

Plastic fiber optics Reflective types

Series 10

Series 82/81/83

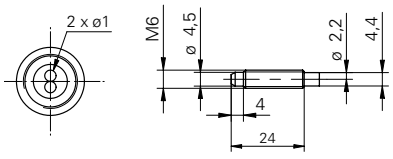
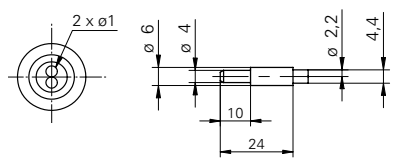
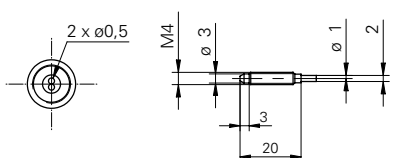
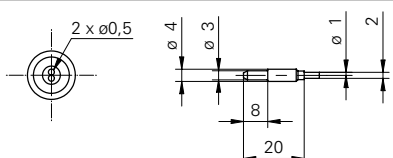
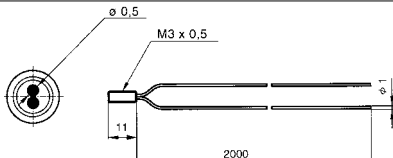
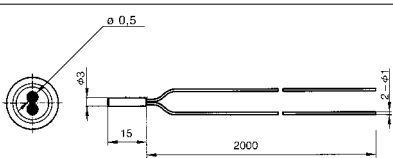
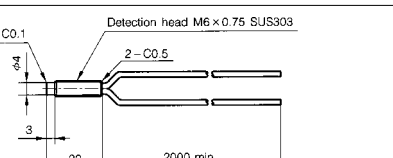
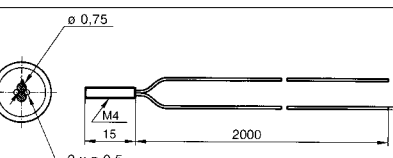
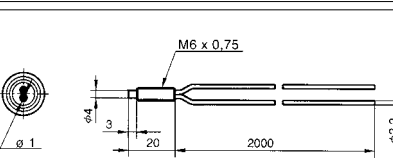
Series 84

Legend of operating modes
HS High Speed
FT fast
nL Standard
HP High Sensitivity

Series 12/22

Series 66

Series 67

Model Features	Shape R = min. bending radius	Part number	TW = sensing distance [mm]
Standard M6 Sensing head: brass	 R = 15 mm Operating temperature: -30...+70 °C	FUE 200C1003	45 30/70/120 25 90 65/110 33/260/300
Standard ø 6 mm Smooth sensing head without thread Sensing head: aluminum	 R = 15 mm Operating temperature: -30...+70 °C	FUE 200C2003	45 30/70/120 25 90 65/110 33/260/300
Standard M4 Sensing head: brass	 R = 8 mm Operating temperature: -30...+70 °C	FUE 200C1004	18 12/25/45 10 35 26/45 12/100/120
Standard ø 4 mm Smooth sensing head without thread Sensing head: aluminum	 R = 8 mm Operating temperature: -30...+70 °C	FUE 200C2004	18 12/25/45 10 35 26/45 12/100/120
Standard M3 Sensing head: stainless steel	 R = 15 mm Operating temperature: -30...+70 °C	FUE 200D1Y00	18 12/25/45 10 35 26/45 12/100/120
Standard ø 3 mm Smooth sensing head without thread Sensing head: stainless steel	 R = 15 mm Operating temperature: -30...+70 °C	FUE 200D2Y00	18 12/25/45 10 35 26/45 12/100/120
Long-distance M6 Longer sensing distance than with the standard version. With integrated lens. Sensing head: stainless steel	 R = 20 mm Operating temperature: -30...+70 °C	FLE 200C1Y00	70 55/120/240 45 160 100/170 57/400/550
Long-distance M4 Longer sensing distance than with the standard version. With integrated lens. Sensing head: stainless steel	 R = 15 mm Operating temperature: -30...+70 °C	FLE 200D1Y00	40 25/50/100 18 70 50/85 27/190/230
Ultra flexible M6 Ultra flexible type with bending radius of 2 mm Sensing head: stainless steel	 R = 2 mm Operating temperature: -30...+70 °C	FUE 200E1Y00	38 20/44/85 16 60 47/80 24/180/220

