

## Technical data sheet

### Contour measurement system

Part no.: 50142161

CMS748i-0800-0480-0640

#### Contents

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



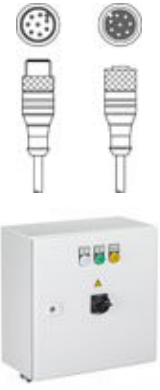
For illustration purposes only



## 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 |
|                                                                                   | 1        | 50118742 | CML730i-R05-480.A/L-M12     | Light curtain receiver    | Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin                                                                                                                                                                                                                                                                |
|                                                                                   | 1        | 50118744 | CML730i-R05-640.A/L-M12     | Light curtain receiver    | Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin                                                                                                                                                                                                                                                                |
|                                                                                   | 1        | 50118746 | CML730i-R05-800.A/L-M12     | Light curtain receiver    | Interface: IO-Link<br>Connection: Connector, M12, Axial, 8 -pin                                                                                                                                                                                                                                                                |
|                                                                                   | 1        | 50118581 | CML730i-T05-480.A-M12       | Light curtain transmitter | Operating range: 0.1 ... 4 m<br>Connection: Connector, M12, Axial, 5 -pin                                                                                                                                                                                                                                                      |
|                                                                                   | 1        | 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                                     |

## Set consists of

|                                                                                  | Quantity | Part no. | Designation                | Article               | Description                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------|----------|----------|----------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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        | 50142331 | LSC748-000-100             | 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         | 480 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      | AC                       |
| Switching voltage | 24 V, VIN                |

### Interface

|      |                           |
|------|---------------------------|
| Type | EtherNet TCP/IP, PROFINET |
|------|---------------------------|

### Ethernet

|          |                              |
|----------|------------------------------|
| Function | Configuration / process data |
|----------|------------------------------|

### PROFINET

|          |                              |
|----------|------------------------------|
| Function | Configuration / process data |
|----------|------------------------------|

### Connection

|                       |            |
|-----------------------|------------|
| Number of connections | 9 Piece(s) |
|-----------------------|------------|

### Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Earthing       |
| Type of connection | Earthing strap |
| Material           | Metal          |

### Connection 2

|                    |                   |
|--------------------|-------------------|
| Function           | Voltage supply    |
| Type of connection | Harting connector |
| Material           | Metal             |

### Connection 3

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Length measuring light curtain connection (not in combination with rotary encoder) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Male                                                                               |
| Material           | Metal                                                                              |
| No. of pins        | 8 -pin                                                                             |
| Encoding           | A-coded                                                                            |

## Technical data

### Connection 4

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

### Connection 7

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

### Connection 8

|                    |                                   |
|--------------------|-----------------------------------|
| Function           | PROFINET IN connection (optional) |
| Type of connection | Connector                         |
| Thread size        | M12                               |
| Type               | Male                              |
| Material           | Metal                             |
| No. of pins        | 4 -pin                            |
| Encoding           | A-coded                           |

### Connection 9

|                    |                                    |
|--------------------|------------------------------------|
| Function           | PROFINET OUT connection (optional) |
| Type of connection | Connector                          |
| Thread size        | M12                                |
| Type               | Male                               |
| 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 |
|-----------|-----|

