

## **Technical data sheet Light curtain receiver** Part no.: 50123002 CML720i-R20-1430.R/PB-M12



 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
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 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2025-04-04

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#### **Technical data**

# Leuze

Series         720           Operating principle         Throughbeam principle           Device type         Receiver           Contains         Accessories for the use of the BT-2R1           Application         Object measurement           Special version         Crossed-beam scanning           Special version         Crossed-beam scanning           Operating range         0.3 7 m           Operating range         Outperating range           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Mumber of beams         7.2 Piece(s)           Beam spacing         20 mm           Measurement field length         1.430 mm           Number of beams         7.2 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter           Minimum object diameter         30 mm           Electrical data         Portorcincuit protected           Transient protection         Short circuit protected           Residual ripple         0 15 %, From Ug           Open-circuit current         100 mA           Input solate, outputs         Electrical           Voltage type, outputs         DC	Sariaa	700
Device type         Receiver           Contains         Accessories for the use of the BT-2R1           Application         Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning           Special version         Crossed-beam scanning Diagonal-beam scanning           Operating range         0.3 7 m           Operating range         0.3 7 m           Operating range limit         0.2 9 m           Operating range limit         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement field length         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         30 mm           Electrical data         Polarity reversal protection           Short circuit protected Transient protection         Short circuit protected Transient protection           Supply voltage Ug         18 30 V, DC           Residual ripple         0 15 %, From Ug           Open-circuit current         0 270 mA, The specified values refer to the entire package consisting of trans mitter and receiver.           Input solutputs selectable         Proce(s)           Output current, max.         100 mA           Input solutput selectabl		
Contains         Accessories for the use of the BT-2R1           Application         Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning           Special version         Crossed-beam scanning           Operating range         0.3 7 m           Operating range         Guaranteed operating range           Operating range limit         0.2 9 m           Operating range limit         0.2 9 m           Operating range limit         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement field length         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter           Short circuit protected         Transient protection           Short circuit protected         Transient protection           Short circuit current         0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.           Inputs/outputs selectable         Output current, max.         100 mA           Input resistance         6,000 Ω         Number of inputs/outputs selectable 2 Piece(s)           Type         Input/output 1         Activation/disabl		
Application         Object measurement           Special version         Crossed-beam scanning           Diagonal-beam scanning         Parallel-beam scanning           Operating range         0.3 7 m           Operating range         Guaranteed operating range           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1,430 mm           Number of beams         2.2 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object dlameter           Minimum object dlameter         30 mm           Electrical data         Polarity reversal protection           Performance data         Supply voltage Ug           Supply voltage Ug         18 30 V, DC           Residual ripple         0 15 %, From Ug           Open-circuit current         0 270 mA, The specified values refer           Mumber of inputs/outputs selectable         Output current, max.           Inputs/outputs selectable         Output current, max.           Number of inputs/outputs selectable         Output current, max.           Voltage type, outputs         DC           Switching voltage, inputs         DC           Switching		
Special version Special version Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning Operating range 0.37 m Operating range 0.29 m Operating range limit 0.29 m Operating range limit 0.29 m Operating range limit 1.430 mm Number of beams 72 Piece(s) Beam spacing 20 mm Measurement field length 1.430 mm Measurement data Minimum object diameter 30 mm Electrical data Protective circuit Performance data Supply voltage U <sub>B</sub> 1830 V, DC Residual ripple 015 %, From U <sub>B</sub> Open-circuit current 0270 mA, The specified values refer to the entire package consisting of trans mitter and receiver. Input/outputs selectable Open-circuit 00 mA Input resistance 6,000 Ω Number of inputs/outputs electable Voltage type, outputs CC Switching voltage, inputs DC Switching voltage,		
Special version Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Optical data Operating range 0.37 m Operating range Oper	Application	Object measurement
Diagonal-beam scanning Parallel-beam scanning Parallel-beam scanning Optical data Operating range Operating r	Special version	
