Versatile temperature sensors – for all kinds of applications

Temperature sensors

Temperature sensors in contact with the medium for industrial and hygienic applications

Modular concept – tailor-made for all kinds of applications

Various fittings available for process connections

Robust mechanics with high vibration and shock resistance

Non-contact infrared temperature sensors for hot objects

IO-Link

FDA

3A

EHEDG

IP 67
IP 68
IP 69 K

EC 1935/
2004

Direct temperature sensors

The temperature sensors of ifm are based on a PT100 or PT1000 resistor. The measured temperature value corresponds to a change in resistance and is converted into an electrical analogue signal. A microprocessor controls the evaluation of the electrical signal. Depending on the product version, the current system temperature is indicated via LED display and provided as a switching signal, analogue signal or via IO-Link.

Indirect temperature measurement

In most cases the infrared temperature measurement is used where temperatures can only be measured indirectly, that means without contact. The reason for this can, for example, a high object temperature. The sensors detect the infrared radiation emitted by the objects and convert them into an output signal.

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TK sensors with mechanical setting and switching outputs

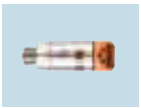
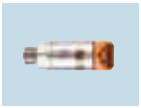
Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · Output function ⎍+⎍ · DC PNP · Wiring diagram no. 1 · Connector groups 8, 9, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 151, 153, 154, 184, 188, 190, 193, 202, 203, 204							
	-20...140 / -4...284	G 1/4	50	9.6...32	1 / 3	1	**TK6110**
	-20...140 / -4...284	1/4" NPT	50	9.6...32	1 / 3	2	**TK6310**
M12 connector · Output function ⎍/⎍ · DC PNP · Wiring diagram no. 2 · Connector groups 8, 9, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 151, 153, 154, 184, 188, 190, 193, 202, 203, 204							
	-25...140 / -13...284	G 1/4	50	9.6...32	1 / 3	1	**TK7110**
M12 connector · Output function 1 x normally open / 1 x normally closed · DC PNP · Wiring diagram no. 1 · Connector groups 8, 9, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 151, 153, 154, 184, 188, 190, 193, 202, 203, 204							
	-25...140 / -13...284	G 1/2	250	9.6...32	1 / 3	3	**TK7460**

Compact temperature sensors with display, IO-Link

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · Output function 1 x normally open / closed programmable + 1 x analogue (4...20 mA / 0...10 V, scaleable) · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	M18 x 1.5	45	18...32	1 / 3	4	**TN2511**
M12 connector · Output function 2 x normally open / closed programmable · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	M18 x 1.5	45	18...32	1 / 3	4	**TN7511**
M12 connector · Output function 2 x normally open / closed progr. or 1 x normally open / closed progr. + 1 x analogue (4...20 mA / 0...10 V) · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	G 1/2	30	18...32	1 / 3	5	**TN2405**
	-50...150 / -58...302	G 1/2	50	18...32	1 / 3	6	**TN2415**
	-50...150 / -58...302	G 1/2	100	18...32	1 / 3	7	**TN2435**
	-50...150 / -58...302	G 1/2	150	18...32	1 / 3	7	**TN2445**

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · Output function 2 x normally open / closed progr. or 1 x normally open / closed progr. + 1 x analogue (4...20 mA / 0...10 V) · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	G 1/4	25	18...32	1 / 3	8	**TN2105**
	-50...150 / -58...302	G 1/4	50	18...32	1 / 3	9	**TN2115**

Control monitors for temperature sensors, IO-Link

Type	Measuring range [°C]	Process connection	Display	U_b [V]	Current consumption [mA]	I_{load} [mA]	Drawing no.	Order no.
M12 connector · Output function 1 x normally open / closed programmable + 1 x analogue (4...20 mA / 0...10 V, scalable) · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	-100...600 / -148...1112	G ½ A	Display unit	18...32	50	250	10	**TR2439**
M12 connector · Output function 2 x normally open / closed programmable · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202								
	-100...600 / -148...1112	G ½ A	Display unit	18...32	50	250	10	**TR7439**

Modular temperature transmitters

Type	Factory setting [°C / °F]	Process connection	U_b [V]	Ambient temperature [°C]	Measuring element	Drawing no.	Order no.
M12 connector · Output function 4...20 mA analogue · DC · Wiring diagram no. 6 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...300 / -58...572	M12	20...32	-25...70	for Pt100 and Pt1000 measuring elements	11	**TP3232**
	-50...300 / -58...572	M12	20...32	-25...70	for Pt100 and Pt1000 measuring elements	11	**TP3237**
	-50...300 / -58...572	M12	20...32	-25...70	for Pt100 and Pt1000 measuring elements	11	**TP3231**
M12 connector · Output function 0...10 V analogue · DC · Wiring diagram no. 7 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...300 / -58...572	M12	18...32	-25...70	for Pt100 and Pt1000 measuring elements	11	**TP9237**

You can find wiring diagrams and scale drawings from page 571

Pt1000 probe sensors for industrial applications

Type	Measuring range [°C]	Diameter [mm]	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Wiring diagram no. 4							
	-40...150	6	160	1 x Pt 1000	1 / 3	12	**TT1250**
	-40...150	6	260	1 x Pt 1000	1 / 3	12	**TT2250**
	-40...150	6	360	1 x Pt 1000	1 / 3	12	**TT3250**
	-40...150	10	160	1 x Pt 1000	1 / 3	13	**TT1050**
	-40...150	10	260	1 x Pt 1000	1 / 3	13	**TT2050**
	-40...150	10	360	1 x Pt 1000	1 / 3	13	**TT3050**
	-40...150	10	560	1 x Pt 1000	1 / 3	13	**TT5050**

Pt100 probe sensors for industrial applications

Type	Measuring range [°C]	Diameter [mm]	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	6	70	1 x Pt 100	1 / 3	14	**TT7281**
	-40...150	6	100	1 x Pt 100	1 / 3	14	**TT0281**
	-40...150	6	150	1 x Pt 100	1 / 3	14	**TT1281**
	-40...150	6	250	1 x Pt 100	1 / 3	14	**TT2281**
	-40...150	6	200	1 x Pt 100	1 / 3	14	**TT4281**
	-40...150	6	300	1 x Pt 100	1 / 3	14	**TT6281**

Type	Measuring range [°C]	Diameter [mm]	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	6	350	1 x Pt 100	1 / 3	14	**TT3281**
	-40...150	6	50	1 x Pt 100	1 / 3	14	**TT9281**
	-40...150	10	160	1 x Pt 100	1 / 3	13	**TT1081**
	-40...150	10	260	1 x Pt 100	1 / 3	13	**TT2081**
	-40...150	10	360	1 x Pt 100	1 / 3	13	**TT3081**
	-40...150	10	560	1 x Pt 100	1 / 3	13	**TT5081**
	-40...125	8.2	60	1 x Pt 100	1 / 3	15	**TM9950**

Screw-in sensors for industrial applications

Type	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	G ¼	25	1 x Pt 100	1 / 3	16	**TM4101**
	-40...150	G ¼	25	1 x Pt 1000	1 / 3	16	**TM5101**
	-40...150	G ½	50	1 x Pt 100	1 / 3	17	**TM4411**
	-40...150	G ½	50	1 x Pt 1000	1 / 3	17	**TM5411**
	-40...150	G ½	100	1 x Pt 100	1 / 3	17	**TM4431**
	-40...150	G ½	150	1 x Pt 100	1 / 3	17	**TM4441**
	-40...150	G ½	250	1 x Pt 100	1 / 3	17	**TM4461**

You can find wiring diagrams and scale drawings from page 571

Cable sensors for industrial applications

Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable 4 m · high-grade stainless steel							
	-30...180	M5	silicone cable	1 x Pt 100	3 / 8	18	**TS4759**
Cable with connector 0.15 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...250	Ø 6 mm	PTFE cable	1 x Pt 1000	11 / 37	19	**TS9256**
Cable with connector 0.5 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...90	M5 / L = 26	PUR cable	1 x Pt 100	3 / 8	20	**TS9789**
Cable with connector 2 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...90	Ø 6 mm / L = 45 mm	PUR cable	1 x Pt 100	3 / 10	21	**TS2289**
	-40...90	Ø 6 mm / L = 45 mm	PUR cable	1 x Pt 1000	3 / 10	21	**TS2269**
	-40...90	Ø 10 mm	PUR cable	1 x Pt 100	6 / 25	22	**TS2089**
	-40...90	Ø 10 mm	PUR cable	1 x Pt 1000	6 / 25	22	**TS2069**
	-50...250	Ø 6 mm	PTFE cable	1 x Pt 100	11 / 37	19	**TS2256**
	-50...250	Ø 10 mm	PTFE cable	1 x Pt 100	12 / 39	23	**TS2056**
	-40...90	M5 / L = 26	PUR cable	1 x Pt 100	3 / 8	20	**TS2789**
	-40...90	M6 / L = 26	PUR cable	1 x Pt 100	3 / 9	24	**TS2689**
	-30...180	M5 / L = 25.7	silicone cable	1 x Pt 100	3 / 8	25	**TS2759**
	-30...180	M6	silicone cable	1 x Pt 100	3 / 8	26	**TS2659**

Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable with connector 2.5 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...90	Ø 6 mm / L = 45 mm	PUR cable	1 x Pt 100	3 / 10	21	**TS9289**
Cable with connector 5 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...90	Ø 10 mm	PUR cable	1 x Pt 100	6 / 25	22	**TS5089**
	-40...90	Ø 6 mm / L = 45 mm	PUR cable	1 x Pt 100	3 / 10	21	**TS5289**
Cable with connector 10 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-30...180	M5 / L = 25.7	silicone cable	1 x Pt 100	3 / 8	25	**TS0759**
Cable with connector 2 m · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-100...600	Ø 6 mm	PTFE cable	1 x Pt 100	12 / 34	27	**TS2451**
	-100...600	Ø 6 mm	PTFE cable	1 x Pt 100	12 / 34	27	**TS2452**
	-100...600	Ø 6 mm	PTFE cable	1 x Pt 100	12 / 34	27	**TS2453**
	-100...600	Ø 6 mm	PTFE cable	1 x Pt 100	12 / 34	27	**TS2454**

Cable sensors with bolt-on sensor for industrial applications

Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable with connector 2 m · stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...90	12	PUR cable	1 x Pt 100	9 / 15	28	**TS2229**
Cable 2 m · stainless steel							
	-40...90	12	PUR cable	1 x Pt 100	12 / 39	29	**TS2239**

You can find wiring diagrams and scale drawings from page 571

Screw-in sensor with ATEX approval 3D/3G

Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable 2 m · high-grade stainless steel · DC							
	-20...115	M5	silicone cable	1 x Pt 100	8 / 20	30	**TS285A**

Cable sensors with ATEX approval 3D / 3G

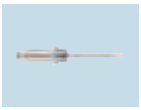
Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable 3 m · high-grade stainless steel							
	-20...80	Ø 5 mm / L = 40	silicone cable	1 x Pt 100	4 / 10	31	**TS325A**

