

OPT Series Fiber Photoelectric Amplifiers

Features



- 4 models available
- DIN-rail mounting
- Bargraph signal-strength indicator
- NPN or PNP, Push Pull, Light-on/ Dark-on selectable outputs
- Red LED with visible spot
- IO-Link available on select units
- IP50/IP65 rated
- Key potentiometer, teach-in
- Large detection and working range
- Recognition of transparent objects
- Diffuse and throughBeam operation mode are possible.



OPT Series Fiber Photoelectric Amplifier Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Fiber Channel	Wiring	Dimensions
OPT2040		Optical fiber dependent	N.O. / N.C. selectable	NPN / PNP Push-Pull	4-pin M8 (8 mm) quick-disconnect	1	Diagram 1	Figure 1
OPT2041				PNP Push-Pull			Diagram 2	Figure 2
OPT2042				NPN / NP Push- Pull	4-pin M12 and (2) 8-pin M12 quick-disconnect	3 (Expandable to 13)	Diagram 3	Figure 3
OPT2043*				N/A	1	-	Figure 4	

* OPT2043 is an add-on module to OPT2042 (not standalone)

Specifications

Type	OPT2040	OPT2041	OPT2042	OPT2043 (add-on module)
Sensing Distance	See optical fibers table			
Light Spot Diameter	N/A			
Emission	Red (660nm)			
Sensitivity	Teach Functions			
Output Type	Configurable N,C,/N,O, PNP/NPN Push -Pull	Configurable PNP/ Push-Pull	Configurable N,C,/N,O, PNP/NPN Push-Pull	Output handled through OPT2042 Master
Operating Voltage	10 to 30VDC	18 to 30VDC		N/A
No-Load Supply Current	< 40mA		<70mA	Add +10mA to 2042 per add on module to OPT2043
Operating (Load) Current	200mA	100mA	100mA	Refer to OPT2042
Off-state (Leakage) Current	> 0.1 ma			
Voltage Drop	< 2.5 VDC			
Switching Frequency	2kHz	4kHz	2kHz	
Ripple	< 15%			
Time Delay Before Availability (tv)	250µs	125µs	250µs	+70µs to 2042 per add on module to OPT2043
Short-Circuit Protection	Yes			
Operating Temperature	-25 to 60°C (-13 to +140°F)			
Protection Degree	IP65		IP50	
Led Indicators - Switching Status	Yellow LED	Via display window		
Housing Material	Plastic			
Lens Material	N/A			
IO-Link Version	N/A	1.0		
IO-Link Parameter	N/A	> 12		
Shock/Vibration	See Section			
Tightening Torque	N/A			
Weight	0.1 lbs	0.3 lbs	0.4 lbs	0.1 lbs
Connectors	M8 4 Pole		(1) M12 4 pole (2) M12 8 pole	This is an add-on unit that connects to master unit OPT2042
Agency Approvals	CE, cULus E189727			

OPT Series Fiber Photoelectric Amplifiers

Dimensions

mm [inch]

Figure 1

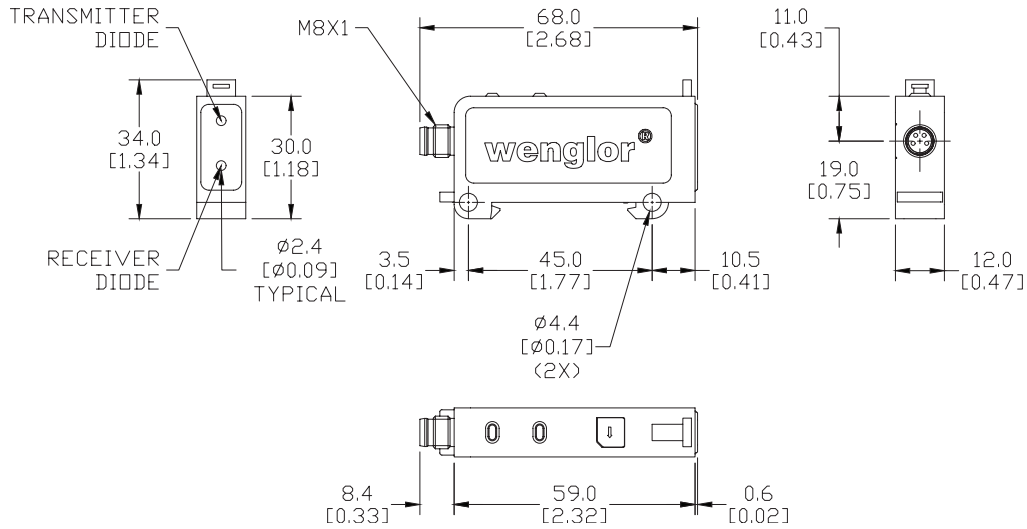
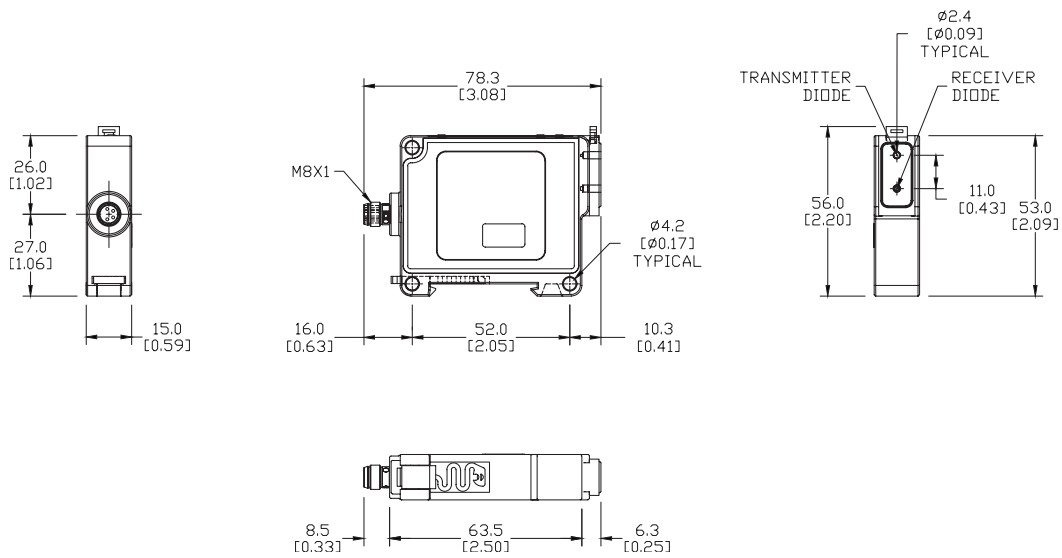


