

OSM40 SERIES

ARTICLE PROPERTIES

SENSOR TYPE	Laser distance sensor	CONNECTION TYPES (see table)	
SIZE	48.5 × 20 × 35.3 mm	<ul style="list-style-type: none"> • 2 m cable PVC, 0.2 mm², 2 m** • M12 connector • A-coded 	
OPERATING DISTANCE	See table		
DETECTION MODE	CMOS ranging		

** other cable lengths are available on request

TECHNICAL DATA

OPERATING VOLTAGE	10 ... 30 V DC	LOAD CURRENT	≤ 150 mA
LIGHT SOURCE	Red laser (655 nm) / class2	HOUSING MATERIAL	Housing: 316 L Front screen: glass
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 ... 1000 mm 5 mm @ 1000 ... 2000 mm	VOLTAGE WITHSTANDING	1000 V/AC, 50/60 Hz, 60 s
LIGHT SPOT SIZE	∅ 0.2 mm @ 30 mm ∅ 0.5 mm @ 50 mm ∅ 0.5 mm @ 100 mm ∅ 1 mm @ 200 mm ∅ 1 mm @ 400 mm ∅ 2 mm @ 600 mm	REVERSE POLARITY PROTECTION	Yes
SWITCH OUTPUT	PNP / NPN	OVERLOAD RESISTANCE	Yes
ANALOG OUTPUT	4 ... 20 mA, 0 ... 5 V or 0 ... 10 V	SHORT CIRCUIT PROTECTION	Yes
COMMUNICATION TYPE	RS-485, IO-Link	MTTF	
RESPONSE TIME	1.5 ms / 5 ms / 15 ms	<ul style="list-style-type: none"> • NPN / PNP + analog 67 years • NPN / PNP + RS-485 70 years • NPN / PNP + IO-Link 89 years 	
SWITCHING MODE	L.O / D.O		
POWER	< 1 W		

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ENVIRONMENTAL CONDITIONS

OPERATING ENVIRONMENT HUMIDITY	35 % to 85 % RH (no condensation)	INSULATION IMPEDENCE	≥ 50 MΩ (500 V DC)
PROTECTION CLASS	IP67	SHOCK RESISTANCE (EN 60068-2-27)	500 m/s ² (50 G) 3 times X, Y, Z respectively
STORAGE TEMPERATURE	-20 ... +60 °C	IMPACT RESISTANCE (EN 60068-2-6)	Complex amplitude 1.5 mm 10 ... 50 Hz (2hr X, Y, Z respectively)
AMBIENT TEMPERATURE	-10 ... +50 °C	ANTI-AMBIENT LIGHT	≤ 3000 Lux

STANDARDS AND DIRECTIVES

EMC DIRECTIVE 2014/30/EU	EN IEC 60947-5-2	ROHS DIRECTIVE 2011/65/EU	EN IEC 63000
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APPROVALS



OSM40 SERIES

DETECTION MODE CMOS RANGING

Article number	Operating distance	Light source	Output (wiring diagram)	Resoluton	Connection	Dimensions
OSM40-KL35CBLIU6	25 ... 35 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.001 mm	2 m cable	see Fig. 1
OSM40-KL35CBLIU6Q12.1	25 ... 35 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.001 mm	M12 connector	see Fig. 2
OSM40-KL70CBLIU6	35 ... 70 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.01 mm	2 m cable	see Fig. 1
OSM40-KL70CBLIU6Q12.1	35 ... 70 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL160CBLIU6	60 ... 160 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.01 mm	2 m cable	see Fig. 1
OSM40-KL160CBLIU6Q12.1	60 ... 160 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL300CBLIU6	100 ... 300 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.1 mm	2 m cable	see Fig. 1
OSM40-KL300CBLIU6Q12.1	100 ... 300 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.1 mm	M12 connector	see Fig. 2
OSM40-KL800CBLIU6	150 ... 800 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.1 mm	2 m cable	see Fig. 1
OSM40-KL800CBLIU6Q12.1	150 ... 800 mm	Red laser	NPN / PNP + analog mA/V (WD1)	0.1 mm	M12 connector	see Fig. 2
OSM40-KL1000CBLIU6	110 ... 1000 mm	Red laser	NPN / PNP + analog mA/V (WD1)	1 mm	2 m cable	see Fig. 1
OSM40-KL1000CBLIU6Q12.1	110 ... 1000 mm	Red laser	NPN / PNP + analog mA/V (WD1)	1 mm	M12 connector	see Fig. 2
OSM40-KL35CB6/485	25 ... 35 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.001 mm	2 m cable	see Fig. 1
OSM40-KL35CB6Q12.1/485	25 ... 35 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.001 mm	M12 connector	see Fig. 2
OSM40-KL70CB6/485	35 ... 70 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.01 mm	2 m cable	see Fig. 1
OSM40-KL70CB6Q12.1/485	35 ... 70 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL160CB6/485	60 ... 160 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.01 mm	2 m cable	see Fig. 1
OSM40-KL160CB6Q12.1/485	60 ... 160 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL300CB6/485	100 ... 300 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.1 mm	2 m cable	see Fig. 1
OSM40-KL300CB6Q12.1/485	100 ... 300 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.1 mm	M12 connector	see Fig. 2

