



Description

Laser displacement sensor, 655 nm laser source, metal housing, LED display and button settings, rich interface. Suitable for pharmaceutical, packaging, automotive, non-standard equipment and others.

Features

- LED digital display + teaching function
- Strong resistance to ambient light, compact size
- Analog / switch dual output

Type

| Detection mode | Type | Distance | Light source | Frequency | Resolution | Connection | Wiring |
|--------------------|--------------------------|-----------------|--------------|-------------------------|------------|---------------|--------|
| Laser Displacement | OSM40-KL35CBLIU6 | 25 ... 35 mm | Red laser | NPN / PNP + analog mA/V | 0.001 mm | 2 m cable | Fig. 1 |
| | OSM40-KL35CBLIU6Q12.1 | 25 ... 35 mm | Red laser | NPN / PNP + analog mA/V | 0.001 mm | M12 connector | Fig. 1 |
| | OSM40-KL70CBLIU6 | 35 ... 70 mm | Red laser | NPN / PNP + analog mA/V | 0.01 mm | 2 m cable | Fig. 1 |
| | OSM40-KL70CBLIU6Q12.1 | 35 ... 70 mm | Red laser | NPN / PNP + analog mA/V | 0.01 mm | M12 connector | Fig. 1 |
| | OSM40-KL160CBLIU6 | 60 ... 160 mm | Red laser | NPN / PNP + analog mA/V | 0.01 mm | 2 m cable | Fig. 1 |
| | OSM40-KL160CBLIU6Q12.1 | 60 ... 160 mm | Red laser | NPN / PNP + analog mA/V | 0.01 mm | M12 connector | Fig. 1 |
| | OSM40-KL300CBLIU6 | 100 ... 300 mm | Red laser | NPN / PNP + analog mA/V | 0.1 mm | 2 m cable | Fig. 1 |
| | OSM40-KL300CBLIU6Q12.1 | 100 ... 300 mm | Red laser | NPN / PNP + analog mA/V | 0.1 mm | M12 connector | Fig. 1 |
| | OSM40-KL800CBLIU6 | 150 ... 800 mm | Red laser | NPN / PNP + analog mA/V | 0.1 mm | 2 m cable | Fig. 1 |
| | OSM40-KL800CBLIU6Q12.1 | 150 ... 800 mm | Red laser | NPN / PNP + analog mA/V | 0.1 mm | M12 connector | Fig. 1 |
| | OSM40-KL1000CBLIU6 | 110 ... 1000 mm | Red laser | NPN / PNP + analog mA/V | 1 mm | 2 m cable | Fig. 1 |
| | OSM40-KL1000CBLIU6Q12.1 | 110 ... 1000 mm | Red laser | NPN / PNP + analog mA/V | 1 mm | M12 connector | Fig. 1 |
| | OSM40-KL35CB6/485 | 25 ... 35 mm | Red laser | NPN / PNP + RS-485 | 0.001 mm | 2 m cable | Fig. 2 |
| | OSM40-KL35CB6Q12.1/485 | 25 ... 35 mm | Red laser | NPN / PNP + RS-485 | 0.001 mm | M12 connector | Fig. 2 |
| | OSM40-KL70CB6/485 | 35 ... 70 mm | Red laser | NPN / PNP + RS-485 | 0.01 mm | 2 m cable | Fig. 2 |
| | OSM40-KL70CB6Q12.1/485 | 35 ... 70 mm | Red laser | NPN / PNP + RS-485 | 0.01 mm | M12 connector | Fig. 2 |
| | OSM40-KL160CB6/485 | 60 ... 160 mm | Red laser | NPN / PNP + RS-485 | 0.01 mm | 2 m cable | Fig. 2 |
| | OSM40-KL160CB6Q12.1/485 | 60 ... 160 mm | Red laser | NPN / PNP + RS-485 | 0.01 mm | M12 connector | Fig. 2 |
| | OSM40-KL300CB6/485 | 100 ... 300 mm | Red laser | NPN / PNP + RS-485 | 0.1 mm | 2 m cable | Fig. 2 |
| | OSM40-KL300CB6Q12.1/485 | 100 ... 300 mm | Red laser | NPN / PNP + RS-485 | 0.1 mm | M12 connector | Fig. 2 |
| | OSM40-KL800CB6/485 | 150 ... 800 mm | Red laser | NPN / PNP + RS-485 | 0.1 mm | 2 m cable | Fig. 2 |
| | OSM40-KL800CB6Q12.1/485 | 150 ... 800 mm | Red laser | NPN / PNP + RS-485 | 0.1 mm | M12 connector | Fig. 2 |
| | OSM40-KL1000CB6/485 | 110 ... 1000 mm | Red laser | NPN / PNP + RS-485 | 1 mm | 2 m cable | Fig. 2 |
| | OSM40-KL1000CB6Q12.1/485 | 110 ... 1000 mm | Red laser | NPN / PNP + RS-485 | 1 mm | M12 connector | Fig. 2 |