Cable sensors with bolt-on sensors with ATEX approval 3D / 3G

Type	Measuring range [°C]	Diameter [mm]	Cable material	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
Cable 5 m · high-grade stainless steel							
	-20...80	10	silicone cable	1 x Pt 100	13 / 39	32	**TS522A**
	-20...80	18	silicone cable	1 x Pt 1000	18 / 42	33	**TS502A**

Temperature transmitters for standard applications, IO-Link

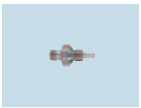
Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · DC · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -	G ½	30	18...32	1 / 3	34	**TA2405**
	-50...150 / -	G ½	50	18...32	1 / 3	34	**TA2415**
	0...100 / -	G ½	50	18...32	1 / 3	34	**TA2417**

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · DC · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -	G ½	100	18...32	1 / 3	34	**TA2435**
	0...100 / -	G ½	100	18...32	1 / 3	34	**TA2437**
	-50...150 / -	G ½	150	18...32	1 / 3	34	**TA2445**
	0...100 / -	G ½	150	18...32	1 / 3	34	**TA2447**
	-50...150 / -	G ¼	25	18...32	1 / 3	35	**TA2105**
	-50...150 / -	G ¼	50	18...32	1 / 3	35	**TA2115**
	-50...150 / -	G ¼	100	18...32	1 / 3	35	**TA2135**
	-50...150 / -	G ¼	150	18...32	1 / 3	35	**TA2145**

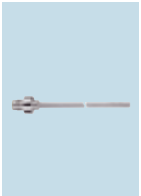
IO-Link temperature transmitters

Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · DC · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	G ¼ A	25	10...30	1 / 3	36	**TA3105**
	-50...150 / -58...302	G ¼ A	50	10...30	1 / 3	36	**TA3115**
	-50...150 / -58...302	G ¼ A	200	10...30	1 / 3	36	**TA3155**
DEUTSCH connector · high-grade stainless steel · DC							
	-50...150 / -58...302	G ¼ A	25	10...30	1 / 3	37	**TA4105**

You can find wiring diagrams and scale drawings from page 571

Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
DEUTSCH connector · high-grade stainless steel · DC							
	-50...150 / -58...302	G ¼ A	50	10...30	1 / 3	37	**TA4115**
AMP plug · high-grade stainless steel · DC							
	-50...150 / -58...302	G ¼ A	25	10...30	1 / 3	38	**TA5105**
	-50...150 / -58...302	G ¼ A	50	10...30	1 / 3	38	**TA5115**
M12 connector · high-grade stainless steel · DC · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	G ¼ A	25	8...32	1 / 3	36	**TU3105**
DEUTSCH connector · high-grade stainless steel · DC							
	-50...150 / -58...302	G ¼ A	25	8...32	1 / 3	37	**TU4105**
AMP plug · high-grade stainless steel · DC							
	-50...150 / -58...302	G ¼ A	25	8...32	1 / 3	38	**TU5105**
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150 / -40...302	G ¼	25	–	1 / 3	16	**TM5101**
DEUTSCH connector · high-grade stainless steel							
	-40...150 / -40...302	G 1/4	25	–	1 / 3	39	**TM6101**

Probe sensors for hygienic and wet areas

Type	Measuring range [°C]	Diameter [mm]	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	6	50	1 x Pt 100	1 / 3	14	**TT9291**
	-40...150	6	100	1 x Pt 100	1 / 3	14	**TT0291**

Type	Measuring range [°C]	Diameter [mm]	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	6	150	1 x Pt 100	1 / 3	14	**TT1291**
	-40...150	6	250	1 x Pt 100	1 / 3	14	**TT2291**
	-40...150	6	350	1 x Pt 100	1 / 3	14	**TT3291**

Sensors with process connection for hygienic and wet areas

Type	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	Clamp 1-1.5" ISO 2852	30	1 x Pt 100	1 / 3	40	**TM4801**
	-40...150	Clamp 1-1.5" ISO 2852	50	1 x Pt 100	1 / 3	40	**TM4811**
	-40...150	Clamp 1-1.5" ISO 2852	100	1 x Pt 100	1 / 3	40	**TM4831**
	-40...150	Clamp 1-1.5" ISO 2852	150	1 x Pt 100	1 / 3	40	**TM4841**
	-40...150	Clamp 2"	30	1 x Pt 100	1 / 3	41	**TM4901**
	-40...150	Clamp 2"	50	1 x Pt 100	1 / 3	41	**TM4911**
	-40...150	Clamp 2"	100	1 x Pt 100	1 / 3	41	**TM4931**
	-40...150	Clamp 2"	150	1 x Pt 100	1 / 3	41	**TM4941**
	-40...150	G½ with sealing cone	20	1 x Pt 100	1 / 3	42	**TM4591**
	-40...150	G½ with sealing cone	30	1 x Pt 100	1 / 3	42	**TM4501**
	-40...150	G½ with sealing cone	50	1 x Pt 100	1 / 3	42	**TM4511**

You can find wiring diagrams and scale drawings from page 571

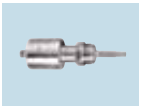
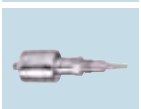
Type	Measuring range [°C]	Process connection	Installation length [mm]	Sensor element	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-40...150	G½ with sealing cone	100	1 x Pt 100	1 / 3	42	**TM4531**
	-40...150	G½ with sealing cone	150	1 x Pt 100	1 / 3	42	**TM4541**
	-50...140	G½ with sealing cone	–	1 x Pt 100	10 / 40	43	**TM4599**

Temperature transmitters for hygienic and wet areas, IO-Link

Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · DC · Connector groups 148, 153, 184, 188, 193							
	-50...200 / -	3/4" clamp (ISO 2852)	25	18...32	< 0.5 / < 2.0	44	**TA2002**
	-50...200 / -	3/4" clamp (ISO 2852)	60	18...32	< 0.5 / < 2.0	44	**TA2012**
	-50...200 / -	1.5" clamp (ISO 2852)	30	18...32	< 0.5 / < 2	45	**TA2802**
	-50...200 / -	1.5" clamp (ISO 2852)	50	18...32	< 0.5 / < 2	45	**TA2812**
	-50...200 / -	1.5" clamp (ISO 2852)	100	18...32	< 0.5 / < 2	45	**TA2832**
	-50...200 / -	1.5" clamp (ISO 2852)	150	18...32	< 0.5 / < 2	45	**TA2842**
	-50...200 / -	G½ with sealing cone	30	18...32	< 0.5 / < 2	46	**TA2502**
	-50...200 / -	G½ with sealing cone	50	18...32	< 0.5 / < 2	46	**TA2512**
	-50...200 / -	G½ with sealing cone	100	18...32	< 0.5 / < 2	46	**TA2532**
	-50...200 / -	G½ with sealing cone	150	18...32	< 0.5 / < 2	46	**TA2542**

Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · high-grade stainless steel · DC							
	0...100 / -	G½ with sealing cone	–	18...32	10 / 40	47	**TA3597**
M12 connector · high-grade stainless steel · DC · Connector groups 148, 153, 184, 188, 193							
	-50...200 / -	Ø 6 mm	50	18...32	< 0.5 / < 2	48	**TA2212**
	-50...200 / -	Ø 6 mm	100	18...32	< 0.5 / < 2	48	**TA2232**
	-50...200 / -	Ø 6 mm	150	18...32	< 0.5 / < 2	48	**TA2242**

Self-monitoring temperature transmitters for hygienic and wet areas, IO-Link

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · Output function normally open / normally closed / heartbeat programmable, 4...20 mA analogue · DC PNP/NPN · Wiring diagram no. 8 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	0...150 / 32...302	Aseptoflex Vario	50	18...32	3 / 6	49	**TAD081**
	0...150 / 32...302	Aseptoflex Vario	87.5	18...32	3 / 6	50	**TAD181**
	0...150 / 32...302	Aseptoflex Vario	33	18...32	3 / 6	51	**TAD981**
	0...150 / 32...302	G ½ A	50	18...32	3 / 6	52	**TAD091**
	0...150 / 32...302	G ½ A	87.5	18...32	3 / 6	53	**TAD191**
	0...150 / 32...302	G ½ A	33	18...32	3 / 6	54	**TAD991**

You can find wiring diagrams and scale drawings from page 571

Temperature transmitter with display for hygienic and wet areas, IO-Link

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · DC · Wiring diagram no. 9 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	G½ with sealing cone	30	18...32	1 / 3	55	**TD2507**
	-50...150 / -58...302	G½ with sealing cone	50	18...32	1 / 3	55	**TD2517**
	-50...150 / -58...302	G½ with sealing cone	100	18...32	1 / 3	55	**TD2537**
	-50...150 / -58...302	G½ with sealing cone	150	18...32	1 / 3	55	**TD2547**
	-50...150 / -58...302	G½ with sealing cone	30	18...32	1 / 3	55	**TD2501**
	-50...150 / -58...302	G½ with sealing cone	50	18...32	1 / 3	55	**TD2511**
	-50...150 / -58...302	G½ with sealing cone	100	18...32	1 / 3	55	**TD2531**
	-50...150 / -58...302	G½ with sealing cone	150	18...32	1 / 3	55	**TD2541**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	30	18...32	1 / 3	56	**TD2807**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	50	18...32	1 / 3	56	**TD2817**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	100	18...32	1 / 3	56	**TD2837**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	150	18...32	1 / 3	56	**TD2847**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	30	18...32	1 / 3	56	**TD2801**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	50	18...32	1 / 3	56	**TD2811**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	100	18...32	1 / 3	56	**TD2831**
	-50...150 / -58...302	1.5" clamp (ISO 2852)	150	18...32	1 / 3	56	**TD2841**

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · DC · Wiring diagram no. 9 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	2" clamp (ISO 2852)	30	18...32	1 / 3	57	**TD2907**
	-50...150 / -58...302	2" clamp (ISO 2852)	50	18...32	1 / 3	57	**TD2917**
	-50...150 / -58...302	2" clamp (ISO 2852)	100	18...32	1 / 3	57	**TD2937**
	-50...150 / -58...302	2" clamp (ISO 2852)	150	18...32	1 / 3	57	**TD2947**
	-50...150 / -58...302	2" clamp (ISO 2852)	30	18...32	1 / 3	57	**TD2901**
	-50...150 / -58...302	2" clamp (ISO 2852)	50	18...32	1 / 3	57	**TD2911**
	-50...150 / -58...302	2" clamp (ISO 2852)	100	18...32	1 / 3	57	**TD2931**
	-50...150 / -58...302	2" clamp (ISO 2852)	150	18...32	1 / 3	57	**TD2941**
	-50...150 / -58...302	Ø 6 mm	50	18...32	1 / 3	58	**TD2217**
	-50...150 / -58...302	Ø 6 mm	100	18...32	1 / 3	58	**TD2237**
	-50...150 / -58...302	Ø 6 mm	150	18...32	1 / 3	58	**TD2247**
	-50...150 / -58...302	Ø 6 mm	250	18...32	1 / 3	58	**TD2267**
	-50...150 / -58...302	Ø 6 mm	50	18...32	1 / 3	58	**TD2211**
	-50...150 / -58...302	Ø 6 mm	100	18...32	1 / 3	58	**TD2231**
	-50...150 / -58...302	Ø 6 mm	150	18...32	1 / 3	58	**TD2241**
	-50...150 / -58...302	Ø 6 mm	200	18...32	1 / 3	58	**TD2251**
	-50...150 / -58...302	Ø 6 mm	250	18...32	1 / 3	58	**TD2261**

