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

08/2023
Data sheet H72317aa
Subject to change

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.		

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trafag sensors controls

Ordering information/type code

8287 . XX XX XX XX XX XX

Measuring range [1]

Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]	
0 ... 2.5	7.5	50	75
0 ... 4	12	60	76
0 ... 6	18	100	77
0 ... 10	30	200	78
0 ... 16	48	200	79
0 ... 25	75	300	80
0 ... 40	120	300	81
0 ... 60	180	400	82
0 ... 100	300	500	83
0 ... 160	480	750	85
0 ... 250	750	1000	74
0 ... 400	1000	2000	84
0 ... 600	1500	2500	86
0 ... 700 [15]	1500	2500	87

Option 5P:	Fivefold overpressure		
0 ... 2.5	12.5	60	55
0 ... 4	20	100	56
0 ... 6	30	200	57
0 ... 10	50	200	58
0 ... 16	80	300	59
0 ... 25	125	300	60
0 ... 40	200	400	61
0 ... 60	300	500	62
0 ... 100	500	750	63
0 ... 160	800	1000	65

Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]	
0 ... 30	90	700	G5
0 ... 50	150	850	G6
0 ... 100	300	1450	G7
0 ... 150	450	2500	G8
0 ... 200	600	2500	GA
0 ... 250	750	2500	G9
0 ... 300	900	4000	HA
0 ... 400	1200	4000	H0
0 ... 500	1500	4000	H1
0 ... 1000	3000	5000	H2
0 ... 1500	4500	7000	H3
0 ... 2000	6000	10000	H5
0 ... 3000	9000	14500	G4
0 ... 5000	12500	21750	H4
0 ... 7500	18750	29000	H6
0 ... 10000 [15]	18750	29000	H7

Option:	Maximum Overpressure		
0 ... 30	150	1450	E5
0 ... 50	180	1450	E6
0 ... 100	450	3500	E7
0 ... 150	700	4250	E8
0 ... 200	700	4250	EA
0 ... 250	1150	5750	E9
0 ... 300	1150	5750	FA
0 ... 400	1800	8500	F0
0 ... 500	1800	8500	F1
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
G1/4" male, Seal: DIN 3869	17
G1/4" male, with integrated damping Ø 0.5 mm, Seal: DIN 3869 [14]	15
G1/4" male (Manometer) EN 837 [2]	53
G1/2" male (Manometer) EN 837 [7]	11
1/4" NPT male	30
1/4"- 18 NPT female [2]	13
1/2" NPT male [2]	51
R1/4" male, DIN3858 [2]	19
M14x1.5 male DIN EN ISO 6149-2 [2]	31
7/16"-20UNF male, DIN3866 [2] [6]	18
7/16"-20UNF-2A male, SAE J1926-3 (Light Duty) [2] [16]	42
7/16"-20UNF-2A male, SAE J1926-2 (Heavy Duty) [17]	69
7/16"-20UNF female, SAE J512 with valve opener [6]	24
9/16"-18UNF-2A male, SAE J1926-3 (Light Duty) [2] [16]	61
9/16"-18UNF-2A male, SAE J1926-2 (Heavy Duty) [17]	67

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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**

	Signal output	Load resistance	I (supply)	U (supply)	
Output signal	4 ... 20 mA	(Usupply-9 V) / 20 mA	(= signal output)	9 ... 32 VDC	**19**
	0 ... 5 VDC	> 2.5 kΩ	≤ 20 mA	9 ... 32 VDC	**14**
	0.5 ... 5 VDC	> 5.0 kΩ	≤ 20 mA	9 ... 32 VDC	**22**
	1 ... 6 VDC	> 5.0 kΩ	≤ 20 mA	9 ... 32 VDC	**16**
	0 ... 10 VDC	> 5.0 kΩ	≤ 20 mA	15 ... 32 VDC	**17**
	0.5 ... 4.5 VDC ratiometric	> 5.0 kΩ	≤ 20 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 -, Pin 4 Ground (only for output signals 19 and male electrical connector 35, M12x1, 5-pole)	**G9**
	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)

