

INDUSTRIAL PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The industrial pressure transmitter EPI 8287 features the extremely robust and stable thin-film-on-steel sensor element from its well-proven predecessor EPI 8297. In combination with the new inhouse developed ASIC TX it offers a wide temperature range up to 125°C and triple overpressure safety which makes it the perfect solution for a wide range of demanding applications.



Applications

- Machine tools
- Hydraulics
- Industrial applications

Features

- Excellent long-term stability
- Completely welded steel sensor system without additional seals
- Accuracy classes 0.3%, 0.5%
- Optional: 5-fold overpressure resistance
- Optionally with housing material AISI316L

Technical Data			
Measuring principle	Thin-film-on-steel	Accuracy @ 25°C typ.	± 0.5 % FS typ. ± 0.3 % FS typ.
Measuring range	0 ... 2.5 to 0 ... 700 bar 0 ... 30 to 0 ... 10000 psi	Media temperature	-40°C ... +125°C
Output signal	4 ... 20 mA, 0 ... 5 VDC, 0.5 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric	Ambient temperature	-40°C ... +125°C Cable PVC: -5°C ... +60°C Cable PUR: -20°C ... +70°C Cable Raychem: -20°C ... +100°C
NLH @ 25°C (BSL) typ.	± 0.2 % FS typ.		

04/2023

Data sheet H72317x

Subject to change

Ordering information/type code

				8287 . XX	XX	XX	XX	XX	XX	
Measuring range ¹⁾	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]	Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]				
	0 ... 2.5	7.5	50	75	0 ... 30	90	700	G5		
	0 ... 4	12	60	76	0 ... 50	150	850	G6		
	0 ... 6	18	100	77	0 ... 100	300	1450	G7		
	0 ... 10	30	200	78	0 ... 150	450	2500	G8		
	0 ... 16	48	200	79	0 ... 200	600	2500	GA		
	0 ... 25	75	300	80	0 ... 250	750	2500	G9		
	0 ... 40	120	300	81	0 ... 300	900	4000	HA		
	0 ... 60	180	400	82	0 ... 400	1200	4000	HO		
	0 ... 100	300	500	83	0 ... 500	1500	4000	H1		
	0 ... 160	480	750	85	0 ... 1000	3000	5000	H2		
	0 ... 250	750	1000	74	0 ... 1500	4500	7000	H3		
	0 ... 400	1000	2000	84	0 ... 2000	6000	10000	H5		
	0 ... 600	1500	2500	86	0 ... 3000	9000	14500	G4		
	0 ... 700 ¹⁵⁾	1500	2500	87	0 ... 5000	12500	21750	H4		
					0 ... 7500	18750	29000	H6		
					0 ... 10000 ¹⁵⁾	18750	29000	H7		
		Option 5P: Fivefold overpressure			Option: Maximum Overpressure					
		0 ... 2.5	12.5	60	55	0 ... 30	150	1450	E5	
		0 ... 4	20	100	56	0 ... 50	180	1450	E6	
		0 ... 6	30	200	57	0 ... 100	450	3500	E7	
		0 ... 10	50	200	58	0 ... 150	700	4250	E8	
		0 ... 16	80	300	59	0 ... 200	700	4250	EA	
		0 ... 25	125	300	60	0 ... 250	1150	5750	E9	
		0 ... 40	200	400	61	0 ... 300	1150	5750	FA	
	0 ... 60	300	500	62	0 ... 400	1800	8500	F0		
	0 ... 100	500	750	63	0 ... 500	1800	8500	F1		
	0 ... 160	800	1000	65	0 ... 1000	4600	19000	F2		
Sensor	Relative pressure, accuracy class: 0.5 %; Material pressure connection and housing: 1.4542 (AISI630)						25			
	Relative pressure, accuracy class: 0.5 %; Material pressure connection and housing: 1.4404 (AISI316L) ^{2) 3) 5)}						35			
	Relative pressure, accuracy class: 0.3 %; Material pressure connection and housing: 1.4542 (AISI630)						23			
	Relative pressure, accuracy class: 0.3 %; Material pressure connection and housing: 1.4404 (AISI316L) ^{2) 3) 5)}						33			
Pressure connection	G1/4" female		10	R1/4" male, DIN3858 ²⁾		19				
	G1/4" male, Seal: DIN 3869		17	M14x1.5 male DIN EN ISO 6149-2 ²⁾		31				
	G1/4" male, with integrated damping Ø 0.5 mm, Seal: DIN 3869 ¹⁴⁾		15	7/16"-20UNF male, DIN3866 ^{2) 6)}		18				
	G1/4" male (Manometer) EN 837 ²⁾		53	7/16"-20UNF-2A male, SAE J1926-3 (Light Duty) ^{2) 16)}		42				
	G1/2" male (Manometer) EN 837 ⁷⁾		11	7/16"-20UNF-2A male, SAE J1926-2 (Heavy Duty) ¹⁷⁾		69				
	1/4" NPT male		30	7/16"-20UNF female, SAE J512 with valve opener ⁶⁾		24				
	1/4"- 18 NPT female ²⁾		13	9/16"-18UNF-2A male, SAE J1926-3 (Light Duty) ^{2) 16)}		61				
	1/2" NPT male ²⁾		51	9/16"-18UNF-2A male, SAE J1926-2 (Heavy Duty) ¹⁷⁾		67				

