

# **Technical data sheet Light curtain receiver** Part no.: 50122946 CML720i-R05-720.R/PB-M12



 Leuze electronic GmbH + Co. KG
 info@leuze.com • www.leuze.com
 changes

 The Sensor People
 In der Braike 1, D-73277 Owen/Germany
 Phone: +49 7021 573-0 • Fax: +49 7021 573-199
 eng • 2024-06-21

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### **Technical data**

# Leuze

Special version       Crossed-beam scanning         Diagonal-beam scanning       Diagonal-beam scanning         Parallel-beam scanning       Parallel-beam scanning         Optical data       Operating range         Operating range       0.1 3.5 m         Operating range       Guaranteed operating range         Operating range limit       0.1 4.5 m         Operating range limit       0.1 4.5 m         Operating range limit       720 mm         Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement data       Minimum object diameter         Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protected         Transient protection       Short circuit protected         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       0 215 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Input resistance       6,000 Ω         Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectabl	Basic data	
Device type         Receiver           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         0.1 3.5 m           Operating range         0.1 4.5 m           Operating range limit         0.1 4.5 m           Operating range limit         0.1 4.5 m           Operating range limit         720 mm           Number of beams         144 Piece(s)           Beam spacing         5 mm           Measurement field length         720 mm           Number of beams         144 Piece(s)           Beam spacing         5 mm           Measurement data         10 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         0 215 mA, The specified values refer           to the entire package consisting of transiter and receiver.         Inputs		720
Contains       Accessories for the use of the BT-2R1         Application       Object measurement         Special version       Crossed-beam scanning         Diagonal-beam scanning       Parallel-beam scanning         Operating range       0.1 3.5 m         Operating range       0.1 3.5 m         Operating range       Guaranteed operating range         Operating range limit       0.1 4.5 m         Operating range limit       Typical operating range         Measurement field length       720 mm         Number of beams       144 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         Short circuit protected       Transient protection         Performance data       00 mA         Supply voltage Ug       18 30 V, DC         Residual ripple       0 215 mA, The specified values refer         Open-circuit current       0 215 mA, The specified values refer         Untup to urrent, max.       100 mA         Input solutputs selectable       Output curent, max.         Voltage t		
Application         Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning           Operating range         0.1 3.5 m           Operating range         0.1 3.5 m           Operating range         0.1 4.5 m           Operating range limit         0.1 4.5 m           Operating range limit         1 Vpical operating range           Measurement field length         720 mm           Number of beams         144 Piecc(s)           Beam spacing         5 mm           Measurement data         10 mm           Minimum object diameter         10 mm           Electrical data         Polarity reversal protection Short circuit protected Transient protection           Performance data         Supply voltage Ug         18 30 V, DC           Residual ripple         0 215 mA, The specified values refer to the entire package consisting of tran mitter and receiver.           Inputs/outputs selectable         Output current, max.         100 mA           Inputs/outputs selectable         2 Piece(s)           Type         Inputs/outputs selectable         2           Voltage type, outputs         DC           Switching voltage, inputs         DC           Switching voltage, outputs         Typ. Ug		
Special version Special version Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Operating range 0.13.5 m Operating range 0.13.5 m Operating range 0.14.5 m Number of beams 144 Piece(s) Beam spacing 5 mm Measurement data Winimum object diameter 10 mm Electrical data Protective circuit Polarity reversal protection Shot circuit protected Transient protection Shot circuit protected Transient protection Shot circuit protected Transient protection Number of inputSoutputs selectable 015 %, From U <sub>B</sub> Open-circuit current 015 %, Nn he specified values refer to the entire package consisting of tran mitter and receiver. InputSoutputs selectable Output current, max. 100 mA Input resistance 6,000 Ω Number of inputSoutputs selectable Voltage type, outputs Current, max. 100 mA Input resistance 015 %, From U <sub>B</sub> Output current, max. 100 m Number of inputSoutputs selectable Voltage type, outputs Current, max. 100 m Number of inputSoutputs Current, max. 100 m Number of inputSoutputs Current, max. 100 m Number of inputSoutputs Current, max. 100 m Current,	Contains	Accessories for the use of the BT-2R1
Special version Crossed-beam scanning Diagonal-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Parallel-beam scanning Optical data Operating range Somm Measurement field length 720 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 <sub>B</sub> 18 30 V, DC Residual ripple 0	Application	Object measurement
Diagonal-beam scanning Parallel-beam scanning           Operating range         0.1 3.5 m           Operating range         Guaranteed operating range           Operating range limit         0.1 4.5 m           Operating range limit         1 4.5 m           Operating range limit         720 nm           Number of beams         144 Piece(s)           Beam spacing         5 mm           Measurement data         Minimum object diameter           Minimum object diameter         10 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient protection           Short circuit protected         Transient protection           Short circuit current         0 15 %, From U <sub>B</sub> Open-circuit current         0 15 %, From U <sub>B</sub> Open-circuit current         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         Input/output           Voltage type, outputs         DC           Switching voltage, inputs         DC           Switching voltage, inputs         DC           Switching voltage, in	Special version	
