

# 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 ... 1 to 0 ... 100 bar 0 ... 15 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	-10°C ... +125°C Cable PUR: -10°C ... +70°C
NLH @ 25°C (BSL) typ.	± 0.1 % FS typ.		

06/2022

Data sheet H72343b

Subject to change

## Ordering information/type code

								8236 . XX	XX	XX	XX	XX	XX
<b>Measuring range</b> <sup>1)</sup>	<b>Pressure measurement range [bar]</b>	<b>Over pressure [bar]</b>	<b>Burst pressure [bar]</b>		<b>Pressure measurement range [psi]</b>	<b>Over pressure [psi]</b>	<b>Burst pressure [psi]</b>						
	0 ... 1 <sup>5)</sup>	5	7.5	<b>71</b>	0 ... 15 <sup>5)</sup>	60	90	<b>G1</b>					
	0 ... 2.5	5	7.5	<b>75</b>	0 ... 30	60	90	<b>G5</b>					
	0 ... 4	8	12	<b>76</b>	0 ... 50	100	150	<b>G6</b>					
	0 ... 6	12	15	<b>77</b>	0 ... 100	200	250	<b>G7</b>					
	0 ... 10	20	25	<b>78</b>	0 ... 150	300	375	<b>G8</b>					
	0 ... 16	32	40	<b>79</b>	0 ... 250	500	625	<b>G9</b>					
	0 ... 25	50	75	<b>80</b>	0 ... 400	800	1200	<b>H0</b>					
	0 ... 40	80	100	<b>81</b>	0 ... 500	1000	1250	<b>H1</b>					
	0 ... 100	200	300	<b>83</b>	0 ... 1500	3000	4500	<b>H3</b>					
<b>Sensor</b>	Relative pressure								<b>23</b>				
<b>Pressure connection</b>	G1/2" male, flush membrane									<b>93</b>			
<b>Electrical connection</b>	Male electrical connector EN 175301-803-A (DIN 43650-A), Mat. PA										<b>05</b>		
	Male electrical connector M12x1, 5-pol., Mat. PA										<b>35</b>		
	Male electrical connector Packard Metri Pack										<b>51</b>		
	Cable PUR (Screwed cable gland PA 6-3), -10°C ... +70°C <sup>3) 4)</sup>										<b>24</b>		
<b>Output signal</b>	<b>Signal output</b>	<b>Load resistance</b>			<b>I (supply)</b>		<b>U (supply)</b>						
	4 ... 20 mA	(U <sub>supply</sub> -9 V) / 20 mA					9 ... 32 VDC					<b>19</b>	
	0 ... 5 VDC	> 2.5 kΩ			< 10 mA		9 ... 32 VDC					<b>14</b>	
	1 ... 6 VDC	> 5.0 kΩ			< 10 mA		9 ... 32 VDC					<b>16</b>	
	0 ... 10 VDC	> 5.0 kΩ			< 10 mA		15 ... 32 VDC					<b>17</b>	
0.5 ... 4.5 VDC ratiometric	> 5.0 kΩ			< 10 mA		5 (4.75 ... 5.25) VDC					<b>23</b>		
<b>Accessories</b>	Seal FKM												<b>61</b>
	Female electrical plug EN 175301-803-A (DIN43650-A)/NBR, -40°C ... +90°C, for cable diameter 4 ... 9 mm, flammability standard UL94-V0												<b>46</b>
	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												<b>56</b>
	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												<b>58</b>
	Female electrical plug M12x1, 5-pole												<b>33</b>
	Special electrical connection: Pin 1 +, Pin 2 - (only for output signal 4 ... 20 mA and male electrical connector EN175301-803-A/ DIN43650-A) <sup>2)</sup>												<b>92</b>
	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) <sup>2)</sup>												<b>98</b>
	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) <sup>2)</sup>												<b>97</b>
	Special electrical connection: Pin 1 +, Pin 3 -, Pin 5 GR (only for output 4...20mA and male electrical connector M12x1, 5-pol.) <sup>2)</sup>												<b>94</b>
	Special electrical connection: Pin 1 +, Pin 3 - (only for output 4 ... 20 mA and male electrical connector Packard Metri Pack 3-poles)												<b>E4</b>
	Special electrical connection: Pin 1 +, Pin 3 - (only for male electrical connector Packard Metri Pack 3-poles) <sup>2)</sup>												<b>99</b>
	Housing nut for electrical connection EN175301-803-A (DIN43650-A) secured with Loctite (max. 85°C)												<b>L9</b>
	Cable length 1.5 m												<b>1M</b>
	Cable length 3.0 m												<b>3M</b>
	Cable length 5.0 m												<b>5M</b>