Electrical connection	Male electrical connector EN 175301-803-A (DIN 43650-A), Mat. PA				05
	Male electrical connector M12x1, 5-pole, Mat. PBT				35
	Male electrical connector Packard Metri Pack, Mat. PBT				51
	Male electrical connector MIL-C 26482, 6-pole, metal ¹²⁾				02
	Male electrical connector: DIN72585 Code 1, Mat.: PBT (Contacts Mat.: Sn) ¹³⁾				25
	Cable PUR (Screwed cable gland PA 6-3), -20°C ... +70°C ^{8) 9)}				24
	Cable PVC (Screwed cable gland PA 6-3), -5°C ... +60°C ^{8) 9) 10)}				22
	Cable Raychem (Screwed cable gland PA 6-3), -20°C ... +100°C ^{8) 9) 10)}				08
Output signal	Signal output	Load resistance	I (supply)	U (supply)	
	4 ... 20 mA	(U _{supply} -9 V) / 20 mA		9 ... 32 VDC	19
	0 ... 5 VDC	> 2.5 kΩ	< 10 mA	9 ... 32 VDC	14
	0.5 ... 5 VDC	> 5.0 kΩ	< 10 mA	9 ... 32 VDC	22
	1 ... 6 VDC	> 5.0 kΩ	< 10 mA	9 ... 32 VDC	16
	0 ... 10 VDC	> 5.0 kΩ	< 10 mA	15 ... 32 VDC	17
	0.5 ... 4.5 VDC ratiometric	> 5.0 kΩ	< 10 mA	5 (4.75 ... 5.25) VDC	23
Accessories	Seal FPM, -18°C ... +125°C				61
	Seal EPDM, -40°C ... +125°C				63
	Seal NBR, -25°C ... +100°C				83
	Pressure peak damping element ø 1.0 mm, material 1.4305 ⁴⁾				40
	Pressure peak damping element ø 0.4 mm, material 1.4305 (sensors 23, 25) resp. 1.4404 (sensors 33, 35) ⁴⁾				44
	Female electrical plug EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C, for cable diameter 4 ... 9 mm, flammability standard UL94-V0				46
	Female electrical plug EN 175301-803-A (DIN 43650-A)/silicone, -40°C ... +125°C, for cable diameter 4 ... 9 mm, flammability standard UL94-V0				56
	Female electrical plug EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C, for cable diameter 4 ... 9.5 mm, flammability standard UL94-V2				58
	Female electrical plug M12x1, 5-pole				33
	Special electrical connection: Pin 1 +, Pin 2 - (only for output signal 4 ... 20 mA and male electrical connector EN175301-803-A / DIN43650-A)				92
	Special electrical connection: Pin 1 Out, Pin 2 -, Pin 3 + (only for output 14, 16, 17 and male electrical connector EN175301-803-A / DIN43650-A)				98
	Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out (only for output 14, 16, 17 and male electrical connector EN175301-803-A / DIN43650-A)				97
	Special electrical connection: Pin 1 +, Pin 3 -, Pin 5 GR (only for output 4...20mA and male electrical connector M12x1, 5-pol.)				94
	Special electrical connection: Pin 1 +, Pin 3 - (only for output 4 ... 20 mA and male electrical connector Packard Metri Pack 3-poles)				E4
	Special electrical connection: Pin 1 +, Pin 2 out Pin 3 - (only for output signals 14, 16, 17 and male electrical connector Packard Metri Pack 3-poles)				99
	Housing nut for electrical connection EN175301-803-A (DIN43650-A) secured with Loctite (max. 85°C)				L9
	Cable length 1.5 m				1M
	Cable length 3.0 m				3M
	Cable length 5.0 m				5M
	Enhanced condensation protection				CP
	Multiple packaging ¹¹⁾				VM