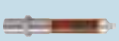
You can find wiring diagrams and scale drawings from page 571

Type	Factory setting [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · DC · Wiring diagram no. 9 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202							
	-50...150 / -58...302	Ø 6 mm	200	18...32	1 / 3	58	**TD2257**
	-50...150 / -58...302	Ø 6 mm	300	18...32	1 / 3	58	**TD2271**
	-50...150 / -58...302	Ø 6 mm	300	18...32	1 / 3	58	**TD2277**
	-50...150 / -58...302	Ø 6 mm	350	18...32	1 / 3	58	**TD2291**
	-50...150 / -58...302	Ø 6 mm	350	18...32	1 / 3	58	**TD2297**

TV sensors with switching outputs, IO-Link

Type	Measuring range [°C / °F]	Process connection	Installation length [mm]	U_b [V]	Dynamic response T05 / T09 [s]	Drawing no.	Order no.
M12 connector · Output function 2 x normally open / closed progr. · 2 switching outputs · DC PNP/NPN · Wiring diagram no. 3 · Connector groups 8, 10, 12, 13, 19, 21, 22, 23, 24, 25, 148, 149, 150, 152, 153, 154, 155, 184, 186, 188, 190, 192, 193, 194, 202, 205							
	-50...150 / -	G 1/4	25	18...32	1 / 3	59	**TV7105**
	-50...150 / -	G 1/2	30	18...32	1 / 3	60	**TV7405**

Infrared temperature sensors

Type	Temperature range [°C]	Wave length range [µm]	Material lens	Response time [ms]	Drawing no.	Order no.
M12 connector · Output function ⎍ / ⎍ · Switching output, Analogue output · DC PNP · Wiring diagram no. 5						
	0...999.5	8...14	Infrared transparent crystal lens with anti-reflex coating	< 100	61	**TW2000**
	250...1600	1.0...1.7	tempered optical glass	< 2	62	**TW2001**
	500...2500	0.78...1.06	tempered optical glass	< 2	62	**TW2002**
	300...1600	1.0...1.7	tempered optical glass	< 2	63	**TW2011**

Type	Temperature range [°C]	Wave length range [µm]	Material lens	Response time [ms]	Drawing no.	Order no.
M12 connector · Output function ⎍ / ⎍ · 2 switching outputs · DC PNP · Wiring diagram no. 5						
	50...500	8...14	Infrared transparent crystal lens with anti-reflex coating	< 100	64	**TW7000**
	250...1250	1.0...1.7	tempered optical glass	≤ 2	65	**TW7001**
	350...1350	1.0...1.7	tempered optical glass	≤ 2	66	**TW7011**

Accessories for temperature sensors TN / TR

Type	Description	Order no.
	Angle bracket · Housing materials: PA66-	**E30421**
	Mounting clamp · Ø 34 mm · Housing materials: PBT	**E10017**
	Mounting clamp · Ø 34 mm · Housing materials: PA	**E10193**

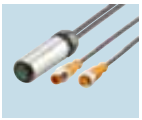
Accessories for infrared temperature sensors

Type	Description	Order no.
	Measuring head · for infrared temperature sensors TWxx11, M30 design · Housing materials: AlMg3 black anodised / 303 / 1.4305 / lock nuts: 304 / 1.4301 / O-ring: FPM	**E35060**
	Fibre optics with stainless steel sheathing · straight · Connection to infrared temperature sensors TWxx11 · ¼"-36UNS-2A · Housing materials: stainless steel, Fibre optic: Quartz/Quartz fibre (VIS/IR)	**E35061**
	Fibre optics with stainless steel sheathing · straight · Connection to infrared temperature sensors TWxx11 · ¼"-36UNS-2A · Housing materials: stainless steel, Fibre optic: Quartz/Quartz fibre (VIS/IR)	**E35062**
	Air purge · for infrared temperature sensors TWxxxx, M30 design · for type TW · Housing materials: stainless steel / Brass / sealing ring: aluminium	**E35063**
	Cooling jacket · for infrared temperature sensors TWxxxx, M30 design · for type TW · Housing materials: 304 / 1.4301	**E35068**

You can find wiring diagrams and scale drawings from page 571

Type	Description	Order no.
	Mounting bracket · Ø 30 mm · for types M30 · Housing materials: Steel galvanised	**E35065**
	Protective tube · for infrared temperature sensors TWxxxx, M30 design · for type TW · Housing materials: stainless steel	**E35066**
	Insulating tube · for infrared temperature sensors TWxxxx, M30 design · for type TW · Housing materials: POM	**E35067**

Accessories

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**
	Teach button · for sensors PP0xE, PP052x, PP755x · for memory plug (E30398) · 0.9 m · Housing materials: stainless steel / PA / PMMA	**E30405**
	USB IO-Link master · for parameter setting and analysis of units · Supported communication protocols: IO-Link (4.8, 38.4 and 230 Kbits/s) · for operation with FDT framework software "ifm Container“ or software "LINERECORDER SENSOR"	**E30390**

Software

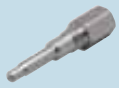
Type	Description	Order no.
	LR DEVICE (USB stick) · Parameter setting of the units via the network · Software for clear online and offline parameter setting of IO-Link sensors via USB adapter · Use via USB connection cable (drivers are supplied): E30396 IO-Link interface or E30390 IO-Link master (note 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**

Certificates

Description	Order no.
DAkkS calibration certificate for temperature sensors · Number of measuring points: 3-point DAkkS calibration · Measurement points [°C]: 65, 85, 123 (to directive DAkkS-DKD-R 5-1) · Minimum measurement uncertainty [K]: 0.1	**ZC0013**
DAkkS calibration certificate for temperature sensors · Number of measuring points: 5-point DAkkS calibration · Measurement points [°C]: 20, 65, 85, 100, 123 (to directive DAkkS-DKD-R 5-1) · Minimum measurement uncertainty [K]: 0.1	**ZC0014**

Description	Order no.
DAkkS calibration certificate for temperature sensors · Number of measuring points: n-point DAkkS calibration · Measurement points [°C]: number and positions as requested by the customer, maximum 4 points in the range from -20...150 °C (to directive DAkkS-DKD-R 5-1) · Minimum measurement uncertainty [K]: 0.1	**ZC0015**
Factory calibration certificate for temperature sensors · Number of measuring points: 3-point factory calibration · Measurement points [°C]: 65, 85, 123 (to ISO 9001) · Minimum measurement uncertainty [K]: 0.1	**ZC0016**
Factory calibration certificate for temperature sensors · Number of measuring points: 5-point factory calibration · Measurement points [°C]: 20, 65, 85, 100, 123 (to ISO 9001) · Minimum measurement uncertainty [K]: 0.1	**ZC0017**
Factory calibration certificate for temperature sensors · Number of measuring points: n-point factory calibration · Measurement points [°C]: number and positions as requested by the customer, maximum 4 points in the range from -20...150 °C (to ISO 9001) · Minimum measurement uncertainty [K]: 0.1	**ZC0018**
Factory calibration sheet for first delivery of infrared temperature sensors · TW2000 / TW2001 / TW2002 / TW2011 · Minimum measurement uncertainty [K]: ± 4	**ZC0061**
Recalibration for infrared temperature sensors · TW2000 / TW2001 / TW2011 · Minimum measurement uncertainty [K]: ± 4	**ZC0062**
Recalibration for infrared temperature sensors · TW2002 · Minimum measurement uncertainty [K]: ± 4	**ZC0063**

Thermowells for temperature sensors

Type	Description	Order no.
	Welding thermowell · Ø 35 mm · for type TA343x, TAA431, TAD191 · stainless steel 316L / 1.4404	**E30403**
	Thermowell for temperature sensors · G ½ · for type TA34xx, TAA431, TAD191 · stainless steel 316L / 1.4404	**E30393**
	Thermowell for temperature sensors · G ½ - ½" NPT · for type TA34xx, TAA4xx · stainless steel 316L / 1.4404	**E30397**
	Thermowell for temperature sensors · Ø 10 mm - G ½ · stainless steel 316L / 1.4404	**E35010**
	Thermowell for temperature sensors · Ø 10 mm - G ½ · stainless steel 316L / 1.4404	**E35020**
	Thermowell for temperature sensors · Ø 10 mm - G ½ · stainless steel 316L / 1.4404	**E35030**
	Thermowell for temperature sensors · Ø 10 mm - G ½ · stainless steel 316L / 1.4404	**E35050**

You can find wiring diagrams and scale drawings from page 571

Type	Description	Order no.
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316L / 1.4404	**E37211**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316L / 1.4404	**E37221**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316L / 1.4404	**E37810**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316L / 1.4404	**E37820**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 300 mm · stainless steel 316L / 1.4404	**E37830**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 350 mm · stainless steel 316L / 1.4404	**E37850**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316L / 1.4404	**E37910**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316L / 1.4404	**E37920**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 300 mm · stainless steel 316L / 1.4404	**E37930**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 350 mm · stainless steel 316L / 1.4404	**E37950**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 50 mm · stainless steel 316Ti / 1.4571	**E37603**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316Ti / 1.4571	**E37613**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316Ti / 1.4571	**E37623**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 250 mm · stainless steel 316Ti / 1.4571	**E37643**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 350 mm · stainless steel 316Ti / 1.4571	**E37663**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316L / 1.4404	**E37511**

Type	Description	Order no.
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316L / 1.4404	**E37521**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 50 mm · stainless steel 316Ti / 1.4571	**E37600**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316Ti / 1.4571	**E37610**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316Ti / 1.4571	**E37620**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 250 mm · stainless steel 316Ti / 1.4571	**E37640**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 50 mm · stainless steel 316Ti / 1.4571	**E37700**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316Ti / 1.4571	**E37710**
	Thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316Ti / 1.4571	**E37720**
	Welding thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 50 mm · stainless steel 316L / 1.4404	**E37411**
	Welding thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 100 mm · stainless steel 316L / 1.4404	**E37421**
	Welding thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 150 mm · stainless steel 316L / 1.4404	**E37431**
	Welding thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 300 mm · stainless steel 316L / 1.4404	**E37430**
	Welding thermowell for temperature sensors · Ø 6 mm · for temperature sensors with installation length EL = 350 mm · stainless steel 316L / 1.4404	**E37450**

Adapters

Type	Description	Order no.
	Thread cover · Ø 24 mm - G ½ · Ø 24 mm · to cover the G½ thread for installation in hygienic areas · for type TR · Housing materials: stainless steel	**E30091**

