

DFT Series Fiber Photoelectric Amplifiers



Compact rectangular plastic DIN-rail mount with Teach function - DC

- DIN-rail mounting
- Bargraph signal-strength indicator
- NPN or PNP, Light-on/Dark-on selectable outputs
- Red LED with visible spot
- IP64 rated



DFT Series Fiber Photoelectric Amplifier Selection Chart

Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
DFT-AN-1A	\$172.00	Optical fiber Dependent	N.O./N.C. selectable	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
DFT-AN-1F	\$172.00				M8 [8mm] connector	Diagram 1	Figure 2
DFT-AP-1A	\$172.00			PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
DFT-AP-1F	\$172.00				M8 [8mm] connector	Diagram 2	Figure 2

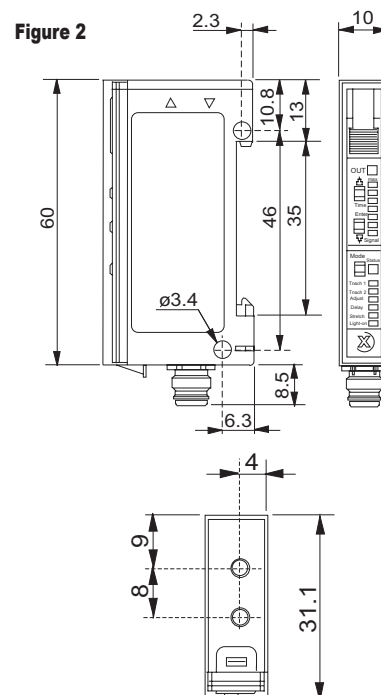
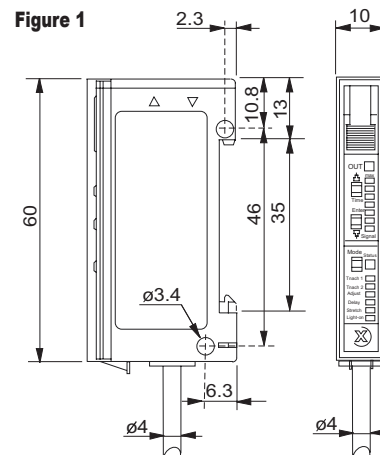
Specifications

Type	DFT-AN-1*	DFT-AP-1*
Sensing Distance	See Optical Fibers Table	
Light Spot Diameter	N/A	
Emission	red (680nm)	
Sensitivity	Dual Teach function	
Output Type	NPN Light-on or Dark-on Selectable Output delay or stretch programmable	PNP Light-on or Dark-on Selectable Output delay or stretch programmable
Operating Voltage	10-30VDC	
No-Load Supply Current	≤ 25mA	
Operating (Load) Current	≤ 200mA	
Off-state (Leakage) Current	≤ 0.1mA	
Voltage Drop	2V maximum at 200mA	
Switching Frequency	1.5 kHz	
Ripple	m20%	
Time Delay Before Availability (tv)	80ms	
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 Indicators -Switching Status	Yellow (output energized)	
Housing Material	PBT	
Lens Material	Acrylic	
Shock/Vibration	See terminology section	
Tightening Torque	N/A	
Weight (cable/connector)	68g [2.39oz] / 17g [0.60oz]	
Connectors	2m [6.5 ft] axial cable; M8 [8mm] connector	
Agency Approvals	UL file E328811	

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

Dimensions

(mm)



Wiring Diagrams

Diagram 1

NPN Output

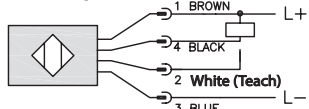
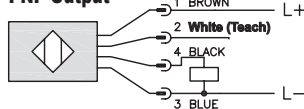


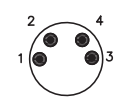
Diagram 2

PNP Output



Connector

M8 Connector



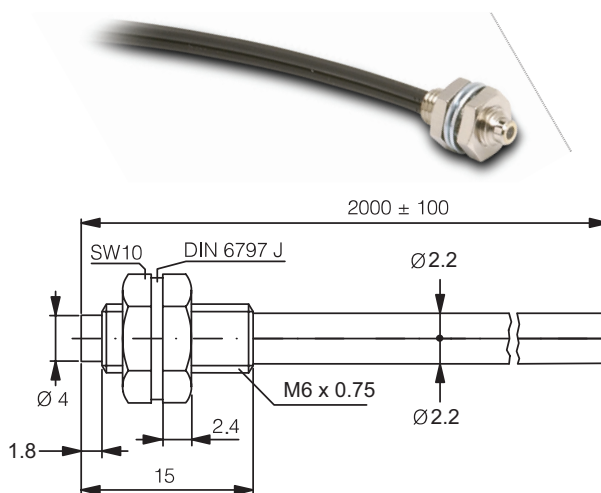
Switching Element Function

	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)

