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.

c UL us LISTED

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

06/2024
Data sheet H72317ad
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	max. –40°C ... +125°C (UL-rated ambient temperature: -20°C ... +80°C) details see section Electrical Connection
NLH @ 25°C (BSL) typ.	± 0.2 % FS typ.		

Trafag sensors & controls
Switzerland

Industriestrasse 11
8608 Bubikon

+41 44 922 32 32
www.trafag.com

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**

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 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**

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	**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 J1926-2 (Heavy Duty) [17]	**69**
7/16"-20UNF female, SAE J512 with valve opener [6]	**24**
9/16"-18UNF-2A male, SAE J1926-2 (Heavy Duty) [17]	**67**

8287 . XX XX XX XX XX XX

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 [18]	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	(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 FKM, -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
UL-listed version [7]	UL

[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] Possible type code combinations for UL-listed versions see separate table
[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, 31 and 51
[17] Measuring range max. 630 bar according to SAE J1926-2 (Heavy Duty)
[18] Do not use for new designs as this option will be phased out soon. Only limited quantities available.

trafag sensors controls

Code	Pressure connection	Seal FKM (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)

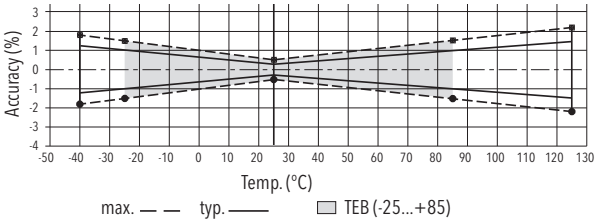
Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Signal output	Supply [VDC]
EPI2.5A	8287 75 2517 05 0000 0000 19 44 58 61	0 ... 2.5	7.5	4 ... 20 mA	9 ... 32
EPI4.0A	8287 76 2517 05 0000 0000 19 44 58 61	0 ... 4	12	4 ... 20 mA	9 ... 32
EPI6.0A	8287 77 2517 05 0000 0000 19 44 58 61	0 ... 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	max. –40°C ... +125°C (UL-rated ambient temperature: -20°C ... +80°C) details see section Electrical Connection
	Protection	IP65, IP67, IP68 details see section Electrical Connection
	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	FKM/EPDM/NBR
	Male electrical connector	See ordering information
	Weight	appr. 80 ... 110 g
	Mounting torque	25 Nm

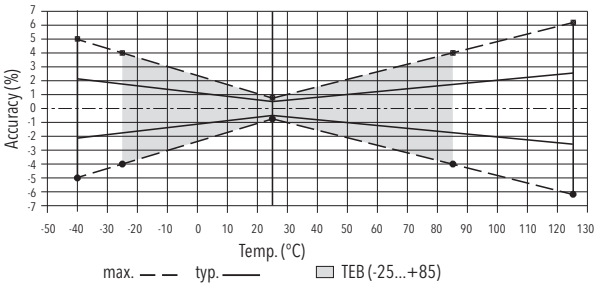
Ordering information: Possible type code combinations for UL-listed versions	
	Combination with UL
Measuring range	all ranges ≤ 700 bar
Sensor	all codes on datasheet
Pressure connection	all codes on datasheet
Electrical connection	all codes on datasheet
Output signal	all codes on datasheet
Accessories	all codes on datasheet

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 %

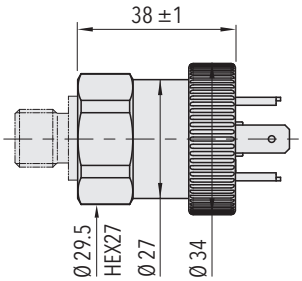


Accuracy class 0.5 %

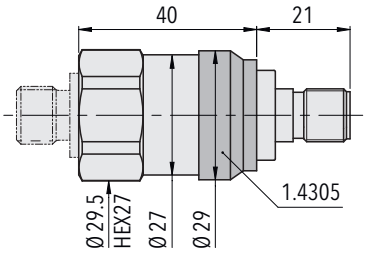


Additional information		
Documents	Data sheet	www.trafag.com/H72317
	Instructions	www.trafag.com/H73317
	Flyer	www.trafag.com/H70692

