

# Photoelectric sensor - OSM40



## Description:

Laser displacement sensor, 655nm 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:

| Type                    | Distance    | Beam      | Output                | Resolution | Connection    | Wiring |
|-------------------------|-------------|-----------|-----------------------|------------|---------------|--------|
| OSM40-KL35CBLIU6        | 25...35mm   | Red laser | NPN/PNP+analog mA / V | 0.001mm    | 2m cable      | Fig.1  |
| OSM40-KL35CBLIU6Q12.1   | 25...35mm   | Red laser | NPN/PNP+analog mA / V | 0.001mm    | M12 connector | Fig.1  |
| OSM40-KL70CBLIU6        | 35...70mm   | Red laser | NPN/PNP+analog mA / V | 0.01mm     | 2m cable      | Fig.1  |
| OSM40-KL70CBLIU6Q12.1   | 35...70mm   | Red laser | NPN/PNP+analog mA / V | 0.01mm     | M12 connector | Fig.1  |
| OSM40-KL160CBLIU6       | 60...160mm  | Red laser | NPN/PNP+analog mA / V | 0.01mm     | 2m cable      | Fig.1  |
| OSM40-KL160CBLIU6Q12.1  | 60...160mm  | Red laser | NPN/PNP+analog mA / V | 0.01mm     | M12 connector | Fig.1  |
| OSM40-KL300CBLIU6       | 100...300mm | Red laser | NPN/PNP+analog mA / V | 0.1mm      | 2m cable      | Fig.1  |
| OSM40-KL300CBLIU6Q12.1  | 100...300mm | Red laser | NPN/PNP+analog mA / V | 0.1mm      | M12 connector | Fig.1  |
| OSM40-KL800CBLIU6       | 150...800mm | Red laser | NPN/PNP+analog mA / V | 0.1mm      | 2m cable      | Fig.1  |
| OSM40-KL800CBLIU6Q12.1  | 150...800mm | Red laser | NPN/PNP+analog mA / V | 0.1mm      | M12 connector | Fig.1  |
| OSM40-KL35CB6/485       | 25...35mm   | Red laser | NPN/PNP+ 485          | 0.001mm    | 2m cable      | Fig.2  |
| OSM40-KL35CB6Q12.1/485  | 25...35mm   | Red laser | NPN/PNP+ 485          | 0.001mm    | M12 connector | Fig.2  |
| OSM40-KL70CB6/485       | 35...70mm   | Red laser | NPN/PNP+ 485          | 0.01mm     | 2m cable      | Fig.2  |
| OSM40-KL70CB6Q12.1/485  | 35...70mm   | Red laser | NPN/PNP+ 485          | 0.01mm     | M12 connector | Fig.2  |
| OSM40-KL160CB6/485      | 60...160mm  | Red laser | NPN/PNP+ 485          | 0.01mm     | 2m cable      | Fig.2  |
| OSM40-KL160CB6Q12.1/485 | 60...160mm  | Red laser | NPN/PNP+ 485          | 0.01mm     | M12 connector | Fig.2  |
| OSM40-KL300CB6/485      | 100...300mm | Red laser | NPN/PNP+ 485          | 0.1mm      | 2m cable      | Fig.2  |
| OSM40-KL300CB6Q12.1/485 | 100...300mm | Red laser | NPN/PNP+ 485          | 0.1mm      | M12 connector | Fig.2  |

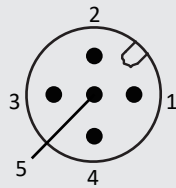
## Type:

| Type                    | Distance     | Beam      | Output          | Resolution | Connection    | Wiring |
|-------------------------|--------------|-----------|-----------------|------------|---------------|--------|
| OSM40-KL800CB6/485      | 150...800mm  | Red laser | NPN/PNP+485     | 0.1mm      | 2m cable      | Fig.2  |
| OSM40-KL800CB6Q12.1/485 | 150...800mm  | Red laser | NPN/PNP+485     | 0.1mm      | M12 connector | Fig.2  |
| OSM40-KL2000C2B6Q12.1   | 150...2000mm | Red laser | 2xNPN/PNP       | 0.1mm      | 2m cable      | Fig.4  |
| OSM40-KL2000C2B6        | 150...2000mm | Red laser | 2xNPN/PNP       | 0.1mm      | 2m cable      | Fig.4  |
| OSM40-KL35CB6Q12.1/IO   | 25...35mm    | Red laser | NPN/PNP+IO-Link | 0.001mm    | M12 connector | Fig.3  |
| OSM40-KL70CB6Q12.1/IO   | 35...70mm    | Red laser | NPN/PNP+IO-Link | 0.01mm     | M12 connector | Fig.3  |
| OSM40-KL160CB6Q12.1/IO  | 60...160mm   | Red laser | NPN/PNP+IO-Link | 0.01mm     | M12 connector | Fig.3  |
| OSM40-KL300CB6Q12.1/IO  | 100...300mm  | Red laser | NPN/PNP+IO-Link | 0.1mm      | M12 connector | Fig.3  |
| OSM40-KL800CB6Q12.1/IO  | 150...800mm  | Red laser | NPN/PNP+IO-Link | 0.1mm      | M12 connector | Fig.3  |

