WLL180T

Sensor Configuration for Individual Applications
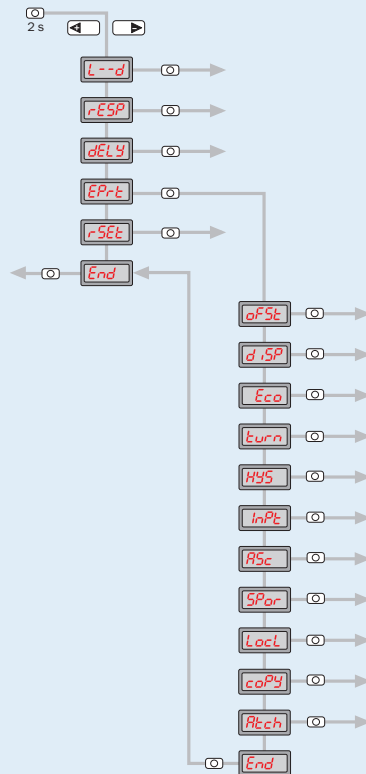
SICK
Sensor Intelligence.

Universal or individual – application solutions.

Fast and reliable programming menu driven and at the push of a button: sensor properties and parameters are individually determined directly on the sensor.
Teach-in or manual adjustment? You decide!

| 1Pt |
1-point Teach-in
Teach-in – quick and easy for standard applications.

| 2Pt |
2-point Teach-in
Exact switching threshold adjustment at the object and of the environment. Ideal for applications with small system reserves.

| Auto |
Auto Teach-in
Fully automatic switching threshold adjustment of moving objects. Even falling or tiny objects are reliably detected.

| GLAS |
Teach-in of transparent objects
Teach-in with minimum sensitivity, reliably detecting glass, films or small objects.

| ZonE |
Zone Teach-in
This so-called window technology learns the object within a definable bandwidth of the switching threshold. Ideal for the detection of marks, or simultaneous foreground and background suppression.

Selection of the menu levels

Teach-in

Application specific configuration

Photoelectric sensor for fiber-optic cables WLL180T – Easy handling, structured functions and optimal functionality.

The photoelectric sensor for fiber-optic cables WLL180T with the SICK fiber-optic cables of the LL3 series is especially suited to detecting very small objects, objects in front of interfering backgrounds, and transparent and moving objects. Fiber-optic cables are ideal for use in installations where space is restricted.

Status LED for switching output

Arrow keys

Locking, fiber-optic cable

Numeric display for nominal value (green) and actual value (red)

Mode/ Enter key

Teach-in key
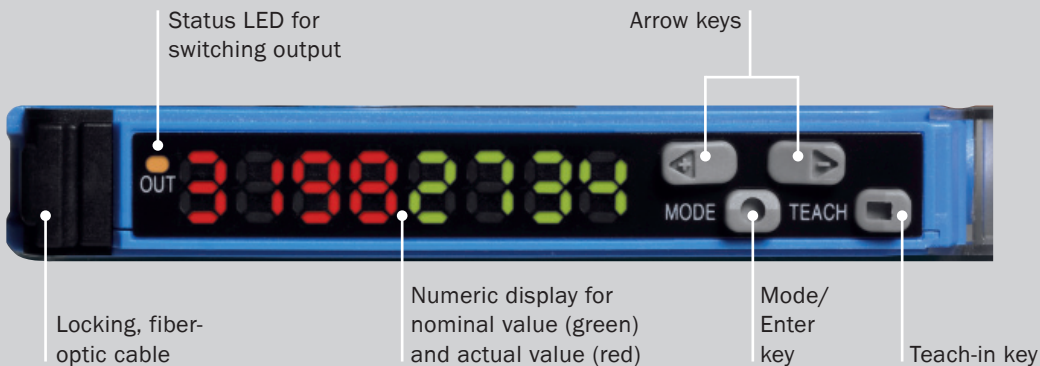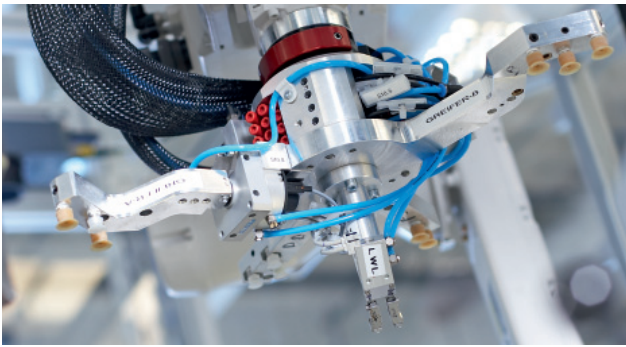
From monitoring to power control.

