PRODUCT INFORMATION

W100-2

VERSATILE MINIATURE PHOTOELECTRIC SENSORS WITH LARGE SENSING RANGES

Miniature photoelectric sensors

SICK
Sensor Intelligence.

ENERGETIC PHOTOELECTRIC PROXIMITY SENSOR WITH LONG SENSING RANGE

Product description

The energetic WT100-2 photoelectric proximity sensor features long sensing ranges of up to 1.2 m.
The bright, visible light spot, the clearly visible status indicator LEDs and the integrated M3 threaded mounting hole make commissioning quick and easy. The photoelectric proximity sensor is suitable for executing numerous tasks:

Options in terms of switching output (PNP or NPN) and connectors (male connector, M8, 3-pin; male connector, M8, 4-pin; cable, 2 m), light/dark switching and sensitivity adjustment allow for a wide variety of sensor variants.
The extensive range of accessories also opens up a diverse spectrum of application possibilities.

At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Long sensing ranges of up to 1.2 m

Your benefits

- Long sensing ranges of up to 1.2 m thanks to a high functional reserve
- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads

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→ www.mysick.com/en/WT100-2

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.

8017773/2014-11-18
Subject to change without notice

Detailed technical data

Features

Sensor principle	Photoelectric proximity sensor
Detection principle	Energetic
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max. [1]	0 mm ... 1,200 mm
Sensing range [1]	0 mm ... 750 mm
Type of light	Visible red light
Light source [2]	LED
Light spot size (distance)	Ø 75 mm (1,000 mm)
Wave length	632 nm
Adjustment	Potentiometer

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

[2] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V ... 30 V
Ripple [2]	± 10 %
Power consumption [3]	≤ 30 mA
Output type	PNP / NPN (depending on type)
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	100 mA
Response time [4]	≤ 0.5 ms
Switching frequency [5]	1,000 Hz
Connection type	Cable, 2 m [6] Male connector (depending on type)
Circuit protection	A [7], B [8], D [9]
Protection class	III
Housing material	ABS/PC/POM
Optics material	PMMA
Enclosure rating	IP 67
Items supplied	Mounting bracket BEF-W100-A
Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] May not exceed or fall short of V_S tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] B = output reverse-polarity protected.

[9] D = outputs overcurrent and short-circuit protected.

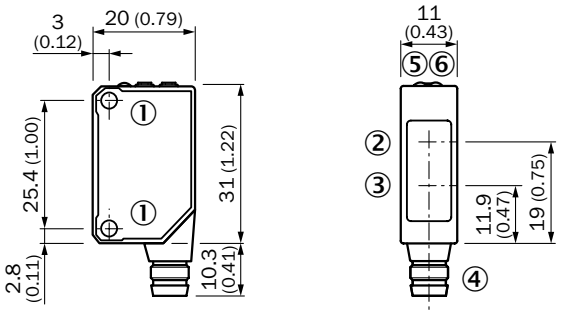
Ordering information

Other models ➜ www.mysick.com/en/WT100-2

Sensing range max. [1]	Light spot size (distance)	Output type	Connection	Connection diagram	Model name	Part no.
0 mm ... 1,200 mm	Ø 75 mm (1,000 mm)	PNP	Cable, 3-wire, 2 m, PVC	Cd-043	WT100-2P1439	6052372
			Connector M8, 3-pin	Cd-045	WT100-2P3439	6052373
			Connector M8, 4-pin	Cd-067	WT100-2P4439	6052374
		NPN	Cable, 3-wire, 2 m, PVC	Cd-043	WT100-2N1439	6052369
			Connector M8, 3-pin	Cd-045	WT100-2N3439	6052370
			Connector M8, 4-pin	Cd-067	WT100-2N4439	6052371

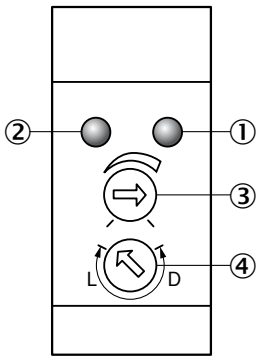
[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

Dimensional drawing (Dimensions in mm (inch))



① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: switching output active
⑥ LED indicator green: stability indicator

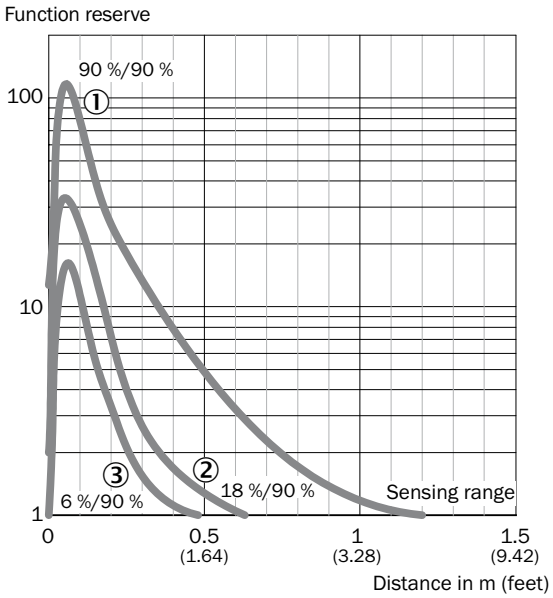
Adjustments



① LED indicator orange: switching output active
② LED indicator green: power on
③ Sensing range adjustment: potentiometer
④ Light/ dark rotary switch:L = light switching, D = dark switching

Characteristic curves

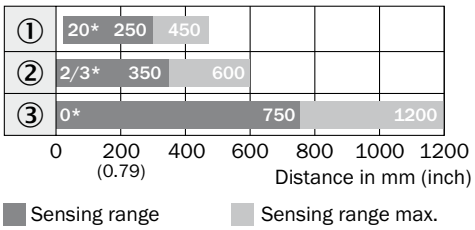
WT100-2, energetic



① Sensing range on white, 90 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6 % remission

Bar diagrams

WT100-2, energetic

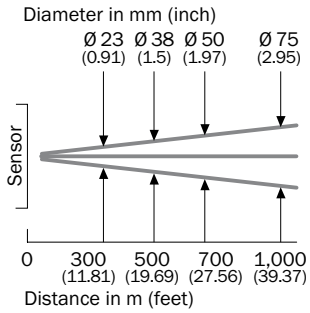


*Close-up range at maximum sensitivity

① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

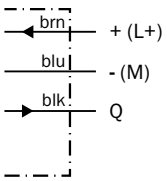
Light spot diameter

WT100-2, energetic

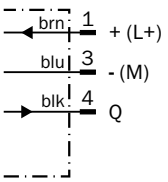


Connection diagram

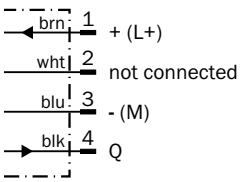
Cd-043



Cd-045



Cd-067



RELIABLE DETECTION: PHOTOELECTRIC PROXIMITY SENSOR WITH BACKGROUND BLANKING

Product description

The WT100-2 photoelectric retro-reflective sensor with background blanking features reliable detection while simultaneously blanking backgrounds.
The bright, visible light spot, the clearly visible status indicator LEDs and the integrated M3 threaded mounting hole make commissioning quick and easy.
The photoelectric sensor is suitable for executing numerous tasks:

Options in terms of switching output (PNP or NPN) and connectors (male connector, M8, 3-pin; male connector, M8, 4-pin; cable, 2 m), light/dark switching and sensitivity adjustment allow for a wide variety of sensor variants.
The extensive range of accessories also opens up a diverse spectrum of application possibilities.

At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Effective background blanking

Your benefits

- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads
- Precise detection, irrespective of reflective objects and backgrounds

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→ www.mysick.com/en/WT100-2

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.

8017773/2014-11-18
Subject to change without notice

Detailed technical data

Features

Sensor principle	Photoelectric proximity sensor
Detection principle	Background blanking
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max. [1]	4 mm ... 140 mm
Sensing range [1]	10 mm ... 100 mm
Type of light	Visible red light
Light source [2]	LED
Light spot size (distance)	Ø 8 mm (90 mm)
Wave length	632 nm
Adjustment	Potentiometer

[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

[2] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V ... 30 V
Ripple [2]	± 10 %
Power consumption [3]	≤ 30 mA
Output type	PNP / NPN (depending on type)
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	100 mA
Response time [4]	≤ 0.5 ms
Switching frequency [5]	1,000 Hz
Connection type	Cable, 2 m [6] Male connector (depending on type)
Circuit protection	A [7], B [8], D [9]
Protection class	III
Housing material	ABS/PC/POM
Optics material	PMMA
Enclosure rating	IP 67
Items supplied	Mounting bracket BEF-W100-A
Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] May not exceed or fall short of V_S tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] B = output reverse-polarity protected.