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

<sup>2)</sup> Details see electrical connection

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

<sup>4)</sup> IP68, max. 3 m, Media +10°C ... +35°C

<sup>5)</sup> 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 range		≥ 0 ... 2.5 bar	< 0 ... 2.5 bar
		≥ 0 ... 30 psi	< 0 ... 30 psi
TEB @ -25 ... +85°C	[% FS typ.]	± 1.5	± 3.0
Accuracy @ +25°C	[% FS typ.]	± 0.5 <sup>1)</sup>	± 1.0 <sup>2)</sup>
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
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.5

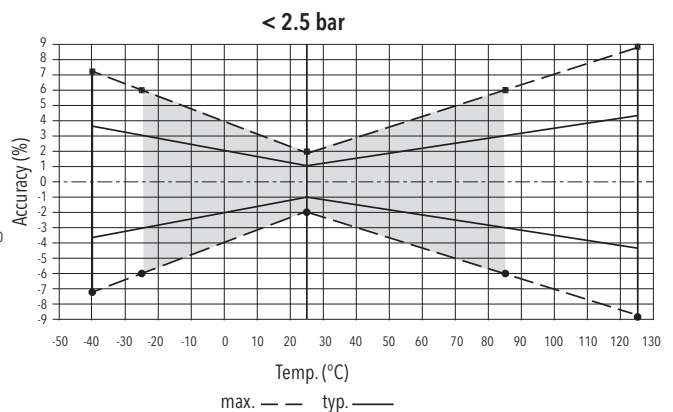
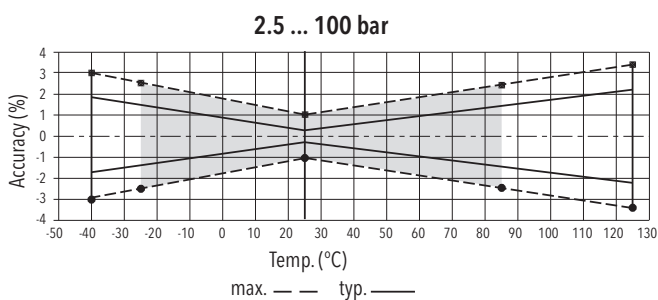
<sup>1)</sup> Additional mounting torque offset 0.2 %

<sup>2)</sup> Additional mounting torque offset 0.5 %

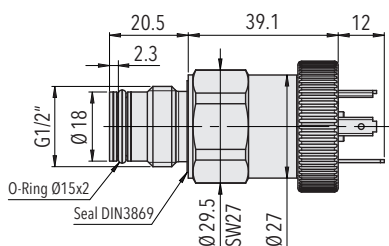
Specifications		
<b>Electrical data</b>	Output / supply voltage	4 ... 20 mA: 24 (9...32) VDC 0 ... 5 VDC: 24 (9...32) VDC 1 ... 6 VDC: 24 (9...32) VDC 0 ... 10 VDC: 24 (15...32) VDC 0.5 ... 4.5 VDC ratiometric 10 ... 90 % U <sub>supply</sub> : 5 ± 0.25 VDC
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
	Power-on delay time	100 ms
	Inverse-polarity protection, short-circuit strength @ 25°C during 5 min.	4 ... 20 mA: to U <sub>s</sub> = 32 VDC 0 ... 10 VDC, 0 ... 5 VDC, 1 ... 6 VDC: to U <sub>s</sub> = 28 VDC 0.5 ... 4.5 VDC ratiometric: to U <sub>s</sub> = 14 VDC
	<b>Environmental conditions</b>	
	Media temperature	-10°C ... +125°C
	Ambient temperature	-10°C ... +125°C Cable PUR: -10°C ... +70°C
	Protection <sup>1)</sup>	IP65, IP67, IP68
	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
<b>EMC protection</b>	Emission	EN/IEC 61000-6-3
	Immunity	EN/IEC 61000-6-2
<b>Mechanical data</b>	Sensor (wetted parts)	1.4462 (AISI318 LN)
	Pressure connection (wetted parts)	1.4462 (AISI318 LN), 1.4542
	Housing	1.4542
	Sealing	FPM (FKM)
	Weight	~ 80 ... 110 g (without cable)
	Mounting torque	20 ... 25 Nm not lubricated 15 ... 20 Nm lubricated

