

Retro-reflective

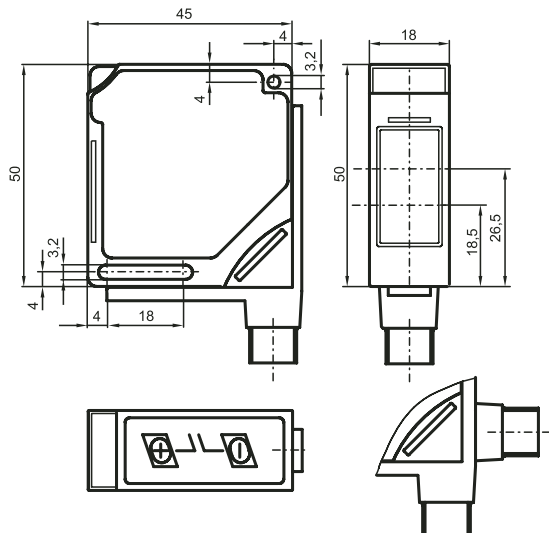
Sensing range: 0mm to 2000mm

Sensing range	2000mm	2000mm
Catalog number	SORG2000B45NC1PKS	SORG2000B45NC1NKS
List price	\$ 195	\$ 195
Output	PNP, Sourcing Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Reflector 50mm x 50mm RFL-1	NPN, Sinking Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Reflector 50mm x 50mm RFL-1
Reference Polarized	Yes	Yes
Switching frequency kHz	1	1
Response time ms	<3	<3
Readiness delay ms	<80	<80
Hysteresis	Programmable	Programmable
Operating mode		
LED's		
Yellow	Switch status	Switch status
Red	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s
Green	Power on Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm	Power on Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm
Type of light		
Ambient light limit		
Daylight lux	<10,000	<10,000
Halogen light lux	<7,500	7,500
Electrical specifications		
Supply voltage VDC	10-30	10-30
Current consumption mA	<25	<25
Load current mA	200	200
Voltage drop VDC	2.5	2.5
Short circuit and overload protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Mechanical specifications		
Protection IEC	IP 67	IP 67
Housing	PBT	PBT
Optical	Scratch resistant plastic	Scratch resistant plastic
Operating temperature °F	-13... +158	-13... +158
Storage temperature °F	-40... +167	-40... +167
Approvals		
CE	Yes	Yes
UL Listed	Yes	Yes
CSA	Yes	Yes
Weight g	60	60
Connection	Connector M12	Connector M12
Programming	via hand held unit or PC	via hand held unit or PC

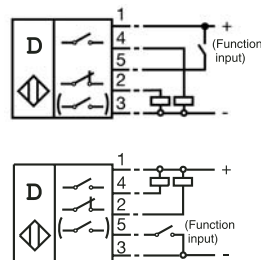


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Approximate dimensions



Wiring diagrams



Retro-reflective

Sensing range: 4000mm

Sensors
Photoelectric

Sensing range	4000mm	4000mm
Catalog number	SOR6000B45NC1PKS ①	SOR6000B45NC1NKS ①
List price	\$ 155	\$ 155
Output	PNP, Sinking Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Reflector 50mm x 50mm RFL-1	NPN, Sinking Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Reflector 50mm x 50mm RFL-1
Reference		
Polarized	Yes	Yes
Switching frequency kHz	1	1
Response time ms	<3	<3
Readiness delay ms	<80	<80
Hysteresis	Programmable	Programmable
Operating mode		
LED's		
Yellow	Switch status	Switch status
Red	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s
Green	Power on Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm	Power on Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm
Type of light		
Ambient light limit		
Daylight lux	<10,000	<10,000
Halogen light lux	<7,500	7,500
Electrical specifications		
Supply voltage VDC	10-30	10-30
Current consumption mA	<25	<25
Load current mA	200	200
Voltage drop VDC	2.5	2.5
Short circuit and overload protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Mechanical specifications		
Protection IEC	IP 67	IP 67
Housing	PBT	PBT
Optical	Scratch resistant plastic	Scratch resistant plastic
Operating temperature °F	-13... +158	-13... +158
Storage temperature °F	-40... +167	-40... +167
Approvals		
CE	Yes	Yes
UL Listed	Yes	Yes
CSA	Yes	Yes
Weight g	60	60
Connection	Connector M12	Connector M12
Programming	via hand held unit or PC	via hand held unit or PC