[9] D = outputs overcurrent and short-circuit protected.

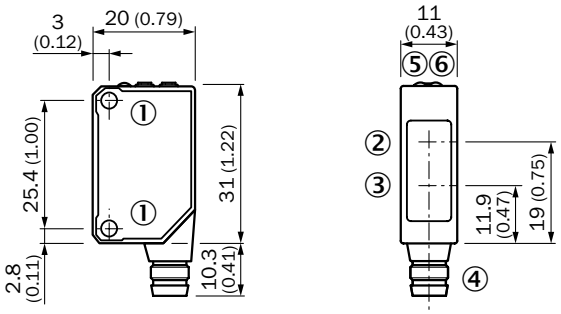
Ordering information

Other models ➜ www.mysick.com/en/WT100-2

Sensing range max. [1]	Light spot size (distance)	Output type	Connection	Connection diagram	Model name	Part no.
4 mm ... 140 mm	Ø 8 mm (90 mm)	PNP	Cable, 3-wire, 2 m, PVC	Cd-043	WT100-2P1419	6052378
			Connector M8, 3-pin	Cd-045	WT100-2P3419	6052379
			Connector M8, 4-pin	Cd-067	WT100-2P4419	6052380
		NPN	Cable, 3-wire, 2 m, PVC	Cd-043	WT100-2N1419	6052375
			Connector M8, 3-pin	Cd-045	WT100-2N3419	6052376
			Connector M8, 4-pin	Cd-067	WT100-2N4419	6052377

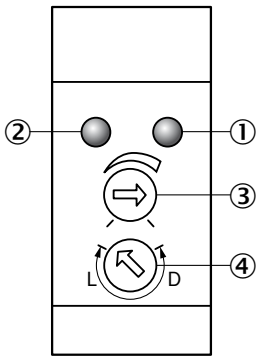
[1] Object with 90 % reflectance (referred to standard white, DIN 5033)

Dimensional drawing (Dimensions in mm (inch))



① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: switching output active
⑥ LED indicator green: stability indicator

Adjustments



① LED indicator orange: switching output active
② LED indicator green: power on
③ Sensing range adjustment: potentiometer
④ Light/ dark rotary switch:L = light switching, D = dark switching

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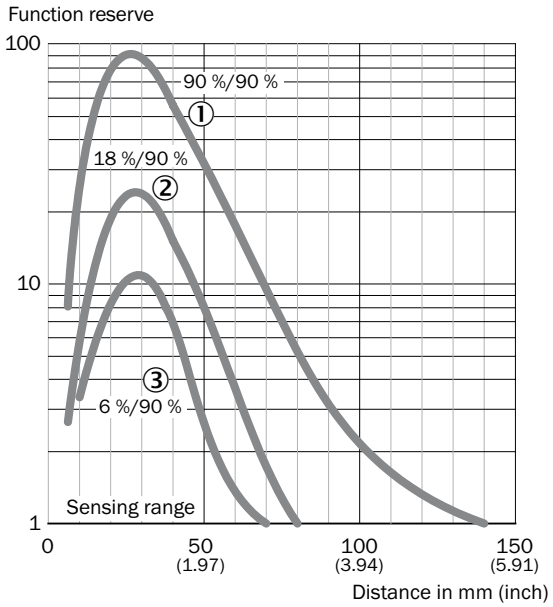
Characteristic curves

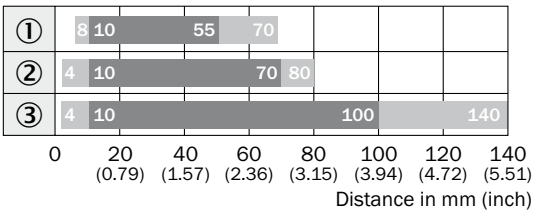
WT100-2, BGB



① Sensing range on white, 90 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6 % remission

Bar diagrams

WT100-2, BGB

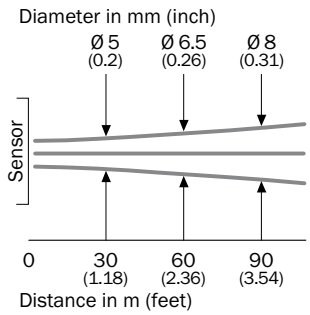


Sensing range Sensing range max.

① Sensing range on black, 6 % remission
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90 % remission

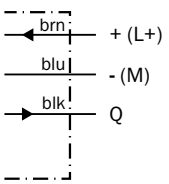
Light spot diameter

WT100-2, BGB

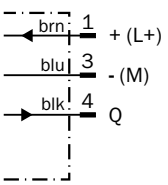


Connection diagram

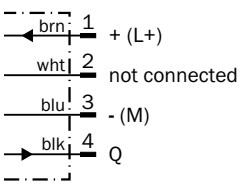
Cd-043



Cd-045



Cd-067



PHOTOELECTRIC RETRO-REFLECTIVE SENSOR WITH LONG SENSING RANGE

Product description

The WL100-2 photoelectric retro-reflective sensor features long sensing ranges of over 7 m on the PL80A reflector.
The bright, visible light spot, the clearly visible status indicator LEDs and the integrated M3 threaded mounting hole make commissioning quick and easy.
The photoelectric sensor is suitable for executing numerous tasks:

Options in terms of switching output (PNP or NPN) and connectors (male connector, M8, 3-pin; male connector, M8, 4-pin; cable, 2 m), light/dark switching and sensitivity adjustment allow for a wide variety of sensor variants.
The extensive range of accessories also opens up a diverse spectrum of application possibilities.

At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Long sensing ranges of up to 7.2 m on PL80A reflector

Your benefits

- Long sensing ranges of up to 7.2 m thanks to a high functional reserve
- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads

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→ www.mysick.com/en/WL100-2

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.

8017773/2014-11-18
Subject to change without notice

Detailed technical data

Features

Sensor principle	Photoelectric retro-reflective sensor
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max. [1]	0.01 m ... 7.2 m
Sensing range [1]	0.01 m ... 5.5 m
Type of light	Visible red light
Light source [2]	LED
Light spot size (distance)	Ø 280 mm (4 m)
Wave length	632 nm
Adjustment	Potentiometer

[1] PL80A.

[2] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V ... 30 V
Ripple [2]	± 10 %
Power consumption [3]	≤ 30 mA
Output type	PNP / NPN (depending on type)
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	100 mA
Response time [4]	≤ 0.5 ms
Switching frequency [5]	1,000 Hz
Connection type	Cable, 2 m [6] Male connector (depending on type)
Circuit protection	A [7], B [8], D [9]
Protection class	III
Polarisation filter	✔
Housing material	ABS/PC/POM
Optics material	PMMA
Enclosure rating	IP 67
Items supplied	Mounting bracket BEF-W100-A, Reflector P250
Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] May not exceed or fall short of V_S tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] B = output reverse-polarity protected.

[9] D = outputs overcurrent and short-circuit protected.

