

### **Technical data sheet Light curtain receiver** Part no.: 50131713 CML730i-R05-2240.R/PN-M12



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### **Technical data**

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Device type         Receiver           Contains         Accessories for the use of the BT-2R1           Application         Detection of transparent objects           Object measurement         Object measurement           Special version         Crossed-beam scanning           Special version         Crossed-beam scanning           Operating range         0.1 4.5 m           Operating range, transparent media         0.1 17 m           Operating range limit         1 17 m           Operating range limit         1 17 m           Mumber of beams         448 Piecc(s)           Beam spacing         5 mm           Measurement field length         2.240 mm           Number of beams         448 Piecc(s)           Beam spacing         5 mm           Measurement data         Short circuit protected           Transient protection         Short circuit protected           Short circuit protected         Transient protection           Short circuit current         0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver. <td< th=""><th>Series</th><th>730</th></td<>	Series	730
Contains         Accessories for the use of the BT-2R1           Application         Detection of transparent objects Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning           Special version         Crossed-beam scanning           Operating range         0.1 4.5 m           Operating range         0.1 4.5 m           Operating range         0.1 1.75 m           Operating range limit         0.1 6 m           Operating range limit         0.1 6 m           Operating range limit         0.1 6 m           Operating range limit         1.175 m           Operating range limit         0.1 6 m           Operating range limit         1.175 m           Massurement field length         2.240 mm           Number of beams         448 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 Ug         18 30 V, DC           Residual ripple         0 15%, From Ug           Open-circuit current         0.00 mA <td>Operating principle</td> <td>Throughbeam principle</td>	Operating principle	Throughbeam principle
Application         Detection of transparent logicals Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning           Special version         Crossed-beam scanning           Operating range         0.1 4.5 m           Operating range limit         0.1 4.5 m           Versiting range limit         1 5 m           Versiting range limit         1 75 m           Versiting range         0 1.75 m           Measurement field length         2.240 mm           Number of beams         448 Piece(s)           Beam spacing         5 mm           Minimum object diameter         10 mm           Electrical data         Performance data           Supply voltage Ug         18 30 V, DC <t< td=""><td>Device type</td><td>Receiver</td></t<>	Device type	Receiver
Object measurement           Special version         Crossed-beam scanning Diagonal-beam scanning           Special version         Crossed-beam scanning           Operating range         0.1 4.5 m           Operating range limit         0.1 1.75 m           Operating range limit         0.1 1.75 m           Operating range limit         1 1.75 m           Operating range limit         1 1.75 m           Operating range limit         1 1.75 m           Operating range limit         2.240 mm           Number of beams         448 Picee(s)           Beam spacing         5 mm           Measurement field length         2.240 mm           Number of beams         448 Picee(s)           Beam spacing         5 mm           Measurement data         Minimum object diameter           Protective circuit         Polarity reversal protection           Short circuit protected         Transient protection           Short circuit protected         Common           Residual ripple         0 15 %, From U <sub>B</sub> Open-circuit current         0	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         Operating range       0.1 4.5 m         Operating range       Guaranteed operating range         Operating range limit       0.1 1.75 m         Operating range limit       0.1 1.75 m         Operating range limit       1.175 m         Operating range limit       2.240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement field length       2.240 mm         Number of beams       448 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       0 435 mA, The specified values refer         to the entire package consisting of transmitter and receiver.       Input resistance         6,000 Ω       Number of inputs/outputs selectable       Diece(s)         Type       Input/output       Transient protectable	Application	Detection of transparent objects
Diagonal-beam scanning Parallel-beam scanning           Optical data           Operating range         0.1 4.5 m           Operating range, transparent media         0.1 1.75 m           Operating range limit         0.1 4.5 m           Operating range limit         0.1 1.75 m           Operating range limit         0.1 1.75 m           Operating range limit         2.240 mm           Number of beams         448 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 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         0 435 mA, The specified values refer		Object measurement
Diagonal-beam scanning Parallel-beam scanning           Optical data           Operating range         0.1 4.5 m           Operating range, transparent media         0.1 1.75 m           Operating range limit         0.1 6 m           Operating range limit         2.240 mm           Number of beams         448 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           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         0 435 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	Special version	
Diagonal-beam scanning Parallel-beam scanning           Optical data           Operating range         0.1 4.5 m           Operating range, transparent media         0.1 1.75 m           Operating range limit         0.1 6 m           Operating range limit         2.240 mm           Number of beams         448 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           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         0 435 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	Special version	Crossed-beam scanning