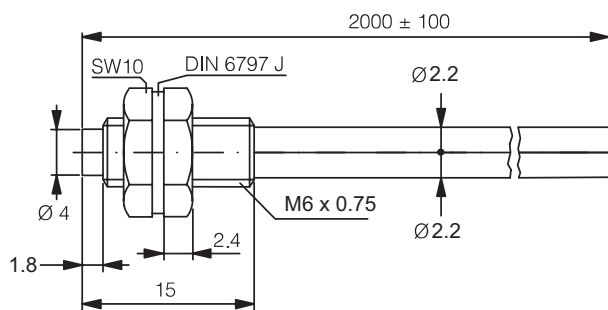
CF-DB1-20 diffuse reflection

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



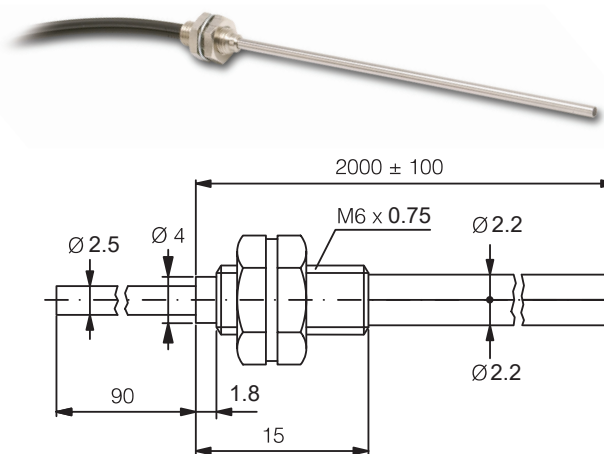
CF-DB2-20 diffuse reflection

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

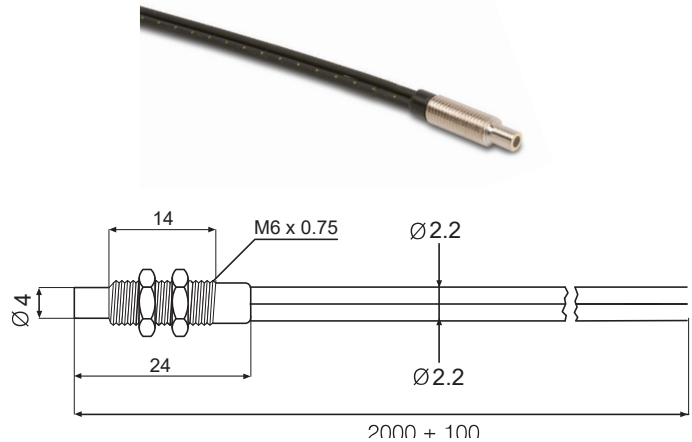


Cuttable Optical Fibers (2.2 mm Diameter)

CF-CB1-20 diffuse reflection

CF-CB1-20 Specifications

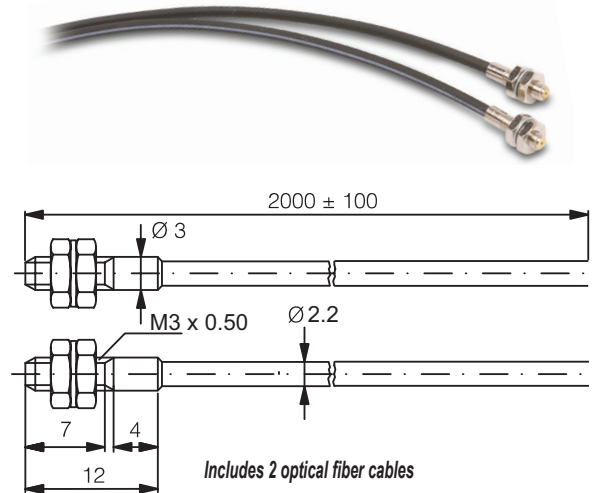
Part Number	CF-CB1-20
Price	\$29.00
Optical Fiber Core Ø	1mm [0.039 in]
Sensing Distance with SSF Series	50mm [1.97 in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Temperature Range	-40 to 70°C [-40 to 158°F]
Fiber Materials	PMMA
Sleeve Materials	Polyethylene
Head Materials	Nickel-plated brass



CF-TB1-20 through-beam

CF-TB1-20 Specifications

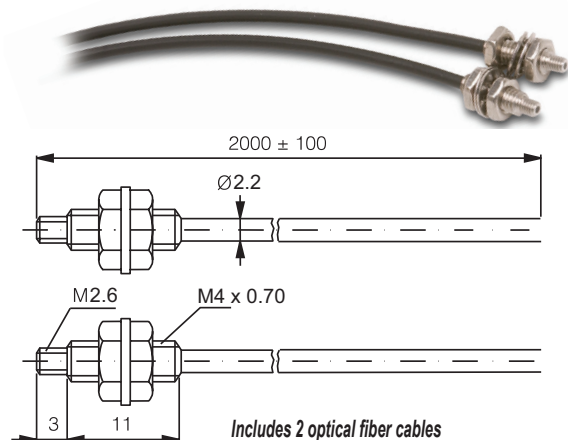
Part Number	CF-TB1-20
Price	\$39.50
Optical Fiber Core Ø	0.5 mm [0.02 in]
Sensing Distance with DFT and DFP Series	200mm [7.87 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M3
Thread Pitch	0.5 mm
Protection Degree	IEC IP67
Agency Approvals	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

