August 2007

Plastic Fiber Optic Cables

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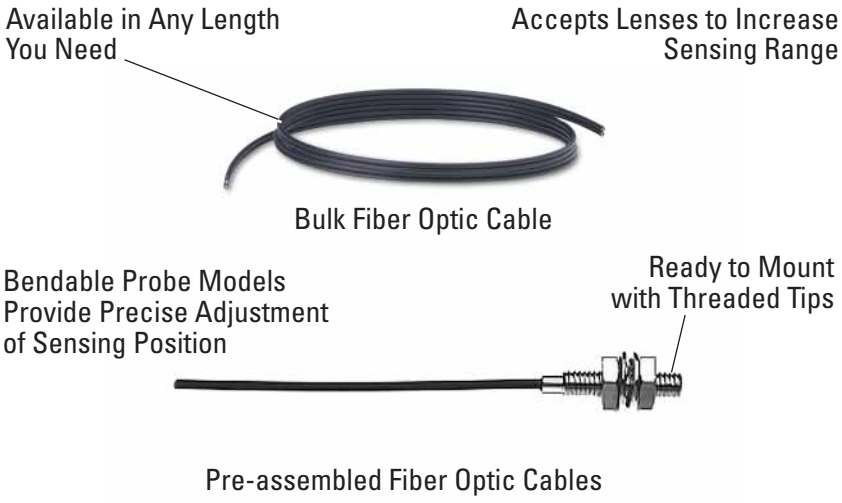
Cutler-Hammer® Plastic Fiber Optic Cables from Eaton's electrical business offer a lower-cost alternative to glass fibers. They are available as bulk cable or pre-assembled with sensing tips.

Bulk fiber optic cable is ordered by the foot and can be cut to length by the user with a special cutter accessory. It can be used with lenses, adapters and terminations. Single fiber is normally used for thru-beam sensing and duplex fiber (two isolated cables running in parallel) for diffuse reflective. Order single fiber cable for both source and detector cable runs. Order duplex fiber cable equal to the length of run — separate source and detector cable not required.

Pre-assembled fiber optic cables are special purpose cables to solve a variety of fiber optic sensing applications. A fiber optic cable cutter is included only for 1 mm bundle models. The cables are available in 1 mm and 0.5 mm diameters (0.5 mm cables cannot be cut to length). Single cable is used for thru-beam sensing, duplex for diffuse reflective sensing.

Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.

Cost-Effective Plastic Fiber Optic Cables Expand Your Sensing Options



Product Features

- Fiber optic cables allow remote sensing in areas where space is restricted or tight viewing angles are required
- The economical plastic cable is easy to cut to length during installation for a perfect fit (see cutter accessory, 0.5 mm cable cannot be cut)
- Single cable styles are ideal for thru-beam sensing
- Duplex cable styles are typically used for diffuse reflective sensing
- Pre-assembled cables are available in 0.5 mm for sensing extremely small targets

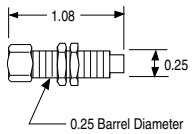
Model Selection — Bulk Fiber

	Fiber Diameter	Cable Style	Catalog Number ①
	0.039 in (1 mm)	Duplex Cable (for diffuse reflective sensing)	**6324A-XXX**
		Single Cable (for thru-beam sensing)	**6323A-XXX**

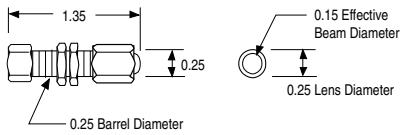
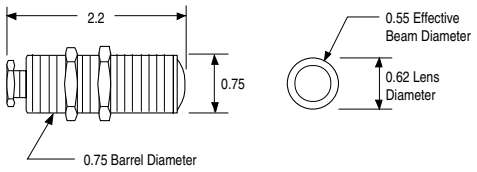
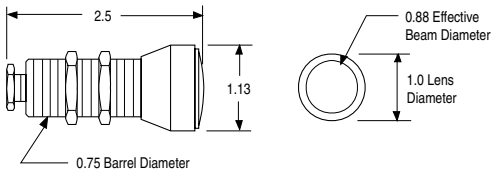
① Quantity ordered indicates length, for example, a quantity of 5 equals five feet of fiber.

Stocked product, typical order quantities guaranteed in stock.

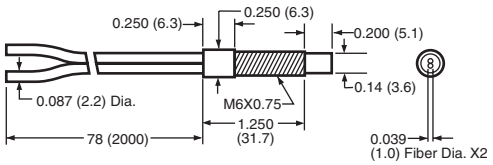
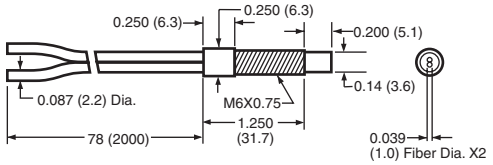
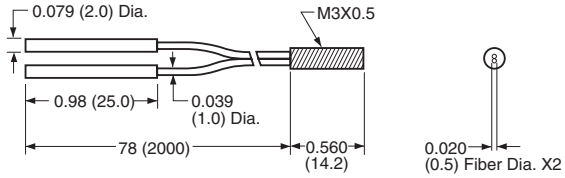
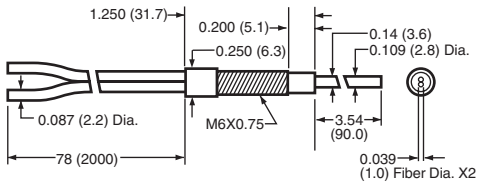
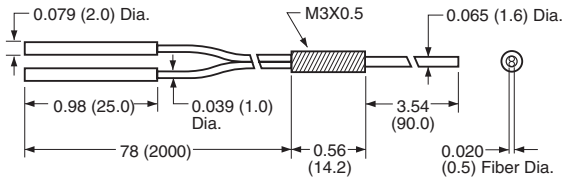
Model Selection — Accessories for Bulk Fiber Optic Cable

