

## Technical data sheet

### Contour measurement system

Part no.: 50142185  
CMS708i-0800-0640-0640

#### Contents

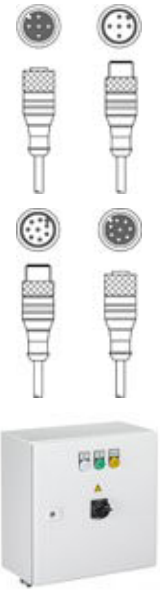
- Set consists of
- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Notes
- Accessories



For illustration purposes only



## Set consists of

|                                                                                    | Quantity | Part no. | Designation                 | Article                   | Description                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|----------|----------|-----------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | 6        | 424417   | BT-2P40                     | Mounting bracket set      | Contains: BT-P40 clamp bracket, 2x<br>Bore hole 1: M6<br>Bore hole 2: M6<br>Design of mounting device: Mounting clamp<br>Fastening, at system: Groove mounting<br>Mounting bracket, at device: Groove mounting<br>Type of mounting device: Clampable, Suitable for mounting in UDC-S2, DC-S2 device columns<br>Material: Metal |
|                                                                                    | 2        | 50118744 | CML730i-R05-640.A/L-M12     | Light curtain receiver    | Operating range: 0.1 ... 4.5 m<br>Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin                                                                                                                                                                                                                              |
|                                                                                    | 1        | 50118746 | CML730i-R05-800.A/L-M12     | Light curtain receiver    | Operating range: 0.1 ... 4.5 m<br>Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin                                                                                                                                                                                                                              |
|                                                                                    | 2        | 50118583 | CML730i-T05-640.A-M12       | Light curtain transmitter | Operating range: 0.1 ... 4 m<br>Connection: Connector, M12, Axial, 5 -pin                                                                                                                                                                                                                                                      |
|                                                                                    | 1        | 50118585 | CML730i-T05-800.A-M12       | Light curtain transmitter | Operating range: 0.1 ... 4 m<br>Connection: Connector, M12, Axial, 5 -pin                                                                                                                                                                                                                                                      |
|  | 3        | 50129781 | KDS DN-M12-5A-M12-5A-P3-050 | Interconnection cable     | Application: Oil and lubricant resistant<br>Suitable for interface: DeviceNet, CANopen<br>Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connection 2: Connector, M12, Axial, Male, A-coded, 5 -pin<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR                                     |
|                                                                                    | 3        | 50135146 | KDS S-M12-8A-M12-8A-P1-050  | Interconnection cable     | Application: Oil and lubricant resistant<br>Connection 1: Connector, M12, Axial, Female, A-coded, 8 -pin<br>Connection 2: Connector, M12, Axial, Male, A-coded, 8 -pin<br>Shielded: Yes<br>Cable length: 5,000 mm<br>Sheathing material: PUR                                                                                   |
|  | 1        | 50142330 | LSC708-000-100              | Switch cabinet            | Supply voltage: 100 ... 263 V, AC<br>Switching inputs: 4 Piece(s)<br>Switching outputs: 4 Piece(s)<br>Connections: 13 Piece(s)                                                                                                                                                                                                 |

## Technical data

### Basic data

|             |                              |
|-------------|------------------------------|
| Series      | CMS 7xxi                     |
| Contains    | 1x dongle CMS700             |
| Order guide | Additional models on request |

### Functions

|           |                                          |
|-----------|------------------------------------------|
| Functions | For a minimum object height $\geq 50$ mm |
|-----------|------------------------------------------|

### 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    |
| Measurement field length 1         | 800 mm         |
| Measurement field length 2         | 640 mm         |
| Measurement field length 3         | 640 mm         |
| Beam spacing                       | 5 mm           |

### Electrical data

|                                                      |                              |
|------------------------------------------------------|------------------------------|
| Protective circuit                                   | Polarity reversal protection |
|                                                      | Short circuit protected      |
|                                                      | Transient protection         |
| Output current, continuous current per channel, max. | 100 mA                       |

### Performance data

|                      |               |
|----------------------|---------------|
| Supply voltage $U_B$ | 100 ... 263 V |
| Open-circuit current | 250 mA        |