Monitoring simplifies many things, and technical highlights provide many options, always enabling easy commissioning and permanently reliable operation.

2X4-DIGIT NUMERIC DISPLAY

Dual 7-segment display for simultaneously showing nominal/actual values and for interactive operator guidance.

ASC – AUTOMATIC SENSITIVITY CONTROL

For instance, automatically adapting the switching threshold to compensate for contamination when detecting transparent objects.

SHORTEST RESPONSE TIME

Detection of fast processes is for the world-wide fastest photoelectric sensor for fiber-optic cables an easy task. With a response time of only 16 µs objects can be detected precisely. A small jitter contributes additionally to the accuracy of the detection.

HIGH RESOLUTION SIGNAL PROCESSING

Smallest changes in the level of the received light are already sufficient for a reliable detection.

Switching output and external input
The external input can be configured as teach-in or test input.

brn L+
blu M
blk Q₁
wht Ext. Input

ADJUSTING THE LIGHT INTENSITY OF THE SENDER LED

The power of the sender LED can be adjusted in three stages: saturation, e. g. in case of highly reflecting objects, is prevented.
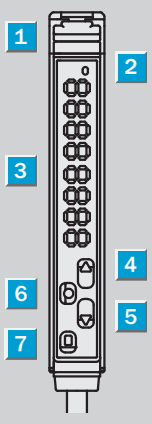
For standard applications: Teach-in and the commissioning is complete.

The manual or automatic adjustment with Teach-in is always the first step. The 5 different Teach-in modes can be quickly and easily selected. Alternatively, the switching threshold can be adjusted manually utilizing the display.

Teach-in	Adjustment options	
`1Pt` 1-point Teach-in → to quickly learn the switching point	`good`	1.1 Page 6
`2Pt` 2-point Teach-in → to safely learn the switching point	`1Pt` , `2Pt` , `good`	1.2 Page 7
`Auto` Auto Teach-in → for Teach-in without stopping the production process	`Strt` , `StoP` , `good`	1.3 Page 8
`GLAS` Transparent Teach-in → transparent objects such as bottles and films	`good`	1.4 Page 9
`ZonE` Zone Teach-in → for learning an upper and lower switching threshold	`good`	1.5 Page 10

Manual adaptation of the switching threshold

◀ ▶ Manual, step-by-step modification of the switching thresholds by operating the arrow keys. After a few seconds, the display automatically jumps to the operating mode.

Function keys of the sensor unit

1 Locking fiber-optic cable
2 Display LED orange: lights when the switching output is active
3 Display, numeric: 4-digit green: switching threshold, operating mode,
red: current reception value, Teach-in/ function parameter
4 Arrow key < (manual switching threshold: higher resp. next function parameter)
5 Arrow key > (manual switching threshold: lower or previous parameter)
6 Mode/Enter key (programming key)
7 "Teach-in" key

Further functions

**Quick jump back** from configuration mode to operating mode. By pressing the ▣-key for at least 2 seconds, the display jumps from any position in the configuration menu back to the main display.

Keylocks
Simultaneously pressing the ◀ ▶ arrow keys for at least 2 seconds in the RUN mode, locks or unlocks the keys (display Loc/unloc).

Application specific configuration: Utilising the entire functionality.

If further adjustments need to be made beyond the normal threshold adjustment, the entire functionality can be selected via a comfortable menu.

Configuration	Level I	Level II	Adjustment options	
`L--d` Switching mode			`L on`, `d on`	2.1 Page 11
`rESP` Response time			`Stnd`, `FASt`, `Long`, `H.gh`, `SuPr`	2.2 Page 12
`dELY` Time delay setting			`oFF`, `oFdY`, `ondY`, `SHot`, `onoF`, `onSh`	2.3 Page 13
`EPrt` Expert menu/ detailed settings	`oFSt` Set display value to zero		`oFF`, `on`	3.1 Page 16
	`d.SP` Display settings		`d.9`, `bAr`, `Pct`	3.2 Page 17
	`Eco` Energy-saving mode		`oFF`, `on`	3.3 Page 18
	`turn` Reverse display		`oFF`, `on`	3.4 Page 19
	`HYS` Hysteresis setting		`P 1`	3.5 Page 20
	`InPt` External input configuration		`rtch`, `tESt`, `SYnc`	3.6 Page 21
	`ASc` ASC setting		`oFF`, `on`	3.7 Page 22
	`SPor` Power setting of the sender LED		`|||||`, `||||`, `||`	3.8 Page 23
	`LocL` Keylock		`L 1`, `L 2`	3.9 Page 24
	Bus versions	`coPY` Copy mode	`no`, `YES`	3.10 Page 25
		`Atch` Master Teach-in	`no`, `YES`	3.11 Page 26
`rSEt` Reset			`no`, `YES`	2.5 Page 15

