module for V2D63x	2073188	–	–	●	–	–	–	–	–	–	–
 Illustration may differ	Compact C-mount lens 2/3”, focal length 12 mm, aperture 8	2079348	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3", focal length 12 mm, aperture 11	2080212	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3”, focal length 16 mm, aperture 8	2079346	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3", focal length 16 mm, aperture 11	2080213	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3”, focal length 25 mm, aperture 8	2079343	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3", focal length 25 mm, aperture 11	2080214	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3”, focal length 35 mm, aperture 8	2079344	–	–	●	–	–	–	–	–	–	–
	Compact C-mount lens 2/3", focal length 35 mm, aperture 11	2080215	–	–	●	–	–	–	–	–	–	–
 Illustration may differ	C-mount lens 2/3”, focal length 8 mm, aperture 1.4 – 16	5325091	–	–	●	–	–	–	–	–	–	–
	C-mount lens 2/3”, focal length 12 mm, aperture 1.4 – 16	5325403	–	–	●	●	–	–	–	–	–	–
	C-mount lens 2/3”, focal length 16 mm, aperture 1.4 – 16	5325404	–	–	●	●	–	–	–	–	–	–
	C-mount lens 2/3”, focal length 25 mm, aperture 1.4 – 16	5325405	–	–	●	●	–	–	–	–	–	–
	C-mount lens 2/3”, focal length 35 mm, aperture 1.4 – 16	5325406	–	–	●	●	–	–	–	–	–	–
	C-mount lens 2/3", focal length 50 mm, aperture 1.4 – 16	5325407	–	–	●	●	–	–	–	–	–	–
 Illustration may differ	C-mount lens 1”, focal length 12.5 mm, lens aperture 1.4 – 16	5327522	–	–	–	●	●	–	–	–	–	–
	C-mount lens 1”, focal length 16 mm, lens aperture 1.4 – 16	5327523	–	–	–	●	●	–	–	–	–	–
	C-mount lens 1”, focal length 25 mm, lens aperture 1.4 – 16	5327524	–	–	–	●	●	–	–	–	–	–
	C-mount lens 1”, focal length 35 mm, lens aperture 1.4 – 16	5327525	–	–	–	●	●	–	–	–	–	–
	C-mount lens 1”, focal length 50 mm, lens aperture 1.4 – 16	5327526	–	–	–	●	●	–	–	–	–	–
	C-mount lens 1”, focal length 75 mm, lens aperture 1.4 – 16	5327527	–	–	–	●	●	–	–	–	–	–
	Distance ring/expansion ring for C-mount lenses, diameter 25.5 mm to 32.0 mm, 0.6 mm thick	4041112	–	–	●	●	●	–	–	–	–	–
	Distance ring package for S-mount lenses, including three 1.5 mm rings	2066933	–	–	●	–	–	–	–	–	–	–
	Distance ring package for S-mount lenses, including 1.5 mm, 2.3 mm, 3 mm rings	2081459	–	–	●	–	–	–	–	–	–	–
	Lector620 dome accessories for glossy and curved surfaces inclusive bracket and mounting material	2063093	●	●	–	–	–	–	–	–	–	–
	Optic kit 01 including lens with a focal length of 12.5 mm, white lighting, distance bracket and protective hood	1064791	–	–	–	●	●	–	–	–	–	–
	Optic kit 02 including lens with a focal length of 16 mm, white lighting, distance bracket and protective hood	1064792	–	–	–	●	●	–	–	–	–	–
	Optic kit 03 including lens with a focal length of 25 mm, white lighting, distance bracket and protective hood	1064793	–	–	–	●	●	–	–	–	–	–
	Optic kit 04 including lens with a focal length of 35 mm, white lighting, distance bracket and protective hood	1064794	–	–	–	●	●	–	–	–	–	–
	Optic kit 05 including lens with a focal length of 50 mm, white lighting, distance bracket and protective hood	1064776	–	–	–	●	●	–	–	–	–	–
	Optic kit 06 including lens with a focal length of 75 mm, white lighting, distance bracket and protective hood	1064777	–	–	–	●	●	–	–	–	–	–

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
 Illustration may differ	Optic kit 07 including lens with a focal length of 12.5 mm, blue lighting, distance bracket and protective hood	1069612	–	–	–	●	●	–	–	–	–	–
	Optic kit 08 including lens with a focal length of 16 mm, blue lighting, distance bracket and protective hood	1069613	–	–	–	●	●	–	–	–	–	–
	Optic kit 09 including lens with a focal length of 25 mm, blue lighting, distance bracket and protective hood	1069614	–	–	–	●	●	–	–	–	–	–
	Optic kit 10 including lens with a focal length of 35 mm, blue lighting, distance bracket and protective hood	1069615	–	–	–	●	●	–	–	–	–	–
	Optic kit 11 including lens with a focal length of 50 mm, blue lighting, distance bracket and protective hood	1069616	–	–	–	●	●	–	–	–	–	–
	Optic kit 12 including lens with a focal length of 75 mm, blue lighting, distance bracket and protective hood	1069617	–	–	–	●	●	–	–	–	–	–
 Illustration may differ	S-mount 1/1.8”, focal length 17.5 mm, aperture 8	5330231	–	–	●	–	–	–	–	–	–	–
	S-mount 1/1.8”, focal length 9.6 mm, aperture 8	2079336	–	–	●	–	–	–	–	–	–	–
	S-mount 1/1.8”, focal length 25 mm, aperture 8	2076656	–	–	●	–	–	–	–	–	–	–
	S-mount module for V2D63x	2079020	–	–	●	–	–	–	–	–	–	–
	Lens protective hood, enclosure rating IP 67, length 22.7 mm, PMMA, used with S-mount lenses with focal length of 9.6 mm or 17.5 mm	2079176	–	–	●	–	–	–	–	–	–	–
	Lens protective hood, enclosure rating IP 67, length 60 mm, PMMA, used with compact C-mount lenses with focal length of 16 mm or 35 mm	2079204	–	–	●	–	–	–	–	–	–	–
	Lens protective hood, enclosure rating IP 67, length 37.7 mm, PMMA, used with compact C-mount lenses with focal length of 12 mm or 25 mm and S-mount lens with focal length 25mm	2079127	–	–	●	–	–	–	–	–	–	–
	Lens protective hood, enclosure rating IP 65, length 74.5 mm, glass window	2066565	–	–	–	●	●	–	–	–	–	–

Mirror adapters

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Panorama mirror hood to extend the field of view, useable with lens focal length 25 mm	2076621	–	–	–	–	●	–	●	–	–	–
	Panorama mirror hood to extend the field of view, useable with lens focal length 35 mm or 40 mm	2076622	–	–	–	●	●	●	●	–	–	–
	Panorama mirror hood to extend the field of view, useable with lens focal length 50 mm or 54 mm	2076623	–	–	–	●	●	●	●	–	–	–

Optical filters

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	C-mount IR block filter (< 650 nm)	2068812	–	–	●	●	●	–	–	–	–	–

Further accessories

Sets and kits

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	MLG 440 mm length, 20 mm resolution and required mounting brackets as well as cabels for the MLG	1068533	–	–	–	–	–	●	–	–	–	–
	MLG 740 mm length, 20 mm resolution and required mounting brackets as well as cabels for the MLG	1068534	–	–	–	–	–	●	–	–	–	–

Storage media

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
 Illustration may differ	microSD memory card with 1 GB for industrial use	4051366	–	●	●	●	●	●	–	–	–	–
	microSD memory card with 2 GB for industrial use	4077575	–	●	●	●	●	●	–	–	–	–

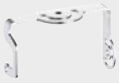
Test and monitoring tools

	Brief description	Part no.	Lector62x ECO	Lector62x	Lector63x Flex	Lector64x Flex	Lector65x Flex	Lector65x Dynamic Focus	Lector65x for Systems	ICR80x	ICR88x	ICR89x
	Lector6 Viewer, for connecting Lector6xx devices for displaying images (with multi-view), auto-setup, device diagnostics, match-code teach-in, and parameter switching, operating voltage of 24 V DC	2080544	●	●	●	●	●	●	●	–	–	–

