

Technical data sheet

Light curtain receiver

Part no.: 50120139

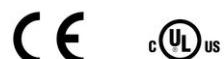
CML720i-R05-1440.R/CV-M12



For illustration purposes only

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Accessories



Technical data

Basic data

Series	720
Operating principle	Throughbeam principle
Device type	Receiver
Contains	Accessories for the use of the BT-2R1
Application	Object measurement

Special version

Special version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning

Optical data

Measurement field length	1,440 mm
Number of beams	288 Piece(s)
Beam spacing	5 mm

Measurement data

Minimum object diameter	10 mm
-------------------------	-------

Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected
	Transient protection

Performance data

Supply voltage U_B	18 ... 30 V, DC
Residual ripple	0 ... 15 %, From U_B
Open-circuit current	0 ... 350 mA, The specified values refer to the entire package consisting of transmitter and receiver.

Outputs

Number of analog outputs	2 Piece(s)
--------------------------	------------

Analog outputs

Type	Analog output
Current	0 ... 24 mA
Voltage	0 ... 11 V

Analog output 1

Type	Voltage
------	---------

Analog output 2

Type	Current
------	---------

Inputs/outputs selectable

Output current, max.	100 mA
Input resistance	6,000 Ω
Number of inputs/outputs selectable	2 Piece(s)
Type	Inputs/outputs selectable
Voltage type, outputs	DC
Switching voltage, outputs	Typ. U_B / 0 V
Voltage type, inputs	DC
Switching voltage, inputs	high: ≥ 6 V low: ≤ 4 V

Input/output 1

Activation/disable delay	1 ms
--------------------------	------

Time behavior

Readiness delay	450 ms
Cycle time	9.04 ms
Response time per beam	30 μ s

Service interface

Type	IO-Link
Function	Configuration via software Service

Connection

Number of connections	2 Piece(s)
Plug outlet	Rear side

Connection 1

Function	Configuration interface Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

Connection 2

Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5 -pin
Encoding	A-coded

Mechanical data

Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 1,463 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,650 g
Housing color	Silver
Type of fastening	Groove mounting Via optional mounting device

Operation and display

Type of display	LED OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software Teach-in

Environmental data

Ambient temperature, operation	-30 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

