

# ENGINE PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. 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.



## Applications

- Shipbuilding
- Engine manufacturing
- Machine tools
- Hydraulics



## Features

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

## 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 ... 2500 bar	Media temperature	-40°C ... +125°C
Output signal	4 ... 20 mA 0.5 ... 4.5 VDC ratiometric	Ambient temperature	-40°C ... +125°C
NLH @ 25°C (BSL) typ.	± 0.2 % FS typ. ± 0.1 % FS typ.	Approval / conformity	ABS, BV, CCS, DNV-GL, KRS, LRS, NKK, RINA, RMRS

01/2024

Data sheet H72312u

Subject to change

## Ordering information/type code

				8298 . XX	XX	XX	XX	XX	XX
<b>Measuring range <sup>1)</sup></b>	<b>Pressure measurement range [bar]</b>	<b>Over pressure [bar]</b>	<b>Burst pressure [bar]</b>						
	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 <sup>10)</sup>	3000	4000	91						
<b>Sensor</b>	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) <sup>5) 11) 12)</sup>			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) <sup>5) 11) 12)</sup>			33					
<b>Pressure connection</b>	G1/4" male (Seal) <sup>2)</sup>			17					
	R1/4" male, DIN3858 <sup>2) 4)</sup>			19					
	G1/2" male (Manometer) EN 837 <sup>2)</sup>			11					
	1/4" NPT male <sup>2) 5)</sup>			30					
	1/2" NPT male <sup>2) 5)</sup>			51					
	M14x1.5 male (conical seal: 58°) <sup>3)</sup>			28					
	M18x1.5 male (conical seal: 58°) <sup>3)</sup>			29					
<b>Electrical connection</b>	Male electrical connector EN 175301-803-A (DIN 43650-A), Mat. PA, normal vibration resistance ≤ 600 bar			04					
	Male electrical connector EN 175301-803-A (DIN 43650-A), Mat. PA, extended vibration resistance			05					
	Male electrical connector: DIN72585 Code 1, Mat.: PBT (Contacts Mat.: Sn)			25					
	Male electrical connector MIL-C 26482, 6-pole, metal <sup>8)</sup>			02					
	Cable with shield: Material: FDR 25 (Raychem) 4 x 0.5mm <sup>2</sup> <sup>6)</sup>			78					
<b>Output signal</b>	<b>Signal output</b>	<b>Load resistance</b>	<b>I (supply)</b>	<b>U (supply)</b>					
	4 ... 20 mA 0.5 ... 4.5 VDC <sup>7)</sup>	(U <sub>supply</sub> -9 V) / 20 mA ≥ 15.0 kΩ	≤ 12 mA	9 ... 32 VDC 5 VDC ± 0.25 VDC ratiom.	19				23
<b>Accessories</b>	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 (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 <sup>9)</sup>			58					
	Female electrical plug MIL-C 26482, 6-pole, metal			32					
	Special electrical connection: Pin 1 +, Pin 2 - (only for output signal 4 ... 20 mA and male electrical connector EN175301-803-A/ DIN43650-A)			92					
	Cable length 1.5 m			1M					
	Cable length 3.0 m			3M					
	Cable length 5.0 m			5M					

<sup>1)</sup> Extended overpressure as well as customized pressure ranges upon request

<sup>2)</sup> For Ranges ≤ 600 bar

<sup>3)</sup> For ranges > 600 bar

<sup>4)</sup> Only with electrical connection 04

<sup>5)</sup> Upon request

<sup>6)</sup> Cable length see accessories

<sup>7)</sup> Only with electrical connections 25 and 78

<sup>8)</sup> For pressure ranges < 40 bar upon request

<sup>9)</sup> Without ship approval DNV-GL

<sup>10)</sup> Without ship approvals

<sup>11)</sup> Only with pressure connection 17 (G1/4")