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

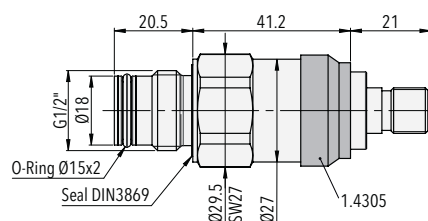
## Measuring accuracy



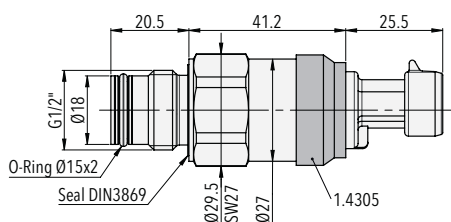
## Dimensions



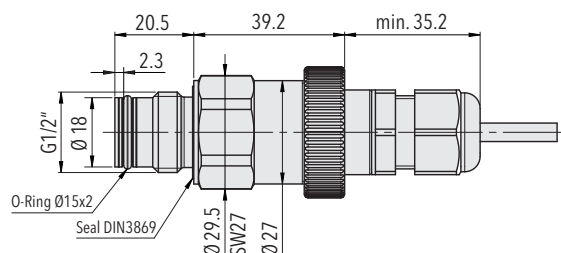
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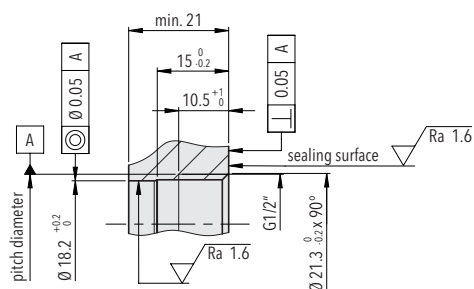
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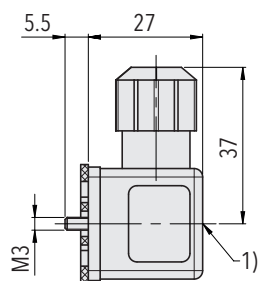
8236.XX.XX.93.51.XX.XX



8236.XX.XX.93.24.XX.XX

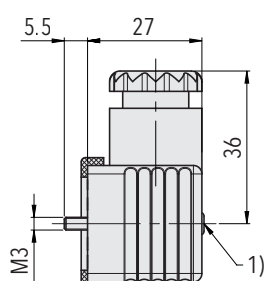


Mounting thread G1/2"  
DIN EN ISO 1179-1



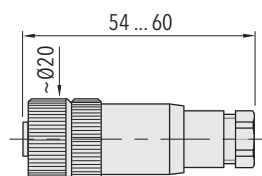
1) Tightening torque 50...60 Ncm

8236.XX.XXXX.XX.XX.46/56

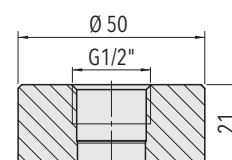


1) Tightening torque 50...60 Ncm

8236.XX.XXXX.XX.XX.58

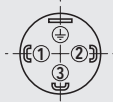

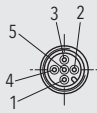
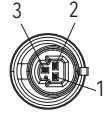
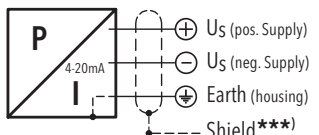
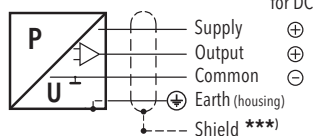


8236.XX.XXXX.XX.XX.33



Welding flange for G1/2"  
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 <b>05</b> 		Cable <b>24</b> 		M12x1 5- pole <b>35</b> 		Packard Metri Pack 3- pole <b>51</b> 	
<b>Output signal</b>	 <b>8236.xx.xxxx.xx.19</b>	Standard	<b>92</b>			Standard	<b>94</b>		<b>E4</b>
		2 1 ⊖	1 2 ⊖	white brown yellow		4 1 5	1 3 5	1 2	1 3
	 <b>8236.xx.xxxx.xx.14/16/17/23</b>	Standard	<b>98</b>	<b>97</b>					<b>99</b>
		2 3 1 ⊖	3 1 2 ⊖	1 3 2 ⊖	white green brown yellow		2 4 3 5	1 3 2	1 2 3

\*) 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	<a href="http://www.trafag.com/H72343">www.trafag.com/H72343</a>
Instructions	<a href="http://www.trafag.com/H73343">www.trafag.com/H73343</a>
Flyer	<a href="http://www.trafag.com/H70612">www.trafag.com/H70612</a>