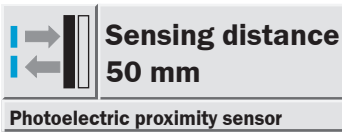




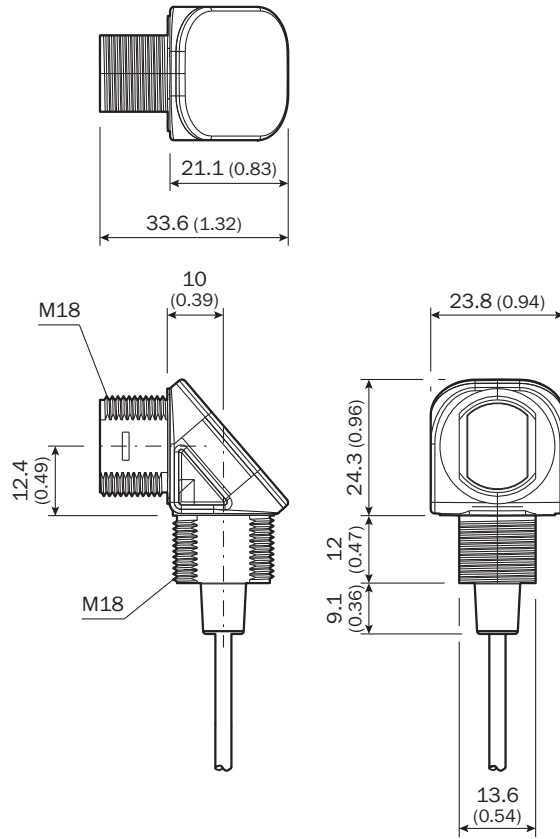
ELF Cylindrical Photoelectric Sensors

Flexible mounting



- Background suppression
- Infrared light
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Output indicator

Dimensional drawing

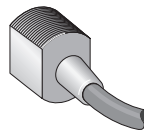


All dimensions in mm (inch)

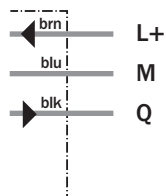


Connection type

ET3-P3215



3 x 0.23 mm²



[illegible]

1) Average service life 100,000 h,
at $T_A = +25\text{ }^{\circ}\text{C}$

2) Limit values

3) Must be within V_S tolerances

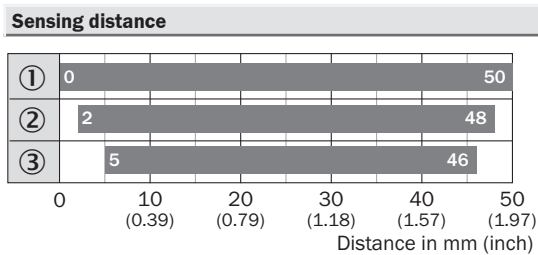
4) Without load

5) With light/dark ratio 1:1

6) Reference voltage 50 V DC

7) A = V_S connections reverse-polarity protected

D = Outputs overcurrent and short-circuit protected

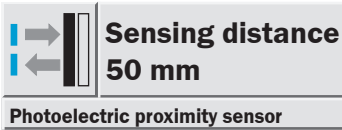


① Sensing distance on white, 90 % remission

② Sensing distance on grey, 18 % remission

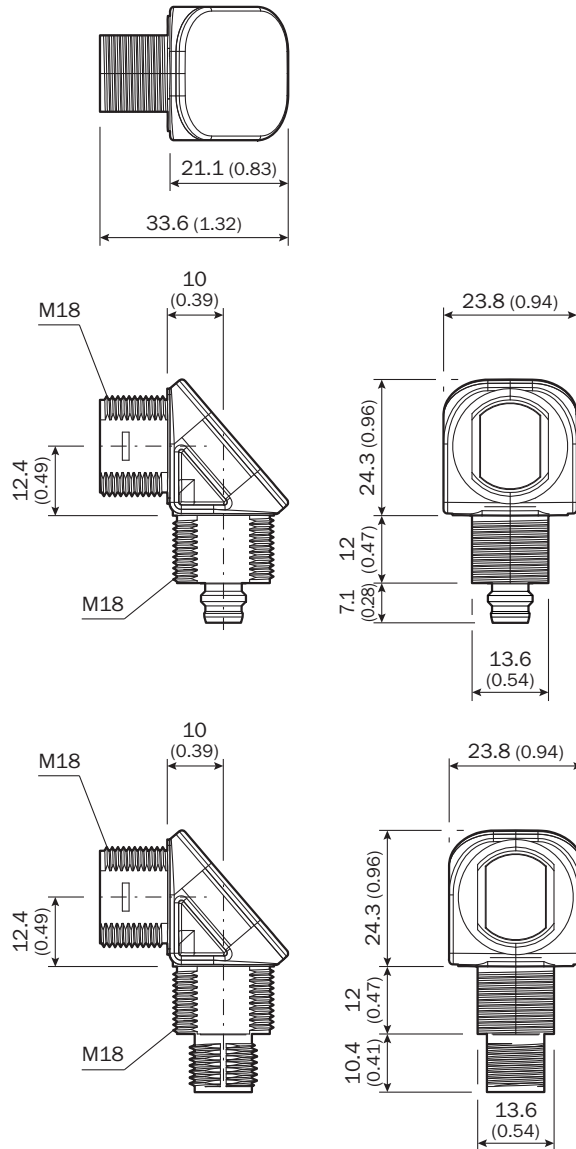
③ Sensing distance on black, 6 % remission