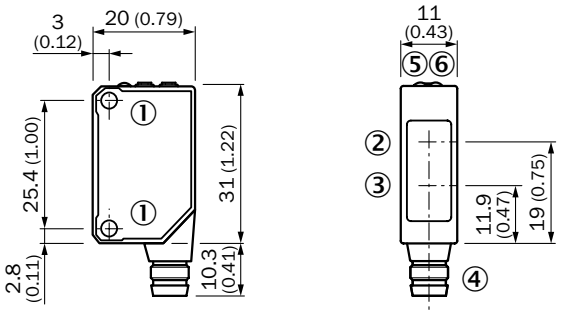
Ordering information

Other models ➜ www.mysick.com/en/WL100-2

Sensing range max. [1]	Light spot size (distance)	Output type	Connection	Connection diagram	Model name	Part no.
0.01 m ... 7.2 m	Ø 280 mm (4 m)	PNP	Cable, 3-wire, 2 m, PVC	Cd-043	WL100-2P1439	6052360
			Connector M8, 3-pin	Cd-045	WL100-2P3439	6052361
			Connector M8, 4-pin	Cd-067	WL100-2P4439	6052362
		NPN	Cable, 3-wire, 2 m, PVC	Cd-043	WL100-2N1439	6052357
			Connector M8, 3-pin	Cd-045	WL100-2N3439	6052358
			Connector M8, 4-pin	Cd-067	WL100-2N4439	6052359

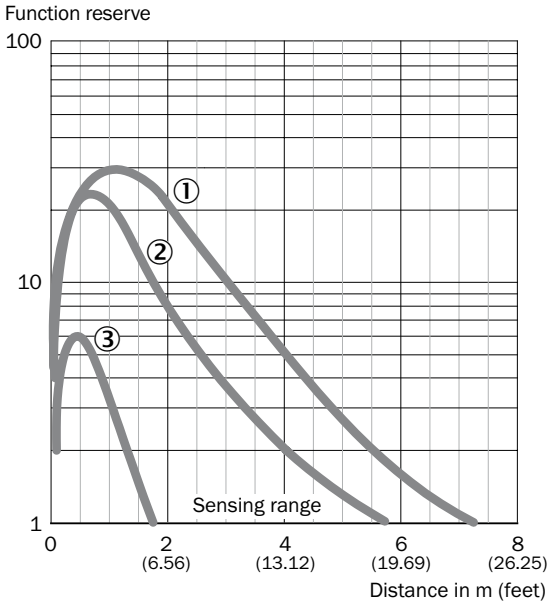
[1] PL80A.

Dimensional drawing (Dimensions in mm (inch))



① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: switching output active
⑥ LED indicator green: stability indicator

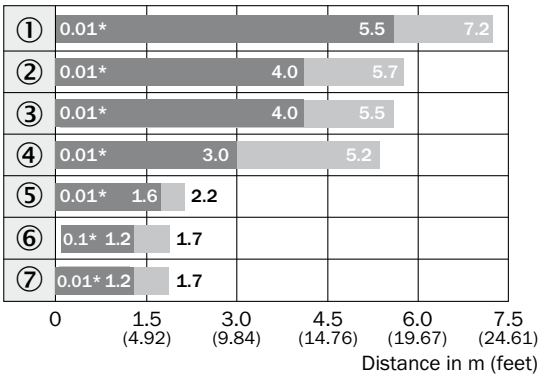
Characteristic curves



① PL80A
② P250
③ Reflective tape Diamond Grade (100 mm x 100 mm/3.94 inch x 3.94 inch)

8017773/2014-11-18

Bar diagrams

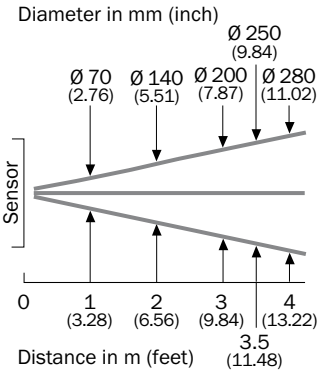


Sensing range Sensing range max.

*Close-up range at maximum sensitivity

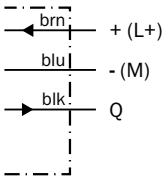
① PL80A
② P250
③ PL50A, PL40A
④ PL30A, PL31A
⑤ PL20A
⑥ Reflective tape Diamond Grade
⑦ P45

Light spot diameter

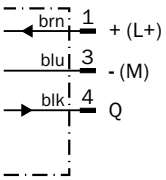


Connection diagram

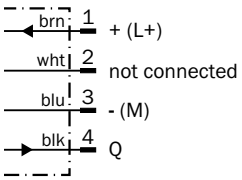
Cd-043



Cd-045



Cd-067



PHOTOELECTRIC RETRO-REFLECTIVE SENSOR FOR DETECTING TRANSPARENT OBJECTS

Product description

The WL100-2 photoelectric retro-reflective sensor for detecting transparent objects features reliable switching and long sensing ranges for transparent materials.
The bright, visible light spot, the clearly visible status indicator LEDs and the integrated M3 threaded mounting hole make commissioning quick and easy.
The photoelectric sensor is suitable for executing numerous tasks:
Options in terms of switching output (PNP or NPN) and connectors (male connector, M8, 3-pin; male connector, M8, 4-pin; cable, 2 m), light/dark switching and sensitivity adjustment allow for a wide variety of sensor variants.
The extensive range of accessories also opens up a diverse spectrum of application possibilities.

At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Low switching hysteresis for detecting transparent objects with min. 20% attenuation in the light path

Your benefits

- Reliable detection with regard to transparent objects with attenuation in the light path of min. 20%
- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Highly reliable and durable despite optical interference and mechanical loads

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→ www.mysick.com/en/WL100-2

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

Sensor principle	Photoelectric retro-reflective sensor
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max. [1]	0.01 m ... 3 m
Sensing range [1]	0.01 m ... 2.5 m
Type of light	Visible red light
Light source [2]	LED
Light spot size (distance)	Ø 140 mm (2 m)
Wave length	632 nm
Adjustment	Potentiometer
Special feature	Detection of transparent objects
Special features	Clear material detection

[1] PL80A.

[2] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V ... 30 V
Ripple [2]	± 10 %
Power consumption [3]	≤ 30 mA
Output type	PNP / NPN (depending on type)
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	100 mA
Response time [4]	≤ 0.5 ms
Switching frequency [5]	1,000 Hz
Attenuation along light beam	≥ 20 %
Connection type	Cable, 2 m [6] Male connector (depending on type)
Circuit protection	A [7], B [8], D [9]
Protection class	III
Polarisation filter	-
Housing material	ABS/PC/POM
Optics material	PMMA
Enclosure rating	IP 67
Items supplied	Mounting bracket BEF-W100-A, Reflector P250
Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

[2] May not exceed or fall short of V_S tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] B = output reverse-polarity protected.

[9] D = outputs overcurrent and short-circuit protected.

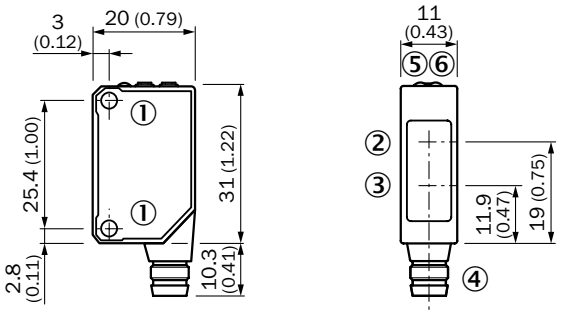
Ordering information

Other models ➜ www.mysick.com/en/WL100-2

Sensing range max. [1]	Light spot size (distance)	Output type	Connection	Connection diagram	Model name	Part no.
0.01 m ... 3 m	Ø 140 mm (2 m)	PNP	Cable, 3-wire, 2 m, PVC	Cd-043	WL100-2P1429	6052384
			Connector M8, 3-pin	Cd-045	WL100-2P3429	6052385
			Connector M8, 4-pin	Cd-067	WL100-2P4429	6052386
		NPN	Cable, 3-wire, 2 m, PVC	Cd-043	WL100-2N1429	6052381
			Connector M8, 3-pin	Cd-045	WL100-2N3429	6052382
			Connector M8, 4-pin	Cd-067	WL100-2N4429	6052383

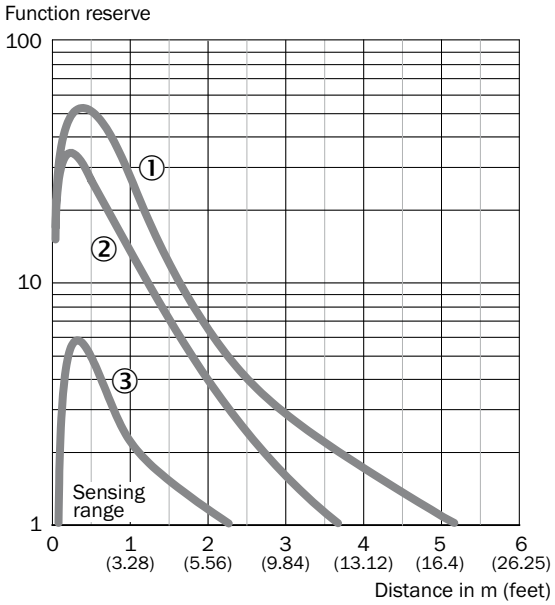
[1] PL80A.