Figure 2



See our website: for complete Engineering drawings.

OPT Series Fiber Photoelectric Amplifiers

Dimensions

mm [inch]

Figure 3

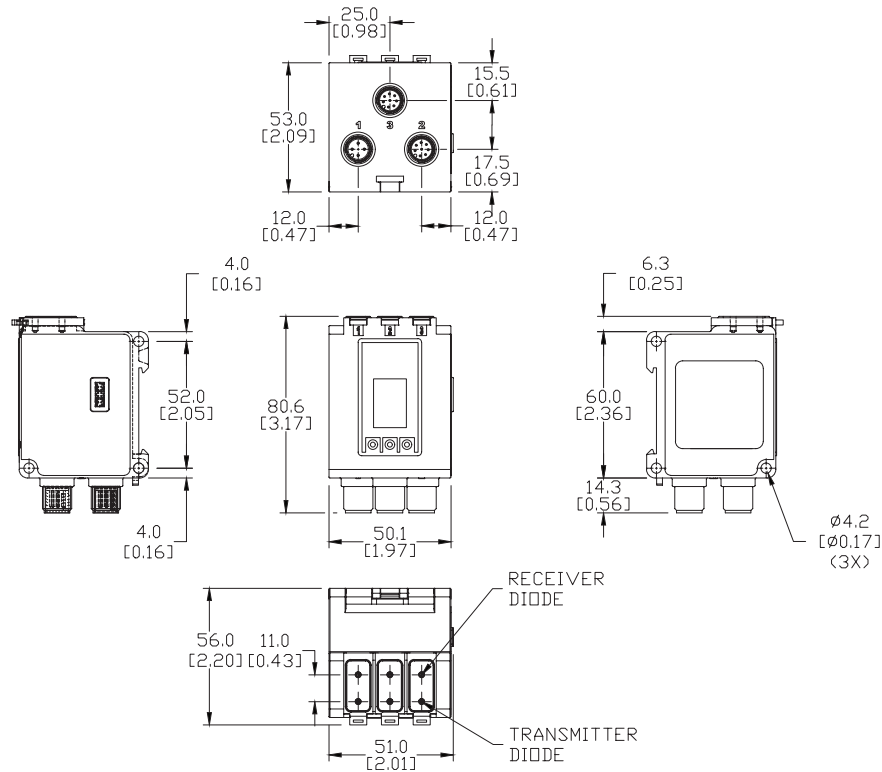
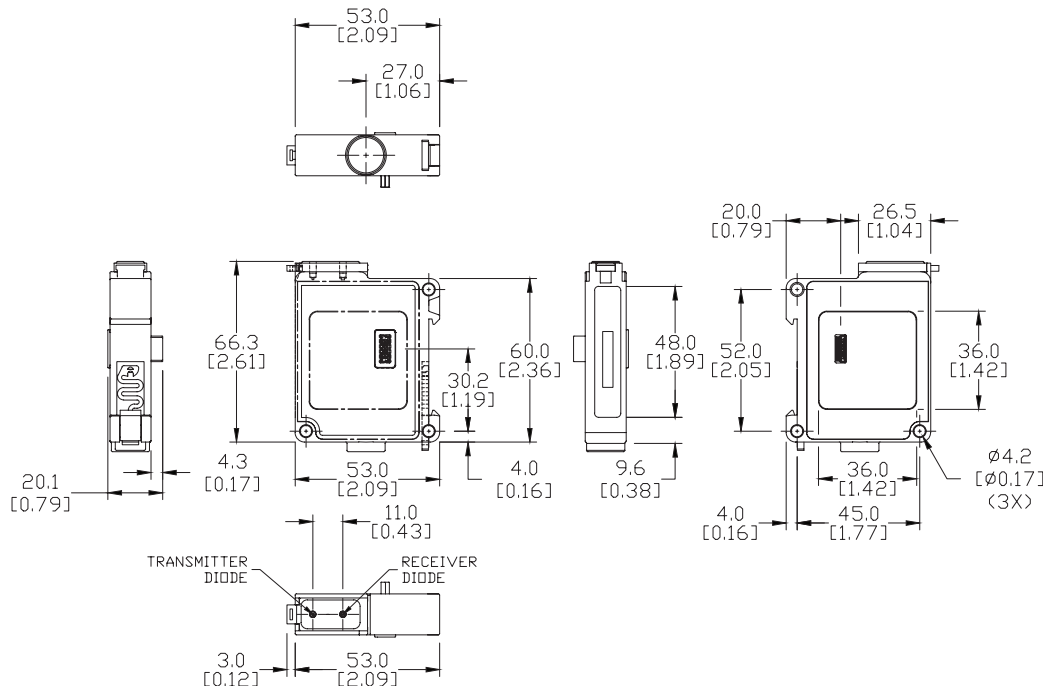