Parallel-beam scanning           Optical data           Operating range         0.1 3.5 m           Operating range limit         0.1 4.5 m           Operating range limit         Typical operating range           Measurement field length         720 mm           Number of beams         144 Piece(s)           Beam spacing         5 mm           Measurement data         Minimum object diameter           Minimum object diameter         10 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         0 215 mA, The specified values refer           ot the entire package consisting of transmitter and receiver.         Input resistance           6,000 Ω         Number of inputs/outputs selectable         2 Piece(s)           Type         Input/soutputs         DC           Switching voltage, inputs         DC         Switching voltage, outputs           DC         Switching voltage, inputs         DC         Switching voltage, inputs           Switching voltage, inputs         DC         Switching voltage, inputs         DC	Special version	Crossed-beam scanning
Optical data         Operating range       0.13.5 m         Operating range limit       0.14.5 m         Operating range limit       0.14.5 m         Operating range limit       720 nm         Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement field length       720 nm         Mumber of beams       144 Piece(s)         Beam spacing       5 mm         Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Supply voltage Ug       18 30 V, DC         Residual ripple       0 215 mA. The specified values refer         Open-circuit current       0 215 mA. The specified values refer         Voltage Uge, outputs selectable       00 mA         Output current, max.       100 mA         Input /output selectable       0.0.0 Ω         Number of inputs/outputs selectable       0.0.0 Ω         Voltage type, outputs       DC         Switching voltage, outputs       Typ. Ug / 0 V         Voltage type, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC </td <td></td> <td>Diagonal-beam scanning</td>		Diagonal-beam scanning
Operating range         0.13.5 m           Operating range         Guaranteed operating range           Operating range limit         0.14.5 m           Operating range limit         Typical operating range           Measurement field length         720 mm           Number of beams         144 Piece(s)           Beam spacing         5 mm           Measurement data         Minimum object diameter           Minimum object diameter         10 mm           Electrical data         Polarity reversal protection           Short circuit protected         Transient 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         0 215 mA, The specified values refer           Inputs/outputs selectable         0 215 mA, The specified values refer           Outur current, max.         100 mA           Input resistance         6,000 Ω           Number of inputs/outputs selectable         2 Piece(s)           Type         Inputs/output           Voltage type, outputs         DC           Switching voltage, inputs		Parallel-beam scanning
Operating range       Guaranteed operating range         Operating range limit       0.1 4.5 m         Operating range limit       Typical operating range         Measurement field length       720 mm         Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement data       Minimum object diameter       10 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       0 215 mA, The specified values refer         Output current, max.       100 mA         Input s/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         Imput/output 1       Activation/disable delay <td>Optical data</td> <td></td>	Optical data	
Operating range limit       0.14.5 m         Operating range limit       Typical operating range         Measurement field length       720 mm         Number of beams       144 Picce(s)         Beam spacing       5 mm         Measurement data       Minimum object diameter         Minimum object diameter       10 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       0 215 mA, The specified values refer         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 voltag	Operating range	0.1 3.5 m
Operating range limit       Typical operating range         Measurement field length       720 mm         Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement data       Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit       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       0 215 mA, The specified values refert 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         Voltage type, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       Input/output 1         Activation/disable delay       1 ms         Time behavior       20 μs	Operating range	Guaranteed operating range
Operating range limit       Typical operating range         Measurement field length       720 mm         Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement data       Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protected         Protective circuit       Polarity reversal protection         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 215 mA, The specified values refert 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         Voltage type, outputs       DC         Switching voltage, inputs       Maximum contexter         Input/output 1       Activat		
Measurement field length 720 mm Number of beams 144 Piece(s) Beam spacing 5 mm Measurement data Minimum object diameter 10 mm Electrical data Protective circuit Polarity reversal protection Short circuit protected Transient 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 0 215 mA, The specified values refer to the entire package consisting of tran 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 SDC Switching voltage, outputs DC Switching voltage, inputs Activation/disable delay 1 ms Time behavior Cycle time A.72 ms Response time per beam 30 µs Interface Type PROFIBUS DP		
Number of beams       144 Piece(s)         Beam spacing       5 mm         Measurement data       10 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       0 215 mA, The specified values refere to the entire package consisting of fram mitter 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       4.72 ms         Response time per beam       30 µs         Interface       Type         Type       PROFIBUS DP		
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 <sub>B</sub> 18 30 V, DC Residual ripple 0 15 %, From U <sub>B</sub> Open-circuit current 0 215 mA, The specified values refer to the entire package consisting of tran 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 2Piece(s) Type DC Switching voltage, outputs DC Switching voltage, inputs DC Switching voltage, inputs DC Switching voltage, inputs 4 V Input/output 1 Activation/disable delay 1 ms Time behavior Cycle time 4.72 ms Response time per beam 30 μs Interface Type PROFIBUS DP		