Ordering information	
Model name	Part no.
ET3-P3215	1045187



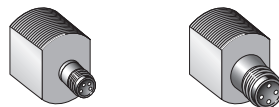
- Background suppression
- Infrared light
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Output indicator

Dimensional drawing



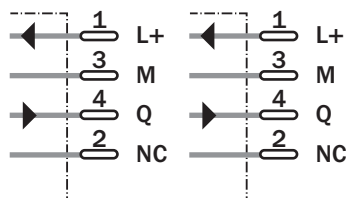
Connection type

ET3-P3238 ET3-P3228



M8, 4-pin

M12, 4-pin



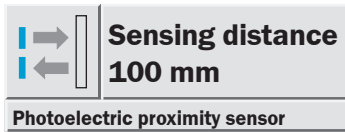
Technical data		ET3-	P3228	P3238								
Sensing distance typ.	0 ... 50 mm											
Light source ¹⁾, light type	LED, infrared light, 880 nm											
Light spot diameter	10.5 x 10.5 mm at 50 mm											
Supply voltage V_S ²⁾	10 ... 30 V DC											
Ripple ³⁾	< 5 V _{pp}											
Current consumption ⁴⁾	< 20 mA											
Switching outputs	Q: PNP											
Switching mode	Light switching											
Output current I_A max.	50 mA											
Switching frequency ⁵⁾	200 Hz											
Connection type	M8 plug, 4-pin											
	M12 plug, 4-pin											
Protection class ⁶⁾	ⓘ											
Circuit protection ⁷⁾	A, D											
Enclosure rating	IP 67											
Ambient temperature	Operation -25 °C ... +50 °C											
	Storage -40 °C ... +70 °C											
Housing material	ABS, glass-fiber reinforced											
Included with delivery	Mounting nut M18											

¹⁾ Average service life 100,000 h, at T_A = +25 °C
²⁾ Limit values
³⁾ Must be within V_S tolerances
⁴⁾ Without load
⁵⁾ With light/dark ratio 1:1
⁶⁾ Reference voltage 50 V DC
⁷⁾ A = V_S connections reverse-polarity protected
D = Outputs overcurrent and short-circuit protected

Sensing distance		Ordering information	
		Model name	Part no.
①	0 50	ET3-P3228	1045211
②	2 48	ET3-P3238	1045219
③	5 46		

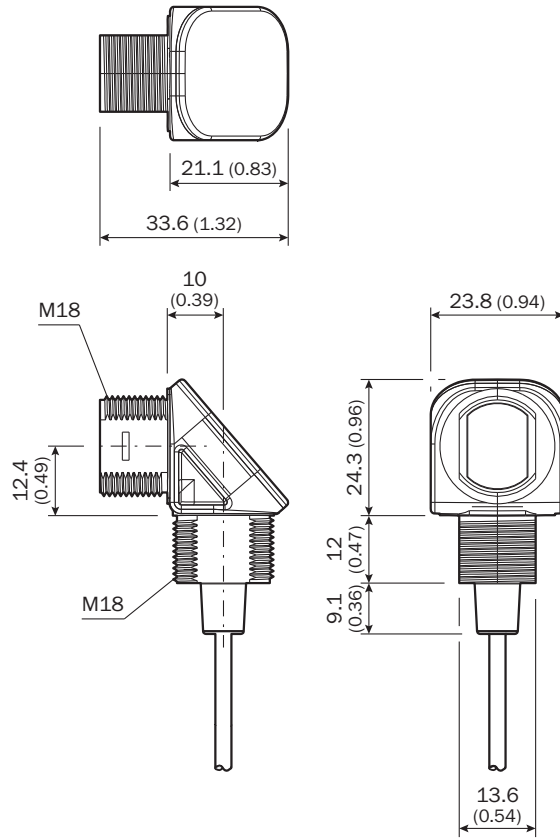
0 10 20 30 40 50
(0.39) (0.79) (1.18) (1.57) (1.97)
Distance in mm (inch)