Bar code scanners

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Mounting plate	2068602	–	–	–	–	●	–	–	–
	Bracket with adapter board	2042902	●	–	●	●	–	–	–	–
	Mounting bracket (simple bracket)	2020410	●	●	●	●	–	●	●	–
	Mounting bracket with integrated vibration and shock absorber for mounting the scanner e.g., on a forklift	2042799	–	●	–	–	–	●	●	–
	Hanger-shaped mounting bracket	2042800	–	●	–	–	–	●	●	–
	Bracket	2068600	–	–	–	–	●	–	–	–
	Bracket with adapter board	2068605	–	–	–	–	●	–	–	–
 Illustration may differ	Hanger-shaped mounting bracket, thermally isolated for use with heating devices	2050705	–	–	–	–	–	●	●	–
	Mounting bracket with integrated vibration/shock absorption for mounting the scanner on a forklift, for example (mounted in the direction of travel, on the left side)	2017628	–	–	–	–	–	–	–	●
	Mounting bracket with integrated vibration/shock absorption for mounting the scanner on a forklift, for example (mounted in the direction of travel, on the right side)	2039493	–	–	–	–	–	–	–	●
	Simple mounting bracket	2013824	–	–	–	–	–	–	–	●
	Articulated mounting bracket, self-locking	2018435	–	–	–	–	–	–	–	●
	Universal clamping bracket for rod mounting, diameter up to 12 mm	2042802	●	–	●	●	–	–	–	–
	Universal clamping bracket for rod mounting, diameter 12 mm	2076472	●	–	●	●	–	–	–	–

Terminal and alignment brackets

	Brief description	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Articulated bracket for mounting on mirror hood	2046822	●	–	●	●	–	●	●	–
	Ball-and-socket bracket for mounting	2014726	–	–	–	–	–	–	–	●
	Rod clamp for mirror hood	2048633	●	–	●	●	–	●	●	–
	Rod clamp for outer diameter of 12 ... 20 mm	2042801	–	●	–	–	–	●	●	–
	Rod clamp with mounting plate, for a diameter of 12 mm ... 20 mm	2068601	–	–	–	–	●	–	–	–
	Rod clamp with mounting bracket, for a diameter of 12 mm ... 20 mm	2068599	–	–	–	–	●	–	–	–
	Rod clamp with mounting bracket and quick clamp, for a diameter of 12 mm ... 20 mm	2062830	–	–	–	–	–	–	–	●
	Quick-action lock system	2025526	●	●	●	●	–	●	●	–
		2016110	–	–	–	–	–	–	–	●

Device protection (mechanical)

	Brief description	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection	4038847	●	–	●	●	–	●	●	–

Connection systems

Modules

	Brief description	Type	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	–	●	●	●	●	●	–
	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/socket for CAN, base for CMC600	CDB620-101	1042257	●	–	●	●	●	●	●	–
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258	●	–	●	●	●	●	●	–
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of Lector65x	CDB650-204	1064114	–	–	–	–	●	–	–	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	–	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	–	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	–	●	●	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	–	●	●	●	●	●	●
	Fieldbus proxy/gateway to connect to a EtherCAT® network	CDF600-0300	1052291	●	–	●	●	●	●	●	–
	Modular connection module for one sensor	CDM420-0001	1025362	●	–	●	●	●	●	●	–
	Modular connection module for two sensors	CDM420-0004	1028487	●	–	●	●	●	●	●	–
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634	●	–	●	●	●	●	●	●
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	●	–	●	●	●	●	●	●
 Illustration may differ	Modular connection module for one sensor, Host and AUX interface available on face plate	CDM420-0101	1025364	●	–	●	●	●	●	●	–

	Brief description	Type	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	Kit: modular connection module for one sensor, Host and AUX interface available on face plate, power supply CMP400, US power cord	CDM420-0102	1026220	●	–	●	●	●	●	●	–
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248	●	–	●	●	●	●	●	●
	Modular connection module for one sensor	CDM490-0001	1025363	–	–	–	–	–	–	–	●
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259	●	–	●	●	●	●	●	●

Adapters and distributors

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, M12, 5-pin, straight, A-coded	Female connector, M12, 5-pin, straight, A-coded Male connector, M12, 5-pin, straight, A-coded	Y-CAN cable, 5-wire	0.5 m	6027647	–	–	–	–	–	–	–	●
	Male connector, M12, 5-pin	Male connector, M12, 5-pin Female connector, M12, 5-pin	Y-CAN cable	–	6042167	–	–	–	–	–	–	–	●
 Illustration may differ	Male connector, D-Sub-HD, 15-pin, straight	Female connector, D-Sub-HD, 15-pin, straight	The adapter adapts the CLV61x to the electrical connection diagram previously used for the CLV41x	–	2068506	●	–	–	–	–	–	–	–
 Illustration may differ	Male connector, D-Sub-HD, 15-pin, straight	Female connector, D-Sub-HD, 15-pin, straight	The adapter adapts the CLV62x to the electrical connection diagram previously used for the CLV41x	–	2072514	–	–	●	●	–	–	–	–

Plug connectors and cables

- **Signal type/application:** Power, serial, CAN, digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, M12, 12-pin, straight	Cable	12-wire, UL	5 m	6034605	–	–	–	●	–	–	●	–
	Female connector, M12, 12-pin, straight, A-coded	Cable	Drag chain use, suitable for 2 A, suitable for refrigeration	5 m	2075219	–	–	–	●	–	–	●	–
	Female connector, M12, 17-pin, straight, A-coded	Cable	17-wire, suitable for 2 A, adapted color coding of open conductor heads, drag chain use, stripped	3 m	2070425	–	–	–	–	●	–	–	●
				5 m	2070426	–	–	–	–	●	–	–	●
				10 m	2070427	–	–	–	–	●	–	–	●
			Drag chain use, suitable for 2 A, suitable for refrigeration	5 m	2075220	–	–	–	–	–	–	–	●
	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2042916	–	–	–	●	–	–	●	–
				2 m	2041834	–	–	–	●	–	–	●	–
				3 m	2042914	–	–	–	●	–	–	●	–
				5 m	2042915	–	–	–	●	–	–	●	–
			To connection module CDx (except CDB650), drag chain use	3 m	2061604	–	–	–	●	–	–	●	–
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2049764	–	–	–	–	–	–	–	●
				2 m	2055419	–	–	–	–	–	–	–	●
				3 m	2055420	–	–	–	–	–	–	–	●
				5 m	2055859	–	–	–	–	–	–	–	●
			To connection module CDx (except CDB650), drag chain use	3 m	2061605	–	–	–	–	–	–	–	●
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	0.9 m	6052945	–	–	–	–	●	–	–	●
				2 m	6052286	–	–	–	–	●	–	–	●
				3 m	6051194	–	–	–	–	●	–	–	●
				5 m	6051195	–	–	–	–	●	–	–	●
			Drag chain use, suitable for 2 A, suitable for refrigeration	2 m	6053230	–	–	–	–	–	–	–	●
				3 m	6053231	–	–	–	–	–	–	–	●
				5 m	6053232	–	–	–	–	–	–	–	●
	Female connector, D-Sub-HD, 15-pin, straight	Cable	Extension cable, 15-wire, AWG26	2 m	2043413	●	–	●	●	–	●	●	–
		Male connector, D-Sub-HD, 15-pin, straight	Extension cable, 15-wire, AWG26	2 m	6034417	●	–	●	●	–	●	●	–
				3 m	6034418	●	–	●	●	–	●	●	–