## Technical Data:

|                      |                                                                                            |
|----------------------|--------------------------------------------------------------------------------------------|
| Supply voltage       | 10-30VDC                                                                                   |
| Ripple voltage       | ≤10%                                                                                       |
| No-load current      | ≤150mA                                                                                     |
| Power                | 1.5W                                                                                       |
| Analog output        | 4...20mA, 0...5V or 0...10V                                                                |
| Switch output        | NPN/PNP                                                                                    |
| Communication type   | RS485, IO-Link                                                                             |
| Light source         | Red laser (655 nm)/class 2                                                                 |
| Protection circuit   | Reverse polarity protection, short circuit protection, Overload protection                 |
| Response time        | 1.5ms / 5ms / 10ms switchable                                                              |
| Repeatability        | 0.05mm@35...70mm; 0.1mm@60...160mm; 0.5mm@150...400mm;<br>1mm@400...600mm; 3mm@600...800mm |
| Spot diameter        | 1mm@150mm; 2mm@600mm                                                                       |
| Housing material     | 316L                                                                                       |
| Ambient temperature  | -10 °C ... -45 °C                                                                          |
| Voltage resistance   | 1000V/AC 50/60Hz 60s                                                                       |
| Insulation impedance | ≥50MΩ (500VDC)                                                                             |
| Shock resistance     | Complex amplitude 1.5mm 10... 50Hz (2hr X, Y, Z respectively)                              |
| Impact resistance    | 500m/S <sup>2</sup> (50G) 3 times X, Y, Z respectively                                     |
| Protection class     | IP67                                                                                       |
| Dimensions           | 60.4*20*35.3mm                                                                             |

## Interface output:



CO12.5-2/WS/P  
2m connector

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                           |

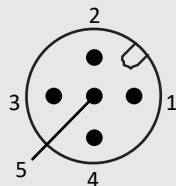


Fig.2

| 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                           |

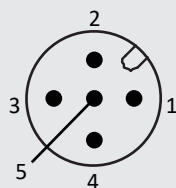


Fig.3

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

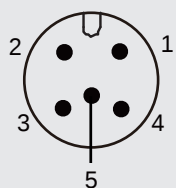
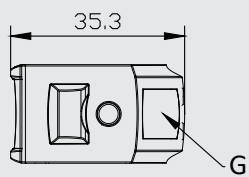
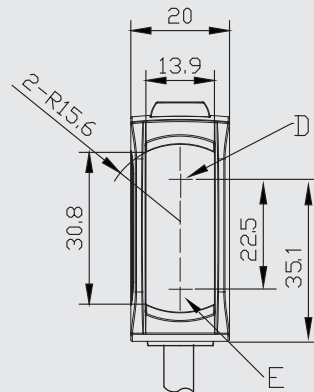
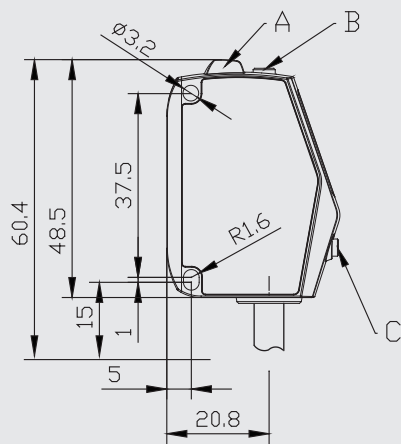
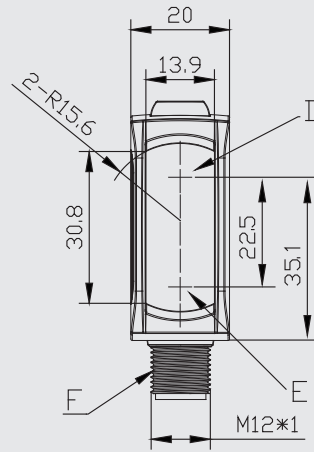
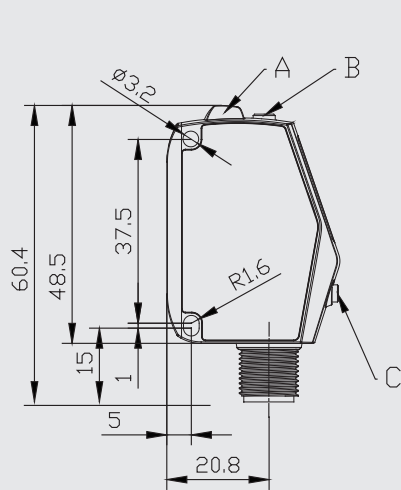


Fig.4

| Serial number | Function     | Core color of cable 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