Dimensional drawing (Dimensions in mm (inch))



① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: switching output active
⑥ LED indicator green: stability indicator

Characteristic curves



① PL80A
② P250
③ Reflective tape Diamond Grade (100 mm x 100 mm/3.94 inch x 3.94 inch)

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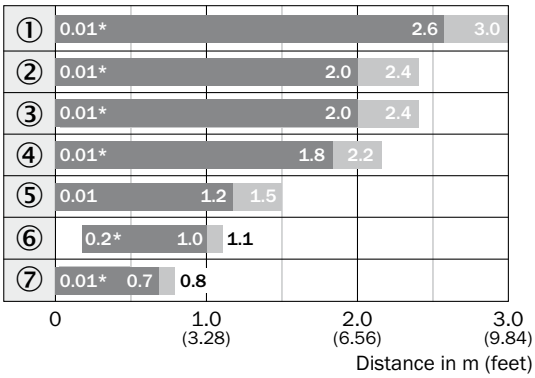
Bar diagrams

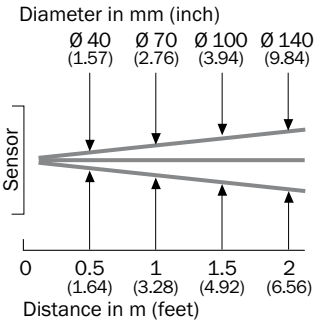


Sensing range Sensing range max.

*Close-up range at maximum sensitivity

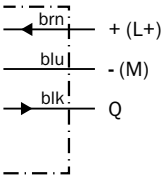
① PL80A
② P250
③ PL50A, PL40A
④ PL30A, PL31A
⑤ PL20A
⑥ Reflective tape Diamond Grade
⑦ P45

Light spot diameter

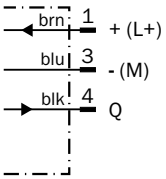


Connection diagram

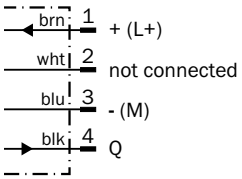
Cd-043



Cd-045



Cd-067



THROUGH-BEAM PHOTOELECTRIC SENSOR WITH LONG SENSING RANGE

Product description

The WS/WE100-2 through-beam photoelectric sensor features long sensing ranges of over 30 m.
The bright, clearly visible light spot, the clearly visible status indicator LEDs and the integrated M3 threaded mounting hole make commissioning quick and easy.
Options in terms of switching output (PNP or NPN) and connectors (male connector, M8, 3-pin; male connector, M8, 4-pin; cable, 2 m), light/dark switching and sensitivity adjustment allow for a wide variety of sensor variants.
Thanks to the extensive range of accessories (incl. slotted diaphragms and polarization filter attachments), in addition to standard applications, positioning tasks can be carried out and small objects can be detected reliably.

At a glance

- Standard miniature housing with integrated M3 threaded mounting holes
- Bright emitted light spot and clearly visible indicator LEDs
- Light/dark switching and sensitivity adjustment possible
- Special slotted diaphragms and polarization filters available
- Long sensing ranges of up to 33 m

Your benefits

- Long sensing ranges and safe usage thanks to a high functional reserve
- Straightforward alignment thanks to bright light spot and clearly visible indicator LEDs
- Compatibility with a number of common mounting systems due to standard housing with 1-inch hole spacing and integrated M3 threaded mounting hole
- Special accessories mean that the optical characteristics can be further enhanced depending on the application
- Highly reliable and durable despite optical interference and mechanical loads

Additional information

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Connection diagram. 21
Recommended accessories 22

→ www.mysick.com/en/WS_WE100-2

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.

8017773/2014-11-18
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Detailed technical data

Features

Sensor principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 33 m
Sensing range	0 m ... 20 m
Type of light	Visible red light
Light source [1]	LED
Light spot size (distance)	Ø 1,800 mm (12 m)
Wave length	632 nm
Adjustment	Potentiometer, 270 °

[1] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V ... 30 V
Ripple [2]	± 10 %
Power consumption, sender [3]	≤ 15 mA
Power consumption, receiver [3]	≤ 20 mA
Output type	PNP / NPN (depending on type)
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	U_V - 1,8 V / ca. 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	100 mA
Response time [4]	≤ 0.5 ms
Switching frequency [5]	1,000 Hz
Connection type	Cable, 2 m [6] Male connector (depending on type)
Circuit protection	A [7], B [8], D [9]
Protection class	III
Housing material	ABS/PC/POM
Optics material	PMMA
Enclosure rating	IP 67
Items supplied	Mounting bracket BEF-W100-A
Ambient operating temperature	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

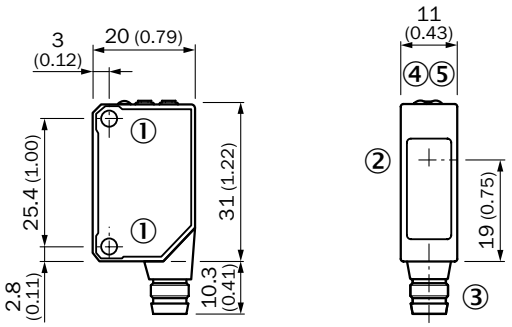
[1] Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.
[2] May not exceed or fall short of V_S tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] B = output reverse-polarity protected.
[9] D = outputs overcurrent and short-circuit protected.

Ordering information

Other models ➜ www.mysick.com/en/WS_WE100-2

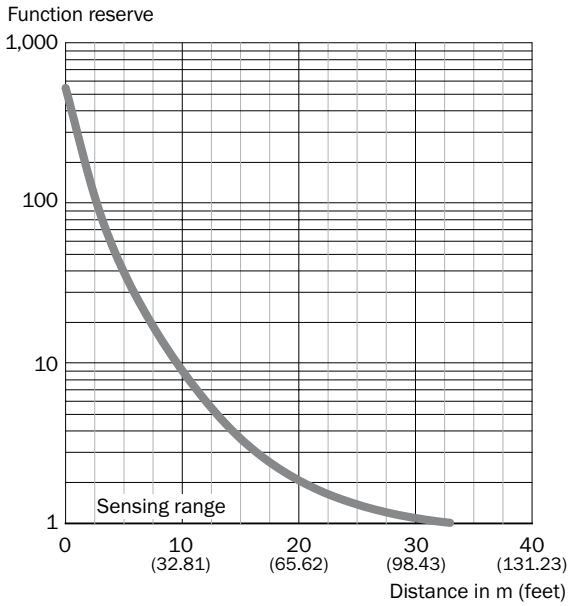
Sensing range max.	Light spot size (distance)	Output type	Connection	Connection diagram	Model name	Part no.
0 m ... 33 m	Ø 1,800 mm (12 m)	PNP	Cable, 3-wire, 2 m, PVC	Cd-049	WS/WE100-2P1439	6052366
			Connector M8, 3-pin	Cd-051	WS/WE100-2P3439	6052367
			Connector M8, 4-pin	Cd-057	WS/WE100-2P4439	6052368
		NPN	Cable, 3-wire, 2 m, PVC	Cd-049	WS/WE100-2N1439	6052363
			Connector M8, 3-pin	Cd-051	WS/WE100-2N3439	6052364
			Connector M8, 4-pin	Cd-057	WS/WE100-2N4439	6052365

Dimensional drawing (Dimensions in mm (inch))

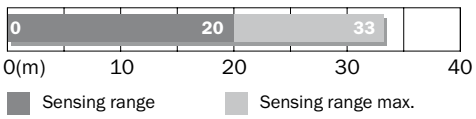


① Threaded mounting hole M3
② Center of optical axis, receiver
③ Center of optical axis, sender
④ Connection
⑤ LED indicator orange: output active
⑥ LED indicator green: stability indicator
⑦ Sensing range adjustment: potentiometer, 270°
⑧ Light/ dark rotary switch:L = light switching, D = dark switching

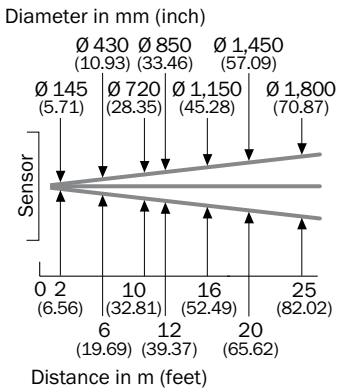
Characteristic curves



Bar diagrams



Light spot diameter



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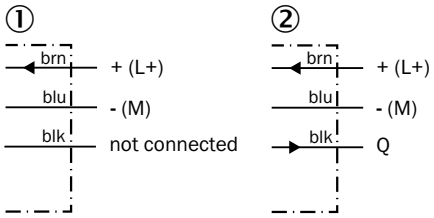
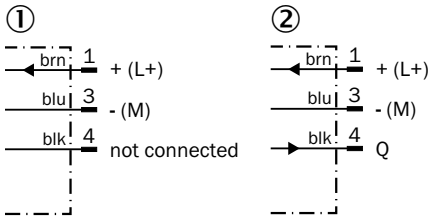
Connection diagram