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Model Features	Shape R = min. bending radius	Part number	TW = sensing distance [mm]
Ultra flexible, pliable M3 Highly flexible, extremely pliable fiber with a min. bending radius of 4 mm. Suitable for drag chains. Sensing head: stainless steel	R = 4 mm Operating temperature: -30...+70 °C	FUE 200F1Y00	6 6/12/20 15 10/18 5/40/50
Coaxial M6 Suitable for positioning Sensing head: stainless steel	R = 20 mm Operating temperature: -30...+70 °C	FCE 200C1Y00	45 30/70/120 25 90 65/110 33/260/300
Coaxial M4 Suitable for positioning Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FCE 200C1Y01	16 12/20/40 8 25 20/35 12/80/110
Coaxial M3 Suitable for positioning. Spot sizes of 0.1 mm possible with doubling lens (see fiber optic accessories). Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FCE 200D1Y00	10 8/15/30 5 20 16/28 8/65/95
Coaxial M3 Suitable for positioning. Spot sizes of 0.1 mm possible with doubling lens (see fiber optic accessories). Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FCE 200D1Y01	10 8/15/30 5 20 16/28 8/65/95
Coaxial M3 Suitable for positioning. Spot sizes of 0.1 mm possible with doubling lens (see fiber optic accessories). Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FCE 050C1Y10	10 8/15/30 5 20 13/22 6/50/70
Coaxial, ultra flexible M3 Ultra flexible. Suitable for positioning. Spot sizes of 0.1 mm possible with doubling lens (see fiber optic accessories). Sensing head: stainless steel	R = 1 mm (emitter) R = 4 mm (receiver) Operating temperature: -30...+70 °C	FCE 200E1Y00	8 6/13/26 4 18 13/22 6/50/70
Side view ø 2 mm Smaller outside diameter, suitable for constrained conditions. Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FUE 200C4Y00	5 3/9/14 10 8/13 4/30/45
Smaller sensing head, flexible Chrome nickel sensing head which can be bent once. R > 7.5 mm. Other sensing head lengths on request. Sensing head: chrome nickel/brass	R = 8 mm Operating temperature: -30...+70 °C	FUE 200C1012	18 12/25/45 10 35 26/45 12/100/120

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Model Features	Shape R = min. bending radius	Part number	TW = sensing distance [mm]
Small sensing head ø 1,5 mm Highly flexible, extremely pliable fiber with a min. bending radius of 4 mm. Suitable for drag chains. Sensing head: stainless steel		FUE 100E2Y00	6 6/12/20 15 10/18 5/40/50
Small sensing head ø 1,5 mm Suitable for small spaces Sensing head: stainless steel		FUE 200C2Y00	18 12/25/45 9 35 26/45 12/90/120
Small sensing head ø 0,82 mm Suitable for small spaces Sensing head: stainless steel		FUE 050C2Y10	3 2/5/12 8 5/9 3/20/30
Parallel beam M5 Sharp beam eliminates the influence of reflections from periphery. Spot size 3 mm at a distance of 20 mm. Sensing head: stainl. steel / Al		FKE 200D1Y00	10 8/15/30 5 20 13/22 8/60/70
Focus Suitable for detection of highly transparent objects (glass, foils) Sensing distance: 2,5 mm ±0,5 Sensing head: aluminum		FFE 200D6Y00	2.5 2.5 (Series 81/83) - 2.5 2.5 2.5
Array Reliably detects small, thin or vibrating workpieces in an area of 10,85 mm. Sensing head: brass, Ni plated		FUE 200C6Y00	45 30/70/120 20 80 50/85 30/200/270
Heat resistant M6 Heat resistant up to +105 °C Sensing head: stainless steel		FUA 200C1Y00	40 25/50/100 18 70 47/80 27/200/220
Heat and cold resistant M6 Continuous use from -60 °C up to +150 °C Sensing head: stainless steel		FUB 200C1Y00	45 40/80/160 28 110 75/130 42/300/400
Heat and cold resistant M6 Continuous use from -60 °C up to +350 °C (Glass fiber optics) Sensing head: stainless steel		FUG 200C1Y00	40 25/50/100 18 70 47/80 27/180/220

