EPR 8293

Railway Pressure Transmitter

Applications

- Railways

Features

- Compact design
- Good temperature resistance
- Different accuracy classes
- Completely welded sensor system without additional seals
- Dielectrical strength: 500 VAC, 50 Hz, meets EN 50155 (Railways)

EMC: 2014/30/EU

S.I. 2016 No. 1091

RoHS/Reach compliant

Conformity EN 50155

Product description

The EPR pressure transmitter was specifically designed for the high demand of the railway industry and 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.

Technical Data

Measuring principle	Thin-film-on-steel
Measuring range	0 ... 2.5 to 0 ... 600 bar
Output signal	4 ... 20 mA
Media temperature	-40°C ... +125°C
Ambient temperature	-40°C ... +125°C

Additional information

Data sheet	www.trafag.com/H72311
Instructions	www.trafag.com/H73311
Accessories	www.trafag.com/H72258

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Ordering information/Type code

				8293	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**						
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] [4]				**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] [4]				**33**					
Pressure connection	G1/4" male (Seal)					**17**				
	R1/4" male [5]					**19**				
	1/4" NPT male [2]					**30**				
	1/2" NPT male [2]					**51**				
Electrical connection	Male electrical connector EN 175301-803-A (DIN 43650-A): Material PA						**04**			
	Male electrical connector EN 175301-803-A: Material PA, extended vibration resistance						**05**			
	Male electrical connector MIL-C 26482, 6-pole, metal [6]						**02**			
Output signal	**Output signal**	**Load resistance**	**U (supply)**						**19**	
	4 ... 20 mA	(U_s – 9 V) / 20 mA	9 ... 32 VDC						**19**	
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									**58**
	Female electrical plug MIL-C 26482, 6-pole, metal									**32**
	Pin configuration, see table: Electrical connection									

[1] Extended overpressure as well as customized pressure ranges upon request
[2] Upon request, whereas minimum order quantities may apply
[3] Only with pressure connection 17 (G1/4")
[4] Only for pressure ranges ≥ 10 bar
[5] Only with electrical connection 04
[6] For pressure ranges < 40 bar upon request

Compatibility matrix pressure connection and accessories

		Damping		
Code	**Pressure connection**	Ø 1.0 mm (Code 40)	Ø 0.3 mm (Code 43)	Ø 0.5 mm (Code 45)
17	G1/4" male (Seal)	✓	✓	✓
19	R1/4" male	✓	✓	✓
30	1/4" NPT male	✓	✓	✓
51	1/2" NPT male	✓	✓	✓

Specifications

Electrical data	Output / supply voltage	4 ... 20 mA: 24 (9 ... 32) VDC
	Rise time of supply voltage	typ. 1 ms, 10 ... 90 % nominal pressure
	Resistance of insulation	> 10 MΩ, 500 VDC
	Dielectric strength	500 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
	Humidity	max. 95 % relative
	Vibration	Electrical connection 04/02: 10 g (20 ... 2000 Hz)/5 g RMS Electrical connection 05: 15 g (20 ... 2000 Hz)
	Shock	50 g/11 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)	Pressure ranges ≤ 250 bar and > 600 bar: 1.4542 (AISI630) or 1.4404 (AISI316L) Pressure ranges > 250 bar and ≤ 600 bar: 1.4301 (AISI304) [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

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

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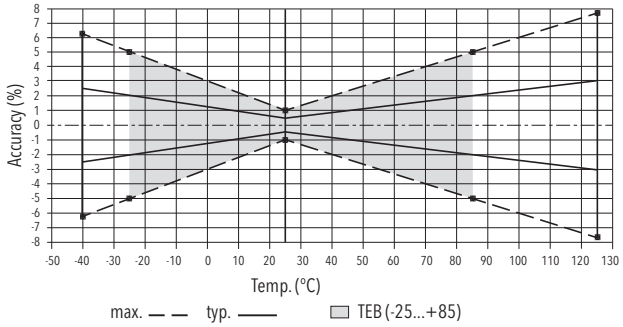
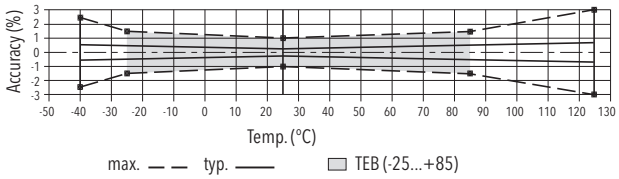
Accuracy

		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 0.5 %

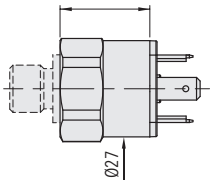


Accuracy class 0.3 %



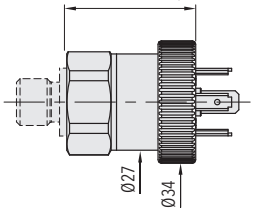
Dimensions

28.9 (p≤2.5 bar)
27.0 (p>2.5 bar)



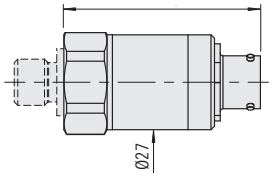
8293.XX.XXXX.**04**.XX.XX

38.5 (p≤2.5 bar, p>250 bar)
36.6 (2.5 bar <p≤250 bar)



8293.XX.XXXX.**05**.XX.XX

58.5 (p≤2.5 bar, p>250 bar)
56.4 (2.5 bar <p≤250 bar)