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, female connector, Cable, D-Sub-HD	Plug housing, D-Sub-HD	Suitable for refrigeration, with EEPROM parameter store	0.8 m	2061409	–	–	–	–	–	–	–	●
				3 m	2034150	–	–	–	–	–	–	–	●
				5 m	2049613	–	–	–	–	–	–	–	●
				10 m	2035119	–	–	–	–	–	–	–	●
				15 m	2033127	–	–	–	–	–	–	–	●
	Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin	To connection module CDM42x, 15-wire, without EEPROM parameter store	3 m	2027046	–	–	–	–	–	–	–	●
	Male connector, female connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin Female connector	To connection module CDM490, with EEPROM parameter store for connection with CDM490, with 2 cables, each 15-pin shielded	1 m	2021806	–	–	–	–	–	–	–	●
				3 m	2020307	–	–	–	–	–	–	–	●
	Female connector, D-Sub-HD, 15-pin, straight Male connector, D-Sub-HD, 15-pin, straight	Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	To connection module CDM490, 13-/15-wire	5 m	2022884	–	–	–	–	–	–	–	●
	Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	To connection module CDM490, with plug housing and parameter store (EEPROM)	3 m	2030065	–	–	–	–	–	–	–	●
				10 m	2031034	–	–	–	–	–	–	–	●
	Male connector, D-Sub-HD, 15-pin Female connector, D-Sub-HD, 15-pin	–	Required for connecting a CLV69x (serial)	–	2062450	–	–	–	–	–	–	–	●

- **Signal type/application:** Power

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Cable	Cable	Black AS-i flat cable for looping in the power supply to 4D*pro* Ethernet sensors, 2-wire, by the meter	–	6022463	–	●	–	●	–	–	●	–
	AS-i clip, M12	–	AS-i clip for connection on black AS-i flat cable	–	6022472	–	●	–	●	–	–	●	–

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, M12, 12-pin, straight	Male connector, M12, 4-pin, straight	For connection to black AS-i flat ribbon cable for supplying power to 4D*pro*-Ethernet sensors, drag chain use	1 m	6044572	–	–	–	●	–	–	●	–
				2.5 m	6044573	–	–	–	●	–	–	●	–
	Female connector, M12, 5-pin, straight	Cable	3-wire, suitable for refrigeration	10 m	6053225	–	–	–	–	–	–	–	●
				5 m	6053224	–	–	–	–	–	–	–	●

- **Signal type/application:** Power, CAN

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, M12, 5-pin, straight, A-coded	Male connector, M12, 5-pin, straight, A-coded	CAN cable	1 m	6021164	–	–	–	–	–	–	–	●
				3 m	6021165	–	–	–	–	–	–	–	●
				5 m	6021168	–	–	–	–	–	–	–	●
	Female connector (AUX), M12, 5-pin Female connector, M12, 5-pin Male connector, M12, 5-pin	–	Required for connecting a CLV69x (CAN)	–	2062453	–	–	–	–	–	–	–	●
	Male connector, M12, 5-pin Male connector, M12, 5-pin Female connector (AUX), M12, 5-pin	–	Required for connecting a CLV69x (CAN redundant)	–	2062454	–	–	–	–	–	–	–	●

- **Signal type/application:** CAN

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, M12, 5-pin, straight	Male connector, M12, 5-pin, straight	Suitable for refrigeration	1 m	6053723	–	–	–	–	–	–	–	●
				3 m	6053724	–	–	–	–	–	–	–	●
		Cable	Suitable for refrigeration	5 m	6053720	–	–	–	–	–	–	–	●
				10 m	6053721	–	–	–	–	–	–	–	●

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 5-pin, straight	–	CAN plug, with resistance	–	6021167	–	–	–	–	–	–	–	●

- **Signal type/application:** Ethernet

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	4-wire	2 m	6034420	–	–	–	●	–	–	●	●
				3 m	6034421	–	–	–	●	–	–	●	●
				5 m	6034422	–	–	–	●	–	–	●	●
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	–	–	●	–	–	●	●
				3 m	6044400	–	–	–	●	–	–	●	●
				5 m	6034415	–	–	–	●	–	–	●	●
				10 m	6030928	–	–	–	●	–	–	●	●
				20 m	6036158	–	–	–	●	–	–	●	●
 Illustration may differ			4-wire, suitable for refrigeration, Ecolab, AWG26	2 m	6050198	–	–	–	●	●	–	●	●
				3 m	6050199	–	–	–	●	●	–	●	●
				5 m	6050200	–	–	–	●	●	–	●	●
				10 m	6050201	–	–	–	●	●	–	●	●
				20 m	6050596	–	–	–	●	●	–	●	●
			35,000 torsion flex cycles, Robot	5 m	6053217	–	–	–	●	–	–	●	●

- **Signal type/application:** PROFINET

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 4-pin, straight, D-coded	Cable	4-wire, CAT5, CAT5e	2 m	6048247	–	●	–	●	–	–	●	–
				5 m	6048248	–	●	–	●	–	–	●	–
				10 m	6048249	–	●	–	●	–	–	●	–
	Male connector, M12, 4-pin, angled, D-coded	Cable	4-wire, CAT5, CAT5e	2 m	6048256	–	●	–	●	–	–	●	–
				5 m	6048257	–	●	–	●	–	–	●	–
				10 m	6048258	–	●	–	●	–	–	●	–
				25 m	6048259	–	●	–	●	–	–	●	–
	Male connector, M12, 4-pin, straight, D-coded	Male connector, M12, 4-pin, straight, D-coded	4-wire, CAT5, CAT5e	2 m	6048241	–	●	–	●	–	–	●	–
				5 m	6048242	–	●	–	●	–	–	●	–
				10 m	6048243	–	●	–	●	–	–	●	–

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 4-pin, angled, D-coded	Male connector, M12, 4-pin, straight, D-coded	4-wire, CAT5, CAT5e	2 m	6048250	–	●	–	●	–	–	●	–
				5 m	6048251	–	●	–	●	–	–	●	–
				10 m	6048252	–	●	–	●	–	–	●	–
		Male connector, M12, 4-pin, angled, D-coded	4-wire, CAT5, CAT5e	2 m	6050635	–	●	–	●	–	–	●	–
				5 m	6050636	–	●	–	●	–	–	●	–
				10 m	6050637	–	●	–	●	–	–	●	–
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 4-pin, straight	4-wire, CAT5, CAT5e	2 m	6048244	–	●	–	●	–	–	●	–
				5 m	6048245	–	●	–	●	–	–	●	–
				10 m	6048246	–	●	–	●	–	–	●	–
	Male connector, RJ45, 4-pin, straight	Male connector, M12, 4-pin, angled, D-coded	4-wire, CAT5, CAT5e	2 m	6048253	–	●	–	●	–	–	●	–
				5 m	6048254	–	●	–	●	–	–	●	–
				10 m	6048255	–	●	–	●	–	–	●	–

- **Signal type/application:** Power, CAN, Ethernet

	Connection type head A	Connection type head B	Cable	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 5-pin	Female connector, M12, 5-pin	Required for connecting a CLV69x (CAN/Ethernet)	2074708	–	–	–	–	–	–	–	●
		Male connector, M12, 5-pin	Required for connecting a CLV69x (CAN redundant/Ethernet)	2074710	–	–	–	–	–	–	–	●

- **Signal type/application:** Power, Ethernet, serial, CAN

	Connection type head A	Cable	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, M12, 17-pin Male connector, M12, 5-pin Female connector, M12, 4-pin	Required for connecting a CLV69x (Ethernet/stand-alone)	2062452	–	–	–	–	–	–	–	●

- **Signal type/application:** Serial

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Female connector, D-Sub, 9-pin, straight	Cable	3-wire	3 m	2020319	●	–	●	●	–	●	●	●
	Female connector, D-Sub, 9-pin, straight, A-coded	Male connector, M12, 5-pin, straight, A-coded	Configuration cable for connection to the AUX interface of cloning plugs 2062453 and 2062454, 3-wire	5 m	2027955	–	–	–	–	–	–	–	●
	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	2014054	●	–	●	●	–	●	●	●

- **Signal type/application:** RS-232, USB

	Connection type head A	Connection type head B	Cable	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, D-Sub, 9-pin, straight	Male connector, USB-A, straight	Converter RS-232 to USB (if no RS-232 interface is available with the PC)	6042499	●	–	●	●	–	●	●	●

- **Signal type/application:** USB 2.0

	Connection type head A	Connection type head B	Cable length	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Male connector, USB-A	Male connector, Micro-B	2 m	6036106	–	●	–	–	–	–	–	–

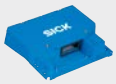
Connection inlays

	Connection type	Cable	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Connection inlay (female connector), D-Sub-HD, 15-pin	Ready-to-assemble	6010019	●	–	●	●	–	●	●	–
	Connection inlay (male connector), D-Sub-HD, 15-pin	Ready-to-assemble	6010020	●	–	●	●	–	●	●	–

	Connection type	Cable	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	Connection inlay (male connector), D-Sub-HD, 9-pin, 15-pin	Ready-to-assemble	6009438	●	–	●	●	–	●	●	–

Reflectors and optics

Mirror adapters

	Brief description	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
	External mirror hood (105°) for reducing reading distance between two closely spaced conveyor belts	2046811	●	–	●	●	–	●	●	–
	Standard mirror shield with glass front window (for reducing the mounting area)	2032070	–	–	–	–	–	–	–	●
	Mirror shield with plastic front window (for reducing the mounting area)	2055917	–	–	–	–	–	–	–	●

Further accessories

Heating units

All CLV63x, CLV64x, CLV65x and CLV69x bar code scanners have heated versions – with separate part numbers – available upon request. (The heating can't be retrofitted.)

