The BFO 18 series of glass fiber optics are designed for series BOS 18M cylindrical sensors and are used wherever a high level of function reserve or chemical resistance is required. Likewise, temperatures over 200 °C pose no problem.

Various straight or right-angle versions are available with a polyurethane jacket, corrugated metal armor or silicon protective jacket.

UZG type
- Polyurethane jacket
- Strain relief
- Glass optical fiber bundle
- Flexible
- Excellent chemical resistance
- Does not become brittle from oils and cooling emulsions
- Temperature resistance –20...+85 °C

MZG type
- Corrugated metal armor
- Strain relief
- Glass optical fiber bundle
- Resistant to high temperatures –20...+170 °C (up to +250 °C for a fixed installation)
- Flexible
- Crush-resistant
- Resistant to hot swarf

SMG type

Silicon protection jacket
Corrugated metal armor with glass optical fiber bundle strain relief
- Extended temperature range
- –40...+150 °C
- Highly flexible
- Crush-resistant

Photoelectric Sensors with Special Properties

Glass fiber optics BFO 18

Product overview

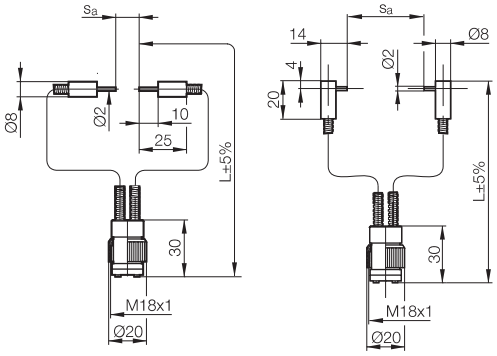
Ordering code	Type	Max. sensing distance	Version		Light exit		Auto-motive approval	Page
		For BOS 18M-...-1PF-...	Through-beam	Buttons	Straight	Angled		
	Through-beam fiber optics							
BF0001Z	BFO 18A-LGG-MZG-10-0,5	400 mm	■		■			346
BF00020	BFO 18A-LGG-MZG-10-1	400 mm	■		■			346
BF00023	BFO 18A-LGG-SMG-10-0,5	400 mm	■		■			346
BF00024	BFO 18A-LGG-SMG-10-1	400 mm	■		■			346
BF0001P	BFO 18A-LFF-MZG-10-0,5	400 mm	■			■		346
BF0001R	BFO 18A-LFF-MZG-10-1	400 mm	■			■		346
BF0001U	BFO 18A-LFF-SMG-10-0,5	400 mm	■			■		346
BF0001W	BFO 18A-LFF-SMG-10-1	400 mm	■			■		346
BF0000M	BFO 18A-LAA-UZG-20-0,5	700 mm	■		■			347
BF0000N	BFO 18A-LAA-UZG-20-1	700 mm	■		■			347
BF0000F	BFO 18A-LAA-MZG-20-0,5	700 mm	■		■			347
BF0000H	BFO 18A-LAA-MZG-20-1	700 mm	■		■			347
BF0000Z	BFO 18A-LCC-UZG-20-1	700 mm	■		■			347
BF0000U	BFO 18A-LCC-SMG-20-0,5	700 mm	■		■			347
BF0000W	BFO 18A-LCC-SMG-10-1	700 mm	■		■			347
BF0001N	BFO 18A-LEE-UZG-20-0,5	700 mm	■			■		347
BF0001H	BFO 18A-LEE-UZG-20-1	700 mm	■			■		347
BF00013	BFO 18A-LEE-MZG-20-0,5	700 mm	■			■		347
BF00014	BFO 18A-LEE-MZG-20-1	700 mm	■			■		347
BF00019	BFO 18A-LEE-SMG-20-0,5	700 mm	■			■		347
BF0001A	BFO 18A-LEE-SMG-20-1	700 mm	■			■		347
BF0003Y	BFO 18V-LCC-MZG-23-0,5	2000 mm	■		■		■	347
BF00042	BFO 18V-LCC-SMG-23-0,5	2000 mm	■		■		■	347
BF0004C	BFO 18V-LDD-SMG-23-0,5	2000 mm	■			■	■	347
BF0004F	BFO 18V-LDD-SMG-23-1	2000 mm	■			■	■	347
	Diffuse sensor fiber optics							
BF0003R	BFO 18A-XAG-MZG-15-0,5	50 mm		■	■			348
BF0003T	BFO 18A-XAG-MZG-15-1	50 mm		■	■			348
BF0003H	BFO 18A-XAF-MZG-15-0,5	50 mm		■		■		348
BF0003J	BFO 18A-XAF-MZG-15-1	50 mm		■		■		348
BF0003M	BFO 18A-XAF-SMG-15-0,5	50 mm		■		■		348
BF0003N	BFO 18A-XAF-SMG-15-1	50 mm		■		■		348
BF0002M	BFO 18A-XAA-UZG-30-0,5	100 mm		■	■			349
BF0002N	BFO 18A-XAA-UZG-30-1	100 mm		■	■			349
BF00026	BFO 18A-XAA-MZG-30-0,5	100 mm		■	■			349
BF00027	BFO 18A-XAA-MZG-30-1	100 mm		■	■			349
BF0002F	BFO 18A-XAA-SMG-30-0,5	100 mm		■	■			349
BF0002H	BFO 18A-XAA-SMG-30-1	100 mm		■	■			349
BF0002W	BFO 18A-XAC-SMG-30-1	100 mm		■	■			349
BF0002U	BFO 18A-XAC-SMG-30-0,5	100 mm		■	■			349
BF0003C	BFO 18A-XAE-UZG-30-0,5	100 mm		■		■		349
BF0003E	BFO 18A-XAE-UZG-30-1	100 mm		■		■		349
BF00031	BFO 18A-XAE-MZG-30-0,5	100 mm		■		■		349
BF00037	BFO 18A-XAE-SMG-30-0,5	100 mm		■		■		349
BF00038	BFO 18A-XAE-SMG-30-1	100 mm		■		■		349
BF0004M	BFO 18V-XAC-MZG-30-0,5	200 mm		■	■		■	349
BF0004P	BFO 18V-XAC-SMG-30-0,5	200 mm		■	■		■	349
BF0004R	BFO 18V-XAC-SMG-30-1	200 mm		■	■		■	349
BF0004U	BFO 18V-XAD-MZG-30-0,5	200 mm		■		■	■	349
BF0004Y	BFO 18V-XAD-SMG-30-0,5	200 mm		■		■	■	349
BF0004Z	BFO 18V-XAD-SMG-30-1	200 mm		■		■	■	349

