EPN/EPNCR 8298

Engine Pressure Transmitter

Applications

- Shipbuilding
- Engine manufacturing
- Machine tools
- Hydraulics

Features

- Nominal pressure up to 2500 bar (Common Rail)
- High vibration resistance
- Good temperature resistance
- Different accuracy classes
- Completely welded steel sensor system without additional seals

CE EMC: 2014/30/EU

UKCA S.I. 2016 No. 1091

RoHS/Reach compliant

ABS, BV, CCS, DNV, KR, LR, NKK

Product description

The EPN pressure transmitter offers reliable and accurate pressure measurement over a wide temperature range. Its excellent long-term stability is based on the leading thin-film-on-steel sensor technology from Trafag. Its robust design makes the EPN the perfect choice for demanding applications such as marine and rail industries.

Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 2500 bar
Output signal	4 ... 20 mA 0.5 ... 4.5 VDC ratiometric
Media temperature	max. -40°C ... +125°C
Ambient temperature	max. -40°C ... +125°C

Additional information

Data sheet	www.trafag.com/H72312
Instructions	www.trafag.com/H73311
Accessories	www.trafag.com/H72258
Video	https://youtu.be/MdwlUwlcQqA

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Ordering information/Type code

				8298	XX	XX	XX	XX	XX	XX
Measuring range [1]	**Pressure measurement range [bar]**	**Over pressure [bar]**	**Burst pressure [bar]**							
	0 ... 2.5	5	100	**75**						
	0 ... 4	8	100	**76**						
	0 ... 6	12	100	**77**						
	0 ... 10	20	200	**78**						
	0 ... 16	32	200	**79**						
	0 ... 25	50	300	**80**						
	0 ... 40	80	300	**81**						
	0 ... 60	120	500	**82**						
	0 ... 100	200	500	**83**						
	0 ... 160	320	1000	**85**						
	0 ... 250	500	1000	**74**						
	0 ... 400	800	1500	**84**						
	0 ... 600	1000	2000	**86**						
	0 ... 1600	3000	4000	**89**						
	0 ... 2000	3000	4000	**90**						
	0 ... 2500 [2]	3000	4000	**91**						
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) [3][4][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) [3][4][5]				**33**					
Pressure connection	G1/4" male (Seal) [6]					**17**				
	R1/4" male, DIN 3858 [6][7]					**19**				
	G1/2" male (Manometer) EN 837 [6]					**11**				
	1/4" NPT male [3][6]					**30**				
	1/2" NPT male [3][6]					**51**				
	M14x1.5, male, conical seal: 58° [2][3][8]					**28**				
	M14x1.5, male, conical seal: 52° [2][3][8]					**35**				
	M18x1.5, male, conical seal: 58° [2][3][8]					**29**				
	M18x1.5, male, conical seal: 58°, with secondary o-ring sealing FKM [2][3][8]					**34**				
	M18x1.5, male, conical seal: 52°, with secondary sealing PTFE [2][3][8]					**39**				
Electrical connection	Male electrical connector EN 175301-803-A (DIN 43650-A): Material PA, normal vibration resistance [6]						**04**			
	Male electrical connector EN 175301-803-A (DIN 43650-A): Material PA, extended vibration resistance						**05**			
	Male electrical connector DIN 72585 Code 1: Material PBT (Contacts Material: Sn)						**25**			
	Male electrical connector MIL-C 26482, 6-pole, metal [9]						**02**			
	Cable with shield: Material FDR 25 (Raychem) 4 x 0.5mm² [9][10]						**78**			
Output signal	**Output signal**	**Load resistance**	**I (supply)**	**U (supply)**						
	4 ... 20 mA	(U_s – 9 V) / 20 mA		9 ... 32 VDC						**19**
	0.5 ... 4.5 VDC [11]	≥ 15.0 kΩ	≤ 12 mA	5 VDC ± 0.25 VDC ratiom.						**23**

