

DFP Series Fiber Photoelectric Amplifiers



Compact rectangular plastic
DIN-rail mount DC

- 4 models available
- DIN-rail mounting
- 12-turn potentiometer sensitivity setting with illuminated scale
- NPN or PNP, Light-on/Dark-on selectable outputs
- Red LED with visible spot
- IP64 rated



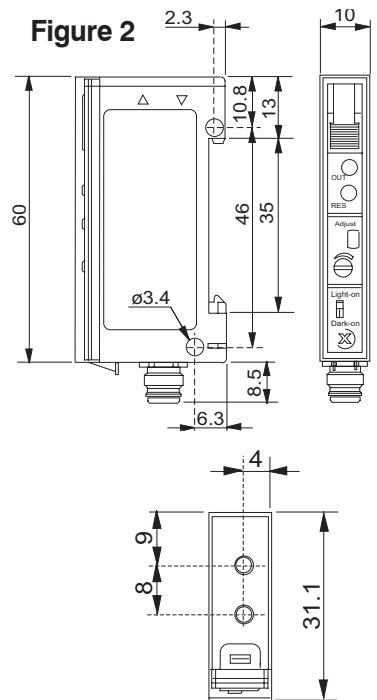
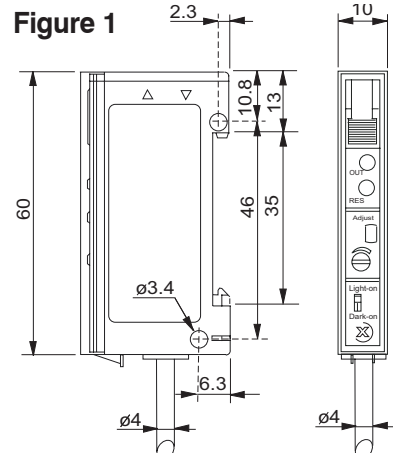
DFP Series Fiber Photoelectric Amplifier Selection Chart							
Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
DFP-AN-1A		Optical fiber dependent	N.O./N.C. selectable	NPN	2m (6.5') axial cable	Diagram 1	Figure 1
DFP-AN-1F					M8 (8mm) connector	Diagram 1	Figure 2
DFP-AP-1A				PNP	2m (6.5') axial cable	Diagram 2	Figure 1
DFP-AP-1F					M8 (8mm) connector	Diagram 2	Figure 2

Specifications		
Type	DFP-AN-1*	DFP-AP-1*
Sensing Distance	See Optical Fibers Table	
Light Spot Diameter	N/A	
Emission	red (680nm)	
Sensitivity	12-turn Potentiometer with illuminated scale	
Output Type	NPN Light On or Dark On Selectable	PNP Light On or Dark On Selectable
Operating Voltage	10-30VDC	
No-load Supply Current	≤15mA	
Operating (Load) Current	≤200mA	
Off-state (Leakage) Current	≤0.1mA	
Voltage Drop	2V maximum at 200mA	
Switching Frequency	1.5kHz	
Ripple	≤20%	
Time Delay Before Availability (tv)	300ms	
Short-Circuit Protection	Yes (switch autoresets after overload is removed)	
Operating Temperature	-25° to 55°C (-13° to 131°F)	
Protection Degree	IEC IP64	
LED Indicator - Switching Status	Pin 4 (black): switching status - yellow Pin 2 (pink): excess gain status - green	
Housing Material	PBT	
Lens Materials	Acrylic	
Shock/Vibration	See terminology section	
Tightening Torque	N/A	
Weight (cable/connector)	69g (2.44oz) / 18g (0.63oz)	
Connectors	2m (6.5') axial cable; M8 (8mm) connector	
Agency Approvals	UL file E32881	

Switching Element Function		
	Through-beam and Reflective Models	Diffuse Reflective Models
Light on	N.C.	N.O.
Dark on	N.O.	N.C.