- ① Sensing distance on white, 90 % remission
② Sensing distance on grey, 18 % remission
③ Sensing distance on black, 6 % remission



- Energetic type
- Infrared light
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Output indicator

Dimensional drawing

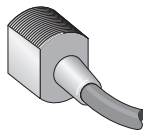


All dimensions in mm (inch)

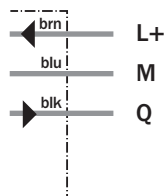


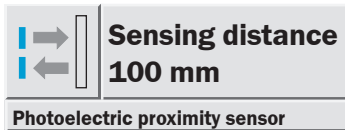
Connection type

ET3-P4215



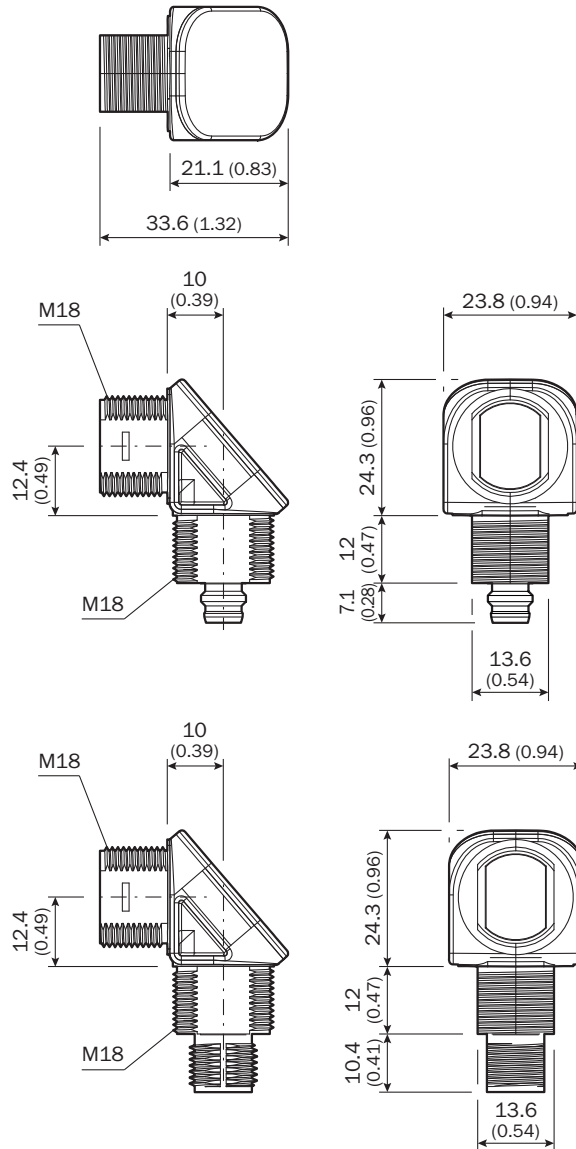
3 x 0.23 mm²





- Energetic type
- Infrared light
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Output indicator

Dimensional drawing



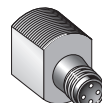
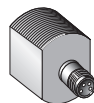
All dimensions in mm (inch)



Connection type

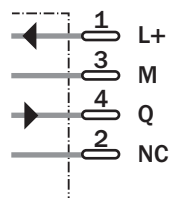
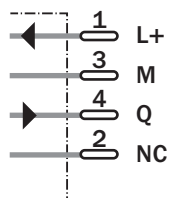
ET3-P4238