	Type	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	CLV6xx-Heating-Standard-Front	On request	–	–	–	–	–	●	●	–
 Illustration may differ	CLV6xx-Heating-Standard-OM	On request	–	–	–	–	–	●	●	–
 Illustration may differ	CLV6xx-Heating-Standard-Side	On request	–	–	–	–	–	●	●	–

Storage media

	Brief description	Part no.	CLV61x cable	CLV61x Dual Port	CLV62x cable	CLV62x Ethernet	CLV62x-64x IP69K	CLV63x-65x cable	CLV63x-65x Ethernet	CLV69x
 Illustration may differ	microSD memory card with 1 GB for industrial use	4051366	–	–	–	–	–	●	●	–

RFID

Mounting systems

Mounting brackets and mounting plates

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Mounting bracket	2048551	●	●	●	●	–	–	–	–
	Simple mounting bracket	2071067	–	–	–	–	●	●	●	–
	Frame bracket	2071773	–	–	–	–	●	●	●	–
	VESA adapter plate, incl. assembly material	2071862	–	–	–	–	●	●	●	–
		2061688	–	–	–	–	–	–	–	●
	Mounting bracket for wall mounting, incl. assembly material	2060912	–	–	–	–	–	–	–	●
	Pivot mounting bracket, incl. assembly material	2061737	–	–	–	–	–	–	–	●

Terminal and alignment brackets

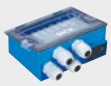
	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Quick-action lock system	2016110	–	–	–	–	●	●	●	–
	Base clamp	5327611	–	–	–	–	●	●	●	●
	Cross clamp	5327612	–	–	–	–	●	●	●	●
	Link clamp with screws	2068919	–	–	–	–	●	●	●	●
	Pipe, diameter 30 mm, length 1 m	5327610	–	–	–	–	●	●	●	●
	Sealing plug, diameter 30 mm	5327613	–	–	–	–	●	●	●	●

Device protection (mechanical)

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection	4038847	●	●	●	●	●	●	–	●

Connection systems

Modules

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Small connection module for one sensor, 4 cable glands, base for CMC600	CDB620-001	1042256	●	●	●	●	●	●	–	–
	Small connection module for one sensor, 2 cable glands, 2 x M12 connector/socket for CAN, base for CMC600	CDB620-101	1042257	●	●	●	●	●	●	–	–
	Small connection module for a sensor, 5 cable glands, socket for CMC cloning module	CDB620-201	1042258	●	●	●	●	●	●	–	–
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals, including trigger unit functionality for external illumination of LECTOR65x	CDB650-204	1064114	–	–	–	●	–	●	–	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	●	●	●	–	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●	●	●	●	●	–	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	●	●	●	–	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	●	●	●	●	●	–	●
	Fieldbus proxy/gateway to connect to a EtherCAT® network	CDF600-0300	1052291	●	●	●	●	●	●	–	–
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●	●	●	●	–	–
	Modular connection module for two sensors	CDM420-0004	1028487	●	●	●	●	●	●	–	–
	Modular connection module for one sensor, 2 A fuse	CDM420-0006	1058634	●	●	●	●	●	●	–	●

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	●	●	●	●	●	●	–	●
	Kit: modular connection module for one sensor, 2 A fuse,Host and AUX interface available on face plate, power supply CMP490, US power cord	CDM420-0108	1064248	●	●	●	●	●	●	–	●
	External parameter memory for integration in CDB620/CDB650/CDM42x	CMC600-101	1042259	●	●	●	●	●	●	–	●

Power supply units and power cord connectors

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Power supply unit with pre-assembled M12 female connector	2049552	–	●	–	–	–	–	–	–
	Power supply unit with pre-assembled M12 female connector, 17-pin	2062249	–	–	–	●	–	●	–	●

Plug connectors and cables

- **Signal type/application:** Power, serial, CAN, digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Female connector, M12, 12-pin, straight	Cable	12-wire, UL	5 m	6034605	–	●	–	–	–	–	–	–
	Female connector, M12, 12-pin, straight, A-coded	Cable	Drag chain use, suitable for 2 A, suitable for refrigeration	5 m	2075219	–	●	–	–	–	–	–	–
	Female connector, M12, 17-pin, straight, A-coded	Cable	17-wire, suitable for 2 A, adapted color coding of open conductor heads, drag chain use, stripped	3 m	2070425	–	–	–	●	–	●	–	●
				5 m	2070426	–	–	–	●	–	●	–	●
				10 m	2070427	–	–	–	●	–	●	–	●
			Drag chain use, suitable for 2 A, suitable for refrigeration	5 m	2075220	–	–	–	●	–	●	–	●

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2042916	–	●	–	–	–	–	–	–
				2 m	2041834	–	●	–	–	–	–	–	–
				3 m	2042914	–	●	–	–	–	–	–	–
				5 m	2042915	–	●	–	–	–	–	–	–
			To connection module CDx (except CDB650), drag chain use	3 m	2061604	–	●	–	–	–	–	–	–
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.35 m	2056184	–	–	–	●	–	●	–	●
				0.9 m	2049764	–	–	–	●	–	●	–	●
				2 m	2055419	–	–	–	●	–	●	–	●
				3 m	2055420	–	–	–	●	–	●	–	●
				5 m	2055859	–	–	–	●	–	●	–	●
			To connection module CDx (except CDB650), drag chain use	3 m	2061605	–	–	–	●	–	●	–	●
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	0.9 m	6052945	–	–	–	●	–	●	–	●
				2 m	6052286	–	–	–	●	–	●	–	●
				3 m	6051194	–	–	–	●	–	●	–	●
				5 m	6051195	–	–	–	●	–	●	–	●
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	Drag chain use, suitable for 2 A, suitable for refrigeration	2 m	6053230	–	–	–	●	–	●	–	●
				3 m	6053231	–	–	–	●	–	●	–	●
				5 m	6053232	–	–	–	●	–	●	–	●
	Female connector, D-Sub-HD, 15-pin, straight	Cable	Extension cable, 15-wire, AWG26	2 m	2043413	●	–	●	–	●	–	–	–
		Male connector, D-Sub-HD, 15-pin, straight	Extension cable, 15-wire, AWG26	2 m	6034417	●	●	●	●	●	●	–	●
				3 m	6034418	●	●	●	●	●	●	–	●

- **Signal type/application:** Power

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Female connector, M12, 17-pin	Cable	To connection module CDx (except CDB650), 2-wire	10 m	6048319	–	–	–	●	–	●	–	●
	Cable	Cable	Black AS-i flat cable for looping in the power supply to 4D*pro* Ethernet sensors, sold per meter, 2-wire, by the meter	–	6022463	–	●	–	●	–	●	–	–
	AS-i clip, M12	–	AS-i clip for connection on black AS-i flat cable	–	6022472	–	●	–	●	–	●	–	–
	Female connector, M12, 12-pin, straight	Male connector, M12, 4-pin, straight	For connection to black AS-i flat ribbon cable for supplying power to 4D*pro*-Ethernet sensors, drag chain use	1 m	6044572	–	●	–	–	–	–	–	–
				2.5 m	6044573	–	●	–	–	–	–	–	–
	Female connector, M12, 17-pin, straight	Male connector, M12, 4-pin, straight	For connection to black AS-i flat ribbon cable for supplying power to 4D*pro*-Ethernet sensors, drag chain use	1 m	6044574	–	–	–	●	–	●	–	–
				2.5 m	6044575	–	–	–	●	–	●	–	–