Figure 4

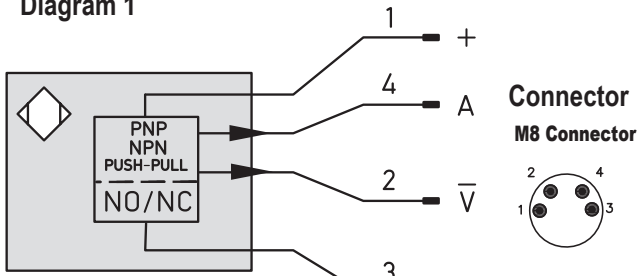


See our website: for complete Engineering drawings.

OPT Series Fiber Photoelectric Amplifiers

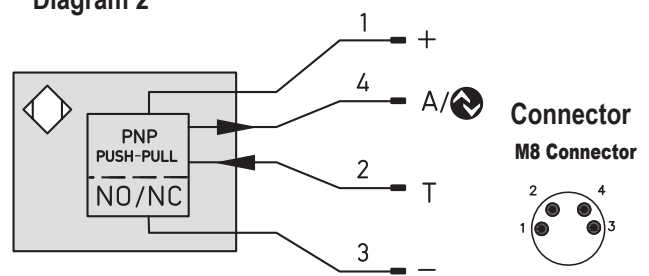
Wiring diagrams

Diagram 1



- + Supply Voltage "+"
- A Switching Output
- \bar{V} Contamination Output/Error Output (NC)
- Supply Voltage "0 V"

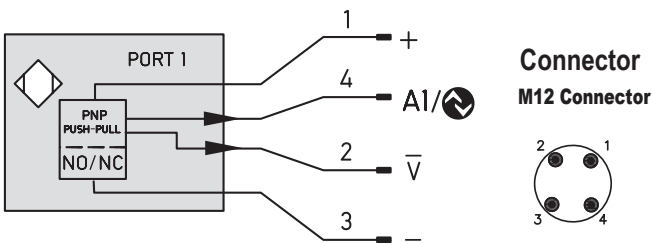
Diagram 2



- + Supply Voltage "+"
- A/IO-Link Switching Output/IO-Link
- T Teach Input
- Supply Voltage "0 V"

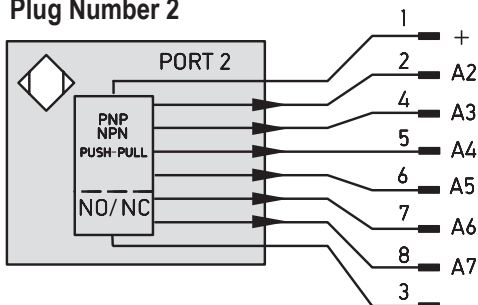
Diagram 3

Plug Number 1

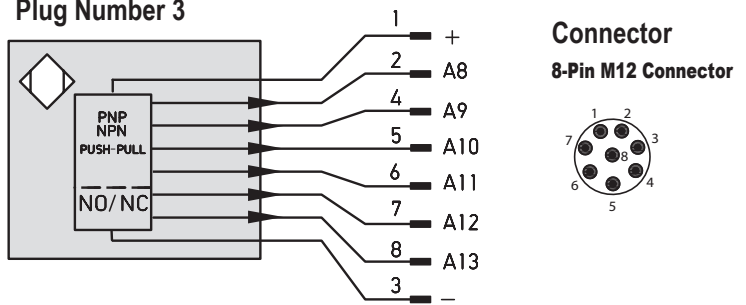


- + Supply Voltage "+"
- A1/IO-Link Switching Output /IO-Link
- A Switching Output (1, 2, 3...)
- \bar{V} Contamination Output/Error Output (NC)
- Supply Voltage "0 V"