ET3-P4228



M8, 4-pin

M12, 4-pin



Technical data		ET3-	P4228	P4238								
Sensing distance typ.	1 ... 100 mm											
Light source ¹⁾, light type	LED, infrared light, 880 nm											
Light spot diameter	20 x 20 mm at 100 mm											
Supply voltage V_S ²⁾	10 ... 30 V DC											
Ripple ³⁾	< 5 V _{pp}											
Current consumption ⁴⁾	< 20 mA											
Switching outputs	Q: PNP											
Switching mode	Light switching											
Output current I_A max.	50 mA											
Switching frequency ⁵⁾	200 Hz											
Connection type	M8 plug, 4-pin											
	M12 plug, 4-pin											
Protection class ⁶⁾	ⓘ											
Circuit protection ⁷⁾	A, D											
Enclosure rating	IP 67											
Ambient temperature	Operation -25 °C ... +50 °C											
	Storage -40 °C ... +70 °C											
Housing material	ABS, glass-fiber reinforced											
Included with delivery	Mounting nut M18											

¹⁾ Average service life 100,000 h, at T_A = +25 °C
²⁾ Limit values
³⁾ Must be within V_S tolerances
⁴⁾ Without load
⁵⁾ With light/dark ratio 1:1
⁶⁾ Reference voltage 50 V DC
⁷⁾ A = V_S connections reverse-polarity protected
D = Outputs overcurrent and short-circuit protected

Sensing distance		Ordering information	
		Model name	Part no.
①	1 100	ET3-P4228	1045215
②	3 82	ET3-P4238	1045281
③	6 74		

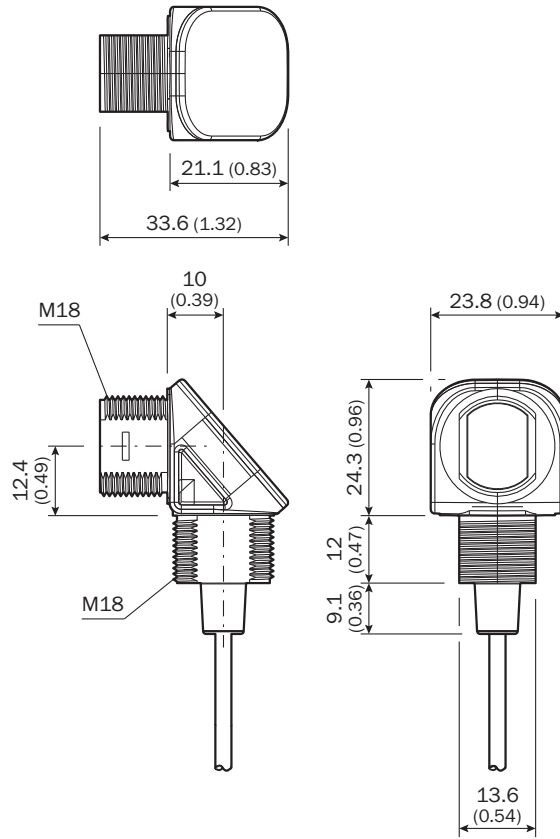
0 20 40 60 80 100
(0.79) (1.57) (2.36) (3.15) (3.94)
Distance in mm (inch)

- ① Sensing distance on white, 90 % remission
② Sensing distance on grey, 18 % remission
③ Sensing distance on black, 6 % remission

	Sensing range 0.1 ... 4.8 m
Photoelectric retro-reflective sensor	

- Visible red light
- With polarization filter
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Power and output indicator
- Cross talk immunity

Dimensional drawing

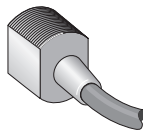


All dimensions in mm (inch)

