



Laser and distance sensors for precise object detection



Laser sensors /
distance measurement sensors



Detection of tiny objects

Clearly visible red light for easy adjustment to the object.

Automatic switch point setting by pressing a pushbutton

Application sensors for special application areas

System components for fine adjustment



Laser sensors

Laser sensors are used where small objects or precise positions are to be detected. They are designed as through-beam sensors, retro-reflective sensors or diffuse reflection sensors.

Laser light consists of light waves of the same wave length with a fixed phase ratio (coherence). This characteristic constitutes an important feature of laser sensors: their almost perfectly parallel light beam. The result: Long ranges can be achieved thanks to the small angle of divergence. The laser spot which is even in daylight clearly visible makes it easier to align the system.

<i>System overview</i>	<i>Page</i>
Cylindrical OG housing (M18) Laser PerformanceLine, laser class 1	282
Rectangular housing OJ Laser PerformanceLine, lateral sensing face, laser class 1	282 - 283
Rectangular housing OJ Laser PerformanceLine, front sensing face, laser class 1	283
Rectangular housing O5 laser class 1	283 - 284
Rectangular housing O1 Laser PerformanceLine with background suppression, laser class 2	284
Prismatic reflector	284 - 285
Software	285
Accessories OG housing	285 - 286
Accessories O5 housing	286 - 287
Accessories O1 housing	287
Accessories for system components	288
Cylindrical OI housing (M30) for optical distance measurement, laser class 2	288 - 289
Cylindrical OI housing (M30) for optical distance measurement, laser class 1	289
Rectangular housing O5 for optical distance measurement, laser class 2	289 - 290
Rectangular housing O1 for optical distance measurement, laser class 1	290
Rectangular housing O1 for optical distance measurement, laser class 2	290
Rectangular housing O1 Laser PerformanceLine with background suppression, laser class 2	290 - 291
Rectangular housing O1 for optical level measurement, laser class 2	291
Accessories OI design (M30)	291 - 292
Accessories O5 housing	292
Accessories O1 housing	292 - 293
Wiring diagrams	293
Scale drawings / drawing no. – CAD download: www.ifm.com	294 - 296



Position sensors

Cylindrical OG housing (M18) Laser PerformanceLine, laser class 1

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
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Through-beam sensor · M12 connector · 10...36 DC · high-grade stainless steel · IP65 / IP67 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202

	Transmitter	2 m	Red	5	–	1	1	OGS701
	Transmitter	60 m	Red	312	–	1	1	OGS700

Through-beam sensor · M12 connector · 10...36 DC · high-grade stainless steel · IP65 / IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	Receiver	2 m	Red	–	H/D PNP	2	2	OGE701
	Receiver	60 m	Red	–	H/D PNP	2	2	OGE700

Retro-reflective sensor · M12 connector · 10...36 DC · high-grade stainless steel · IP65 / IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	Polarisation filter	0.2...2 m	Red	5	H/D PNP	2	2	OGP701
	Polarisation filter	0.2...15 m	Red	78	H/D PNP	2	2	OGP700

Diffuse reflection sensor · M12 connector · 10...36 DC · high-grade stainless steel · IP65 / IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	Background suppression	20...200 mm	Red	1.2	H/D PNP	2	2	OGH700
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Rectangular housing OJ Laser PerformanceLine, lateral sensing face, laser class 1


Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
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Through-beam sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147


	Transmitter	1 m	Red	< 4	–	1	3	OJ5141
	Receiver	1 m	Red	–	H/D PNP	3	3	OJ5142
	Transmitter	15 m	Red	< 24	–	1	3	OJ5138
	Receiver	15 m	Red	–	H/D PNP	3	3	OJ5139

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
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Retro-reflective sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147

	Polarisation filter	8 m	Red	< 12	H/D PNP	3	3	OJ5136
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Diffuse reflection sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147

	Background suppression	7...150 mm	Red	0.8	H/D PNP	3	4	OJ5158
	Background suppression	15...200 mm	Red	2 x 1	H/D PNP	3	5	OJ5154



Rectangular housing OJ Laser PerformanceLine, front sensing face, laser class 1

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
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Through-beam sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147

	Transmitter	15 m	Red	< 24	–	1	6	OJ5116
	Receiver	15 m	Red	–	H/D PNP	3	6	OJ5117

Retro-reflective sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147

	Polarisation filter	8 m	Red	< 12	H/D PNP	3	7	OJ5014
	Polarisation filter	8 m	Red	< 12	H/D PNP	3	6	OJ5114


Diffuse reflection sensor · M8 connector · 10...30 DC · plastics · IP67 · Connector groups 4, 5, 80, 86, 147

	Background suppression	15...200 mm	Red	2 x 1	H/D PNP	3	8	OJ5152
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Rectangular housing O5 laser class 1




Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
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Through-beam sensor · M12 connector · 10...36 DC · plastics · IP67 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202