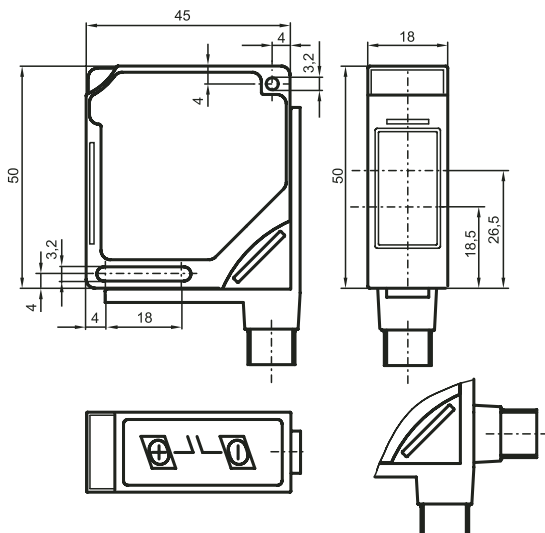


SOR6000B45NC1PKS

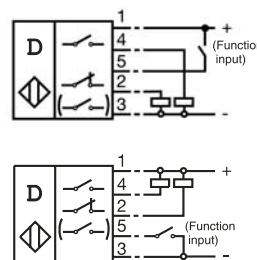
① Mounting bracket and reflector, RFL-1 included

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Approximate dimensions



Wiring diagrams



Thru-beam Sensing range: 4000mm

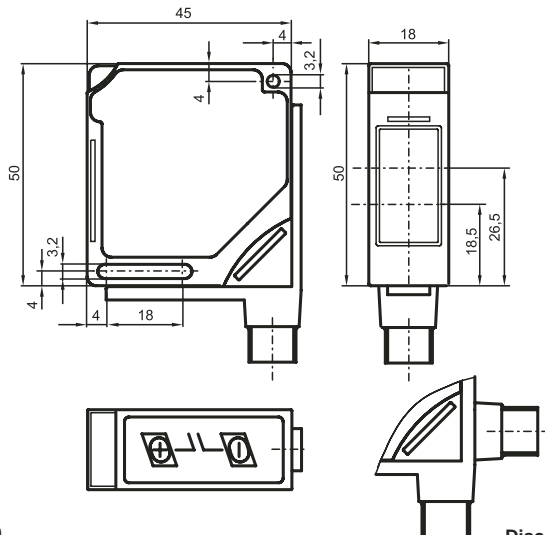
Sensing range	4000mm	4000mm
Catalog number	SOT15MB45NC1PKS ①	SOT15MB45NC1NKS ①
List price	\$ 215	\$ 215
Output	PNP, Sourcing Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Std. White card 100mm x 100mm	NPN, Sinking Programmable: • Switch output (NO/NC) • Antivalent • Pre-fault indicator Std. White card 100mm x 100mm
Reference Polarized	Yes	Yes
Switching frequency kHz	1	1
Response time ms	<3	<3
Readiness delay ms	<80	<80
Hysteresis	Programmable	Programmable
Operating mode		
LED's		
Yellow	Switch status	Switch status
Red	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s	Pre-fault indicator flashing at 2 Hz Key stroke response 65ms Error display in "Teach-in" mode 1.5s
Green	Power on (emitter only) Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm	Power on (emitter only) Indicator in teach mode flashing at 2 Hz or 4 Hz Visible red, 660 nm
Type of light		
Ambient light limit		
Daylight lux	<10,000	<10,000
Halogen light lux	<7,500	7,500
Electrical specifications		
Supply voltage VDC	10-30	10-30
Current consumption mA	<25	<25
Load current mA	200	200
Voltage drop VDC	2.5	2.5
Short circuit and overload protection	Yes	Yes
Reverse polarity protection	No	No
Mechanical specifications		
Protection IEC	IP 67	IP 67
Housing	PBT	PBT
Optical	Scratch resistant plastic	Scratch resistant plastic
Operating temperature °F	-13... +158	-13... +158
Storage temperature °F	-40... +167	-40... +167
Approvals		
CE	Yes	Yes
UL Listed	Yes	Yes
CSA	Yes	Yes
Weight g	60	60
Connection	Connector M12	Connector M12
Programming	via hand held unit or PC	via hand held unit or PC



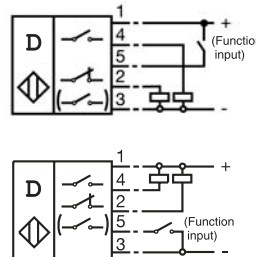
① Mounting bracket included.

