

Plastic fiber optics

Reflective types

- Series 81**
 Low hysteresis
Series 12/22/31/60
 Teach-in/Master-Slave
- Series 82**
 Fast version
Series 69
 Fast mode HS
- Series 83**
 High sensitivity
Series 69
 Standard mode nL
- Series 84**
 Analog output
Series 69
 Sensitive mode HP

Model Features	Shape	Part number	TW = sensing distance [mm]
Standard M6 Sensing head: brass		FUE 200C1003	70 30 120 25 90 55 260 340
Standard ø 6 mm Sensing head: aluminum		FUE 200C2003	70 30 120 25 90 55 260 340
Standard M4 Sensing head: brass		FUE 200C1004	25 12 45 10 35 20 110 140
Standard ø 4 mm Sensing head: aluminum		FUE 200C2004	25 12 45 10 35 20 110 140
Standard M3 Sensing head: stainless steel		FUE 200D1Y00	25 12 45 10 35 20 110 140
Standard ø 3 mm Sensing head: stainless steel		FUE 200D2Y00	25 12 45 10 35 20 110 140
Long-distance M6 Scanning distance 1,6 times that of standard with integrated lens Sensing head: stainless steel		FLE 200C1Y00	120 55 240 45 160 95 450 650
Long-distance M4 Scanning distance 1,6 times that of standard with integrated lens Sensing head: stainless steel		FLE 200D1Y00	50 25 100 18 70 45 200 280
Ultra flexible M6 Flexible type with bending radius of 2 mm Sensing head: stainless steel		FUE 200E1Y00	44 20 85 16 60 40 180 240

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Series 69
Fast mode HS

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Series 69
Sensitive mode HP

Model Features	Shape	Part number	TW = sensing distance [mm]
Ultra flexible M3 Flexible type with bending radius 4 mm Sensing head: stainless steel		FUE 200F1Y00	12 6 20 - 15 9 45 60
Coaxial M6 Suitable for positioning Sensing head: stainless steel		FCE 200C1Y00	70 30 120 25 90 55 260 340
Coaxial M4 Suitable for positioning Sensing head: stainless steel		FCE 200C1Y01	20 12 40 8 25 15 75 110
Coaxial M3 Suitable for positioning Sensing head: stainless steel		FCE 200D1Y00	15 8 30 5 20 12 60 90
Coaxial M3 For high accuracy positioning (can not be shortened) Sensing head: stainless steel		FCE 050C1Y10	15 8 30 5 20 12 60 90
Coaxial M3 Flexible emitter cable with bending radius of 1 mm Sensing head: stainless steel		FCE 200E1Y00	13 6 26 4 18 10 50 80
Side view ø 2 mm Small-diameter fiber Suitable for small spaces Sensing head: stainless steel		FUE 200C4Y00	8 3 14 - 10 6 30 45
Small sensing head ø 1,5 mm With highly flexible cable (can not be shortened) Sensing head: stainless steel		FUE 100E2Y00	12 6 20 - 15 9 45 60
Small sensing head ø 1,5 mm Small diameter fiber Suitable for small spaces Sensing head: stainless steel		FUE 200C2Y00	25 12 45 9 35 20 110 140

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Model Features	Shape	Part number	TW = sensing distance [mm]
Small sensing head ø 0,82 mm Suitable for small spaces Sensing head: stainless steel		FUE 050C2Y10	5 2 12 8 5 25 35
Parallel beam M5 Sharp beam eliminates the influence of reflections from periphery. Sensing head: stainl. steel / Al		FKE 200D1Y00	15 8 30 5 20 12 60 80
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 - 2.5 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	70 30 120 20 80 50 220 320
Heat resistant M6 Heat resistant up to +105 °C Sensing head: stainless steel		FUA 200C1Y00	50 25 100 18 70 45 200 280
Heat and cold resistant M6 Continuous use from -60 °C up to +150 °C Sensing head: stainless steel		FUB 200C1Y00	80 40 160 28 110 70 320 460
Heat and cold resistant M6 Continuous use from -60 °C up to +350 °C Sensing head: stainless steel		FUG 200C1Y00	50 25 100 18 70 45 200 280
Chemical proof Fluorine coated tube, chemical and oil proof Sensing head: stainless steel / Teflon		FUC 200C2Y00	40 20 70 12 50 30 150 200
Level recognition Liquid surface detection Heat resistant up to +105 °C Sensing head: Teflon		FUL 200D2Y00	If the tip is immersed in liquid. More information about liquid level recognition or leak detection see chapter "level monitoring and leak detecting sensors"