Type

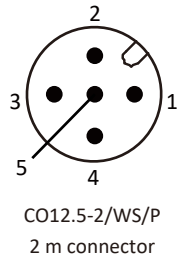
| Detection mode | Type | Distance | Light source | Frequency | Resolution | Connection | Wiring |
|--------------------|-------------------------|-----------------|--------------|---------------------|------------|---------------|--------|
| Laser Displacement | OSM40-KL35CB6Q12.1/IO | 25 ... 35 mm | Red laser | NPN / PNP + IO-Link | 0.001 mm | M12 connector | Fig. 3 |
| | OSM40-KL70CB6Q12.1/IO | 35 ... 70 mm | Red laser | NPN / PNP + IO-Link | 0.01 mm | M12 connector | Fig. 3 |
| | OSM40-KL160CB6Q12.1/IO | 60 ... 160 mm | Red laser | NPN / PNP + IO-Link | 0.01 mm | M12 connector | Fig. 3 |
| | OSM40-KL300CB6Q12.1/IO | 100 ... 300 mm | Red laser | NPN / PNP + IO-Link | 0.1 mm | M12 connector | Fig. 3 |
| | OSM40-KL800CB6Q12.1/IO | 150 ... 800 mm | Red laser | NPN / PNP + IO-Link | 0.1 mm | M12 connector | Fig. 3 |
| | OSM40-KL1000CB6Q12.1/IO | 110 ... 1000 mm | Red laser | NPN / PNP + IO-Link | 1 mm | M12 connector | Fig. 3 |
| | OSM40-KL2000CB6Q12.1/IO | 150 ... 2000 mm | Red laser | NPN / PNP + IO-Link | 1 mm | M12 connector | Fig. 3 |
| | OSM40-KL2000C2B6 | 150 ... 2000 mm | Red laser | 2 x NPN / PNP | 1 mm | 2 m cable | Fig. 4 |
| | OSM40-KL2000C2B6Q12.1 | 150 ... 2000 mm | Red laser | 2 x NPN / PNP | 1 mm | M12 connector | Fig. 4 |

Technical Data

| | |
|--------------------------------|---|
| Supply voltage | 10 ... 30 V DC |
| Ripple voltage | ≤ 10% |
| No-load current | ≤ 150 mA |
| Power | < 1 W |
| Analog output | 4 ... 20 mA, 0 ... 5 V or 0 ... 10 V |
| Switch output | NPN / PNP |
| Communication type | RS-485, IO-Link |
| Light source | Red laser (655 nm) / class 2 |
| Protection circuit | Reverse polarity protection, short circuit protection, overload protection |
| Response time | 1.5 ms / 5 ms / 10 ms |
| Repeatability | 0.01 mm@25 ... 35 mm; 0.05 mm@35 ... 70 mm; 0.1 mm@60 ... 160 mm; 0.3 mm@100 ... 300 mm; 0.5 mm@150 ... 400 mm; 1 mm@400 ... 600 mm; 3 mm@600 ... 800 mm; 6 mm@800 ... 1000 mm |
| Spot diameter | ∅ 100 μm@30 mm; ∅ 100 μm@50 mm; ∅ 200 μm@100 mm; ∅ 500 μm@200 mm; ∅ 1 mm@400 mm ∅ 2 mm@600 mm |
| Housing material | 316L |
| Ambient temperature | -20 ... +60 °C |
| Operating temperature | -10 ... +50 °C |
| Operating environment humidity | 35% to 85% RH (no condensation) |
| Voltage resistance | 1000 V/AC 50/60 Hz 60 s |
| Insulation impedance | ≥ 50 MΩ (500 V DC) |
| Shock resistance | Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively) |
| Impact resistance | 500 m/s ² (50 G) 3 times X, Y, Z respectively |
| Protection class | IP67 |
| Dimensions | 60.4 × 20 × 35.3 mm |