### Inputs

|                                    |            |
|------------------------------------|------------|
| Number of digital switching inputs | 4 Piece(s) |
|------------------------------------|------------|

### Switching inputs

|                   |                         |
|-------------------|-------------------------|
| Type              | Digital switching input |
| Voltage type      | DC                      |
| Switching voltage | 24 V, VIN               |

### Outputs

|                                     |            |
|-------------------------------------|------------|
| Number of digital switching outputs | 4 Piece(s) |
|-------------------------------------|------------|

### Switching outputs

|                   |                          |
|-------------------|--------------------------|
| Type              | Digital switching output |
| Voltage type      | DC                       |
| Switching voltage | 24 V, VIN                |

### Interface

|          |                              |
|----------|------------------------------|
| Type     | EtherNet TCP/IP              |
| Ethernet |                              |
| Function | Configuration / process data |

### Connection

|                       |             |
|-----------------------|-------------|
| Number of connections | 11 Piece(s) |
|-----------------------|-------------|

### Connection 1

|                    |               |
|--------------------|---------------|
| Function           | Earthing      |
| Type of connection | Screw fitting |
| Material           | Metal         |

### Connection 2

|                    |                |
|--------------------|----------------|
| Function           | Voltage supply |
| Type of connection | Mains plug     |
| Material           | Metal          |

### Connection 3

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Length measuring light curtain connection (not in combination with rotary encoder) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Female                                                                             |
| Material           | Metal                                                                              |
| No. of pins        | 4 -pin                                                                             |
| Encoding           | D-coded                                                                            |

### Connection 4

|                    |                                          |
|--------------------|------------------------------------------|
| Function           | Width measuring light curtain connection |
| Type of connection | Connector                                |
| Thread size        | M12                                      |
| Type               | Female                                   |
| Material           | Metal                                    |
| No. of pins        | 8 -pin                                   |
| Encoding           | A-coded                                  |

### Connection 5

|                    |                                           |
|--------------------|-------------------------------------------|
| Function           | Height measuring light curtain connection |
| Type of connection | Connector                                 |
| Thread size        | M12                                       |
| Type               | Female                                    |
| Material           | Metal                                     |
| No. of pins        | 8 -pin                                    |
| Encoding           | A-coded                                   |

### Connection 6

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Rotary encoder connection (not in combination with length measuring light curtain) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Female                                                                             |
| Material           | Metal                                                                              |
| No. of pins        | 4 -pin                                                                             |
| Encoding           | A-coded                                                                            |

### Connection 7

|                    |                                     |
|--------------------|-------------------------------------|
| Function           | External Ethernet TCP/IP connection |
| Type of connection | Connector                           |
| Thread size        | M12                                 |
| Type               | Female                              |
| Material           | Metal                               |
| No. of pins        | 4 -pin                              |
| Encoding           | A-coded                             |

### Connection 8

|                    |           |
|--------------------|-----------|
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Female    |
| Material           | Metal     |
| No. of pins        | 4 -pin    |
| Encoding           | A-coded   |

## Technical data

### Connection 9

|                    |           |
|--------------------|-----------|
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Female    |
| Material           | Metal     |
| No. of pins        | 4 -pin    |
| Encoding           | A-coded   |

### Mechanical data

|                     |                                                              |
|---------------------|--------------------------------------------------------------|
| Design              | Cubic                                                        |
| Housing material    | Metal                                                        |
| Metal housing       | Aluminum                                                     |
| Lens cover material | Plastic                                                      |
| Housing color       | Gray                                                         |
|                     | Red                                                          |
| Note                | Dimensions of individual set items, see dimensioned drawings |

### Operation and display

|                       |                         |
|-----------------------|-------------------------|
| Type of display       | LED                     |
| Number of LEDs        | 3 Piece(s)              |
| Type of configuration | performed via webConfig |
| Operational controls  | Rotary switch           |

### Environmental data

|                                |               |
|--------------------------------|---------------|
| Ambient temperature, operation | 0 ... 45 °C   |
| Ambient temperature, storage   | -20 ... 70 °C |