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Approximate dimensions

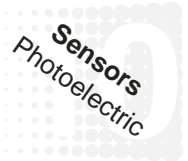


Wiring diagrams



Thru-beam

Sensing range: 20,000mm

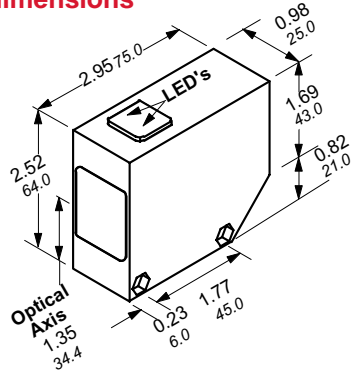


Sensing range		20,000mm
Catalog number	SOT20MB75NTKK	
List price	\$ 225.00	
Output	Relay, Normally Open	
Reference	Thru-beam receiver	
Switching frequency	Hz	25
Response time	ms	20
Readiness delay	ms	50
Operating mode	Light On/dark On, selectable	
LEDs		
Yellow (Receiver only)	Output status	
Red (Emitter and receiver)	Weak signal	
Electrical specifications		
Supply voltage	12 – 240VDC/24 – 240VAC	
Pwr consumption	VA	3
Load current	A	3
Mechanical specifications		
Protection IEC	IP66	
Housing	Crastin	
Optical	PMMA lens	
Operating temperature	°F	-13 ... +131
Storage temperature	°F	-40 ... +158
Approvals		
CE	yes	
UL listed	no	
CSA	no	
Connection	Terminal	



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Approximate dimensions



Wiring diagrams



Fiber-optic

For use with glass fiber-optic cables

Catalog number	SOLXM18NC1PO	
List price	\$ 129.00	
Sensing range		
Diffuse		
SOLD45-M18N-GMM8	mm	45
SOLD100-M18N-GVM8	mm	100
Thru-beam		
SOLT700-M18N-GMM8	mm	250
SOLT700-M18N-GVM8	mm	250
Output	PNP, Sourcing	
Range adjustment	With potentiometer	
Switching frequency	Hz	300
Response time	ms	1.5
Readiness delay	ms	50
Operating mode	Light On/Dark On	
LED		
Yellow	Output status	
Type of light	nm	IR LED 940
Ambient light limit		
Daylight	Lux	10,000
Halogen light	Lux	3000
Electrical specifications		
Supply voltage	VDC	10 – 30
Current consumption	mA	40
Load current	mA	100
Voltage drop	VDC	1.0
Short circuit and overload protection	yes	
Reverse polarity protection	yes	
Mechanical specifications		
Protection IEC	IP66	
Housing	Nickel-plated brass	
Housing diameter	mm	18
Operating temperature	°F	-13 ... +131
Storage temperature	°F	-40 ... +158
Approvals		
CE	yes	
UL listed	yes	
CSA	yes	
Weight	g	45
Connection	Connector M12	

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Attaching fiber-optic glass cable

1. Position mounting plate on sensor such that the alignment tabs fit into the lens holes.



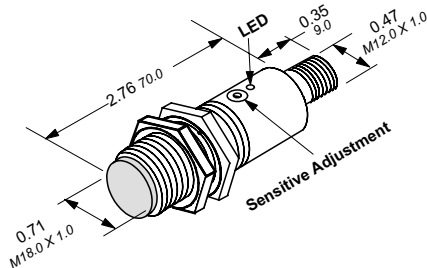
2. With the fiber-optic cable pulled through the metal capnut opening, position the cable on the mounting plate.



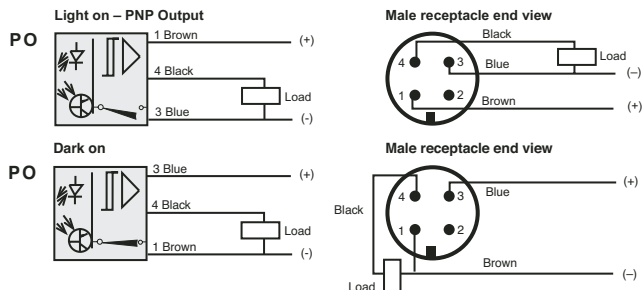
3. Hand tighten the metal capnut on sensor.