Parallel-beam scanning         Optical data         Operating range       0.14.5 m         Operating range       Guaranteed operating range         Operating range limit       0.1 1.75 m         Operating range limit       0.1 4.5 m         Operating range limit       0.1 4.5 m         Operating range limit       0.1 1.75 m         Operating range limit       1.1 6 m         Operating range limit       2.240 mm         Number of beams       448 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       0 435 mA, The specified values refer         oth e 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       DC         Switching voltage, outputs		-
Optical data         Operating range       0.1 4.5 m         Operating range       Guaranteed operating range         Operating range transparent media       0.1 1.75 m         Operating range limit       0.1 6 m         Operating range limit       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement field length       2,240 mm         Mumber of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Short circuit protection       Short circuit 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       0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         Number of inputs/outputs selectable       2 Piece(s)         Type       Input/output         Voltage type, outputs       DC         Switching voltage, unputs       <		0
Operating range       0.1 4.5 m         Operating range       Guaranteed operating range         Operating range, transparent media       0.1 1.75 m         Operating range limit       0.1 6 m         Operating range limit       0.1 6 m         Operating range limit       1.1 6 m         Operating range limit       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       5 mm         Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Short circuit protected       Transient protection         Performance data       Supply voltage U <sub>B</sub> 18 30 V, DC         Residual ripple       0 435 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		
Operating range       Guaranteed operating range         Operating range, transparent media       0.1 1.75 m         Operating range limit       0.1 6 m         Operating range limit       1.1.75 m         Operating range limit       1.1.75 m         Operating range limit       2,240 mm         Number of beams       448 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         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       0 435 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	Optical data	
Operating range, transparent media       0.1 1.75 m         Operating range limit       0.1 6 m         Operating range limit       Typical operating range         Measurement field length       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient protection         Protective circuit       Polarity reversal protection         Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB         Open-circuit current       0 435 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         Switching voltage, outputs       DC         Switching voltage, inputs	Operating range	0.1 4.5 m
Operating range limit       0.16 m         Operating range limit       Typical operating range         Measurement field length       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       In mm         Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Transient 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       0 435 mA, The specified values referer 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/output         Voltage type, outputs       DC         Switching voltage, inputs	Operating range	Guaranteed operating range
Operating range limit       Typical operating range         Measurement field length       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       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       0 435 mA, The specified values refer         Output current, max.       100 mA         Input selectable       00         Output current, max.       100 mA         Input resistance       6,000 Ω         Number of inputs/outputs selectable       DC         Switching voltage, outputs       DC         Switching voltage, inputs       Input/output 1         Activation/disable delay <td< td=""><td>Operating range, transparent media</td><td>0.1 1.75 m</td></td<>	Operating range, transparent media	0.1 1.75 m
Measurement field length       2,240 mm         Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       10 mm         Electrical data       10 mm         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       0 435 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, outputs       Typ. U <sub>B</sub> / 0 V         Voltage type, inputs       DC         Switching voltage, inputs       high: ≥6V         low: ≤ 4 V       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms		0.1 6 m
Number of beams       448 Piece(s)         Beam spacing       5 mm         Measurement data       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       0 435 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, 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       1,500 ms         Cycle time       4.63 ms	Operating range limit	Typical operating range
Beam spacing       5 mm         Measurement data       10 mm         Electrical data       10 mm         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       0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         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 delay       1 ms         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms		
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 U <sub>B</sub> 18 30 V, DC         Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current         Open-circuit current       0 435 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       high: ≥6V         low: ≤ 4 V       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Readiness delay       1,500 ms         Gycle time       4.63 ms	Number of beams	448 Piece(s)
Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Short circuit protected         Transient protection       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       0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         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       high: ≥6V         low: ≤ 4 V       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	Beam spacing	5 mm