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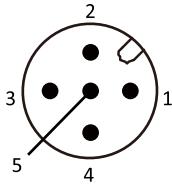
DETECTION MODE CMOS RANGING

Article number	Operating distance	Light source	Output (wiring diagram)	Resoluton	Connection	Dimensions
OSM40-KL800CB6/485	150 ... 800 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.1 mm	2 m cable	see Fig. 1
OSM40-KL800CB6Q12.1/485	150 ... 800 mm	Red laser	NPN / PNP + RS-485 (WD2)	0.1 mm	M12 connector	see Fig. 2
OSM40-KL1000CB6/485	110 ... 1000 mm	Red laser	NPN / PNP + RS-485 (WD2)	1 mm	2 m cable	see Fig. 1
OSM40-KL1000CB6Q12.1/485	110 ... 1000 mm	Red laser	NPN / PNP + RS-485 (WD2)	1 mm	M12 connector	see Fig. 2
OSM40-KL2000CB6/485	150 ... 2000 mm	Red laser	NPN / PNP + RS-485 (WD2)	1 mm	2 m cable	see Fig. 1
OSM40-KL2000CB6Q12.1/485	150 ... 2000 mm	Red laser	NPN / PNP + RS-485 (WD2)	1 mm	M12 connector	see Fig. 2
OSM40-KL35CB6Q12.1/IO	25 ... 35 mm	Red laser	NPN / PNP + IO-Link (WD3)	0.001 mm	M12 connector	see Fig. 2
OSM40-KL70CB6Q12.1/IO	35 ... 70 mm	Red laser	NPN / PNP + IO-Link (WD3)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL160CB6Q12.1/IO	60 ... 160 mm	Red laser	NPN / PNP + IO-Link (WD3)	0.01 mm	M12 connector	see Fig. 2
OSM40-KL300CB6Q12.1/IO	100 ... 300 mm	Red laser	NPN / PNP + IO-Link (WD3)	0.1 mm	M12 connector	see Fig. 2
OSM40-KL800CB6Q12.1/IO	150 ... 800 mm	Red laser	NPN / PNP + IO-Link (WD3)	0.1 mm	M12 connector	see Fig. 2
OSM40-KL1000CB6Q12.1/IO	110 ... 1000 mm	Red laser	NPN / PNP + IO-Link (WD3)	1 mm	M12 connector	see Fig. 2
OSM40-KL2000CB6Q12.1/IO	150 ... 2000 mm	Red laser	NPN / PNP + IO-Link (WD3)	1 mm	M12 connector	see Fig. 2
OSM40-KL2000C2B6	150 ... 2000 mm	Red laser	2 x NPN / PNP (WD4)	1 mm	2 m cable	see Fig. 1
OSM40-KL2000C2B6Q12.1	150 ... 2000 mm	Red laser	2 x NPN / PNP (WD4)	1 mm	M12 connector	see Fig. 2

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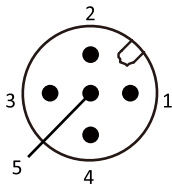
WIRING DIAGRAMS

WD1



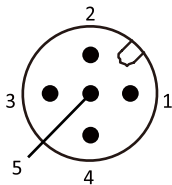
Serial number	Function	Core color of cable type
1	Power +	BN
2	Analogue output	GY
3	Power -	BU
4	NPN / PNP	BK
5	Enable input	PK