Measurement data         Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Short circuit protected         Transient protection       Short circuit protected         Performance data       Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB       Open-circuit current         Open-circuit current       0 215 mA, The specified values refere to the entire package consisting of tranmitter 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, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 μs         Interface       Ype         Type       PROFIBUS DP		
Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Performance data       Supply voltage UB         Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB         Open-circuit current       0 215 mA, The specified values refert to the entire package consisting of tranmitter and receiver.         Inputs/outputs selectable       0 unput resistance         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         Switching voltage, inputs       1 ms         Time behavior       1 ms         Cycle time       4.72 ms         Response time per beam       30 µs         Interface       Type         Type       PROFIBUS DP		
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Protective circuit       Polarity reversal protection         Short circuit protected       Transient protected         Transient protection       Ferformance data         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 215 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 0 mA         Output current, max.       100 mA         Input resistance       6,000 Ω         Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       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       Type         Type       PROFIBUS DP	-	
Short circuit protected Transient protectionPerformance dataSupply voltage $U_B$ 18 30 V, DCResidual ripple0 15 %, From $U_B$ Open-circuit current0 215 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. $U_B / 0 V$ Voltage type, inputsDCSwitching voltage, inputshigh: $\geq 6V$ low: $\leq 4 V$ Input/output 1 Activation/disable delay1 msTime behavior30 $\mu$ sCycle time4.72 msResponse time per beam30 $\mu$ sInterfaceTypeTypePROFIBUS DP		
Performance data         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 215 mA, The specified values referred 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         Interface       PROFIBUS DP	Protective circuit	
Performance data         Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 215 mA, The specified values refere to the entire package consisting of tranmitter 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       30 μs         PROFIBUS DP       PROFIBUS DP		
Supply voltage UB18 30 V, DCResidual ripple0 15 %, From UBOpen-circuit current0 215 mA, The specified values refer to the entire package consisting of transmitter and receiver.Inputs/outputs selectable0 mAOutput current, max.100 mAInput resistance6,000 ΩNumber of inputs/outputs selectable2 Piece(s)TypeInputs/outputs selectableVoltage type, outputsDCSwitching voltage, outputsDCSwitching voltage, inputsDCSwitching voltage, inputshigh: ≥6VInput/output 1Activation/disable delayActivation/disable delay1 msTime behavior30 µsCycle time4.72 msResponse time per beam30 µsInterfacePROFIBUS DPPROFIBUS DPPROFIBUS DP		Transient protection
Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 215 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 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       DC         Switching voltage, inputs       Icw ≤ 4 V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Interface       PROFIBUS DP	Performance data	
Open-circuit current       0 215 mA, The specified values refer to the entire package consisting of trans- mitter 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 AC Switching voltage, inputs 1 Activation/disable delay 1 ms Time behavior Cycle time 4.72 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       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       30 µs         Interface       PROFIBUS DP	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     Input/outputs selectable       Voltage type, outputs     DC       Switching voltage, outputs     DC       Switching voltage, inputs     DC       Switching voltage, inputs     DC       Switching voltage, inputs     high: ≥6V       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms	Innuts/outputs selectable	
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       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       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       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       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     20 μs       Cycle time     4.72 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     20 μs       Cycle time     4.72 ms       Response time per beam     30 μs       Interface     PROFIBUS DP		
Switching voltage, outputs     Typ. U <sub>B</sub> / 0 ∨       Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6∨       low: ≤ 4 ∨     low: ≤ 4 ∨       Input/output 1     Activation/disable delay       Activation/disable delay     1 ms       Time behavior     20 μs       Cycle time     4.72 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 4.72 ms Response time per beam 30 μs Interface Type PROFIBUS DP PROFIBUS DP		
Switching voltage, inputs     high: ≥6∨       Iow: ≤ 4 ∨       Input/output 1       Activation/disable delay     1 ms       Time behavior       Cycle time     4.72 ms       Response time per beam     30 µs       Interface       Type     PROFIBUS DP	0 0 / 1	
low: ≤ 4 V Input/output 1 Activation/disable delay 1 ms Time behavior Cycle time 4.72 ms Response time per beam 30 μs Interface Type PROFIBUS DP		
Input/output 1       Activation/disable delay     1 ms       Time behavior     4.72 ms       Cycle time     4.72 ms       Response time per beam     30 μs       Interface     7000000000000000000000000000000000000	Switching voltage, inputs	
Activation/disable delay       1 ms         Time behavior       4.72 ms         Cycle time       4.72 ms         Response time per beam       30 μs         Interface       7         Type       PROFIBUS DP		IUW. ≥ 4 V
Activation/disable delay       1 ms         Time behavior       4.72 ms         Cycle time       4.72 ms         Response time per beam       30 μs         Interface       7         Type       PROFIBUS DP	Input/output 4	
Time behavior Cycle time 4.72 ms Response time per beam 30 μs Interface Type PROFIBUS DP PROFIBUS DP		1 ms
Cycle time     4.72 ms       Response time per beam     30 μs       Interface     Type       PROFIBUS DP	Activation/disable delay	1110
Response time per beam     30 µs       Interface       Type     PROFIBUS DP		
Interface Type PROFIBUS DP PROFIBUS DP	Time behavior	
Type PROFIBUS DP PROFIBUS DP	Cycle time	
PROFIBUS DP	Cycle time	
	Cycle time Response time per beam	
	Cycle time Response time per beam Interface	30 µs
	Cycle time Response time per beam Interface Type	30 µs