Plastic fiber optics Through beam types

Series 81
Low hysteresis

Series 82
Fast version

Series 83
High sensitivity

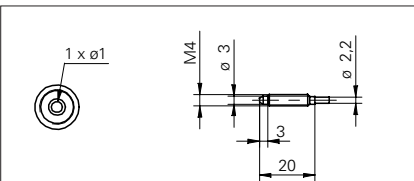
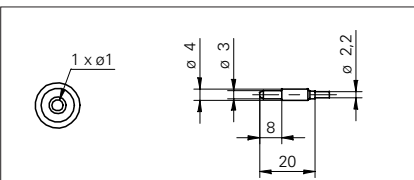
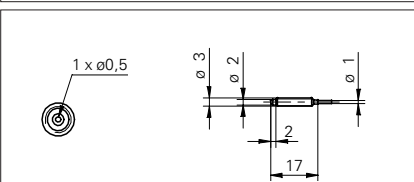
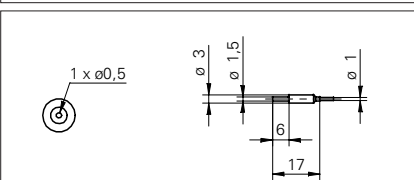
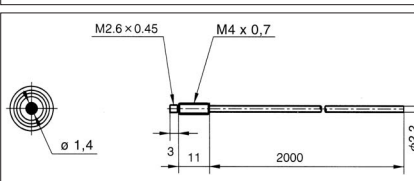
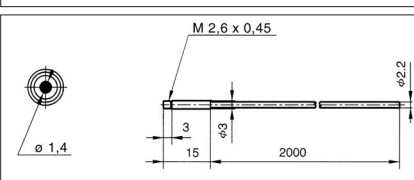
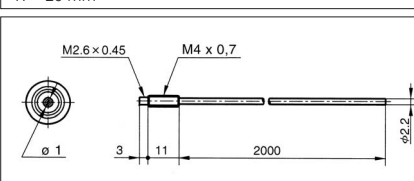
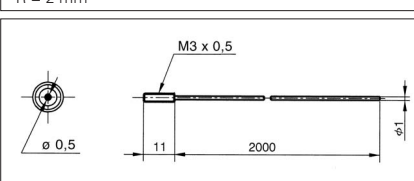
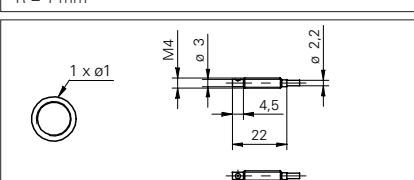
Series 84
Analog output