Cd-049



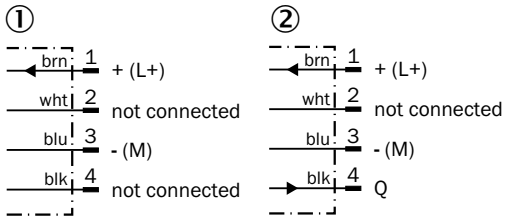
① Sender
② Receiver

Cd-051



① Sender
② Receiver

Cd-057



① Sender
② Receiver

Recommended accessories

Mounting brackets and mounting plates

Mounting brackets

Figure	Material	Description	Model name	Part no.
	Stainless steel	Mounting bracket for wall mounting	BEF-W100-A	5311520
	Steel, zinc coated	Mounting bracket for floor mounting	BEF-W100-B	5311521

Plug connectors and cables

Female connectors (ready to assemble) M8, 3-pin

- **Enclosure rating:** IP 67

Figure	Connection type head A	Connection type head B	Model name	Part no.
	Female connector, M8, 3-pin, straight	Screw-type terminals	DOS-0803-G	7902077
	Female connector, M8, 3-pin, angled	Pin penetration	DOS-0803-W	7902078

Female connectors (ready to assemble) M8, 4-pin

- **Enclosure rating:** IP 67

Figure	Connection type head A	Connection type head B	Model name	Part no.
	Female connector, M8, 4-pin, straight	Screw-type terminals	DOS-0804-G	6009974
	Female connector, M8, 4-pin, angled	Pin penetration	DOS-0804-W	6009975

Connecting cables with female connector M8, 3-pin, PVC

- **Cable material:** PVC

Figure	Connection type head A	Connection type head B	Connecting cable	Model name	Part no.
	Female connector, M8, 3-pin, straight	Cable, open conductor heads	2 m, 3-wire	DOL-0803-G02M	6010785
			5 m, 3-wire	DOL-0803-G05M	6022009
			10 m, 3-wire	DOL-0803-G10M	6022011
	Female connector, M8, 3-pin, angled	Cable, open conductor heads	2 m, 3-wire	DOL-0803-W02M	6008489
			5 m, 3-wire	DOL-0803-W05M	6022010
			10 m, 3-wire	DOL-0803-W10M	6022012

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Connecting cables with female connector M8, 3-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free

Figure	Connection type head A	Connection type head B	Connecting cable	Model name	Part no.
	Female connector, M8, 3-pin, straight	Cable, open conductor heads	2 m, 3-wire	DOL-0803-G02MC	6025888
			5 m, 3-wire	DOL-0803-G05MC	6025889
			10 m, 3-wire	DOL-0803-G10MC	6025890
	Female connector, M8, 3-pin, angled	Cable, open conductor heads	2 m, 3-wire	DOL-0803-W02MC	6025891
			5 m, 3-wire	DOL-0803-W05MC	6025892
			10 m, 3-wire	DOL-0803-W10MC	6025893

Connecting cables with female connector M8, 4-pin, PVC

- **Cable material:** PVC

Figure	Connection type head A	Connection type head B	Connecting cable	Model name	Part no.
	Female connector, M8, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	DOL-0804-G02M	6009870
			5 m, 4-wire	DOL-0804-G05M	6009872
			10 m, 4-wire	DOL-0804-G10M	6010754
	Female connector, M8, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	DOL-0804-W02M	6009871
			5 m, 4-wire	DOL-0804-W05M	6009873
			10 m, 4-wire	DOL-0804-W10M	6010755

Connecting cables with female connector M8, 4-pin, PUR, halogen-free, Oil / grease resistant

- **Cable material:** PUR, halogen-free

Figure	Connection type head A	Connection type head B	Connecting cable	Model name	Part no.
	Female connector, M8, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	DOL-0804-G02MC	6025894
			5 m, 4-wire	DOL-0804-G05MC	6025895
			10 m, 4-wire	DOL-0804-G10MC	6025896
	Female connector, M8, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	DOL-0804-W02MC	6025897
			5 m, 4-wire	DOL-0804-W05MC	6025898
			10 m, 4-wire	DOL-0804-W10MC	6025899

Male connectors (ready to assemble) M8, 3-pin

Figure	Connection type head A	Connection type head B	Model name	Part no.
	Male connector, M8, 3-pin, straight	Screw-type terminals	STE-0803-G	6037322

Masks

Figure	Description	Model name	Part no.
	Slotted mask, transmitter and receiver each have 2 self-adhesive masks	BL-100-10	5314182

Optical filters

Figure	Description	Model name	Part no.
	Snap-on front lenses, 2 x X- and 2 x Y-polarisation filters	BL-100-POLF	5314702

Universal bar clamp systems

Figure	Material	Description	Model name	Part no.
	Steel, zinc coated	Plate L for universal clamp bracket	BEF-KHS-L01	2023057
	Steel, zinc coated	Plate N08 for universal clamp bracket	BEF-KHS-N08	2051607
	Stainless steel	Plate N08N for universal clamp bracket	BEF-KHS-N08N	2051616
	Steel, zinc coated	Mounting bar, straight, 200 mm, steel	BEF-MS12G-A	4056054
		Mounting bar, straight, 300 mm, steel	BEF-MS12G-B	4056055
		Mounting bar, L-shaped, 150 mm x 150 mm, steel	BEF-MS12L-A	4056052
		Mounting bar, L-shaped, 250 x 250 mm, steel	BEF-MS12L-B	4056053
		Mounting bar, Z-shaped, 150 mm x 70 mm x 150 mm, steel	BEF-MS12Z-A	4056056
		Mounting bar, Z-shaped, 150 mm x 70 mm x 250 mm, steel	BEF-MS12Z-B	4056057
	Aluminum	Bar clamp for bar diameter of 12 mm (fixing the mounting rod)	BEF-RMC-D12	5321878

Device protection (mechanical)

Protective housings and protective pipes

Figure	Material	Description	Model name	Part no.
	Stainless steel 1.4571	Safety bracket for floor mounting	BEF-SW-W4S	2051497

Reflectors (only WL100-2)

Angular

Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Rectangular, screw connection, 47 mm x 47 mm	P250	5304812
		Rectangular, screw connection, 38 mm x 15 mm	PL20A	1012719
		Rectangular, screw connection, 56 mm x 28 mm	PL30A	1002314
		Rectangular, self-adhesive, 56 mm x 28 mm	PL31A	1002315
		Rectangular, screw connection, 37 mm x 56 mm	PL40A	1012720
		Rectangular, screw connection, wrench size 48 mm	PL50A	1000132
		Rectangular, screw connection, 80 mm x 80 mm	PL80A	1003865

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Fine triple reflectors

Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Fine triple, screw connection, suitable for laser sensors, 47 mm x 47 mm	P250F	5308843
		Fine triple, screw connection, suitable for laser sensors, 18 mm x 18 mm	PL10F	5311210
		Fine triple, screw connection, suitable for laser sensors, 38 mm x 16 mm	PL20F	5308844

Reflective tape

Figure	Description	Model name	Part no.
	Reflective tape “Diamond Grade”, self-adhesive, sheet, 749 mm x 914 mm	REF-DG	5320565
	Reflective tape “Diamond Grade”, self-adhesive, customizable size by sheet, 74.9 cm x 91.4 cm [1]	REF-DG-K	4019634
	Self-adhesive, 50 mm x 60 mm	REF-IRF-56	5314244
	Self-adhesive, customizable length by roll, 2.5 cm x 22.8 m [1]	REF-PLUS-25-K	4051184
	Self-adhesive, customizable length by roll, 5 cm x 22.8 m [1]	REF-PLUS-50-K	4051185
	Self-adhesive, customizable length by roll, 10 cm x 22.8 m [1]	REF-PLUS-R100-K	4071461
	Self-adhesive, roll, 25 mm x 22.8 m	REF-PLUS-R25	5319929
	Self-adhesive, roll, 50 mm x 22.8 m	REF-PLUS-R50	5319981
	Self-adhesive, customizable length by roll, 7.6 cm x 22.8 m [1]	REF-PLUS-R76	4071462