1.1   1-point Teach-in   `IPt`
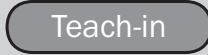
1. Press Teach-in key for 2 s

2. Operating mode
   Teach-in active

   Teach-in

3. In the basic menu, select
   required mode by pressing
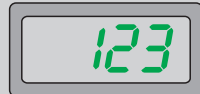   the arrow keys

4. 1-point Teach-in is shown on
   the display

   `IPt`

5. Adjust diffuse type fiber to the
   background without object and
   press Teach-in key

6. Teach-in successful, set switch-
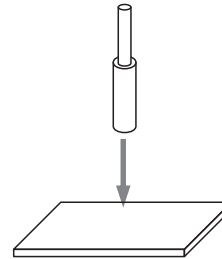   ing threshold blinks 3x and the
   display returns to the main dis-
   play

   `123`

Easy setting of the switching threshold.
Secondary condition:
Diffuse type = object absent
Through-beam = object present

Adjust diffuse type to the background without object

Switching threshold –·–·–·–·–·–·– +5%

Adjusts the switching threshold with +5% according to the
light received.

Gain

Threshold level

}+5%

Teach-in signal

0

t

**In case of faulty input during Teach-in,
the following messages are shown:**

Indicates that light intensity is too low   `Err1`

Indicates a non-detected,
moving object   `Err2`

Indicates a calculation error   `Err3`

Indicates an interruption
of the Teach-in   `not` `cPLt`
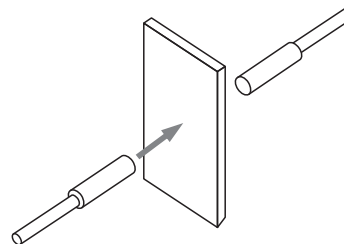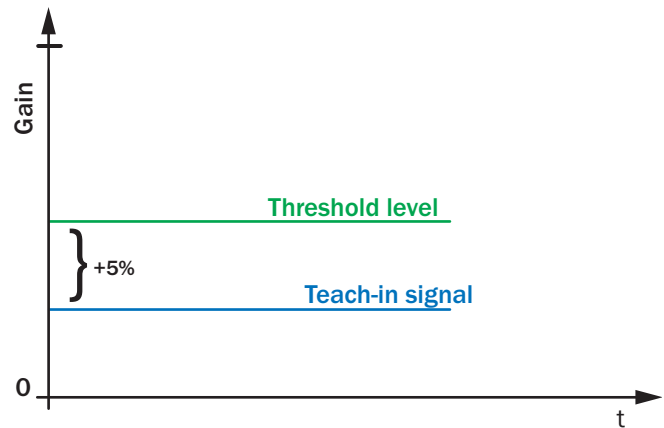
Typical applications:
Standard applications,
no spurious effects expected,
max. system reserve.

1.2   2-point Teach-in   `2Pt`

1. Press Teach-in key for 2 s

2. Operating mode
   Teach-in active

   Teach-in

3. In the basic menu, select
   required mode by pressing
   the arrow keys

4. 2-point Teach-in is shown on
   the display

   `2Pt`

5. 1st point: adjust diffuse type
   fiber with object present

   `1Pt`

6. Press Teach-in key

7. 2nd point: adjust diffuse type
   fiber to the background with-
   out object

   `2Pt`

8. Press Teach-in key

9. Teach-in successful, set switch-
   ing threshold blinks 3x and the
   display returns to the main dis-
   play

   `123`
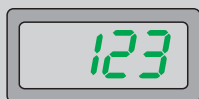
Exact adjustment of the switching threshold to object and ambient
conditions, in any order.
1st step: Teach-in with object
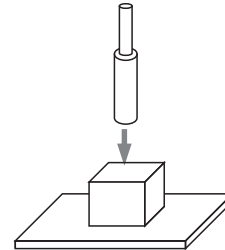
2nd step: Teach-in without object

Switching threshold —·—·—·—·— 1.
                                2.
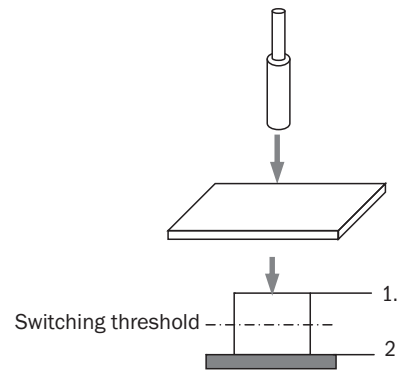
The switching threshold is defined between the 1st and 2nd point.