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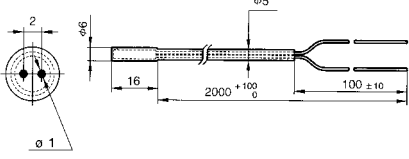
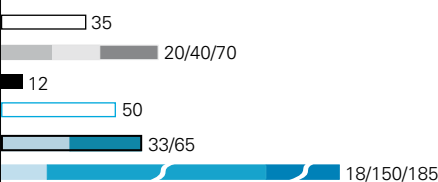
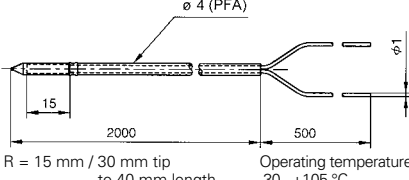
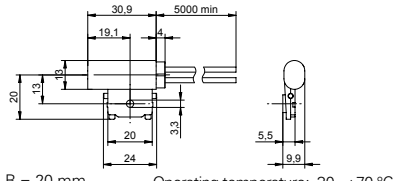
Series 84

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Model Features	Shape R = min. bending radius	Part number	TW = sensing distance [mm]
Chemical proof For use in chemically aggressive environments. Fiber optic sensor is fully sheathed in PFA. Sensing head: stainless steel / PFA	 R = 80 mm Operating temperature: -30...+70 °C	FUC 200C2Y00	
Level recognition Detection of diverse liquids. Resistant to chemicals due to PFA sheath. Heat resistant up to +105 °C Sensing head: PFA	 R = 15 mm / 30 mm tip to 40 mm length Operating temperature: -30...+105 °C	FUL 200D2Y00	Switches when immersed in liquid. Recommend fiber optic sensor Series 67. Do not use with Series 82! More information about liquid level recognition or leak detection, see chapter «level monitoring and leak detecting sensors».
Leak monitoring Detects liquids escaping from tanks and trays. Resistant to chemicals due to PFA sheath. Sensing head: PFA	 R = 20 mm Operating temperature: -30...+70 °C	FOC 500C6Y00	Fiber optic sensor is mounted directly on the floor or a base and switches on contact with escaping liquids. Recommend fiber optic sensor Series 67. Do not use with Series 82! More information can be found in chapter «Level and leak sensors».