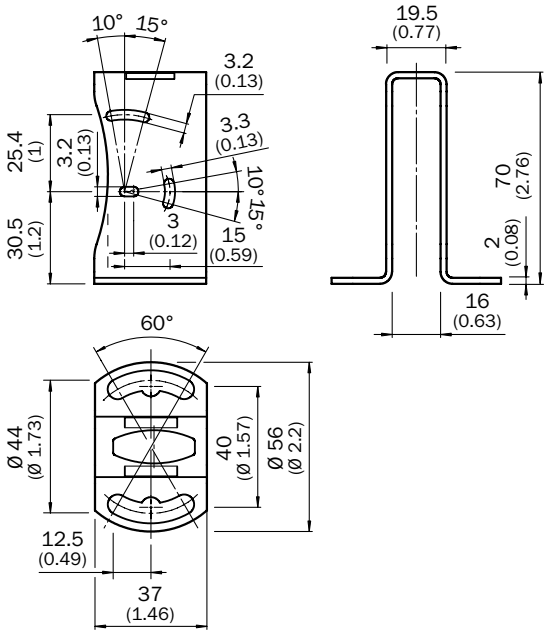
Round

Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Round, plugable for metal plates	PL22-3	1004488

Dimensional drawings accessories

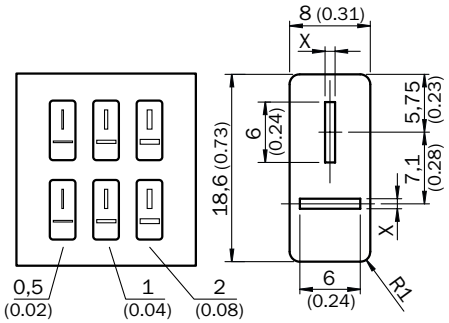
Device protection (mechanical)

BEF-SW-W4S



Masks

BL-100-10

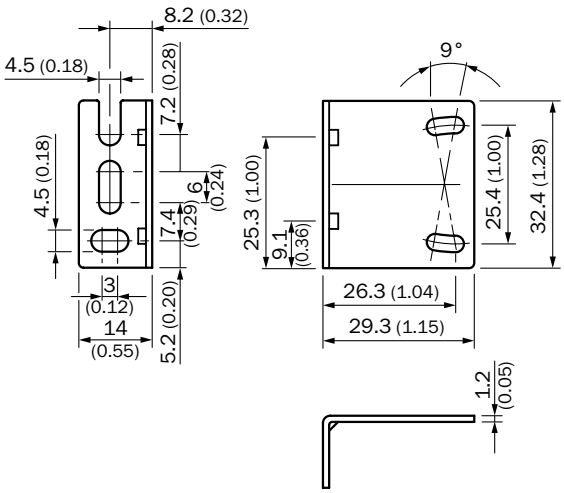


3 pairs included with apertures A, B, C.
Self-adhesive backing for easy mounting.
Apply stick-on mask to WS100 and WE100 front lens.
For small object detection or increasing indexing accuracy.

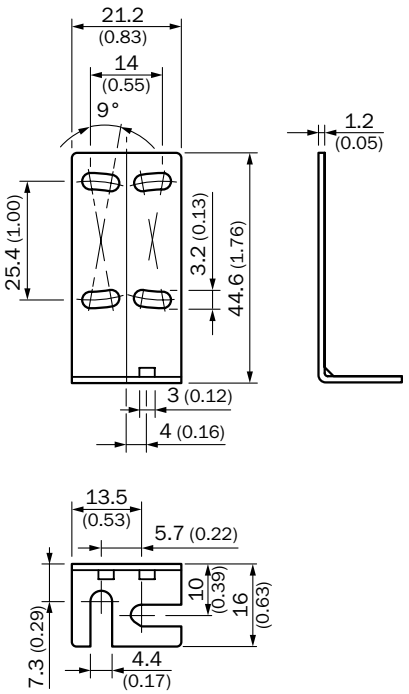
Sensing ranges with apertures applied:
A) Aperture 2.0 mm: Range = 4.0 m
B) Aperture 1.0 mm: Range = 2.0 m
C) Aperture 0.5 mm: Range = 1.0 m

Mounting brackets and mounting plates

BEF-W100-A

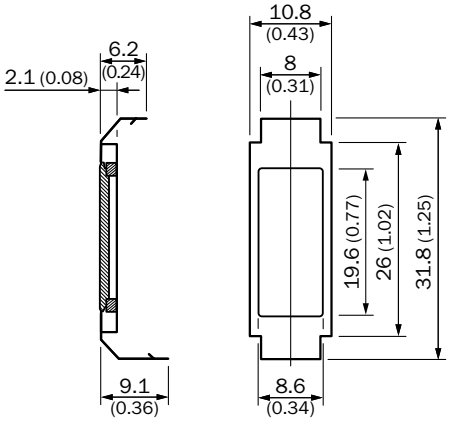


BEF-W100-B



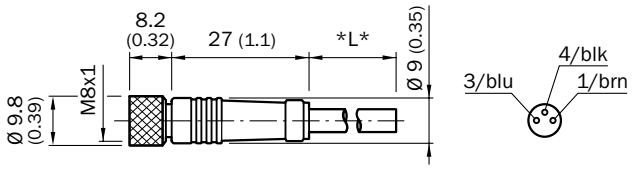
Optical filters

BL-100-POLF

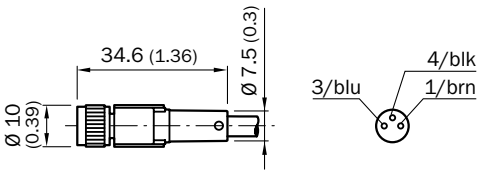


Plug connectors and cables

DOL-0803-GxxM



DOL-0803-GxxMC



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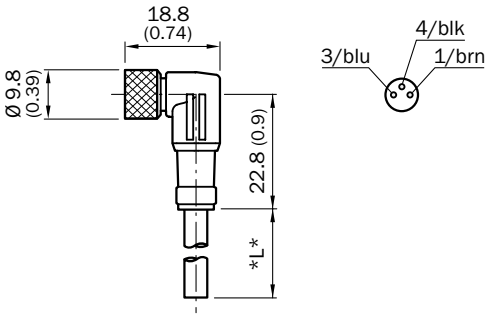

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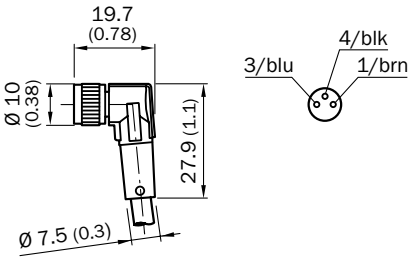

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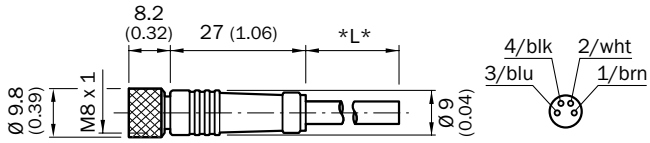

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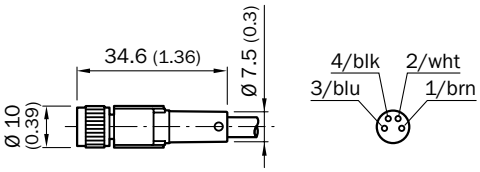

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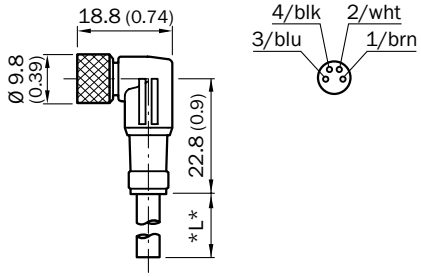

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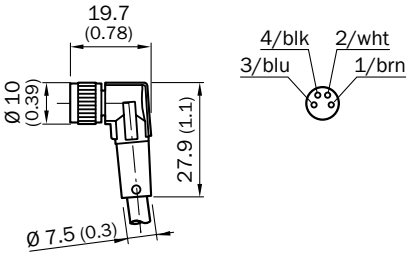