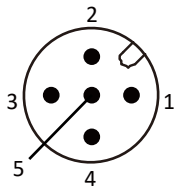
Interface Output

Fig. 1



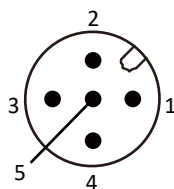
| Serial number | Function | Core color of cable type | Core color of connector type |
|---------------|-----------------|--------------------------|------------------------------|
| 1 | Power + | BN | BN |
| 2 | Analogue output | GY | WH |
| 3 | Power - | BU | BU |
| 4 | NPN / PNP | BK | BK |
| 5 | Enable input | PK | GY |

Fig. 2



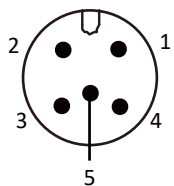
| Serial number | Function | Core color of cable type | Core color of connector type |
|---------------|-----------|--------------------------|------------------------------|
| 1 | Power + | BN | BN |
| 2 | 485B | GY | WH |
| 3 | Power - | BU | BU |
| 4 | NPN / PNP | BK | BK |
| 5 | 485A | PK | GY |

Fig. 3



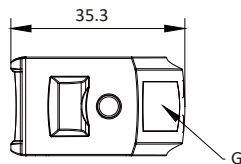
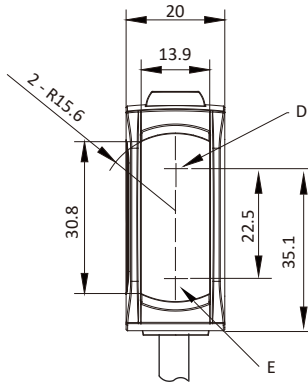
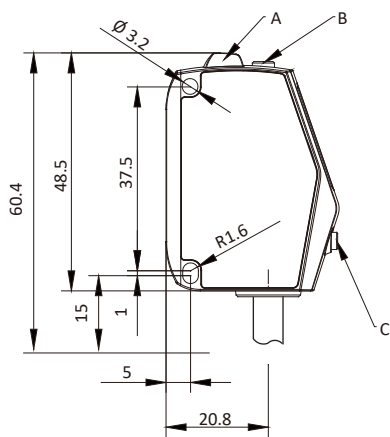
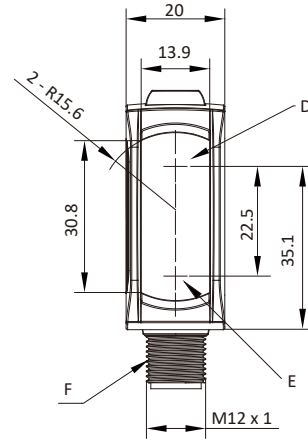
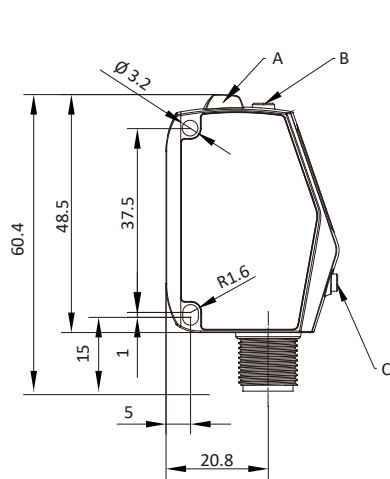
| Serial number | Function | Core color of connector type |
|---------------|------------------------|------------------------------|
| 1 | Power + | BN |
| 2 | IO-Link-DIO; NPN / PNP | WH |
| 3 | Power - | BU |
| 4 | IO-Link-C/Q | BK |
| 5 | NC | GY |

Fig. 4



| Serial number | Function | Core color of connector type |
|---------------|--------------|------------------------------|
| 1 | Power + | BN |
| 2 | NPN / PNP 2 | GY |
| 3 | Power - | BU |
| 4 | NPN / PNP 1 | BK |
| 5 | Enable input | PK |

Dimensions



- A Alarm indicator
- B Function setting button
- C Function adjustment button
- D Emitting
- E Receiving
- F M12*1 connector
- G LED display