

# SUBMERSIBLE PRESSURE TRANSMITTER

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for measurement of pressure and temperature. The new Submersible Pressure Transmitter ECL is based on Trafag's own thick-film-on-ceramic technology. Together with the inhouse developed high performance ASIC chip electronics it ensures a high level of accuracy over a wide temperature range.



OEM-version

## Applications

- Process technology
- Water treatment (wastewater, grey-water, drinking water)
- Seawater
- Level of oils and fuels

## Features

- Suitable for thick and viscous media
- Different materials for optimum media compatibility
- Lightning protection integrated

## Technical Data

Measuring principle	Thick film on ceramic	Accuracy @ 25°C typ.	± 0.3 % FS typ. Range 0 ... 0.1 to 0 ... 0.2 bar: ± 0.5 % FS typ.
Measuring range	0 ... 0.1 to 0 ... 2.0 bar 0 ... 1.5 to 0 ... 30 psi	Media temperature	-10°C ... +70°C (Cable PE: -10°C ... +65°C)
Output signal	4 ... 20 mA	Ambient temperature	-10°C ... +70°C (Cable PE: -10°C ... +65°C)

01/2017

Data sheet H72336d

Subject to change

## Ordering information/type code

				8439 . XX				XX	XX	XX	XX	XX
Measuring range <sup>1)</sup>	Pressure measurement range [bar]	Over pressure [bar]	Burst pressure [bar]	Pressure measurement range [psi]	Over pressure [psi]	Burst pressure [psi]						
		0 ... 0.1	1.2	2	0 ... 1.5	15	30	F6				
	0 ... 0.16	1.2	2	0 ... 2	15	30	F7					
	0 ... 0.2	1.2	2	0 ... 2.5	15	30	F8					
	0 ... 0.4	1.2	2	0 ... 5	15	30	F9					
	0 ... 0.5	1.2	2	0 ... 6.5	15	30	F4					
	0 ... 0.6	1.2	2	0 ... 7.5	15	30	G0					
	0 ... 1.0	2	3	0 ... 15	30	45	G1					
	0 ... 1.6	3.2	4.8	0 ... 20	45	70	G3					
	0 ... 2.0	3.2	4.8	0 ... 30	45	70	G2					
<b>Sensor</b>	Relative pressure								23			
<b>Housing</b>	Housing AISI316L, standard version <sup>2)</sup>									58		
	Housing 1.4462, standard version <sup>2) 3)</sup>									55		
	Housing AISI316L, OEM-version <sup>2)</sup>									56		
	Housing 1.4462, OEM-version <sup>2) 3)</sup>									50		
	Housing AISI316L, Serto Connection <sup>2) 3)</sup>									60		
<b>Electrical connection</b>	Cable PUR, Ø 6 mm, L = 5 m			Cable Radox, Ø 6 mm, L = 25 m						21	35	
	Cable PUR, Ø 6 mm, L = 10 m			Cable Radox, Ø 6 mm, L = 30 m						22	36	
	Cable PUR, Ø 6 mm, L = 15 m			Cable Radox, Ø 6 mm, customized (L = max. 50m)						23	30	
	Cable PUR, Ø 6 mm, L = 20 m			Cable PE, Ø 6 mm, L = 5 m						24	41	
	Cable PUR, Ø 6 mm, L = 25 m			Cable PE, Ø 6 mm, L = 10 m						25	42	
	Cable PUR, Ø 6 mm, L = 30 m			Cable PE, Ø 6 mm, L = 15 m						26	43	
	Cable PUR, Ø 6 mm, customized (L = max. 50m)			Cable PE, Ø 6 mm, L = 20 m						20	44	
	Cable Radox, Ø 6 mm, L = 5 m			Cable PE, Ø 6 mm, L = 25 m						31	45	
	Cable Radox, Ø 6 mm, L = 10 m			Cable PE, Ø 6 mm, L = 30 m						32	46	
	Cable Radox, Ø 6 mm, L = 15 m			Cable PE, Ø 6 mm, customized (L = max. 50m)						33	40	
	Cable Radox, Ø 6 mm, L = 20 m									34		
<b>Output signal</b>	4 ... 20 mA										19	
<b>Accessories</b>	Seal FKM / FPM / Viton											61
	Seal EPDM / TPE											63

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

<sup>2)</sup> See "Dimensions"