	Transmitter	60 m	Red	150	–	1	9	O55700
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Position sensors





Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Through-beam sensor · M12 connector · 10...36 DC · plastics · IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204								
	Receiver	60 m	Red	–	H/D PNP	2	10	O5E700
Retro-reflective sensor · M12 connector · 10...36 DC · plastics · IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204								
	Polarisation filter	15 m	Red	40	H/D PNP	2	11	O5P700
Diffuse reflection sensor · M12 connector · 10...36 DC · plastics · IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204								
	Background suppression	20...200 mm	Red	1.2	H/D PNP	2	12	O5H700

Rectangular housing O1 Laser PerformanceLine with background suppression, laser class 2


Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204								
	Background suppression	0.2...10 m	–	< 15 x 15	normally open / closed programmable PNP	2	13	O1D101
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP67 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.2...10 m	–	< 15 x 15	normally open / closed programmable NPN	4	13	O1D104

Prismatic reflector

Type	Description	Order no.
	Prismatic reflector · Ø 10 mm · round · fixing by screw · M3 · for retro-reflective laser sensors · Housing materials: screw: stainless steel 316 / 1.4401 / spring washer: stainless steel 316 / 1.4401 / nut: stainless steel 316 / 1.4401 / front plate: PMMA / base: ABS	E20990
	Prismatic reflector · Ø 15 mm · round · fixing by screw · M3 · for retro-reflective laser sensors · Housing materials: screw: stainless steel 316 / 1.4401 / spring washer: stainless steel 316 / 1.4401 / nut: stainless steel 316 / 1.4401 / front plate: PMMA / base: ABS	E20992
	Prismatic reflector · Ø 19 mm · round · fixing by screw · M3 · for retro-reflective laser sensors · Housing materials: screw: stainless steel 316 / 1.4401 / spring washer: stainless steel 316 / 1.4401 / nut: stainless steel 316 / 1.4401 / front plate: PMMA / base: ABS	E20993
	Prismatic reflector · 11 x 11 mm · rectangular · fixing by screw · M3 · for retro-reflective laser sensors · Housing materials: screw: stainless steel 316 / 1.4401 / spring washer: stainless steel 316 / 1.4401 / nut: stainless steel 316 / 1.4401 / front plate: PMMA / base: ABS	E20991

Type	Description	Order no.
	Prismatic reflector · 14 x 23 mm · rectangular · for retro-reflective laser sensors · Housing materials: front plate: PMMA / base: ABS	E20989
	Prismatic reflector · 30 x 20 mm · rectangular · for retro-reflective laser sensors · Housing materials: front plate: PMMA / base: ABS	E20994
	Prismatic reflector · 50 x 10 mm · rectangular · for retro-reflective laser sensors · Housing materials: front plate: PMMA / base: ABS	E20988
	Prismatic reflector · 48 x 48 mm · rectangular · for retro-reflective laser sensors and glass and film detection · Housing materials: plastics	E20722

Software



Type	Description	Order no.
	LR DEVICE (USB stick) · Parameter setting of the units via the network · Software for clear online and offline parameter setting of IO-Link sensors via USB adapter · Use via USB connection cable (drivers are supplied): E30396 IO-Link interface or E30390 IO-Link master (note the respective data sheet) · IODD import and update from ifm's homepage · Reading of IODDs via storage media · Automatic sensor identification · Graphic representation of the process values and history incl. export function · Documentation and archiving · Transferable parameter sets · Full memory plug support for IO-Link 1.1	QA0011
	LR DEVICE (download) · Parameter setting of the units via the network · Software for clear online and offline parameter setting of IO-Link sensors via USB adapter · Use via USB connection cable (drivers are supplied): E30396 IO-Link interface or E30390 IO-Link master (note the respective data sheet) · IODD import and update from ifm's homepage · Reading of IODDs via storage media · Automatic sensor identification · Graphic representation of the process values and history incl. export function · Documentation and archiving · Transferable parameter sets · Full memory plug support for IO-Link 1.1	QA0012

Accessories OG housing

Type	Description	Order no.
	Mounting and fine adjustment bracket for laser units · Ø 18.5 mm · Clamp mounting · rod or free-standing depending on the clamp · for type OG · Housing materials: stainless steel 316Ti / 1.4571	E20737
	Mounting and fine adjustment bracket for laser units · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: high-grade stainless steel	E21220
	Mounting and fine adjustment bracket for laser units · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21219
	Mounting set · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG, IG, KG · Housing materials: clamp: diecast zinc / fixture: steel	E20720
	Mounting set · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG, IG, KG · Housing materials: clamp: diecast zinc / fixture: steel	E20721







Position sensors








Type	Description	Order no.
	Mounting set · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG, IG, KG · Housing materials: clamp: high-grade stainless steel / fixture: high-grade stainless steel	E21206
	Mounting set · Ø 18.5 mm · Clamp mounting · rod mounting Ø 12 mm · for type OG, IG, KG · Housing materials: clamp: high-grade stainless steel / fixture: high-grade stainless steel	E21207