<sup>12)</sup> Only for pressure ranges ≥ 10 bar

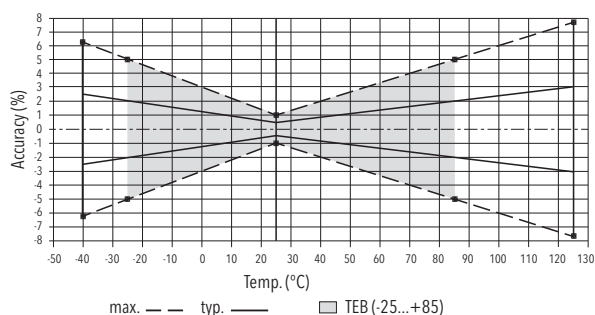
Specifications		
<b>Electrical data</b>	Output / supply voltage	4 ... 20 mA: 24 (9 ... 32) VDC 0.5 ... 4.5 VDC: 5 VDC ratiom.
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
<b>Environmental conditions</b>	Media temperature	-40°C ... +125°C
	Ambient temperature	-40°C ... +125°C
	Protection <sup>1)</sup>	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
<b>EMC protection</b>	Emission	EN/IEC 61000-6-4
	Immunity	EN/IEC 61000-6-2
<b>Mechanical data</b>	Sensor (wetted parts)	1.4542 (AISI630)
	Pressure connection (wetted parts)	1.4542 (AISI630) or 1.4404 (AISI316L) <sup>2)</sup>
	Housing	1.4301 (AISI304) except male electrical connector 04 and 2.5 ... 250bar: 1.4542 (AISI630) or 1.4404 (AISI316L) <sup>2)</sup>
	Sealing	FKM 70 Sh
	Male electrical connector	See ordering information
	Weight	~ 80...110 g
	Mounting torque	25 Nm Pressure connection 28/29: 30 Nm

<sup>1)</sup> See electrical connection

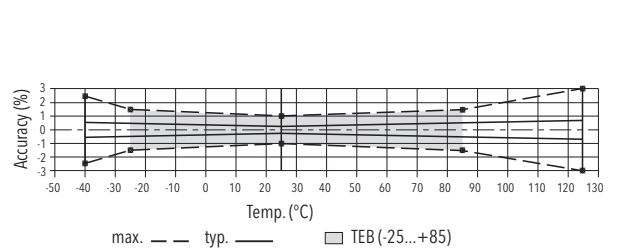
<sup>2)</sup> See ordering information for sensor

Accuracy			
		Measuring accuracy 0.5%	Measuring accuracy 0.3%
		Ordering No. 25	Ordering No. 23
TEB @ -25...+85°C	[% FS typ.]	± 2.0	± 0.5
Accuracy @ +25°C	[% FS typ.]	± 0.5	± 0.3
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.1
TC zero point and span	[% FS/K typ.]	± 0.03	± 0.005
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.2