		8298	XX	XX	XX	XX	XX	XX
Accessories	Pressure peak damping element ø 1.0 mm							**40**
	Pressure peak damping element ø 0.3 mm							**43**
	Pressure peak damping element ø 0.5 mm							**45**
	Female electrical plug EN 175301-803-A (DIN 43650-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 (DIN 43650-A)/NBR, -40°C ... +90°C For cable diameter 4 … 9.5 mm, flammability standard UL94-V2 [12)]							**58**
	Female electrical plug MIL-C 26482, 6-pole, metal							**32**
	Cable length 1.5 m							**1M**
	Cable length 3.0 m							**3M**
	Cable length 5.0 m							**5M**
	Pin configuration, see table: Electrical connection							

[01)] Extended overpressure as well as customized pressure ranges upon request
[02)] Only with ship approval DNV
[03)] Upon request, whereas minimum order quantities may apply
[04)] Only with pressure connection 17 (G1/4")
[05)] Only for pressure ranges ≥ 10 bar
[06)] For ranges ≤ 600 bar
[07)] Only with electrical connection 04
[08)] For ranges > 600 bar
[09)] For pressure ranges < 40 bar upon request
[10)] Cable length see accessories
[11)] Only with electrical connections 25 and 78
[12)] Without ship approval DNV

Compatibility matrix pressure connection and accessories

		Damping			Seal
Code	**Pressure connection**	Ø 1.0 mm (Code 40)	Ø 0.3 mm (Code 43)	Ø 0.5 mm (Code 45)	FKM
17	G1/4" male (Seal)	✓	✓	✓	✓
19	R1/4" male, DIN3858	✓	✓	✓	
11	G1/2" male (Manometer) EN 837	✓	✓	✓	
30	1/4" NPT male	✓	✓	✓	
51	1/2" NPT male	✓	✓	✓	
28	M14x1.5, male, conical seal: 58°				
35	M14x1.5, male, conical seal: 52°				
29	M18x1.5, male, conical seal: 58°				
34	M18x1.5, male, conical seal: 58° With secondary O-Ring sealing FKM				✓
39	M18x1.5, male, conical seal: 52° With secondary sealing PTFE				

Specifications

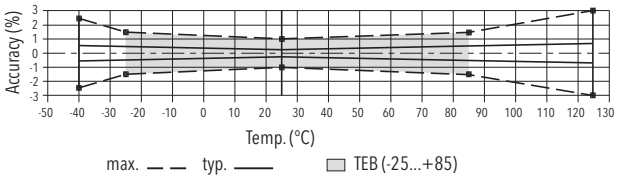
Electrical data	Output / supply voltage	4 ... 20 mA: 24 (9 ... 32) VDC 0.5 ... 4.5 VDC: 5 VDC ratiometric
	Rise time of supply voltage	typ. 1 ms, 10 ... 90 % nominal pressure
	Resistance of insulation	> 10 MΩ, 250 VDC
	Dielectric strength	250 VAC, 50 Hz
	Current limiting output signal	4 ... 20 mA: appr. 24 mA (Overload) 0.5 ... 4.5 VDC: 5 VDC ratiometric
Environmental conditions	Media temperature	max. -40°C ... +125°C
	Ambient temperature	max. -40°C ... +125°C
	Storage temperature	-20°C ... +40°C
	Protection [1)]	IP65, IP67, IP69K
	Humidity	max. 95 % relative
	Vibration	Electrical connection 04/02: 10 g (50 ... 2000 Hz) Electrical connection 05: 15 g (50 ... 2000 Hz) Electrical connection 25: 15 g RMS Electrical connection 78: 20 g RMS
	Shock	50 g/3 ms
EMC protection	Emission	EN/IEC 61000-6-4
	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) [2)]
	Housing	1.4301 (AISI304) Except male electrical connector 04 and 2.5 ... 250bar: 1.4542 (AISI630) or 1.4404 (AISI316L) [2)]
	Sealing	FKM 70 Sh
	Male electrical connector	See ordering information
	Weight	~ 80 ... 110 g
	Mounting torque	25 Nm Pressure connection 28/29: 30 Nm