### Certifications

|           |     |
|-----------|-----|
| Approvals | CSA |
|-----------|-----|

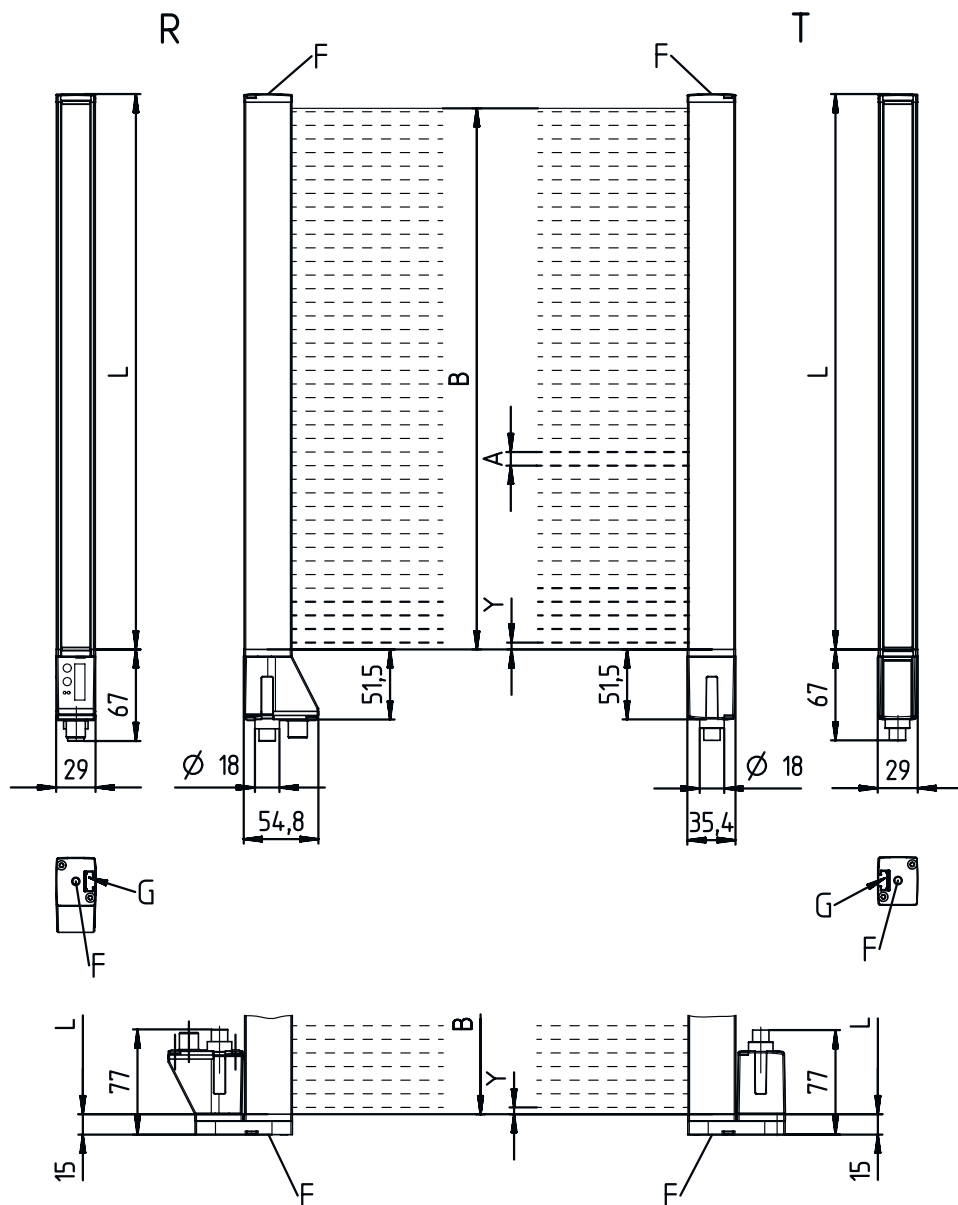
### Classification

|                       |          |
|-----------------------|----------|
| Customs tariff number | 90314990 |
| ECLASS 5.1.4          | 27270910 |
| ECLASS 8.0            | 27270910 |
| ECLASS 9.0            | 27270910 |
| ECLASS 10.0           | 27270910 |
| ECLASS 11.0           | 27270910 |
| ECLASS 12.0           | 27270910 |
| ECLASS 13.0           | 27270910 |
| ECLASS 14.0           | 27270910 |
| ECLASS 15.0           | 27270910 |
| ETIM 5.0              | EC002549 |
| ETIM 6.0              | EC002549 |
| ETIM 7.0              | EC002549 |
| ETIM 8.0              | EC002549 |
| ETIM 9.0              | EC002549 |
| ETIM 10.0             | EC002549 |

