

# 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



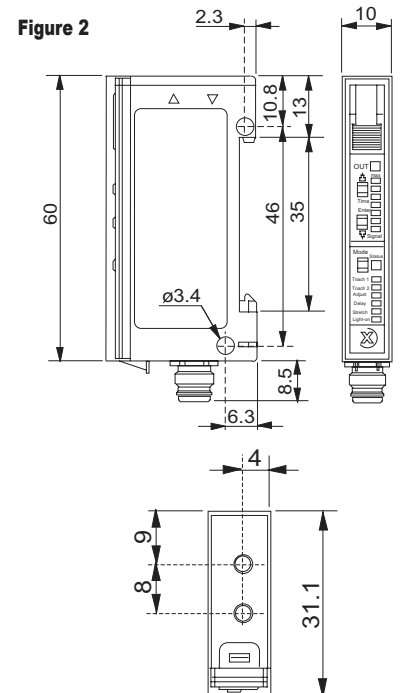
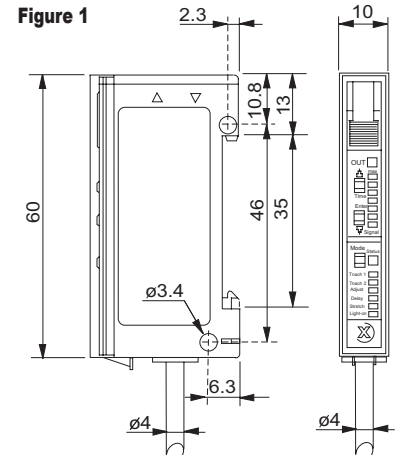
DFT Series Fiber Photoelectric Amplifier Selection Chart							
Part Number	Price	Sensing Range	Output State	Logic	Connection	Wiring	Dimensions
<a href="#">DFT-AN-1A</a>	\$172.00	Optical fiber Dependent	N.O./N.C. selectable	NPN	2m [6.5 ft] axial cable	Diagram 1	Figure 1
<a href="#">DFT-AN-1F</a>	\$172.00				M8 [8mm] connector	Diagram 1	Figure 2
<a href="#">DFT-AP-1A</a>	\$172.00			PNP	2m [6.5 ft] axial cable	Diagram 2	Figure 1
<a href="#">DFT-AP-1F</a>	\$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

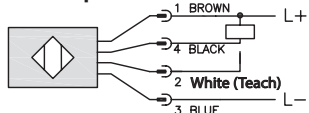
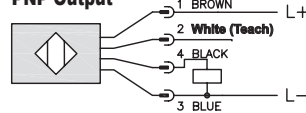


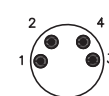
Diagram 2

PNP Output



Connector

M8 Connector



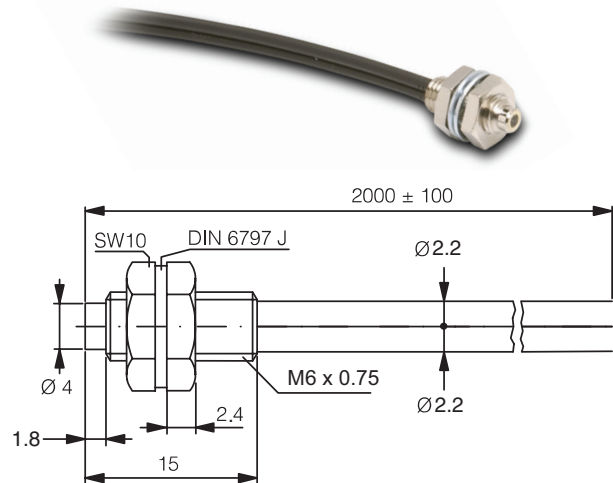
## Switching Element Function

	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)