Parallel-beam scanning           Optical data           Operating range         0.3 7 m           Operating range limit         0.2 9 m           Operating range limit         0.2 9 m           Operating range limit         0.2 9 m           Operating range limit         1.430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement field length         1.430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         30 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protected           Transient protection         Short circuit protected           Residual ripple         0 15 %, From U <sub>B</sub> Open-circuit current         0 270 mA, The specified values refer           ot the entire package consisting of transe         mitter and receiver.           Input resistance         6,000 Ω           Number of inputs/outputs selectable         2 Piece(s)           Type         Input/output           Voltage type, outputs         DC           Switching voltage, outputs         DC	Special version	Crossed-beam scanning
Optical data         0.3 7 m           Operating range         0.3 7 m           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1.430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter           Minimum object diameter         30 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protection           Supply voltage U <sub>B</sub> 18 30 V, DC           Residual ripple         0		Diagonal-beam scanning
Operating range         0.3 7 m           Operating range         Guaranteed operating range           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter           Minimum object diameter         30 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protection           Shopply voltage Ug         18 30 V, DC           Residual ripple         0 15 %, From Ug           Open-circuit current         0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.           Inputs/outputs selectable         Output current, max.           Output current, max.         100 mA           Input resistance         6,000 Ω           Number of inputs/outputs selectable         2Piece(s)           Type         Input/output 1           Activation/disable delay         1 ms           Time behavior         2.56 ms           Cycle time         2.56 ms           Response time per beam		Parallel-beam scanning
Operating range         Guaranteed operating range           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1,430 nm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter           Minimum object diameter         30 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protection           Performance data         Supply voltage Ug           Supply voltage Ug         18 30 V, DC           Residual ripple         0 15 %, From Ug           Open-circuit current         0 270 mA, The specified values referto the entire package consisting of transmitter and receiver.           Inputs/outputs selectable         Output current, max.           Output current, max.         100 mA           Input resistance         6,000 Ω           Number of inputs/outputs selectable         2 Piece(s)           Type         Input/output 1           Activation/disable delay         1 ms           Time behavior         2.56 ms           Cycle time         2.56 ms           Response time per beam <td>Optical data</td> <td></td>	Optical data	
Operating range         Guaranteed operating range           Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1,430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter         30 mm           Electrical data         Polarity reversal protection           Protective circuit         Polarity reversal protection           Short circuit protected         Transient protected           Transient protection         Short circuit protected           Supply voltage UB         18 30 V, DC           Residual ripple         0 15 %, From UB           Open-circuit current         0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.           Inputs/outputs selectable         Output current, max.           Output resistance         6,000 Ω           Number of inputs/outputs selectable         2 Piece(s)           Type         Input/output           Voltage type, outputs         DC           Switching voltage, outputs         DC           Switching voltage, inputs         DC           Switching voltage, inputs	Operating range	0.3 7 m
Operating range limit         0.2 9 m           Operating range limit         Typical operating range           Measurement field length         1.430 mm           Number of beams         72 Piece(s)           Beam spacing         20 mm           Measurement data         Minimum object diameter         30 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protection           Performance data         Supply voltage U <sub>B</sub> 18 30 V, DC           Residual ripple         0 15 %, From U <sub>B</sub> Open-circuit current           Open-circuit current         0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.           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         Oc           Voltage type, outputs         DC         Switching voltage, inputs           DC         Switching voltage, inputs         DC           Switching voltage, inputs         DC         Switching voltage, inputs           Imput/output 1         Activation/disable delay         1 ms           Time behavior		Guaranteed operating range
Operating range limit       Typical operating range         Measurement field length       1,430 mm         Number of beams       72 Piece(s)         Beam spacing       20 mm         Measurement data       Minimum object diameter       30 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB         Open-circuit current       0 270 mA, The specified values refer         to the entire package consisting of transmitter and receiver.       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, inputs       DC         Switching voltage, inputs       DC         Switching voltage delay       1 ms         Time behavior       2.56 ms         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       70 PROFIBUS DP		