- **Signal type/application:** Ethernet

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	4-wire	2 m	6034420	–	●	–	●	–	●	–	●
				3 m	6034421	–	●	–	●	–	●	–	●
				5 m	6034422	–	●	–	●	–	●	–	●
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, AWG26, drag chain use	2 m	6034414	–	●	–	●	–	●	–	●
				3 m	6044400	–	●	–	●	–	●	–	●
				5 m	6034415	–	●	–	●	–	●	–	●
				10 m	6030928	–	●	–	●	–	●	–	●
				20 m	6036158	–	●	–	●	–	●	–	●
 Illustration may differ			4-wire, suitable for refrigeration, Ecolab, AWG26	2 m	6050198	–	●	–	●	–	●	–	●
				3 m	6050199	–	●	–	●	–	●	–	●
				5 m	6050200	–	●	–	●	–	●	–	●
				10 m	6050201	–	●	–	●	–	●	–	●
				20 m	6050596	–	●	–	●	–	●	–	●
			35,000 torsion flex cycles, robot	5 m	6053217	–	●	–	●	–	●	–	●

- **Signal type/application:** Gigabit Ethernet/PoE

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Male connector, M12, 8-pin, straight, X-coded	Male connector, RJ45, 8-pin, straight	AWG26	2 m	6049728	–	–	–	–	–	–	●	–
				5 m	6049729	–	–	–	–	–	–	●	–
				10 m	6049730	–	–	–	–	–	–	●	–

- **Signal type/application:** serial

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Female connector, D-Sub, 9-pin, straight	Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	2014054	●	●	●	●	●	●	–	●

- **Signal type/application:** RS-232, USB

	Connection type head A	Connection type head B	Cable	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Male connector, D-Sub, 9-pin, straight	Male connector, USB-A, straight	Converter RS-232 to USB (if no RS-232 interface is available with the PC)	6042499	●	●	●	●	●	●	–	●

- **Signal type/application:** USB 2.0

	Connection type head A	Connection type head B	Cable length	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Male connector, USB-A	Male connector, Micro-B	2 m	USB cable	6036106	–	–	–	–	●	●	●	●

- **Signal type/application:** HF analog

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Male connector, N, straight	Male connector, TNC, straight	Antenna connecting cable, power loss 1.5 dB	2 m	6034081	–	–	–	–	–	–	–	●
			Antenna connecting cable, power loss 2.5 dB	5 m	6034082	–	–	–	–	–	–	–	●
			Antenna connecting cable, power loss 3.5 dB	10 m	6034083	–	–	–	–	–	–	–	●
	Female connector, TNC	Female connector, TNC	Antenna connecting cable, power loss 1.5 dB	2 m	6049780	–	–	–	–	–	–	–	●
			Antenna connecting cable, power loss 2.5 dB	5 m	6049781	–	–	–	–	–	–	–	●
			Antenna connecting cable, power loss 3.5 dB	10 m	6049782	–	–	–	–	–	–	–	●

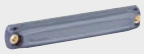
Further accessories

RFID antennas

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Industrial RFID HF antenna, cable length 3.62 m, diameter 30 mm, length 48 mm	RFA312-3733	1065473	–	–	–	●	–	–	–	–
	Industrial RFID HF antenna, cable length 3.62 m, dimensions 300 mm x 210 mm x 33 mm	RFA332-2032	1054399	–	–	–	●	–	–	–	–
	Industrial RFID UHF antenna, carrier frequency 865 ... 868 MHz (Europe, India, Russia, South Africa, Saudi Arabia), TNC reverse	RFA630-000	1058383	–	–	–	–	–	–	–	●
	Industrial RFID UHF antenna, carrier frequency 902 ... 928 MHz (USA, Canada, México, Australia, Brazil, China, Japan), TNC reverse	RFA630-001	1058384	–	–	–	–	–	–	–	●
	Industrial RFID UHF antenna, carrier frequency 865 ... 868 MHz (Europe, India, Russia, South Africa, Saudi Arabia), TNC male connector, with integrated feedback LED (RGB)	RFA630-100	1059946	–	–	–	–	–	–	–	●
	Industrial RFID UHF antenna, carrier frequency 902 ... 928 MHz (USA, Canada, México, Australia, Brazil, China, Japan), TNC male connector, with integrated feedback LED (RGB)	RFA630-101	1059947	–	–	–	–	–	–	–	●
	Industrial RFID UHF antenna, carrier frequency 860 ... 960 MHz (Europe and North America), N male connector	RFA641-3440	6034316	–	–	–	–	–	–	–	●
	Industrial RFID UHF antenna, carrier frequency 865 ... 870 MHz (Europe, South Africa, Saudi Arabia), TNC reverse	RFA651-5731	6036102	–	–	–	–	–	–	–	●

RFID transponder

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	HF transponder, PA 6, diameter 30 mm, NXP ICODE SLIX	Disc (30 mm)	6034740	●	●	●	●	–	–	–	–
	HF transponder, PA 6, diameter 30 mm, Fujitsu MB89R118	Disc (30 mm)	6043514	●	●	●	●	–	–	–	–
	HF transponder, PA 6, diameter 50 mm, NXP ICODE SLIX	Disc (50 mm)	6033781	●	●	●	●	–	–	–	–
	HF transponder, PA 6, diameter 50 mm, Fujitsu MB89R118	Disc (50 mm)	6042212	●	●	●	●	–	–	–	–
	HF transponder, ABS, diameter 30 mm, NXP ICODE SLIX	Disk low cost (30 mm)	6051701	●	●	●	●	–	–	–	–
	HF transponder, PA9T, diameter 22 mm, NXP ICODE SLIX	Disk on-metal (22 mm)	6052179	●	●	●	●	–	–	–	–
	HF transponder, glass, length 21.7 mm, diameter 4 mm, NXP ICODE SLIX	Glass transponder	6039237	●	●	●	●	–	–	–	–
	HF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, NXP ICODE SLIX	ISO card	6037848	●	●	●	●	–	–	–	–
	HF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, Texas Instruments Tag-it-HF-I plus	ISO card	6037846	●	●	●	●	–	–	–	–
	HF transponder, PVC, 85,6 mm x 54 mm x 0,76 mm, NXP ICODE SLIX	ISO card (low cost)	6042981	●	●	●	●	–	–	–	–
	HF transponder, modified thermoplastic, diameter 16 mm, NXP ICODE SLIX	Coin (16 mm)	6041592	●	●	●	●	–	–	–	–
	HF transponder, PPS, diameter 22 mm, Texas Instruments Tag-it HF-I plus	Coin (22 mm)	6033173	●	●	●	●	–	–	–	–
	HF transponder, ABS, 90 mm x 34 mm x 7 mm, NXP ICODE SLIX	On-metal transponder flat	6047938	●	●	●	●	–	–	–	–
	HF transponder, polyamid, silicone, 25 mm x 12,5 mm x 5 mm, NXP ICODE SLI	On-metal transponder small	6039051	●	●	●	●	–	–	–	–
	HF transponder, paper, 81 mm x 49 mm, NXP ICODE SLIX	Paper label	6037763	●	●	●	●	–	–	–	–
 Illustration may differ	HF transponder, paper, 36 mm x 18 mm, NXP ICODE SLIX	Paper label	6052794	●	●	●	●	–	–	–	–
	HF transponder, nylon, length 30 mm, diameter 5 mm, NXP ICODE SLIX	Cylinder transponder	6044368	●	●	●	●	–	–	–	–
	UHF transponder, global, high memory, 41 mm x 11 mm x 5.15 mm, NXP UCODE I²C	High memory transponder (41 mm x 11 mm x 5.15 mm)	6054025	–	–	–	–	●	●	●	●
	UHF transponder, PVC, 85.6 mm x 54 mm x 0.76 mm, Alien Higgs	ISO card	6051820	–	–	–	–	●	●	●	●