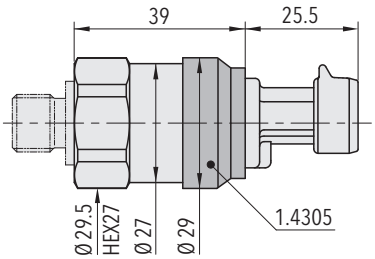
Dimensions



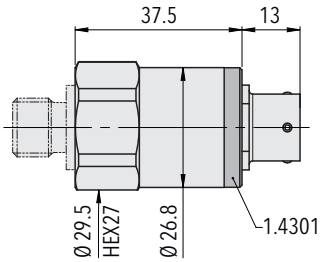
8287.XX.XXXX.**05**.XX.XX



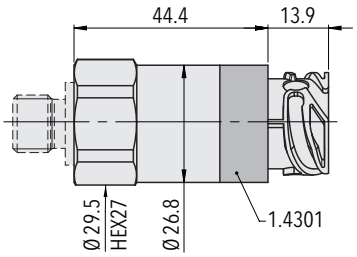
8287.XX.XXXX.**35**.XX.XX



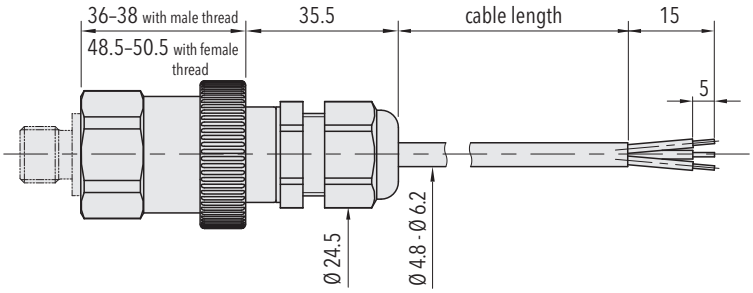
8287.XX.XXXX.**51**.XX.XX



8287.XX.XXXX.**02**.XX.XX

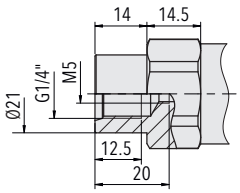


8287.XX.XXXX.**25**.XX.XX

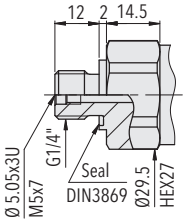


8287.XX.XXXX.**24/22/08**.XX.XX

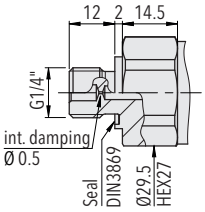
Dimensions



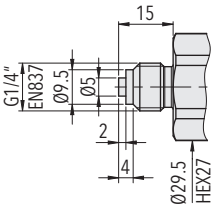
8287.XX.XX**10**.XX.XX.XX



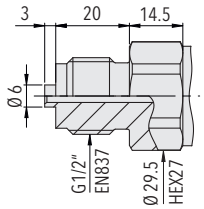
8287.XX.XX**17**.XX.XX.XX



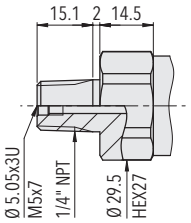
8287.XX.XX**15**.XX.XX.XX



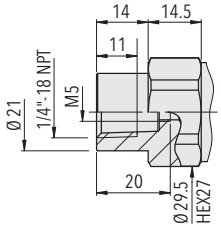
8287.XX.XX**53**.XX.XX.XX



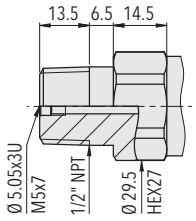
8287.XX.XX**11**.XX.XX.XX



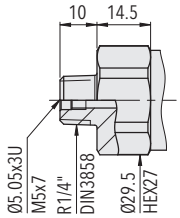
8287.XX.XX**30**.XX.XX.XX



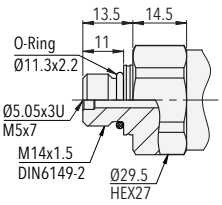
8287.XX.XX**13**.XX.XX.XX



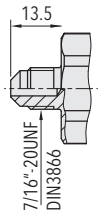
8287.XX.XX**51**.XX.XX.XX



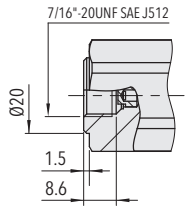
8287.XX.XX**19**.XX.XX.XX



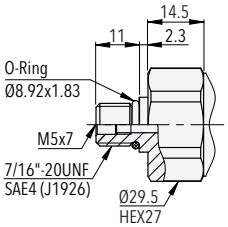
8287.XX.XX**31**.XX.XX.XX



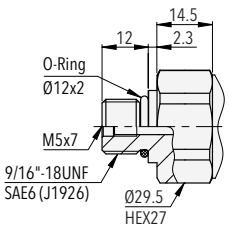
8287.XX.XX**18**.XX.XX.XX



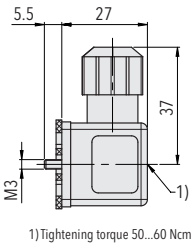
8287.XX.XX**24**.XX.XX.XX



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

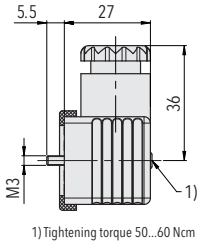


8287.XX.XXXX.**67**.XX.XX



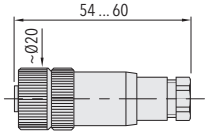
1) Tightening torque 50...60 Ncm

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



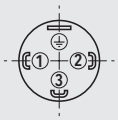
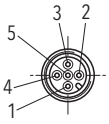
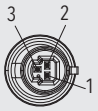