Approximate dimensions



Wiring diagrams



Fiber-optic

For use with miniature plastic fiber-optic cables

Sensors
Photoelectric

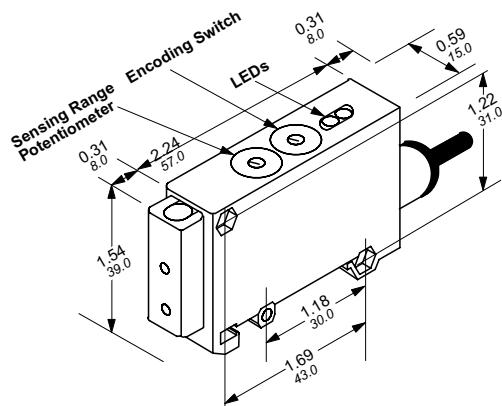
Catalog number	SOLXB50NU2POS	
List price	\$ 163.00	
Sensing range		
Diffuse		
SOL15-B50N-PVM3	mm	15
SOLD50-B50N-PVM6	mm	50
Thru-beam		
SOLT150-B50N-PVM3	mm	150
SOLT150-B50N-PVM4	mm	150
Output	PNP, Sourcing	
Range adjustment	With potentiometer	
Switching frequency	Hz	200 Hz/1500
Response time	ms	2.5 ms/0.3
Readiness delay	ms	20
Operating mode	Light On/Dark On	
LED		
Yellow	Output status	
Red	Weak signal	
Green	Power	
Type of light	nm	Red LED 680
Ambient light limit		
Daylight	Lux	40,000
Halogen light	Lux	30,000
Electrical specifications		
Supply voltage	VDC	10 – 30
Current consumption	mA	35
Load current	mA	150
Voltage drop	VDC	2.5
Short circuit and overload protection	yes	
Reverse polarity protection	yes	
Mechanical specifications		
Protection IEC	IP63	
Housing	Crastin	
Operating temperature		
Amplifier	°F	-13 ... +158
Fiber-optic cable	°F	-40 ... +158
Storage temperature	°F	-40 ... +176
Approvals		
CE	yes	
UL listed	yes	
CSA	yes	
Mounting	35mm DIN Rail	
Weight	g	80
Connection	2m cable, #22 AWG, PUR	



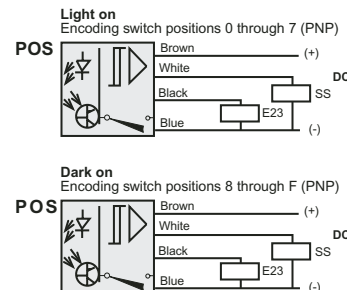
SOLXB50NU2POS

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Approximate dimensions



Wiring diagrams



SS = Signal strength (weak signal)

Fiber-optic

For use with miniature plastic fiber-optic cables

Programmable via encoding switch

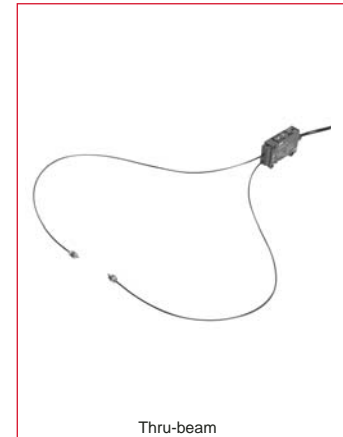
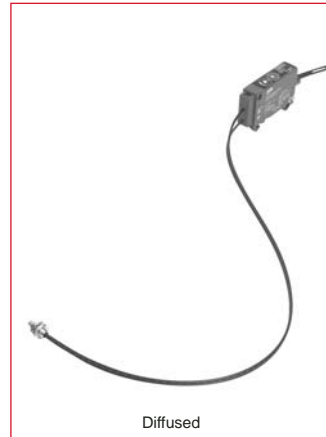
Switch output: norm.open/norm.closed