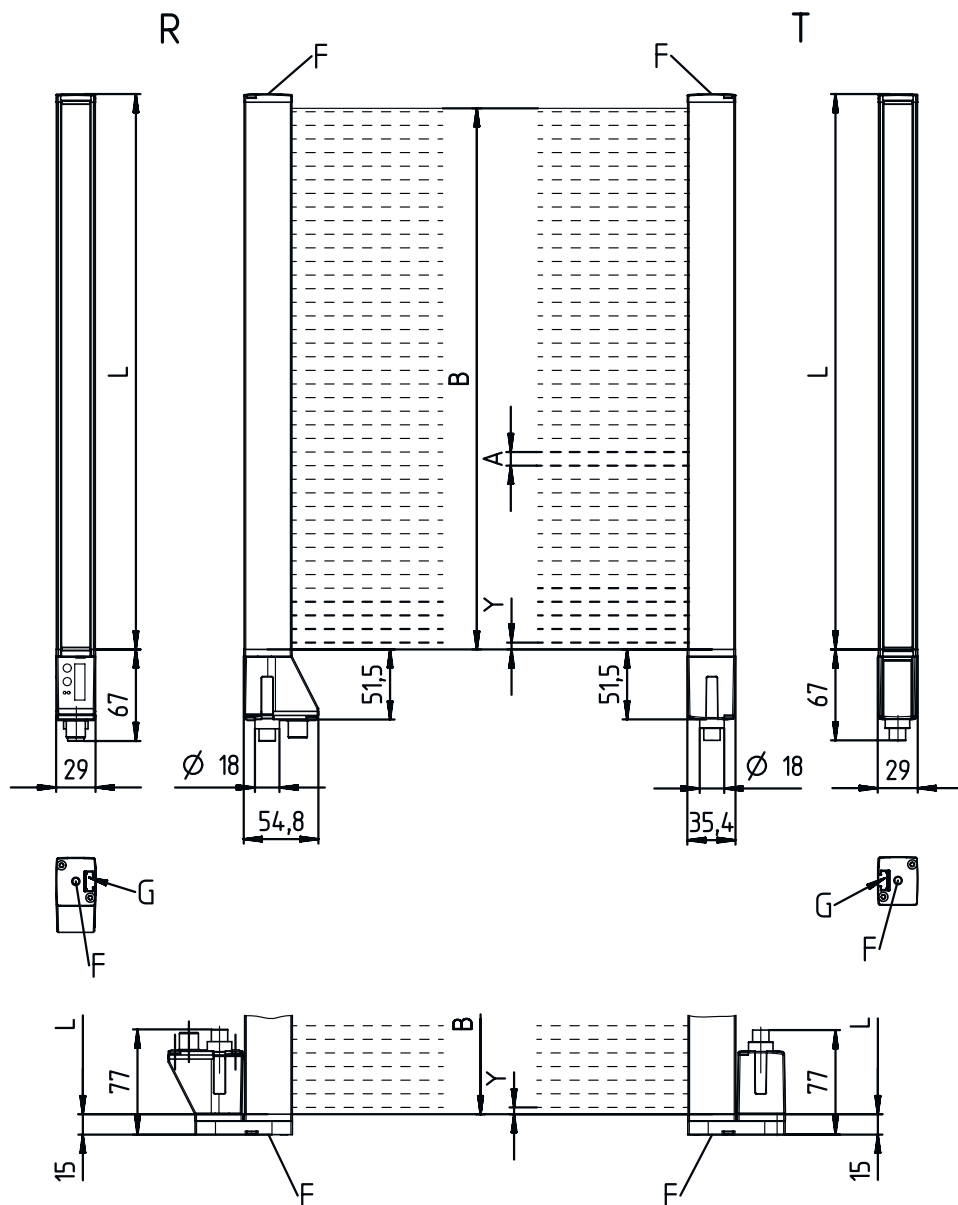
### Classification

|                       |          |
|-----------------------|----------|
| 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 |
| ECLASS 16.0           | 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<br>Measurement field length 2 = 480 mm<br>Measurement field length 3 = 640 mm | Y | 2.5 mm   |
| F | M6 thread                                                                                                         |   |          |
| G | Fastening groove                                                                                                  |   |          |
| L | Profile length 1 = 808 mm<br>Profile length 2 = 488 mm<br>Profile length 3 = 648 mm                               |   |          |
| T | Transmitter                                                                                                       |   |          |