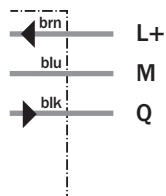


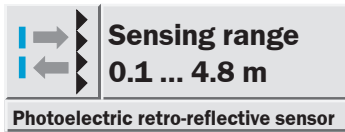
Connection type

EL3-F2415



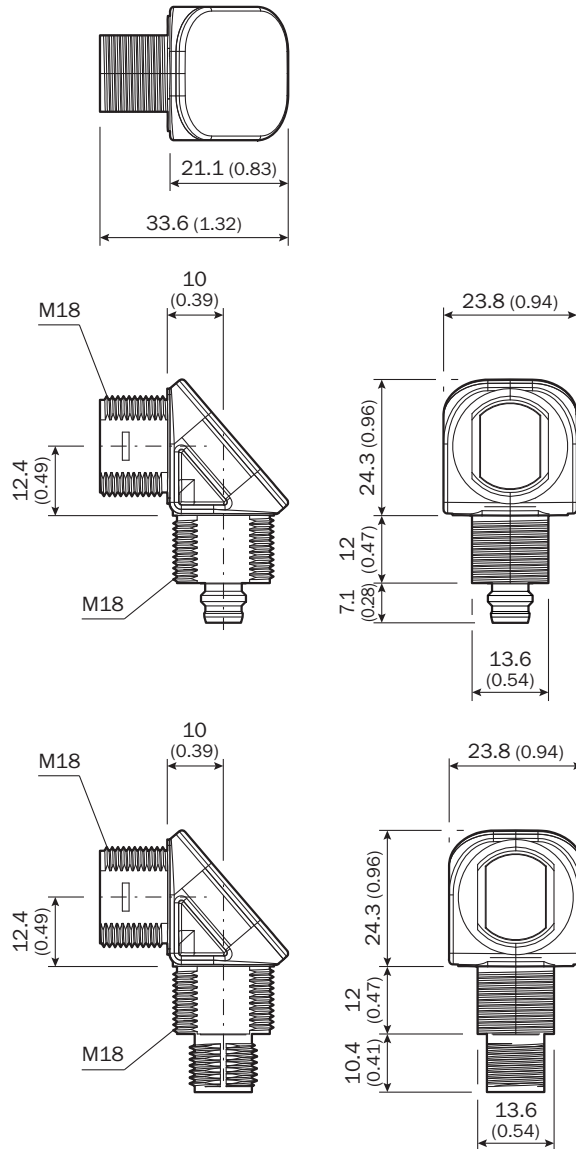
3 x 0.23 mm²





- Visible red light
- With polarization filter
- Clear back cover for highly visible indicator
- 18 mm front and 18 mm base mounting possibility
- Power and output indicator
- Cross talk immunity

Dimensional drawing



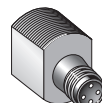
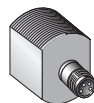
All dimensions in mm (inch)



Connection type

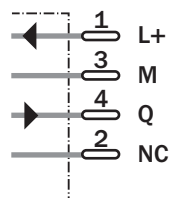
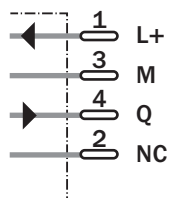
EL3-F2438

EL3-F2428



M8, 4-pin

M12, 4-pin



Technical data		EL3-	F2428	F2438									
Sensing range typ. max.	0 ... 4.8 m (on PL80A)												
Operating range, recommended	0 ... 3 m (on PL80A)												
Light source ¹⁾, light type	LED, red light, 660 nm												
Light spot diameter	125 x 125 mm at 1 m												
Supply voltage V_S ²⁾	10 ... 30 V DC												
Ripple ³⁾	< 5 V _{pp}												
Current consumption ⁴⁾	< 20 mA												
Switching outputs	Q: PNP												
Switching mode	Light switching												
Output current I_A max.	50 mA												
Switching frequency ⁵⁾	400 Hz												
Connection type	M8 plug, 4-pin												
	M12 plug, 4-pin												
Protection class ⁶⁾	◊												
Circuit protection ⁷⁾	A, D												
Enclosure rating	IP 67												
Ambient temperature	Operation -25 °C ... +50 °C												
	Storage -40 °C ... +70 °C												
Housing material	ABS, glass-fiber reinforced												
Included with delivery	Mounting nut M18												

