

FLUSH MEMBRANE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The FPT 8236 pressure transmitter impresses with an absolutely smooth and robust flush-mounted measuring diaphragm made of corrosion-resistant duplex steel. Trafag's proprietary thin-film-on-steel sensor technology ensures a wide temperature range and excellent long-term stability.



Applications

- Machine tools
- Food Industry
- Process technology
- Water treatment
- Hydraulics

Features

- Flush membrane with smooth and plain surface
- Membrane in Duplex steel 1.4462
- Completely welded sensor system
- Excellent long-term stability

Technical Data			
Measuring principle	Thin-film-on-steel	Accuracy @ 25°C typ.	± 0.5 % FS typ.
Measuring range	-0.5 ... 0.5 to 0 ... 100 bar -5 ... 10 to 0 ... 1500 psi	Media temperature	-10°C ... +125°C
Output signal	4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, 0.5 ... 4.5 VDC ratiometric	Ambient temperature	max. -10°C ... +125°C (UL-rated ambient temperature: -20°C ... +80°C) details see section Electrical Connection
NLH @ 25°C (BSL) typ.	± 0.1 % FS typ.		

06/2024

Data sheet H72343g

Subject to change

Ordering information/type code

8236 . XX XX XX XX XX XX

Measuring range ¹⁾	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]		Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]		
		-0.4 ... 0.6	5	7.5	A6	-5 ... 10	60	90	F5
	-0.5 ... 0.5	5	7.5	A7					
	-1 ... 0	5	7.5	D4					
	-1 ... 1	5	7.5	B1					
	-1 ... 1.6	5	7.5	B3					
	0 ... 1	5	7.5	71	0 ... 15	60	90	G1	
	0 ... 2.5	5	7.5	75	0 ... 30	60	90	G5	
	0 ... 4	8	12	76	0 ... 50	100	150	G6	
	0 ... 6	12	15	77	0 ... 100	200	250	G7	
	0 ... 10	20	25	78	0 ... 150	300	375	G8	
	0 ... 16	32	40	79	0 ... 250	500	625	G9	
	0 ... 25	50	75	80	0 ... 400	800	1200	H0	
	0 ... 40	80	100	81	0 ... 500	1000	1250	H1	
	0 ... 100	200	300	83	0 ... 1500	3000	4500	H3	
Sensor	Relative pressure							23	
Pressure connection	G1/2" male, flush membrane, standard length							93	
	G1/2" male, flush membrane, 30 mm length ⁵⁾							94	
Electrical connection	Male electrical connector EN 175301-803-A (DIN 43650-A), Mat. PA							05	
	Male electrical connector M12x1, 5-pol., Mat. PA							35	
	Male electrical connector Packard Metri Pack							51	
	Cable PUR (Screwed cable gland PA 6-3), -10°C ... +70°C ^{3) 4)}							24	
Output signal	Signal output	Load resistance		I (supply)		U (supply)			
	4 ... 20 mA	(U _{supply} -9 V) / 20 mA		(= signal output)		9 ... 32 VDC		19	
	0 ... 5 VDC	> 2.5 kΩ		≤ 20 mA		9 ... 32 VDC		14	
	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							61	
	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) ²⁾							92	
	Special electrical connection: Pin 1 Out, Pin 2 -, Pin 3 + (only for output 14, 16, 17, 23 and male electrical connector EN175301-803-A/ DIN43650-A) ²⁾							98	
	Special electrical connection: Pin 1 +, Pin 2 -, Pin 3 Out (only for output signals 14, 16, 17, 23 and male electrical connector EN 175301-803-A/ DIN 43650-A) ²⁾							97	
	Special electrical connection: Pin 1 +, Pin 3 -, Pin 5 GR (only for output 4...20mA and male electrical connector M12x1, 5-pol.) ²⁾							94	
	Special electrical connection: Pin 1 +, Pin 2 -, Pin 5 Ground (only for output signals 19 and male electrical connector 35, M12x1, 5-pole)							H1	
	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 3 Out, Pin 2 -, Pin 5 Ground (only for output signals 14, 16, 17, 23 and male electrical connector 35, M12x1, 5-pole)							E8	
	Special electrical connection: Pin 1 +, Pin 3 - (only for male electrical connector Packard Metri Pack 3-poles) ²⁾							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	
	UL-listed version							UL	

