

Technical data sheet Light curtain receiver Part no.: 50131725 CML730i-R05-2640.R/PN-M12



The Sensor People In der Braike 1, 73277 Owen

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

Phone: +49 7021 573-0 • Fax: +49 7021 573-199

Technical data

Leuze

| Series | 730 |
|---|--|
| Operating principle | Throughbeam principle |
| Device type | Receiver |
| Contains | Accessories for the use of the BT-2R1 |
| Application | Detection of transparent objects |
| | Object measurement |
| Special version | |
| | Orecord because according |
| Special version | Crossed-beam scanning |
| | Diagonal-beam scanning Parallel-beam scanning |
| | r araller beam seanning |
| Optical data | |
| Operating range | Guaranteed operating range |
| Operating range | 0.1 4.5 m |
| Operating range, transparent media | 0.1 1.75 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0.1 6 m |
| Measurement field length Number of beams | 2,640 mm |
| | 528 Piece(s) 5 mm |
| Beam spacing | 2 11111 |
| Measurement data | |
| Minimum object diameter | 10 mm |
| Electrical data | |
| Protective circuit | |
| | Polarity reversal protection |
| | Short circuit protected |
| | |
| | Short circuit protected |
| Performance data | Short circuit protected Transient protection |
| | Short circuit protected |
| Performance data Supply voltage U _B | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refe |
| Performance data Supply voltage U _B Residual ripple Open-circuit current | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refit to the entire package consisting of tra |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refit to the entire package consisting of tra |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refut to the entire package consisting of tra- mitter and receiver. |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refut to the entire package consisting of tra- mitter and receiver. |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refit to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refit to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refit to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: $\geq 6V$ |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Switching voltage, inputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4V |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: $\geq 6V$ |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Switching voltage, inputs Input/output 1 Activation/disable delay | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4V |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Switching voltage, inputs | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4V |
| Performance data Supply voltage U _B Residual ripple Open-circuit current Inputs/outputs selectable Output current, max. Input resistance Number of inputs/outputs selectable Type Voltage type, outputs Switching voltage, outputs Voltage type, inputs Switching voltage, inputs Switching voltage, inputs Input/output 1 Activation/disable delay | Short circuit protected Transient protection 18 30 V, DC 0 15 %, From U _B 0 435 mA, The specified values refet to the entire package consisting of tra- mitter and receiver. 100 mA 6,000 Ω 2 Piece(s) Inputs/outputs selectable DC Typ. U _B / 0 V DC high: \geq 6V Iow: \leq 4V 1 ms |

Interface

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 |
| | Male |
| Type Material | Metal |
| | |
| No. of pins | 8 -pin A-coded |
| Encoding | A-codeu |
| 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 |
| Туре | Female |
| Material | Metal |
| No. of pins | 4 -pin |
| Encoding | D-coded |
| Encounig | D-coded |
| Mechanical data | |
| Design | Cubic |
| Dimension (W x H x L) | 29 mm x 35.4 mm x 2,663 mm |
| Housing material | Metal |
| Metal housing | Aluminum |
| Lens cover material | Plastic |
| Net weight | 2,750 g |
| Housing color | Silver |
| 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

Certifications

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

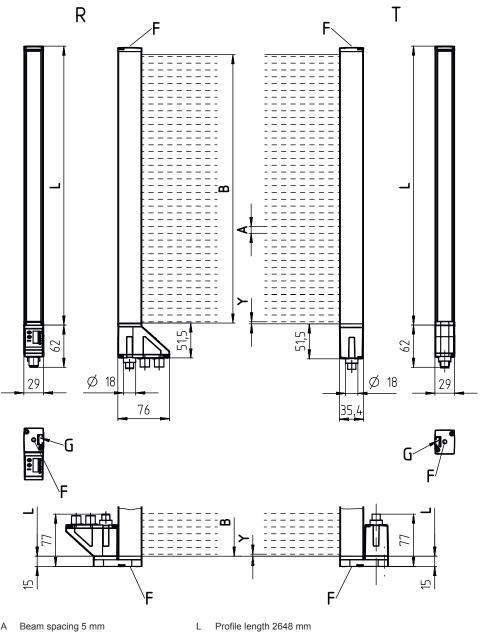
-40 ... 70 °C

Classification

| Customs tariff number | 90314990 |
|-----------------------|----------|
| eCl@ss 5.1.4 | 27270910 |
| eCl@ss 8.0 | 27270910 |
| eCl@ss 9.0 | 27270910 |
| eCl@ss 10.0 | 27270910 |
| eCl@ss 11.0 | 27270910 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |

Dimensioned drawings

All dimensions in millimeters



- Beam spacing 5 mm А
- В Measurement field length 2640 mm
- F M6 thread G Fastening groove
- Transmitter Т
- R Receiver
- 2.5 mm Υ

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

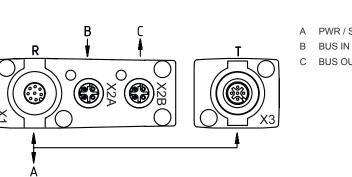


Leuze

Dimensioned drawings

eng • 2020-12-25

5/9



PWR / SW IN / OUT

BUS OUT

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 |

X1

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 |

X2A

Connection 2

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

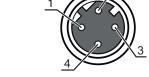
Pin Pin assignment

The Sensor People In der Braike 1, 73277 Owen

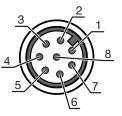
| 1 | TD0+ |
|---|------|
| 2 | RD0+ |
| 3 | TD0- |
| 4 | RD0- |

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

Phone: +49 7021 573-0 • Fax: +49 7021 573-199



Leuze



Electrical connection

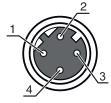
Connection 3

Leuze

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

X2B

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



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 |
| 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 |
|--------------|----------------------------|------------------------------|---|
| 50118944 | CML730i-T05- 2640.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

| Operating principle Measuring light curtain | | | | | |
|---|--|--|--|--|--|
| Series 720i: 720i series 730i: 730i series | | | | | |
| Device type T: transmitter R: receiver | | | | | |
| Beam spacing 05: 5 mm 10: 10 mm 20: 20 mm 40: 40 mm | | | | | |
| Measurement field length [mm], dependent on beam spacing | | | | | |
| Equipment A: connector outlet, axial 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! |
|---|
| This product is not a safety sensor and is not intended as personnel protection. The product may only be put into operation by competent persons. Only use the product in accordance with its intended use. |

| For UL applications: |
|----------------------|
|----------------------|

✤ 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 Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC |
| W | 50135074 | KS ET-M12-4A-P7- 050 | Connection cable | Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin 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. | 429046 | BT-2R1 | 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

Leuze

Services

| | Part no. | Designation | Article | Description |
|---------|----------|-------------|------------------|---|
| с. С | 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. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment. |
| | 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. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure. |

| | Note |
|---|---|
| 6 | ♣ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page. |