Technical data

Certifications

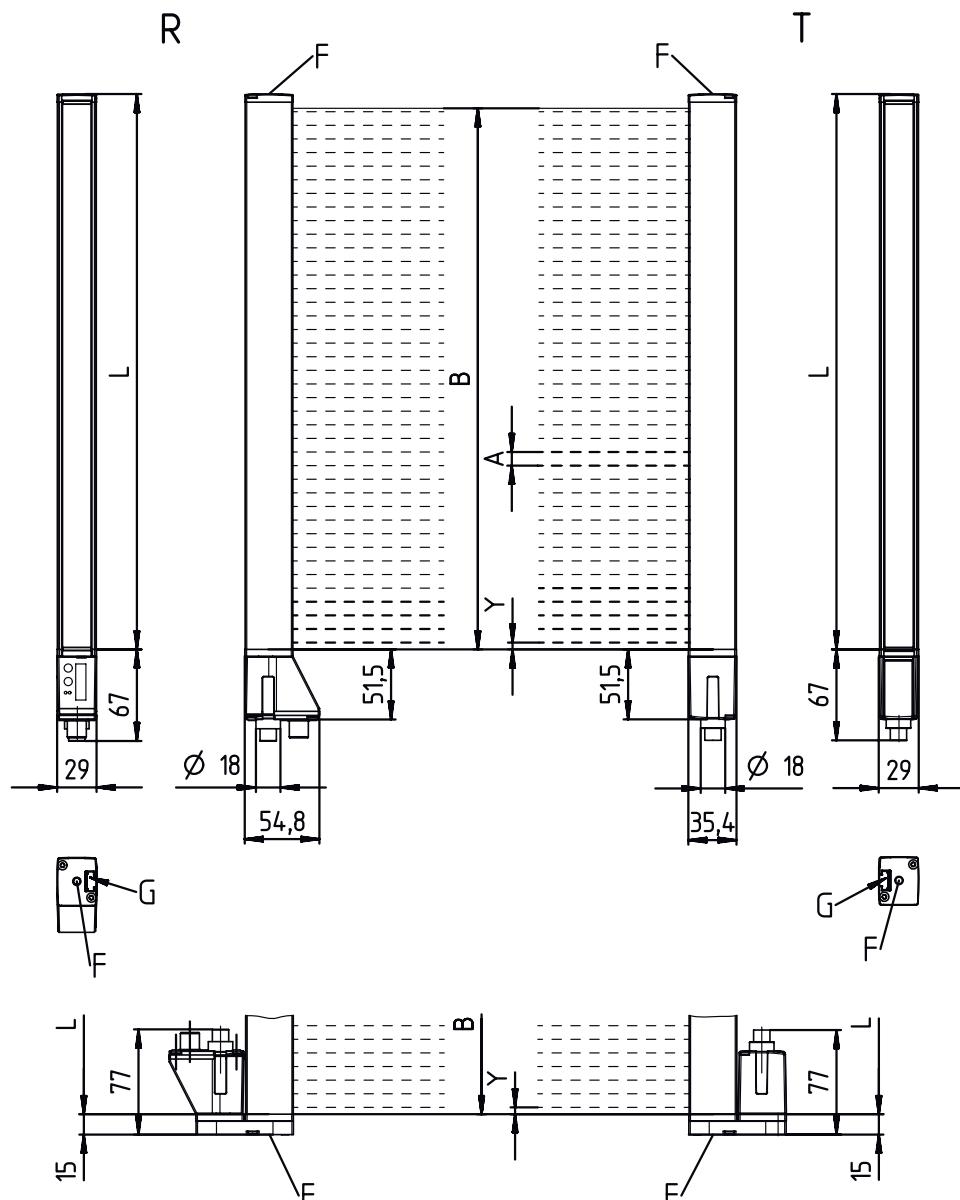
Degree of protection	IP 65
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	90314990
ECLASS 5.1.4	27270910
ECLASS 8.0	27270910
ECLASS 9.0	27270910
ECLASS 10.0	27270910
ECLASS 11.0	27270910
ECLASS 12.0	27270910
ECLASS 13.0	27270910
ECLASS 14.0	27270910
ECLASS 15.0	27270910
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549
ETIM 10.0	EC002549

Dimensioned drawings

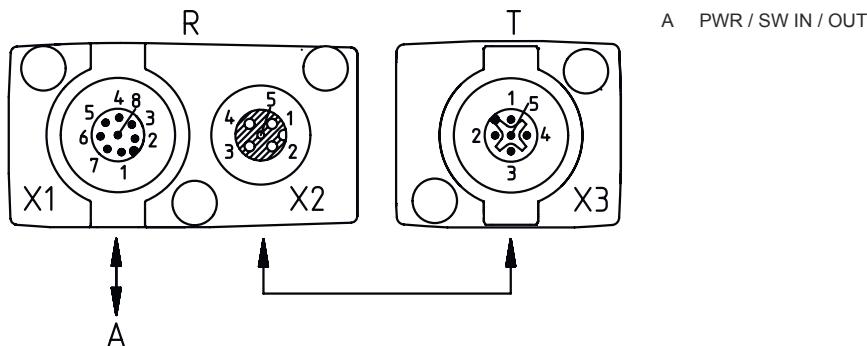
All dimensions in millimeters



A Beam spacing 5 mm
 B Measurement field length 1440 mm
 F M6 thread
 G Fastening groove