Plug Number 2



Plug Number 3



Cutttable Fiber Optic Cable

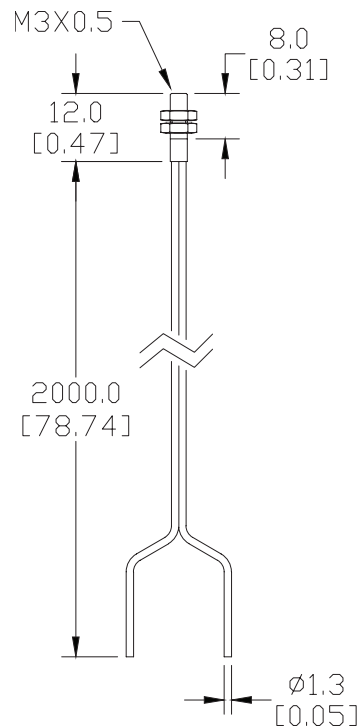
OPT2050 Diffuse Reflex Mode



OPT2050 Specifications	
Part Number	OPT2050
Price	
Optical Fiber Core Ø	0.5 mm
Sensing Distance with OPT series	60mm
Fiber Length (L)	2m
Fiber Bending Radius	15mm
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	1mm
Light Emission	Straight

Dimensions

mm [inch]



See our website: for complete Engineering drawings.

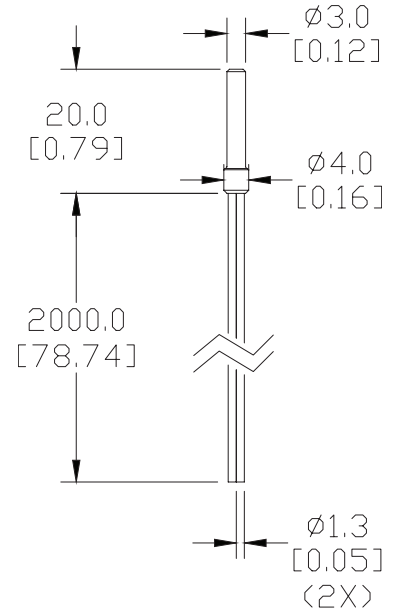
Cuttable Fiber Optic Cable

OPT2052 Diffuse (Reflex) Mode



Dimensions

mm [inch]



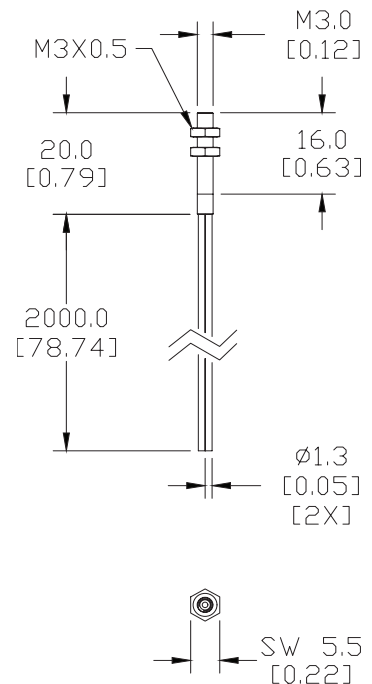
OPT2052 Specifications	
Part Number	OPT2052
Price	
Optical Fiber Core \varnothing	0.5 mm
Sensing Distance with OPT series	60mm
Fiber Length (L)	2m
Fiber Bending Radius	15mm
Free Cut	Yes
Head Size	3mm
Thread Pitch	NA
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Coaxial arrangement
Opening Angle	55 degrees
Diameter Jacket	1.3 mm
Light Emission	Straight

OPT2053 Diffuse (Reflex) Mode



Dimensions

mm [inch]



OPT2053 Specifications	
Part Number	OPT2053
Price	
Optical Fiber Core \varnothing	0.5 mm
Sensing Distance with OPT series	60mm
Fiber Length (L)	2m
Fiber Bending Radius	15mm
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Coaxial Arrangement
Opening Angle	55 degrees
Diameter Jacket	1.3 mm
Light Emission	Straight

See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

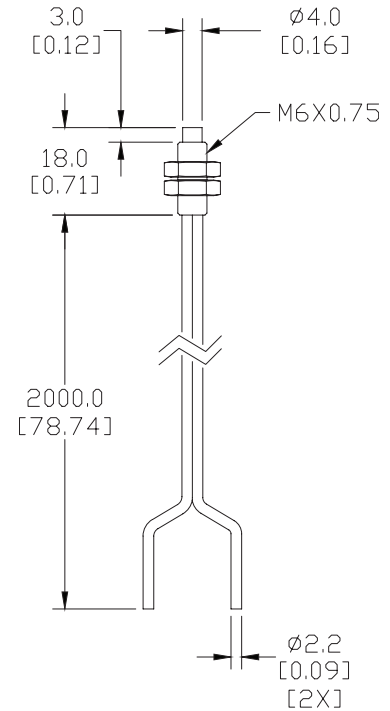
OPT2054 Diffuse (Reflex) Mode



OPT2054 Specifications	
Part Number	OPT2054
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	2m
Fiber Bending Radius	30mm
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Nickel-plated brass
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

Dimensions

mm [inch]