Typical applications:
Exact switching point,
switching threshold is adapted to the object and ambient
conditions, create low system reserves.

**In case of faulty input during Teach-in,
the following messages are shown:**

Indicates that light intensity is too low   `Err 1`

Indicates a non-detected,
moving object   `Err2`

Indicates a calculation error   `Err3`

Indicates an interruption
of the Teach-in   `not` `cPLt`

1.3 Auto Teach-in `Auto`

1. Press Teach-in key for 2 s

2. Operating mode
   Teach-in active

   Teach-in

3. In the basic menu, select
   required mode by pressing
   the arrow keys

4. Auto Teach-in is shown on
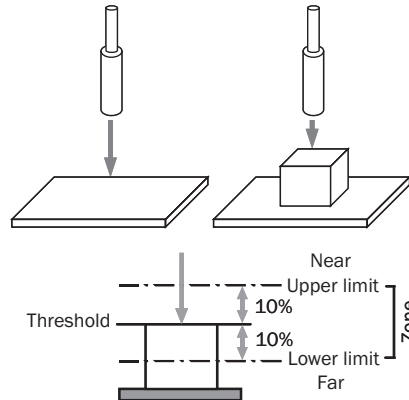   the display

   `Auto`

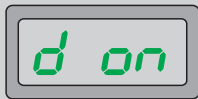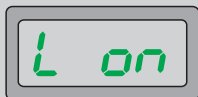5. To start: press Teach-in key

6. Start

   `Strt`

7. To stop: press Teach-in key

8. Stop

   `StoP`

9. Teach-in successful, set switch-
   ing threshold blinks 3x and the
   display returns to the main dis-
   play

   `123`

Automatic adjustment without stopping the production process.
1st step: start Teach procedure
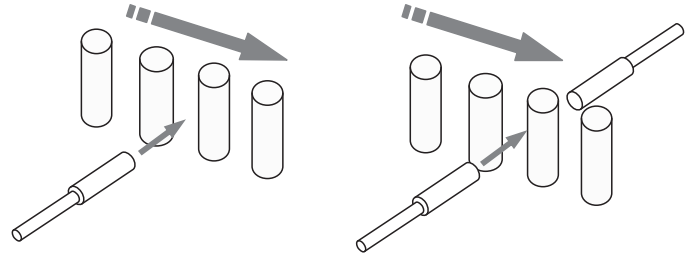
Allow one object or, even better, for several objects to pass.

2nd step: stop Teach-in procedure

Typical applications:
When objects can only be learned during the ongoing
process, e.g. ejection control.

**In case of faulty input during Teach-in,
the following messages are shown:**

Indicates that light intensity is too low   `Err1`

Indicates a non-detected,
moving object   `Err2`

Indicates a calculation error   `Err3`

Indicates an interruption
of the Teach-in   `not` `cPLt`

1.4　Teach-in of transparent objects　9LAS

1. Press Teach-in key for 2 s

2. Operating mode
   Teach-in active

   Teach-in

3. In the basic menu, select
   required mode by pressing
   the arrow keys

4. Teach-in of transparent objects
   is shown on the display
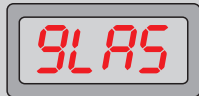
   9LAS

5. Press Teach-in key

6. Teach-in successful, set switch-
   ing threshold blinks 3x and the
   display returns to the main dis-
   play

   123

Mode is optimised for the detection of transparent objects.

Diffuse type:
Teach-in without object. Use reflector.

Reflector
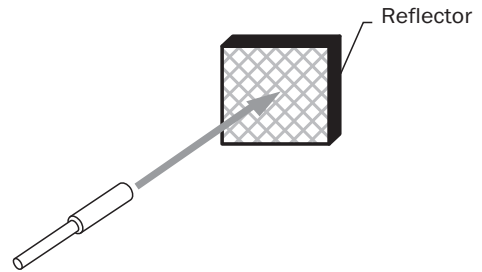
Adjusts the switching threshold to 90 % of the light received.