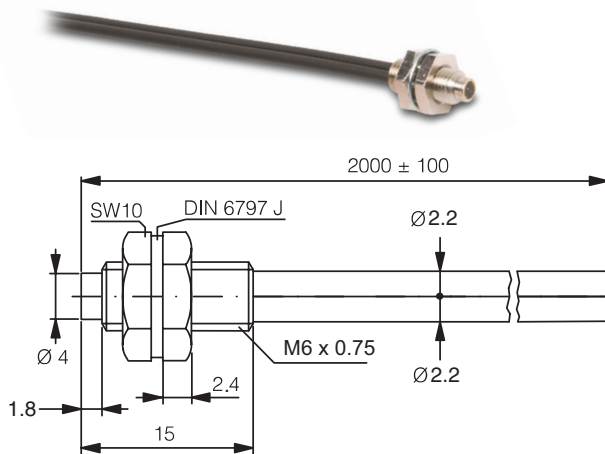
## CF-DB1-20 diffuse reflection

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



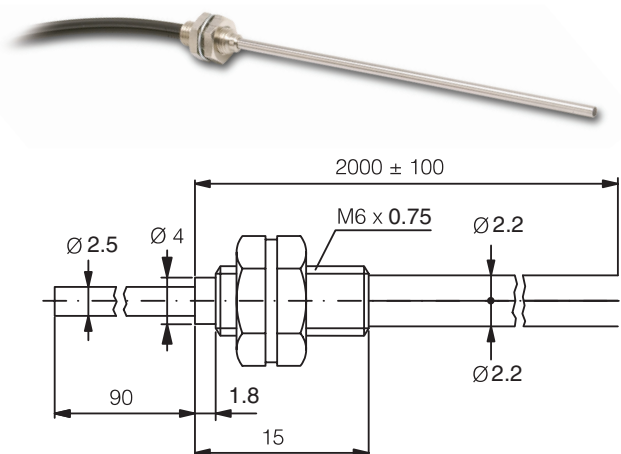
## CF-DB2-20 diffuse reflection

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

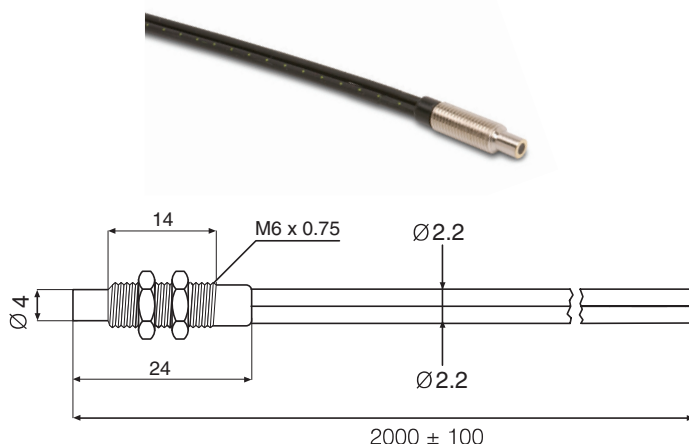
CF-DB3-20 Specifications	
Part Number	CF-DB3-20
Price	\$63.00
Optical Fiber Core Ø	1 mm [0.039 in]
Sensing Distance with DFT and DFP Series	200 mm [7.87 in]
Fiber Length (L)	2.0 m [78.74 in]
Fiber Bending Radius	25 mm [0.98 in]
Bendable light-outlet tube	Yes, 25mm [0.98 in] radius
Free Cut	Yes
Head Size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

