Type: Precont® PK4SH

Ultra-compact pressure transmitter / pressure switch for general industrial applications

Technical information TI01.19

In brief

up to 600 bar pressure

process temperature 200°C

Protection IP69K

0,15% high accuracy

fast response time

HART® COMMUNICATION FOUNDATION

IEC IECEx

CE Ex

Application

- Machinery and plant engineering
- Air-conditioning and refrigeration plant engineering
- Hydraulic and pneumatic systems
- Process industry
- Environmental technology
- Facility and building automation

Main features

- Measuring ranges from 10 bar up to 600 bar
- Metallic internal diaphragm
- Process temperature range –40°C to +125°C/+200°C
- Fully welded robust steel enclosure
- Ultra-compact construction
- High protection class IP69K/IP67
- Highest accuracy to ≤ 0,15%
- Electronic 4…20mA HART®
- Certification ATEX / IECEx: Ex ia IIC Ga / Ex ia IIIC Da

Description

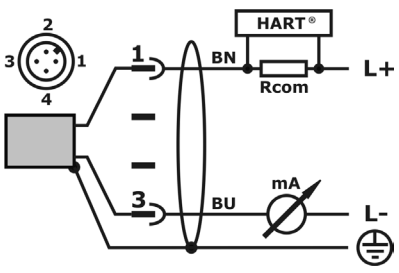
The device is an electronic pressure transmitter / pressure switch for monitoring, control and continuous measurement of pressures.
The pressure transmitter is suitable for demanding measuring requirements, especially at constricted installation situations and high temperature stress.
Due to its high accuracy and the digital adjustability by HART® the device can be suited to a wide variety of applications.
The robust design and the high-quality workmanship turns the device into a very high quality product, which even the most adverse environmental conditions cannot affect, whether the lowest temperatures when used outdoors, extreme shock and vibration stress or aggressive media.
A captive laser marking of the type label ensures the identifiability throughout the entire lifetime of the device.
Obviously is the optional marking of a measurement point designation resp. TAG, a customer label or of a neutral type label, of course also per laser marking.
A factory calibration with calibration certificate and a customer specific configuration resp. preset is also optionally available like factory certifications for drink water suitability.
Customer specific special versions can be realized on request, e.g. special designs for the process connection or other process materials.

Technical Data

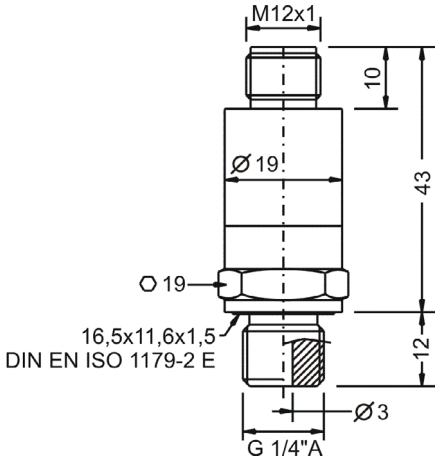
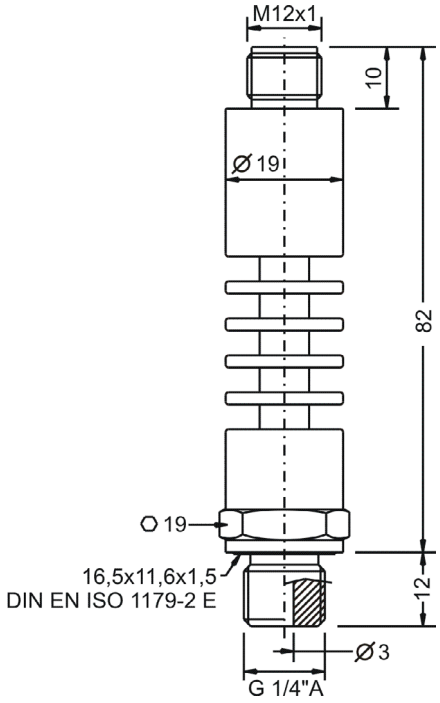
Measuring range	
Nominal pressure PN	0…10bar to 0…600bar
Output type A – Current 4…20mA HART®	
Analogue output 4…20mA	3,9…20,5mA / ≥ 3,8mA / ≤ 22mA / dI ≤ 1µA
Time behavior	T90 ≤ 10ms / ton ≤ 0,2s
Interface	HART®-compliant (7.0) / 1200 Bit/s
Auxiliary power	
Supply voltage Us polarity protected	Type A – 4…20mA HART®: 9…35VDC / Ex: 9…30VDC
Measuring accuracy	
Characteristic deviation	≤ ±0,15%/±0,5%FSO
Long term drift	≤ ±0,2%FSO/year
Temperature deviation	Tk Zero ≤ ±0,015%FSO/K
	Tk Span ≤ ±0,015%FSO/K
Process conditions	
Process temperature	Standard: -40°C...+125°C Extended: -40°C...+200°C
Pressure cycles	≥ 100 Mio. (1,2xPN)
Environmental conditions	
Environmental temperature	-40°C...+125°C
Protection level	IP69K/IP67 (EN/IEC 60529)
MTTF	463 years

Electrical connection

Electronic output type A
Current 4…20mA HART®



Dimensions (mm)

Process temperature type 0 – Standard -40…+125°C Process connection type 3 – Thread ISO 228-1 – G¼"A, DIN EN ISO 1179-2 E	Process temperature type 1 – Standard -40…+200°C Process connection type 3 – Thread ISO 228-1 – G¼"A, DIN EN ISO 1179-2 E
	

Order code

Type
PK4S Standard

Measuring system – material diaphragm (process wetted) / sensor type
H CrNi-steel / strain gauge

Approval
S Standard
X ATEX II 1 G / IECEx Ex ia IIC Ga resp. ATEX II 1 D / IECEx Ex ia IIIC Da

Process connection
3 Thread ISO 228-1 – G¼“A, DIN EN ISO 1179-2 E
Y others

Material process gaskets (process wetted)
1 FPM – fluorelastomere (e.g. Viton®)
Y others

Material process connection (process wetted)
V CrNi-steel

Material terminal enclosure
C CrNi-steel

Measuring range
10 0…10 bar
13 0…40 bar
19 0…100 bar
24 0…600 bar
YY Special measuring range

Electronic – output
A Current 4…20mA, HART®-compliant, 2-wire

Electronic – function
S Standard

Process temperature
0 Standard –40°C…+25°C
1 Extended –40°C…+200°C, temperature decoupler

Pressure type
R Gauge pressure

Measuring system – accuracy
4 0,5%
8 Xcellence – 0,15%, linearization protocol

Electrical connection
S Plug M12x1

Additional options
-ML Measurement point designation / TAG – Laser marking
-KL Customer label on device – Laser marking
-TN Type label neutral
-WT Factory certification – drink water suitability
-KF Configuration / Preset
-WK Factory calibration – calibration certificate

Precont® PK4S		H				V	C		A	S		R		S				

Stand 01/2019