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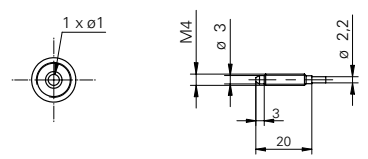
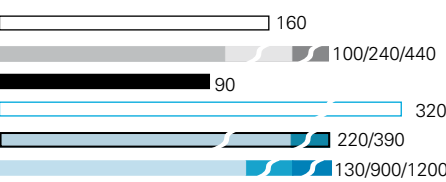
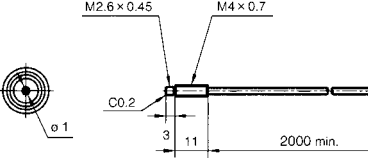
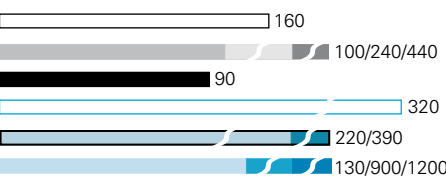
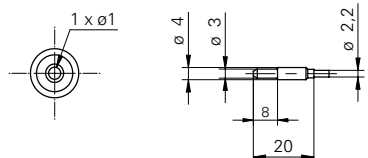
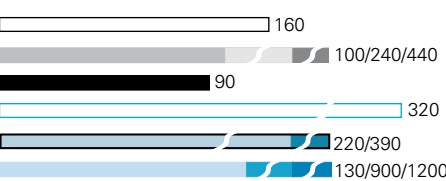
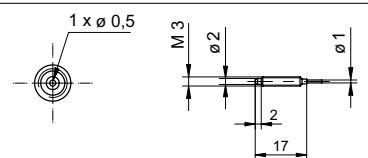
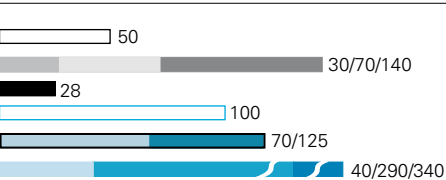
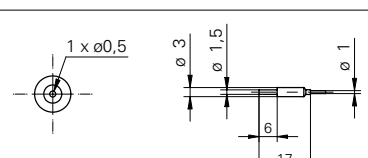
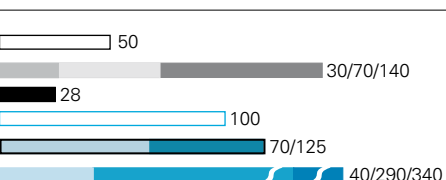
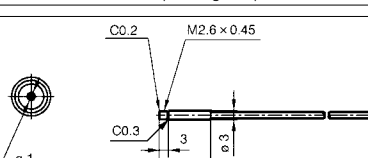
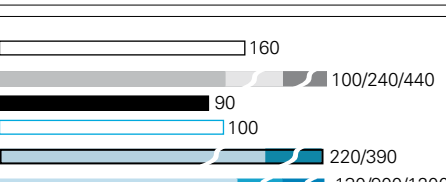
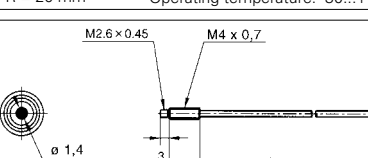
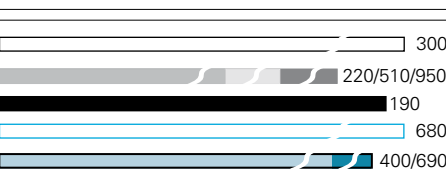
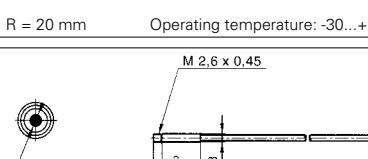
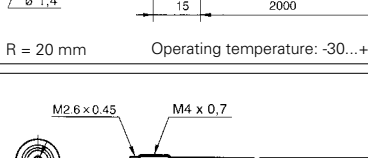
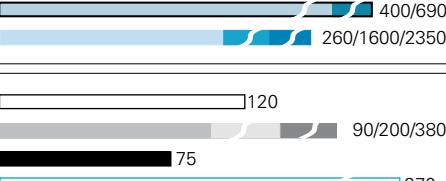
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Legend of operating modes
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Model Features	Shape R = min. bending radius	Part number	Sb = actual range [mm]
Standard M4 Sensing head: brass	 R = 15 mm Operating temperature: -30...+70 °C	FSE 200C1002	
Standard M4 Shorter version Sensing head: stainless steel	 R = 20 mm Operating temperature: -30...+70 °C	FSE 200C1Y00	
Standard ø 4 mm Smooth sensing head without thread Sensing head: aluminum	 R = 15 mm Operating temperature: -30...+70 °C	FSE 200C2002	
Standard M3 Sensing head: brass	 R = 8 mm Operating temperature: -30...+70 °C	FSE 200C1004	
Standard ø 3 mm Smooth sensing head without thread Sensing head: aluminum	 R = 8 mm Operating temperature: -30...+70 °C	FSE 200C2004	
Standard ø 3 mm Shorter version Smooth sensing head without thread Sensing head: stainless steel	 R = 20 mm Operating temperature: -30...+70 °C	FSE 200C2Y00	
Long distance M4 Twice the range of an M4 standard fiber optic sensor with integrated lens Sensing head: stainless steel	 R = 20 mm Operating temperature: -30...+70 °C	FWE 200C1Y00	
Long distance ø 3 mm Smooth sensing head without thread, with integrated lens Sensing head: stainless steel	 R = 20 mm Operating temperature: -30...+70 °C	FWE 200C2Y00	
Ultra flexible M4 Ultra flexible type with bending radius of 2 mm Sensing head: stainless steel	 R = 2 mm Operating temperature: -30...+70 °C	FSE 200E1Y00	