Accessories O5 housing

Type	Description	Order no.
	Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E21087
	Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E21085
	Angle bracket · O5, O4 · for mounting O5, O4 sensors instead of OL sensors · Dovetail clamp · Housing materials: Dovetail clamp: AlMgSi0.5 / fixture: AlMg3	E21122
	Dovetail clamp · for type DTS, O4, O5 · Housing materials: AlMgSi0.5	E21088
	Mounting brackets Mounting on the back of the unit · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E21086
	Mounting sleeve · O5 · for mounting O5 sensors instead of OC sensors · Housing materials: AlZnMgCu1.5 F51/52	E21114
	Mounting and fine adjustment bracket for laser units · Clamp mounting · rod or free-standing depending on the clamp · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E20794
	Mounting set · Clamp mounting · With protective cover · rod mounting Ø 12 mm · for type O5 · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: high-grade stainless steel	E21223
	Mounting set · Clamp mounting · With protective cover · rod mounting Ø 12 mm · for type O5 · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21210
	Mounting set · Clamp mounting · rod mounting Ø 12 mm · for type O5, O5D · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21211
	Mounting set · Clamp mounting · rod mounting Ø 12 mm · for type O5, O5D · Housing materials: stainless steel 316Ti / 1.4571 / clamp: high-grade stainless steel	E21212

Type	Description	Order no.
	Mounting set · Clamp mounting · With protective cover · rod mounting Ø 14 mm · for type O5 · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E21142
	Mounting set · Clamp mounting · With protective cover · Free-standing M10 · for type O5 · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21084
	Mounting set · Clamp mounting · Free-standing M10 · for type O5 · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21083
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU	E30398

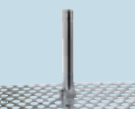



Accessories O1 housing

Type	Description	Order no.
	Prismatic reflector · 226 x 262 mm · rectangular · Housing materials: plastics	E21159
	Mounting adapter · O1D · for optical distance sensors · for type O1D · Housing materials: flange: stainless steel 316L / 1.4404 / sealing: FKM / Protective cover: PMMA transparent / screws: high-grade stainless steel / washers: high-grade stainless steel	E21224
	Mounting and fine adjustment bracket for laser units · O1D · Clamp mounting · rod or free-standing depending on the clamp · Housing materials: fixture: aluminium transparent anodised / plastics: POM / screws: stainless steel	E1D100
	Mounting set · E2D101 + E20938 + E20951	E21079
	Angle bracket · O1D, O4 · for type O1D, O4 · Housing materials: stainless steel 316L / 1.4404	E21120
	Protective bracket · O1D · for type O1D · Housing materials: Angle bracket: stainless steel 316 / 1.4401 / screws: stainless steel / housing: polyamide	E21236
	Protective cover · O1D · Housing materials: bezel: ZnAl4Cu1 finish black / window: PMMA transparent and colourless / sealing: FPM 75+/-5 Shore A black / screws: stainless steel	E21133
	Protective cover · O1D · Housing materials: bezel: ZnAl4Cu1 finish black / window: glass transparent and colourless / sealing: FPM 75+/-5 Shore A black / screws: stainless steel	E21171







Position sensors

Accessories for system components


Type	Description	Order no.
	mounting rod · Ø 10 / M8 · Length: 150 mm · straight · Housing materials: stainless steel 316Ti / 1.4571	E21081
	mounting rod · Ø 10 / M8 · Length: 200 mm · angled · Housing materials: stainless steel 316Ti / 1.4571	E80310
	mounting rod · Ø 12 / M10 · Length: 130 mm · straight · Housing materials: stainless steel 316Ti / 1.4571	E20938
	mounting rod · Ø 12 / M10 · Length: 200 mm · angled · Housing materials: stainless steel 316Ti / 1.4571	E20940
	Head cap screw · M8 x 40 mm · ISO 4762 (DIN 912) · free-standing M8 · Housing materials: screw: steel galvanised	E21204
	Head cap screw · M10 x 45 mm · ISO 4762 (DIN 912) · Free-standing M10 · Housing materials: screw: steel galvanised	E21208
	Head cap screw · M10 x 45 mm · ISO 4762 (DIN 912) · Free-standing M10 · Housing materials: screw: high-grade stainless steel	E21209
	Cube · M10 · aluminium profile · Housing materials: diecast zinc	E20951

Cylindrical OI housing (M30) for optical distance measurement, laser class 2


Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm, inch · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	14	OID200
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	14	OID201
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm, inch · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary NPN	6	14	OID202

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 / IP68 / IP69K · Display unit: cm · Connector groups 12, 13, 22, 24, 150, 152, 154, 155, 186, 190, 192, 194, 205								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	7	15	OID204