Pulse frequency: Freq.1/Freq.2

Pulse prolongation: 0 ms/20 ms

Switching rate: 200 Hz/1.5 kHz

Code switch	Signal on when	Pulse frequency	Pulse frequency	Switching rate
0	light	1	0 ms	200 Hz
1	light	1	0 ms	1.5 kHz
2	light	1	20 ms	200 Hz
3	light	1	20 ms	1.5 kHz
4	light	2	0 ms	200 Hz
5	light	2	0 ms	1.5 kHz
6	light	2	20 ms	200 Hz
7	light	2	20 ms	1.5 kHz
8	dark	1	0 ms	200 Hz
9	dark	1	0 ms	1.5 kHz
A	dark	1	20 ms	200 Hz
B	dark	1	20 ms	1.5 kHz
C	dark	2	0 ms	200 Hz
D	dark	2	0 ms	1.5 kHz
E	dark	2	20 ms	200 Hz
F	dark	2	20 ms	1.5 kHz



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Fiber-optic cable for type B50N: Plastic

Fiber-optic cables come standard in 2m lengths. A cutting tool is included with each cable to cut the cable to desired length.

Fiber-optic cable — Diffuse mode:

SOLD50-B50N-PVM6

Nominal distance: 50mm

Typical distance: 90mm

Reference: 50mm x 50mm white target

SOLD15-B50N-PVM3

Nominal distance: 15mm

Fiber-optic cable — Thru-beam mode:

SOLT150-B50N-PVM4

Nominal distance: 150mm

SOLT150-B50N-PVM3

Nominal distance: 150mm

Mounting instructions

The 35mm DIN mounting rail provides an easy method for mounting ABB sensing amplifiers.

1. Latch the amplifier unit onto DIN rail

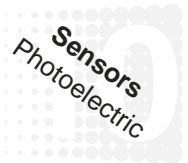


2. Push the amplifier downwards until it secures



Fiber-optic cable

Glass fiber-optic cable

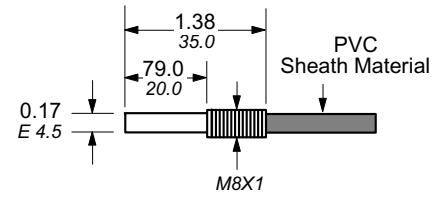
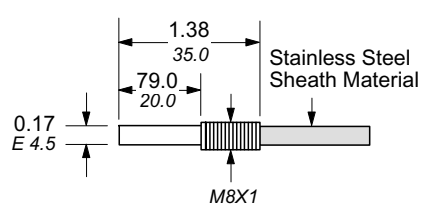


Sensing range	45mm	100mm
Catalog number	SOLD45M18NGMM8	SOLD100M18NGVM8
List price	\$ 95.00	\$ 95.00
Mode	Diffused	Diffused
Cable length	500	500
Sheath material	Stainless steel	PVC
Temperature	-58 ... +572	-58 ... +248
Bending radius	>20	>30
Protection IEC	IP40	IP67

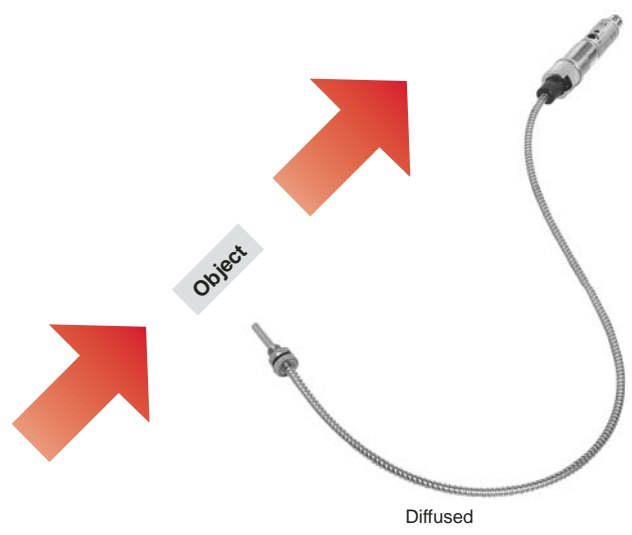


SOLD45M18N-GMM81 is one meter length
 These glass Fiber-optic cables are used with model SOLX-M18N-C1-PO

