8m

18 - 30 V
DC
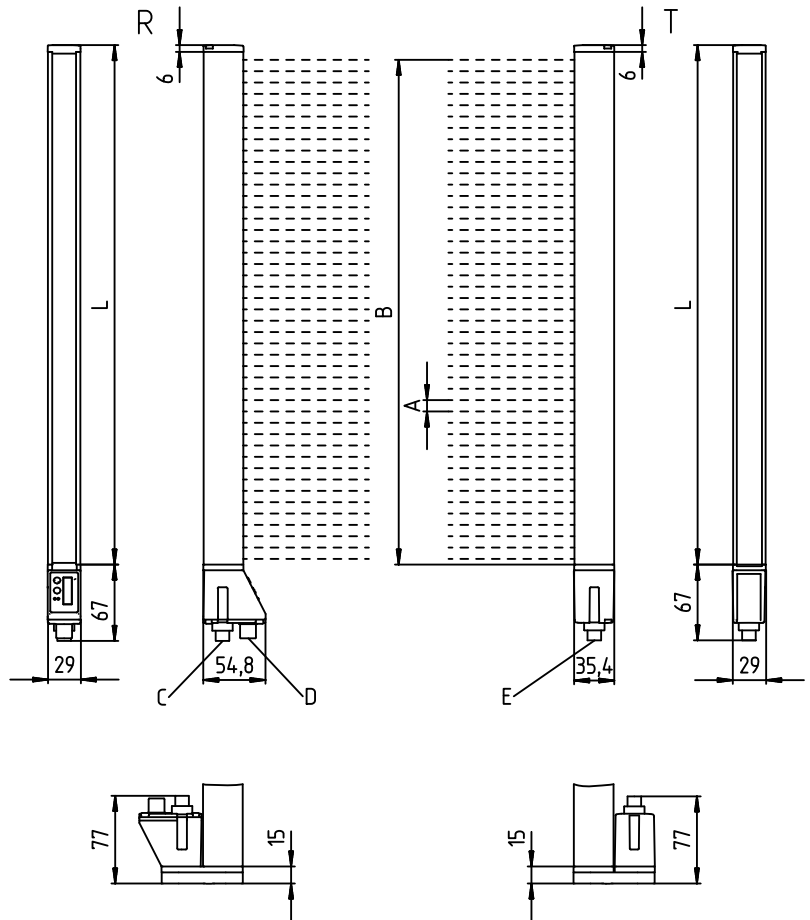
- Measuring light curtain with shortest cycle time (10μs per beam)
- Beam spacings 5 / 10 / 20 / 40 mm
- Detection of transparent media
- Integrated system controller
- Minimal dead zone for gapless cascading
- Display for fast alignment, configuration and diagnosis
- Configurable switching outputs
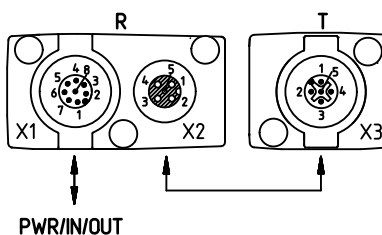- IO-Link, analog, PROFIBUS-DP or CANopen interface

CE

IP 65

III

IEC 60947...

IEC 60947...

Accessories:

(available separately)

- Mounting brackets/sliding blocks
- Complete mounting bracket sets, incl. 360° rotatable models or variants with vibration dampers
- Ready-made connection cables
- PC configuration software

Dimensioned drawing

A	Beam spacing (see tables)
B	Measurement field length
L	Profile length

R Receiver
T Transmitter

<u>IO-Link / analog devices</u>
C Power In/Out

D Connection to the transmitter
E Connection to the receiver
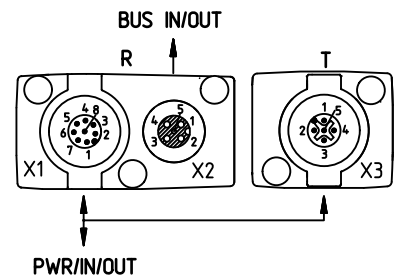
<u>PROFIBUS / CANopen devices</u>
Power In/Out + connection to transmitter (Y-cable)
Fieldbus connection (Y-cable)
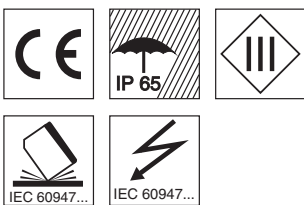Connection to the receiver