	Brief description	Type	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
 Illustration may differ	UHF transponder, global, 110 mm x 70 mm x 0.42 mm, NXP UCODE G2iM	Label High Temp	6052355	–	–	–	–	●	●	●	●
	UHF transponder, global, 110 mm x 70 mm x 0.42 mm, NXP UCODE G2XM	Label High Temp	6049636	–	–	–	–	●	●	●	●
	UHF transponder, ETSI, plastic, 155 mm x 26 mm x 14.5 mm, Impinj Monza 4QT	On-metal Transponder (155 mm x 26 mm x 14.5 mm)	6055970	–	–	–	–	●	●	●	●
	UHF transponder, plastic, global, 27 mm x 27 mm x 6 mm, Impinj Monza 4QT	On-metal Transponder (27 mm x 27 mm x 6 mm)	6052186	–	–	–	–	●	●	●	●
	UHF transponder, global, thermoplastic, 51.5 mm x 47.5 mm x 10 mm, Impinj Monza 4 QT	On-metal Transponder (52 mm x 48 mm x 10 mm)	6052346	–	–	–	–	●	●	●	●
	UHF transponder, plastic, ETSI, 63 mm x 10 mm x 4 mm, Alien Higgs 3	On-metal Transponder (63 mm x 10 mm x 4 mm)	6053373	–	–	–	–	●	●	●	●
	UHF transponder, FCC, plastic, 63 mm x 10 mm x 4 mm, Alien Higgs 3	On-metal Transponder (63 mm x 10 mm x 4 mm)	6053374	–	–	–	–	●	●	●	●
	UHF transponder, ETSI, PA 6, Durchmesser 55 mm, Dicke 13 mm, NXP UCODE G2XM	On-metal Transponder ETSI Disk on spacer	6051350	–	–	–	–	●	●	●	●
	UHF transponder, FCC, PA 6, diameter 55 mm, thickness 3 mm, NXP UCODE G2XM	On-metal Transponder FCC Disk on spacer	6051351	–	–	–	–	●	●	●	●
	UHF Transponder, ETSI, Nylon, 51 mm x 36.3 mm x 7.5 mm, NXP G2XM	On-metal Transponder High Temp ETSI	6050780	–	–	–	–	●	●	●	●
	UHF Transponder, FCC, Nylon, 51 mm x 36.3 mm x 7.5 mm, Alien Higgs 3	On-metal Transponder High Temp FCC	6053159	–	–	–	–	●	●	●	●
	UHF transponder, special label for wooden pallets, 73 mm x 14 mm x 0.3 mm, Impinj Monza 4QT	Special label	6054385	–	–	–	–	●	●	●	●

Storage media

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
 Illustration may differ	microSD memory card with 1 GB for industrial use	4051366	●	●	●	●	●	●	●	●

Other mounting accessories

	Brief description	Part no.	RFH620 Cable	RFH620 Ethernet	RFH630 Cable	RFH630 Ethernet	RFU62x Cable	RFU62x Ethernet	RFU62x PoE	RFU63x
	Spacer for on-metal application with disc transponder; length 20 mm, diameter 18 mm, hole 8.2 mm, up to 120 °C	5324113	●	●	●	●	–	–	–	–
	Mounting bracket for card transponder on euro-pallet	2042903	●	●	●	●	●	●	●	●
	Teflon holder for high memory transponder (6054025); 2 x hole 6.2 mm	2075469	–	–	–	–	●	●	●	●

Hand-held scanners 1D

Mounting systems

Other mounting accessories

	Brief description	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Desk holder	6036723	●	●	●	●	–	–	–
		6045192	–	–	–	–	●	●	●
	Tripod mount	6036724	●	●	●	●	–	–	–
	Tripod mount	6045193	–	–	–	–	●	●	●

Connection systems

Adapters and distributors

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
 Illustration may differ	Male connector, D-Sub, 9-pin	Male connector, D-Sub, 15-pin	Incl. 24V/5V DC converter, for hand-held scanners to CDB620/CDM420/CDF600/CDF600-2	0.2 m	2056475	●	●	●	–	●	●	–
				0.3 m	2057709	●	●	●	–	●	●	–

Modules

	Brief description	Type	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	–	●	●	–
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●	●	–	●	●	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	–	●	●	–
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	●	●	–	●	●	–

	Brief description	Type	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Fieldbus proxy/gateway to connect to a EtherCAT® network	CDF600-0300	1052291	●	●	●	–	●	●	–
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●	–	●	●	–
	Modular connection module for two sensors	CDM420-0004	1028487	●	●	●	–	●	●	–
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	●	●	●	–	●	●	–

Plug connectors and cables

- **Signal type/application:** PS/2

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Female connector, Mini-DIN	Male connector, RJ45	For keyboard wedge, straightened cable	2 m	6036726	●	●	●	–	–	●	–
			For keyboard wedge, coiled cable	3.8 m	6039155	●	●	–	–	–	–	–
	Male connector, Mini-DIN		For keyboard wedge, straightened cable	2 m	6045194	–	–	–	–	●	–	–
			For keyboard wedge, coiled cable	3.8 m	6045231	–	–	–	–	●	–	–

- **Signal type/application:** RS-232 TTL

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Female connector, D-Sub, 9-pin, straight	Male connector, RJ45	Straightened cable, voltage via pin 9 or external power supply required	1.8 m	6041540	●	●	●	–	–	●	–
			Coiled cable, voltage via pin 9 or external power supply required	3.8 m	6039156	●	●	–	–	–	–	–
			Straightened cable, voltage via pin 9 or external power supply required	1.8 m	6045196	–	–	–	–	●	–	–
			Coiled cable, voltage via pin 9 or external power supply required	3.8 m	6045233	–	–	–	–	●	–	–

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	6036728	●	●	●	●	–	●	●
			For keyboard wedge or USB Com Port Emulation, coiled cable	3.8 m	6039158	●	●	–	–	–	–	–
			Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	6045195	–	–	–	–	●	–	–
			For keyboard wedge or USB Com Port Emulation, coiled cable	3.8 m	6045232	–	–	–	–	●	–	–

Power supply units and power cord connectors

	Brief description	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	6036722	●	●	●	●	●	●	●

Further accessories

Rechargeable batteries and battery chargers

	Brief description	Part no.	IDM120 Corded	IDM140 Corded	IDM141 Bluetooth	IDM142 WIFI	IDM160 Corded	IDM161 Bluetooth	IDM162 WIFI
	Lithium-ion replacement battery for IDM radio scanners, voltage 3.7 V, electrical charge 2,600 mAH	6041193	–	–	●	●	–	●	●
	Radio base station; operation voltage 5 V DC, power max. 680 mA	6053628	–	–	●	–	–	–	–
		6053629	–	–	–	–	–	●	–
	Charging station without Bluetooth functionality; operating voltage 5 V DC, operating power max. 650 mA	6041266	–	–	●	●	–	–	–
		6045198	–	–	–	–	–	●	●

Hand-held scanners 2D

Mounting systems

Other mounting accessories

	Brief description	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Tripod mount	6036724	●	●	–	–
	Tripod mount	6045193	–	–	●	●
	Desk holder	6045192	●	●	●	●

Connection systems

Adapters and distributors

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
 Illustration may differ	Male connector, D-Sub, 9-pin	Male connector, D-Sub, 15-pin	Incl. 24V/5V DC converter, for hand-held scanners to CDB620/CDM420/CDF600/CDF600-2, adapter AUX port	0.2 m	2056475	●	●	●	●
			Incl. 24V/5V DC converter, for hand-held scanners to CDB620/CDM420/CDF600/CDF600-2	0.3 m	2057709	●	●	●	●

Modules

	Brief description	Type	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 2 x M12, male connector/female connector, 5-pin)	CDF600-2100	1058965	●	●	●	●
	Fieldbus proxy/gateway for connecting identification sensors to PROFIBUS-DP networks (PROFIBUS interface: 1 x D-Sub, female connector, 9-pin)	CDF600-2103	1058966	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x M12, female connector/female connector, 4-pin)	CDF600-2200	1062460	●	●	●	●
	Fieldbus proxy/gateway for connecting one identification sensor to PROFINET networks (interface 2 x RJ45 AIDA, female connector/female connector, 4-pin)	CDF600-2201	1063390	●	●	●	●
	Fieldbus proxy/gateway to connect to a EtherCAT® network	CDF600-0300	1052291	●	●	●	●