	Description	Range Increase	Catalog Number	Approximate Dimensions in Inches
	Fiber optic cable cutter for 1 mm diameter fiber, good for six cuts	—	**8909A-6501**	
Fiber Optic Termination 	For mounting of 1 mm diameter bulk fiber. Sensing distance is the same as for bare fibers without lenses	—	**6230A-6503**	

Lenses (For 1 mm diameter bulk cable only. Lenses extend the range of thru-beam sensors. Sold individually — two required for thru-beam sensing)

0.25 Inch Diameter Thru-Beam Lens 	0.25 inch diameter thru-beam lens	10X	**6230A-6505**	
0.75 Inch Diameter Thru-Beam Lens 	0.5 inch diameter thru-beam lens	100X	**6230A-6509**	
0.75 Inch Diameter Thru-Beam Lens 	1.0 inch diameter thru-beam lens	200X	**6230A-6508**	

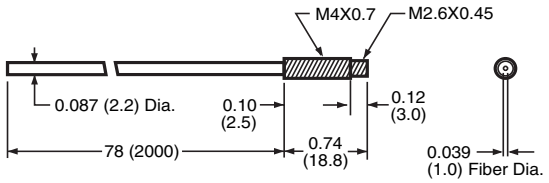
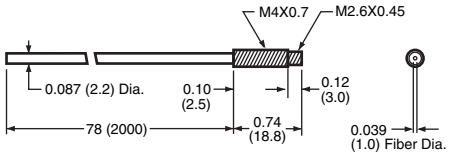
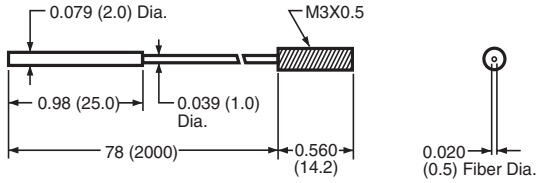
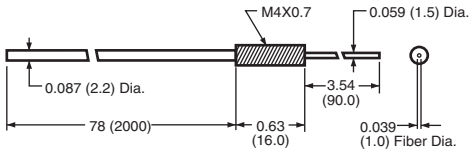
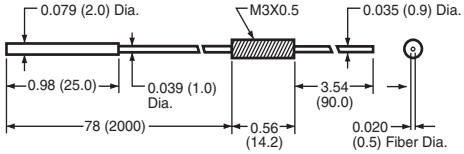
Model Selection — Pre-assembled Duplex Fiber Optic Cables (for Diffuse Reflective Sensing)

	Fiber Diameter in Inches (mm)	Catalog Number	Approximate Dimensions in Inches (mm)
Large Diameter, Threaded Tip 	0.039 (1.0)	**6324A-6501** (one cable)	
Large Diameter, Threaded Tip 	0.059 (1.5)	**6324E-6501** ① (one cable)	
Small Diameter, Threaded Tip 	0.020 (0.5)	**6324A-6511** (one cable)	
Large Diameter, Threaded Tip with Bendable Probe 	0.039 (1.0)	**6324A-6502** (one cable)	
Small Diameter, Threaded Tip with Bendable Probe 	0.020 (0.5)	**6324A-6512** (one cable)	

① Larger diameter (1.5 mm) fibers provide approximately 50% longer sensing range than small diameter (1 mm).

Stocked product, typical order quantities guaranteed in stock.

Model Selection — Pre-assembled Single Fiber Optic Cables (for Thru-Beam Sensing)

	Fiber Diameter in Inches (mm)	Catalog Number	Approximate Dimensions in Inches (mm)
Large Diameter, Threaded Tip 	0.039 (1.0)	**6323A-6501** (set of two)	
Large Diameter, Threaded Tip 	0.059 (1.5)	**6323E-6501** ① (set of two)	
Small Diameter, Threaded Tip 	0.020 (0.5)	**6323A-6511** (set of two)	
Large Diameter, Threaded Tip with Bendable Probe 	0.039 (1.0)	**6323A-6502** (set of two)	
Small Diameter, Threaded Tip with Bendable Probe 	0.020 (0.5)	**6323A-6512** (set of two)	

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Stocked product, typical order quantities guaranteed in stock.

Specifications

Description	Specification
Storage and Operating Temperature	-22° to +158°F (-30° to +70°C)
Length, Pre-assembled Cables	6.6 feet (2M)
Sheathing	Polyethylene
Bend Radius	1 mm fiber: 2 inches; 0.5 mm fiber: 1 inch with no loss of optical signal. Tighter bends will result in some signal loss. Do not bend fibers within 0.5 inch of either end.