## Dimensioned drawings

All dimensions in millimeters

### Light curtain transmitter and receiver



A Beam spacing 5 mm

R Receiver

B Measurement field length 1 = 800 mm  
Measurement field length 2 = 640 mm  
Measurement field length 3 = 640 mm

Y 2.5 mm

F M6 thread

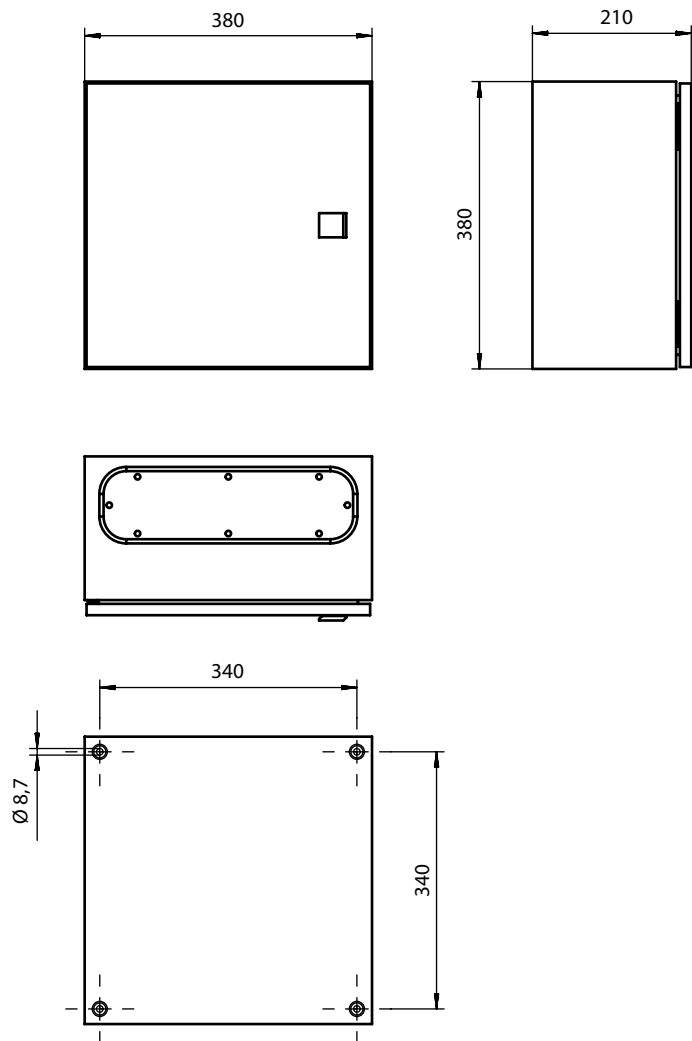
G Fastening groove

L Profile length 1 = 808 mm  
Profile length 2 = 648 mm  
Profile length 3 = 648 mm