Minimum object diameter       10 mm         Electrical data       Polarity reversal protection         Short circuit protected       Short circuit protected         Transient protection       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       0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       Output current, max.         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       high: ≥6V         low: ≤ 4 V       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	Massurament data	
Flectrical data         Protective circuit       Polarity reversal protection         Short circuit protected         Transient protection         Supply voltage UB       18 30 V, DC         Residual ripple       0 15 %, From UB         Open-circuit current       0 435 mA, The specified values referto the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 00 M         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         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms		10 mm
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       0 435 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       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms		10 mm
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       0 435 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, outputs       Typ. U <sub>B</sub> / 0 V         Voltage type, inputs       DC         Switching voltage, inputs       DC         Input/output 1       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	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       0 435 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       DC         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms	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       0 435 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       Input :>6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms		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       0 435 mA, The specified values refer 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, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms		Transient protection
Residual ripple       0 15 %, From U <sub>B</sub> Open-circuit current       0 435 mA, The specified values refer to the entire package consisting of transmitter and receiver.         Inputs/outputs selectable       0 100 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         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	Performance data	
Open-circuit current       0 435 mA, The specified values refer 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, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	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         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       DC         Switching voltage, inputs       high: ≥6∨         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	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       high: ≥6V         Input/output 1	Open-circuit current	0 435 mA, The specified values refer to the entire package consisting of trans mitter and receiver.
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       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms		
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       1,500 ms         Cycle time       4.63 ms		100
Number of inputs/outputs selectable       2 Piece(s)         Type       Inputs/outputs selectable         Voltage type, outputs       DC         Switching voltage, outputs       DC         Switching voltage, inputs       high: ≥6V         Input/output 1       Activation/disable delay         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	Output current, max.	
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     Input/output 1       Activation/disable delay     1 ms       Time behavior     1,500 ms       Cycle time     4.63 ms	In much up a late in the	0,000 12
Voltage type, outputs     DC       Switching voltage, outputs     Typ. U <sub>B</sub> / 0 ∨       Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6∨       Input/output 1     Input/output 1       Activation/disable delay     1 ms       Time behavior     1,500 ms       Cycle time     4.63 ms		0.0
Switching voltage, outputs       Typ. U <sub>B</sub> / 0 ∨         Voltage type, inputs       DC         Switching voltage, inputs       high: ≥6∨         Input/output 1       Input/output 1         Activation/disable delay       1 ms         Time behavior       1,500 ms         Cycle time       4.63 ms	Number of inputs/outputs selectable	
Voltage type, inputs     DC       Switching voltage, inputs     high: ≥6V       low: ≤ 4 V       Input/output 1       Activation/disable delay     1 ms       Time behavior       Readiness delay     1,500 ms       Cycle time     4.63 ms	Number of inputs/outputs selectable Type	Inputs/outputs selectable
Switching voltage, inputs       high: ≥6∨         low: ≤ 4 ∨         Input/output 1         Activation/disable delay       1 ms         Time behavior         Readiness delay       1,500 ms         Cycle time       4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs	Inputs/outputs selectable DC
Input/output 1       Activation/disable delay       1 ms       Time behavior       Readiness delay     1,500 ms       Cycle time     4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V
Input/output 1       Activation/disable delay     1 ms       Time behavior       Readiness delay     1,500 ms       Cycle time     4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC
Activation/disable delay1 msTime behavior1,500 msReadiness delay1,500 msCycle time4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
Time behavior       Readiness delay     1,500 ms       Cycle time     4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
Readiness delay1,500 msCycle time4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V
Cycle time 4.63 ms	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs	Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ Iow: $\leq 4 V$
-	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay	Inputs/outputs selectable DC Typ. $U_B / 0 V$ DC high: $\geq 6V$ Iow: $\leq 4 V$
Response time per beam 10 µs	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V Iow: ≤ 4 V 1 ms
	Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Input/output 1 Activation/disable delay Time behavior Readiness delay	Inputs/outputs selectable DC Typ. U <sub>B</sub> / 0 V DC high: ≥6V Iow: ≤ 4 V 1 ms 1,500 ms