Measurement field length       1,430 mm         Number of beams       72 Piece(s)         Beam spacing       20 mm         Measurement data       30 mm         Minimum object diameter       30 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         Output current, max.       100 mA         Input resistance       6,000 Ω         Number of inputs/outputs selectable       2Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Switching voltage inputs       high: 26V         Input/output 1       Activation/disable delay       1 ms         Time behavior       2.56 ms         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       PROFIBUS DP		
Number of beams       72 Piece(s)         Beam spacing       20 mm         Measurement data       30 mm         Electrical data       90 anti preversal protection         Short circuit protected       Transient protection         Performance data       8 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values referer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0         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, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       20 µs         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       Type         Type       PROFIBUS DP		
Beam spacing     20 mm       Measurement data     30 mm       Minimum object diameter     30 mm       Electrical data     Polarity reversal protection       Short circuit protected     Transient protection       Performance data     Supply voltage U <sub>B</sub> Supply voltage U <sub>B</sub> 18 30 V, DC       Residual ripple     0 15 %, From U <sub>B</sub> Open-circuit current     0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.       Inputs/outputs selectable     0 uptu current, max.       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, inputs     DC       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms       Time behavior     2.56 ms       Cycle time     2.56 ms       Response time per beam     30 µs       Interface     30 µS	-	,
Measurement data         Minimum object diameter       30 mm         Electrical data       Polarity reversal protection         Short circuit protected       Short circuit protected         Transient protection       Short circuit protected         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         Output current, max.       100 mA         Inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       2.56 ms         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       Type         Type       PROFIBUS DP		
Minimum object diameter 30 mm  Electrical data  Protective circuit Polarity reversal protection Short circuit protected Transient protection  Performance data Supply voltage U <sub>B</sub> 18 30 V, DC Residual ripple 0 15 %, From U <sub>B</sub> Open-circuit current 0 270 mA, The specified values refer to the entire package consisting of trans mitter and receiver.  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 2 Piece(s) Type Inputs/outputs DC Switching voltage, outputs DC Switching voltage, inputs DC Switching voltage, inputs AC Number of Inputs 2 DC Switching voltage, inputs DC Switching voltage DC Switching VO Switch		
Electrical data         Protective circuit       Polarity reversal protection         Short circuit protected         Transient protection         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values referer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 0 mA         Output current, max.       100 mA         Inputs/outputs selectable       0 0 Ω         Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, inputs       1 ms         Time behavior       Input/output 1         Activation/disable delay       1 ms         Time behavior       30 μs         Interface       PROFIBUS DP		20 mm
Protective circuit       Polarity reversal protection         Short circuit protected       Transient protection         Performance data       Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB       Open-circuit current       0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 0 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       DC         Switching voltage, inputs       DC       Switching voltage, inputs       DC         Switching voltage, inputs       Jigh: ≥6V       Iow: ≤ 4 V       Input/output 1         Activation/disable delay       1 ms       Interface       Z:56 ms<	minimum object diameter	30 mm
Short circuit protected Transient protectionPerformance dataSupply voltage UB18 30 V, DCResidual ripple0 15 %, From UBOpen-circuit current0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.Inputs/outputs selectableOutput current, max.Output current, max.100 mAInput resistance6,000 $\Omega$ Number of inputs/outputs selectable2 Piece(s)TypeInputs/outputs selectableVoltage type, outputsDCSwitching voltage, outputsTyp. UB / 0 VVoltage type, inputsDCSwitching voltage, inputsDCSwitching voltage, inputshigh: ≥6V low: ≤ 4 VInput/output 1 Activation/disable delay1 msTime behavior2.56 msCycle time2.56 msResponse time per beam30 µsInterfaceTypeTypePROFIBUS DPPROFIBUS DPPROFIBUS DP	Electrical data	
Performance data         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         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, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       PROFIBUS DP	Protective circuit	Polarity reversal protection
Performance dataSupply voltage $U_B$ 18 30 V, DCResidual ripple0 15 %, From $U_B$ Open-circuit current0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.Inputs/outputs selectable0 mAOutput current, max.100 mAInput resistance6,000 QNumber of inputs/outputs selectable2 Piece(s)TypeInputs/outputs selectableVoltage type, outputsDCSwitching voltage, outputsDCSwitching voltage, inputsDCSwitching voltage, inputsDCInput/output 1Activation/disable delayActivation/disable delay1 msTime behaviorS0 µsInterfaceTypeTypePROFIBUS DPPROFIBUS DP		Short circuit protected
Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 mA         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       DC         Switching voltage, inputs       DC         Switching voltage, inputs       bigh: ≥6V         Iow: ≤ 4 V       Iow: ≤ 4 V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Interface       PROFIBUS DP		Transient protection
Residual ripple       015 %, From U <sub>B</sub> Open-circuit current       0270 mA, The specified values referto the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       00 mA         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 <sub>B</sub> / 0 V         Voltage type, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6V         Iow: ≤ 4 V       Iow: ≤ 4 V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Interface       PROFIBUS DP         PROFIBUS DP       PROFIBUS DP	Performance data	
Open-circuit current       0270 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       00 mA         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       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Interface       PROFIBUS DP	Supply voltage U <sub>B</sub>	18 30 V, DC
to the entire package consisting of transmitter and receiver. 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 DC Switching voltage, outputs DC Switching voltage, outputs DC Switching voltage, inputs DC Switching voltage, inputs DC Switching voltage, inputs 1 Activation/disable delay 1 ms Time behavior Cycle time 2.56 ms Response time per beam 30 μs Interface Type PROFIBUS DP	Residual ripple	0 15 %, From U <sub>B</sub>
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       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms	Open-circuit current	to the entire package consisting of trans
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     DC       Switching voltage, inputs     DC       Switching voltage, inputs     DC       Switching voltage, inputs     DC       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms	Inputs/outputs salastable	
Input resistance       6,000 Ω         Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       2.56 ms         Response time per beam       30 μs         Interface       PROFIBUS DP		100 mA
Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, outputs       Typ. U <sub>B</sub> / 0 V         Voltage type, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       2.56 ms         Response time per beam       30 μs         Interface       PROFIBUS DP		
Type     Inputs/outputs selectable       Voltage type, outputs     DC       Switching voltage, outputs     Typ. U <sub>B</sub> / 0 V       Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6V       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms       Time behavior     2.56 ms       Response time per beam     30 μs       Interface     PROFIBUS DP	•	-,
Voltage type, outputs     DC       Switching voltage, outputs     Typ. U <sub>B</sub> / 0 V       Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6V       low: ≤ 4 V     low: ≤ 4 V       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms       Time behavior     2.56 ms       Cycle time     2.56 ms       Response time per beam     30 μs       Interface     PROFIBUS DP		
Switching voltage, outputs     Typ. U <sub>B</sub> / 0 V       Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6V       Input/output 1     Input/output 1       Activation/disable delay     1 ms       Time behavior     2.56 ms       Cycle time     2.56 ms       Response time per beam     30 μs       Interface     PROFIBUS DP		
Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6∨       low: ≤ 4 ∨       Input/output 1       Activation/disable delay     1 ms   Time behavior Cycle time 2.56 ms Response time per beam 30 μs Interface Type PROFIBUS DP PROFIBUS DP		
Switching voltage, inputs     high: ≥6∨       Input/output 1     Input/output 1       Activation/disable delay     1 ms       Time behavior     2.56 ms       Cycle time     2.56 ms       Response time per beam     30 μs       Interface     PROFIBUS DP		
low: ≤ 4 V Input/output 1 Activation/disable delay 1 ms Time behavior Cycle time per beam 2.56 ms Response time per beam 30 μs Interface Type PROFIBUS DP		
Input/output 1       Activation/disable delay     1 ms       Time behavior     2.56 ms       Cycle time     2.56 ms       Response time per beam     30 μs       Interface     7       Type     PROFIBUS DP	e moning voltage, inputa	
Activation/disable delay       1 ms         Time behavior       2.56 ms         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       Type         PROFIBUS DP       PROFIBUS DP		
Activation/disable delay       1 ms         Time behavior       2.56 ms         Cycle time       2.56 ms         Response time per beam       30 µs         Interface       Type         PROFIBUS DP       PROFIBUS DP		10W. 24 V
Cycle time     2.56 ms       Response time per beam     30 μs       Interface     Type       PROFIBUS DP	Input/output 1	10W. 24 V
Cycle time     2.56 ms       Response time per beam     30 μs       Interface     Type       PROFIBUS DP	· ·	
Response time per beam     30 µs       Interface       Type     PROFIBUS DP	Activation/disable delay	
Interface Type PROFIBUS DP PROFIBUS DP	Activation/disable delay	1 ms
Type PROFIBUS DP PROFIBUS DP	Activation/disable delay Time behavior Cycle time	1 ms 2.56 ms
PROFIBUS DP	Activation/disable delay Time behavior Cycle time	1 ms 2.56 ms
	Activation/disable delay Time behavior Cycle time Response time per beam	1 ms 2.56 ms
	Activation/disable delay Time behavior Cycle time Response time per beam Interface	1 ms 2.56 ms 30 μs
	Activation/disable delay Time behavior Cycle time Response time per beam Interface Type	1 ms 2.56 ms 30 μs