	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	2 Piece(s) Rear side
Plug 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
, unotion	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	5 -pin
Encoding	B-coded
Aechanical data	
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 743 mm Metal
lousing material /letal housing	Aluminum
ens cover material	Plastic
Vet weight	1,000 g
lousing color	Silver
Type of fastening	Groove mounting
	Via optional mounting device
Operation and display	
	LED
Type of display	OLED display
Number of LEDs	2 Piece(s)
Type of configuration	Software
JE C. Comgulation	Teach-in
Operational controls	Membrane keyboard
Environmental data	
Ambient temperature, operation	-30 60 °C

## **Technical data**

# Leuze

#### Certifications

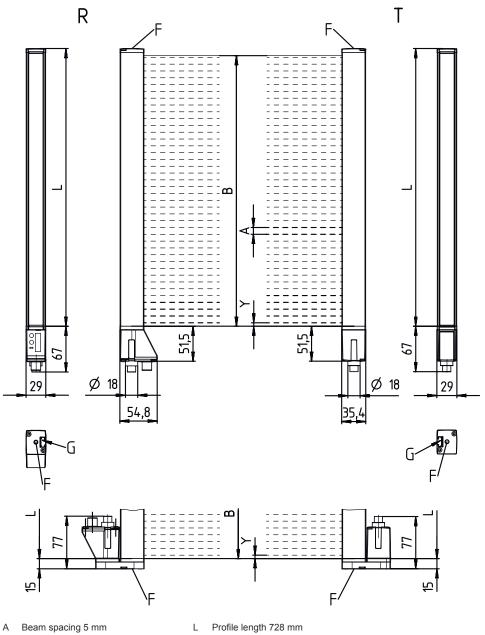
Degree of protection	IP 65
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

#### 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



B Measurement field length 720 mm

Fastening groove

M6 thread

F

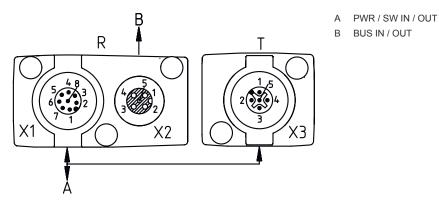
G

- T Transmitter
  - Receiver
- R Receive
- Y 2.5 mm

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#### **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



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
50119457	CML720i-T05-720.R- M12	Light curtain transmitter	Operating range: 0.1 3.5 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
y: U	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.