[1)] See table: Electrical connection
[2)] See ordering information for sensor

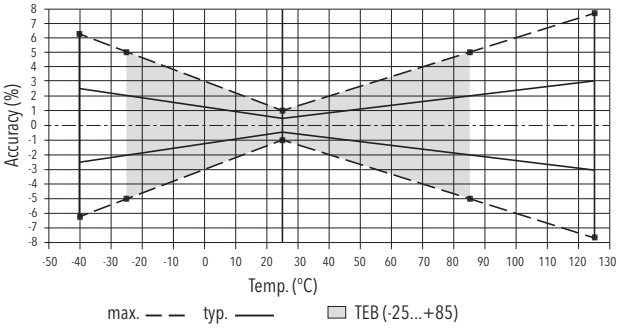
Accuracy

		Accuracy class 0.3% Ordering code 23	Accuracy class 0.5% Ordering code 25
TEB @ -25...+85°C	[% FS typ.]	± 0.5	± 2.0
Accuracy @ +25°C	[% FS typ.]	± 0.3	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.1	± 0.2
TC zero point and span	[% FS/K typ.]	± 0.005	± 0.03
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.2

Accuracy class 0.3 %



Accuracy class 0.5 %



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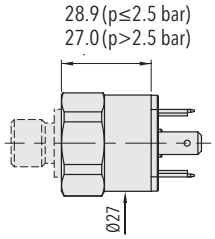
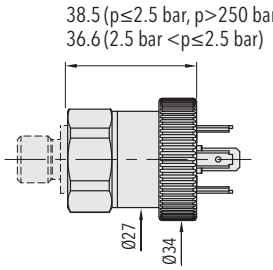
Dimensions



8298.XX.XXXX.**04**.XX.XX



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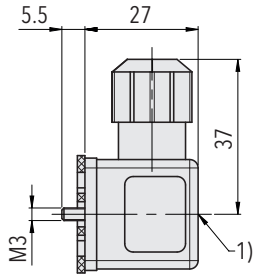
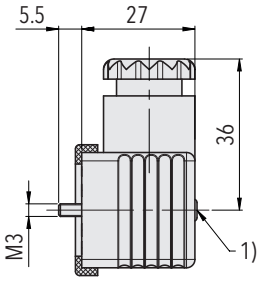
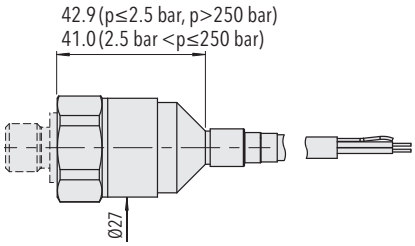


1) Tightening torque 50 ... 60 Ncm

8298.XX.XXXX.XX.XX.**46/56**



8298.XX.XXXX.XX.XX.**58**



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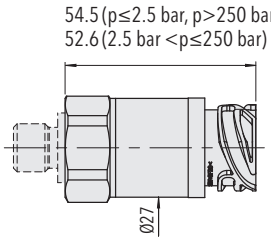

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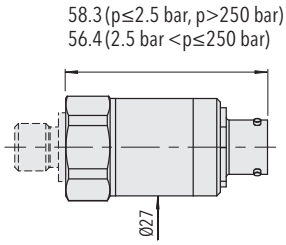

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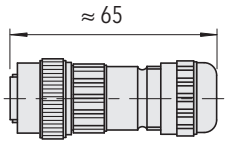
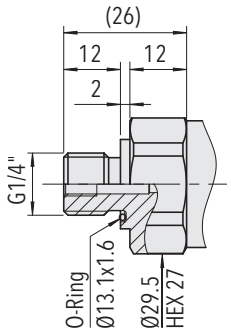
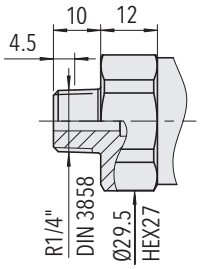