1) Average service life 100,000 h, at $T_A = +25\text{ °C}$

2) Limit values

3) Must be within V_S tolerances

4) Without load

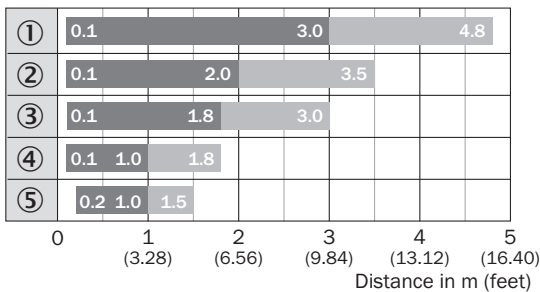
5) With light/dark ratio 1:1

6) Reference voltage 50 V DC

7) A = V_S connections reverse-polarity protected

D = Outputs overcurrent and short-circuit protected

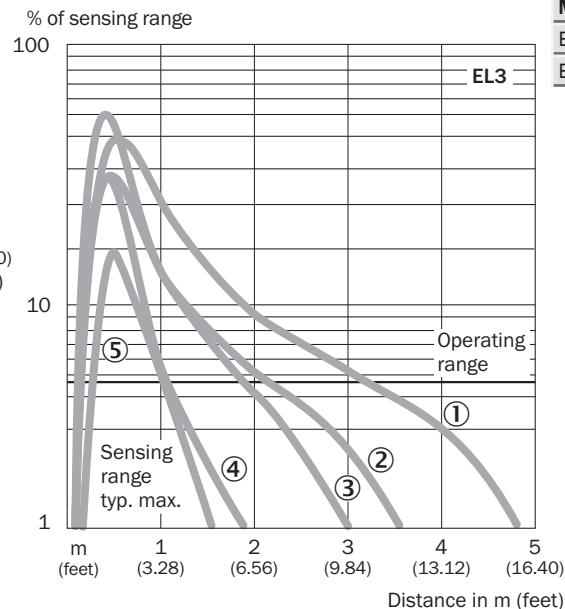
Sensing range



■ Operating range ■ Sensing range typ. max.

Reflector type

- ① PL80A
- ② P250
- ③ PL40A
- ④ PL20A
- ⑤ REF-Plus



Ordering information

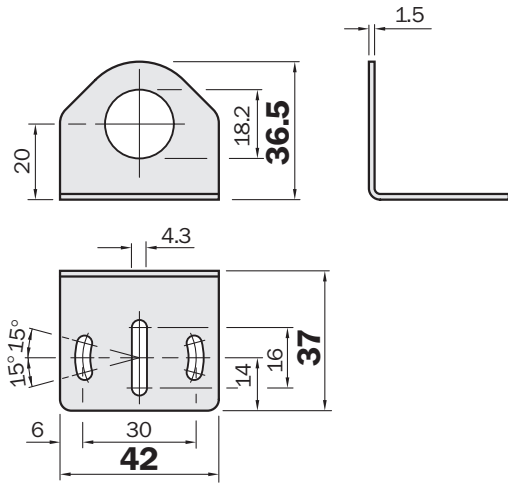
Model name	Part no.
EL3-F2428	1044705
EL3-F2438	1044717

Dimensional drawings and ordering information

Mounting systems

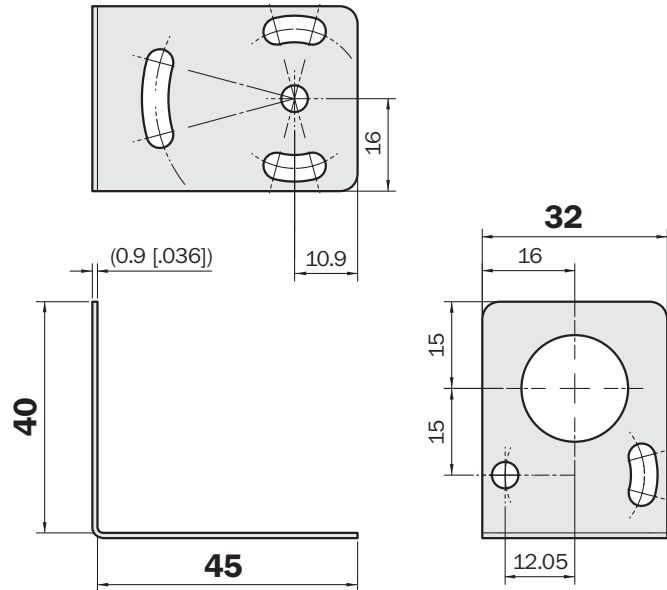
Mounting bracket for ET3, EL3

Model name	Part no.
BEF-WN-M18	5308446



Mounting bracket for ET3, EL3

Model name	Part no.
MB-W1000	7023800

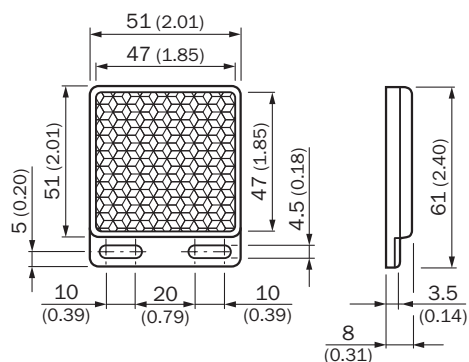


Dimensional drawings and ordering information

Reflectors, plastic design, for temperatures up to +65 °C

Reflector 47 x 47 mm, screwable

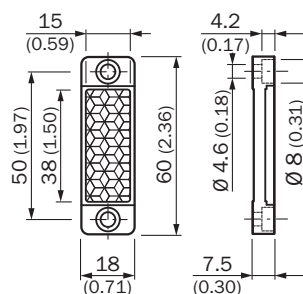
Model name	Part no.
P250	5304812



All dimensions in mm (inch)