Electrical connection

IO-Link / analog devices

PROFIBUS / CANopen devices

BUS IN/OUT

PWR/IN/OUT

PWR/IN/OUT

Technical Data

Optical data

Typ. operating range limit [1]	0.2 … 12m (with beam spacing ≥ 10mm)
	0.1 … 6m (with 5mm beam spacing)
	0.2 … 5m (transparent media, with 10mm beam spacing)
Operating range [2]	0.3 … 8m (with beam spacing ≥ 10mm)
	0.1 … 4m (with 5mm beam spacing)
	0.3 … 3.5m (transparent media, with 10mm beam spacing)
Meas. field length [3]	150mm … 2960mm in increments of 80/160mm
Beam spacing [3]	5mm, 10mm, 20mm, 40mm
Resolution	see technical documentation
Light source	LED (modulated light)
Wavelength	880nm (infrared light)

Timing

Response time per beam [4]	10µs
Delay before start-up	≤ 450ms

Electrical data

Operating voltage U_B	18 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	see technical documentation

Interfaces

Inputs/outputs	2/4 pins can be configured as input or output
Switching output current	max. 100mA
Signal voltage active/not active	≥ 8V/≤ 2V or not connected
Activation delay	≤ 1ms
Input resistance	approx. 6kΩ
Digital interfaces	IO-Link, PROFIBUS-DP, CANopen
Analog interfaces	0 … 10V and (0)4 … 20mA

Indicators

Receiver:

Green LED continuous light	ready
Green LED flashing	no communication or teaching error
Yellow LED in continuous light	light path free, with performance reserve
Yellow LED, flashing	light path free, without performance reserve
Yellow LED off	Light path interrupted, object detected

Transmitter:

Green LED continuous light	ready
Green LED off	no communication with the receiver
Display	basic settings and status information

Mechanical data

Housing	continuous-cast aluminum
Optics cover	plastic
Connection type	M12 connectors
Fastening	lateral sliding block or face-mounted corner bracket

Environmental data/standards

Ambient temperature (operation [5]/storage)	-30°C … +60°C/-40°C … +70°C
Protective circuit [6]	1, 2, 3
VDE safety class	III
Protection class	IP 65
Light source	Exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2

1) Typ. operating range limit: min./max. attainable range without performance reserve
2) Operating range: recommended range with performance reserve
3) Measurement field lengths and beam spacings specified in fixed rasters, see ordering table
4) Cycle time = beam number x 0.01ms + 0.2ms. The minimum cycle time is 1ms.
5) Dry cold, non-condensing; detection of transparent media down to -20°C.
6) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, must be provided with external protective circuit for inductive loads.

Tables

Profile length L [mm]

Measurement field length B [mm] at beam spacing A [mm]				Profile length L [mm]
5	10	20	40	
160	160	150	–	168
240	–	–	–	248
320	320	310	290	328
400	–	–	–	408
480	480	470	–	488
560	–	–	–	568
640	640	630	610	648
720	–	–	–	728
800	800	790	–	808
880	–	–	–	888
960	960	950	930	968
1040	–	–	–	1048
1120	1120	1110	–	1128
1200	–	–	–	1208
1280	1280	1270	1250	1288
1360	–	–	–	1368
1440	1440	1430	–	1448
1520	–	–	–	1528
1600	1600	1590	1570	1608
1680	–	–	–	1688
1760	1760	1750	–	1768
1840	–	–	–	1848
1920	1920	1910	1890	1928
2000	–	–	–	2008
2080	2080	2070	–	2088
2160	–	–	–	2168
2240	2240	2230	2210	2248
2320	–	–	–	2328
2400	2400	2390	–	2408
2480	–	–	–	2488
2560	2560	2550	2530	2568
2640	–	–	–	2648
2720	2720	2710	–	2728
2800	–	–	–	2808
2880	2880	2870	2850	2888
2960	–	–	–	2968

Remarks

- **Approved purpose:** This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

- The functional earth must be connected to the sliding block connections.