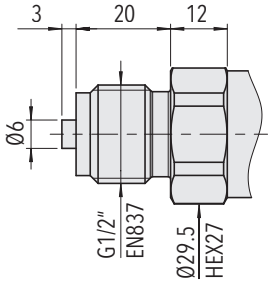
8298.XX.XXXX.02.XX.**32**



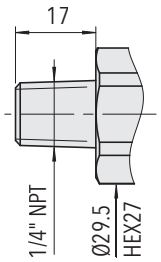
8298.XX.XX**17**.XX.XX.XX



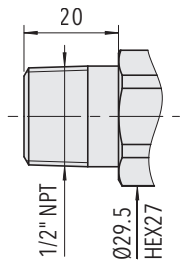
8298.XX.XX**19**.XX.XX.XX



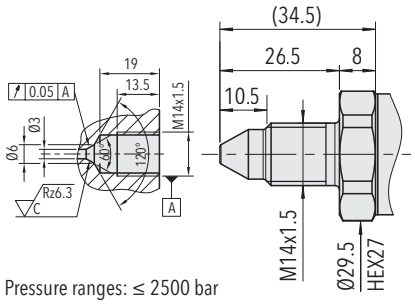
8298.XX.XX**11**.XX.XX.XX



8298.XX.XX**30**.XX.XX.XX

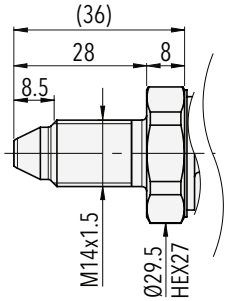


8298.XX.XX**51**.XX.XX.XX

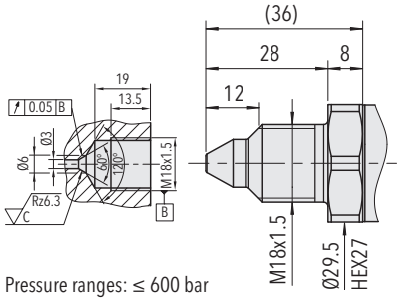


Pressure ranges: ≤ 2500 bar

8298.XX.XX**28**.XX.XX.XX

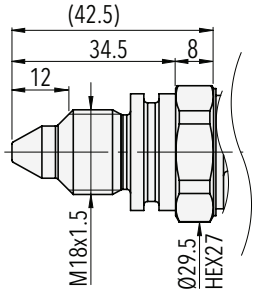


8298.XX.XX**35**.XX.XX.XX

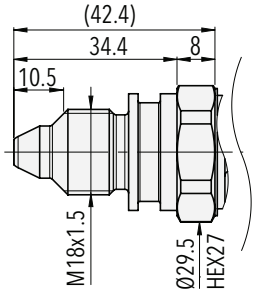


Pressure ranges: ≤ 600 bar

8298.XX.XX**29**.XX.XX.XX



8298.XX.XX**34**.XX.XX.XX



8298.XX.XX**39**.XX.XX.XX

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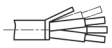
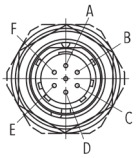
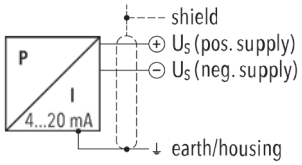
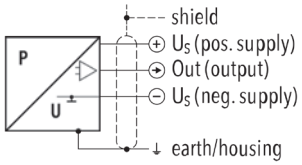
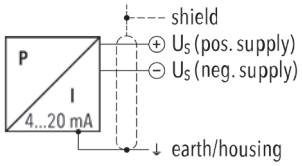
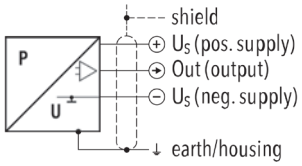
Electrical connection

	Industrial standard EN175301-803A		Cable FDR 25 (Raychem) (4 x 0.5 mm²) [2]	MIL-C 26482
				
Electrical connection type code	04/05		78	02
IP protection	IP65 [1]		IP69K	IP67 [1]
Ambient temperature	max. -40°C … +125°C		-40°C … +125°C	-40°C … +125°C
Pin assignment type code	Standard	With accessory 92		
Output signal 8298.xx.xxxx.xx.19 	2 1 Earth	1 2 Earth	Brown Black Yellow/Green	A B E
Pin assignment type code				
Output signal 8298.xx.xxxx.xx.23 			Brown Blue Black Yellow/Green	

[1] Provided female electrical plug is mounted according to instructions
[2] Ventilation via cable end