Cylindrical OI housing (M30) for optical distance measurement, laser class 1


Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm, inch · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	14	OID250


Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	14	OID251


Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 / IP68 / IP69K · Display unit: cm · Connector groups 12, 13, 22, 24, 150, 152, 154, 155, 186, 190, 192, 194, 205								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	7	15	OID254

Rectangular housing O5 for optical distance measurement, laser class 2

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	16	O5D100

Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: inch · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	16	O5D101

Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: cm · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary NPN	6	16	O5D102


	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	16	O5D150
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Position sensors

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diag. no.	Drawing no.	Order no.
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Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP65 / IP67 · Display unit: inch · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202

	Background suppression	0.03...2 m	Red	< 5	2 switching outputs normally open / closed complementary PNP	5	16	O5D151
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Rectangular housing O1 for optical distance measurement, laser class 1

Type	Operating principle	Range	Sampling rate [Hz]	Spot Ø at max. range [mm]	U _b [V]	Wiring diag. no.	Drawing no.	Order no.
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Output function OUT1: normally open / closed programmable OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scalable) · Wiring diagram no. 8 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202

	Photoelectric distance sensor	0.3...6 m	1...33	< 8 x 8	18...30	8	13	O1D155
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Rectangular housing O1 for optical distance measurement, laser class 2

Type	Operating principle	Range	Sampling rate [Hz]	Spot Ø at max. range [mm]	U _b [V]	Wiring diag. no.	Drawing no.	Order no.
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Output function OUT1: normally open / closed programmable OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scalable) · Wiring diagram no. 8 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202

	Photoelectric distance sensor	1...75 m on reflector E21159	1...33	< 150 x 150	18...30	8	13	O1D106
	Photoelectric distance sensor	0.2...10 m	1...33	< 15 x 15	18...30	8	13	O1D105

Output function OUT1: normally open / closed programmable OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scalable) · Wiring diagram no. 9 · Connector groups 12, 13, 22, 24, 150, 152, 154, 155, 186, 190, 192, 194, 205

	Background suppression	0.2...10 m	1...50	< 15 x 15	18...30	9	13	O1D100
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Output function OUT1: normally open / closed programmable OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scalable) · Wiring diagram no. 10 · Connector groups 12, 13, 22, 24, 152, 155, 186, 192, 194, 205

	Photoelectric distance sensor	0.2...10 m	1...50	< 15 x 15	18...30	10	13	O1D103
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Rectangular housing O1 Laser PerformanceLine with background suppression, laser class 2

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diag. no.	Drawing no.	Order no.
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Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP67 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	Background suppression	0.2...10 m	–	< 15 x 15	normally open / closed programmable PNP	2	13	O1D101
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Product selectors and further information can be found at: www.ifm.com

Type	Operating principle	Range	Type of light	Spot Ø at max. range [mm]	Output H = light-on D = dark-on	Wiring diagr. no.	Draw- ing no.	Order no.
Photoelectric distance sensor · M12 connector · 10...30 DC · metal · IP67 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Background suppression	0.2...10 m	–	< 15 x 15	normally open / closed programmable NPN	4	13	O1D104
Photoelectric distance sensor · M12 connector · 18...30 DC · metal · IP67 · Connector groups 12, 13, 22, 24, 150, 152, 154, 155, 186, 190, 192, 194, 205								
	Background suppression	0.2...10 m	–	< 15 x 15	OUT1: normally open/closed progr. OUT2: normally open/closed progr. or analogue (4...20 mA / 0...10 V, scalable) PNP	9	13	O1D120

Rectangular housing O1 for optical level measurement, laser class 2


Type	Operating principle	Range	Sampling rate [Hz]	Spot Ø at max. range [mm]	U _b [V]	Wiring diagr. no.	Draw- ing no.	Order no.
Output function OUT1: normally open / closed programmable OUT2: normally open / closed programmable or analogue (4...20 mA / 0...10 V, scalable) · Wiring diagram no. 8 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	Optical level sensor	0.2...10 m	1...33	< 15 x 15	18...30	8	13	O1D300

Accessories OI design (M30)







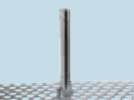


Type	Description	Order no.
	Mounting set · Clamp mounting · Free-standing M10 · for type O5 · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21083
	Mounting set · Clamp mounting · With protective cover · Free-standing M10 · for type O5 · Housing materials: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E21084
	mounting rod · Ø 12 / M10 · Length: 130 mm · straight · Housing materials: stainless steel 316Ti / 1.4571	E20938
	Cube · M10 · aluminium profile · Housing materials: diecast zinc	E20951
	Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E21085
	Angle bracket · for type O5 · Housing materials: stainless steel 316Ti / 1.4571	E21087
	Dovetail clamp · for type DTS, O4, O5 · Housing materials: AlMgSi0.5	E21088





Position sensors


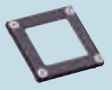
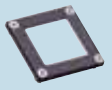