Reflector 20 x 40 mm, screwable

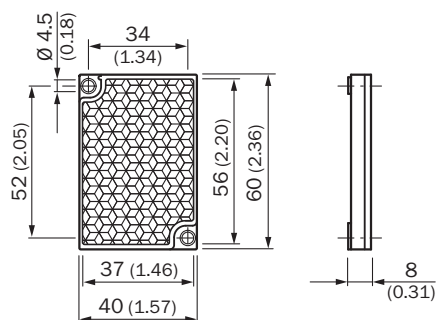
Model name	Part no.
PL20A	1012719



All dimensions in mm (inch)

Reflector 40 x 60 mm, screwable

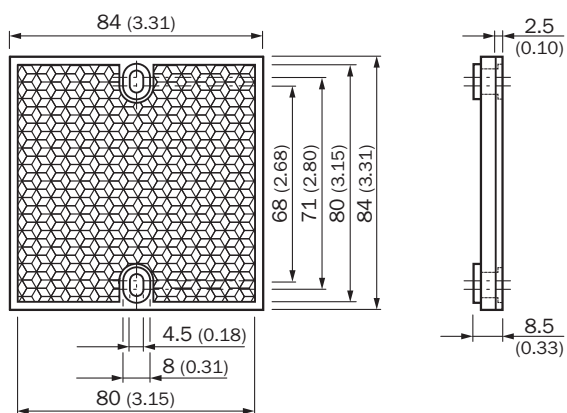
Model name	Part no.
PL40A	1012720



All dimensions in mm (inch)

Reflector 80 x 80 mm, screwable

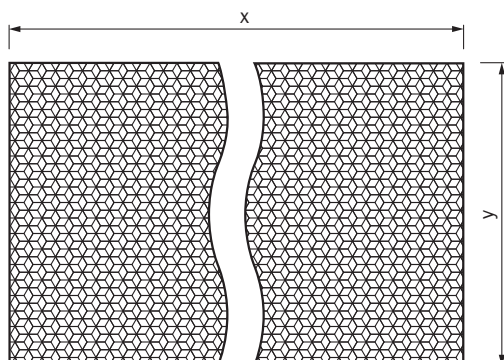
Model name	Part no.
PL80A	1003865



All dimensions in mm (inch)

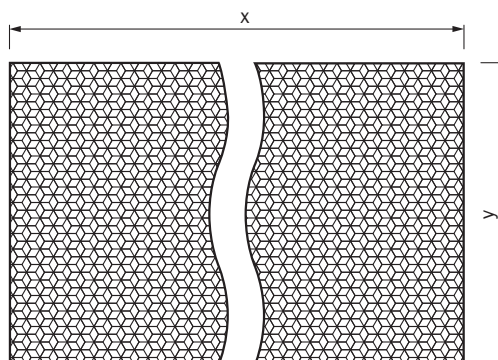
Reflective tape, self-adhesive, length of roll 22.8 m

Model name	Part no.	Width
REF-PLUS-R25	5319929	25 mm
REF-PLUS-R50	5319981	50 mm

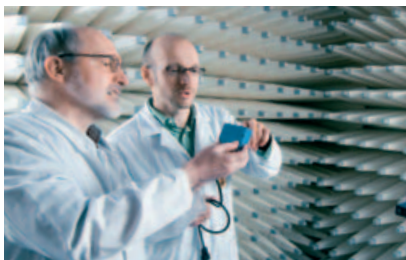


Reflective tape, self-adhesive, cut to size

Model name	Part no.
REF-PLUS-R25-K	4051184
REF-PLUS-R50-K	4051185



SICK at a glance



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With a staff of more than 5,000 and over 50 subsidiaries and representations worldwide, SICK is one of the leading and most successful manufacturers of sensor technology. The power of innovation and solution competency have made SICK the global market leader. No matter what the project and industry may be, talking with an expert from SICK will provide you with an ideal basis for your plans – there is no need to settle for anything less than the best.



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