Empty 'Pin Assignment Type Code' field: Default pinout

Electrical connection

	DIN 72585 [2] Code 1
	
Electrical connection type code	25
IP protection	IP69K
Ambient temperature	-40°C … +125°C
Pin assignment type code	
Output signal **8298.xx.xxxx.xx.19**  	 1 4 3
Pin assignment type code	
Output signal **8298.xx.xxxx.xx.23**  	 1 2 4 3

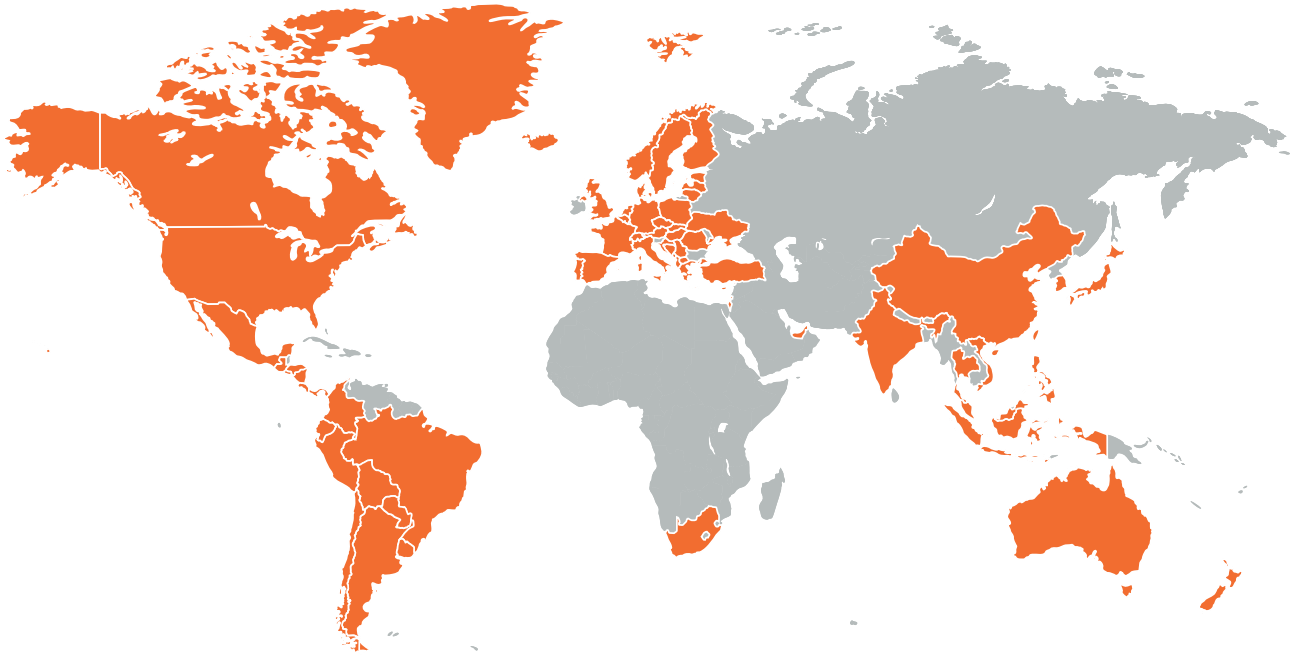
[2] Ventilation via cable end

Empty 'Pin Assignment Type Code' field: Default pinout

Reliable quality

Worldwide represented, globally trusted, Swiss based

Trafag develops, produces and distributes robust, reliable and precise instruments for monitoring pressure, temperature and gas density.
The broad portfolio of pressure and temperature measuring instruments is tailored for use in test benches through to applications in harsh environments. The research and development departments in Switzerland and Germany develop all important components from the sensor to the application-specific microchip, which are then manufactured in the production facilities in Switzerland, Germany, the Czech Republic, and India. Strict quality management according to ISO 9001 and ISO 14001 ensures that Trafag products meet the required quality and sustainability standards.
Trafag is headquartered in Switzerland, was founded in 1942 and has an extensive sales and service network in more than 40 countries worldwide.



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Pressure transmitters | Electronic pressure switches | Mechanical pressure switches | Pressure gauge | Thermostats | Temperature transmitters | Gas density