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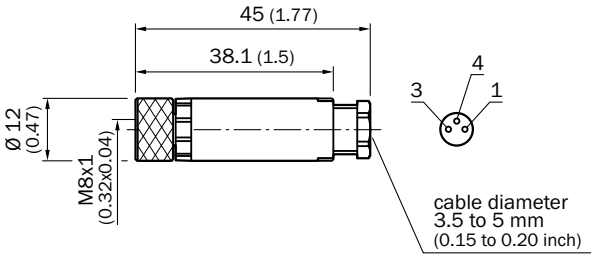

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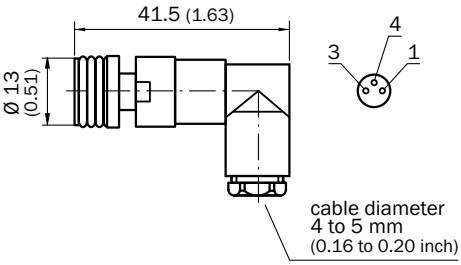

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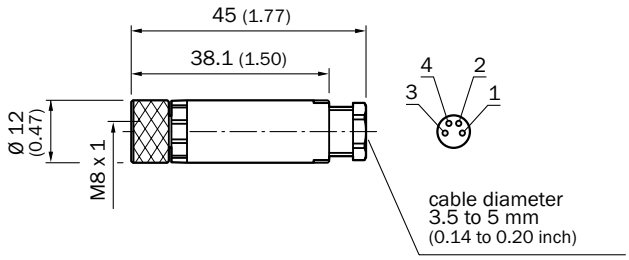

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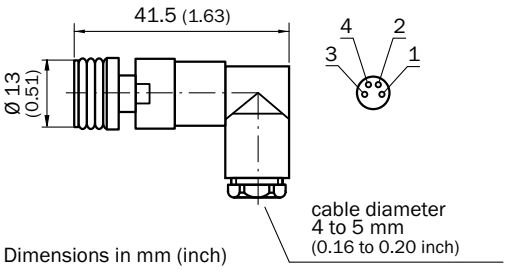

Dimensions in mm (inch)

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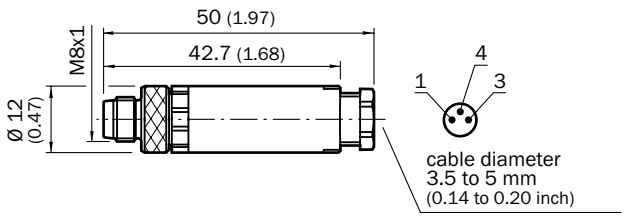
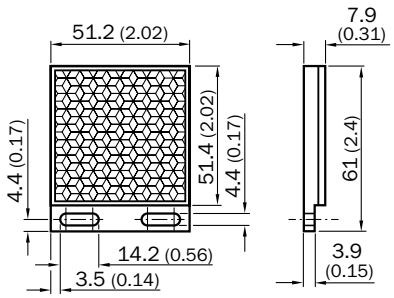
STE-0803-G

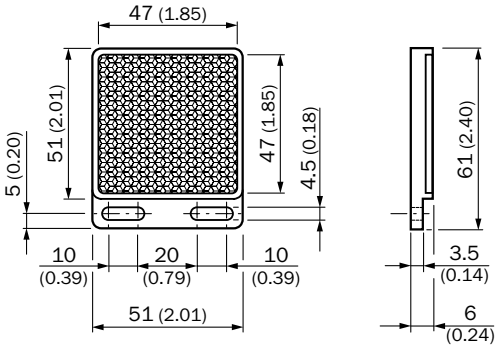


Dimensional drawings Reflectors

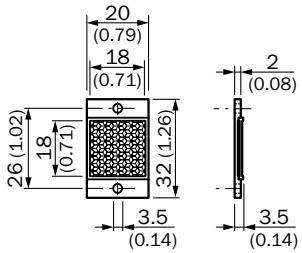
P250



P250F



PL10F



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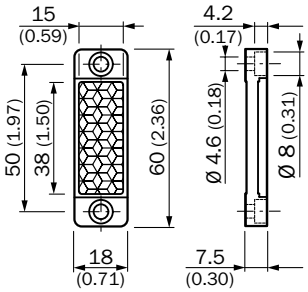

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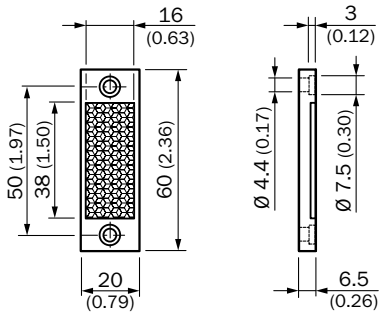
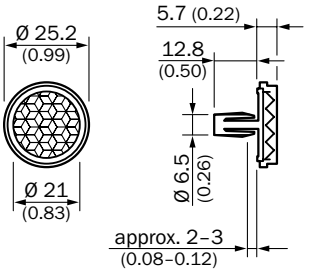
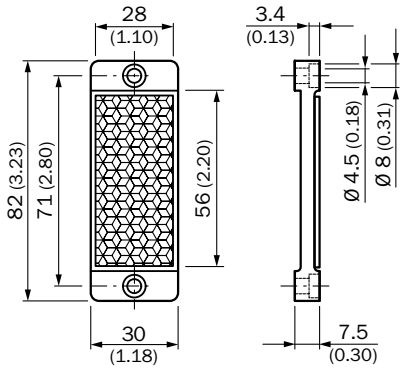


PL22-3

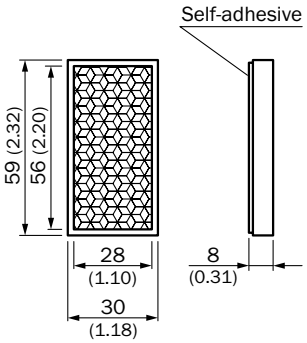


All dimensions in mm (inch)

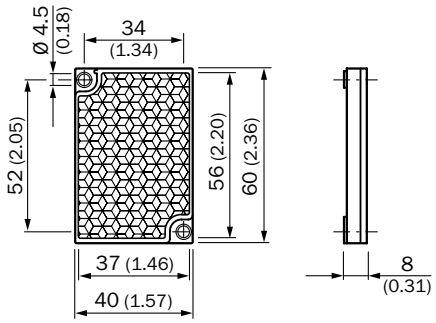
PL30A



PL31A



PL40A



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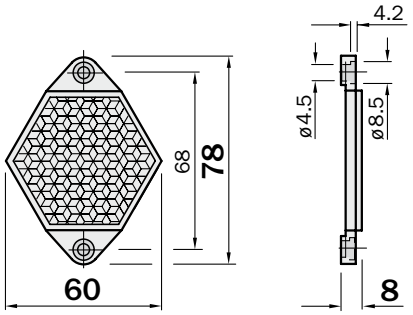
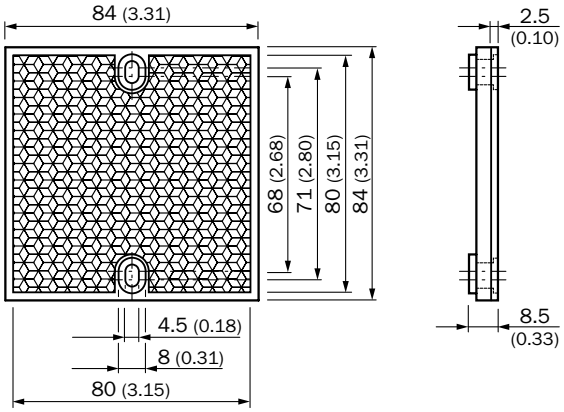
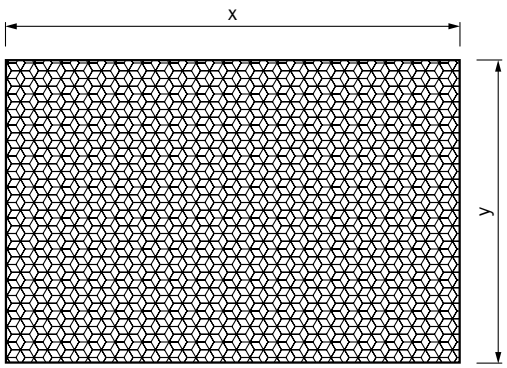