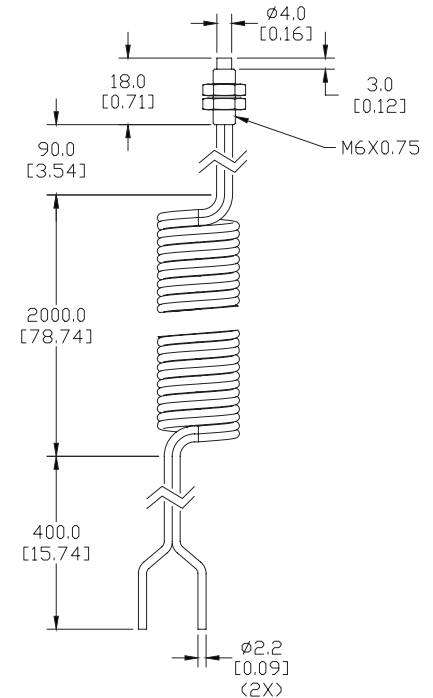
OPT2055 Diffuse (Reflex) Mode



OPT2055 Specifications	
Part Number	OPT2055
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	60mm
Fiber Length (L)	2m
Fiber Bending Radius	30mm
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Nickel-plated brass
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

Dimensions

mm [inch]



* 2000.0 mm maximum extended coil length.

See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

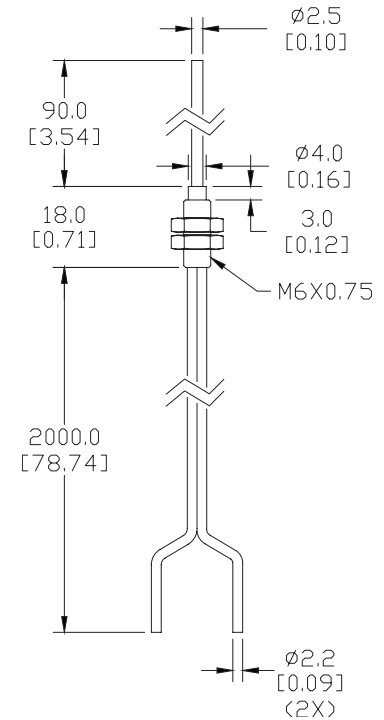
OPT2056 Diffuse (Reflex) Mode



OPT2056 Specifications	
Part Number	OPT2056
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	2m
Fiber Bending Radius	30mm
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight
Flexible Endpot	Yes

Dimensions

mm [inch]



Flexible endpoint is not for continuous flexing applications.

See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

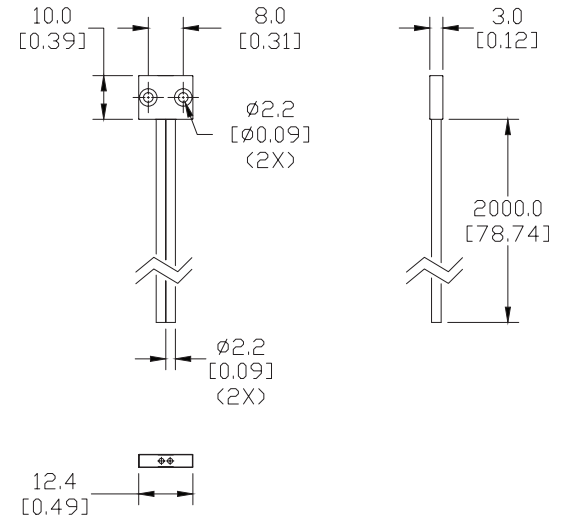
OPT2059 Diffuse (Reflex) Mode



OPT2059 Specifications	
Part Number	OPT2059
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	12mm flat
Thread Pitch	NA
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Aluminum
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

Dimensions

mm [inch]



See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

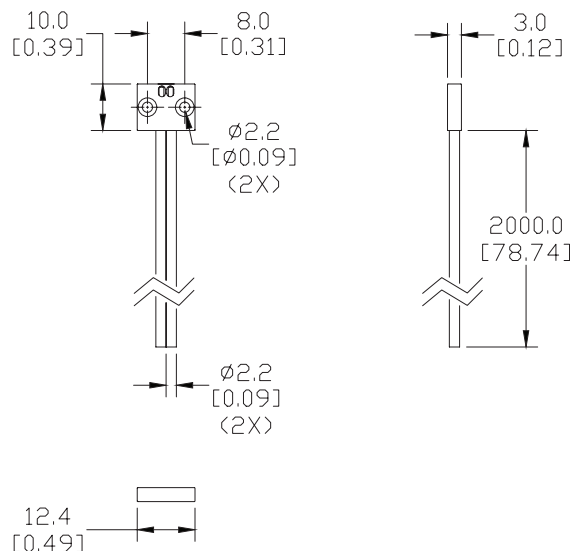
OPT2060 Diffuse (Reflex) Mode



OPT2060 Specifications	
Part Number	OPT2060
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	50mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	12mm flat
Thread Pitch	NA
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Aluminum
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Sidewise

Dimensions

mm [inch]