Type	Description	Order no.
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU	E30398

Accessories O5 housing

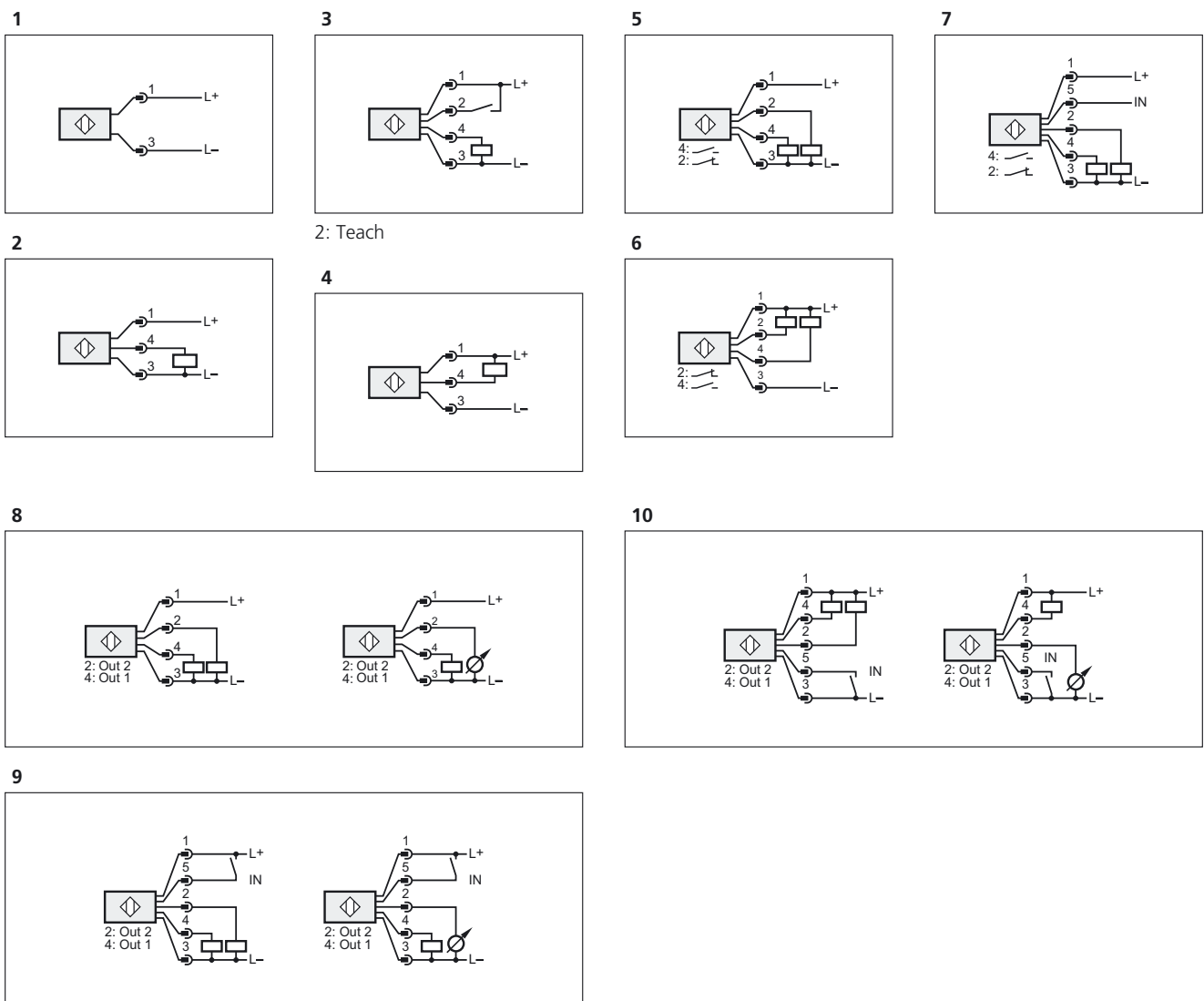
Type	Description	Order no.
	Angle bracket · for type M30 · Housing materials: stainless steel	E10737
	Mounting clamp · Ø 30 mm · with end stop · for type M30 · Housing materials: PC	E11049
	Mounting clamp · Ø 34 mm - Ø 30 mm · with reducing bush · for type M30 · Housing materials: PBT	E10077
	Mounting set · Ø 30.2 mm · Clamp mounting · aluminium profile · for type II, KI, OID, OI · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: diecast zinc / Cube: diecast zinc	E20875
	Mounting set · Ø 30.2 mm · Clamp mounting · free-standing M12 · for type OI, II, KI · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: diecast zinc	E20873
	Mounting set · Ø 30.2 mm · Clamp mounting · free-standing M12 · for type OI, II, KI · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E20874
	mounting rod · Ø 12 / M10 · Length: 130 mm · straight · Housing materials: stainless steel 316Ti / 1.4571	E20938
	Cube · M10 · aluminium profile · Housing materials: diecast zinc	E20951
	Memory plug · Parameter memory for IO-Link sensors · Storage capacity: 2 Kbytes · Housing materials: PA PACM 12 / PET / sealing: FPM / nut: stainless steel 316L / 1.4404 / connector: TPU	E30398