You can find wiring diagrams and scale drawings from page 571

Type	Description	Order no.
	Mounting set · for direct connection of temperature sensors TT to control monitors TR · Housing materials: stainless steel	**E30017**
	Clamp fitting · Ø 6/8/10 mm - G ½ · for temperature sensors · Housing materials: stainless steel / FPM	**E30018**
	Clamp fitting · Ø 6/8/10 mm - ½" NPT · for temperature sensors · Housing materials: stainless steel / FPM	**E30025**
	Mounting adapter · M18 x 1.5 - Ø 23 mm · PVC adapter to be glued into the pipe · Insertion depth of the probe of SID, SFD, TN: · 21 mm · Housing materials: PVC	**E40148**
	Sealing ring · Ø 18 mm / Ø 23 mm · for G ½ sealing cone · Housing materials: sealing ring on sensor side: FKM / sealing ring on process side: PEEK	**E43911**
	Adapter · M18 x 1.5 - G ½ · Housing materials: stainless steel 316L / 1.4404 / O-ring: FPM (fitted)	**E30073**
	Clamp adapter · Ø 6 mm - G ½ · no dead space · Housing materials: stainless steel 316L / 1.4404 / rubber ring: PEEK	**E30144**
	Welding adapter · M18 x 1.5 - Ø 24 mm · Insertion depth of the probe of SID, SFD, TN: · 15 mm · Housing materials: stainless steel 316L / 1.4404	**E40124**
	Welding adapter · Ø 24.7 mm · for temperature sensors Ø 6 mm · Clamp fitting · Housing materials: stainless steel 316L / 1.4404	**E30108**
	Welding adapter · Ø 25 mm · for temperature sensors Ø 6 mm · Clamp fitting · Housing materials: stainless steel 316L / 1.4404 / rubber ring: PEEK	**E30407**
	Progressive ring fitting for temperature sensors · Ø 10 mm - G ½ · Housing materials: stainless steel 316Ti / 1.4571	**E30016**
	Progressive ring fitting for temperature sensors · Ø 10 mm - ½" NPT · Housing materials: stainless steel 316Ti / 1.4571	**E30024**
	Progressive ring fitting for temperature sensors · Ø 6 mm - G ½ · Housing materials: stainless steel 316Ti / 1.4571	**E30047**
	Progressive ring fitting for temperature sensors · Ø 6 mm - ¼" NPT · Housing materials: stainless steel 316Ti / 1.4571	**E30049**
	Progressive ring fitting for temperature sensors · Ø 6 mm - G ¼ · Housing materials: stainless steel 316Ti / 1.4571	**E33431**

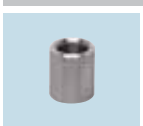
Type	Description	Order no.
	Adapter · M18 x 1.5 - G ½ · Insertion depth of the probe of SID, SFD, TN: · 21 mm · Housing materials: titanium	**E40114**
	Adapter · M18 x 1.5 - M12 x 1 · Insertion depth of the probe of SID, SFD, TN: · 13.5 mm · Housing materials: titanium	**E40128**
	Adapter · M18 x 1.5 - L18 · for mounting in T-pieces · Insertion depth of the probe of SID, SFD, TN: · 28.5 mm · Housing materials: nut: stainless steel 316Ti / 1.4571 / adapter: stainless steel 316L / 1.4404 / O-ring: FKM 16 x 1.5 gr 70° Shore A	**E40104**
	Adapter · M18 x 1.5 - M12 x 1 · Insertion depth of the probe of SID, SFD, TN: · 13.5 mm · Housing materials: stainless steel 316L / 1.4404	**E40101**
	Adapter · M18 x 1.5 - M12 x 1 · Insertion depth of the probe of SID, SFD, TN: · 13.5 mm · Housing materials: CW614N	**E40100**
	Adapter · M18 x 1.5 - G ¼ · Insertion depth of the probe of SID, SFD, TN: · 13.5 mm · Housing materials: stainless steel 316L / 1.4404	**E40099**
	Adapter · M18 x 1.5 - G ¼ · Insertion depth of the probe of SID, SFD, TN: · 13.5 mm · Housing materials: CW614N	**E40098**
	Adapter · M18 x 1.5 - G ½ · Insertion depth of the probe of SID, SFD, TN: · 21 mm · Housing materials: stainless steel 316L / 1.4404	**E40096**
	Adapter · M18 x 1.5 - G ½ · Insertion depth of the probe of SID, SFD, TN: · 21 mm · Housing materials: CW614N	**E40097**
	Adapter · M18 x 1.5 - ½" NPT · Insertion depth of the probe of SID, SFD, TN: · 23 mm · Housing materials: stainless steel 316L / 1.4404	**E40107**
	Adapter · M18 x 1.5 - G ½ · Housing materials: stainless steel 316L / 1.4404 / O-ring: FPM (fitted)	**E30073**
	Protective cover · with lead seal option · for pressure sensors type PK · for temperature sensors type TK · for vibration sensors type VK · Housing materials: PP transparent	**E30094**

Hygienic adapters

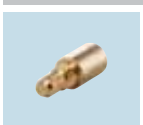
Type	Description	Order no.
Clamp adapter · 1-1.5" · Aseptoflex Vario		
	Clamp adapter · Clamp · 1-1.5" · ISO 2852 · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E33201**

You can find wiring diagrams and scale drawings from page 571

Type	Description	Order no.
Clamp adapter · 2" · Aseptoflex Vario		
	Clamp adapter · Clamp · 2" · ISO 2852 · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E33202**
Clamp adapter · 1-1.5" · Aseptoflex Vario		
	Clamp adapter · Clamp · 1-1.5" · ISO 2852 · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33701**
Clamp adapter · 2" · Aseptoflex Vario		
	Clamp adapter · Clamp · 2" · ISO 2852 · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33702**
Hygienic pipe fitting · DN40 (1.5") · Aseptoflex Vario		
	Pipe fitting · Hygienic pipe fitting · Hygienic pipe fitting · DN40 (1.5") · DIN 11851 · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E33212**
Hygienic pipe fitting · DN50 (2") · Aseptoflex Vario		
	Pipe fitting · Hygienic pipe fitting · Hygienic pipe fitting · DN50 (2") · DIN 11851 · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E33213**
Hygienic pipe fitting · DN40 (1.5") · Aseptoflex Vario		
	Pipe fitting · Hygienic pipe fitting · Hygienic pipe fitting · DN40 (1.5") · DIN 11851 · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33712**
Hygienic pipe fitting · DN50 (2") · Aseptoflex Vario		
	Pipe fitting · Hygienic pipe fitting · Hygienic pipe fitting · DN50 (2") · DIN 11851 · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33713**
Varivent Adapter · Type N, DN40...DN150 (1.5...6"), D = 68 · Aseptoflex Vario		
	Clamp adapter · Varivent Adapter · Varivent type N · DN40...DN150 (1.5...6"), D = 68 · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E33222**
	Clamp adapter · Varivent Adapter · Varivent type N · DN40...DN150 (1.5...6"), D = 68 · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33722**
SMS pipe fitting · DN40 (1.5") · Aseptoflex Vario		
	Pipe fitting · SMS pipe fitting · DN40 (1.5") · SMS · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33731**

Type	Description	Order no.
SMS pipe fitting · DN50 (2") · Aseptoflex Vario		
	Pipe fitting · SMS pipe fitting · DN50 (2") · SMS · for units with Aseptoflex Vario adapter · Metal to metal seal · Housing materials: stainless steel 316L / 1.4435	**E33732**
Welding adapter · D50 · Aseptoflex Vario		
	Welding adapter · Ø 50 mm · for units with Aseptoflex Vario adapter · Sealing by sealing ring · Housing materials: stainless steel 316L / 1.4435	**E30122**
Aseptoflex Vario · Aseptoflex Vario		
	sealing plug · Aseptoflex Vario · Housing materials: adapter: stainless steel 316L / 1.4435 / sealing ring: FKM	**E30128**
Clamp adapter · 1-1.5" · G ½		
	Clamp adapter · Clamp · 1-1.5" · ISO 2852 / DIN 32676 · for units with G ½ adaptation · Housing materials: stainless steel 316L / 1.4404	**E33401**
Clamp adapter · 2" · G ½		
	Clamp adapter · Clamp · 2" · ISO 2852 / DIN 32676 · for units with G ½ adaptation · Housing materials: stainless steel 316L / 1.4404	**E33402**
SMS pipe fitting · DN25 · G ½		
	Pipe fitting · SMS pipe fitting · DN25 · SMS · for units with G ½ adaptation · Housing materials: stainless steel 316L / 1.4404	**E33430**
Welding adapter · D30 · G ½		
	Welding adapter · G ½ - Ø 30 mm · for tanks · Housing materials: stainless steel 316L / 1.4435	**E43300**
Welding adapter · D29 · G ½		
	Welding adapter · G ½ - Ø 29 mm · for pipes · Housing materials: stainless steel 316L / 1.4435	**E43301**
Hygienic pipe fitting · DN25 (1") · G ½		
	Pipe fitting · G ½ · Hygienic pipe fitting · DN25 (1") · DIN 11851 · Housing materials: stainless steel 316L / 1.4435	**E43304**
Hygienic pipe fitting · DN40 (1.5") · G ½		
	Pipe fitting · G ½ · Hygienic pipe fitting · DN40 (1.5") · DIN 11851 · Housing materials: stainless steel 316L / 1.4435	**E43305**

You can find wiring diagrams and scale drawings from page 571

Type	Description	Order no.
Varivent Adapter · Type F, DN25 (1"), D = 50 · G ½		
	Clamp adapter · G ½ · Varivent type F · DN25 (1"), D = 50 · Housing materials: stainless steel 316L / 1.4435	**E43306**
Varivent Adapter · Type N, DN40...DN150 (1.5...6"), D = 68 · G ½		
	Clamp adapter · G ½ · Varivent type N · DN40...DN150 (1.5...6"), D = 68 · Housing materials: stainless steel 316L / 1.4435	**E43307**
sealing plug · G ½		
	sealing plug · G ½ · Housing materials: stainless steel 316L / 1.4435	**E43308**
Welding adapter ball · D35 · G ½		
	Welding adapter · G ½ - Ø 35 mm · Housing materials: stainless steel 316L / 1.4404	**E30055**
Welding adapter collar · D45 · G ½		
	Welding adapter · G ½ - Ø 45 mm · Housing materials: stainless steel 316L / 1.4404	**E30056**
Welding adapter · D30 · G ½		
	Welding adapter · G ½ - Ø 30 mm · for tanks · with leakage port · with leakage port · Housing materials: stainless steel 316L / 1.4435	**E43309**
Welding adapter · D29 · G ½		
	Welding adapter · G ½ - Ø 29 mm · for pipes · with leakage port · with leakage port · Housing materials: stainless steel 316L / 1.4435	**E43310**
Clamp adapter · 1-1.5" · G ½		
	Clamp adapter · G ½ · with leakage port · Clamp · 1-1.5" · ISO 2852 / DIN 32676 · with leakage port · Housing materials: stainless steel 316L / 1.4435	**E43311**
Clamp adapter · 2" · G ½		
	Clamp adapter · G ½ · with leakage port · Clamp · 2" · ISO 2852 / DIN 32676 · with leakage port · Housing materials: stainless steel 316L / 1.4435	**E43312**
	Welding mandrel · G ½ · carries away heat during welding · Housing materials: CW614N	**E43314**