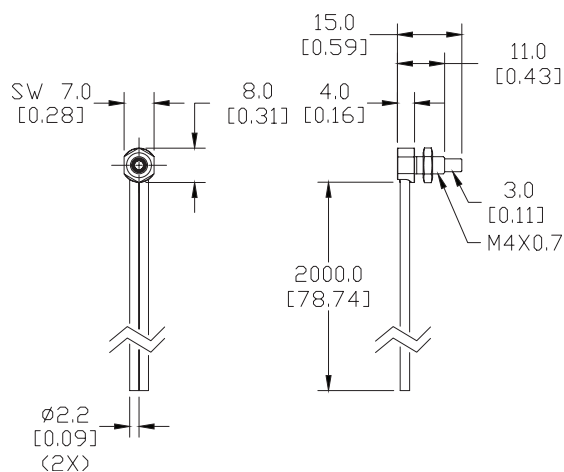
OPT2061 Diffuse (Reflex) Mode



OPT2061 Specifications	
Part Number	OPT2061
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	70mm
Fiber Length (L)	2m
Fiber Bending Radius	50mm
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Sidewise

Dimensions

mm [inch]



See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

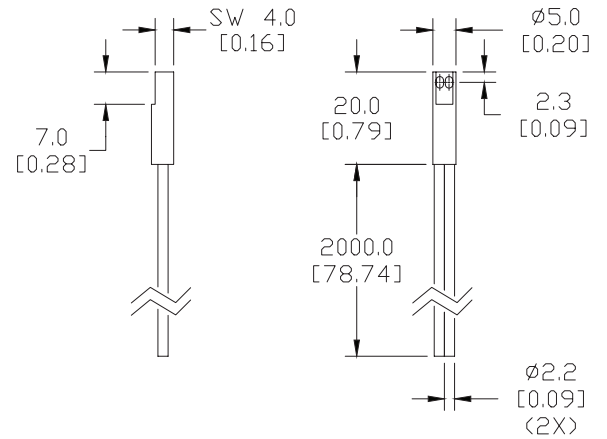
OPT2062 Diffuse (Reflex) Mode



OPT2062 Specifications	
Part Number	OPT2062
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	50mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	5mm
Thread Pitch	NA
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Sidewise

Dimensions

mm [inch]



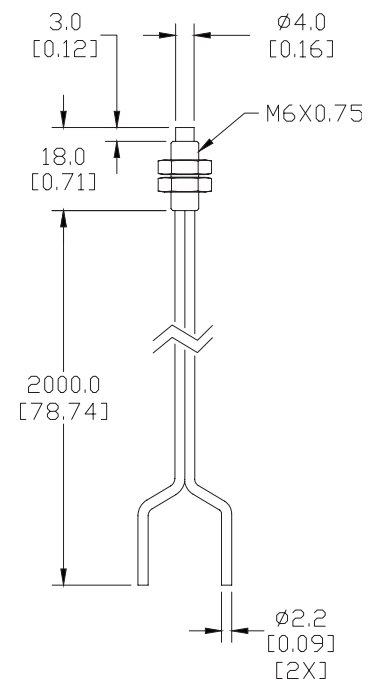
OPT2063 Diffuse (Reflex) Mode



OPT2063 Specifications	
Part Number	OPT2063
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	90mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Nickel-plated brass
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

Dimensions

mm [inch]



See our website: for complete Engineering drawings.

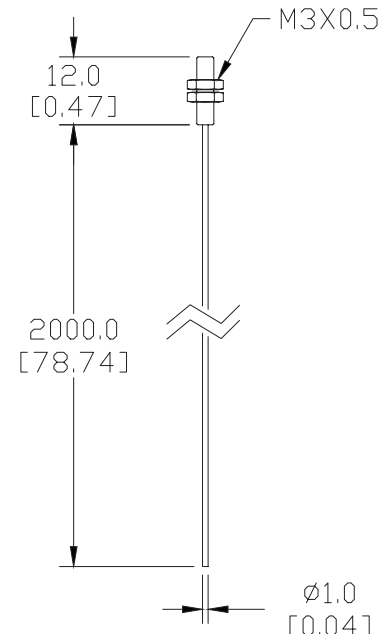
Cuttable Fiber Optic Cable

OPT2064 Through-Beam Mode



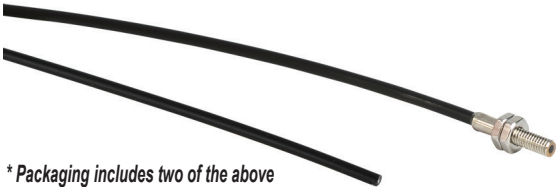
Dimensions

mm [inch]



OPT2064 Specifications	
Part Number	OPT2064
Price	
Optical Fiber Core Ø	0.5 mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	2m
Fiber Bending Radius	15mm
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	1mm
Light Emission	Straight

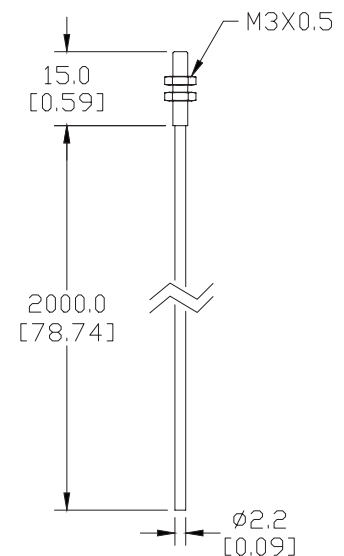
OPT2065 Through-Beam Mode



* Packaging includes two of the above

Dimensions

mm [inch]