Through-beam sensor	BOS 18M-...-PD-..	Range	**100 mm**	**100 mm**
with	BOS 18M-...-1PF-...	Range	**400 mm**	**400 mm**
	BOS 30M-...	Range		
UZG type		**Ordering code**		
0.5 m		Part number		
UZG type		**Ordering code**		
1 m		Part number		
MZG type		**Ordering code**	**BFO001Z**	**BFO001P**
0.5 m		Part number	BFO 18A-LGG-MZG-10-0,5	BFO 18A-LFF-MZG-10-0,5
MZG type		**Ordering code**	**BFO0020**	**BFO001R**
1 m		Part number	BFO 18A-LGG-MZG-10-1	BFO 18A-LFF-MZG-10-1
SMG type		**Ordering code**	**BFO0023**	**BFO001U**
0.5 m		Part number	BFO 18A-LGG-SMG-10-0,5	BFO 18A-LFF-SMG-10-0,5
SMG type		**Ordering code**	**BFO0024**	**BFO001W**
1 m		Part number	BFO 18A-LGG-SMG-10-1	BFO 18A-LFF-SMG-10-1
Glass optical fiber bundle diameter			1 mm	1 mm
Max. tension on optical fibers and connection parts			80 N	80 N
Min. bending radius			60 mm	60 mm
Can be used with	BOS 18M-PA-1PD...		Yes	Yes
	BOS 18M-PU-1PD-SA1.../-SA4.../-SA5...		Yes (remove adapter disk)	Yes (remove adapter disk)
	BOS 18M-GU-1PF-...		Yes (remove adapter disk)	Yes (remove adapter disk)
	BOS 18M-PA-1PF-...		Yes	Yes
	BOS 30M-... (use BFO 30-A1 adapter)		No	No

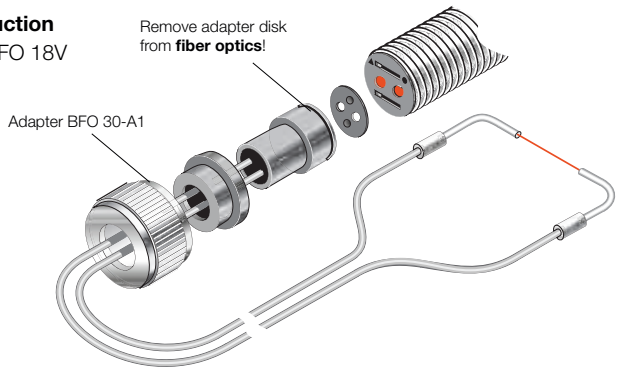
Additional lengths available (in 0.5 m increments)! Please submit an inquiry.