Through-beam system:
Perform Teach-in without object.
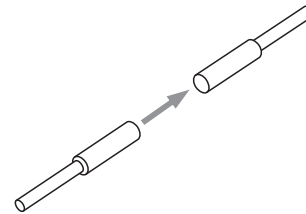
Adjusts the switching threshold to 90 % of the light received.

**In case of faulty input during Teach-in,
the following messages are shown:**

Indicates that light intensity is too low

Err1

Indicates a non-detected,
moving object

Err2

Indicates a calculation error

Err3

Indicates an interruption
of the Teach-in

not cPLt

Typical applications:
Detection of objects with low attenuation, such as glass, clear film
or very small objects.

1.5 Zone Teach-in `ZonE`

1. Press Teach-in key for 2 s

2. Operating mode
   Teach-in active

   Teach-in

3. In the basic menu, select
   required mode by pressing
   the arrow keys

4. Zone Teach-in is shown on
   the display

   `ZonE`

5. Press Teach-in key

6. Teach-in successful, set switch-
   ing threshold blinks 3x and the
   display returns to the main dis-
   play

   `123`

Optionally, the switching thresholds for close and far ranges can be readjusted, via the arrow keys.

9. Press arrow key in
   main display

10. Range (FAr) or (nEAr)
    can be selected with arrow keys

    `FAr`

    `nEAr`

11. Select far (FAr) or near (nEAr) range
    by pressing the mode key

12. The value of the received light (red display) then appears, and
    the threshold value (green display) flashes for about 5 seconds.
    During this time, the threshold value for the selected range can
    be set via the arrow keys.

The switching point of the object is learned, and detected, within a window. This window can be manually extended for the lower (far) and higher (near) switching threshold, respectively.

Adjust diffuse type fiber to the background without and with object.

Near
Upper limit
10%
Threshold
10%
Lower limit
Far
Zone

Adjusts the zone with ± 10 % according to the light received.

WLL180T – Zone Detection

Gain
4096
~2200
2000
~1800
0

Extendable (near zone)
Min: + 10 %   Threshold level
Min: - 10 %
Extendable (far zone)

1
2
3

t

Q = ON/OFF
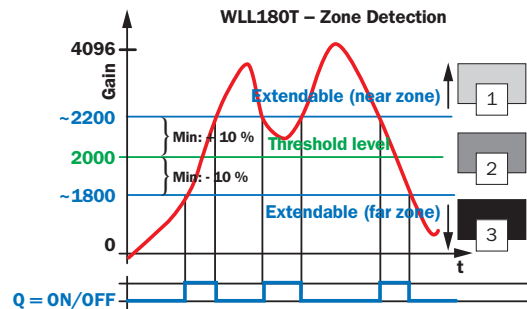
Typical applications:
Ideal for mark detection, e.g. detecting no. 2 (see diagram above) with variable window. Or "foreground suppression" and "background suppression" simultaneously.

In case of faulty input during Teach-in, the following messages are shown:

Indicates that light intensity is too low — `Err1`

Indicates a non-detected,
moving object — `Err2`

Indicates a calculation error — `Err3`

Indicates an interruption
of the Teach-in — `not` `cPLt`

2.1 Switching mode `L--d`

1. Press Mode key for 2 s	⭕
2. Operating mode Configuring active	Configuring
3. In the basic menu, select required mode by pressing the arrow keys	◀ ▶
4. Switching mode is shown on the display	L - - d
5. Press Mode key, setting option flashes	⭕
6. Select between light-switching (L on) and dark-switching (d on) by pressing the arrow keys	◀ ▶ L on d on
7. Finish selection with Mode key	⭕
8. Select ending the adjustment (End)	◀ ▶ End
9. Finish selection with Mode key	⭕
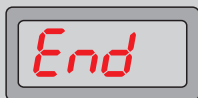
Switching mode (L--d),
L on: light-switching (factory setting),
d on: dark-switching.

2.2   Response time   `rESP`

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. In the basic menu, select required mode by pressing the arrow keys

4. In the basic menu, select required mode by pressing the arrow keys

   `rESP`

5. Response time is shown on the display

6. Select between high-precision setting (LonG), standard setting (Stnd), fastest setting (FASt), high speed setting (HiGh) and super long setting (SuPr) by pressing the arrow keys
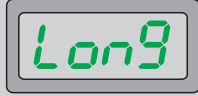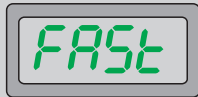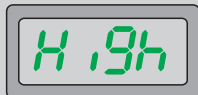
   `HiGh`