Series 12/22/31/60
Teach-in/Master-Slave

Series 69
Fast mode HS

Series 69
Standard mode nL

Series 69
Sensitive mode HP

Model Features	Shape	Part number	Sb = actual range [mm]								
Standard M4 Sensing head: brass		FSE 200C1002	<table border="1"> <tr><td>240</td></tr> <tr><td>100</td></tr> <tr><td>440</td></tr> <tr><td>90</td></tr> <tr><td>320</td></tr> <tr><td>190</td></tr> <tr><td>950</td></tr> <tr><td>1300</td></tr> </table>	240	100	440	90	320	190	950	1300
240											
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Standard ø 4 mm Sensing head: aluminum		FSE 200C2002	<table border="1"> <tr><td>240</td></tr> <tr><td>100</td></tr> <tr><td>440</td></tr> <tr><td>90</td></tr> <tr><td>320</td></tr> <tr><td>190</td></tr> <tr><td>950</td></tr> <tr><td>1300</td></tr> </table>	240	100	440	90	320	190	950	1300
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190											
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1300											
Standard M3 Sensing head: brass		FSE 200C1004	<table border="1"> <tr><td>70</td></tr> <tr><td>30</td></tr> <tr><td>140</td></tr> <tr><td>28</td></tr> <tr><td>100</td></tr> <tr><td>60</td></tr> <tr><td>290</td></tr> <tr><td>400</td></tr> </table>	70	30	140	28	100	60	290	400
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Standard ø 3 mm Sensing head: aluminum		FSE 200C2004	<table border="1"> <tr><td>70</td></tr> <tr><td>30</td></tr> <tr><td>140</td></tr> <tr><td>28</td></tr> <tr><td>100</td></tr> <tr><td>60</td></tr> <tr><td>290</td></tr> <tr><td>400</td></tr> </table>	70	30	140	28	100	60	290	400
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290											
400											
Long distance M4 Scanning distance twice that of standard with integrated lens Sensing head: stainless steel		FWE 200C1Y00 With the same dimensions also available as standard version: FSE 200C1Y00 Sb reduced by factor 2 typ.	<table border="1"> <tr><td>510</td></tr> <tr><td>220</td></tr> <tr><td>950</td></tr> <tr><td>190</td></tr> <tr><td>680</td></tr> <tr><td>410</td></tr> <tr><td>2100</td></tr> <tr><td>2800</td></tr> </table>	510	220	950	190	680	410	2100	2800
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220											
950											
190											
680											
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2100											
2800											
Long distance ø 3 mm Scanning distance twice that of standard with integrated lens Sensing head: stainless steel		FWE 200C2Y00 With the same dimensions also available as standard version: FSE 200C2Y00 Sb reduced by factor 2 typ.	<table border="1"> <tr><td>510</td></tr> <tr><td>220</td></tr> <tr><td>950</td></tr> <tr><td>190</td></tr> <tr><td>680</td></tr> <tr><td>410</td></tr> <tr><td>2100</td></tr> <tr><td>2800</td></tr> </table>	510	220	950	190	680	410	2100	2800
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220											
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Ultra flexible M4 Flexible type with bending radius of 2 mm Sensing head: stainless steel		FSE 200E1Y00	<table border="1"> <tr><td>200</td></tr> <tr><td>90</td></tr> <tr><td>380</td></tr> <tr><td>75</td></tr> <tr><td>270</td></tr> <tr><td>160</td></tr> <tr><td>800</td></tr> <tr><td>1100</td></tr> </table>	200	90	380	75	270	160	800	1100
200											
90											
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270											
160											
800											
1100											
Ultra flexible M3 Flexible type with bending radius of 1 mm Sensing head: stainless steel		FSE 200F1Y00 With the same dimensions also available as standard version: FSE 200D1Y50 Sb increased by factor 2 typ.	<table border="1"> <tr><td>23</td></tr> <tr><td>10</td></tr> <tr><td>43</td></tr> <tr><td>8</td></tr> <tr><td>30</td></tr> <tr><td>18</td></tr> <tr><td>90</td></tr> <tr><td>125</td></tr> </table>	23	10	43	8	30	18	90	125
23											
10											
43											
8											
30											
18											
90											
125											
Side view M4 Sensing head: brass		FSE 200C4002	<table border="1"> <tr><td>150</td></tr> <tr><td>60</td></tr> <tr><td>280</td></tr> <tr><td>55</td></tr> <tr><td>200</td></tr> <tr><td>120</td></tr> <tr><td>600</td></tr> <tr><td>800</td></tr> </table>	150	60	280	55	200	120	600	800
150											
60											
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Plastic fiber optics