T Transmitter

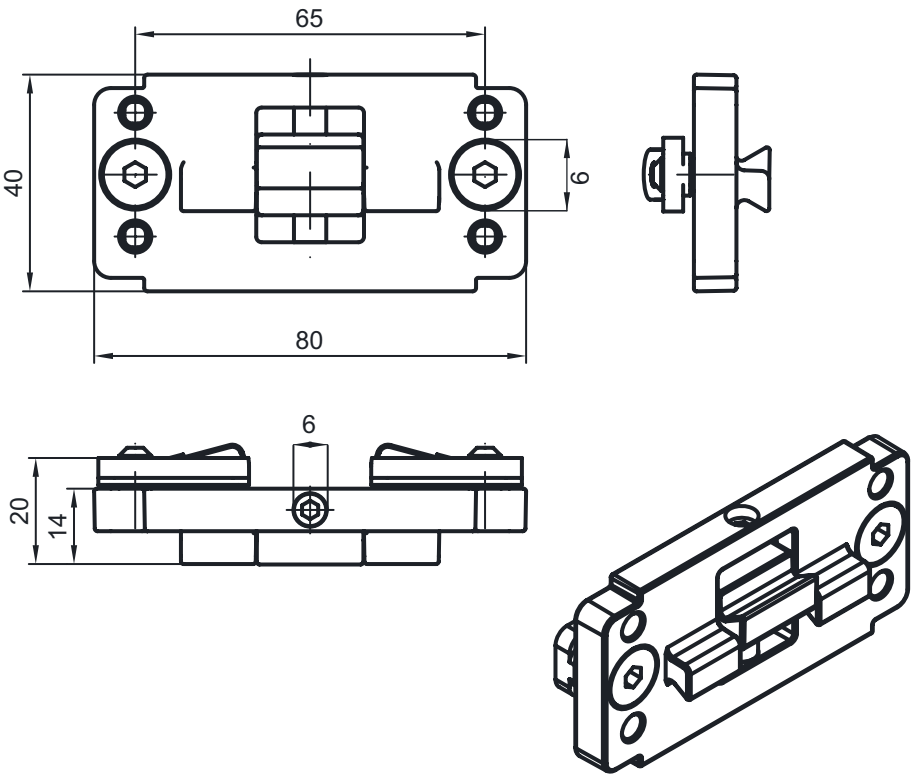
## Dimensioned drawings

### Switch cabinet



Dimensioned drawings

Mounting bracket



Electrical connection

Connection 1

|                    |               |
|--------------------|---------------|
| Function           | Earthing      |
| Type of connection | Screw fitting |
| Material           | Metal         |

Connection 2

|                    |                |
|--------------------|----------------|
| Function           | Voltage supply |
| Type of connection | Mains plug     |
| Material           | Metal          |

Connection 3

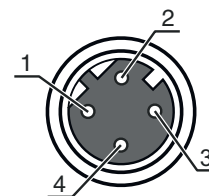
ETH1

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Length measuring light curtain connection (not in combination with rotary encoder) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Female                                                                             |
| Material           | Metal                                                                              |
| No. of pins        | 4 -pin                                                                             |
| Encoding           | D-coded                                                                            |

## Electrical connection

### Pin Pin assignment

|   |     |
|---|-----|
| 1 | TD+ |
| 2 | RD+ |
| 3 | TD- |
| 4 | RD- |



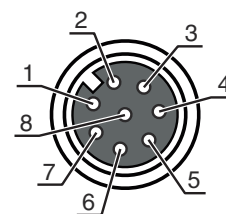
### Connection 4

### CML1 / CML2 / CML3

|                    |                                          |
|--------------------|------------------------------------------|
| Function           | Width measuring light curtain connection |
| Type of connection | Connector                                |
| Thread size        | M12                                      |
| Type               | Female                                   |
| Material           | Metal                                    |
| No. of pins        | 8 -pin                                   |
| Encoding           | A-coded                                  |

### Pin Pin assignment

|   |         |
|---|---------|
| 1 | V+      |
| 2 | IO1     |
| 3 | GND     |
| 4 | IO-Link |
| 5 | IO2     |
| 6 | IO3     |
| 7 | IO4     |
| 8 | GND     |



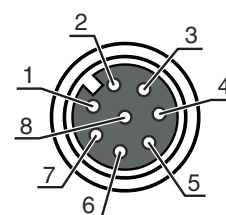
### Connection 5

### Encoder

|                    |                                           |
|--------------------|-------------------------------------------|
| Function           | Height measuring light curtain connection |
| Type of connection | Connector                                 |
| Thread size        | M12                                       |
| Type               | Female                                    |
| Material           | Metal                                     |
| No. of pins        | 8 -pin                                    |
| Encoding           | A-coded                                   |

### Pin Pin assignment

|   |        |
|---|--------|
| 1 | U-     |
| 2 | U+     |
| 3 | A      |
| 4 | B      |
| 5 | N      |
| 6 | A inv. |
| 7 | B inv. |
| 8 | N inv. |