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Model Features	Shape R = min. bending radius	Part number	Sb = actual range [mm]
Ultra flexible M3 Highly flexible fiber with a min. bending radius of 1 mm Sensing head: stainless steel		FSE 200F1Y00	12 10/23/43 8 30 23/40 14/95/140
Highly flexible, pliable M3 Highly flexible, extremely pliable fiber with a min. bending radius of 4 mm. Suitable for drag chains. Sensing head: stainless steel		FSE 200D1Y50	20 20/40/100 20 45 29/50 18/120/180
Ultra flexible, 3 mm Highly flexible, extremely pliable fiber with a min. bending radius of 2 mm. Sensing head: stainless steel		FSE 200E2Y00	120 90/200/380 75 270 170/300 100/700/920
Side view M4 Sensing head: brass		FSE 200C4002	100 60/150/280 55 200 150/260 80/600/750
Side view ø 4 mm Smooth sensing head without thread Sensing head: aluminum		FSE 200C4001	100 60/150/280 55 200 150/260 80/600/750
Side view ø 1 mm Small sensing head Small target object detection Sensing head: stainless steel		FSE 200D4Y00	18 16/38/70 14 50 32/55 20/130/160
Side light exit, small sensing head 1 mm diameter, highly flexible Small target object detection Sensing head: stainless steel		FSE 200F4Y00	8 5/11/22 4 15 10/17 5/40/55
Small sensing head ø 1,5 mm Highly flexible, extremely pliable fiber with a min. bending radius of 4 mm. Suitable for drag chains. Sensing head: stainless steel		FSE 200D2Y00	20 18/40/80 15 55 35/60 20/140/190
Small sensing head ø 0,5 mm Detection of very small objects. Light spot diameter 0,25 mm Sensing head: stainless steel		FSE 200D2Y50	8 5/11/21 4 15 9/15 5/35/52

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Model Features	Shape R = min. bending radius	Part number	Sb = actual range [mm]
Parallel beam M4, exit angle $\pm 2^\circ$ The small beam angle makes a precise, virtually parallel light beam. Sensing head: stainless steel	R = 20 mm Operating temperature: -30...+70 °C	FPE 200C1Y00	
Parallel beam M4, exit angle $\pm 1^\circ$ The small beam angle makes a precise, virtually parallel light beam. Sensing head: stainless steel	R = 15 mm Operating temperature: -30...+70 °C	FPE 200D1Y00	
Parallel beam, side view $\pm 2^\circ$ The small beam angle makes a precise, virtually parallel light beam. Sensing head: stainless steel	R = 30 mm Operating temperature: -30...+70 °C	FPE 200C4Y00	
Flat sensing head, highly flexible fiber Can be mounted directly on a plate. Highly flexible fiber with a min. bending radius of 1 mm. Sensing head: brass, Ni plated	R = 1 mm Operating temperature: -30...+70 °C	FSE 200F6Y00	
Flat sensing head, highly flexible fiber Highly flexible fiber with a min. bending radius of 1 mm. Sensing head: POM	R = 1 mm Operating temperature: -30...+70 °C	FSE 100F6Y01	
Array (fine light barrier) Reliably detects small, thin or vibrating workpieces in a light curtain of 5,25 mm. Sensing head: brass, Ni plated	R = 4 mm Operating temperature: -30...+70 °C	FSE 200C6Y00	
Array (fine light barrier) Reliably detects small, thin or vibrating workpieces in a light curtain: of 10,5, 15,75 and 21 mm. Sensing head: aluminum	R = 4 mm Operating temperature: -30...+70 °C	1) FSE 200C6Y01 2) FSE 200C6Y15 3) FSE 200C6Y02	
Small, bendable sensing head Chrome nickel sensing head which can be bent once. R > 7.5 mm. Other sensing head lengths on request. Sensing head: chrome nickel / brass	R = 8 mm	FSE 200C1013	

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Model Features	Shape R = min. bending radius	Part number	Sb = actual range [mm]
Heat resistant M4 Heat resistant up to +105 °C Sensing head: stainless steel		FSA 200C1Y00	
Heat and cold resistant M4 Continuous use from -60 °C up to +150 °C Sensing head: stainless steel		FSB 200C1Y00	
Heat and cold resistant M4 Continuous use from -60 °C up to +350 °C (Glass fiber optics) Sensing head: stainless steel		FSG 200C1Y00	
Chemical and oil proof For use in chemically aggressive environments. Fiber optic sensor is fully sheathed in PFA. Sensing head: stainless steel / PFA		FSC 200C2Y00	
Chemical and oil proof For use in chemically aggressive environments. Fiber optic sensor is fully sheathed in PFA. Sensing head: stainless steel / PFA		FLC 200D2Y00	
Chemical and oil proof, side view For use in chemically aggressive environments. Fiber optic sensor is fully sheathed in PFA. Sensing head: stainless steel / PFA		FSC 200C4Y00	
Contact-free level detection Detects liquids in (semi-)transparent stand pipes/hoses with 3-13 mm diameter. Sensing head: PFI / PC		FSL 500C6Y00	Fiber optic sensor is mounted directly on the hose/stand pipe and switches on contact with escaping liquids. Recommend fiber optic sensor Series 69 and 67. Do not use with Series 82! More information can be found in chapter «Level and leak sensors».