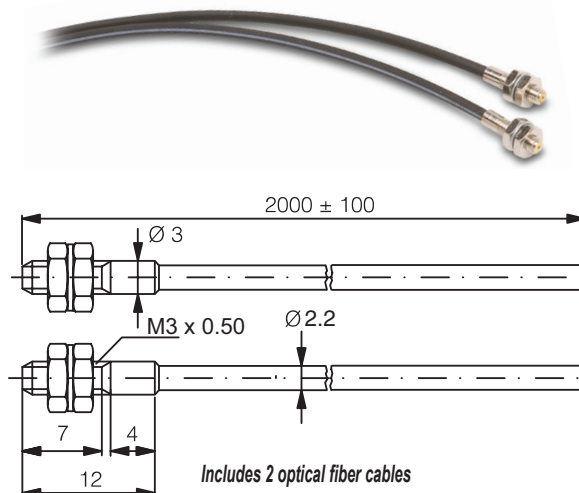
## CF-CB1-20 diffuse reflection

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



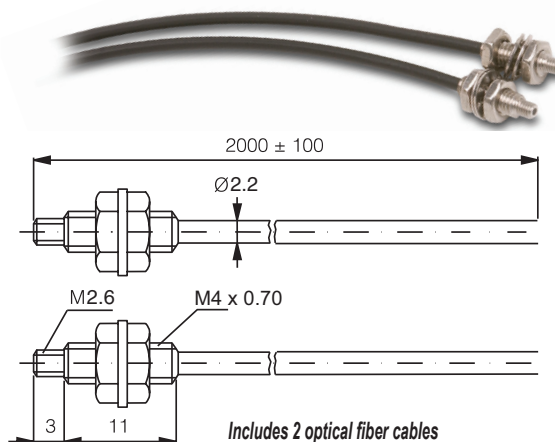
## CF-TB1-20 through-beam

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

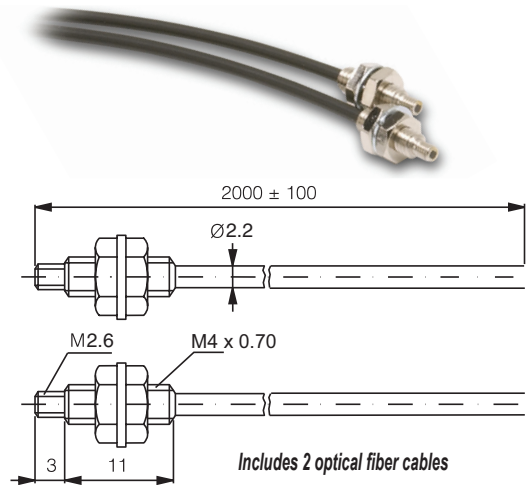
CF-TB2-20	
Part Number	CF-TB2-20
Price	\$39.50
Optical Fiber Core Ø	1mm [0.039 in]
Sensing Distance with DFT and DFP Series	700mm [27.56 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.7 mm
Protection Degree	IEC IP67
Agency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

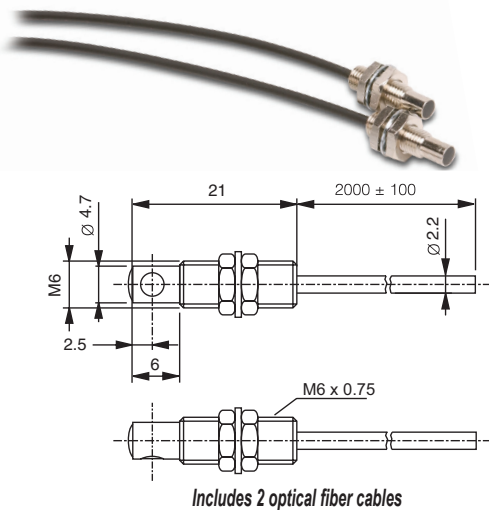
## CF-TB3-20 through-beam

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



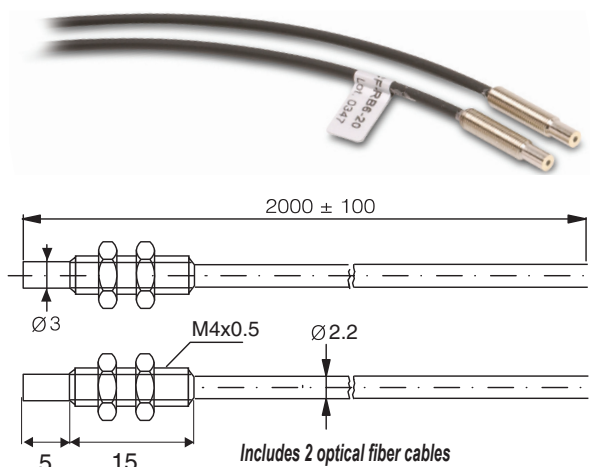
## CF-TB4-20 90° through-beam

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

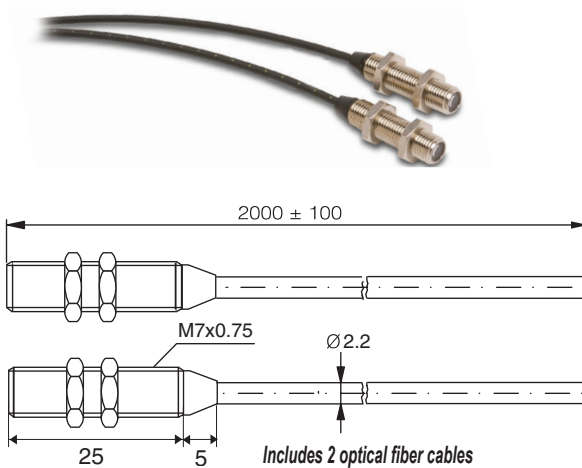
CF-RB6-20 Specifications	
Part Number	CF-RB6-20
Price	\$29.00
Optical Fiber Core Ø	1.0 mm [0.039 in]
Sensing Distance with SSF Series	120mm [4.72 in]
Fiber Length (L)	2.0 m [78.74 in] ea. piece
Fiber Bending Radius	25mm [0.98 in]
Free Cut	Yes
Head Size	M4
Thread Pitch	0.50 mm
Protection Degree	IEC IP67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