Accessories O1 housing

Type	Description	Order no.
	Prismatic reflector · 226 x 262 mm · rectangular · Housing materials: plastics	E21159
	Mounting and fine adjustment bracket for laser units · O1D · Clamp mounting · rod or free-standing depending on the clamp · Housing materials: fixture: aluminium transparent anodised / plastics: POM / screws: stainless steel	E1D100

Type	Description	Order no.
	Mounting set · E2D101 + E20938 + E20951	E21079
	Protective cover · O1D · Housing materials: bezel: ZnAl4Cu1 finish black / window: PMMA transparent and colourless / sealing: FPM 75+/-5 Shore A black / screws: stainless steel	E21133
	Protective cover · O1D · Housing materials: bezel: ZnAl4Cu1 finish black / window: glass transparent and colourless / sealing: FPM 75+/-5 Shore A black / screws: stainless steel	E21171
	Cooling box · Protective housing with an active cooling system for the O1D design · for type O1D · Housing materials: housing: aluminium transparent anodised / cover: aluminium black anodised / bezel: aluminium black anodised / window: float glass / cable gland: Brass nickel-plated / nozzle: Brass nickel-plated / sealing: FPM	E21248
	Cable · 10 m	E12274

Wiring diagrams

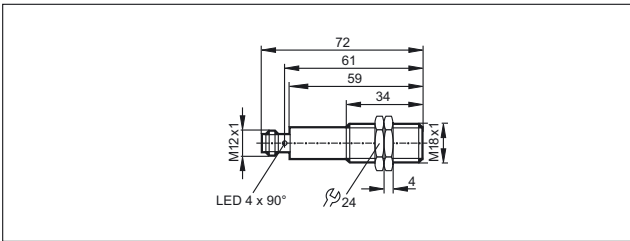




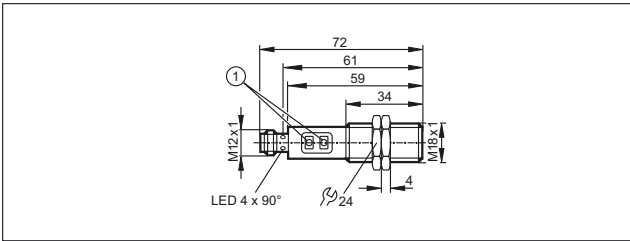
Position sensors

Scale drawings / drawing no. – CAD download: www.ifm.com

1

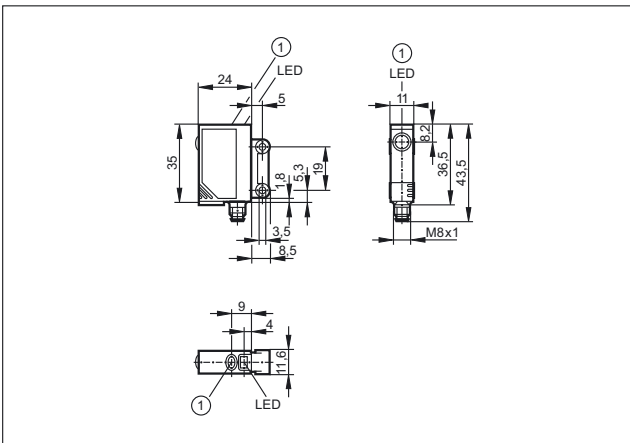


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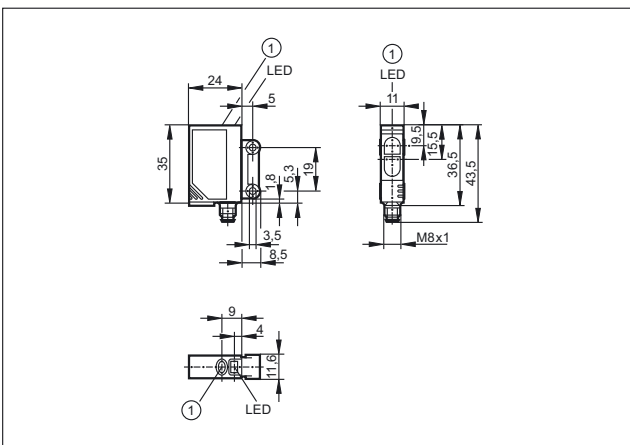
1: Programming buttons