### Connection 6

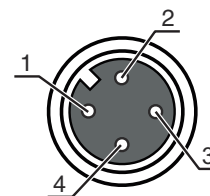
### DI1

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Rotary encoder connection (not in combination with length measuring light curtain) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Female                                                                             |
| Material           | Metal                                                                              |
| No. of pins        | 4 -pin                                                                             |
| Encoding           | A-coded                                                                            |

## Electrical connection

### Pin Pin assignment

|   |       |
|---|-------|
| 1 | +24 V |
| 2 | DI1   |
| 3 | GND   |
| 4 | DI2   |



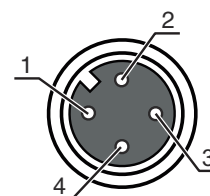
### Connection 7

### DI2

|                    |                                     |
|--------------------|-------------------------------------|
| Function           | External Ethernet TCP/IP connection |
| Type of connection | Connector                           |
| Thread size        | M12                                 |
| Type               | Female                              |
| Material           | Metal                               |
| No. of pins        | 4 -pin                              |
| Encoding           | A-coded                             |

### Pin Pin assignment

|   |       |
|---|-------|
| 1 | +24 V |
| 2 | DI3   |
| 3 | GND   |
| 4 | DI4   |



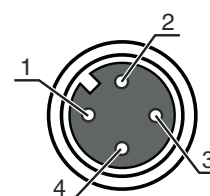
### Connection 8

### DO1

|                    |           |
|--------------------|-----------|
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Female    |
| Material           | Metal     |
| No. of pins        | 4 -pin    |
| Encoding           | A-coded   |

### Pin Pin assignment

|   |       |
|---|-------|
| 1 | +24 V |
| 2 | DO1   |
| 3 | GND   |
| 4 | DO2   |



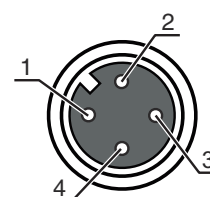
### Connection 9

### DO2

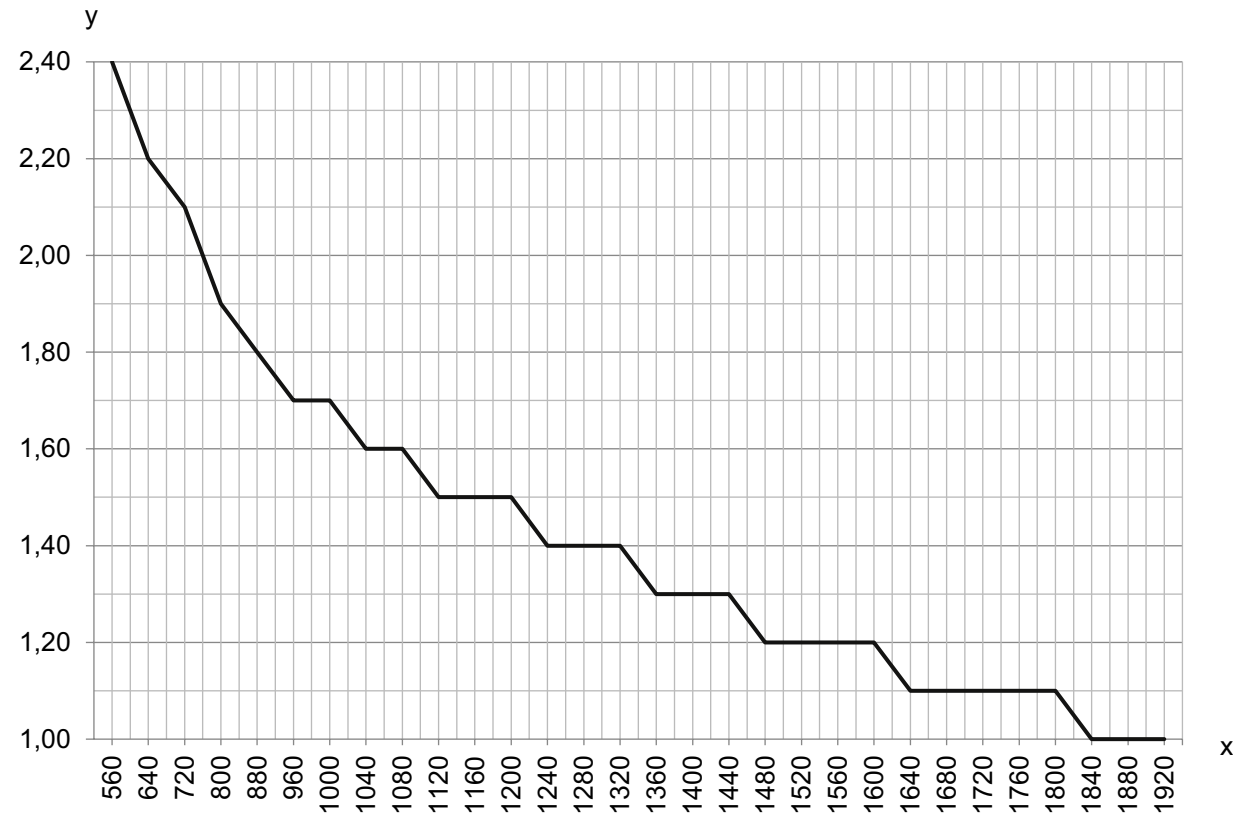
|                    |           |
|--------------------|-----------|
| Type of connection | Connector |
| Thread size        | M12       |
| Type               | Female    |
| Material           | Metal     |
| No. of pins        | 4 -pin    |
| Encoding           | A-coded   |