¹⁾ Customized pressure ranges upon request

²⁾ Upon request

³⁾ Only with pressure connection 17 (G1/4") or 11 (G1/2")

⁴⁾ Not for pressure connections 10, 11, 13, 18, 24

⁵⁾ Only for pressure ranges ≥ 10 bar

⁶⁾ Max. allowable pressure range 60 bar at 180 bar overpressure

⁷⁾ Max. allowable pressure range 160 bar at 480 bar overpressure

⁸⁾ Cable length see accessories (max. length 50 m, in 5-meter sections)

⁹⁾ IP68, max. 3 m, Media +10°C ... +35°C

¹⁰⁾ Cable length max. 3 m for pressure ranges ≤ 16 bar

¹¹⁾ The order quantity must be a multiple of 50, only for electrical connections 05 and 35

¹²⁾ Only for sensors 23 and 25, only for pressure connections 13, 17, 19, 53, only for output signal 4 ... 20 mA (code 19)

¹³⁾ Only for sensors 23 and 25, only for pressure connections 13, 17, 19, 53, only for output signal 0.5 ... 4.5 VDC ratiometric (code 23)

¹⁴⁾ Only for sensors 23 and 25

¹⁵⁾ Only for pressure connections 13, 30 and 51

¹⁶⁾ Measuring range max. 350 bar according to SAE J1926-3 (Light Duty). Do not use for new designs, will be replaced by design according to SAE J1926-2 (Heavy Duty) in 2023

¹⁷⁾ Measuring range max. 630 bar according to SAE J1926-2 (Heavy Duty)

Code	Pressure connection	Seal FPM (Code 61)	Seal EPDM (Code 63)	Seal NBR (Code 83)
10	G1/4" female			
17	G1/4" male, Seal: DIN 3869	✓	✓	✓
15	G1/4" male, with integrated damping Ø 0.5 mm, Seal: DIN 3869	✓	✓	✓
53	G1/4" male (Manometer) EN 837			
11	G1/2" male (Manometer) EN 837			
30	1/4" NPT female			
13	1/4"- 18 NPT female			
51	1/2" NPT male			
19	R1/4" male, DIN3858			
31	M14x1.5 male DIN EN ISO 6149-2	✓		
18	7/16"-20UNF male, DIN3866			
42	7/16"-20UNF male, SAE4 (J1926)	✓		
24	7/16"-20UNF female, SAE J512 with valve opener			
61	9/16"-18UNF male, SAE6 (J1926)	✓		