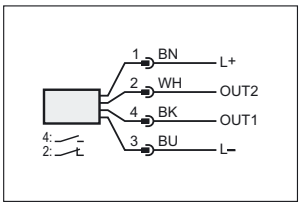
Type	Description	Order no.
Welding adapter collar · D45 · G ½		
	Welding adapter · G ½ · with leakage port · Housing materials: stainless steel 316L / 1.4404	**E43315**
Welding adapter · D50 · G ½		
	Welding adapter · G ½ · long design for deeper installation · long design for deeper installation · Housing materials: stainless steel 316L / 1.4435	**E43319**

Wiring diagrams

Core colours

BK	black
BN	brown
BU	blue
WH	white
GY	grey

1



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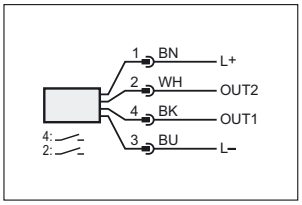

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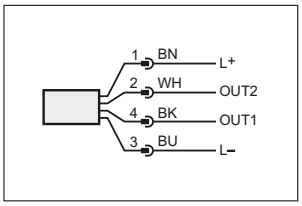

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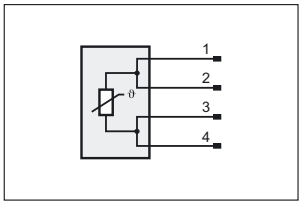

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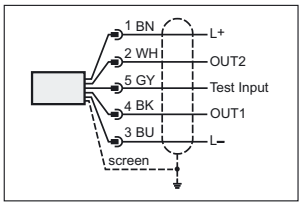

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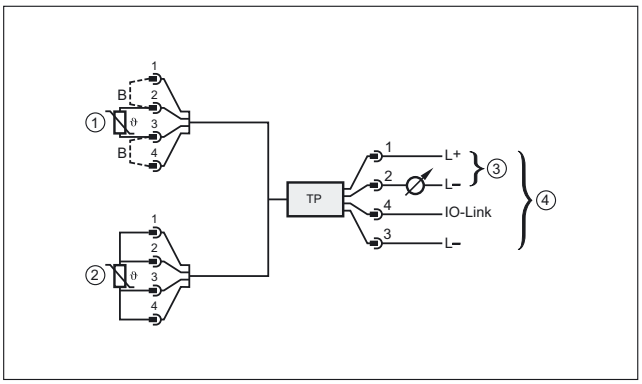
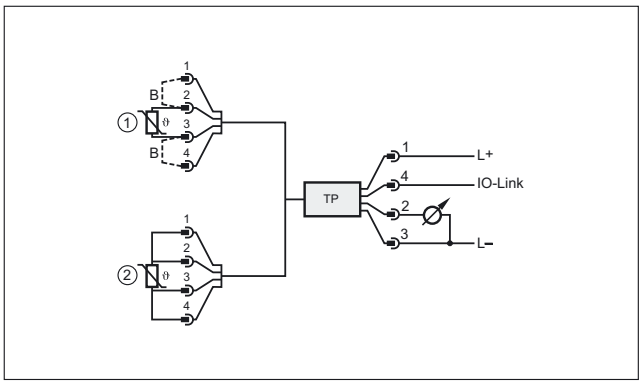


1: Two-wire sensor, 2: Four-wire sensor, 3: Operation as 2-wire temperature transmitter, 4: Operation as 3-wire unit, IO-Link communication possible, B: link

7



2: Two-wire sensor, 2: Four-wire sensor, B: link

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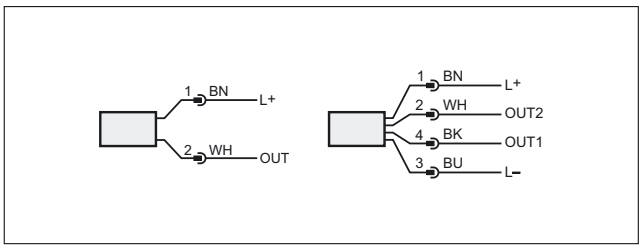
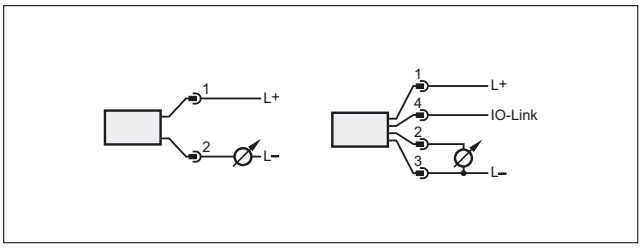


Wiring diagrams

9



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

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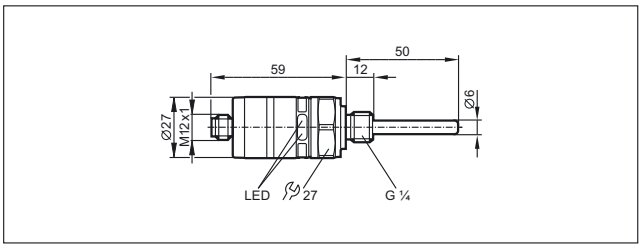

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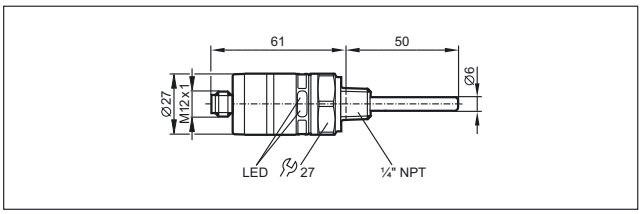

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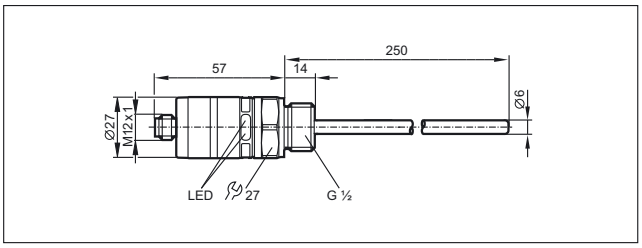

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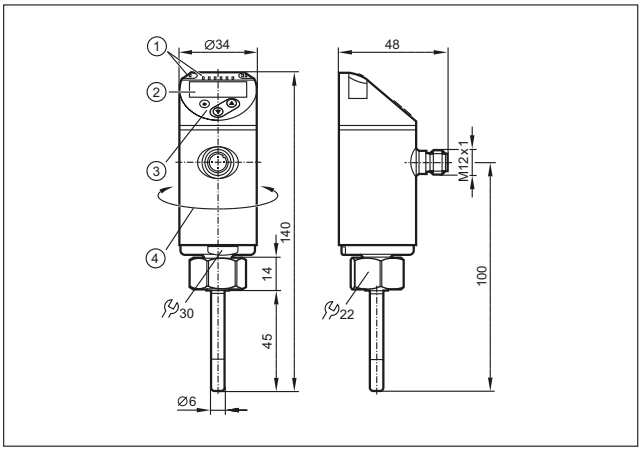
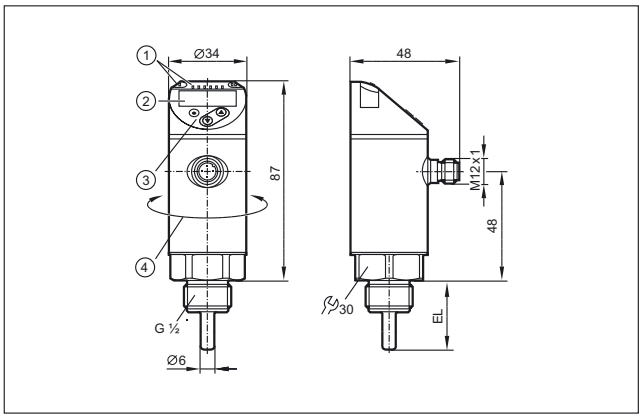


1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

5



1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

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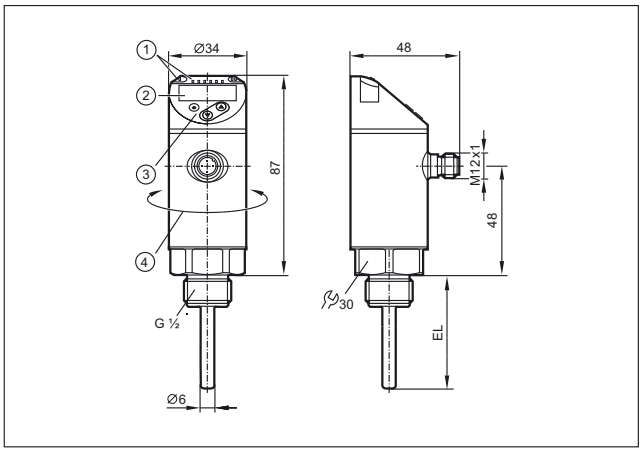
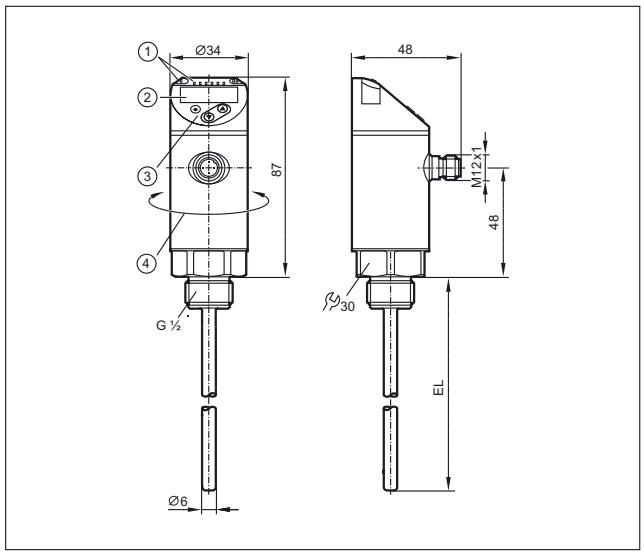


1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

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

7



1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

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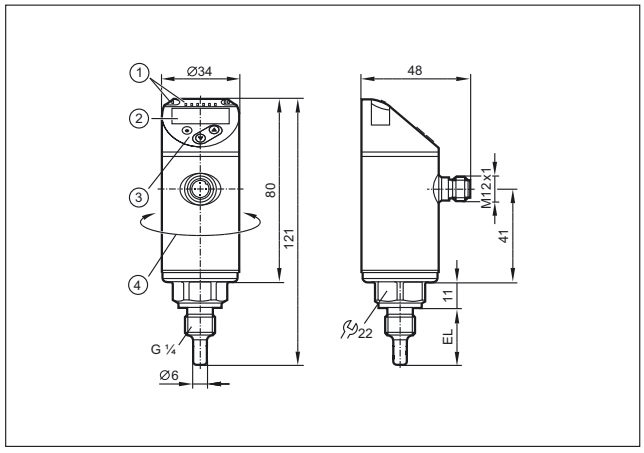

1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

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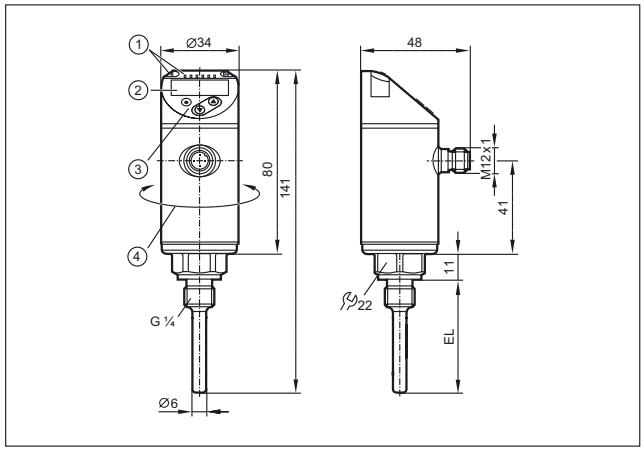