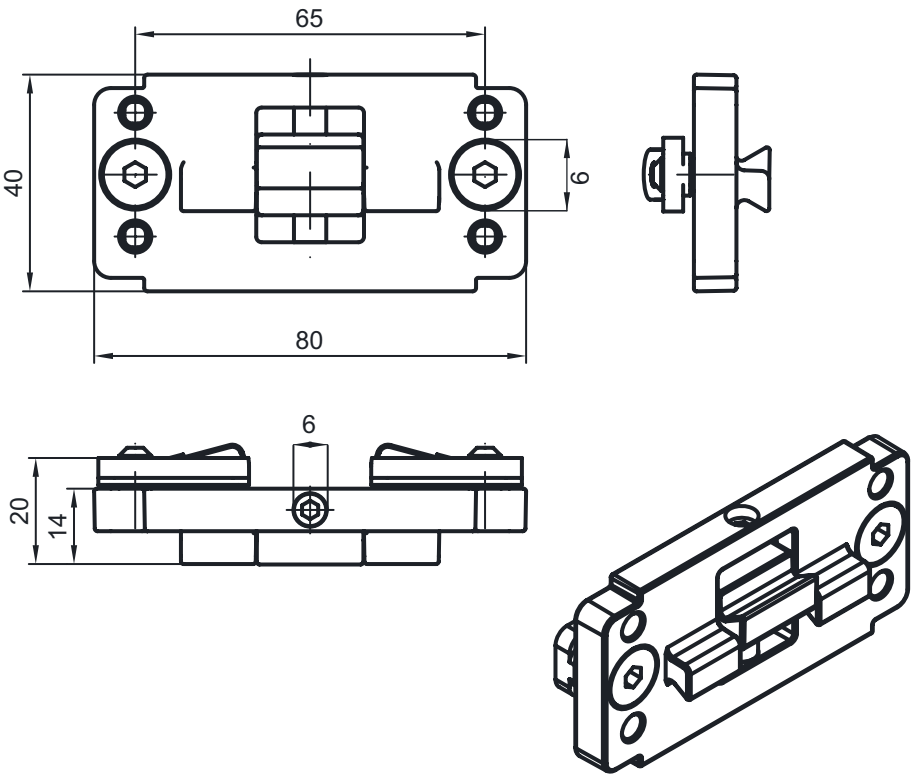
## Dimensioned drawings

### Switch cabinet



Dimensioned drawings

Mounting bracket



Electrical connection

Connection 1

|                    |                |
|--------------------|----------------|
| Function           | Earthing       |
| Type of connection | Earthing strap |
| Material           | Metal          |

Connection 2

XS1000

|                    |                   |
|--------------------|-------------------|
| Function           | Voltage supply    |
| Type of connection | Harting connector |
| Material           | Metal             |

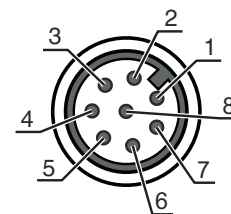
Connection 3

XS1300

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Length measuring light curtain connection (not in combination with rotary encoder) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Male                                                                               |
| Material           | Metal                                                                              |
| No. of pins        | 8 -pin                                                                             |
| Encoding           | A-coded                                                                            |

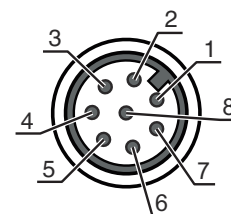
## Electrical connection

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



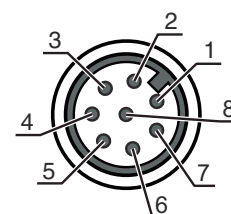
| Connection 4       | XS1301                                   |
|--------------------|------------------------------------------|
| Function           | Width measuring light curtain connection |
| Type of connection | Connector                                |
| Thread size        | M12                                      |
| Type               | Male                                     |
| 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       | XS1302                                    |
|--------------------|-------------------------------------------|
| Function           | Height measuring light curtain connection |
| Type of connection | Connector                                 |
| Thread size        | M12                                       |
| Type               | Male                                      |
| 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            |



## Electrical connection

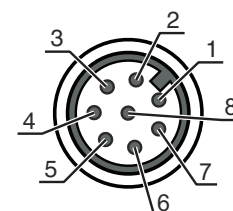
### Connection 6

### XS1400

|                    |                                                                                    |
|--------------------|------------------------------------------------------------------------------------|
| Function           | Rotary encoder connection (not in combination with length measuring light curtain) |
| Type of connection | Connector                                                                          |
| Thread size        | M12                                                                                |
| Type               | Male                                                                               |
| 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. |
| 9 | Shield |



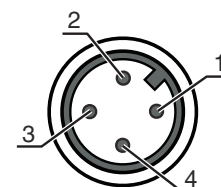
### Connection 7

### XETH1

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

#### Pin Pin assignment

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



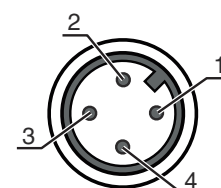
### Connection 8

### XS1100

|                    |                                   |
|--------------------|-----------------------------------|
| Function           | PROFINET IN connection (optional) |
| Type of connection | Connector                         |
| Thread size        | M12                               |
| Type               | Male                              |
| Material           | Metal                             |
| No. of pins        | 4 -pin                            |
| Encoding           | A-coded                           |