Standard products (extra short lead time)					
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Signal output	Supply [VDC]
EPI2.5A	8287 75 2517 05 0000 0000 19 44 58 61	0 ... 2.5	7.5	4 ... 20 mA	9 ... 32
EPI4.0A	8287 76 2517 05 0000 0000 19 44 58 61	0 ... 4	12	4 ... 20 mA	9 ... 32
EPI6.0A	8287 77 2517 05 0000 0000 19 44 58 61	0 ... 6	18	4 ... 20 mA	9 ... 32
EPI10.0A	8287 78 2517 05 0000 0000 19 44 58 61	0 ... 10	30	4 ... 20 mA	9 ... 32
EPI16.0A	8287 79 2517 05 0000 0000 19 44 58 61	0 ... 16	48	4 ... 20 mA	9 ... 32
EPI25.0A	8287 80 2517 05 0000 0000 19 44 58 61	0 ... 25	75	4 ... 20 mA	9 ... 32
EPI40.0A	8287 81 2517 05 0000 0000 19 44 58 61	0 ... 40	120	4 ... 20 mA	9 ... 32
EPI60.0A	8287 82 2517 05 0000 0000 19 44 58 61	0 ... 60	180	4 ... 20 mA	9 ... 32
EPI100.0A	8287 83 2517 05 0000 0000 19 44 58 61	0 ... 100	300	4 ... 20 mA	9 ... 32
EPI160.0A	8287 85 2517 05 0000 0000 19 44 58 61	0 ... 160	480	4 ... 20 mA	9 ... 32
EPI250.0A	8287 74 2517 05 0000 0000 19 44 58 61	0 ... 250	750	4 ... 20 mA	9 ... 32
EPI400.0A	8287 84 2517 05 0000 0000 19 44 58 61	0 ... 400	1000	4 ... 20 mA	9 ... 32
EPI600.0A	8287 86 2517 05 0000 0000 19 44 58 61	0 ... 600	1500	4 ... 20 mA	9 ... 32
EPI2.5V	8287 75 2517 05 0000 0000 17 44 58 61	0 ... 2.5	7.5	0 ... 10 VDC	15 ... 32
EPI4.0V	8287 76 2517 05 0000 0000 17 44 58 61	0 ... 4	12	0 ... 10 VDC	15 ... 32
EPI6.0V	8287 77 2517 05 0000 0000 17 44 58 61	0 ... 6	18	0 ... 10 VDC	15 ... 32
EPI10.0V	8287 78 2517 05 0000 0000 17 44 58 61	0 ... 10	30	0 ... 10 VDC	15 ... 32
EPI16.0V	8287 79 2517 05 0000 0000 17 44 58 61	0 ... 16	48	0 ... 10 VDC	15 ... 32
EPI25.0V	8287 80 2517 05 0000 0000 17 44 58 61	0 ... 25	75	0 ... 10 VDC	15 ... 32
EPI40.0V	8287 81 2517 05 0000 0000 17 44 58 61	0 ... 40	120	0 ... 10 VDC	15 ... 32
EPI60.0V	8287 82 2517 05 0000 0000 17 44 58 61	0 ... 60	180	0 ... 10 VDC	15 ... 32
EPI100.0V	8287 83 2517 05 0000 0000 17 44 58 61	0 ... 100	300	0 ... 10 VDC	15 ... 32
EPI160.0V	8287 85 2517 05 0000 0000 17 44 58 61	0 ... 160	480	0 ... 10 VDC	15 ... 32
EPI250.0V	8287 74 2517 05 0000 0000 17 44 58 61	0 ... 250	750	0 ... 10 VDC	15 ... 32
EPI400.0V	8287 84 2517 05 0000 0000 17 44 58 61	0 ... 400	1000	0 ... 10 VDC	15 ... 32
EPI600.0V	8287 86 2517 05 0000 0000 17 44 58 61	0 ... 600	1500	0 ... 10 VDC	15 ... 32

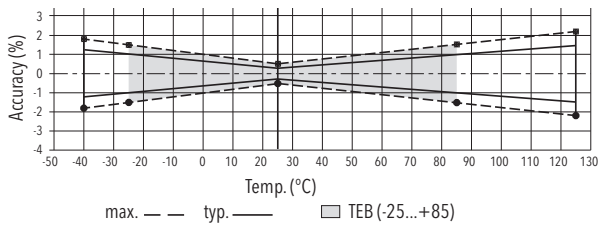
Specifications		
Electrical data	Output / supply voltage	4 ... 20 mA: 24 (9...32) VDC 0 ... 5 VDC: 24 (9...32) VDC 0.5 ... 5 VDC: 24 (9...32) VDC 1 ... 6 VDC: 24 (9...32) VDC 0 ... 10 VDC: 24 (15...32) VDC 0.5 ... 4.5 VDC ratiometric 10 ... 90 % U_{supply} : 5 ± 0.25 VDC
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
	Power-on delay time	100 ms
	Inverse-polarity protection, short-circuit strength @ 25°C during 5 min.	4 ... 20 mA: to $U_s = 32$ VDC 0 ... 10 VDC, 0 ... 5 VDC, 1 ... 6 VDC: to $U_s = 28$ VDC 0.5 ... 4.5 VDC ratiometric: to $U_s = 14$ VDC
	Environmental conditions	
	Media temperature	-40°C ... +125°C
	Ambient temperature	-40°C ... +125°C Cable PVC: -5°C ... +60°C Cable PUR: -20°C ... +70°C Cable Raychem: -20°C ... +100°C
	Protection ¹⁾	IP65, IP67, IP68
	Humidity	Max. 95 % relative
	Vibration	15 g RMS (20...2000 Hz) acc.to EN 60068-2-64 25 g sin (80...2000 Hz), 1 oct./min, (1x @ 25°C) acc.to EN 60068-2-6
	Shock	500 g / 1 ms acc.to EN 60068-2-27
EMC protection	Emission	EN/IEC 61000-6-3
	Immunity	EN/IEC 61000-6-2
Mechanical data	Sensor (wetted parts)	1.4542 (AISI630)
	Pressure connection (wetted parts)	1.4542 (AISI630) or 1.4404 (AISI316L)
	Housing	1.4542 (AISI630) or 1.4404 (AISI316L)
	Sealing	FPM/EPDM/NBR
	Male electrical connector	See ordering information
	Weight	appr. 80 ... 110 g
	Mounting torque	25 Nm

