

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 mm ² , 2 m**
OPERATING DISTANCE	See table	<ul style="list-style-type: none"> M12 connector 	
DETECTION MODE	CMOS ranging	A-coded	

** other cable lengths are available on request

TECHNICAL DATA

OPERATING VOLTAGE	10 ... 30 V DC	POWER	< 1 W
LIGHT SOURCE	Red laser (655 nm) / class2	LOAD CURRENT	≤ 150 mA
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 (< 400 mm), 1 mm (< 600 mm), 3 mm (< 800 mm) @ (150 ... 800 mm) 1 mm (< 400 mm) 5 mm (< 1000 mm) 20 mm (< 2000 mm) @ (110 ... 1000 and 150 ... 2000 mm)	HOUSING MATERIAL	Housing: 316 L Front screen: glass
LIGHT SPOT SIZE	Ø 0.2 mm @ 30 mm Ø 0.5 mm @ 50 mm Ø 0.5 mm @ 100 mm Ø 1 mm @ 200 mm Ø 1 mm @ 400 mm Ø 2 mm @ 600 mm	VOLTAGE WITHSTANDING	1000 V/AC, 50/60 Hz, 60 s
SWITCH OUTPUT	PNP / NPN	REVERSE POLARITY PROTECTION	Yes
ANALOG OUTPUT	4 ... 20 mA, 0 ... 5 V or 0 ... 10 V	OVERLOAD RESISTANCE	Yes
COMMUNICATION TYPE	RS-485, IO-Link	SHORT CIRCUIT PROTECTION	Yes
RESPONSE TIME	1.5 ms / 5 ms / 15 ms	MTTF	
SWITCHING MODE	L.O / D.O	<ul style="list-style-type: none"> NPN / PNP + analog NPN / PNP + RS-485 NPN / PNP + IO-Link 	67 years 70 years 89 years

OSM40 SERIES

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)	Resolution	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-KL2000CBLIU6	150 ... 2000 mm	Red laser	NPN / PNP + analog mA/V (WD1)	1 mm	2 m cable	see Fig. 1
OSM40-KL2000CBLIU6Q12.1	150 ... 2000 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 SERIES

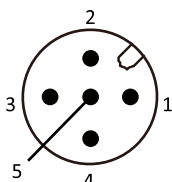
DETECTION MODE CMOS RANGING

Article number	Operating distance	Light source	Output (wiring diagram)	Resolution	Connection	Dimensions
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
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

OSM40 SERIES

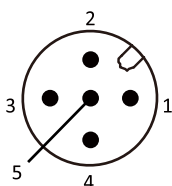
WIRING DIAGRAMS

WD1



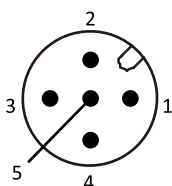
Serial number	Function	Core color of cable type
1	Power +	BN
2	Analogue output	GY
3	Power -	BU
4	NPN / PNP	BK
5	Enable input	PK

WD2



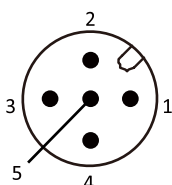
Serial number	Function	Core color of cable type
1	Power +	BN
2	485B	GY
3	Power -	BU
4	NPN / PNP	BK
5	485A	PK

WD3



Serial number	Function
1	Power +
2	NPN / PNP
3	Power -
4	IO-Link-DIO; NPN / PNP
5	NC

WD4

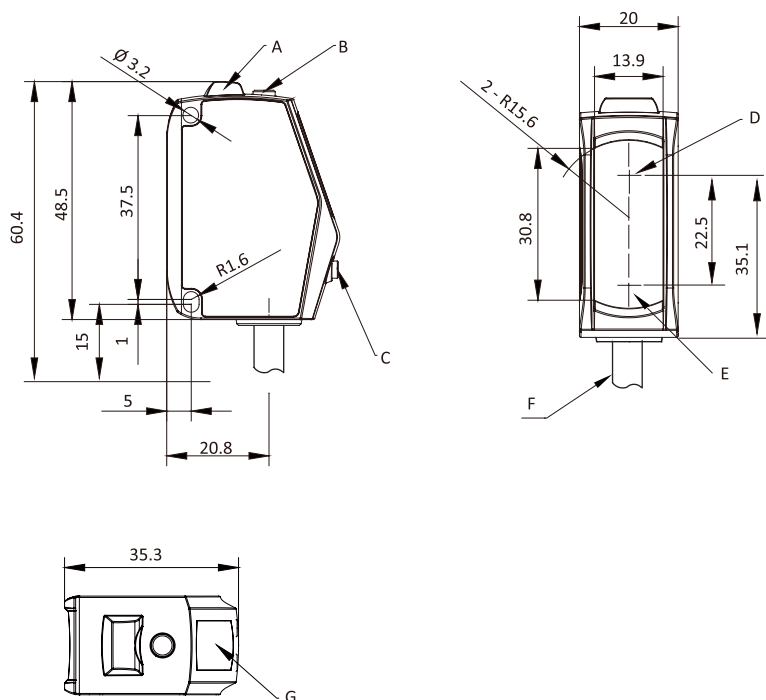


Serial number	Function	Core color of cable type
1	Power +	BN
2	NPN / PNP 2	GY
3	Power -	BU
4	NPN / PNP 1	BK
5	Enable input	PK

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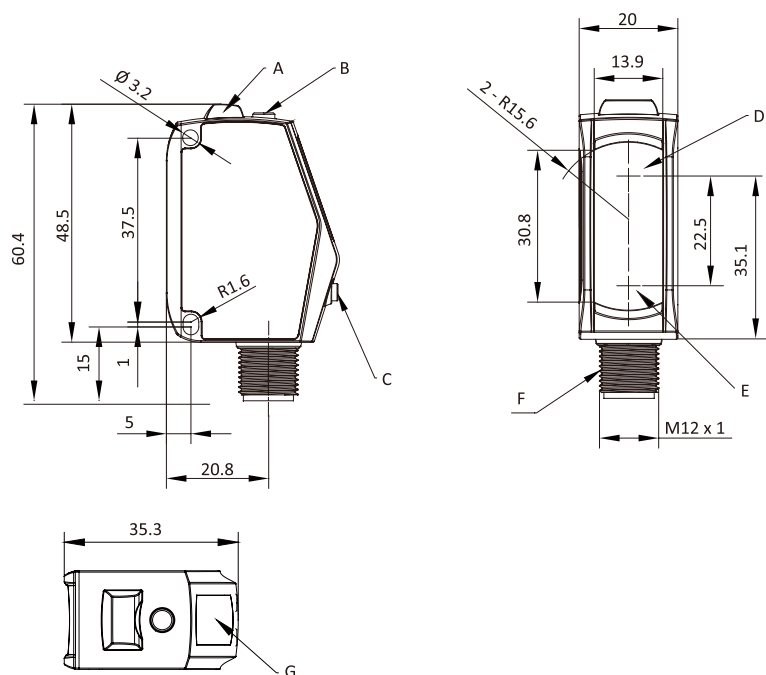
DIMENSIONS

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

OSM40 SERIES

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