	Brief description	Type	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Modular connection module for one sensor	CDM420-0001	1025362	●	●	●	●
	Modular connection module for two sensors	CDM420-0004	1028487	●	●	●	●
	Modular connection module for two sensors, 2 A fuse	CDM420-0007	1060324	●	●	●	●

Plug connectors and cables

- **Signal type/application:** PS/2

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Female connector, Mini-DIN Male connector, Mini-DIN	Male connector, RJ45	For keyboard wedge, straightened cable	2 m	6036726	●	●	–	●
			For keyboard wedge, coiled cable	3.8 m	6039155	●	–	–	–
			For keyboard wedge, straightened cable	2 m	6045194	–	–	●	–
			For keyboard wedge, coiled cable	3.8 m	6045231	–	–	●	–

- **Signal type/application:** RS-232 TTL

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Female connector, D-Sub, 9-pin, straight	Male connector, RJ45	Straightened cable, voltage via pin 9 or external power supply required	1.8 m	6041540	●	●	–	●
			Coiled cable, voltage via pin 9 or external power supply required	3.8 m	6039156	●	–	–	–
			Straightened cable, voltage via pin 9 or external power supply required	1.8 m	6045196	–	–	●	–
			Coiled cable, voltage via pin 9 or external power supply required	3.8 m	6045233	–	–	●	–

- **Signal type/application:** USB

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Male connector, USB-A	Male connector, RJ45	Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	6036728	●	●	–	●
			For keyboard wedge or USB Com Port Emulation, coiled cable	3.8 m	6039158	●	–	–	–
			Straightened cable, for keyboard wedge or USB Com Port Emulation	1.8 m	6045195	–	–	●	–
			For keyboard wedge or USB Com Port Emulation, coiled cable	3.8 m	6045232	–	–	●	–

Power supply units and power cord connectors

	Brief description	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Power supply, input AC 100 ... 240 V, output DC 5 V/2 A (necessary when using RS-232 TTL cable, does not fulfill medical standard EN 60601/ IEC 60601))	6036722	●	●	●	●

Further accessories

Rechargeable batteries and battery chargers

	Brief description	Part no.	IDM240 Corded	IDM241 Bluetooth	IDM260 Corded	IDM261 Bluetooth
	Lithium-ion replacement battery for IDM radio scanners, voltage 3.7 V, electrical charge 2,600 mAH	6041193	–	●	–	●
	Radio base station; operation voltage 5 V DC, power max. 680 mA	6053628	–	●	–	–
		6053629	–	–	–	●
	Charging station without Bluetooth functionality; operating voltage 5 V DC, operating power max. 650 mA	6041266	–	●	–	–
		6045198	–	–	–	●

Connection modules CDB/CDM

Mounting systems

Device protection (mechanical)

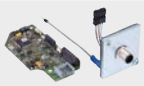
	Brief description	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection	4038847	●	●	–	●	●

Connection systems

Adapters and distributors

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
 Illustration may differ	Male connector, D-Sub, 9-pin	Male connector, D-Sub, 15-pin	Incl. 24V/5V DC converter, for hand-held scanners to CDB620/ CDM420/CDF600/CDF600-2, adapter AUX port	0.2 m	2056475	–	●	–	●	–
			Incl. 24V/5V DC converter, for hand-held scanners to CDB620/ CDM420/CDF600/CDF600-2	0.3 m	2057709	–	●	–	●	–
	–	–	Face plate for connection of hand-held devices or ICR80x into the AUX interface of CDM420	–	2030565	–	–	–	●	●
			Face plate with two additional cable glands	–	2029360	–	–	–	●	●
			Face plate with two 9-pin D-sub plugs, IP 20	–	2029359	–	–	–	●	●
	Female connector	Male connector	Configuration and diagnosis adapter for CMF400	0.25 m	2030490	–	–	–	●	–

Modules and gateways

	Brief description	Type	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	External parameter memory for integration in CDB620/CDB650/ CDM42x	CMC600-101	1042259	–	●	●	●	●
	Visualization of read results and read diagnosis data	CMD400	2029466	–	–	–	●	●
	PROFIBUS DP Gateway (IP 20, 9-pin D-sub socket)	CMF400-1001	1026241	–	–	–	●	●
	PROFIBUS DP Gateway (IP 65, 9-pin D-sub socket; in combination with part number 6029030)	CMF400-1101	1026643	–	–	–	●	●
	PROFIBUS DP Gateway (IP 65, 5-pin M12 plug/socket)	CMF400-1201	1028663	–	–	–	●	●
	DeviceNet Gateway (IP 65, M12 plug)	CMF400-2101	1026242	–	–	–	●	●

	Brief description	Type	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Ethernet TCP/IP Gateway (IP 65, RJ45 socket)	CMF400-3101	1026357	–	–	–	●	●
	Power supply unit, 10.8 W	CMP400	2029468	–	–	–	●	–
	Power supply unit, 25 W, installation by replacement of lid	CMP490	2030091	–	–	–	●	●

Plug connectors and cables

- **Signal type/application:** Power, serial, CAN, digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2042916	–	●	–	●	–
				2 m	2041834	–	●	–	●	–
				3 m	2042914	–	●	–	●	–
				5 m	2042915	–	●	–	●	–
			To connection module CDx (except CDB650), drag chain use	3 m	2061604	–	●	–	●	–
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.35 m	2056184	–	●	–	●	–
				0.9 m	2049764	–	●	–	●	–
				2 m	2055419	–	●	–	●	–
				3 m	2055420	–	●	–	●	–
				5 m	2055859	–	●	–	●	–
			To connection module CDx (except CDB650), drag chain use	3 m	2061605	–	●	–	●	–
	Female connector, M12, 17-pin, straight, A-coded	Male connector, M12, 17-pin, straight, A-coded	To connection module CDB650, 17-wire, suitable for 2 A, drag chain use	0.9 m	6052945	–	–	●	–	–
				2 m	6052286	–	–	●	–	–
				3 m	6051194	–	–	●	–	–
				5 m	6051195	–	–	●	–	–
	Female connector, D-Sub-HD, 15-pin, straight	Cable	Extension cable, 15-wire, AWG26	2 m	2043413	●	●	–	●	●
		Male connector, D-Sub-HD, 15-pin, straight	Extension cable, 15-wire, AWG26	2 m	6034417	●	●	–	●	●
				3 m	6034418	●	●	–	●	●
	Male connector, female connector, D-Sub-HD, 15-pin	Male connector, D-Sub-HD, 15-pin Female connector	To connection module CDM490, with EEPROM parameter store for connection with CDM490, with 2 cables, each15-pin shielded, with 15-pin Sub-HD male/female connector	3 m	2020307	–	–	–	–	●

- **Signal type/application:** Power

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Male connector, safety plug	Cable	For CMP400 and CMP490	2 m	6007655	–	–	–	●	●

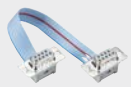
- **Signal type/application:** Power, CAN

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Female connector, M12, 5-pin, A-coded	Cable	5-wire	5 m	6021166	–	●	●	●	●
	Female connector, M12, 5-pin, straight, A-coded	Male connector, M12, 5-pin, straight, A-coded	–	1 m	6021164	–	●	–	–	●
			CAN cable	3 m	6021165	–	●	–	–	●
				5 m	6021168	–	●	–	–	●

- **Signal type/application:** CAN

	Connection type head A	Connection type head B	Cable	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Cable	Cable	4-wire, by the meter, twisted pair	6027048	–	●	●	●	●

- **Signal type/application:** Serial

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Female connector, D-Sub, 9-pin, straight	Cable	3-wire	3 m	2020319	●	●	●	●	●
		Female connector, D-Sub, 9-pin, straight	For PC connection	3 m	2014054	●	●	●	●	●
			Ribbon cable, for looping-in a hand-held scanner via the Aux interface of CDM420-0004 and CDM420-0007	0.14 m	2058003	–	–	–	●	–