3



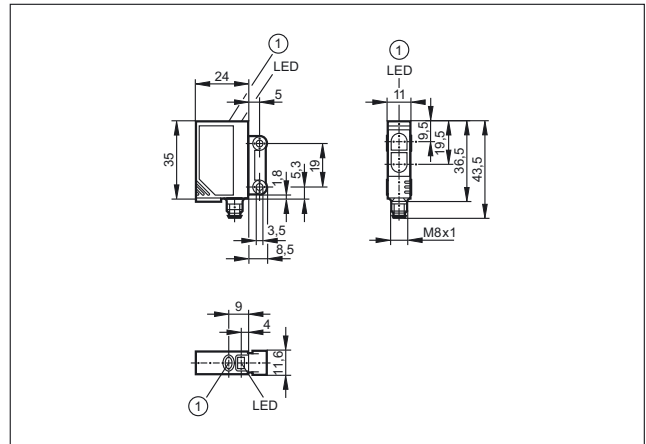
1: pushbutton

4



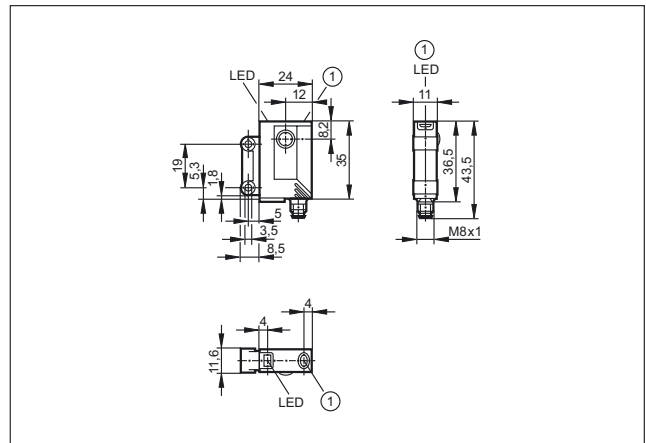
1: pushbutton

5



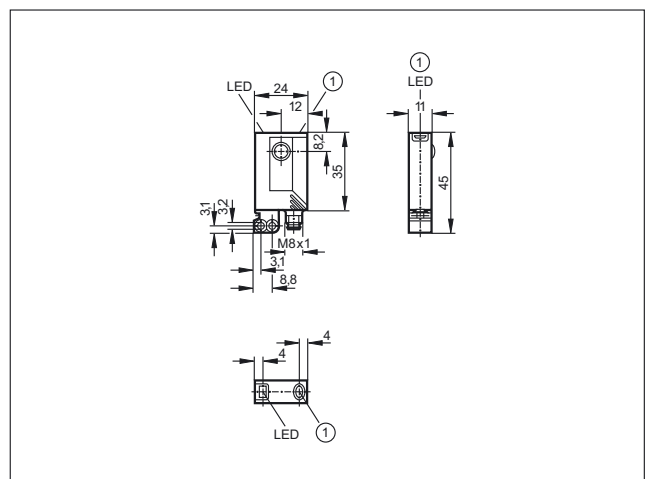
1: pushbutton

6



1: pushbutton

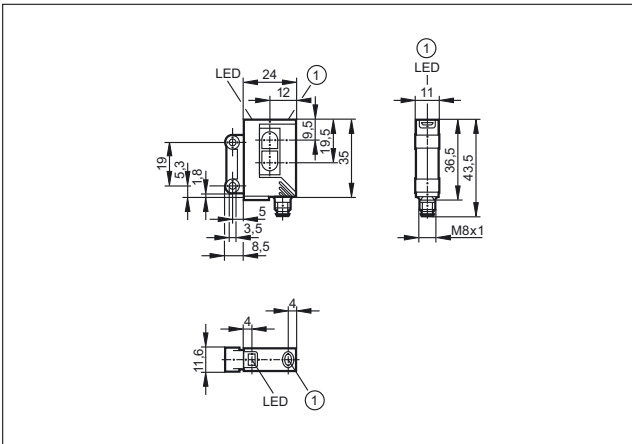
7



1: pushbutton

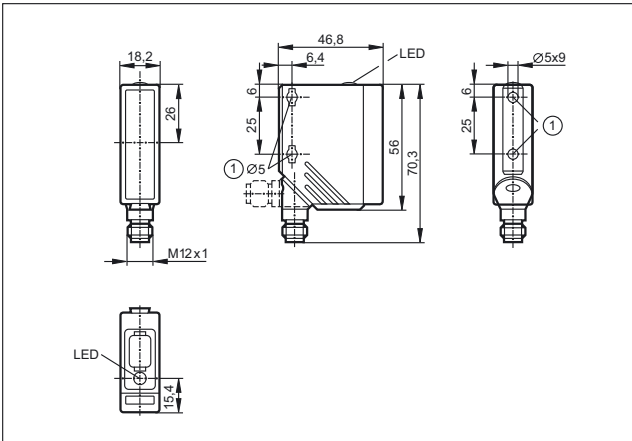
Scale drawings / drawing no. – CAD download: www.ifm.com