Dimensions

(mm)



Wiring diagrams

Diagram 1

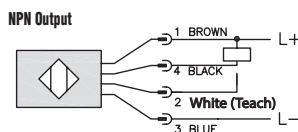
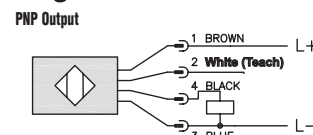
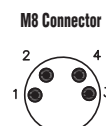


Diagram 2



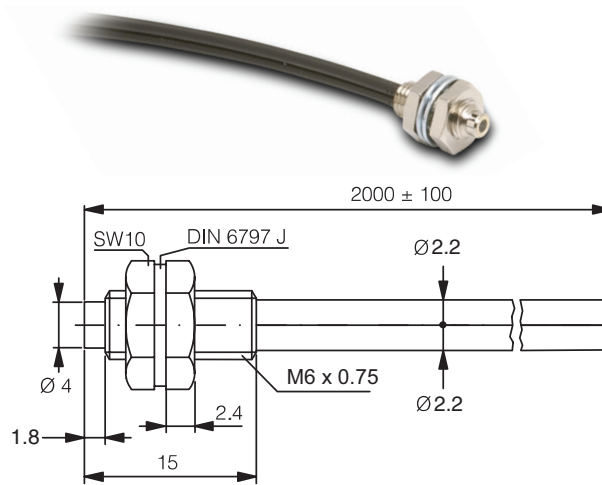
Connector



Cuttable Optical Fibers (2.2 mm Diameter)

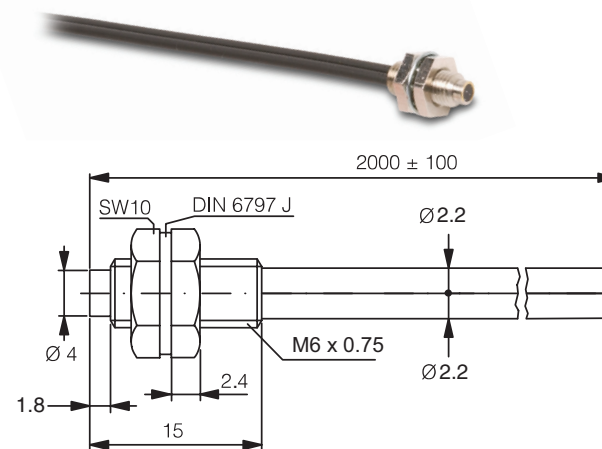
CF-DB1-20 diffuse reflection

Specifications	
Optical Fiber Core Ø	1 mm (0.039in)
Sensing Distance with DFT and DFP series	200 mm (7.87in)
Fiber Length (L)	2.0 m (78.74in)
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Agency Approvals	UL file 328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



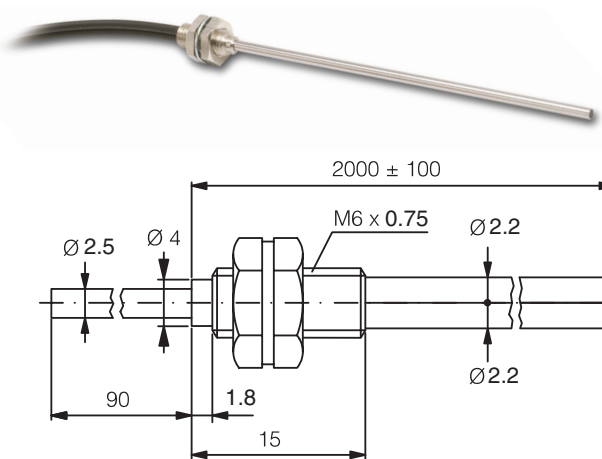
CF-DB2-20 diffuse reflection

Specifications	
Optical Fiber Core Ø	1.5 mm (0.06in)
Sensing Distance with DFT and DFP Series	260 mm (10.27in)
Fiber Length (L)	2.0 m (78.74in)
Fiber Bending Radius	40 mm (1.57in)
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Agency Approvals	UL file 328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



CF-DB3-20 diffuse reflection

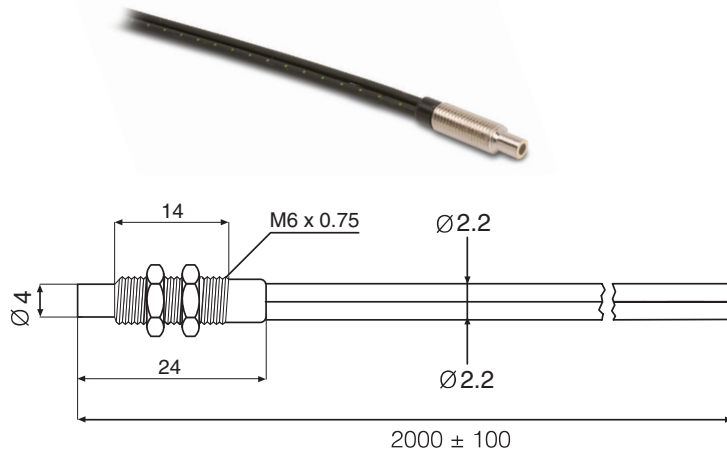
Specifications	
Optical Fiber Core Ø	1 mm (0.039in)
Sensing Distance with DFT and DFP Series	200 mm (7.87in)
Fiber Length (L)	2.0 m (78.74in)
Fiber Bending Radius	25 mm (0.98in)
Bendable light-outlet tube	Yes, 25 mm (0.98in) radius
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Agency Approvals	UL file 328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