- **Signal type/application:** RS-232, USB

	Connection type head A	Connection type head B	Cable	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Male connector, D-Sub, 9-pin, straight	Male connector, USB-A, straight	Converter RS-232 to USB (if no RS-232 interface is available with the PC)	6042499	–	●	–	●	●

- **Signal type/application:** RS-232 TTL

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Male connector, D-Sub-HD, 15-pin	Male connector, RJ45	Straightened cable, connection of ICR803-xxx01to CDB405-001	2 m	6034935	●	–	–	–	–

- **Signal type/application:** PROFIBUS DP

	Connection type head A	Connection type head B	Cable	Part no.	CDB405	CDB620	CDB650	CDM420	CDM490
	Male connector, D-Sub	-	In combination with CMF400-1101	6029030	–	–	–	●	●

Fieldbus modules CDF

Mounting systems

Device protection (mechanical)

	Brief description	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Cover for rotary encoding switch of the CDF600 to protect from manipulation, incl. 2 fastening screws	2052296	–	–	–	●
	IP-65 sealing rubber for extension cables with 15-pin D-Sub plug connection	4038847	–	–	–	●
	Protective cap with lock for PROFINET RJ45 push-pull mounting frame, enclosure rating IP 65	5326204	–	–	●	–
	Protective cap with lock for power push-pull mounting frame, enclosure rating IP 65	5327762	–	–	●	–

Connection systems

Adapters and distributors

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
 Illustration may differ	Male connector, D-Sub, 9-pin	Male connector, D-Sub, 15-pin	Incl. 24V/5V DC converter, for hand-held scanners to CDB620/ CDM420/CDF600/ CDF600-2, adapter AUX port	0.2 m	2056475	●	●	●	●
			Incl. 24V/5V DC converter, for hand-held scanners to CDB620/ CDM420/CDF600/ CDF600-2	0.3 m	2057709	●	●	●	●

Plug connectors and cables

- **Signal type/application:** Power, serial, CAN, digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Female connector, M12, 12-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.9 m	2042916	●	●	●	●
				2 m	2041834	●	●	●	●
				3 m	2042914	●	●	●	●
				5 m	2042915	●	●	●	●
			To connection module CDx (except CDB650), drag chain use	3 m	2061604	●	●	●	●
	Female connector, M12, 17-pin, straight	Male connector, D-Sub-HD, 15-pin, straight	To connection module CDx (except CDB650)	0.35 m	2056184	●	●	●	●
				0.9 m	2049764	●	●	●	●
				2 m	2055419	●	●	●	●
				3 m	2055420	●	●	●	●
				5 m	2055859	●	●	●	●
			To connection module CDx (except CDB650), drag chain use	3 m	2061605	●	●	●	●

- **Signal type/application:** Power

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Female connector, M12, 5-pin, straight, A-coded	Cable	5-wire, drag chain use, UL	5 m	6036384	●	●	–	●
	Female connector, M12, 5-pin, angled, A-coded	Cable	Female connector M12 Speedcon, A-coded angeled on open end, 5-wire, drag chain use	1.5 m	6049455	●	●	–	●
				3 m	6049456	●	●	–	●
				5 m	6049457	●	●	–	●
				10 m	6049458	●	●	–	●

- **Signal type/application:** Digital I/Os

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Male connector, M12, 5-pin, straight	Cable	–	2 m	6026133	●	●	●	●
	Male connector, M12, 5-pin, straight, A-coded	Female connector, M12, 5-pin, straight, A-coded	5-wire, drag chain use, UL	2 m	6025931	●	●	●	●

- **Signal type/application:** PROFIBUS DP

	Connection type head A	Connection type head B	Cable	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Cable	Cable	2-wire, drag chain use, by the meter	6021355	●	–	–	–
	Female connector, M12, 5-pin, straight, B-coded	–	–	6021353	●	–	–	–
	Male connector, M12, 5-pin, straight, B-coded	–	–	6021354	●	–	–	–
	Male connector, M12, 4-pin, straight, B-coded	–	Terminal resistor	6021156	●	–	–	–

- **Signal type/application:** PROFINET, EtherCAT®

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Male connector, M12, 4-pin, straight, D-coded	Cable	4-wire, CAT5, CAT5e	2 m	6048247	–	●	–	●
				5 m	6048248	–	●	–	●
				10 m	6048249	–	●	–	●
	Male connector, M12, 4-pin, angled, D-coded	Cable	4-wire, CAT5, CAT5e	2 m	6048256	–	●	–	●
				5 m	6048257	–	●	–	●
				10 m	6048258	–	●	–	●
				25 m	6048259	–	●	–	●
	Male connector, M12, 4-pin, straight, D-coded	Male connector, M12, 4-pin, straight, D-coded	4-wire, CAT5, CAT5e	2 m	6048241	–	●	–	●
				5 m	6048242	–	●	–	●
				10 m	6048243	–	●	–	●
	Male connector, M12, 4-pin, angled, D-coded	Male connector, M12, 4-pin, straight, D-coded	4-wire, CAT5, CAT5e	2 m	6048250	–	●	–	●
				5 m	6048251	–	●	–	●
				10 m	6048252	–	●	–	●
		Male connector, M12, 4-pin, angled, D-coded	4-wire, CAT5, CAT5e	2 m	6050635	–	●	–	●
				5 m	6050636	–	●	–	●
				10 m	6050637	–	●	–	●
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 4-pin, straight	4-wire, CAT5, CAT5e	2 m	6048244	–	●	–	●
				5 m	6048245	–	●	–	●
				10 m	6048246	–	●	–	●
	Male connector, RJ45, 4-pin, straight	Male connector, M12, 4-pin, angled, D-coded	4-wire, CAT5, CAT5e	2 m	6048253	–	●	–	●
				5 m	6048254	–	●	–	●
				10 m	6048255	–	●	–	●
	Male connector, M12, 4-pin, straight, D-coded	–	CAT5, CAT5e	–	6048261	–	●	–	●
	Male connector, M12, 4-pin, angled, D-coded	–	CAT5, CAT5e	–	6048262	–	●	–	●
	Female connector, M12, 4-pin, straight, D-coded	–	CAT5, CAT5e	–	6048263	–	●	–	●
	Female connector, M12, 4-pin, angled, D-coded	–	CAT5, CAT5e	–	6048264	–	●	–	●
	Male connector, RJ45, 4-pin, straight	–	CAT5, CAT5e	–	6048260	–	●	–	●

- **Signal type/application:** Ethernet

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Male connector, M12, 4-pin, D-coded	Male connector, M12, 4-pin, D-coded	4-wire	2 m	6034420	–	●	–	●
				3 m	6034421	–	●	–	●
				5 m	6034422	–	●	–	●
	Male connector, M12, 4-pin, straight, D-coded	Male connector, RJ45, 8-pin, straight	4-wire, drag chain use, AWG26	2 m	6034414	–	●	–	●
				3 m	6044400	–	●	–	●
				5 m	6034415	–	●	–	●
				10 m	6030928	–	●	–	●
				20 m	6036158	–	●	–	●
 Illustration may differ			4-wire, suitable for refrig-eration, Ecolab, AWG26	2 m	6050198	–	●	–	●
				3 m	6050199	–	●	–	●
				5 m	6050200	–	●	–	●
				10 m	6050201	–	●	–	●
				20 m	6050596	–	●	–	●
			35,000 torsion flex cycles, Robot	5 m	6053217	–	●	–	●

- **Signal type/application:** Serial

	Connection type head A	Connection type head B	Cable	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Female connector, D-Sub, 9-pin, straight	Male connector, M8, 4-pin, straight	UL, for connecting the configuration connection to the serial interface of a PC	2 m	6021195	–	–	–	●
			For connecting the configuration connection to the serial interface of a PC	10 m	2027649	–	–	–	●

- **Signal type/application:** USB 2.0

	Connection type head A	Connection type head B	Cable length	Part no.	CDF600-2 PROFIBUS DP	CDF600-2 PROFINET M12	CDF600-2 PROFINET AIDA	CDF600 EtherCAT®
	Male connector, USB-A	Male connector, Micro-B	2 m	6036106	●	●	●	–

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