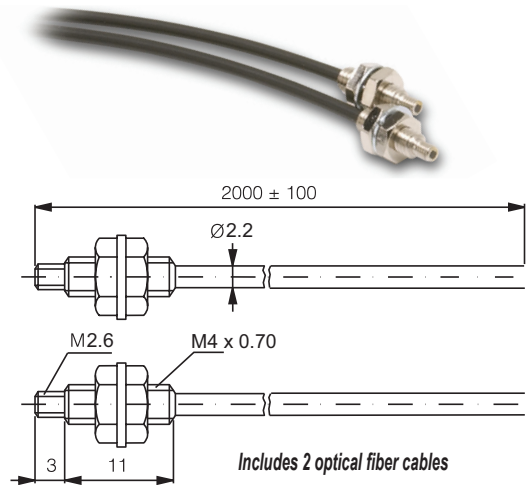


Cuttable Optical Fibers (2.2 mm Diameter)

CF-TB3-20 through-beam

CF-TB3-20 Specifications

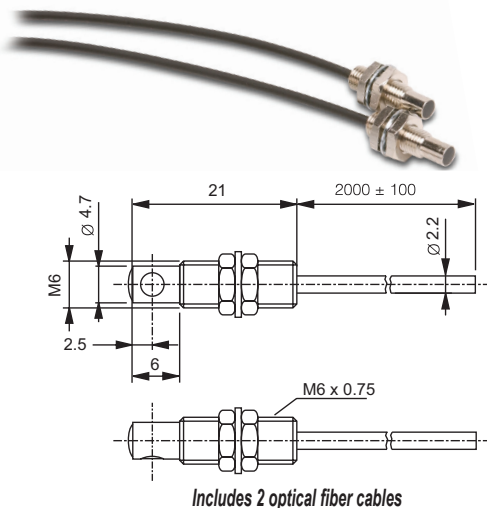
Part Number	CF-TB3-20
Price	\$63.00
Optical Fiber Core Ø	1.5 mm [0.06 in]
Sensing Distance with DFT and DFP Series	900mm [35.43 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	40mm [1.57 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7 mm
Protection Degree	IEC IP67
Agency Approvals	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

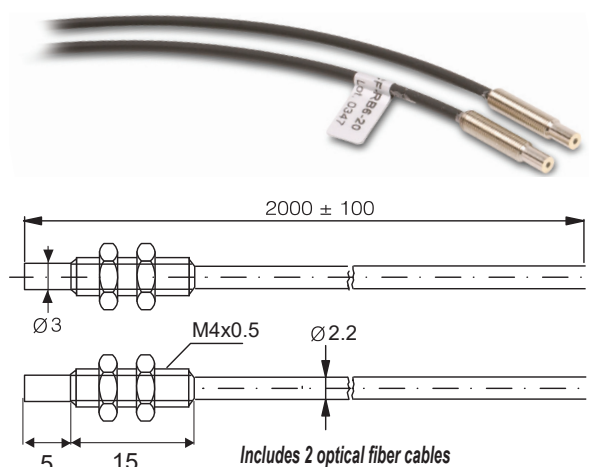
Part Number	CF-TB4-20
Price	\$79.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with DFT and DFP Series	1800mm [70.87 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M6
Thread Pitch	0.75 mm
Protection Degree	IEC IP67
Agency Approvals	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

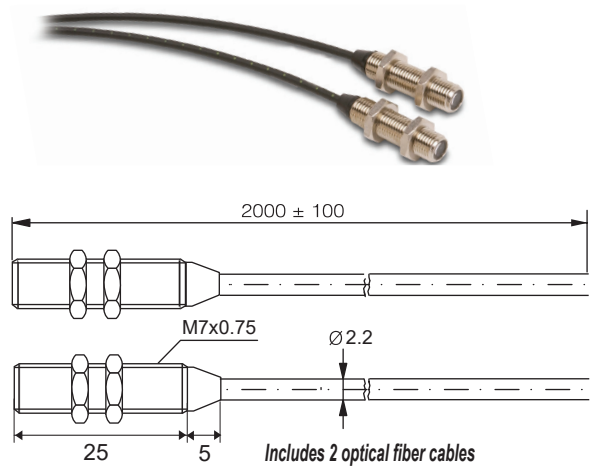
Part Number	CF-RB6-20
Price	\$29.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with SSF Series	120mm [4.72 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.50 mm
Protection Degree	IEC IP67
Temperature Range	-40 to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

