

DFP Series Fiber Photoelectric Amplifiers

Compact rectangular plastic
DIN-rail mount DC

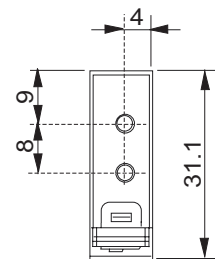
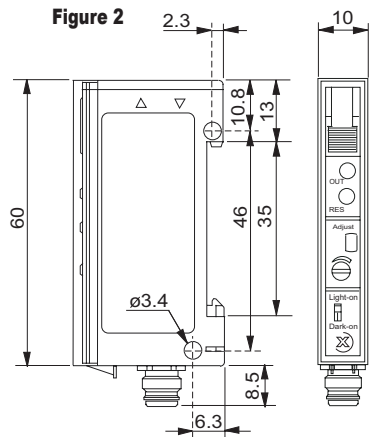
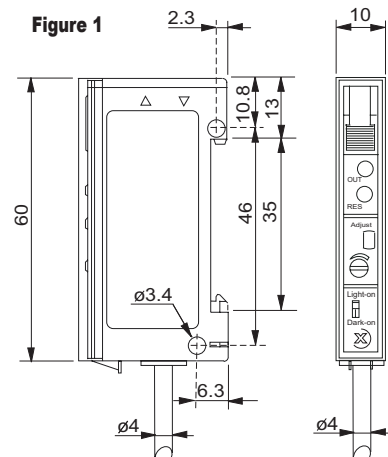
- DIN-rail mounting
- 12-turn potentiometer sensitivity setting with illuminated scale
- NPN or PNP, Light-on/Dark-on selectable outputs
- Red LED with visible spot
- IP64 rated



DFP Series Fiber Photoelectric Amplifier Selection Chart							
Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
DFP-AN-1A	\$109.00	Optical fiber dependent	N.O./N.C. selectable	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
DFP-AN-1F	\$109.00				M8 [8mm] connector	Diagram 1	Figure 2
DFP-AP-1A	\$109.00			PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
DFP-AP-1F	\$109.00				M8 [8mm] connector	Diagram 2	Figure 2

Dimensions

(mm)



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 auto-resets 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 ft] axial cable; M8 [8mm] connector	
Agency Approvals	UL file E32881	

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.

Wiring Diagrams

Diagram 1

NPN Output

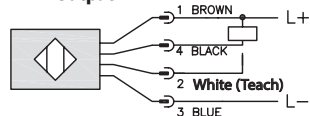
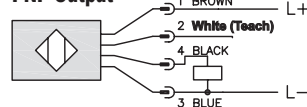


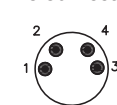
Diagram 2

PNP Output



Connector

M8 Connector



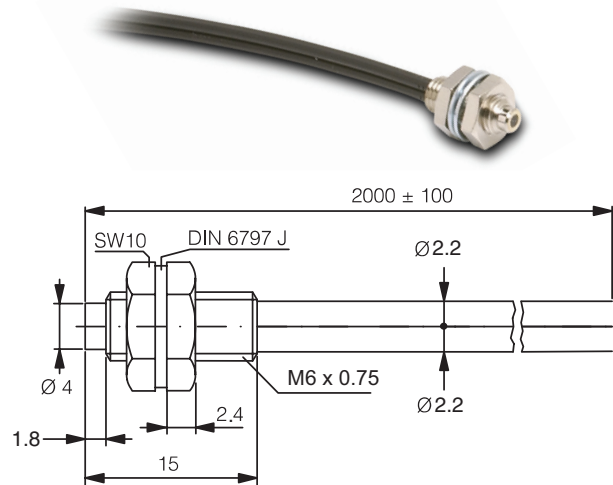
Switching Element Function

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

Cuttable Optical Fibers (2.2 mm Diameter)

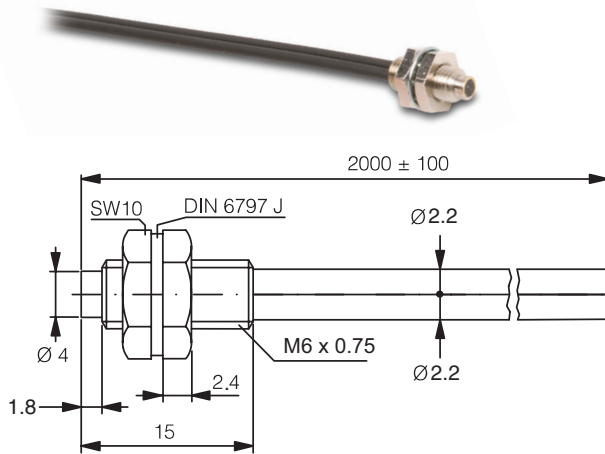
CF-DB1-20 diffuse reflection

CF-DB1-20 Specifications	
Part Number	CF-DB1-20
Price	\$39.50
Optical Fiber Core Ø	1 mm [0.039 in]
Sensing Distance with DFT and DFP series	200mm [7.87in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	25mm [0.98 in]
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