¹⁾ See electrical connection

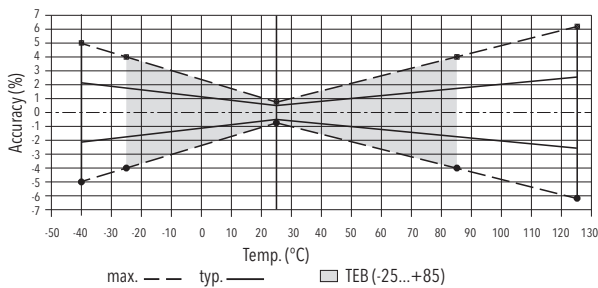
Accuracy

		Measuring accuracy 0.3 % Ordering no. 23/33	Measuring accuracy 0.5 % Ordering No. 25/35
TEB @ -25 ... +85°C	[% FS typ.]	± 1.0	± 1.75
Accuracy @ +25°C	[% FS typ.]	± 0.3	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.2
TC zero point and span	[% FS/K typ.]	± 0.01	± 0.03
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.1	± 0.1
Mounting dependency with 180° rotation (vibration and shock)	[% FS max.]	0.5 mbar	0.5 mbar

Accuracy class 0.3 %



Accuracy class 0.5 %

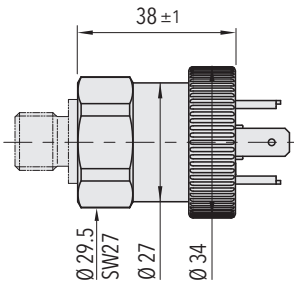


Additional information

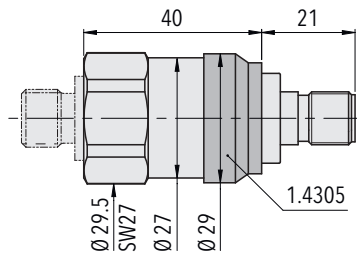
Documents

Data sheet	www.trafag.com/H72317
Instructions	www.trafag.com/H73317
Flyer	www.trafag.com/H70692

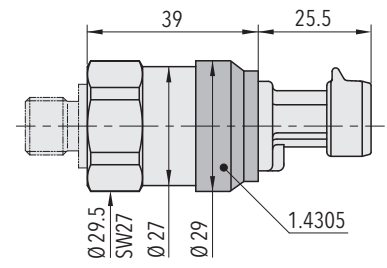
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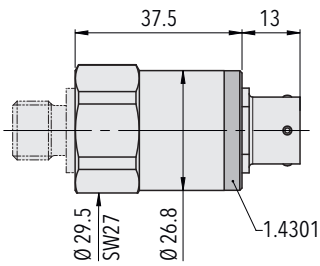
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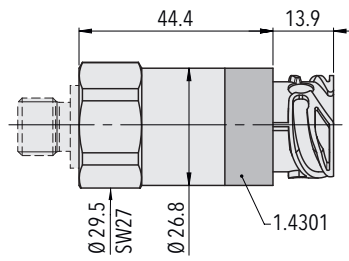
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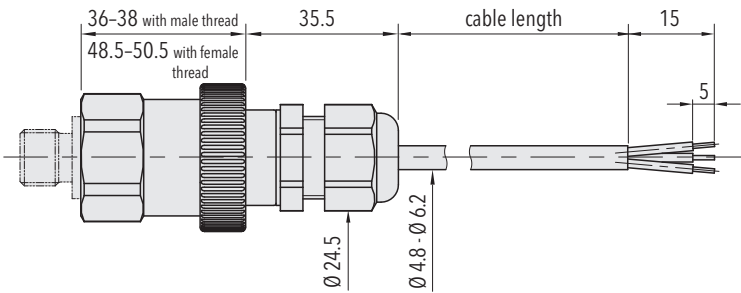
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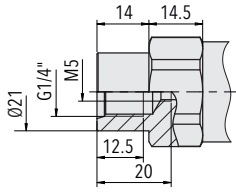


