Leuze

Technical data sheet Light curtain receiver Part no.: 50119780 CML720i-R20-1750.A/L-M12



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 eng • 2024-06-21

Technical data

eries	720
perating principle	Throughbeam principle
evice type	Receiver
ontains	2x BT-NC sliding block
pplication	Object measurement
pecial version	
pecial version	Crossed-beam scanning
	Diagonal-beam scanning
	Parallel-beam scanning
ptical data	
perating range	0.3 7 m
perating range	Guaranteed operating range
perating range limit	0.2 9 m
perating range limit	Typical operating range
leasurement field length	1,750 mm
umber of beams	88 Piece(s)
eam spacing	20 mm
leasurement data	
linimum object diameter	30 mm
-	
lectrical data	
rotective 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 trans- mitter and receiver.
Inputs/outputs selectable	100 mA
Output current, max.	100 mA
Output current, max. Input resistance	6,000 Ω
Output current, max. Input resistance Number of inputs/outputs selectable	6,000 Ω 4 Piece(s)
Output current, max. Input resistance Number of inputs/outputs selectable Type	6,000 Ω 4 Piece(s) Inputs/outputs selectable
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_{\rm B}$ / 0 V DC
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V
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Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: ≥6V Iow: ≤ 4 V
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: $\geq 6V$ low: $\leq 4 V$
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay ime behavior	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay ime behavior eadiness delay	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay ime behavior eadiness delay ycle time	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms 3.04 ms
Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay ime behavior eadiness delay ycle time esponse time per beam	6,000 Ω 4 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: ≥6V Iow: ≤ 4 V 0 1 ms 400 ms 3.04 ms

IO-Link	20142
COM mode Min. cycle time	COM2 COM2 = 2.3 ms
Specification	V1.0.1
Specification	V1.1
	•
Service interface	
Гуре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s)
Plug outlet	Axial
Connection 1	
Function	Configuration interface
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded
Connection 2	
Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Туре	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 1,835 mm
Housing material	Metal
Metal housing	Aluminum
Lens cover material	Plastic
Net weight	1,900 g
Housing color	Silver
Type of fastening	Groove mounting Via optional mounting device
Operation and display	
Type of display	
	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
Operational entrols	Teach-in
Operational controls	Membrane keyboard
Environmental data	
Environmental data Ambient temperature, operation	-30 60 °C

Technical data

Certifications

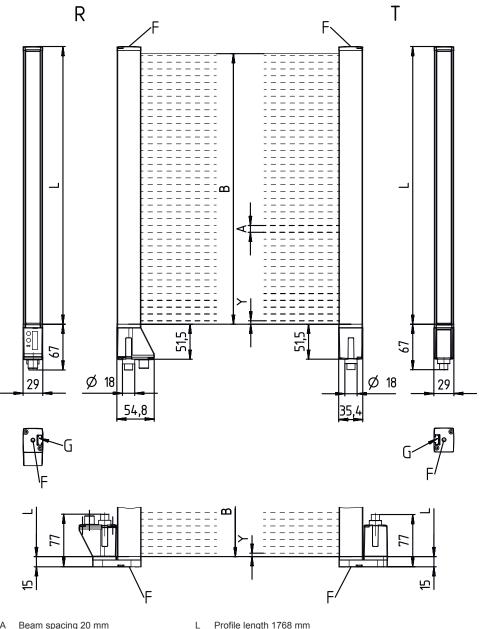
Degree of protection	IP 65
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

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
ETIM 5.0	EC002549
ETIM 6.0	EC002549
ETIM 7.0	EC002549
ETIM 8.0	EC002549
ETIM 9.0	EC002549

Dimensioned drawings

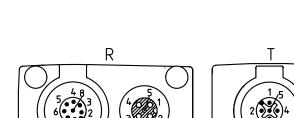
All dimensions in millimeters



- Beam spacing 20 mm А
- В Measurement field length 1750 mm
- F M6 thread G
 - Fastening groove
- Profile length 1768 mm Т
 - Transmitter
- R Receiver
- 5 mm Υ

Dimensioned drawings





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A PWR / SW IN / OUT

Electrical connection

Connection 1

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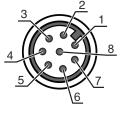
Function	Configuration interface
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Туре	Male
Material	Metal
No. of pins	8 -pin
Encoding	A-coded

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Pin Pin assignment

3 GND 4 IO-Link 5 IO2 6 IO3 7 IO4		
3 GND 4 IO-Link 5 IO2 6 IO3 7 IO4	1	V+
4 IO-Link 5 IO2 6 IO3 7 IO4	2	101
5 IO2 6 IO3 7 IO4	3	GND
6 103 7 104	4	IO-Link
7 104	5	IO2
	6	IO3
8 GND	7	IO4
	8	GND

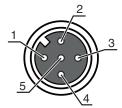


Connection 2

Function	Connection to transmitter
Type of connection	Connector
Thread size	M12
Туре	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 displav

LED 1

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curtain rec	eiver • Part no.: 50119780 • CML720i-R20-1750.A/L-M12	
peration	on and display	Leuze
)	Display	Meaning
	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
	Yellow, continuous light	Light path free, with function reserve
	Yellow, flashing	No function reserve
	Off	Object detected

Suitable transmitters

Ρ	Part no.	Designation	Article	Description
5		CML720i-T20- 1750.A-M12		Operating range: 0.3 7 m Connection: Connector, M12, Axial, 5 -pin

Part number code

Part designation: CML7XXi-YZZ-AAAA.BCCCDDD-EEEFFF

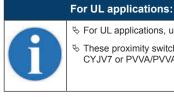
CML	Operating principle Measuring light curtain
7XXi	Series 720i: 720i series 730i: 730i series
Y	Device type T: transmitter R: receiver
ZZ	Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm
AAAA	Measurement field length [mm], dependent on beam spacing
В	Equipment A: Axial connector outlet R: Rear connector 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 wi	th all available device types can be found on the Leuze website at www.leuze.com.

Notes

Observe intended use!

✤ This product is not a safety sensor and is not intended as personnel protection.

 $\ensuremath{^{\ensuremath{\Downarrow}}}$ Only use the product in accordance with its intended use.



♦ For UL applications, use is only	permitted in Class 2 circuits in accordan	nce with the NEC (National Electric Code	e).

These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/ CYJV7 or PVVA/PVVA7)

Accessories

Connection technology - Connection unit

	Part no.	Designation	Article	Description
C. LEATING	50144900	MD 798i-11-82/L5- 2222	IO-Link master	Type: IO-Link master Current consumption, max.: 11,000 mA Switching outputs for each sensor connection: 1 Piece(s) Switching output: Transistor, PNP Interface: IO-Link, Automatic protocol detection, EtherNet IP, Modbus TCP, PROFINET Connections: 12 Piece(s) Sensor connections: 8 Piece(s) Connections for voltage supply: 2 Piece(s) Interface connections: 2 Piece(s) Degree of protection: IP 67, IP 65, IP 69K

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50135128	KD S-M12-8A-P1-050	Connection cable	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	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

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Mounting technology - Mounting brackets

 Part no.	Designation	Article	Description
 50142900	BT 700M.5-2SET	Mounting device set	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

Configuration devices

Accessories

 Part no.	Designation	Article	Description
50121098	SET MD12-US2-IL1.1 + Zub.	Diagnostics set	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

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