¹⁾ Extended overpressure as well as customized pressure ranges upon request

²⁾ Details see electrical connection

³⁾ Cable length see accessories (max. length 50 m, in 5-meter sections)

⁴⁾ IP68, max. 3 m, Media +10°C ... +35°C

⁵⁾ Upon request

Standard products (extra short lead time)

Product No.	Type Code	Pressure range [bar]	Over pressure max. [bar]	Signal output	Accuracy @ 25°C typ. [%]
FPT1.0A	8236 71 2393 05 0000 0000 19 58 61	0 ... 1	5	4 ... 20 mA	± 1.0
FPT2.5A	8236 75 2393 05 0000 0000 19 58 61	0 ... 2.5	5	4 ... 20 mA	± 0.5
FPT4.0A	8236 76 2393 05 0000 0000 19 58 61	0 ... 4	8	4 ... 20 mA	± 0.5
FPT6.0A	8236 77 2393 05 0000 0000 19 58 61	0 ... 6	12	4 ... 20 mA	± 0.5
FPT10.0A	8236 78 2393 05 0000 0000 19 58 61	0 ... 10	20	4 ... 20 mA	± 0.5
FPT16.0A	8236 79 2393 05 0000 0000 19 58 61	0 ... 16	32	4 ... 20 mA	± 0.5
FPT25.0A	8236 80 2393 05 0000 0000 19 58 61	0 ... 25	50	4 ... 20 mA	± 0.5
FPT40.0A	8236 81 2393 05 0000 0000 19 58 61	0 ... 40	80	4 ... 20 mA	± 0.5
FPT100.0A	8236 83 2393 05 0000 0000 19 58 61	0 ... 100	200	4 ... 20 mA	± 0.5
FPT1.0M	8236 71 2393 35 0000 0000 19 33 61	0 ... 1	5	4 ... 20 mA	± 1.0
FPT2.5M	8236 75 2393 35 0000 0000 19 33 61	0 ... 2.5	5	4 ... 20 mA	± 0.5
FPT4.0M	8236 76 2393 35 0000 0000 19 33 61	0 ... 4	8	4 ... 20 mA	± 0.5
FPT6.0M	8236 77 2393 35 0000 0000 19 33 61	0 ... 6	12	4 ... 20 mA	± 0.5
FPT10.0M	8236 78 2393 35 0000 0000 19 33 61	0 ... 10	20	4 ... 20 mA	± 0.5
FPT16.0M	8236 79 2393 35 0000 0000 19 33 61	0 ... 16	32	4 ... 20 mA	± 0.5
FPT25.0M	8236 80 2393 35 0000 0000 19 33 61	0 ... 25	50	4 ... 20 mA	± 0.5
FPT40.0M	8236 81 2393 35 0000 0000 19 33 61	0 ... 40	80	4 ... 20 mA	± 0.5
FPT100.0M	8236 83 2393 35 0000 0000 19 33 61	0 ... 100	200	4 ... 20 mA	± 0.5

Accuracy

Pressure measuring span		≥ 2.5 bar	< 2.5 bar
		≥ 30 psi	< 30 psi
TEB @ -25 ... +85°C	[% FS typ.]	± 1.5	± 3.0
Accuracy @ +25°C	[% FS typ.]	± 0.5 ¹⁾	± 1.0 ²⁾
Additional mounting torque offset	[% FS typ.]	± 0.2	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.1	± 0.2
TC zero point and span	[% FS/K typ.]	± 0.01	± 0.025
Additional TC for zero point and span at different media and ambient temperatures *)	[% FS/K typ.]	± 0.08	± 0.25
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.5

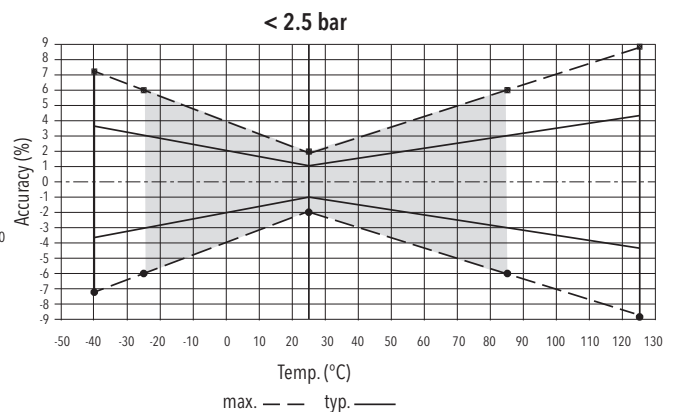
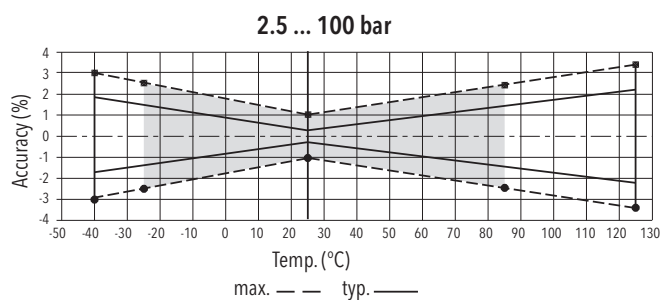
¹⁾ Additional mounting torque offset 0.2 %