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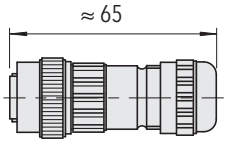
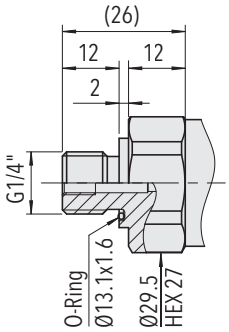
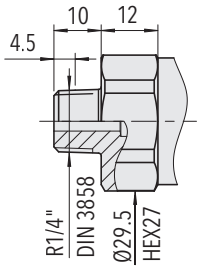


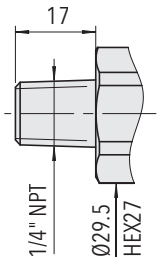
8293.XX.XXXX.02.XX.**32**



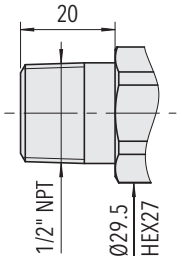
8293.XX.XX**17**.XX.XX



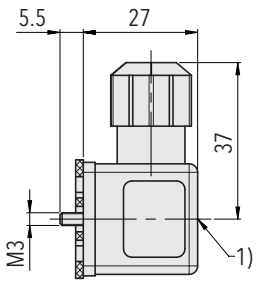
8293.XX.XX**19**.XX.XX



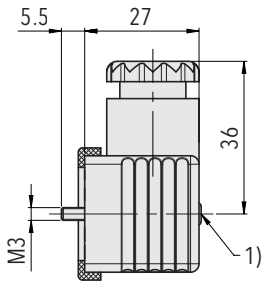
8293.XX.XX**30**.XX.XX



8293.XX.XX**51**.XX.XX



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



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

1) Tightening torque 50 ... 60 Ncm

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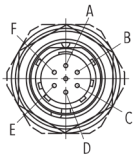
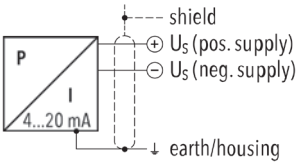
Electrical connection

	Industrial standard EN175301-803A		MIL-C 26482
			
Electrical connection type code	04/05		02
IP protection	IP65 [1]		IP67 [1]
Ambient temperature	max. -40°C … +125°C		max. -40°C … +125°C
Pin assignment type code	Standard	With accessory 92	
Output signal			
	2 1 Earth	1 2 Earth	A B E

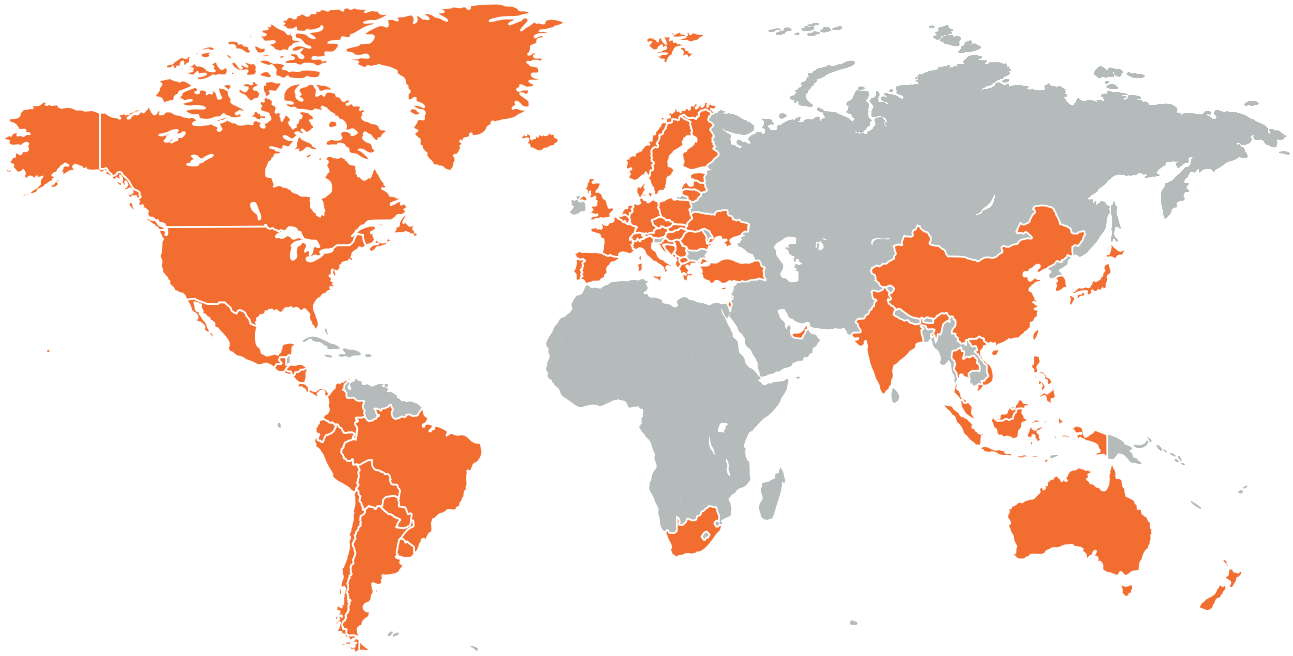
[1] Provided female electrical plug is mounted according to instructions

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