Approximate dimensions



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Fiber-optic cable

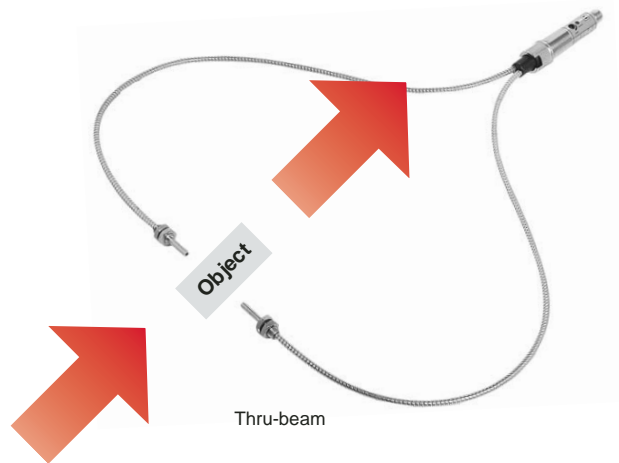
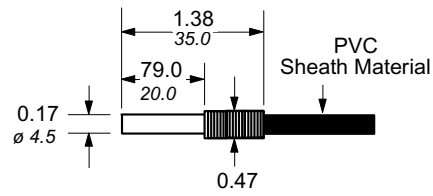
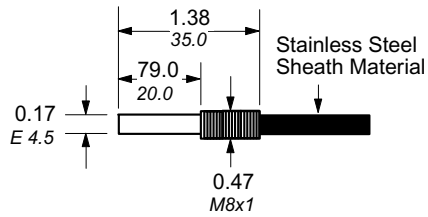
Glass fiber-optic cable

Sensing range	700mm	700mm
Catalog number	SOLT700M18NGMM8	SOLT700M18NGVM8
List price	\$ 126.00	\$ 106.00
Mode	Thru-beam	Thru-beam
Cable length	500	500
Sheath material	Stainless steel	PVC
Temperature	-58 ... +572	-58 ... +248
Bending radius	>20	>30
Protection IEC	IP40	IP67

These glass Fiber-optic cables are used with model SOLXM18NC1PO

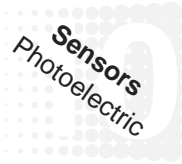


Approximate dimensions

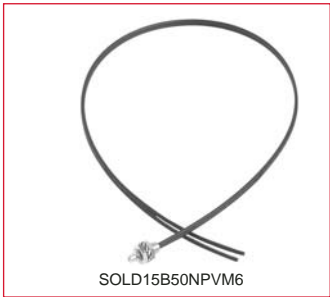


Fiber-optic cable

Plastic fiber-optic cable

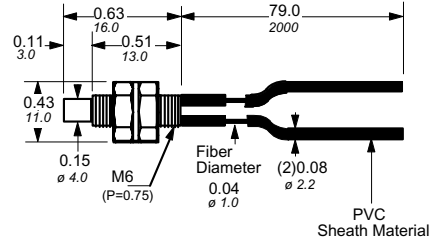
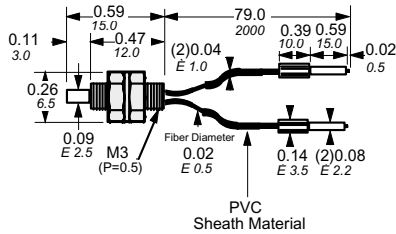


Sensing range	15mm	50mm
Catalog number	SOLD15B50NPVM3	SOLD50B50NPVM6
List price	\$ 89.00	\$ 53.00
Mode	Diffused	Diffused
Cable length	2 m	2 m
Temperature	-40 ... +158 °F	-40 ... +158 °F
Smallest detectable target	.5 x .5 mm	1 x 1 mm