OPT2065 Specifications	
Part Number	OPT2065
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	400mm
Fiber Length (L)	2m
Fiber Bending Radius	30mm
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Nickel-plated brass
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

OPT2070 Through-Beam Mode

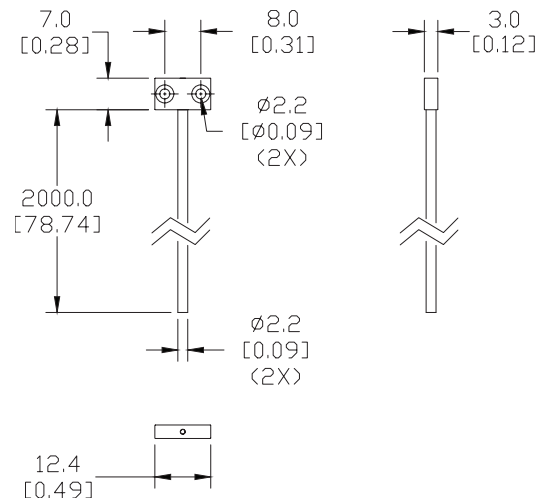


* Packaging includes two of the above.

OPT2070 Specifications	
Part Number	OPT2070
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	200mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	NA
Thread Pitch	NA
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Aluminum
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Sidewise

Dimensions

mm [inch]



OPT2071 Through-Beam Mode

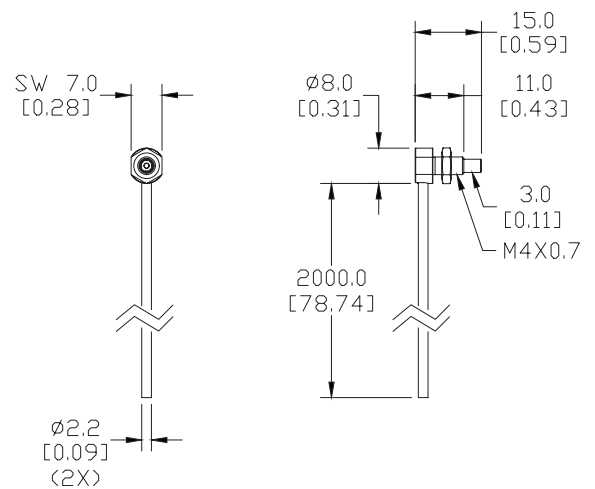


* Packaging includes two of the above.

OPT2071 Specifications	
Part Number	OPT2071
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	250mm
Fiber Length (L)	2m
Fiber Bending Radius	2mm
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Sidewise

Dimensions

mm [inch]



See our website: for complete Engineering drawings.

Cuttable Fiber Optic Cable

OPT2074 Through-Beam Mode

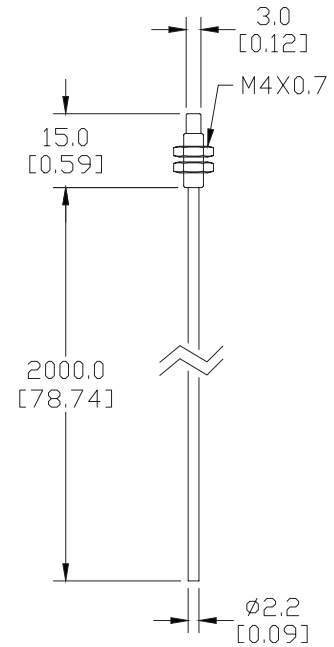


* Packaging includes two of the above.

OPT2074 Specifications	
Part Number	OPT2074
Price	
Optical Fiber Core Ø	1mm
Sensing Distance with OPT series	350mm
Fiber Length (L)	2m
Fiber Bending Radius	20mm
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7
Temperature Range	-40 to 85°C [-40 to 185°F]
Fiber Materials	PMMA
Sleeve Materials	PE (black)
Head Materials	Stainless steel
Fiber Distribution	Parallel arrangement
Opening Angle	55 degrees
Diameter Jacket	2.2 mm
Light Emission	Straight

Dimensions

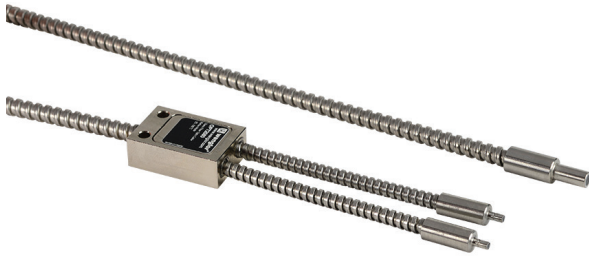
mm [inch]



See our website: for complete Engineering drawings.