Through beam types

Series 81
Low hysteresis

Series 82
Fast version

Series 83
High sensitivity

Series 84
Analog output

Series 12/22/31/60
Teach-in/Master-Slave

Series 69
Fast mode HS

Series 69
Standard mode nL

Series 69
Sensitive mode HP

Model Features	Shape	Part number	Sb = actual range [mm]
Side view ø 4 mm Sensing head: aluminum		FSE 200C4001	150 60 280 55 200 120 600 800
Side view ø 1 mm Small-diameter fiber Small target object detection Sensing head: stainless steel		FSE 200D4Y00	38 16 70 14 50 30 150 200
Side view ø 1 mm Small sensing head Flexible type with bending radius of 1 mm, small target object detection Sensing head: stainless steel		FSE 200F4Y00	11 5 22 4 15 9 45 60
Small sensing head ø 1.5 mm Detection of small target objects 4 mm bending radius Sensing head: stainless steel		FSE 200D2Y00	40 18 80 15 55 33 170 230
Small sensing head ø 0.5 mm Detection of very small objects. Light spot diameter 0,25 mm Sensing head: stainless steel		FSE 200D2Y50	11 5 21 4 15 9 45 60
Parallel beam M4 ± 2° Sharp beam eliminates the influence of reflections from periphery. Sensing head: stainless steel		FPE 200C1Y00	1050 460 2000 390 1400 840 4000 4000
Parallel beam M4 ± 1° Achieves a sharp parallel beam like a laser beam Sensing head: stainless steel		FPE 200D1Y00	600 260 1100 220 800 480 2400 3300
Parallel beam, side view ± 2° Sharp beam eliminates the influence of reflections from periphery. Sensing head: stainless steel		FPE 200C4Y00	750 340 1600 280 1000 600 3000 4000
Thin type Mountable direct on panel body by M2 screws Flexible type with a bending radius of 1 mm. Sensing head: brass, Ni plated		FSE 200F6Y00	30 13 55 11 40 24 120 165 With similar dimensions also available with an inexpensive POM sensing head: FSE 100F6Y01

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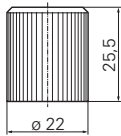
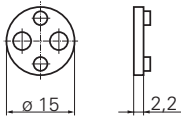
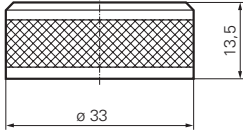
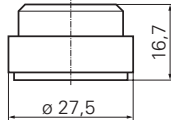
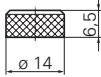
Series 83
High sensitivity
Series 69
Standard mode nL

Series 84
Analog output
Series 69
Sensitive mode HP

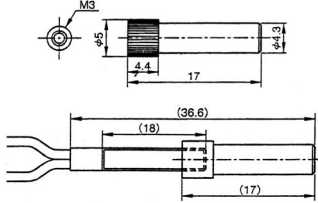
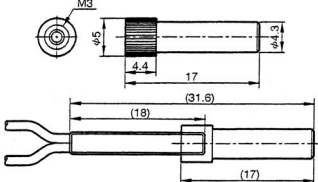
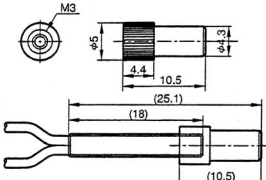
Model Features	Shape	Part number	Sb = actual range [mm]
Array Reliably detects small, thin or vibrating workpieces in a light curtain of 5,25 mm. Sensing head: brass, Ni plated	<p>R = 4 mm</p>	FSE 200C6Y00	150 65 280 55 200 120 600 820
Array, extended line Reliably detects small, thin or vibrating workpieces in a light curtain of 10,5, 15,75 and 21 mm. Sensing head: aluminum	<p>R = 4 mm</p>	1) FSE 200C6Y01 2) FSE 200C6Y15 3) FSE 200C6Y02	150 65 280 55 200 120 600 820
Heat resistant M4 Heat resistant up to +105 °C Sensing head: stainless steel	<p>R = 25 mm</p>	FSA 200C1Y00	160 70 290 60 210 125 630 860
Heat and cold resistant M4 Continuous use from -60 °C up to +150 °C Sensing head: stainless steel	<p>R = 35 mm</p>	FSB 200C1Y00	230 100 430 85 310 185 930 1250
Heat and cold resistant M4 Continuous use from -60 °C up to +350 °C Sensing head: stainless steel	<p>R = 50 mm</p>	FSG 200C1Y00	190 80 350 70 250 150 750 1000
Chemical proof Fluorine coated tube, chemical and oil proof, built-in lens Sensing head: stainless steel / Teflon	<p>R = 80 mm</p>	FSC 200C2Y00	900 400 1700 320 1200 720 3600 4000
Chemical proof Fluorine coated tube, chemical and oil proof built-in lens Sensing head: stainless steel / PFA	<p>R = 20 mm</p>	FLC 200D2Y00	800 360 1600 300 1100 660 3300 4000
Chemical proof, side view Fluorine coated tube, chemical and oil proof Sensing head: stainless steel / Teflon	<p>R = 80 mm</p>	FSC 200C4Y00	200 90 380 75 270 160 800 1100