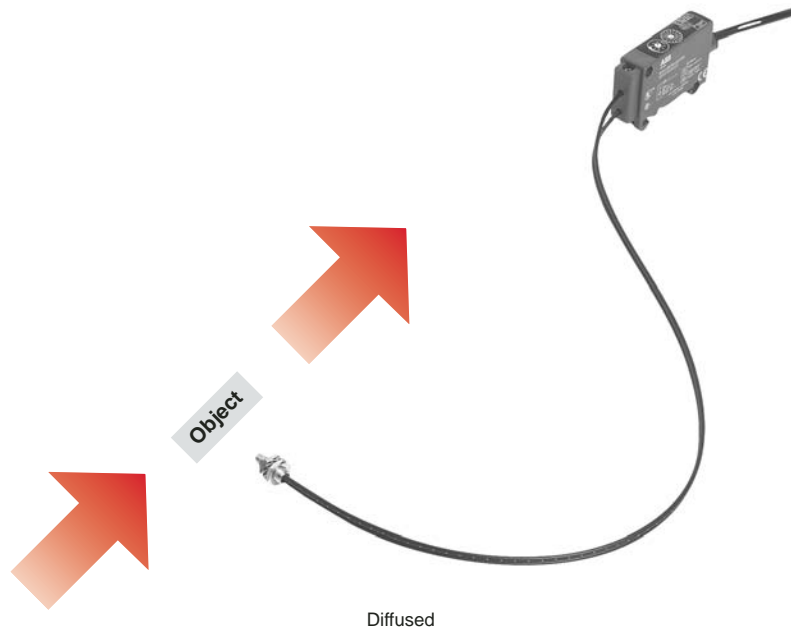


These plastic Fiber-optic cables are used with model SOLX-B50N-U2-POS

Approximate dimensions



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Fiber-optic cable

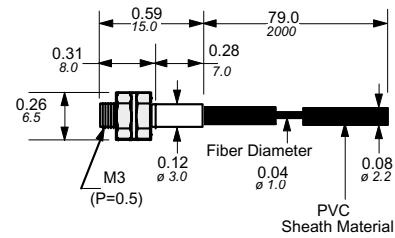
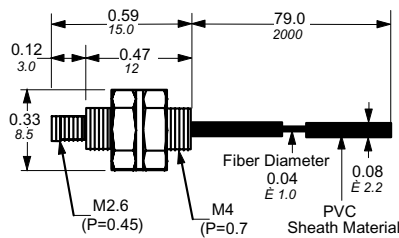
Plastic fiber-optic cable

Sensing range	150mm	150mm
Catalog number	SOLT150B50NPVM4	SOLT150B50NPVM3
List price	\$ 57.00	\$ 65.00
Mode	Thru-beam	Thru-beam
Cable length	2 [Ⓢ]	2 [Ⓢ]
Temperature	-40 ... +158 °F	-40 ... +158
Smallest detectable target	1 x 1 mm	1 x 1

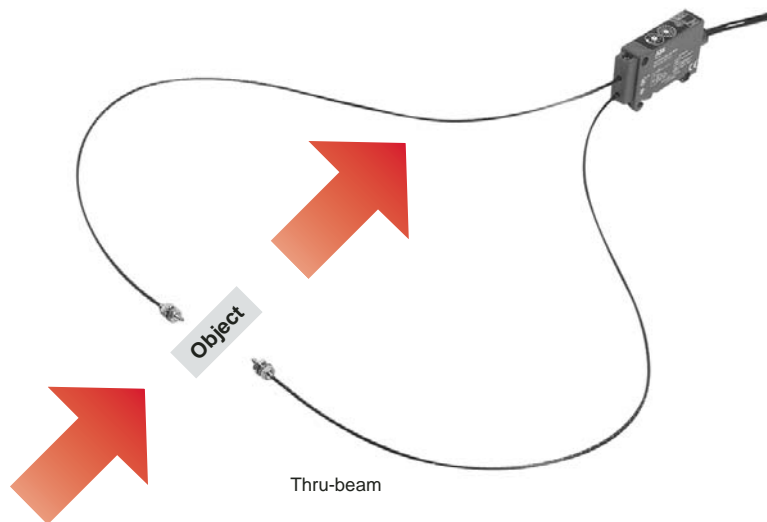
These plastic Fiber-optic cables are used with model SOLX-B50N-U2-POS



Approximate dimensions



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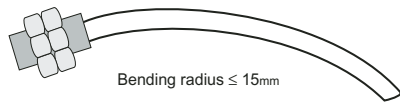


Ⓢ Cable is delivered in 2m lengths. See cutting instructions on page 2.18.