Please append the desired length L of the fiber optics cable to the ordering code.
Adjustments from 0.5 m to max. 2 m possible.
Example:
BFO 18...-30-**0,5** for **0.5 m** fiber length
BFO 18...-30-**2** for **2** m fiber length

Important!
With a fiber optic through-beam sensor, the base unit's normally open signal switches to a normally closed signal!



Mounting instruction
BOS 30M with BFO 18V

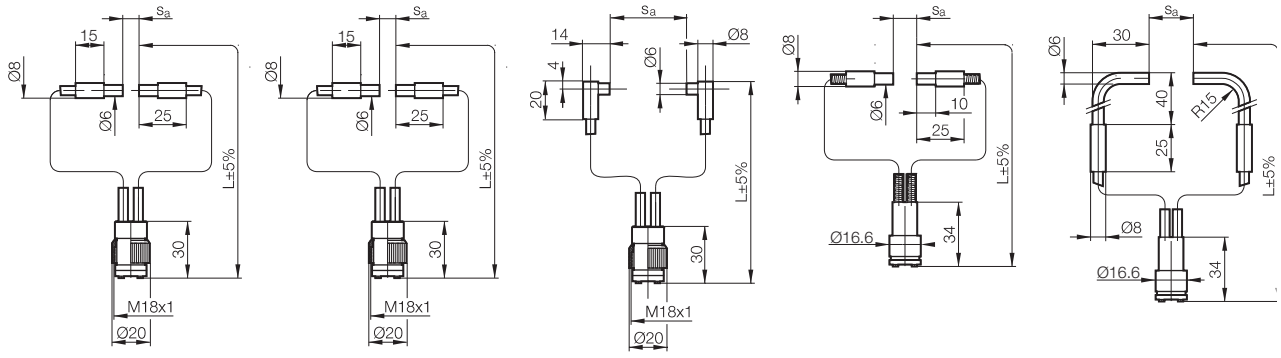


Photoelectric Sensors with Special Properties

Glass fiber optics BFO 18

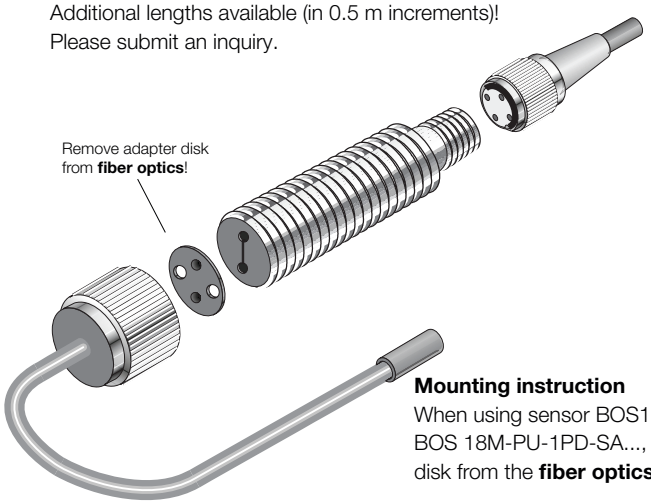
Through-beam principle

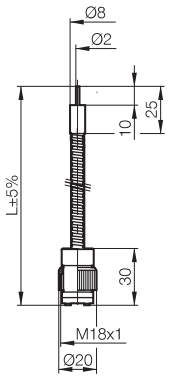
	200 mm **700 mm**	**200 mm** **700 mm**	**200 mm** **700 mm**	**200 mm** **2000 mm**	**200 mm** **2000 mm**
	BFO000M		**BFO001N**		
	BFO 18A-LAA-UZG-20-0,5		BFO 18A-LEE-UZG-20-0,5		
	BFO000N	**BFO000Z**	**BFO001H**		
	BFO 18A-LAA-UZG-20-1	BFO 18A-LCC-UZG-20-1	BFO 18A-LEE-UZG-20-1		
	BFO000F		**BFO0013**	**BFO003Y**	
	BFO 18A-LAA-MZG-20-0,5		BFO 18A-LEE-MZG-20-0,5	BFO 18V-LCC-MZG-23-0,5	
	BFO000H		**BFO0014**		
	BFO 18A-LAA-MZG-20-1		BFO 18A-LEE-MZG-20-1		
		BFO000U	**BFO0019**	**BFO0042**	**BFO004C**
		BFO 18A-LCC-SMG-20-0,5	BFO 18A-LEE-SMG-20-0,5	BFO 18V-LCC-SMG-23-0,5	BFO 18V-LDD-SMG-23-0,5
		BFO000W	**BFO001A**		**BFO004F**
		BFO 18A-LCC-SMG-10-1	BFO 18A-LEE-SMG-20-1		BFO 18V-LDD-SMG-23-1
	2 mm	2 mm	2 mm	2 mm	2 mm
	80 N	80 N	80 N	80 N	80 N
	60 mm	60 mm	60 mm	60 mm	60 mm
	Yes	Yes	Yes	No	No
	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)
	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	No	No
	Yes	Yes	Yes	No	No
	No	No	No	Yes (remove adapter disk)	Yes (remove adapter disk)