1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons, 4: Upper part of the housing can be rotated by 345°

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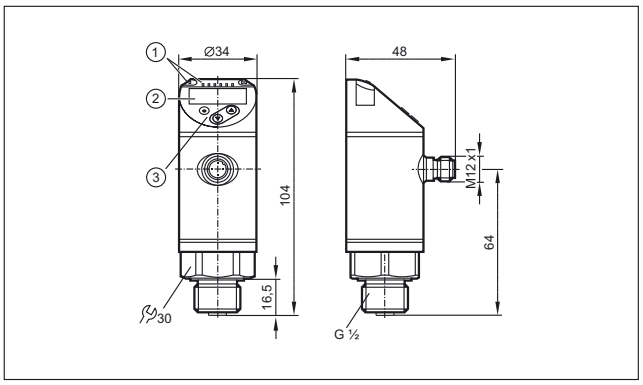

1: LEDs (display unit / switching status), 2: 4-digit alphanumeric display / alternating indication of red and green, 3: Programming buttons

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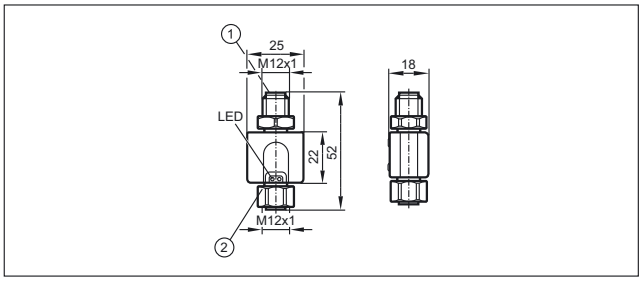
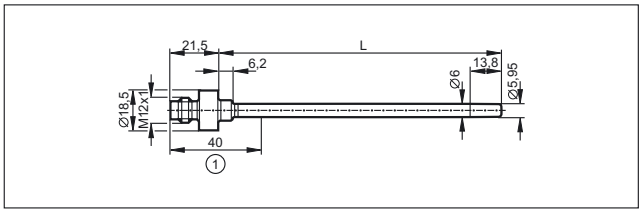


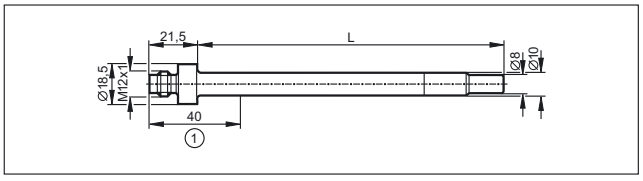
1: connection for voltage supply and output signals, 2: connection for temperature sensor

12



1: plug area, L = probe length (corresponds to installation length EL)

13



1: plug area, L = probe length (corresponds to installation length EL)

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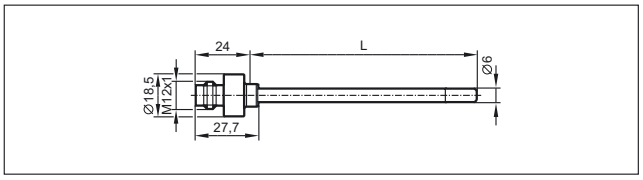
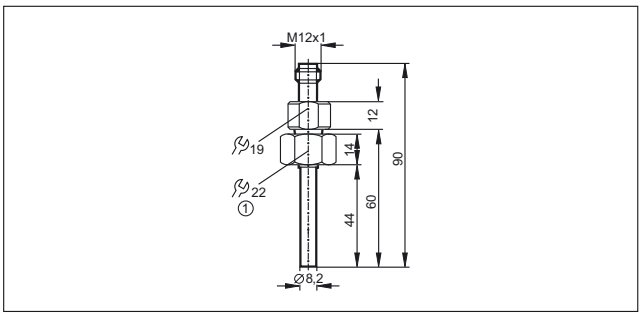


L = probe length (corresponds to installation length EL)

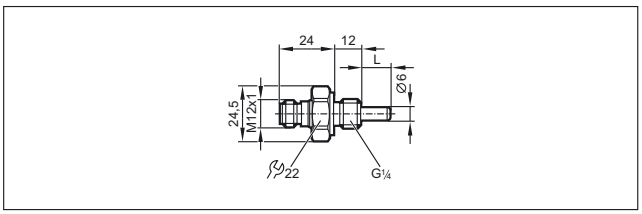
Scale drawings / drawing no. – CAD download: www.ifm.com

15



1: internal thread M18 x 1.5

16



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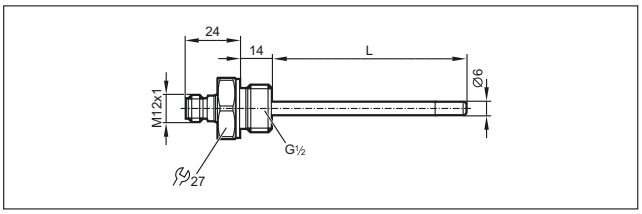

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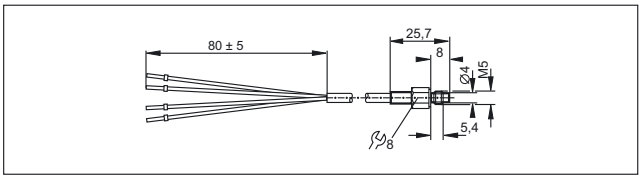

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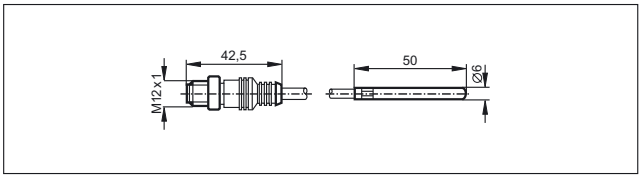

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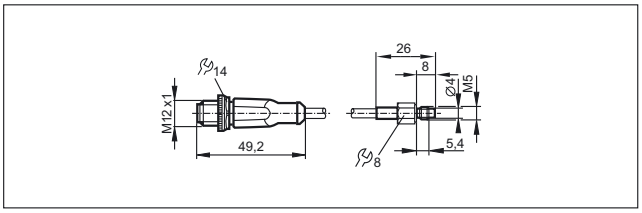
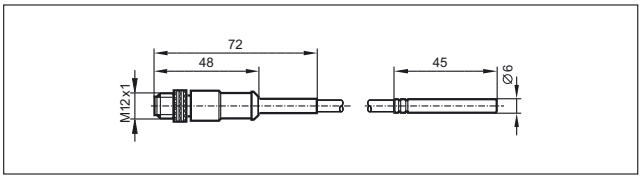


1: tightening torque 1.5 Nm

21



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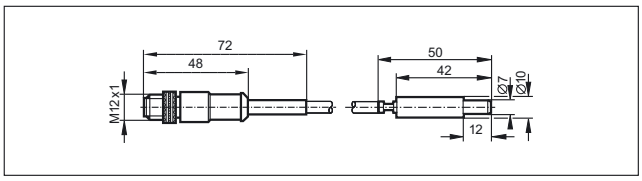

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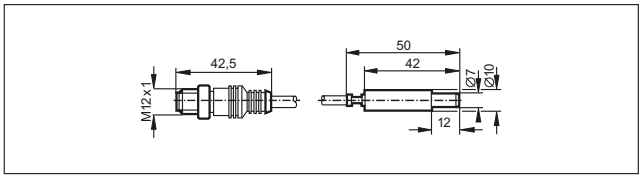

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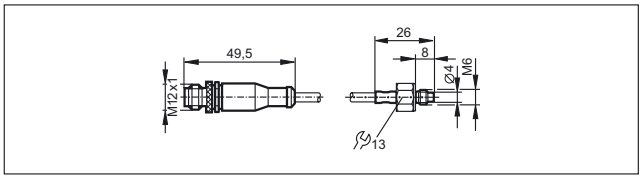

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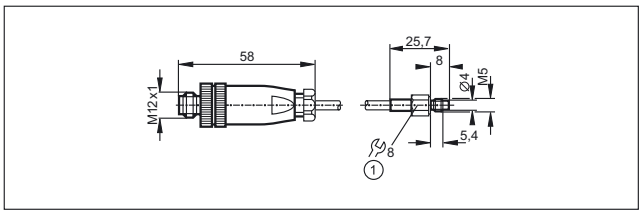

1: tightening torque 1.5 Nm

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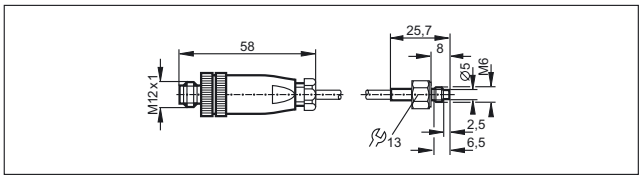

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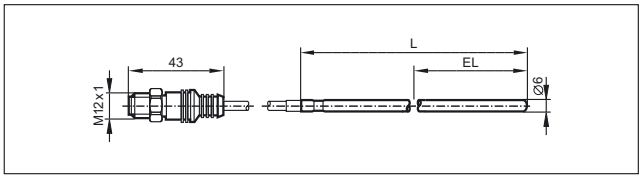

1: connection area, see remark

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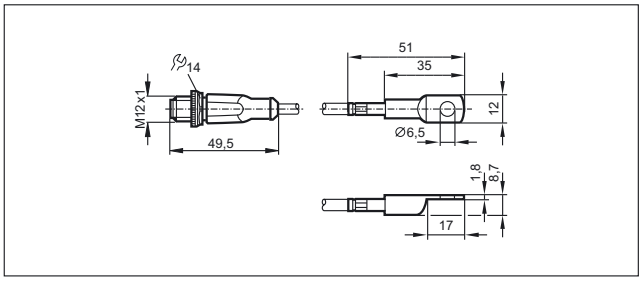

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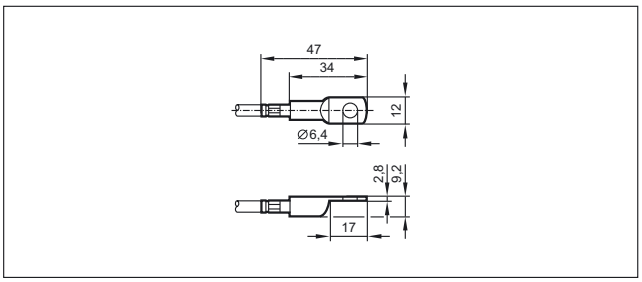

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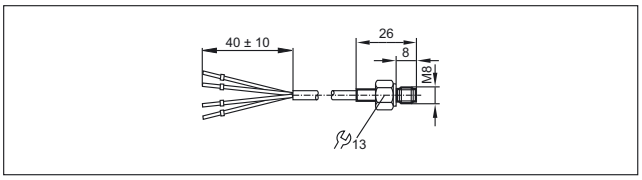