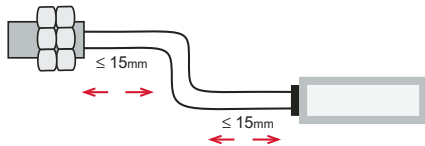
Plastic Fiber-optic cable Mounting information

Mounting and adjustment

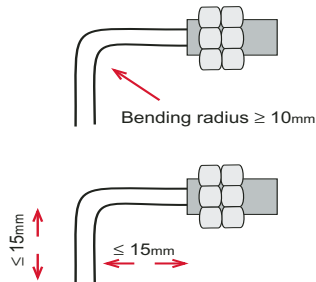
When laying and routing plastic Fiber-optic cables, the minimum bending radius of 15mm must be unconditionally maintained.



There must not be any bends for a distance of 15mm from both the sensor and the Fiber-optic cable head. Should it be necessary to bend the stainless steel head ferrule, a minimum bending radius of 10mm must be strictly adhered to. The Fiber-



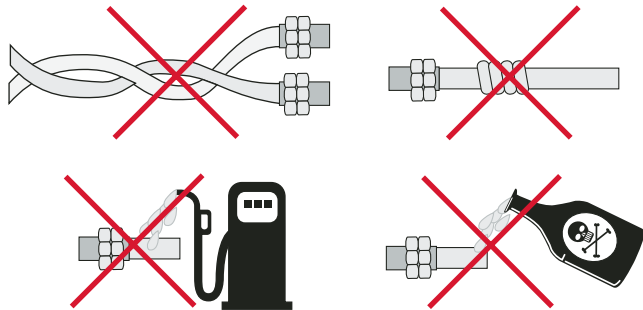
optic cable should not be bent within 15mm of the end of the covering and the head. Damage to the Fiber-optic cable may result if this is not observed.



Caution!

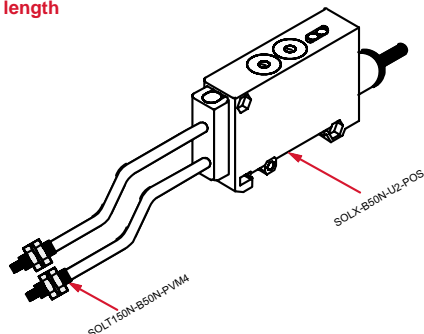
Fiber-optic cables must not be twisted or kinked and excessive tensile loads will lead to destruction. Contact with gasoline or organic solvents must be prevented.

Connection to photoelectric sensor SOLX-B50N-U2-POS

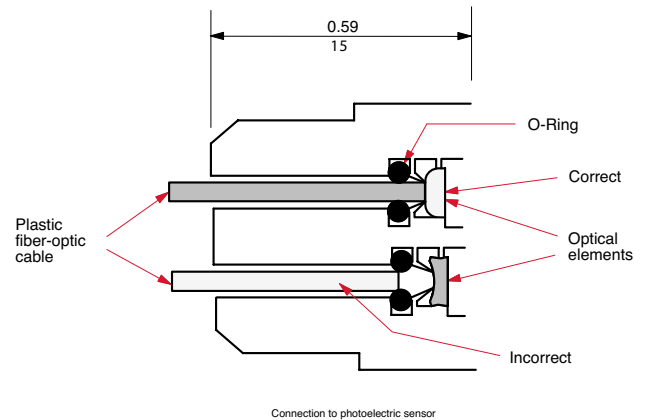


Insert the Fiber-optic cable into the opening in the sensor until some resistance is felt (O-ring). Push the Fiber-optic cable further into the sensor until the end is up against the optical element. Tighten the screw to fix the Fiber-optic cable in position. The sensor/cable assembly is now ready for use.

Cutting to length

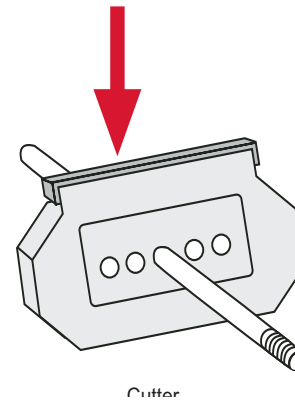


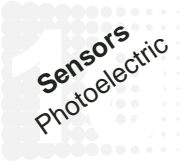
Dimensions are approximate



Plastic Fiber-optic cables can be cropped to any desired length using the supplied disposable cutter.

Important: Each cutting position can be used once only.





Notes