   `FASt`

   `Stnd`

   `LonG`

   `SuPr`

7. Finish selection with Mode key

8. Select ending the adjustment (End)

   `End`
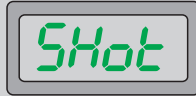
9. Finish selection with Mode key
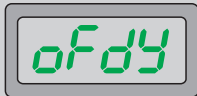
Response time		switching frequency	range
HiGh:	16 µs	31.25 kHz	short
FASt:	70 µs	7.1 kHz	reduced
Stnd:	250 µs	2 kHz	standard (factory setting)
LonG:	2 ms	250 Hz	high
SuPr:	8 ms	62.5 Hz	super long

2.3 Time delay setting `dELY`

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. Press Mode key

4. In the basic menu, select required mode by pressing the arrow keys

5. Timer setting is shown on the display

   `dELY`

6. Press Mode key, setting option flashes

7. Select between deactivation (oFF), OFF delay (oFdY), ON delay (ondY), One-Shot (SHot), On-OFF-Delay (onoF) and On-Shot (onSh) by pressing the arrow keys

   `oFF`

   `oFdY`

   `ondY`

   `SHot`

   `onoF`

   `onSh`

8. Finish selection

9. For activated time stage, setting the time value

   `oFdY`

   `0001`

10. Finish selection with Mode key

11. Select ending the adjustment (End)

    `End`

12. Finish selection with Mode key

Option for various time delays and variable time range:
oFF = no time delay activated (factory setting),
oFdY = OFF delay (release delay),
ondY = ON delay (on delay),
SHot = One Shot (output active for set time window, regardless if object is present),
onoF = ON and OFF delay (on and release delay),
onSh = ON delay One Shot (set time window (One Shot) is active after response time (ON delay)).

Time delay selectable from 0,1 ... 9999 (0,1 ms ... 9 s)

Typical application:
Ignoring small variations of light intensity caused by dirt or temperature and detecting only the objects. Slight differences of light intensity can be detected without readjustment of the sensitivity.

2.4 Expert menu/detailed settings ⊏⊓⊏⊦

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. In the basic menu, select required mode by pressing the arrow keys

4. Detail adjustment is shown on the display

   EPrt

5. Press Mode key. Description of Expert menu from page 16

6. Select ending the adjustment (End)

   End

7. Finish selection with Mode key

2.5   Reset   `rSEt`

1.   Press Mode key for 2 s

2.   Operating mode Configuring active

     Configuring

3.   Press Mode key

4.   In the basic menu, select required mode by pressing the arrow keys

5.   Reset is shown on the display

     `rSEt`

6.   Press Mode key

7.   Select between "no" and "YES" by pressing the arrow keys

     `no`

     `YES`

8.   Finish selection with Mode key

9.   Select ending the adjustment (End)

     `End`

10. Finish selection with Mode key

All operating modes are reset to the factory setting "as-delivered ex works".

Factory settings:

Switching mode:	ON light-switching	`L--d`
Response time:	Standard = 250 µs	`rESP`
Time stage:	Off	`dELY`
Set display value to zero:	Off	`oFSt`
Display:	Numeric display	`diSP`
Energy-saving mode:	Off	`Eco`
Reverse Display:	Off	`turn`
Hysteresis setting:	Standard = 1	`HYS`
Input setting:	Teach-in input	`InPt`
ASC setting:	Off	`ASc`
Power of the sender LED:	Standard = highest power	`SPor`
Keylock:	Level 1	`LocL`

3.1 Set display value to zero   `oFSt`

1. Press Mode key for 2 s	○
2. Operating mode Configuring active	Configuring
3. In the basic menu, select Expert mode by pressing the arrow keys	◀ ▶
4. Expert mode is shown on the display	**EPrt**
5. Press Mode key	○
6. In Expert mode, select Set to zero by pressing the arrow keys	◀ ▶
7. Set to zero is shown on the display	**oFSt**
8. Press Mode key	○
9. Select between "on" and "oFF" by pressing the arrow keys	◀ ▶
	on
	oFF
10. Finish selection with Mode key	○
11. Close Expert mode with arrow key	◀ ▶
	End
	EPrt
12. Finish selection with Mode key	○
13. Select ending the adjustment (End)	◀ ▶
	End
14. Finish selection with Mode key	○

The current reception value is set to zero.
Adjusted switching threshold values are adapted.

on: Function active
oFF: Function deactivated (factory setting)

3.2   Display settings   `dISP`

1. Press Mode key for 2 s

2. Operating mode Configuring active

    Configuring

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys.