### Pin Pin assignment

|   |       |
|---|-------|
| 1 | +24 V |
| 2 | DO3   |
| 3 | GND   |
| 4 | DO4   |



Diagrams



x Total measuring length from width and height measuring light curtain [mm]  
y Max. conveyor speed [m/s]

Notes

Observe intended use!

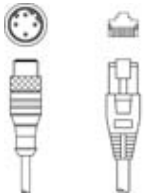
- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

Accessories

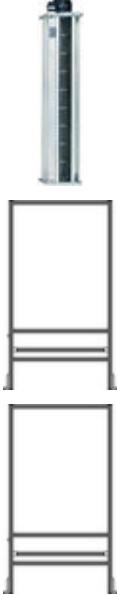
Connection technology - Interconnection cables

|  | Part no. | Designation                 | Article               | Description                                                                                                                                                                                                                             |
|--|----------|-----------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50135082 | KSS ET-M12-4A-RJ45-A-P7-100 | Interconnection cable | Application: Oil and lubricant resistant<br>Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 10,000 mm<br>Sheathing material: PUR |

## Accessories

|                                                                                  | Part no. | Designation                 | Article               | Description                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------|----------|-----------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50135083 | KSS ET-M12-4A-RJ45-A-P7-150 | Interconnection cable | Application: Oil and lubricant resistant<br>Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 15,000 mm<br>Sheathing material: PUR |
|                                                                                  | 50135084 | KSS ET-M12-4A-RJ45-A-P7-300 | Interconnection cable | Application: Oil and lubricant resistant<br>Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 30,000 mm<br>Sheathing material: PUR |

## Mounting technology - Other

|                                                                                    | Part no. | Designation   | Article             | Description                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------|----------|---------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50143670 | BT 708M-MRSET | Mounting device set | Contains: Mounting material, Mounting profiles<br>Design of mounting device: Profile kit<br>Fastening, at system: Screw type / vertical<br>Mounting bracket, at device: Groove mounting<br>Type of mounting device: Rigid<br>Material: Aluminum<br>Shock absorber: No |
|                                                                                    | 50143669 | BT 710M-MRSET | Mounting device set | Contains: Mounting profiles, Mounting material<br>Design of mounting device: Profile kit<br>Fastening, at system: Screw type / vertical<br>Mounting bracket, at device: Groove mounting<br>Type of mounting device: Rigid<br>Material: Aluminum<br>Shock absorber: No |
|                                                                                    | 50142039 | BT 712M-MRSET | Mounting device set | Contains: Mounting profiles, Mounting material<br>Design of mounting device: Profile kit<br>Fastening, at system: Screw type / vertical<br>Mounting bracket, at device: Groove mounting<br>Type of mounting device: Rigid<br>Material: Aluminum<br>Shock absorber: No |

### Note



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