

Pressure Measurement

Transmitters for basic requirements

SITRANS LH100 (submersible sensor) Transmitter for hydrostatic level



Measuring point setup, generally with junction box 7MF1572-8AA and 7MF1572-8AB cable hanger

Technical specifications

Pressure transmitter SITRANS LH100 (submersible sensor)

Mode of operation

Measuring principle piezo-resistive

Input

Measured variable Hydrostatic level

Measuring range Max. permissible operating pressure

• 0 ... 4 mH ₂ O (0 ... 12 ftH ₂ O)	• 1.5 bar (21.8 psi) (corresponds to 15 mH ₂ O (45 ftH ₂ O))
• 0 ... 5 mH ₂ O (0 ... 15 ftH ₂ O)	• 1.5 bar (21.8 psi) (corresponds to 15 mH ₂ O (45 ftH ₂ O))
• 0 ... 6 mH ₂ O (0 ... 18 ftH ₂ O)	• 1.5 bar (21.8 psi) (corresponds to 15 mH ₂ O (45 ftH ₂ O))
• 0 ... 10 mH ₂ O (0 ... 30 ftH ₂ O)	• 3.0 bar (43.5 psi) (corresponds to 30 mH ₂ O (90 ftH ₂ O))
• 0 ... 20 mH ₂ O (0 ... 60 ftH ₂ O)	• 5.0 bar (72.5 psi) (corresponds to 50 mH ₂ O (150 ftH ₂ O))
• 0 ... 0.4 bar	• 1.5 bar
• 0 ... 0.5 bar	• 1.5 bar
• 0 ... 0.6 bar	• 1.5 bar
• 0 ... 1 bar	• 3.0 bar
• 0 ... 2 bar	• 5.0 bar

Output

Output signal 4 ... 20 mA

Measuring accuracy

According to IEC 60770-1
Error in measurement at limit setting including hysteresis and reproducibility 0.3% of full-scale value (typical)

Influence of ambient temperature

Zero and span	0.45 %/10 K of full-scale value
• 4 ... 6 mH ₂ O (12 ... 18 ftH ₂ O or 0.4...0.6 bar)	0.3 %/10 K of full-scale value
• > 6 mH ₂ O (> 18 ftH ₂ O or > 0.6 bar)	

Long-term stability	
Zero and span	0.25% of full-scale value/year
• 4 ... 6 mH ₂ O (12 ... 18 ftH ₂ O or 0.4...0.6 bar)	0.2 % of full-scale value/year
• > 6 mH ₂ O (> 18 ftH ₂ O or > 0.6 bar)	
Rated conditions	
Ambient conditions	
• Process temperature	-10 ... +80 °C (14 ... 176 °F)
• Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
Degree of protection according to IEC 60529	IP68
Design	
Weight	
• Pressure transmitter	≈ 0.2 kg (≈ 0.44 lb)
• Cable	0.025 kg/m (≈ 0.015 lb/ft)
Electrical connection	Cable with 3 conductors, vent pipe and integrated humidity filter
Material	
• Seal diaphragm	Al ₂ O ₃ ceramic, 96%
• Enclosure	Stainless steel, mat. no. 1.4404/316L
• Gasket	FPM (standard) EPDM (optional)
• Connecting cable	PE-HD (standard) PE-LD (in the case of versions with EPDM seal, suitable for drinking water)
Auxiliary power	
Terminal voltage on pressure transmitter U _B	10 ... 33 V DC 10 ... 30 V DC for transmitter with intrinsic safety explosion protection

Certificates and approvals

Drinking water approval (ACS)	applied for
Drinking water approval (WRAS)	applied for
GOST	applied for
Underwriters Laboratories (UL)	applied for
The transmitter is not subject to the pressure equipment directive (PED 97/23/EC)	
Explosion protection	
• Intrinsic safety "i"	IECEx SEV 14.0003 SEV 14 ATEX 0109 II 1 G Ex ia IIC T4 Ga
- Marking	

Junction box

Application	for connecting the transmitter cable
Design	
Weight	0.2 kg (0.44 lb)
Electrical connection	2 x 3-way (28 to 18 AWG)
Cable entry	2 x M20x1.5
Enclosure material	polycarbonate
Vent pipe for atmospheric pressure	
Screw for cable strength cord	
Rated conditions	
Degree of protection according to IEC 60529	IP65

Cable hanger

Application	for mounting the transmitter
Design	
Weight	0.16 kg (0.35 lb)
Material	Galvanized steel, polyamide