CML 730*i*   Measuring light curtains

Type code

```
C M L 7 3 0 i - T 0 5 - 1 9 2 0 . A       - M 1 2
C M L 7 3 0 i - R 0 5 - 1 9 2 0 . A / C N - M 1 2
```

Operating principle

CML	Measuring light curtain

Series

730*i*	730*i* series, 8 m range, cycle time 10 µs per beam, display, transparent media

Function

T	Transmitter
R	Receiver

Beam spacing

05	5 mm
10	10 mm
20	20 mm
40	40 mm

Measurement field length

xxxx	Measurement field length [mm], dependent on beam spacing, **For values see "Tables" on page 2**

Equipment

A	Plug outlet axial
R	Plug outlet on the back

Interface

L	IO-Link
CN	CANopen
PB	PROFIBUS-DP
CV	Analogue current and voltage output

Electrical connection

M12	M12 connector

Order guide

	Designation	Part no.
Transmitter (see type code)	CML730*i*-T…	
Receiver (see type code)	CML730*i*-R…	
Accessories		

Fastenings

4 sliding blocks	BT-4NC	425725
360° mounting bracket set (consists of 2 x BT 360°)	BT-2R1	429046
L-angle mounting bracket set (consists of 2 x BT-L)	BT-2L	429056
Z-angle mounting bracket set (consists of 2 x BT-Z)	BT-2Z	429057
Clamp bracket set for mounting in device columns (consists of 2 x BT-P40)	BT-2P40	424417
2 mounting brackets, 70mm long, swiveling with vibration damper, incl. 4 screws and 4 sliding blocks	BT-2SSD	429058
2 mounting brackets, 270mm long, swiveling with vibration damper, incl. 4 screws and 4 sliding blocks	BT-2SSD-270	429049

Connection cables for IO-Link and analog devices

Connection cables with M12 connector, 8-pin socket - open cable end

Connection cable 2m, PUR sheathing	K-D M12A-8P-2m-PUR	50104591
Connection cable 5m, PUR sheathing	K-D M12A-8P-5m-PUR	50104590
Connection cable 10m, PUR sheathing	K-D M12A-5P-10m-PUR	50106882

Connection cables between transmitter and receiver

Connection cable 1m, PUR sheathing	KB DN/CAN-1000 SBA	50114691
Connection cable 2m, PUR sheathing	KB DN/CAN-2000 SBA	50114694
Connection cable 5m, PUR sheathing	KB DN/CAN-5000 SBA	50114698

Connection cables for fieldbus devices

Connection cables with M12 connector, 5-pin socket - open cable end

Connection cable 2m, PVC sheathing	K-D M12A-5P-2m-PVC	50104555
Connection cable 5m, PVC sheathing	K-D M12A-5P-5m-PVC	50104557
Connection cable 10m, PVC sheathing	K-D M12A-5P-10m-PVC	50104559
Connection cable 2m, PUR sheathing	K-D M12A-5P-2m-PUR	50104567
Connection cable 5m, PUR sheathing	K-D M12A-5P-5m-PUR	50104569

Y-connection and connection cables between transmitter and receiver

Y-connection cable 0.15m/2m, PUR sheathing	K-Y1 M12A-2m-M12A-S-PUR	50118182
Y-connection cable 0.15m/5m, PUR sheathing	K-Y1 M12A-5m-M12A-S-PUR	50118183

Y-PROFIBUS fieldbus connection cables

Y-connection cable short, 0.25m/0.35m, PUR sheathing	K-YPB M12A-M12A-S-PUR	50123263
Y-connection cable 0.25m/5m, PUR sheathing	K-YPB M12A-5m-M12A-S-PUR	50123265

Y-CANopen fieldbus connection cables

Y-connection cable short, 0.25m/0.35m, PUR sheathing	K-YCN M12A-M12A-S-PUR	50118185
Y-connection cable 0.25m/5m, PUR sheathing	K-YCN M12A-5m-M12A-S-PUR	50118184

IO-Link accessories

Programming set for IO-Link, analog and fieldbus devices

IO-Link master V1.01 + cable + power supply unit	SET MD12-US2-IOL1 + Zub	50112085

For IO-Link and analog devices

Connection cable CML 730*i* to IO-Link master, 2m, 8-pin socket / 5-pin connector	K-DS M12A-8P-4P-2m-L-PUR	50120999
Connection cable CML 730*i* to IO-Link master, 5m, 8-pin socket / 5-pin connector	K-DS M12A-8P-4P-5m-L-PUR	50121000

For fieldbus devices

Connection cable CML 730*i* to IO-Link master, 2m, 4-pin socket / 4-pin connector	K-DS M12A-M12A-4P-2m-PVC	50110126