5. Expert mode is shown on the display

    `EPrt`

6. Press Mode key

7. In Expert mode, select display settings by pressing the arrow keys

8. Display settings are shown

    `dISP`

9. Press Mode key

10. Select between numeric display (diG), bar display (bAr) and percentage display (Pct) using arrow keys

    `diG`

    `bAr`

    `Pct`

11. Finish selection with Mode key

12. Close Expert mode with arrow key

    `End`

    `EPrt`

13. Finish selection with Mode key

14. Select ending the adjustment (End)

    `End`

15. Finish selection with Mode key

diG: Numeric display (factory setting),
bAr: bar display,
Pct: Percentage display.

3.3 Energy-saving mode   `Eco`

1. Press Mode key for 2 s   ⊙

2. Operating mode Configuring active   `Configuring`

3. In the basic menu, select Expert mode by pressing the arrow keys   ◄ ►

4. Expert mode is shown on the display   `EPrt`

5. Press Mode key   ⊙

6. In Expert mode, select required mode by pressing the arrow keys   ◄ ►

7. Eco is shown on the display   `Eco`

8. Press Mode key   ⊙

9. Select between "oFF" and "on" by pressing the arrow keys   ◄ ►   `oFF` `on`

10. Finish selection with Mode key   ⊙

11. Close Expert mode with arrow key   ◄ ►   `End` `EPrt`

12. Finish selection with Mode key   ⊙

13. Select ending the adjustment (End)   ◄ ►   `End`

14. Finish selection with Mode key   ⊙

Energy-saving mode is activated. Display will be dimmed 20 seconds after a key has been pressed and therefore the energy consumption reduced.

Pressing any key will activate the display.
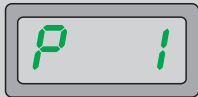
3.4 Reverse display $turn$

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. In the basic menu, select Expert mode by pressing the arrow keys

4. Expert mode is shown on the display

   EPrt

5. Press Mode key

6. In Expert mode, select required mode by pressing the arrow keys

7. Turn is shown on the display

   turn

8. Press Mode key

9. Select between "oFF" and "on" by pressing the arrow keys

   oFF

   on

10. Finish selection with Mode key

11. Close Expert mode with arrow key

    End

    EPrt

12. Finish selection with Mode key

13. Select ending the adjustment (End)

    End

14. Finish selection with Mode key

This function reverses the display (display upside-down). This offers a good readability also in difficult mounting positions.

3.5 Hysteresis setting   `HYS`

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys

5. Expert mode is shown on the display

   `EPrt`

6. Press Mode key

7. In Expert mode, select Hysteresis by pressing the arrow keys

8. Hysteresis setting is shown on the display

   `HYS`

9. Press Mode key

10. Hysteresis setting by pressing the arrow keys
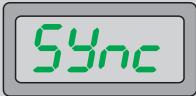
    `P 1`

11. Finish selection with Mode key

12. Close Expert mode with arrow key

    `End`

    `EPrt`

13. Finish selection with Mode key

14. Select ending the adjustment (End)

    `End`

15. Finish selection with Mode key

Setting of hysteresis

Value range: 1 ... 40

3.6 External input configuration `InPt`

1. Press Mode key for 2 s

2. Operating mode Configuring active

   Configuring

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys

5. Expert mode is shown on the display

   `EPrt`

6. Press Mode key

7. In Expert mode, select input configuration by pressing the arrow keys

8. Input configuration is shown on the display

   `InPt`

9. Press Mode key

10. Select with arrow keys external teach-in (rtch), test input (tESt), synchronization (SYnc) or bus teach-in (Atch)

    `rtch`

    `tESt`

    `SYnc`

    `Atch`

11. Finish selection with Mode key

12. Close Expert mode with arrow key

    `End`

    `EPrt`

13. Finish selection with Mode key

14. Select ending the adjustment (End)

    `End`

15. Finish selection with Mode key

Configuration of the input:
rtch: Remote Teach-in, input for external teach-in
tESt: test input, sender LED is switched off
SYnc: synchronization
Atch: Teach-in for all amplifiers in bus mode

3.7 ASC setting `ASc`
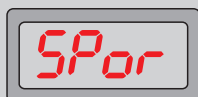
1. Press Mode key for 2 s

2. Operating mode Configuring active

    Configuring

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys

5. Expert mode is shown on the display

    `EPrt`

6. Press Mode key

7. In Expert mode, select ASC setting by pressing the arrow keys

8. ASC setting is shown on the display

    `ASc`

9. Press Mode key

10. Select between "on" and "oFF" by pressing the arrow keys
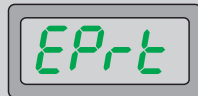
    `oFF`

    `on`

11. Finish selection with Mode key

12. Close Expert mode with arrow key

    `End`

    `EPrt`

13. Finish selection with Mode key

14. Select ending the adjustment (End)

    `End`

15. Finish selection with Mode key

on: automatically adapting switching threshold to environment,
oFF: switch off ASC (factory setting).