WD2



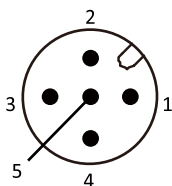
Serial number	Function	Core color of cable type
1	Power +	BN
2	485B	GY
3	Power -	BU
4	NPN / PNP	BK
5	485A	PK

WD3



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

WD4

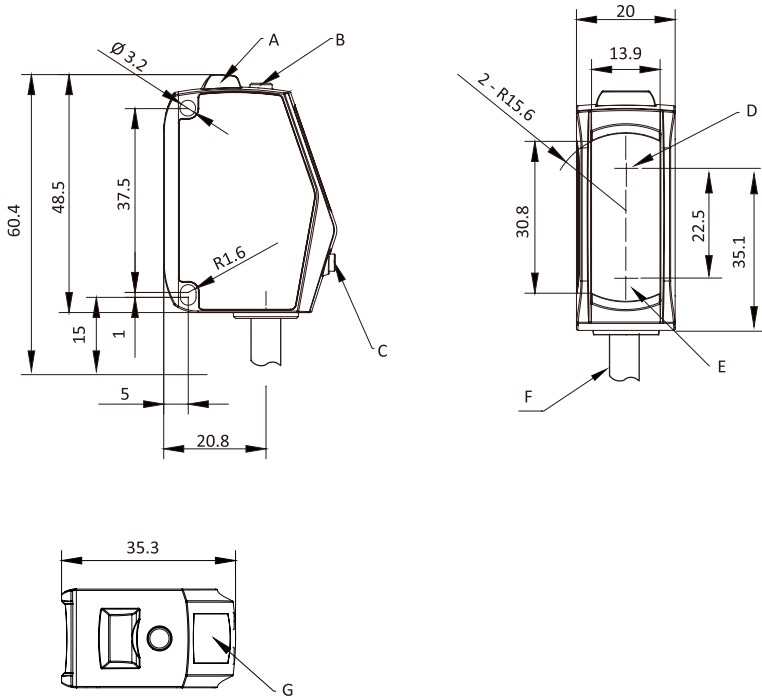


Serial number	Function	Core color of cable type
1	Power +	BN
2	NPN / PNP 2	GY
3	Power -	BU
4	NPN / PNP 1	BK
5	Enable input	PK

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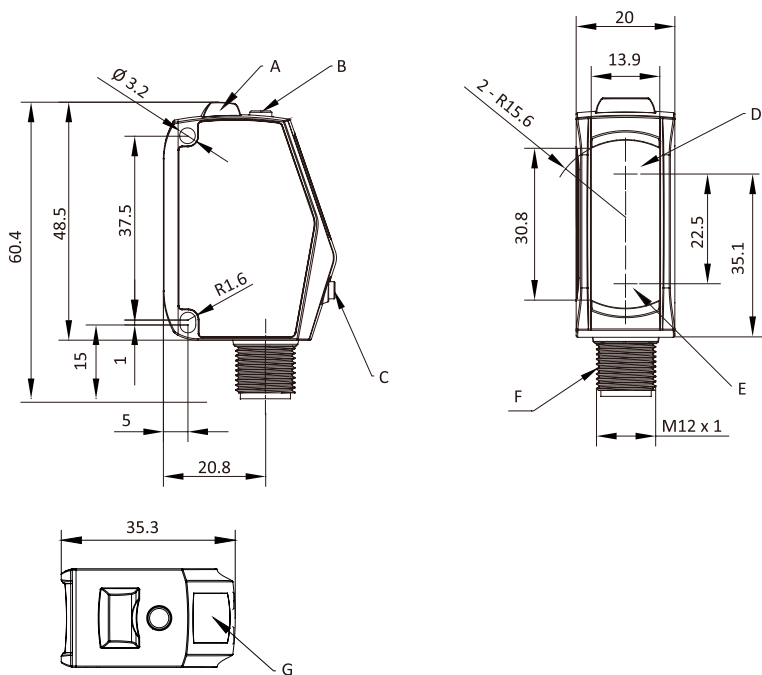
DIMENSIONS

Fig. 1 Cable



- A: Alarm indicator
- B: Function setting button
- C: Function adjustment button
- D: Emitting
- E: Receiving
- F: Cable
- G: LED display

Fig. 2 Connector



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

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