Туре

PROFINET

PROFINET	
Function	Process
Conformance class	В
Protocol	PROFINET RT
Switch functionality	Integrated
Transmission speed	10 Mbit/s
	100 Mbit/s
Service interface	
Туре	IO-Link
IO-Link	
Function	Configuration via software
	Service
Connection	
Number of connections	3 Piece(s)
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
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded
Connection 3 Function	BUS OUT
Type of connection	Connector
Thread size	M12
	Female
Type Material	Metal
No. of pins	
Encoding	4 -pin D-coded
Vechanical data	2 0000
Design	Cubic
Dimension (W x H x L)	29 mm x 35.4 mm x 2,263 mm
Housing material	29 mm x 35.4 mm x 2,263 mm Metal
-	Aluminum
Metal housing	Plastic
Lens cover material	
Net weight	2,350 g
Housing color	Silver Groove mounting
Type of fastening	Groove mounting
	Via optional mounting device

### **Technical data**

# Leuze

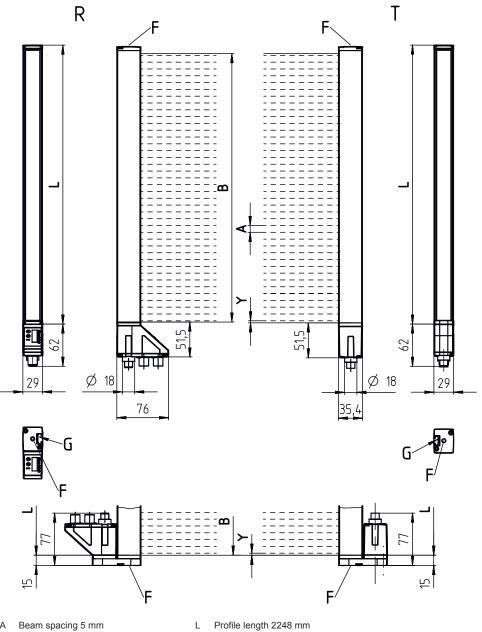
#### **Operation and display**

Type of display	LED	
	OLED display	
Number of LEDs	4 Piece(s)	
Type of configuration	Software	
	Teach-in	
Operational controls	Membrane keyboard	
Environmental data		
Ambient temperature, operation	-30 60 °C	
Ambient temperature, operation Ambient temperature, storage	-30 60 °C -40 70 °C	
Ambient temperature, storage		
Ambient temperature, storage		
Ambient temperature, storage Certifications	-40 70 °C	
Ambient temperature, storage Certifications Degree of protection	-40 70 °C IP 65	_
Ambient temperature, storage Certifications Degree of protection Protection class	-40 70 °C IP 65 III	

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 5 mm А

Fastening groove

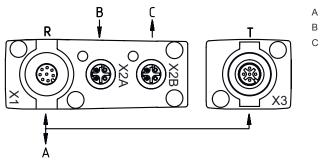
- В Measurement field length 2240 mm
- F M6 thread

G

- Transmitter Т
- R Receiver
- 2.5 mm Υ

## Leuze

#### **Dimensioned drawings**



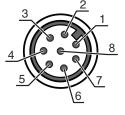
- A PWR / SW IN / OUT B BUS IN
- C BUS OUT

### **Electrical connection**

Connection 1	X1
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

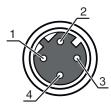
1	V+		
2	I/O 1		
3	GND		
4	IO-Link		
5	I/O 2		
6	RS 485 Tx+		
7	RS 485 Tx+		
8	FE/SHIELD		



Connection 2	X2A
Function	BUS IN
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

#### Pin Pin assignment

1	TD0+
2	RD0+
3	TD0-
4	RD0-



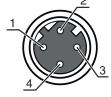
### **Electrical connection**

X2B

#### Connection 3

Function	BUS OUT
Type of connection	Connector
Thread size	M12
Туре	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD0+
2	RD0+
3	TD0-
4	RD0-



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### **Operation and display**

LED	Display	Meaning
1	Green, continuous light	Operational readiness
	Green, flashing	Teach / error
2	2 Yellow, continuous light	Light path free, with function reserve
	Yellow, flashing	No function reserve
	Off	Object detected
3	Green, continuous light (at the X2A / X2B connector)	Link
4	Yellow, continuous light (at the X2A / X2B connector)	Activity

#### Suitable transmitters

 Part no.	Designation	Article	Description
50118939	CML730i-T05- 2240.R-M12	Light curtain transmitter	Operating range: 0.1 4 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

#### Part number code



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
Να	ote
6	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:
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✤ 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
W D	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
Ŵ	50135074	KS ET-M12-4A-P7- 050	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

#### Accessories

# Leuze

#### Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50135081	KSS ET-M12-4A- RJ45-A-P7-050	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 5,000 mm Sheathing material: PUR

#### 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

#### 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
RR.	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

#### Accessories

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#### 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.