²⁾ Additional mounting torque offset 0.5 %

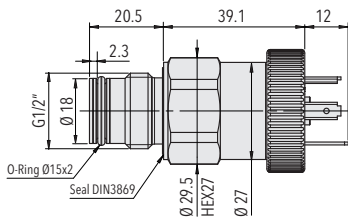
*) Applies to a stationary condition. If there is a sudden change in the temperature of the media, a considerable deviation in the measured value must be expected until thermal balance is re-established.

Specifications		
Electrical data	Output / supply voltage	4 ... 20 mA: 24 (9...32) VDC 0 ... 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	-10°C ... +125°C
	Ambient temperature	max. -10°C ... +125°C (UL-rated Umgebungstemperatur: -20°C ... +80°C) details see section Electrical Connection
	Protection	IP65, IP67, IP68 details see section Electrical Connection
	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	50 g / 11 ms
EMC protection	Emission	EN/IEC 61000-6-3
	Immunity	EN/IEC 61000-6-2
Mechanical data	Sensor (wetted parts)	1.4462 (AISI318 LN)
	Pressure connection (wetted parts)	1.4462 (AISI318 LN), 1.4542
	Housing	1.4542
	Sealing	FKM
	Weight	~ 80 ... 110 g (without cable)
	Mounting torque	20 ... 25 Nm not lubricated 15 ... 20 Nm lubricated

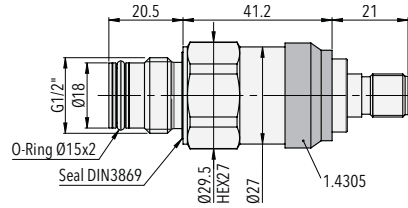
Measuring accuracy



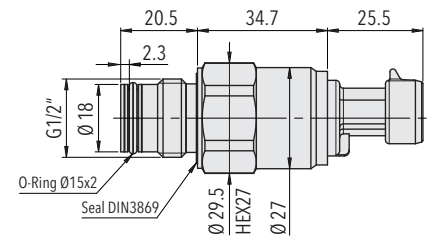
Dimensions



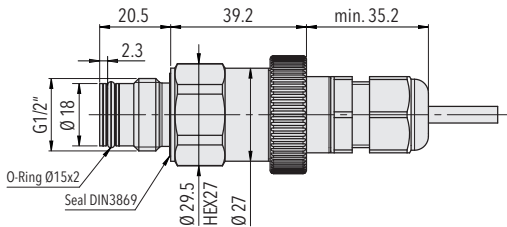
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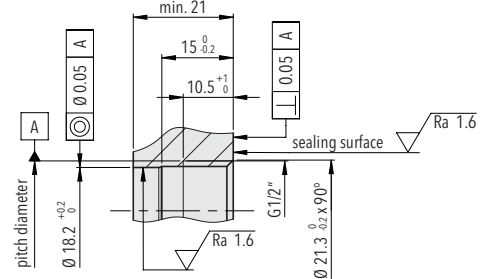
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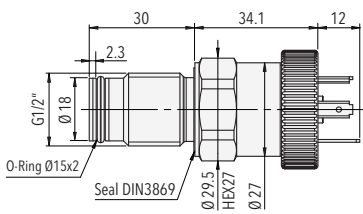
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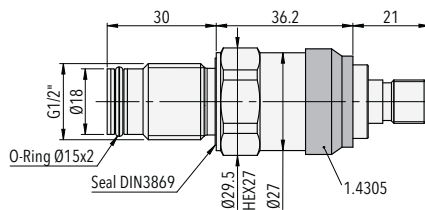
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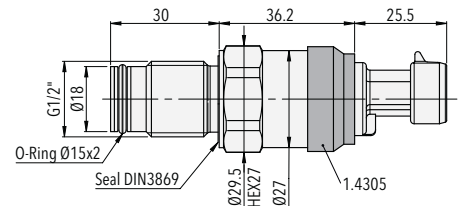
Mounting thread G1/2" standard length (Process connection 93)
DIN EN ISO 1179-1