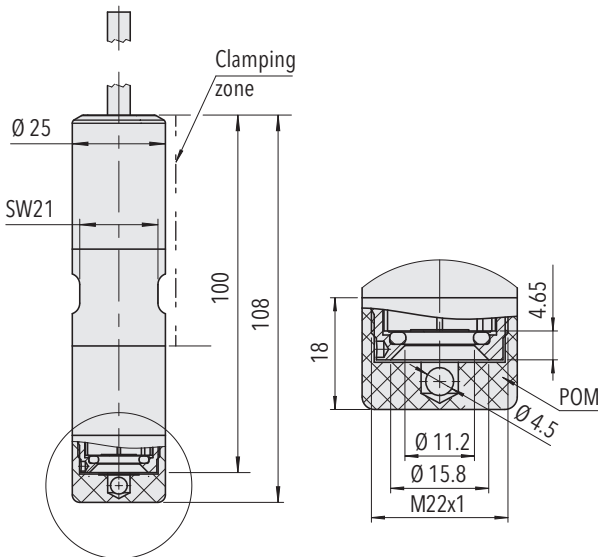
<sup>3)</sup> Upon request

Type	Type code	Housing	Cable material	Seal	Typical applications
Standard <sup>1)</sup>	8439.XX.2358.2X.19.61.XX	AISI316L	PUR	FKM / Viton	General applications
OEM <sup>1)</sup>	8439.XX.2356.2X.19.61.XX				
Serto	8439.XX.2360.2X.19.61.XX				
Standard	8439.XX.2358.3X.19.61.XX	AISI316L	Radox	FKM / Viton	Oils and fuels
OEM	8439.XX.2356.3X.19.61.XX				
Serto	8439.XX.2360.3X.19.61.XX				
Standard	8439.XX.2358.4X.19.63.XX	AISI316L	PE	EPDM / TPE	Wastewater, grey-water, drinking water
OEM	8439.XX.2356.4X.19.63.XX				
Serto	8439.XX.2360.4X.19.63.XX				
Standard	8439.XX.2355.4X.19.63.XX	1.4462	PE	EPDM / TPE	Seawater, Saline water
OEM	8439.XX.2350.4X.19.63.XX				
Standard	8439.XX.23.55.3X.19.63.XX	1.4462	Radox	EPDM / TPE	Marine applications
OEM	8439.XX.23.50.3X.19.63.XX				

Non-standard build-up combinations may be selected, whereas minimum order quantities may apply

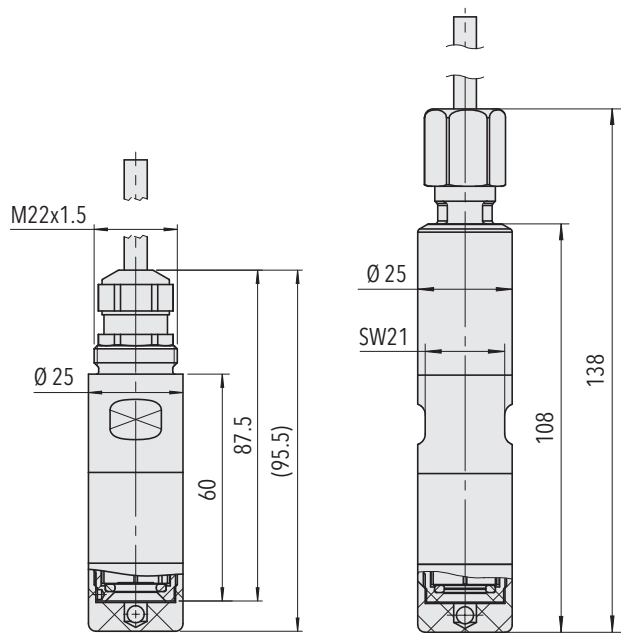
<sup>1)</sup> Extra short lead time

## Dimensionen



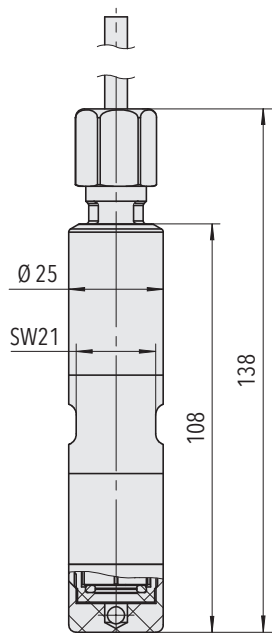
8439.XX.XX58/55.XX.XX.XX

Standard version



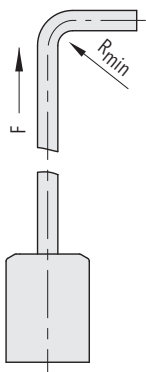
8439.XX.XX56/50.XX.XX.XX

OEM-version



8439.XX.XX60.XX.XX.XX

Serto adapter SO 50021-12  
for stainless steel tubes with:  
outer diameter 12 mm  
inner diameter 8 mm

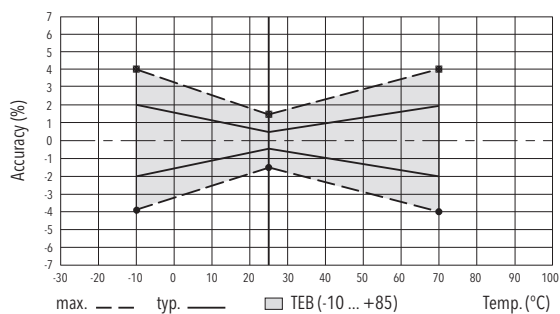


F = max. 12 kg (120 N)