Cuttable Optical Fibers (2.2 mm Diameter)

CF-CB1-20 diffuse reflection

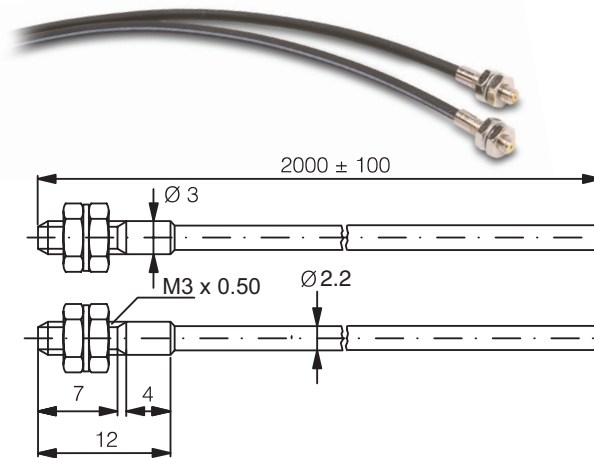
Specifications	
Optical Fiber Core Ø	1 mm (0.039in)
Sensing Distance with SSF Series	50 mm (1.97in)
Fiber Length (L)	2.0 m (78.74in)
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Temperature Range	-40° to +70°C (-40° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



CF-TB1-20 through-beam

Specifications	
Optical Fiber Core Ø	0.5 mm (0.02in)
Sensing Distance with DFT and DFP Series	200 mm (7.87in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5 mm
Protection Degree	IEC IP67
Agency Approvals	UL file 328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass

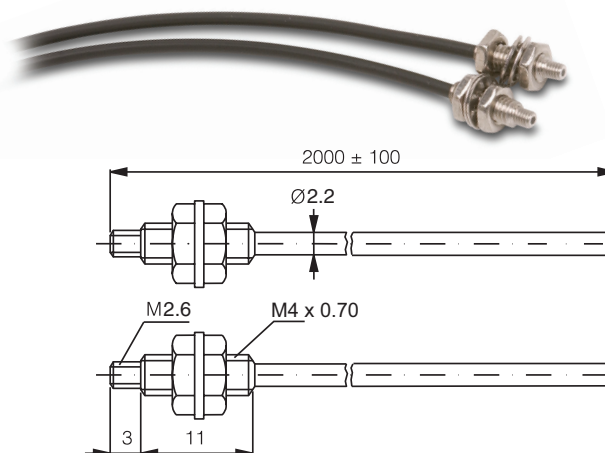
Includes 2 optical fiber cables



Includes 2 optical fiber cables

CF-TB2-20 through-beam

Specifications	
Optical Fiber Core Ø	1 mm (0.039in)
Sensing Distance with DFT and DFP Series	700 mm (27.56in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7 mm
Protection Degree	IEC IP67
Agency Approvals	UL file E328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass

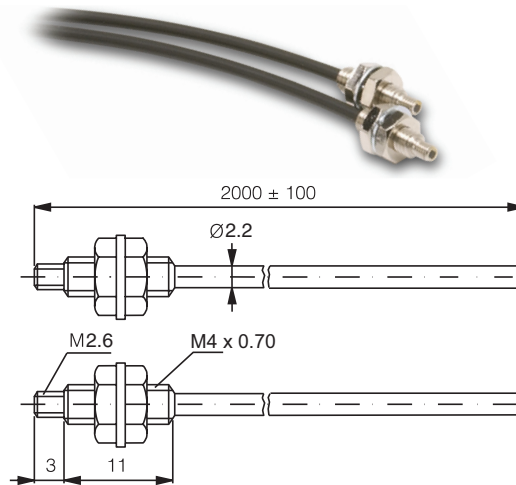


Cuttable Optical Fibers (2.2 mm Diameter)