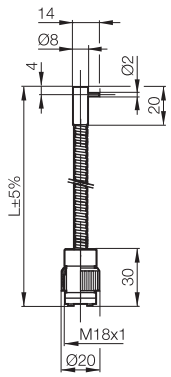


Diffuse sensor with	BOS 18M-...-PD-.../BOS 18M-...-1PF-...		**10 mm/50 mm**	**10 mm/50 mm**	
	BOS 30M-...				
Retroreflective sensor with	BOS 18M-...-PD-.../BOS 18M-...-1PF-...		**300 mm/1000 mm**	**300 mm/1000 mm**	
	BOS 30M-...				
UZG type		**Ordering code**			
0.5 m		Part number			
UZG type		**Ordering code**			
1 m		Part number			
MZG type		**Ordering code**	**BFO003R**	**BFO003H**	
0.5 m		Part number	BFO 18A-XAG-MZG-15-0,5	BFO 18A-XAF-MZG-15-0,5	
MZG type		**Ordering code**	**BFO003T**	**BFO003J**	
1 m		Part number	BFO 18A-XAG-MZG-15-1	BFO 18A-XAF-MZG-15-1	
SMG type		**Ordering code**		**BFO003M**	
0.5 m		Part number		BFO 18A-XAF-SMG-15-0,5	
SMG type		**Ordering code**		**BFO003N**	
1 m		Part number		BFO 18A-XAF-SMG-15-1	
Glass optical fiber bundle diameter			1.5 mm	1.5 mm	
Max. tension on optical fibers and connection parts			80 N	80 N	
Min. bending radius			60 mm	60 mm	
Can be used with	BOS 18M-PA-1PD...		Yes	Yes	
	BOS 18M-PU-1PD-SA1.../-SA4.../-SA5...		Yes (remove adapter disk)	Yes (remove adapter disk)	
	BOS 18M-GU-1PF-...		Yes (remove adapter disk)	Yes (remove adapter disk)	
	BOS 18M-PA-1PF-...		Yes	Yes	
	BOS 30M-...		No	No	
Sensing distance with	BOS 18M-PA-1PD...		10 mm	10 mm	
	BOS 18M-PU-1PD-SA1.../-SA4.../-SA5...		10 mm	10 mm	
	BOS 18M-...-1PF-...		50 mm	50 mm	
	BOS 30M-...				
Range with	BOS 18M-PA-1PD...		300 mm	300 mm	
	BOS 18M-PU-1PD-SA1.../-SA4.../-SA5...		300 mm	300 mm	
	BOS 18M-...-1PF-...		1000 mm	1000 mm	
	BOS 30M-...				

Additional lengths available (in 0.5 m increments)!
Please submit an inquiry.