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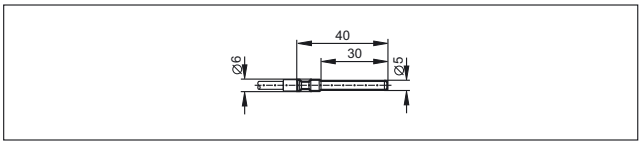

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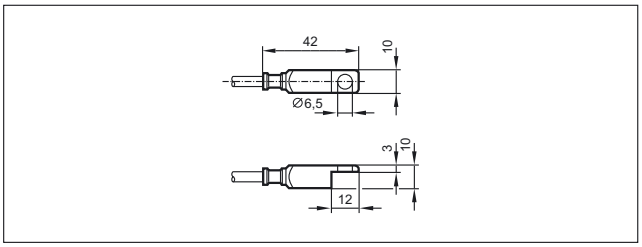

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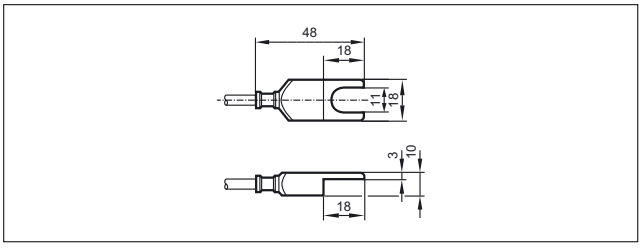

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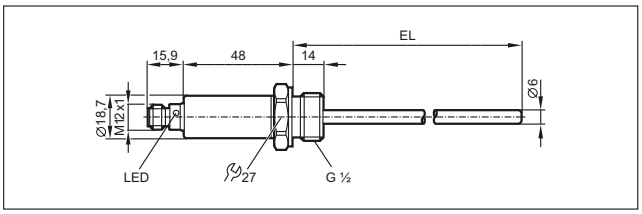

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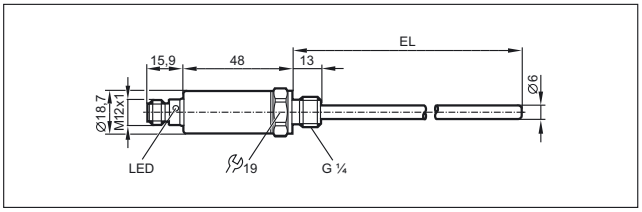

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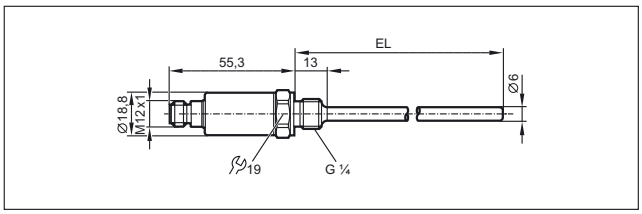

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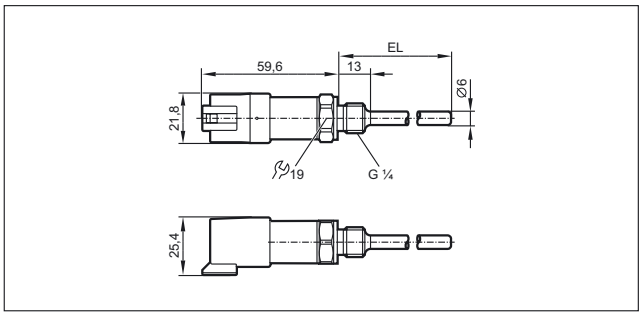

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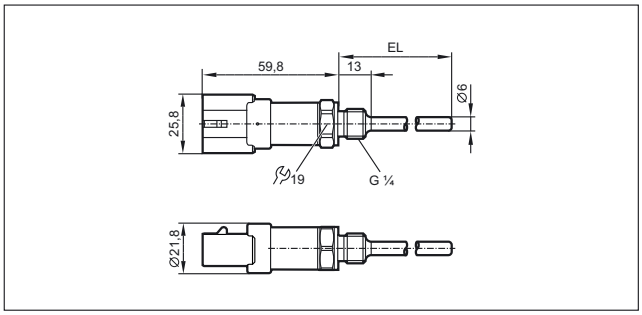

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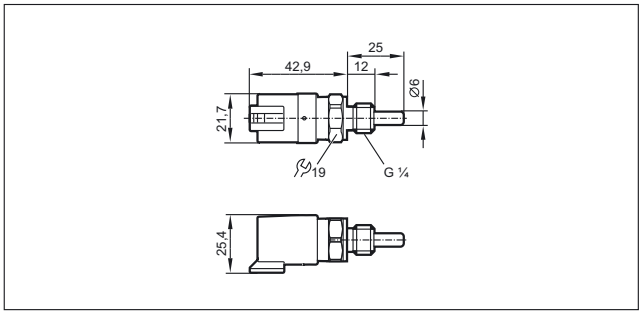

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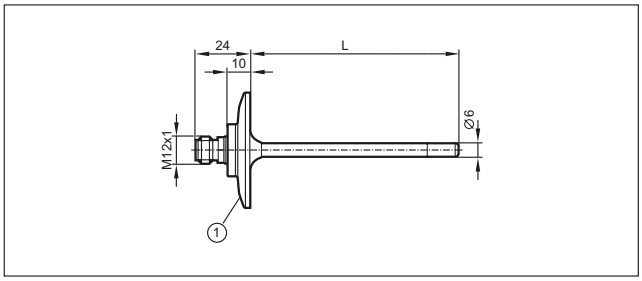

1: 1.5" clamp (ISO 2852), L = probe length (corresponds to installation length EL)

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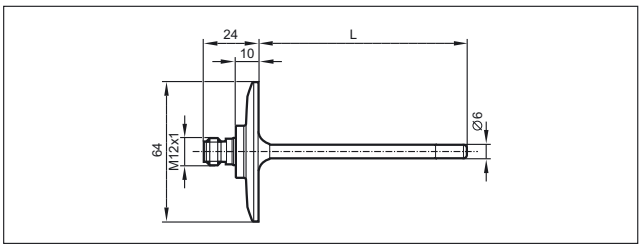
41



L = probe length (corresponds to installation length EL)

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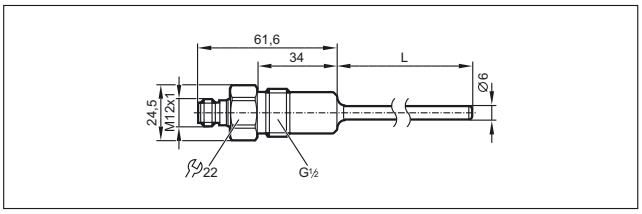

L = probe length (corresponds to installation length EL)

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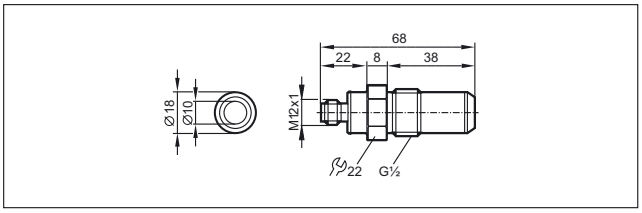

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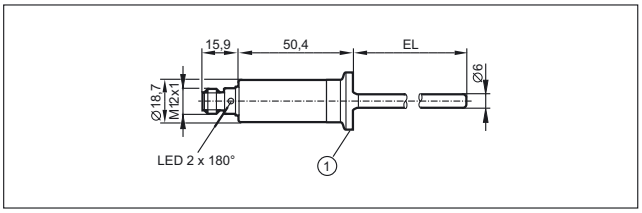

3/4" clamp (ISO 2852)

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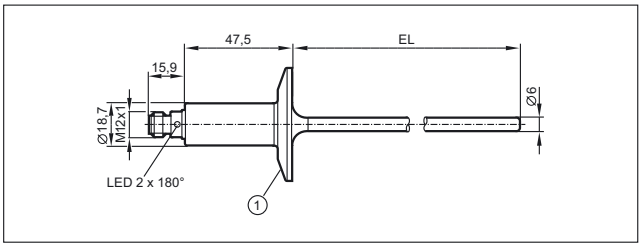

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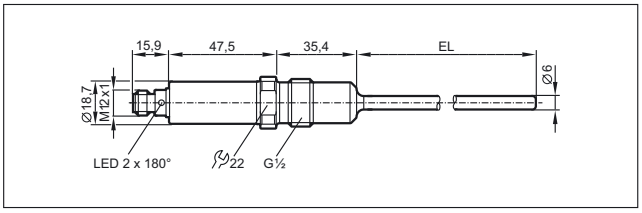

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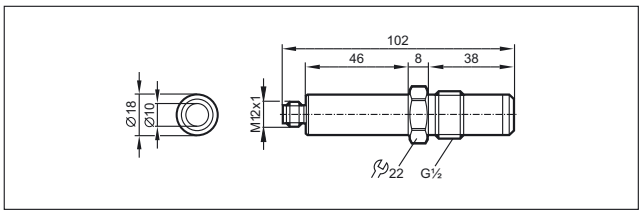

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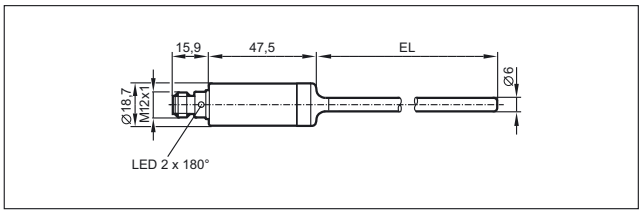

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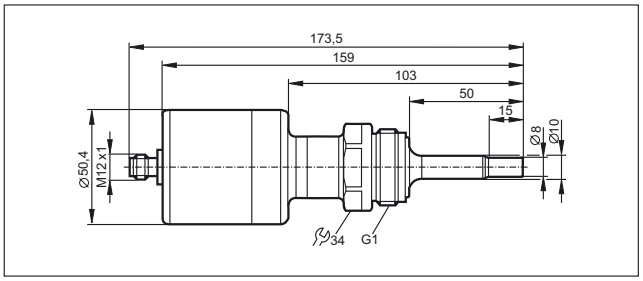

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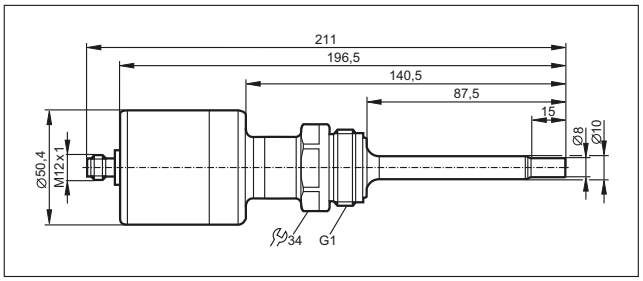