#### Pin Pin assignment

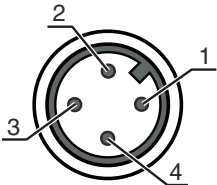
|   |     |
|---|-----|
| 1 | TD+ |
| 2 | RD+ |
| 3 | TD- |
| 4 | RD- |



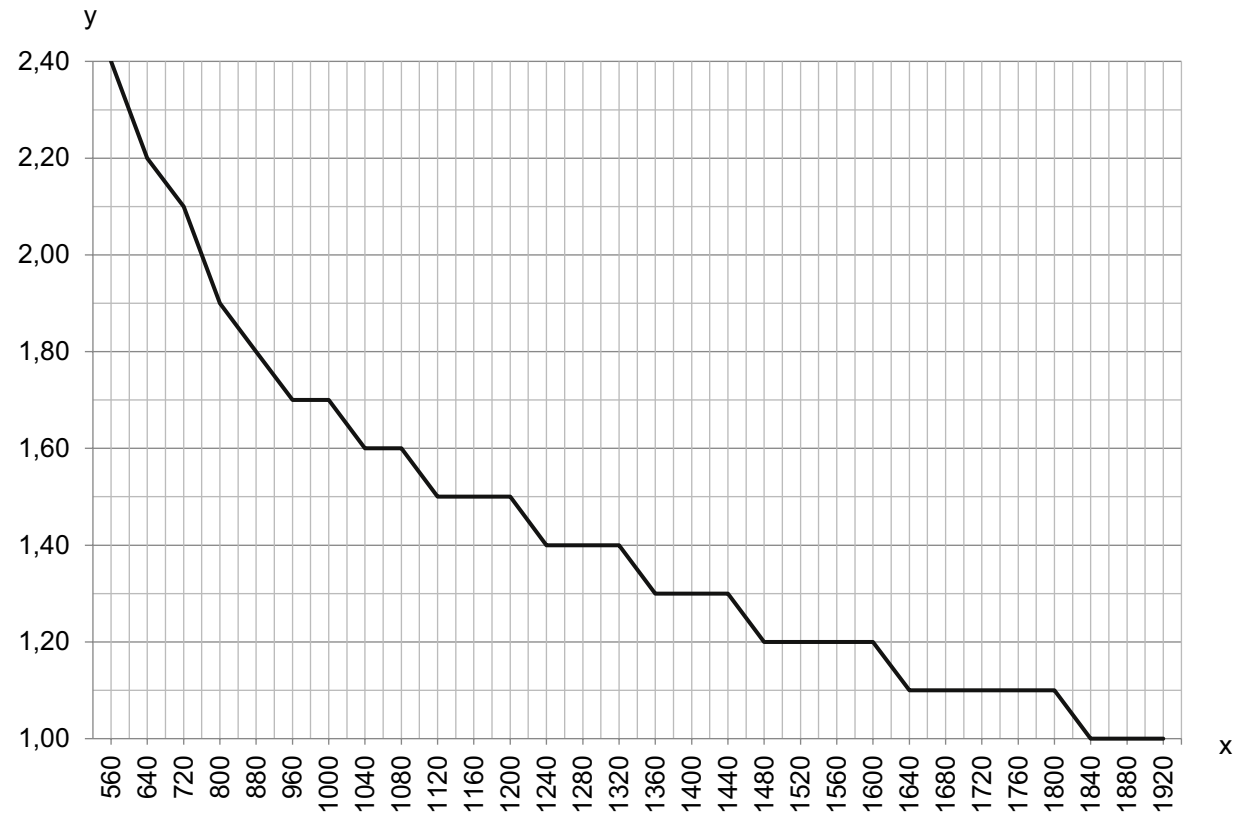
Electrical connection

| Connection 9       |                                    | XS1101 |
|--------------------|------------------------------------|--------|
| Function           | PROFINET OUT connection (optional) |        |
| Type of connection | Connector                          |        |
| Thread size        | M12                                |        |
| Type               | Male                               |        |
| Material           | Metal                              |        |
| No. of pins        | 4 -pin                             |        |
| Encoding           | A-coded                            |        |

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



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 |
|  | 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 |

**Accessories**

|                                                                                   | Part no. | Designation   | Article             | Description                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|----------|---------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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.