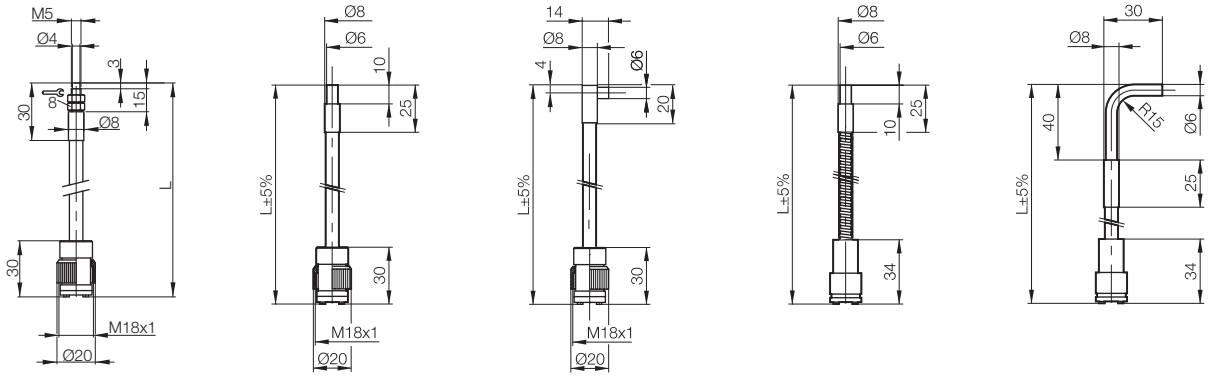
Mounting instruction
When using sensor BOS18M-GU-1PF-S4-Y or BOS 18M-PU-1PD-SA..., please remove the adapter disk from the **fiber optics.**

Photoelectric Sensors with Special Properties

Glass fiber optics BFO 18

Buttons

20 mm/100 mm	**20 mm/100 mm**	**20 mm/100 mm**	**20 mm**	**20 mm**
			200 mm	**200 mm**
500 mm/1000 mm	**500 mm/1000 mm**	**500 mm/1000 mm**	**500 mm**	**500 mm**
			2000 mm	**2000 mm**
BFO002M		**BFO003C**		
BFO 18A-XAA-UZG-30-0,5		BFO 18A-XAE-UZG-30-0,5		
BFO002N		**BFO003E**		
BFO 18A-XAA-UZG-30-1		BFO 18A-XAE-UZG-30-1		
BFO0026		**BFO0031**	**BFO004M**	**BFO004U**
BFO 18A-XAA-MZG-30-0,5		BFO 18A-XAE-MZG-30-0,5	BFO 18V-XAC-MZG-30-0,5	BFO 18V-XAD-MZG-30-0,5
BFO0027				
BFO 18A-XAA-MZG-30-1				
BFO002F	**BFO002U**	**BFO0037**	**BFO004P**	**BFO004Y**
BFO 18A-XAA-SMG-30-0,5	BFO 18A-XAC-SMG-30-0,5	BFO 18A-XAE-SMG-30-0,5	BFO 18V-XAC-SMG-30-0,5	BFO 18V-XAD-SMG-30-0,5
BFO002H	**BFO002W**	**BFO0038**	**BFO004R**	**BFO004Z**
BFO 18A-XAA-SMG-30-1	BFO 18A-XAC-SMG-30-1	BFO 18A-XAE-SMG-30-1	BFO 18V-XAC-SMG-30-1	BFO 18V-XAD-SMG-30-1
3 mm	3 mm	3 mm	3 mm	3 mm
80 N	80 N	80 N	80 N	80 N
60 mm	60 mm	60 mm	60 mm	60 mm
Yes	Yes	Yes	No	No
Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)
Yes (remove adapter disk)	Yes (remove adapter disk)	Yes (remove adapter disk)	No	No
Yes	Yes	Yes	No	No
No	No	No	Yes (remove adapter disk)	Yes (remove adapter disk)
20 mm	20 mm	20 mm		
20 mm	20 mm	20 mm	20 mm	20 mm
100 mm	100 mm	100 mm		
			200 mm	200 mm
500 mm	500 mm	500 mm		
500 mm	500 mm	500 mm	500 mm	500 mm
1000 mm	1000 mm	1000 mm		
			2000 mm	2000 mm



Sensing distances referenced to a 90% reflective Kodak gray card.
Diffuse sensor with glass fiber optics as a retroreflective light sensor: Ranges are referenced to BOS R-1 reflector.

When being used as a retroreflective sensor, twice the switching distance must be used as the object dead zone.