3.8   Power setting of the sender LED   `SPor`

1. Press Mode key for 2 s

2. Operating mode Configuring active

    `Configuring`

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys

5. Expert mode is shown on the display

    `EPrt`

6. Press Mode key

7. In Expert mode, select power setting by pressing the arrow keys

8. Sender power setting is shown on the display

    `SPor`

9. Press Mode key

10. Select between standard setting, medium strength setting and low strength setting by pressing the arrow keys

    `IIIII`

    `IIII`

    `II`

11. Finish selection with Mode key

12. Close Expert mode with arrow key

    `End`

    `EPrt`

13. Finish selection with Mode key

14. Select ending the adjustment (End)

    `End`

15. Finish selection with Mode key

Adjustment of the luminosity of the sender LED:

`IIIII`   Full luminosity (factory setting),
`IIII`   medium strength,
`II`   low strength.

The power of the sender LED can be set in three stages: saturation, e. g. for highly reflective objects, is prevented, and the life of the sender LED is extended.

Typical applications: highly reflective objects, or very short distance to the object, semi-transparent objects.

3.9   Keylock   `LocL`
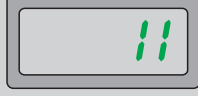
1. Press Mode key for 2 s

2. Operating mode Configuring active

    Configuring

3. In the basic menu, select Expert mode by pressing the arrow keys

4. Expert mode is shown on the display

    `EPrt`

5. Press Mode key

6. In Expert mode, select Lock Level by pressing the arrow keys

7. LocL is shown on the display

    `LocL`

8. Press Mode key

9. Select between Level 1 (L 1) and Level 2 (L 2) by pressing the arrow keys
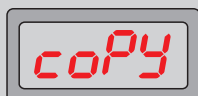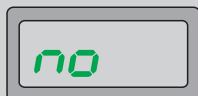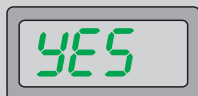
    `L 1`

    `L 2`

10. Finish selection with Mode key

11. Close Expert mode with arrow key

    `End`

    `EPrt`

12. Finish selection with Mode key

13. Select ending the adjustment (End)

    `End`

14. Finish selection with Mode key

There are two levels for keylock available:
Level 1 (L 1): all input functions are blocked (keys and external input),
Level 2 (L 2): all keys are blocked, only external input active.

3.10   Copy mode   `coPY`   (Bus operation only)

1. Press Mode key for 2 s

2. Operating mode Configuring active

    Configuring

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys

5. Expert mode is shown on the display

    EPrt

6. Press Mode key

7. In Expert mode, select Copy mode by pressing the arrow keys

8. Copy mode setting is shown on the display

    coPY

9. Select between "no" and "YES" by pressing the arrow keys

    no

    YES

10. Close Expert mode with arrow key

    End

    EPrt

11. Finish selection with Mode key

12. Select ending the adjustment (End)

    End

13. Finish selection with Mode key

The copy function is only available in bus mode:
no: No copy function,
YES: Copy function, all settings of the base unit are copied to the connected expansion units.

Note:
In locked expansion units (LocL), no data of the base unit is copied.

The copy function is not available when response time "HiGh" is selected.

3.11 Master Teach-in `Atch` (Bus operation only)

1. Press Mode key for 2 s

2. Operating mode Configuring active

   `Configuring`

3. Press Mode key

4. In the basic menu, select Expert mode by pressing the arrow keys.

5. Expert mode is shown on the display

   `EPrt`

6. Press Mode key

7. In Expert mode, select Master teach-in by pressing the arrow keys

8. Master teach-in setting is shown on the display

   `Atch`

9. Select between "no" and "YES" by pressing the arrow keys

   `no`

   `YES`

10. Close Expert mode with arrow key

    `End`

    `EPrt`

11. Finish selection with Mode key

12. Select ending the adjustment (End)

    `End`

13. Finish selection with Mode key

Teaching of all connected extension units (only available in bus mode):

no: Does not perform teach-in,
YES: Performs 1-point teach-in for all connected extension units (see page 6).

Note:
Locked (LocL) extension units are not taught.

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