CF-TB3-20 through-beam

Specifications	
Optical Fiber Core Ø	1.5 mm (0.06in)
Sensing Distance with DFT and DFP Series	900 mm (35.43in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	40 mm (1.57in)
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7 mm
Protection Degree	IEC IP67
Agency Approvals	UL file E328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass

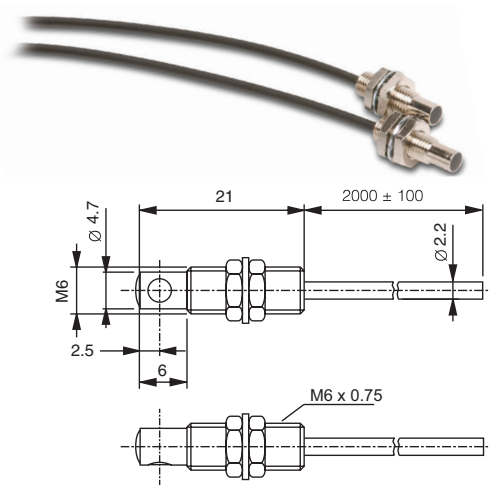
Includes 2 optical fiber cables



CF-TB4-20 90° through-beam

Specifications	
Optical Fiber Core Ø	1.0 mm (0.039in)
Sensing Distance with DFT and DFP Series	1800 mm (70.87in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Agency Approvals	UL file E328811
Temperature Range	-25° to +70°C (-13° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass

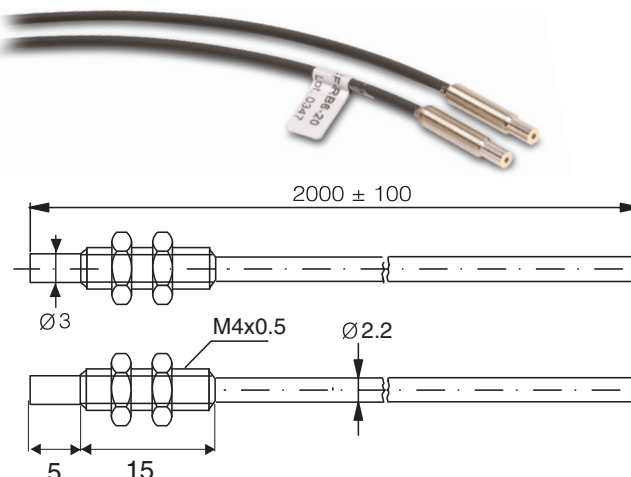
Includes 2 optical fiber cables



CF-RB6-20 through beam

Specifications	
Optical Fiber Core Ø	1.0 mm (0.039in)
Sensing Distance with SSF Series	120 mm (4.72in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M4
Thread Pitch	0.50 mm
Protection Degree	IEC IP67
Temperature Range	-40° to +70°C (-40° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass

Includes 2 optical fiber cables

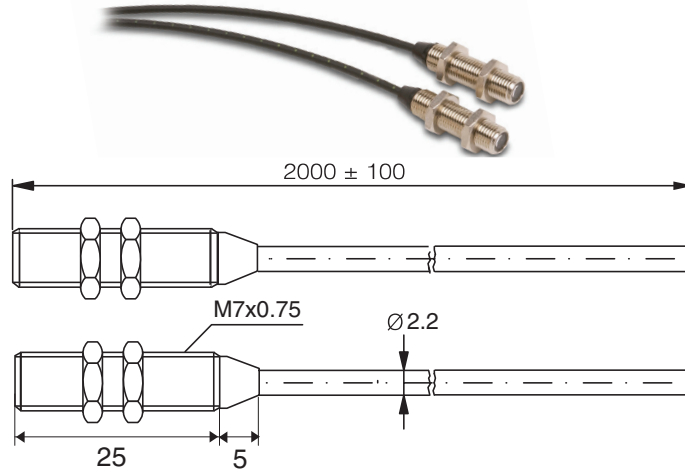


Cuttable Optical Fibers (2.2 mm Diameter)

CF-RBA-20 through-beam with lenses

Includes 2 optical fiber cables

Specifications	
Optical Fiber Core Ø	1.0 mm (0.039in)
Sensing Distance with SSF series	1200 mm (47.24in)
Fiber Length (L)	2.0 m (78.74in) ea. piece
Fiber Bending Radius	25 mm (0.98in)
Free Cut	Yes
Head Size	M7
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Temperature Range	-40° to +70°C (-40° to 158°F)
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



Characteristic Curves