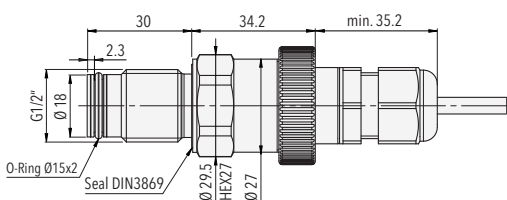
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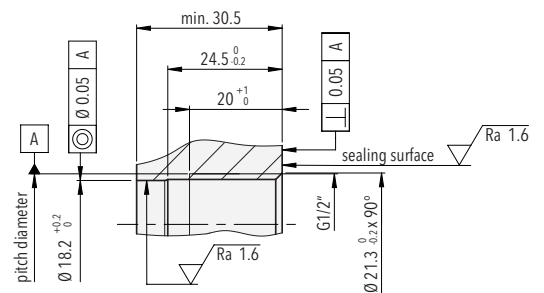
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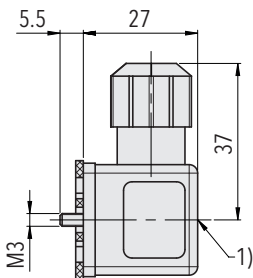
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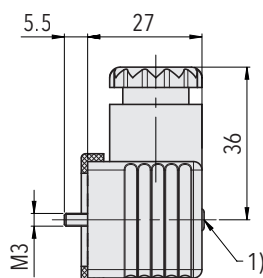


Mounting thread G1/2" 30 mm length (Process connection 94)
DIN EN ISO 1179-1



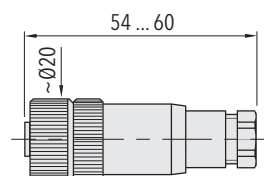
1) Tightening torque 50...60 Ncm

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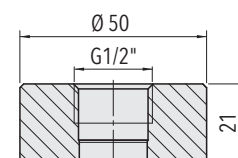


1) Tightening torque 50...60 Ncm

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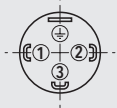
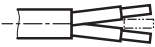
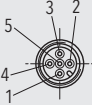
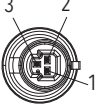
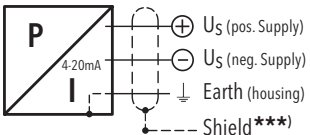
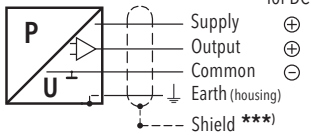


8236.XX.XXXX.XX.XX.33



Welding flange for G1/2", standard length
AISI 316L (1.4404/1.4435)
Ordering No. **F82060**

Electrical connection

		Protection / electrical connection							
		IP65*) **)		IP67/IP68 **) max. 3m		IP67*) **)		IP67*) **)	
		Industrial standard EN175301-803A		Cable		M12x1 5- pole		Packard Metri Pack 3- pole	
		05		24		35		51	
									
Ambient temperature		-10°C ... +125°C		-10°C ... +70°C		-10°C ... +125°C		-10°C ... +125°C	
UL-rated ambient temperature		-10°C ... +80°C		-10°C ... +70°C		-10°C ... +80°C		-10°C ... +80°C	
Output signal	 <p>8236.XX.XXXX.XX.19</p>	Standard	92			Standard	94	H1	E4
		2	1	white	4	1	1	1	1
		1	2	brown	1	3	2	2	3
		↓	↓	yellow	5	5	5		
	 <p>8236.XX.XXXX.XX.14/16/17/23</p>	Standard	98	97			E8		99
		2	3	1	2	1	1	1	1
		3	1	3	2	3	3	2	2
		1	2	2	↓	2	2	3	3
		↓	↓	↓		5	5		

*) Electrical connections 05/35/51: 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

Additional information

Documents

Data sheet	www.trafag.com/H72343
Instructions	www.trafag.com/H73343
Flyer	www.trafag.com/H70612