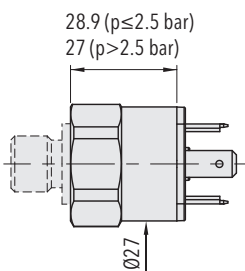
## Measuring accuracy 0.5 %



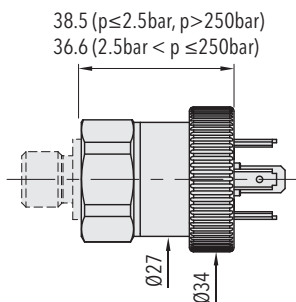
## Measuring accuracy 0.3 %



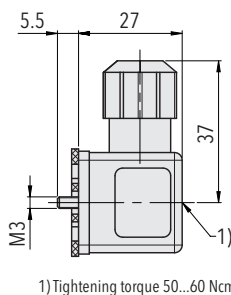
## Dimensions



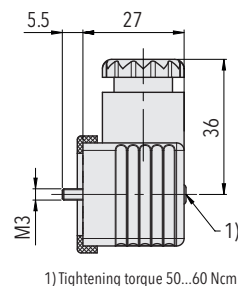
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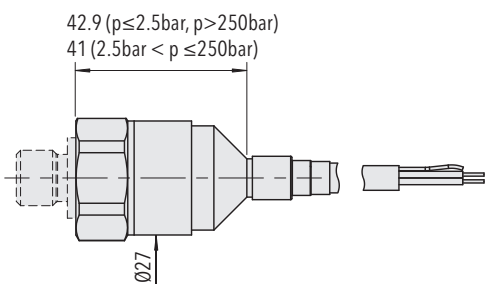
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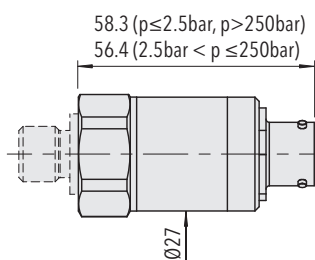
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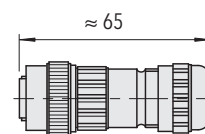
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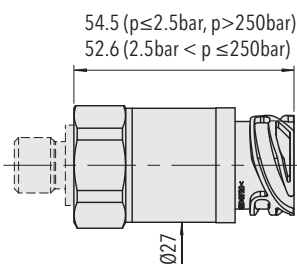
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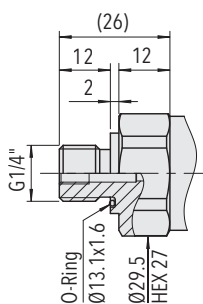
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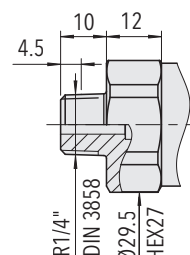
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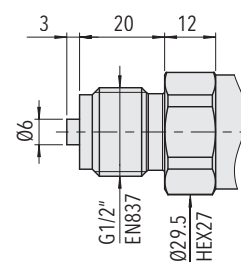
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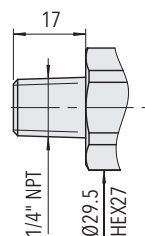
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Pressure ranges:  $\leq 600$  bar



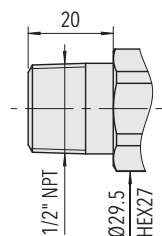
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Pressure ranges:  $\leq 600$  bar



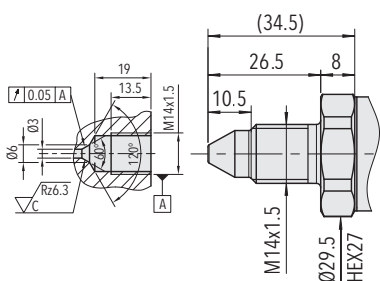
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Pressure ranges:  $\leq 600$  bar



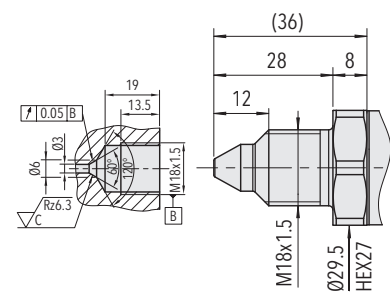
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8298.XX.XX51.XX.XX.XX

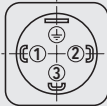
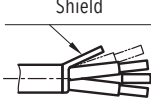
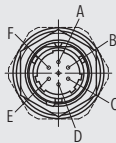

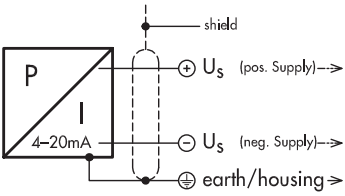
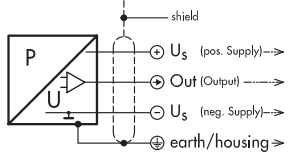


8298.XX.XX28.XX.XX.XX  
Pressure ranges:  $\leq 2500$  bar



8298.XX.XX29.XX.XX.XX  
Pressure ranges:  $\leq 2500$  bar

## Electrical connection

		Protection / electrical connection				
		IP65*)	IP69K	IP67*)	IP69K*)	
		Industrial standard EN175301-803A <b>04/05</b> 	Cable **) <b>78</b> Shield 	MIL-C 26482 <b>02</b> 	DIN 72585**) Code 1 <b>25</b> 	
Output signal	 <b>8298.xx.xxxx.xx.19</b>	Standard 2 1 ⊕	with accessory <b>92</b> 1 2 ⊕	brown black yellow / green	A B E	1 4 3
	 <b>8298.xx.xxxx.xx.23</b>			brown blue black yellow / green		1 2 4 3

\*) Provided female connector is mounted according to instructions

\*\*) Ventilation via cable end

### Additional information

#### Documents

Data sheet	<a href="http://www.trafag.com/H72312">www.trafag.com/H72312</a>
Instructions	<a href="http://www.trafag.com/H73311">www.trafag.com/H73311</a>
Flyer	<a href="http://www.trafag.com/H70669">www.trafag.com/H70669</a>