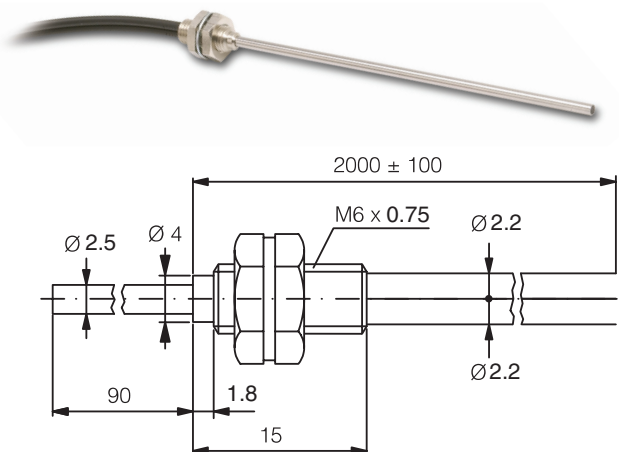
CF-DB2-20 diffuse reflection

CF-DB2-20 Specifications	
Part Number	CF-DB2-20
Price	\$58.00
Optical Fiber Core Ø	1.5 mm [0.06 in]
Sensing Distance with DFT and DFP Series	260mm [10.23 in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	40mm [1.57 in]
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

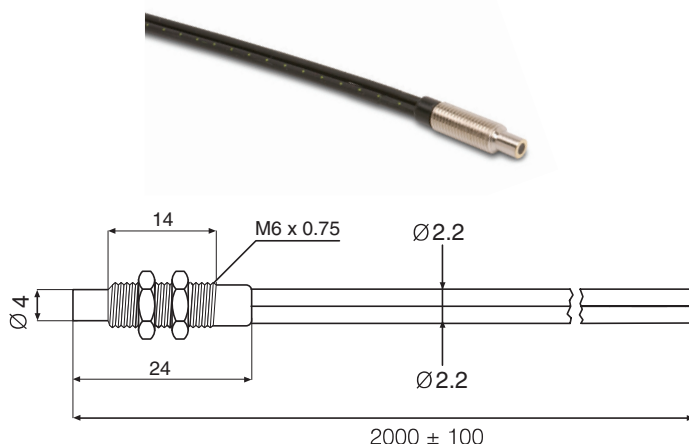
CF-DB3-20 Specifications	
Part Number	CF-DB3-20
Price	\$63.00
Optical Fiber Core Ø	1 mm [0.039 in]
Sensing Distance with DFT and DFP Series	200 mm [7.87 in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	25 mm [0.98 in]
Bendable light-outlet tube	Yes, 25mm [0.98 in] radius
Free Cut	Yes
Head Size	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)

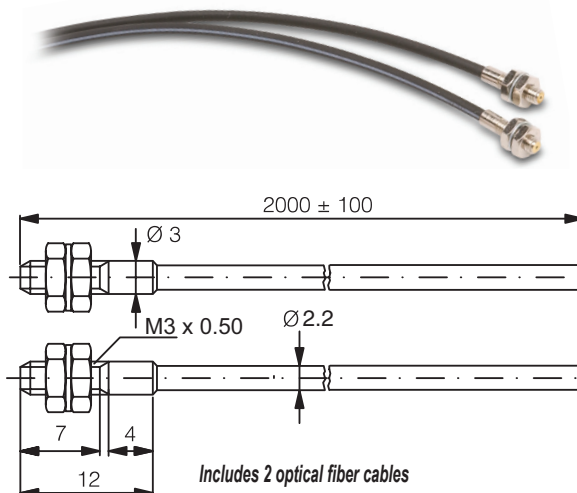
CF-CB1-20 diffuse reflection

CF-CB1-20 Specifications	
Part Number	CF-CB1-20
Price	\$29.00
Optical Fiber Core Ø	1mm [0.039 in]
Sensing Distance with SSF Series	50mm [1.97 in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	25mm [0.98 in]
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



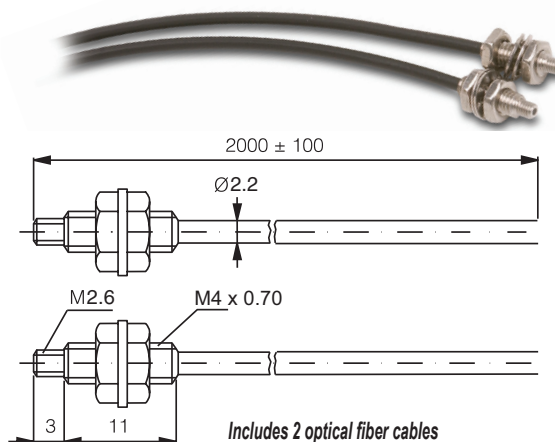
CF-TB1-20 through-beam

CF-TB1-20 Specifications	
Part Number	CF-TB1-20
Price	\$39.50
Optical Fiber Core Ø	0.5 mm [0.02 in]
Sensing Distance with DFT and DFP Series	200mm [7.87 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
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