S	Service interface				
Ту	ире	IO-Link			
	IO-Link				
	Function	Configuration via software			
		Service			
С	onnection				
N	umber of connections	2 Piece(s)			
PI	ug outlet	Rear side			
	Connection 1				
	Function	Configuration interface			
		Connection to transmitter			
		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	BUS IN			
		BUS OUT			
	Type of connection	Connector			
	Thread size	M12			
	Туре	Female			
	Material	Metal			
	No. of pins	5 -pin			
	Encoding	B-coded			
Μ	echanical data				
D	esign	Cubic			
Di	imension (W x H x L)	29 mm x 35.4 mm x 1,453 mm			
	ousing material	Metal			
	etal housing	Aluminum			
	ens cover material	Plastic			
	et weight	1,650 g			
	ousing color	Silver			
IJ	vpe of fastening	Groove mounting			
		Via optional mounting device			
0	peration and display				
Ту	/pe of display	LED			
		OLED display			
N	umber of LEDs	2 Piece(s)			
Ту	pe of configuration	Software			
		Teach-in			
0	perational controls	Membrane keyboard			
E	nvironmental data				
A	mbient temperature, operation	-30 60 °C			
A	mbient 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

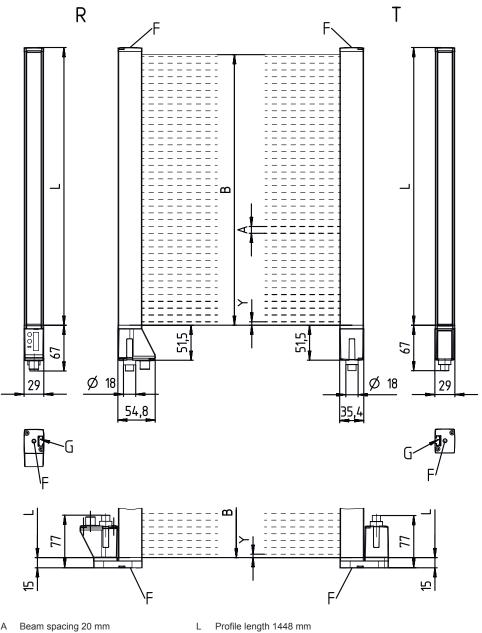
#### Classification

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



- Beam spacing 20 mm А
- В Measurement field length 1430 mm
- F M6 thread G Fastening groove
- R Receiver

Т

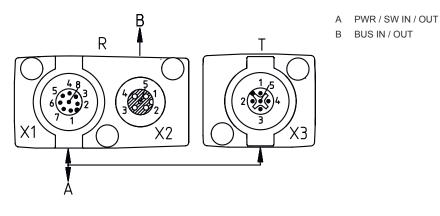
5 mm Υ

Transmitter

## Leuze

#### **Dimensioned drawings**





## **Electrical connection**

**Connection 1** 

Function	Configuration interface
	Connection to transmitter
	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

#### Pin Pin assignment

1	V+		
2	I/O 1		
3	GND		
4	IO-Link		
5	I/O 2		
6	RS 485 Tx+		
7	RS 485 Tx+		
8	FE/SHIELD		



#### **Connection 2**

Function	BUS IN
	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded

## **Electrical connection**

# Pin Pin assignment 1 V+ 2 Tx 3 PB GND 4 Tx+ 5 FE/SHIELD

## **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	Article	Description
and the second sec	50119513	CML720i-T20- 1430.R-M12	Light curtain transmitter	Operating range: 0.3 7 m Connection: Connector, M12, Rear side, 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
22	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



#### Part number code



DDD	Special equipment -PS: Power Setting
EEE	Electrical connection M12: M12 connector
FFF	-EX: Explosion protection
	Note
A	∜ A list with all available device types can be found on the Leuze website at www.leuze.com.

#### Notes

Observe intended use!
<ul> <li>This product is not a safety sensor and is not intended as personnel protection.</li> <li>The product may only be put into operation by competent persons.</li> <li>Only use the product in accordance with its intended use.</li> </ul>



#### For UL applications:

 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: CYJV/ CYJV7 or PVVA/PVVA7)

#### Accessories

#### Connection technology - Connection cables

 Part no.	Designation	Article	Description
50132079	KD U-M12-5A-V1- 050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

#### Connection technology - Y distribution cables

	Part no.	Designation	Article	Description
	50118183	K-Y1 M12A-5m- M12A-S-PUR	Interconnection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin Connection 3: Connector, M12, Axial, Female, A-coded, 8 -pin Shielded: Yes Cable length fork 1: 5,000 mm Cable length fork 2: 150 mm Sheathing material: PUR

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#### Accessories

## 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

#### Mounting technology - Swivel mounts

	Part no.	Designation	Article	Description
ęę.	429029	BT-2RG	Mounting bracket set	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	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
6	☆ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.