



Features

- Highly flexible
- Small bend radii
- Most fibre-optic cables can easily be cut to length using cutter (supplied)
- Operating temperature - 40 ... + 70 °C, special designs up to 180 °C



Selection table: sensors, fibre-optic cables, scanning ranges

Proximity Systems

LL 3 Fibre-optic cables

Description

Description	Bend radius (mm)	Type	Part no.
Compact sleeve, M 4, long scanning range	25	LL 3-DM 01	5 308 071
Super compact, sleeve 2.5 mm diameter	15	LL 3-DT 03	5 308 072
Super compact, sleeve M 3	10	LL 3-DS 06	5 308 073
Long scanning range, M 6, coaxial fibre-optic cable	25	LL 3-DB 01	5 308 074
10 m length, M 6, coaxial fibre-optic cable	25	LL 3-DB 01-10	5 308 075
For front lenses, M 3	15	LL 3-DT 01	5 308 076
Thin, short sleeve, M 4, coaxial fibre-optic cable	25	LL 3-DM 02	5 308 077
Highly flexible, M 6, long scanning range	4	LL 3-DR 01	5 308 078
Highly flexible, small sleeve, M 3	4	LL 3-DR 02	5 308 079
Highly flexible, 3 mm diameter, thin sleeve	4	LL 3-DR 03	5 308 080
Highly flexible, 1.5 mm diameter, thin sleeve	4	LL 3-DR 04 <sup>4)</sup>	5 308 081
Highly flexible, M 4, compact sleeve	4	LL 3-DR 06	5 308 082
Supple sleeve, M 6, long scanning ranges	25/10 <sup>3)</sup>	LL 3-DB 02	5 308 083
Supple sleeve, M 4	25/10 <sup>3)</sup>	LL 3-DM 03	5 308 084
Thin long tip, M 3	15	LL 3-DT 02	5 308 085
Thin long tip, M 3, coaxial fibre-optic cable	15	LL 3-DT 04 <sup>4)</sup>	5 308 086
diameter 3.0 mm, thin tip, 0.82 mm diameter	4	LL 3-DR 05 <sup>4)</sup>	5 308 087
90° offset, 5.0 mm diameter	25	LL 3-DV 01	5 308 088
90° offset, small sleeve, 3.0 mm diameter	15	LL 3-DV 02	5 308 089
90° offset, M 6	25	LL 3-DV 03	5 308 090
Temperature resistant to 180 °C, M 6, long scanning range	30	LL 3-DH 01 <sup>5)</sup>	5 308 091
Temperature resistant to 100 °C, M 6	25	LL 3-DH 02 <sup>6)</sup>	5 308 092
Teflon sheath, resistant to chemicals, 6.0 mm diameter	40	LL 3-DY 01	5 308 093
Level switch, clear liquid, 6.0 mm diameter	50	LL 3-DF 01	5 308 094
Level switch, cloudy liquid, 6.0 mm diameter	50	LL 3-DF 02	5 308 095

Scanning distance SD<sup>1)</sup> and minimum target diameter MD<sup>7)</sup> in mm in combination with sensor type