Accessories for fiber optics

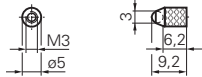

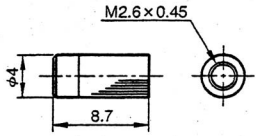
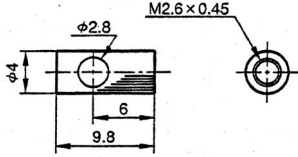
Glass fiber optics

<p>Cap nut Series 18 Part number for fiber optic cable: 101480</p>		<p>Adjusting plate Series 18 Part number for fiber optic cable: 101958</p>	
<p>Cap nut Series 30 Part number for fiber optic cable or glass cover: 102801</p>		<p>Adapter Series 30 Part number for fiber optic cable: 102757</p>	
<p>Cap nut Series 15 Part number for fiber optic cable: 103230</p>			

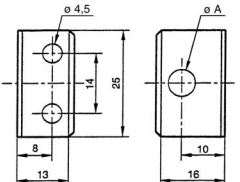

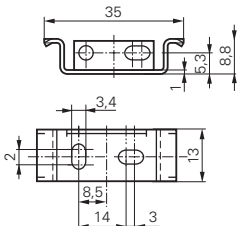
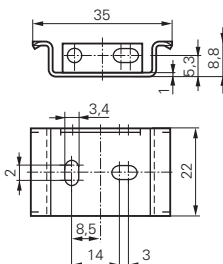

Plastic fiber optics, focusing lens reflective types

<p>Focusing lens M3 Light spot $\varnothing 0,1$ mm at 4,6 mm distance Fits fiber optics: FCE 050C1Y10 Part number: 134544</p>	
<p>Focusing lens M3 Light spot $\varnothing 0,4$ mm at 7 mm distance Fits fiber optics: FCE 200D1Y00, FCE 200E1Y00 Part number: 134543</p>	
<p>Focusing lens M3 Light spot $\varnothing 2$ mm at 19 mm distance Fits fiber optics: FCE 200D1Y00, FCE 200E1Y00 Part number: 134542</p>	

Plastic fiber optics, focusing lens through beam types

<p>Focusing lens M3 (pair) Fiber optics: FSE 200C1004 Part number: 119910</p> 	<p>Focusing lens M4 (pair) Fiber optics: FSE 200C1002 Part number: 119909</p> 
<p>Focusing lens M2,6 (pair) Fits fiber optics: FSE 200C1Y00 / 200C2Y00 FSA 200C1Y00 FSG 200C1Y00 Part number: 134541</p>	
<p>Focusing lens M2,6 (pair) Lateral light exit Fits fiber optics: FSE 200C1Y00 / 200C2Y00 FSA 200C1Y00 FSG 200C1Y00 Part number: 134540</p>	

Plastic fiber optics, mounting accessories

<p>Mounting bracket Sensing head M3 $\varnothing A$ 3,5 mm Part number: 134532 Sensing head M4 $\varnothing A$ 4,5 mm Part number: 134536 Sensing head M6 $\varnothing A$ 6,5 mm Part number: 134538</p>		<p>Reduction tube For 1 mm fibers Part number: 140260 (delivered with every 1 mm diameter plastic fiber optic)</p> 	
<p>Mounting bracket for all sensors (except Series 22, 31) Part number: 145702 (delivered with every plastic fiber optic sensor)</p> 	<p>Mounting bracket for Series 22 Part number: 125534 (delivered with every plastic fiber optic sensor)</p> 	<p>Cutting tool Part number: 114652 (delivered with every plastic fiber optic)</p> 	<p>Fiber optic cable extension 5 m Part number: 145523</p> 