8

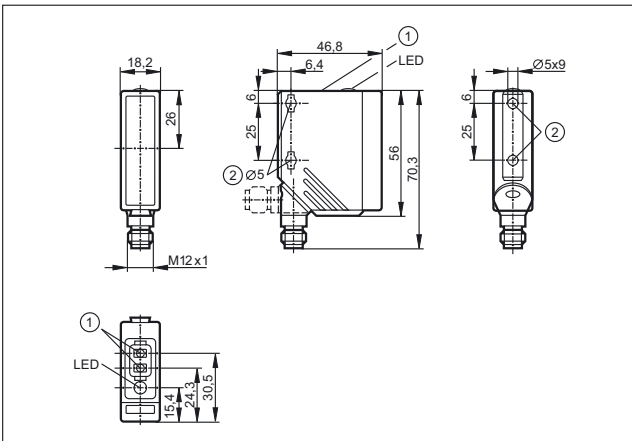


1: pushbutton

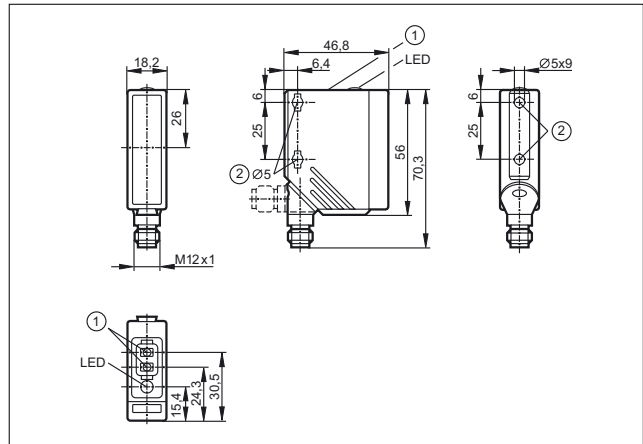
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10

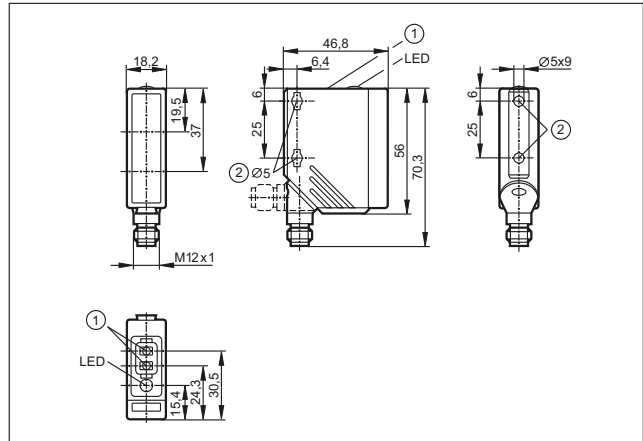


11



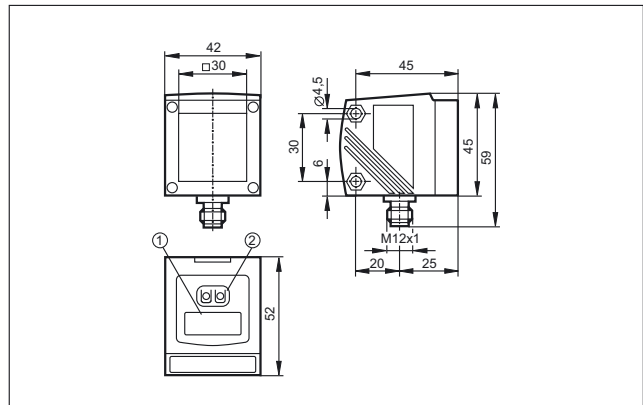
1: Programming buttons, 2: When a M5 mounting screw is used, the max. tightening torque is 2 Nm.

12



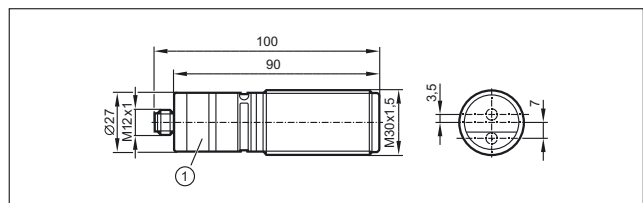
1: Programming buttons, 2: When a M5 mounting screw is used, the max. tightening torque is 2 Nm.

13



1: 4-digit alphanumeric display, 2: Programming buttons

14

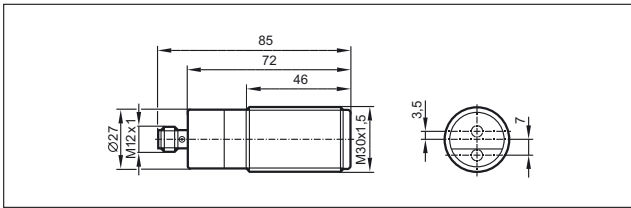




Position sensors

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15



16

