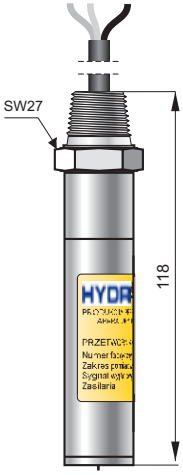
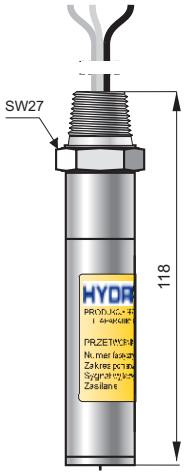
EXPLOSION PROOF PRESSURE TRANSMITTER HPM-21

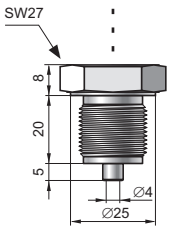
- ✓ **Any range from 0...25 mbar up to 0...1380 bar**
- ✓ **4 ÷ 20 mA two-wire output**
- ✓ **Explosion proof certificate (ATEX, IECEx)**
- ✓ **Marine certificate – DNV, BV**
- ✓ **Communication protocol Modbus RTU**
- ✓ **SIL 1 certificate**
- ✓ **NACE compatibility**

SGM (1/2"NPTM)
cable connection
IP68
(IP66 for gauge pressure <80bar)

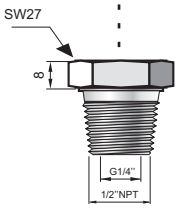


FL (1/2"NPTM)
flying leads
IP68
(IP66 for gauge pressure <80bar)

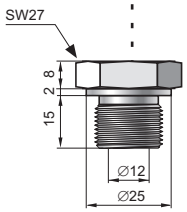




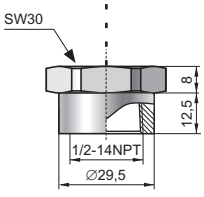
G1/2 type
G1/2″, Ø4 hole



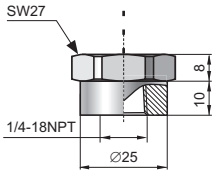
1/2"NPT type
1/2"NPT male +
internal thread G1/4"



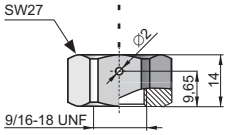
GP type
G1/2″, Ø12 hole



1/2NPTF type
1/2-14 NPT female



1/4NPTF type
1/4-18 NPT female



Autoclave
type F-250-C
(9/16-18 UNF)

Application and construction

The HPM-21 pressure transmitter is applicable to the measurement of the pressure, underpressure and absolute pressure of gases, vapours and liquids.The active sensing element is a piezoresistant silicon sensor separated from the medium by a diaphragm and by specially selected type of manometric liquid.The electronics is placed in a casing with a degree of protection from IP 66 to IP 68.

Measurements under explosion hazard

ATEX Explosion Proof version is available for taking measurements in zones under explosion hazard.

Technical data

Any measuring range 0...25 mbar ÷ 0...1380 bar (over pressure, under pressure); 400 mbar ÷ 80 bar (absolute pressure)

	Measuring range				
	25 mbar	100 mbar	400 mbar	0…1 bar ÷ 160bar	0…160 bar ÷ 1380bar
Overpressure Limit (repeated, without hysteresis)	1 bar	1 bar	2,5 bar	4 x range	2 x range; max. 1600 bar
Damaging Overpressure	2 bar	2 bar	5 bar	8 x range; max. 2000 bar	
Accuracy	0,6%	0,3%	0,2% (0,16% - special version) 0,1% / year		
Long term stability	0,6% / year	0,2% / year			
Thermal error	Typically 0,5% / 10°C Max 0,6% / 10°C	Typically 0,3% / 10°C Max 0,4% / 10°C		Typically 0,2% / 10°C Max 0,3% / 10°C	

Hysteresis, repeatability 0,05%
Response time < 120 ms
Thermal compensation range -10...80°C
Operating temperature range (ambient temp.)
FL electrical connection -40...80°C*
SGM electrical connection -40...65°C*
** more information available in user's manual and certificate*
Medium temperature range -40...130°C

over 130°C – measurement with use an impulse line

CAUTION: the medium must not be allowed to freeze in the impulse line or close to the process connection of the transmitter

Output signal 4...20 mA, two wire transmission
Material of wetted parts 316Lss, Hastelloy C 276
Material of casing 304ss, 316Lss
Power supply 8…30 V DC
version Safety: 10,5…36 VDC
Error due to supply voltage changes 0,005%/ V
Load resistance $R[\Omega] \leq \frac{U_{sup}[V] - 8V}{0{,}02A}$

HPM-21/Exd/Modbus - Technical data*

Metrological parameters

Accuracy ≤ ±0,1%
Long-term stability (for nominal range) ≤ accuracy for 3 years
Thermal error < ±0,1% (FSO) / 10°C
max. ±0,4% (FSO) in the whole compensation range
Thermal compensation range -25...80°C
Additional electronic damping 0...30s

Electrical parameters

Power supply 4…28 V DC
Transmission range 1200 m
Output MODBUS RTU + 4..20 mA
Address space 1…247 devices address
Transmission speed 600…115200 bps
Parity transmission no parity, odd, even
Frame transmission 10…11bits (1, 2 bit-stop)
** more information about electrical parameters available in user's manual*

Communication

Pressure transmitters with communication protocol Modbus RTU. The communication standard for data interchange with the transmitter is the Modbus RTU. Communication with the transmitter is carried out with PC using RS converter and Aplisens software.

Ordering procedure

Model	Code	Description
HPM-21		Pressure transmitter
Versions, certificates	/Exd	II 2G Ex db IIC T6/T5/T4 Gb II 2D Ex tb IIIC T85°C Da
	/Exd (IECEX)	**IECEx** Ex db IIC T6/T5/T4 Gb Ex tb IIIC T85°C/T100°C/T120°C Db
more than one option is available	/MR	Marine certificate – DNV, BV
	/0,16%	Accuracy <0,16% (available for ranges >400mbar)
	/Modbus	Modbus communication protocol (ATEX not available)
	/SIL 1	SIL 1 certificate; only 4..20mA output
	/NACE	NACE MR-01-75 certificate
Measuring range	/...÷... [required units]	Measuring range
Casing, electrical connection	/SGM (1/2"NPTM)	316LSS housing, cable electrical connection (3 m of cable in standard)
	/FL (1/2"NPTM)	316LSS housing, flying leads (2 m of flying leads in standard)
Process connection	/G1/2	Thread G1/2'' (male) with Ø4 hole, wetted parts SS316L
	/P(Hastelloy)	Thread M20x1,5 (male) with Ø12 hole, wetted parts Hastelloy C 276
	/GP	Thread G1/2'' (male) with Ø12 hole, wetted parts SS316L
	/GP(Hastelloy)	Thread G1/2'' (male) with Ø12 hole, wetted parts Hastelloy C 276
	/1/2"NPTM	Thread 1/2''NPT Male, wetted parts SS316L Pressure limits: max. 690bar
	/1/2"NPTF	Thread 1/4''NPT Female, wetted parts SS316L Pressure limits: min. 10bar / max. 690bar
	/1/4"NPTF	Thread 1/4''NPT Female, wetted parts SS316L Pressure limits: min. 10bar / max. 690bar
	/Autoclave	Compatible with Autovalve type F-250-C Pressure limits: min. 400bar / max. 1380bar
Accessories	/MT	Stainless Steel Tag plate mounted on wire
Other specification	/...	Description of required parameters