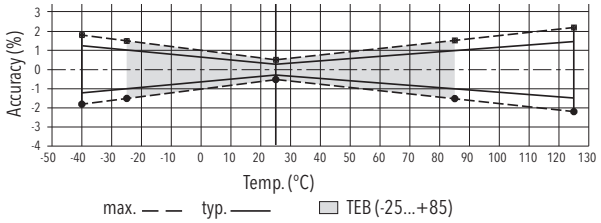
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Signal output	Supply [VDC]
EPI2.5A	8287 75 2517 05 0000 0000 19 44 58 61	0 ... 2.5	7.5	4 ... 20 mA	9 ... 32
EPI4.0A	8287 76 2517 05 0000 0000 19 44 58 61	0 ... 4	12	4 ... 20 mA	9 ... 32
EPI6.0A	8287 77 2517 05 0000 0000 19 44 58 61	0 ... 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

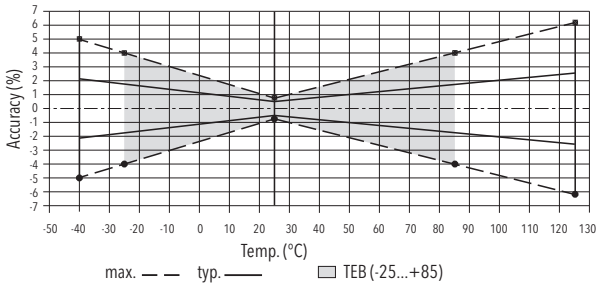
[1)] See electrical connection

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 %

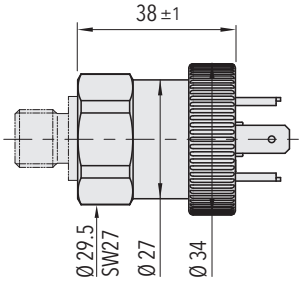


Accuracy class 0.5 %

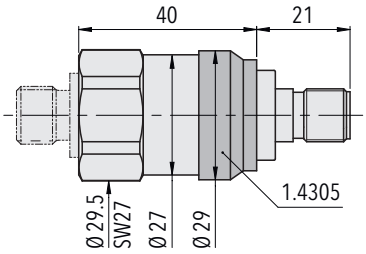


Additional information		
Documents	Data sheet	www.trafag.com/H72317
	Instructions	www.trafag.com/H73317
	Flyer	www.trafag.com/H70692

Dimensions



8287.XX.XXXX.**05**.XX.XX



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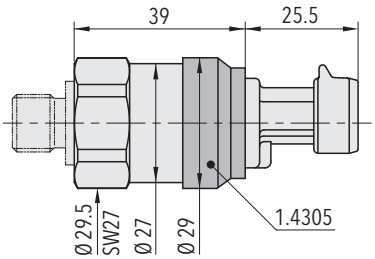

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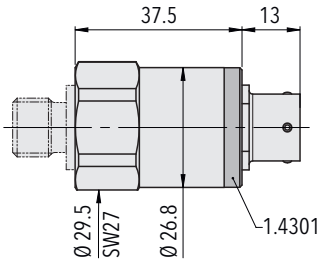

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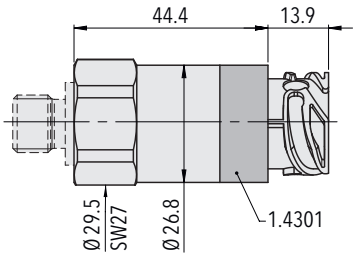

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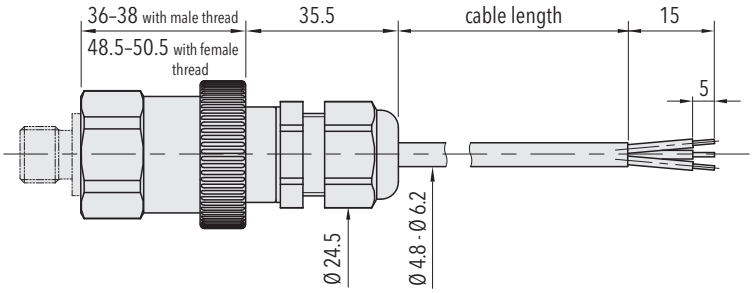

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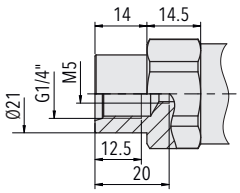
Dimensions



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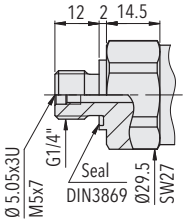

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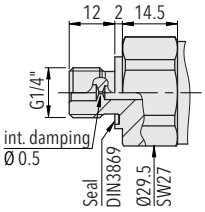