WLL 160 Red light		WLL 160 T Red light (NORM/MAX)		WLL 160 T Red light (FAST)		WLL 170 Red light			WLL 170 Red light High-speed			WLL 170 A Analogue			WLL 170 T Red light		WLL 170 T Green light		Adaptor for WLL 12-2 AD-LL-	WLL 12-2 Red light		WLL 12-2 Infra-red light		WLL 24-2 Exi Red light			
SD	MD	SD	MD	SD	MD	SD	MD	SD	MD	SD	MD	SD	MD	5 V	3 V	MD	SD	MD	SD	MD		SD	MD	SD	MD	SD	MD
70	0.015	70	0.015	50	0.015	90	0.015	25	0.015	30	45	0.015	90	0.015	25	0.015	25	0.015	4	0.015	●	●	●	●	●	●	
20	0.015	20	0.015	14	0.015	22	0.015	7	0.015	11	15	0.015	25	0.015	4	0.015	25	0.015	4	0.015	●	●	●	●	●	●	
20	0.015	20	0.015	14	0.015	22	0.015	7	0.015	11	15	0.015	25	0.015	4	0.015	25	0.015	4	0.015	●	●	●	●	●	●	
70	0.02	70	0.015	50	0.015	90	0.015	25	0.015	28	40	0.015	100	0.015	25	0.015	100	0.015	25	0.015	2M2	30	0.02	12	0.02	30	0.02
40	0.015	40	0.015	30	0.015	40	0.015	8	0.015	15	20	0.015	50	0.015	20	0.015	50	0.015	20	0.015	●	●	●	●	●	●	
25	0.02	25/12 <sup>2)</sup>	0.015	18	0.015	30/12 <sup>2)</sup>	0.015	8/12 <sup>2)</sup>	0.015	15	20	0.015	35/12 <sup>2)</sup>	0.015	7/12 <sup>2)</sup>	0.015	30	0.015	7	0.015	●	●	●	●	●	●	
25	0.02	25	0.015	18	0.015	30	0.015	8	0.015	15	20	0.015	35	0.015	7	0.015	35	0.015	7	0.015	●	●	●	●	●	●	
70	0.02	70	0.015	50	0.015	75	0.015	25	0.015	25	35	0.015	85	0.015	20	0.015	85	0.015	20	0.015	2M2	40	0.02	8	0.02	40	0.02
9	0.02	9	0.015	6	0.015	8	0.015	●	●	●	●	●	14	0.015	●	●	14	0.015	●	●	●	●	●	●	●	●	
20	0.02	20	0.015	14	0.015	22	0.015	4	0.015	7	10	0.015	25	0.015	3	0.015	25	0.015	3	0.015	●	●	●	●	●	●	
9	0.02	9	0.015	6	0.015	8	0.015	●	●	●	●	●	14	0.015	●	●	14	0.015	●	●	2M2	4	0.02	●	●	4	0.02
20	0.02	20	0.015	14	0.015	22	0.015	4	0.015	7	10	0.015	25	0.015	3	0.015	25	0.015	3	0.015	●	●	●	●	●	●	
70	0.02	70	0.015	50	0.015	90	0.015	25	0.015	30	40	0.015	100	0.015	25	0.015	100	0.015	25	0.015	●	●	●	●	●	●	
20	0.02	20	0.015	14	0.015	22	0.015	6	0.015	11	15	0.015	25	0.015	4	0.015	25	0.015	4	0.015	●	●	●	●	●	●	
5	0.02	5	0.015	3	0.015	5	0.015	●	●	●	●	●	6	0.015	●	●	6	0.015	●	●	●	●	●	●	●	●	
9	0.02	9	0.015	5	0.015	10	0.015	●	●	●	●	●	13	0.015	●	●	13	0.015	●	●	2M2	6	0.02	●	●	6	0.02
5	0.02	5	0.015	3	0.015	5	0.015	●	●	●	●	●	8	0.015	●	●	8	0.015	●	●	2M2	4	0.02	●	●	4	0.02
40	0.03	40	0.025	30	0.025	40	0.025	10	0.025	17	24	0.025	50	0.025	10	0.025	50	0.025	10	0.025	●	●	●	●	●	●	
9	0.02	8	0.015	5	0.015	9	0.015	●	●	●	●	●	12	0.015	●	●	12	0.015	●	●	●	●	●	●	●	●	
40	0.03	40	0.025	30	0.025	40	0.025	10	0.025	17	24	0.025	50	0.025	10	0.025	50	0.025	10	0.025	2M2	20	0.03	●	●	20	0.03
100	0.02	100	0.015	70	0.015	110	0.015	40	0.015	45	65	0.015	135	0.015	25	0.015	135	0.015	25	0.015	2M2	50	0.02	15	0.02	50	0.02
55	0.02	55	0.015	50	0.015	60	0.015	18	0.015	22	30	0.015	75	0.015	5	0.015	75	0.015	5	0.015	●	●	●	●	●	●	
●	●	45	0.02	●	●	50	0.02	●	●	●	●	●	60	0.02	●	●	60	0.02	●	●	●	●	●	●	●	●	
●	●	yes	●	●	●	yes	●	●	●	●	●	●	yes	●	●	●	yes	●	●	●	●	●	●	●	●	●	
●	●	yes	●	●	●	yes	●	●	●	●	●	●	yes	●	●	●	yes	●	●	●	●	●	●	●	●	●	

1) For white scanned object, 90 % remission, minimum object diameter = size of light (aperture LL: approx. 65°) fibre-optic cable not shortened  
 2) With scanning front lens for LL 3, see front lenses for LL 3  
 3) Bend radius of the supple end sleeve  
 4) Cannot be cut  
 5) Ambient operating temperature - 40 ... + 180 °C  
 6) Ambient operating temperature - 40 ... + 100 °C  
 7) Minimum object diameter: scanning range reduction!

● not available

Adaptor for WLL 12-2		
Type	Part no.	LL-φ
AD-LL 2M2	2 015 210	2.2 mm