L Profile length 1448 mm
 T Transmitter
 R Receiver
 Y 2.5 mm

Dimensioned drawings

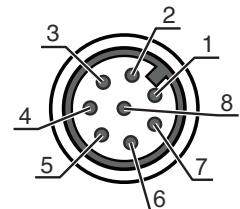


Electrical connection

Connection 1

Function	Configuration interface Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	8-pin
Encoding	A-coded

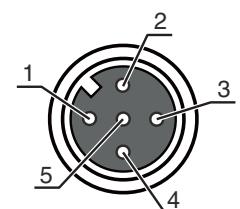
Pin	Pin assignment
1	V+
2	I/O 1
3	GND
4	IO-Link
5	I/O 2
6	OUT V
7	OUT mA
8	AGND



Connection 2

Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	5-pin
Encoding	A-coded

Pin	Pin assignment
1	FE/SHIELD
2	V+
3	GND
4	RS 485 Tx+
5	RS 485 Tx-



Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
2	Yellow, continuous light	Light path free, with function reserve
	Yellow, flashing	No function reserve
	Off	Object detected

Suitable transmitters

Part no.	Designation	Operating range Operating range limit	Description
	50119466 CML720i-T05-1440.R-M12	0.1 ... 3.5 m 0.1 ... 4.5 m	Operating range: 0.1 ... 3.5 m Connection: Connector, M12, Rear side, 5 -pin

Part number code

Part designation: **CML7XXi-YZZ-AAAA.BCCCCDD-EEEEFFF**

CML	Operating principle Measuring light curtain
7XXi	Series 720i: 720i series 730i: 730i series
Y	Device type T: transmitter R: receiver
ZZ	Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
AAAA	Measurement field length [mm], dependent on beam spacing
B	Equipment A: Axial connector outlet R: Rear connector outlet
CCC	Interface L: IO-Link /CN: CANopen /PB: PROFIBUS /PN: PROFINET /CV: Analog current and voltage output /D3: RS 485 Modbus
DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection

Note

 A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes

	Observe intended use!
	<ul style="list-style-type: none"> ⚠ This product is not a safety sensor and is not intended as personnel protection. ⚠ The product may only be put into operation by competent persons. ⚠ Only use the product in accordance with its intended use.

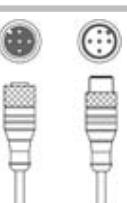
	For UL applications:
	<ul style="list-style-type: none"> ⚠ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code). ⚠ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV7 or PVVA/PVVA7)

Accessories

Connection technology - Connection cables

Part no.	Designation	Article	Description
	50135128	KD S-M12-8A-P1-050	Connection cable Application: Oil and lubricant resistant Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Connection technology - Interconnection cables

Part no.	Designation	Article	Description
	50129781	KDS DN-M12-5A-M12-5A-P3-050	Interconnection cable Application: Oil and lubricant resistant Suitable for interface: DeviceNet, CANopen Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
	50142900	BT 700M.5-2SET	Mounting device set Contains: 2x mounting brackets, 1 teach template, 4 M6 x 10 screws Design of mounting device: Bracket mounting Fastening, at system: Through-hole mounting, T slotted hole Mounting bracket, at device: Screw type, Sliding block Type of mounting device: Rigid Material: Steel

Accessories

Mounting technology - Swivel mounts

Part no.	Designation	Article	Description
	429029	BT-2RG	Mounting bracket set Contains: 2x BT-R swivel mount, 2 cylinders for mounting on the light curtain Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Turning, 360° Material: Metal, Plastic

Configuration devices

Part no.	Designation	Article	Description
	50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set Supply voltage: DC Interface: USB Connections: 2 Piece(s) Degree of protection: IP 20

Services

Part no.	Designation	Article	Description
	S981001	CS10-S-110	Start-up support Details: Performed at location of customer's choosing, duration: max. 10 hours. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.
	S981005	CS10-T-110	Product training Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: Price not including travel costs and, if applicable, accommodation expenses.

Note

	↳ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.
--	---