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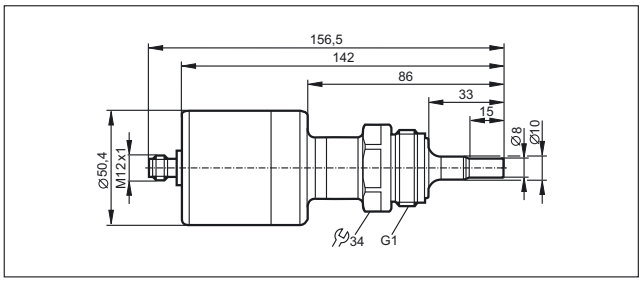

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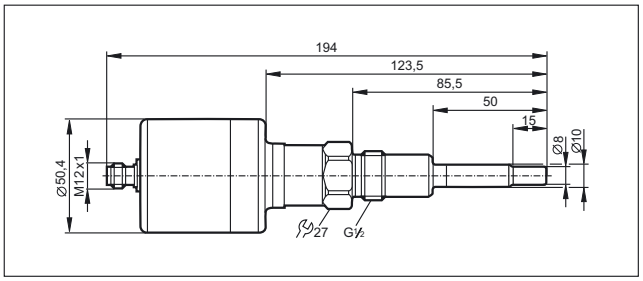

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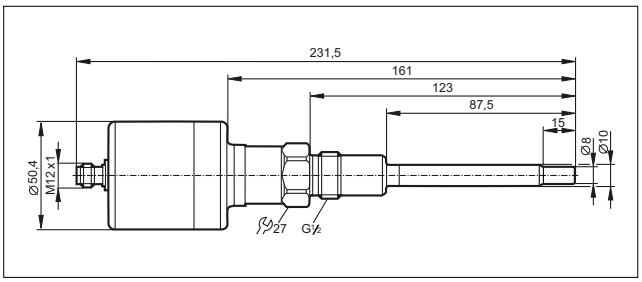

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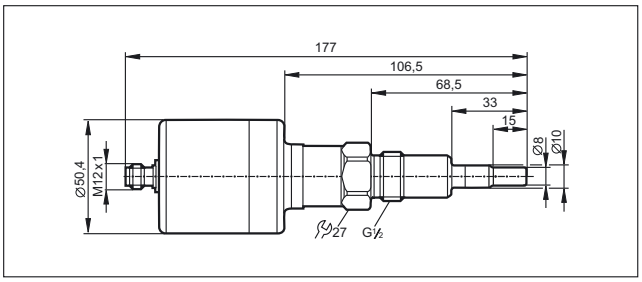

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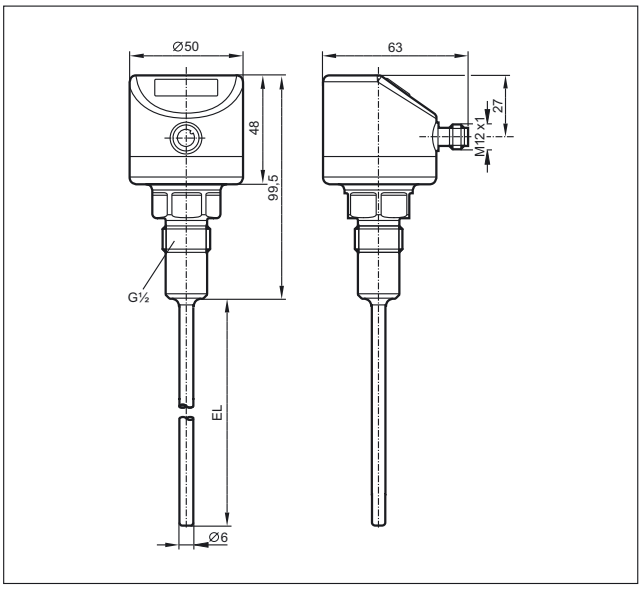
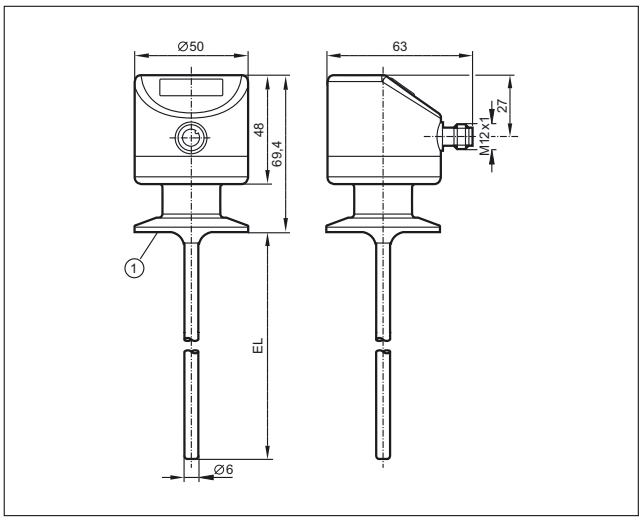


EL = Installation length

56



1: 1.5" clamp (ISO 2852), EL = Installation length

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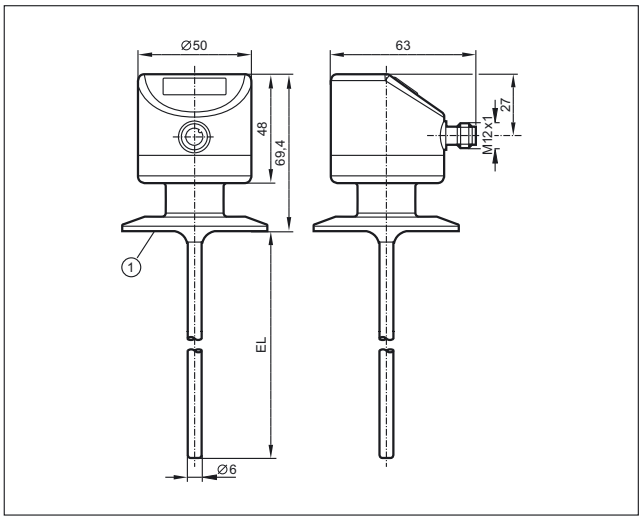

1: 2" clamp (ISO 2852), EL = Installation length

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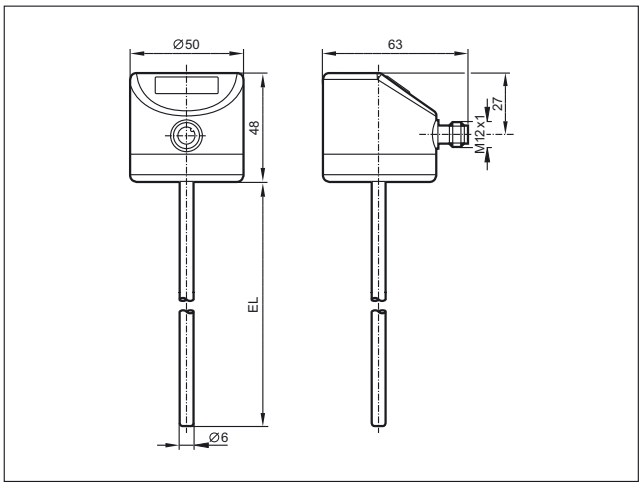

EL = Installation length

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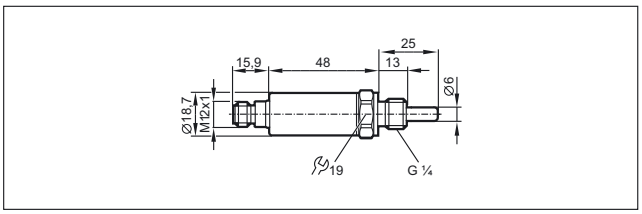

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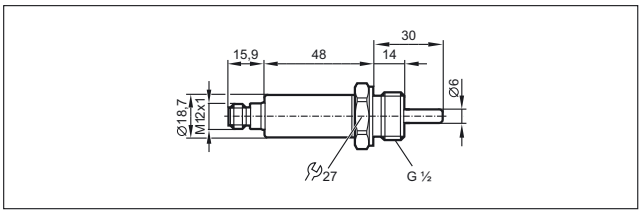

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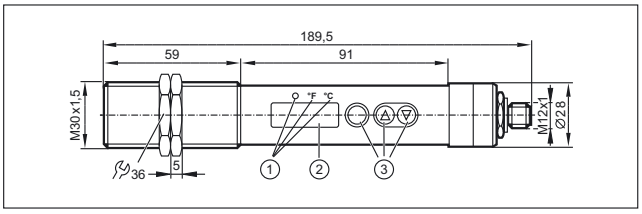

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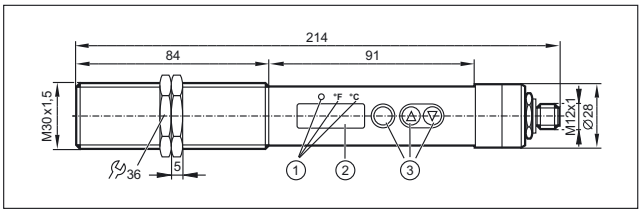

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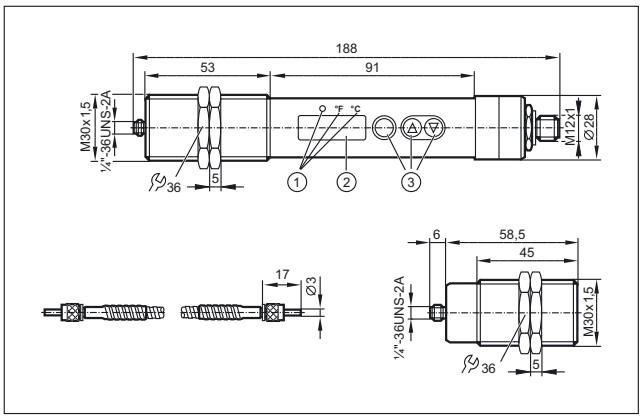

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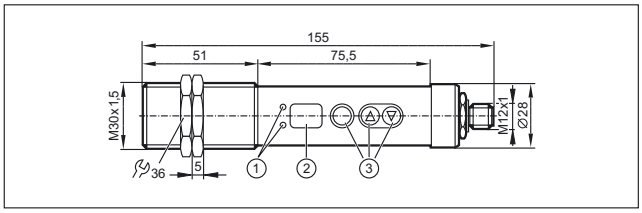
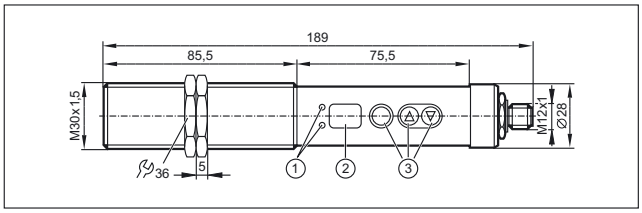


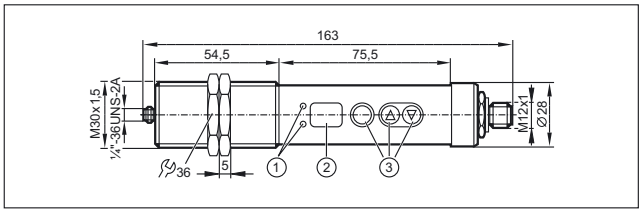
1: Programming buttons, 2: 7-segment LED display

65



1: LEDs (switching status), 2: 7-segment LED display (2 digits),
3: Programming buttons

66



1: LEDs (switching status), 2: 7-segment LED display (2 digits),
3: Programming buttons