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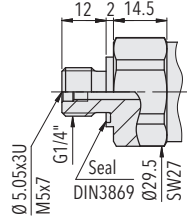


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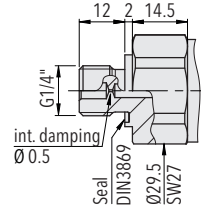
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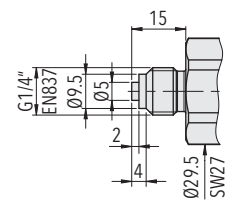
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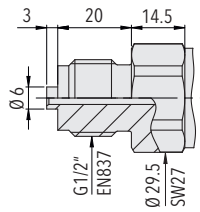
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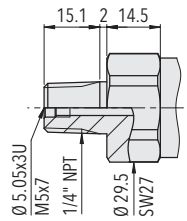
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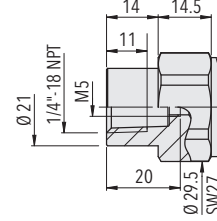
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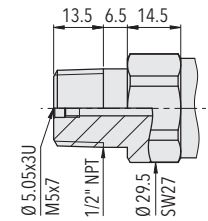
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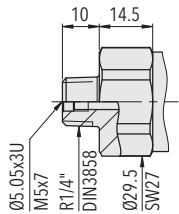
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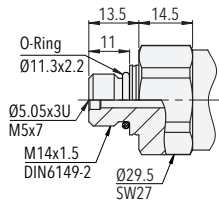
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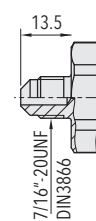
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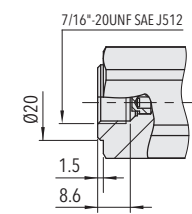
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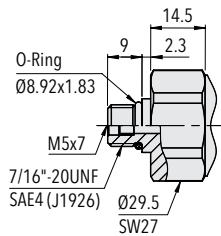
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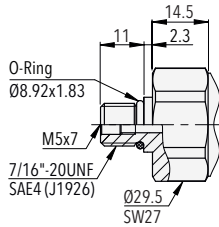
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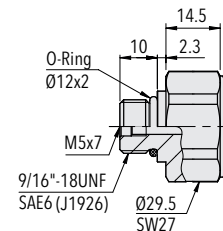
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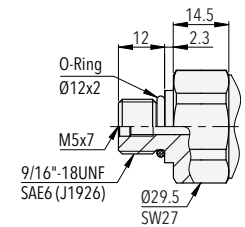
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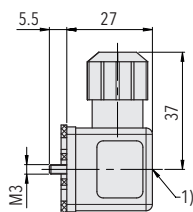
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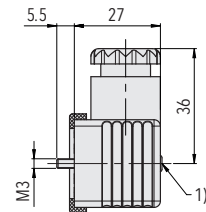
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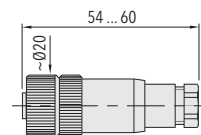
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Electrical connection

		Protection / electrical connection					
		IP65*) **)	IP67*) **)	IP67*) **)	IP67*) **)	IP69K*)	
		Industrial standard EN175301-803A	M12x1 5-pole	Packard Metri Pack 3-pole	MIL-C 26482	DIN 72585**) Code 1	
		05	35	51	02	25 1)	
Output signal	<p>8287.xx.xxxx.xx. 19</p>	Standard	92	94	E4		
	<p>8287.xx.xxxx.xx. 14/16/17/22/23</p>	Standard	98	97	99		
		2	1	4	1	1	A
		1	2	1	3	2	B
		⊕	⊕	5	5	3	E
		2	3	1	2	1	
		3	1	3	4	3	1
		1	2	2	3	2	2
		⊕	⊕	⊕	5	3	4
							3

1) Only for output signal 23

*) Provided female electrical plug is mounted according to instructions

***) Ventilation via male electric plug/cable end

****) Only cable versions or female electrical plug with shield connection

		Protection / electrical connection	
		IP68 max. 3 m	IP68 max. 3 m
		Cable**)	Cable**)
		24/22	08
Output signal	<p>8287.xx.xxxx.xx. 19</p>	white brown yellow	red black green
	<p>8287.xx.xxxx.xx. 14/16/17/22/23</p>	white green brown yellow	red white black green