Glass Fiber Optic Cable

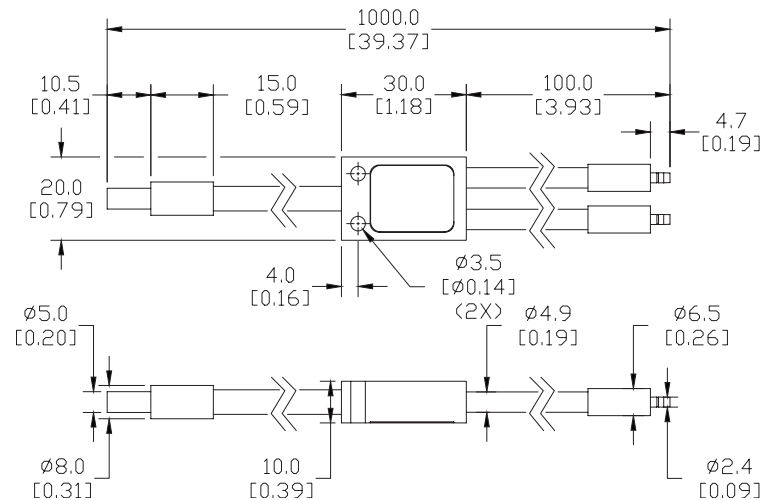
OPT2080 Diffuse (Reflex) Mode



Dimensions

mm [inch]

OPT2080 Specifications	
Part Number	OPT2080
Price	
Optical Fiber Core Ø	1.6 mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	1m
Fiber Bending Radius	60mm
Free Cut	No
Head Size	5mm
Thread Pitch	NA
Temperature Range	-25 to 180 °C [-13 to 365°F]
Fiber Materials	Glass
Sleeve Materials	Stainless steel
Head Materials	Stainless steel
Fiber Diameter	50µm
Fiber Distribution	Statistic mixture
Opening Angle	68 degrees
Light Emission	Straight



See our website: for complete Engineering drawings.

Glass Fiber Optic Cable

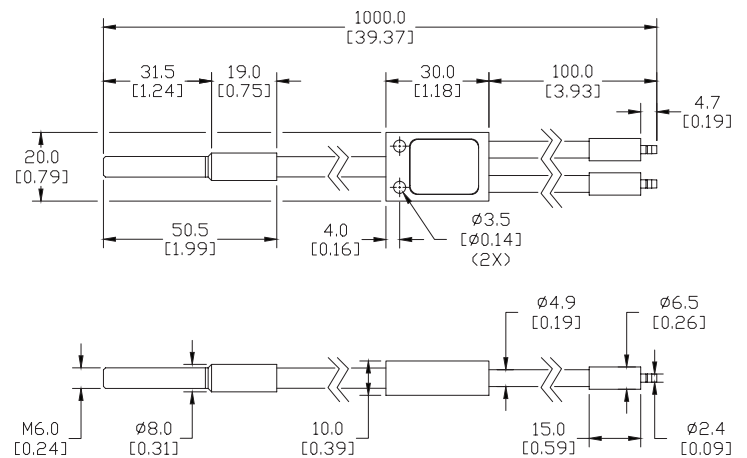
OPT2082 Diffuse (Reflex) Mode



Dimensions

mm [inch]

OPT2082 Specifications	
Part Number	OPT2082
Price	
Optical Fiber Core Ø	1.6 mm
Sensing Distance with OPT series	160mm
Fiber Length (L)	1m
Fiber Bending Radius	50mm
Free Cut	No
Head Size	M6
Thread Pitch	1.0
Temperature Range	-25 to 180 °C [-13 to 356 °F]
Fiber Materials	Glass
Sleeve Materials	Nickel-plated brass
Head Materials	Aluminum
Fiber Diameter	50µm
Fiber Distribution	Separated bundles
Opening Angle	68 degrees
Light Emission	Straight



See our website: for complete Engineering drawings.

Glass Fiber Optic Cable

OPT2086 Through-Beam Mode

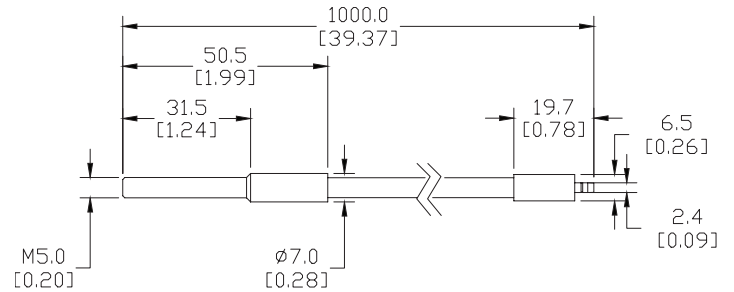


* Packaging includes two of the above.

Dimensions

mm [inch]

OPT2086 Specifications	
Part Number	OPT2086
Price	
Optical Fiber Core Ø	1.6 mm
Sensing Distance with OPT series	480mm
Fiber Length (L)	1m
Fiber Bending Radius	45mm
Free Cut	No
Head Size	M5
Thread Pitch	0.8
Temperature Range	-25 to 180 °C [-13 to 365°F]
Fiber Materials	Glass
Sleeve Materials	Nickel-plated brass
Head Materials	Aluminum
Fiber Diameter	50µm
Fiber Distribution	Parallel arrangement
Opening Angle	68 degrees
Light Emission	Straight



See our website: for complete Engineering drawings.