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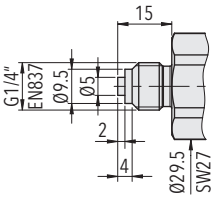

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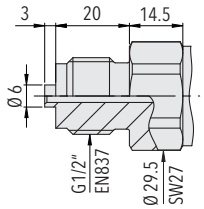

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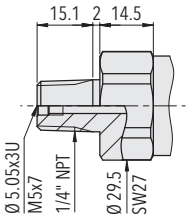

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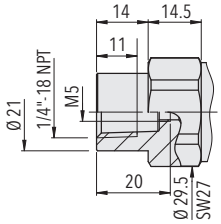

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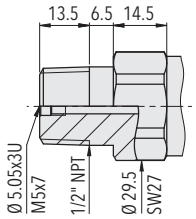

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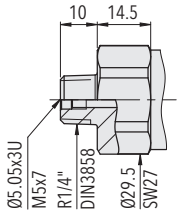

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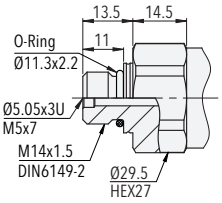
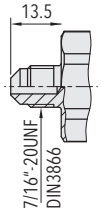
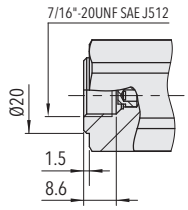


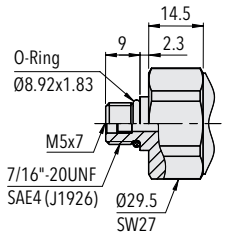
8287.XX.XX**31**.XX.XX.XX



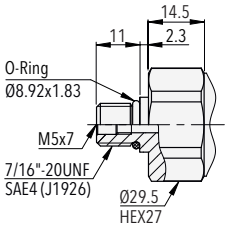
8287.XX.XX**18**.XX.XX.XX



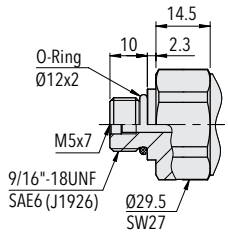
8287.XX.XX**24**.XX.XX.XX



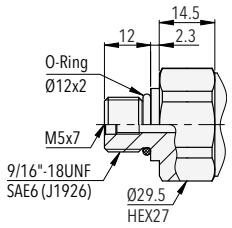
8287.XX.XX**42**.XX.XX.XX



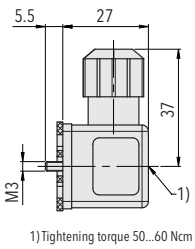
8287.XX.XXXX.**69**.XX.XX



8287.XX.XX**61**.XX.XX.XX

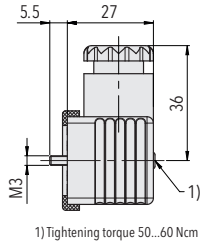


8287.XX.XXXX.**67**.XX.XX



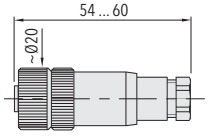
1) Tightening torque 50...60 Ncm

8287.XX.XXXX.XX.XX.**46/56**



1) Tightening torque 50...60 Ncm

8287.XX.XXXX.XX.XX.**58**



8287.XX.XXXX.XX.XX.**33**

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 4-20mA I Us (pos. Supply) Us (neg. Supply) Earth (housing) Shield***) 8287.xx.xxxx.xx.**19**	Standard	**92**		**94**	**G9**		**E4**					
		2	1	4	1	1	1	1	A				
		1	2	1	3	3	2	3	B				
		⏚	⏚	5	5	4			E				
	P U for DC Supply Output Common Earth (housing) Shield ***) 8287.xx.xxxx.xx.**14/16/17/ 22/23**	Standard	**98**	**97**				**99**					
		2	3	1	2			1	1			1	
		3	1	3	4			3	2			2	
		1	2	2	3			2	3			4	
		⏚	⏚	⏚	5							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 4-20mA I Us (pos. Supply) Us (neg. Supply) Earth (housing) Shield***) 8287.xx.xxxx.xx.**19**	white brown yellow	red black green
	P U for DC Supply Output Common Earth (housing) Shield ***) 8287.xx.xxxx.xx.**14/16/17/ 22/23**	white green brown yellow	red white black green