PL80A



REF-DG



① X = 74.9 cm
② Y = 91.4 cm

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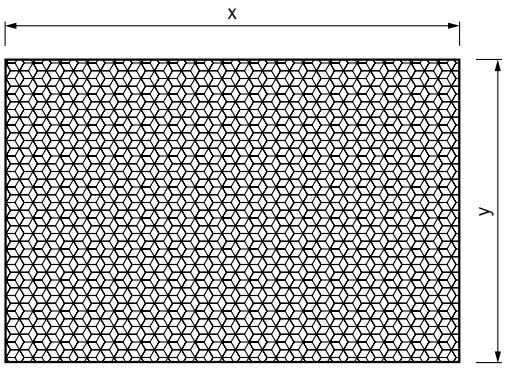
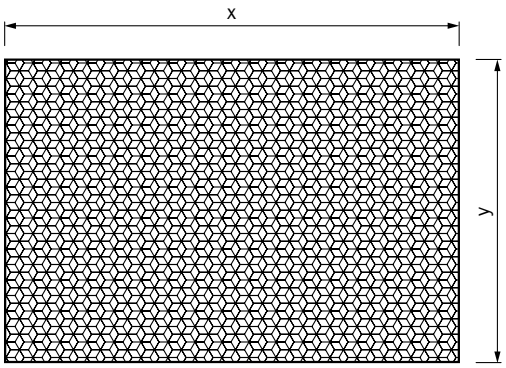
REF-DG-K



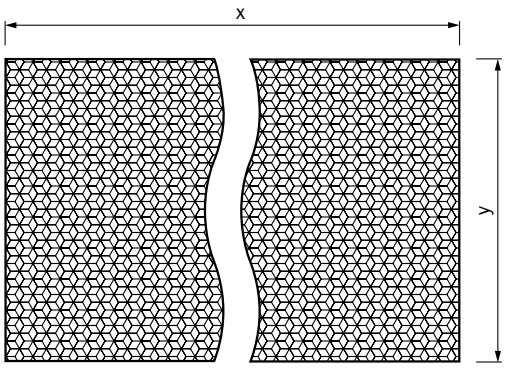
① X = 74.9 cm
② Y = 91.4 cm

REF-IRF-56



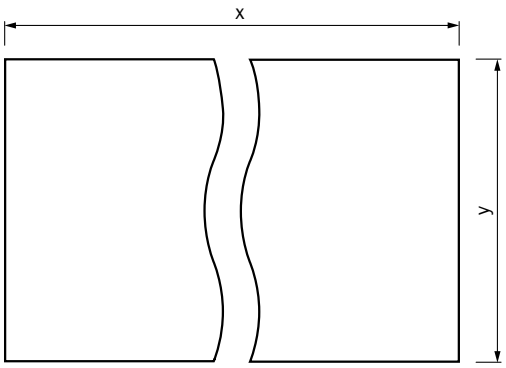
① X = 50 mm
② Y = 60 mm

REF-PLUS-25-K / REF-PLUS-R25



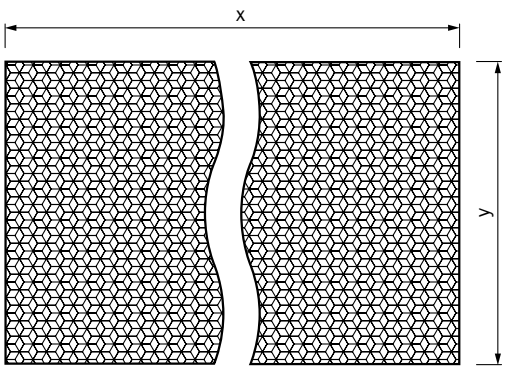
① X = 2.5 cm
② Y = 22.8 m

REF-PLUS-R100-K



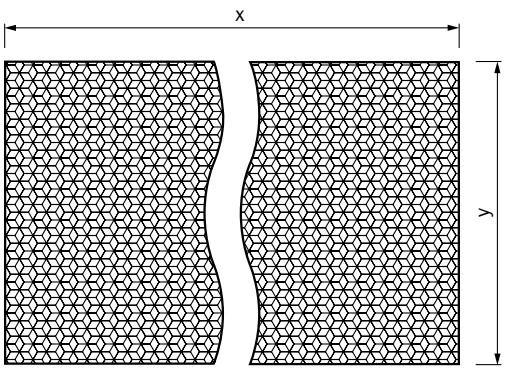
① X = 91.4 cm
② Y = 4.57 m

REF-PLUS-R50



① X = 50 mm
② Y = 22.8 m

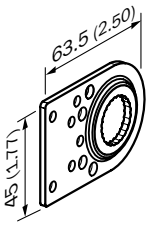
REF-PLUS-R76



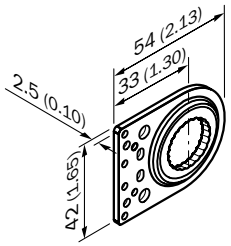
① X = 7.6 cm
② Y = 22.8 m

Dimensional drawings Universal bar clamp systems

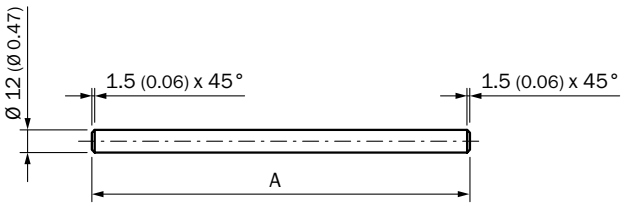
BEF-KHS-L01



BEF-KHS-N08 / BEF-KHS-N08N

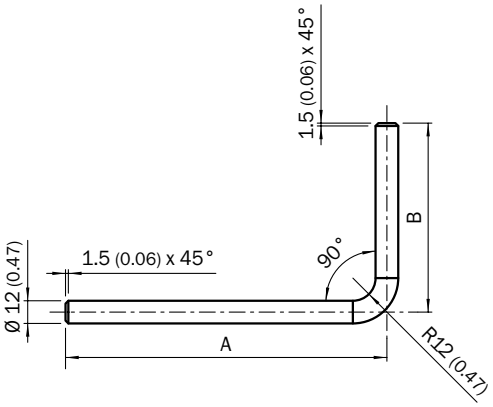


BEF-MS12G-A / BEF-MS12G-B



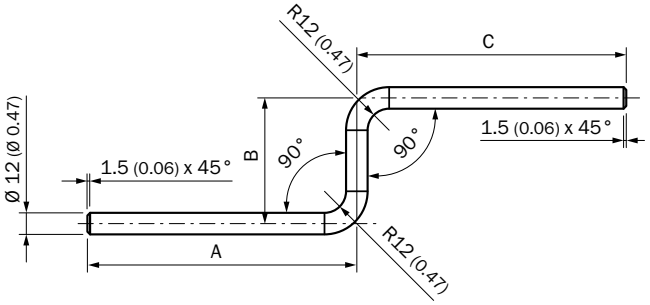
① BEF-MS12G-(N)A: A = 200 mm
② BEF-MS12G-(N)B: A = 300 mm

BEF-MS12L-A / BEF-MS12L-B



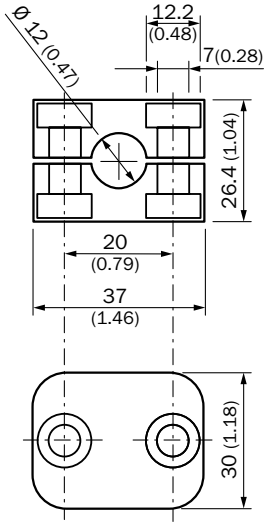
① BEF-MS12L-(N)A: A = 200 mm, B = 150 mm
② BEF-MS12L-(N)B: A = 250 mm, B = 250 mm

BEF-MS12Z-A / BEF-MS12Z-B



① BEF-MS12Z-(N)A: A = 150 mm, B = 70 mm, C = 150 mm
② BEF-MS12Z-(N)B: A = 150 mm, B = 70 mm, C = 250 mm

BEF-RMC-D12



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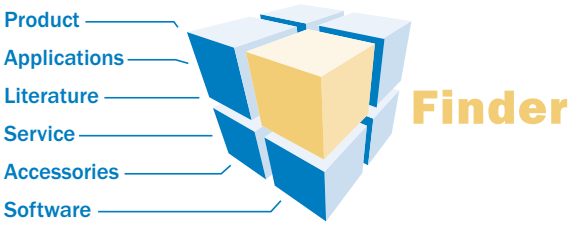

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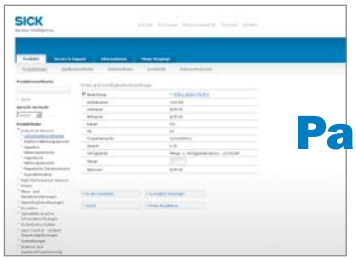

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SICK AT A GLANCE

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