CF-TB2-20 through-beam

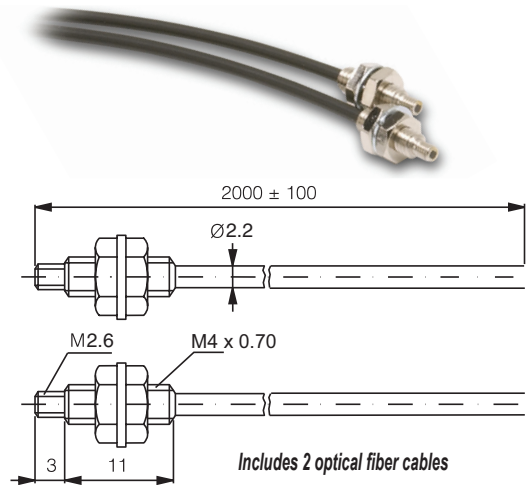
CF-TB2-20	
Part Number	CF-TB2-20
Price	\$39.50
Optical Fiber Core Ø	1mm [0.039 in]
Sensing Distance with DFT and DFP Series	700mm [27.56 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7 mm
Protection Degree	IEC IP67
Agency 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)

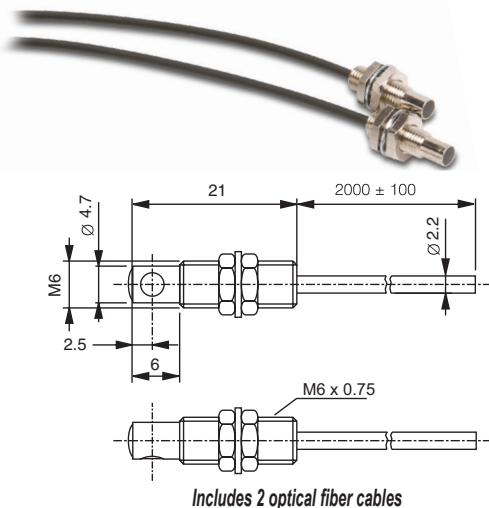
CF-TB3-20 through-beam

CF-TB3-20 Specifications	
Part Number	CF-TB3-20
Price	\$63.00
Optical Fiber Core Ø	1.5 mm [0.06 in]
Sensing Distance with DFT and DFP Series	900mm [35.43 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	40mm [1.57 in]
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



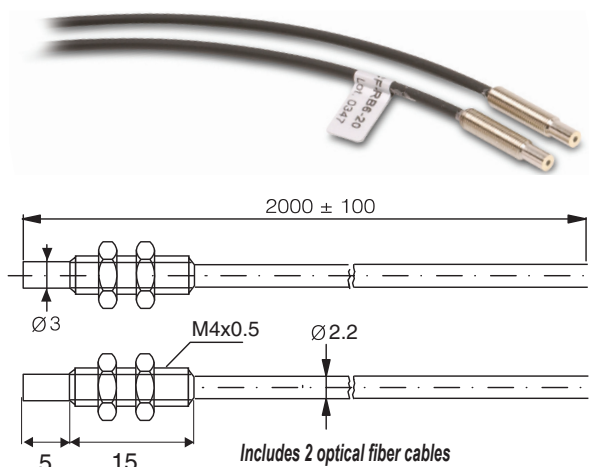
CF-TB4-20 90° through-beam

CF-TB4-20 Specifications	
Part Number	CF-TB4-20
Price	\$79.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with DFT and DFP Series	1800mm [70.87 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
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



CF-RB6-20 through beam

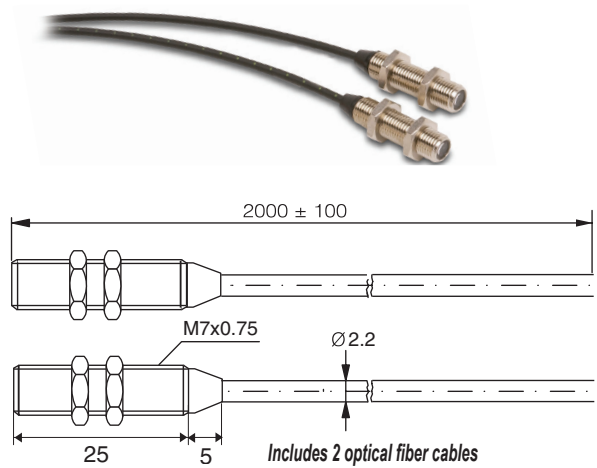
CF-RB6-20 Specifications	
Part Number	CF-RB6-20
Price	\$29.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with SSF Series	120mm [4.72 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.50 mm
Protection Degree	IEC IP67
Temperature Range	-40 to 70°C [-40 to 158°F]
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



Cuttable Optical Fibers (2.2 mm Diameter)

CF-RBA-20 through-beam with lenses

CF-RBA-20 Specifications	
Part Number	CF-RBA-20
Price	\$50.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with SSF series	1200mm [47.24 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
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