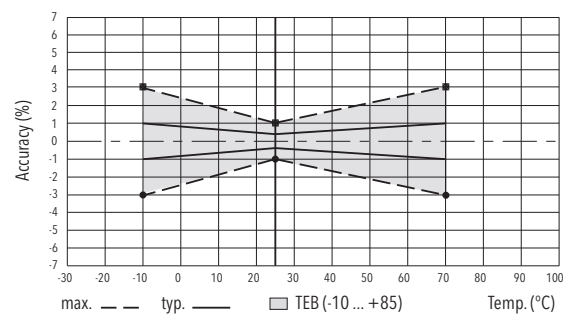
Specifications		
<b>Electrical Data</b>	Output / supply voltage	4...20 mA: 24 (9...32) VDC
	Rise time	Typ. 1 ms / 10 ... 90 % nominal pressure
	Switch-on-delay	100 ms
<b>Environmental conditions</b>	Media temperature	-10°C ... +70°C (Cable PE: -10°C ... +65°C)
	Ambient temperature	-10°C ... +70°C (Cable PE: -10°C ... +65°C)
	Protection	IP68 (2.0 bar; 20m)
	Vibration	6 g (25...2000 Hz)
	Shock	50 g / 8 ms
<b>EMC Protection</b>	Emission	EN/IEC 61000-6-3 / GL 2012, IV, Part 7
	Immunity	EN/IEC 61000-6-2 / GL 2012, IV, Part 7
<b>Mechanical Data</b>	Sensor (wetted parts)	Ceramic, Al <sub>2</sub> O <sub>3</sub> (96%)
	Pressure connection (wetted parts)	1.4404 (AISI316L) or 1.4462 (AISI318LN)
	Housing	1.4404 (AISI316L) or 1.4462 (AISI318LN)
	Sealing	FKM (FPM, Viton) EPDM (TPE)
	Weight	~ 200 g (without cable) / OEM ~ 150 g

Accuracy			
		Measuring accuracy 0.3 % Measuring ranges ≥ 0.3 bar	Measuring accuracy 0.5 % Measuring ranges < 0.3 bar
TEB @ -10...+70°C	[% FS typ.]	± 1.0	± 2.0
Accuracy @ +25°C	[% FS typ.]	± 0.3	± 0.5
NLH @ +25°C (BSL)	[% FS typ.]	± 0.2	± 0.3
TC zero point and span	[% FS/K typ.]	± 0.02	± 0.02
Long term stability 1 year @ +25°C	[% FS typ.]	± 0.2	± 0.2

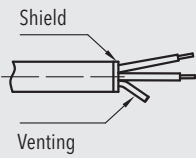
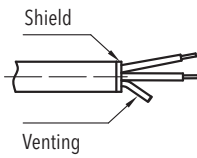
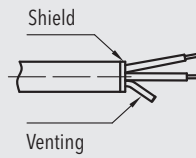
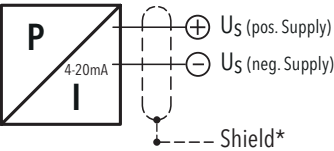
## Measuring accuracy 0.5 %



## Measuring accuracy 0.3 %



## Electrical connection

		Protection / electrical connection		
		IP68 (2.0 bar; 20m)	IP68 (2.0 bar; 20m)	IP68 (2.0 bar; 20m)
		Cable PUR Ø 6 mm (5x0.22mm <sup>2</sup> )	Cable Radox Ø 6 mm (5x0.22mm <sup>2</sup> )	Cable PE Ø 6 mm (5x0.22mm <sup>2</sup> )
		<b>2X</b>	<b>3X</b>	<b>4X</b>
				
Output signal		white brown	white brown	white brown
	<b>8439.XX.XXXX.XX.19</b>	(yellow = not connected) (green = not connected) (red = not connected)	(yellow = not connected) (green = not connected) (red = not connected)	(yellow = not connected) (green = not connected) (red = not connected)
	Minimum cable bending radius R <sub>min</sub>	40 mm	60 mm	30 mm
T-Range	Ambient and media temperature	-10°C ... +70°C	-10°C ... +70°C	-10°C ... +65°C

\* Shield not connected

### Additional information

#### Documents

Data sheet	<a href="http://www.trafag.com/H72336">www.trafag.com/H72336</a>
Instructions	<a href="http://www.trafag.com/H73336">www.trafag.com/H73336</a>
Flyer	<a href="http://www.trafag.com/H70690">www.trafag.com/H70690</a>