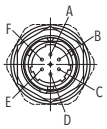
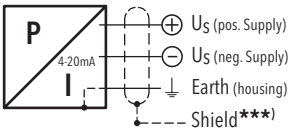
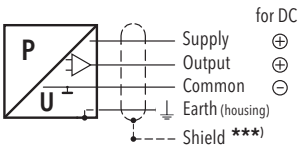
1) Tightening torque 50...60 Ncm

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]			
															
Ambient temperature		-40°C ... +125°C	-40°C ... +125°C					-40°C ... +125°C		-40°C ... +125°C		-40°C ... +125°C			
UL-rated ambient temperature		-20°C ... +80°C	-20°C ... +80°C					-20°C ... +80°C		-20°C ... +80°C		-20°C ... +80°C			
Output signal	 8287.xx.xxxx.xx.**19**	Standard	**92**		**94**	**G9**	**H1**		**E4**						
		2	1	4	1	1	1	1	1	A					
		1	2	1	3	3	2	2	3	B					
		⏚	⏚	5	5	4	5			E					
	 8287.xx.xxxx.xx.**14/16/17/ 22/23**	Standard	**98**	**97**		**E8**			**99**						
		2	3	1	2	1		1	1			1			
		3	1	3	4	3		3	2			2			
		1	2	2	3	2		2	3			4			
		⏚	⏚	⏚	5	5						3			

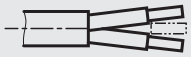
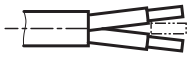
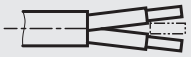
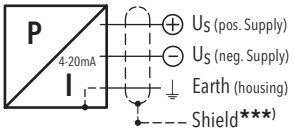
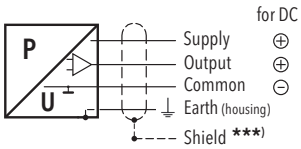
*) Provided female electrical plug is mounted according to instructions

**) Ventilation via male electric plug/cable end

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

[1] Only for output signal 23

Electrical connection

		Protection / electrical connection		
		IP68 max. 3 m	IP68 max. 3 m	IP68 max. 3 m
		Cable**)	Cable**)	Cable**)
		22	**24**	**08**
				
	Ambient temperature	-5°C ... +60°C	-20°C ... +70°C	-20°C ... +125°C
	UL-rated ambient temperature	-5°C ... +60°C	-20°C ... +70°C	-20°C ... +80°C
Output signal	 **8287**.xx.xxxx.xx.**19**	white brown yellow	white brown yellow	red black green
	 **8287**.xx.xxxx.xx.**14/16/17/ 22/23**	white green brown yellow	white green brown yellow	red white black green