DATASHEET

Pressure Level

Flush Diaphragm Pressure Transmitter For Viscous and Solids-containing Media

Model PWP410/PWP411

Applications

- Food, dairy and beverage processing
- Filling and packing machinery
- Cleaning systems
- Hydraulic fluids
- Waste water treatment
- Level measurement
- Dosing of glues, adhesives, foams and other viscous media

Pressure Level Sensor PWP410/PWP411

Features

- Flush design prevents clogging
- Sanitary or Clean-in Place applications
- Expanded temperature range -40...+150℃
- Measuring range up to 7Mpa
- Free of dead space and easy to clean
- Process connection in high-end stainless steel G1/2” or Tri-clamp 1-1/2”

Description

PWP410 and PWP411 front flush diaphragm pressure transducer have been specifically designed for the measurement of viscous, paste-like, crystallizing, or solids-containing media. Use with sanitary liquids, adhesives, greases, sealants, or frequently changing media, which could clog the pressure channel of conventional process connections.

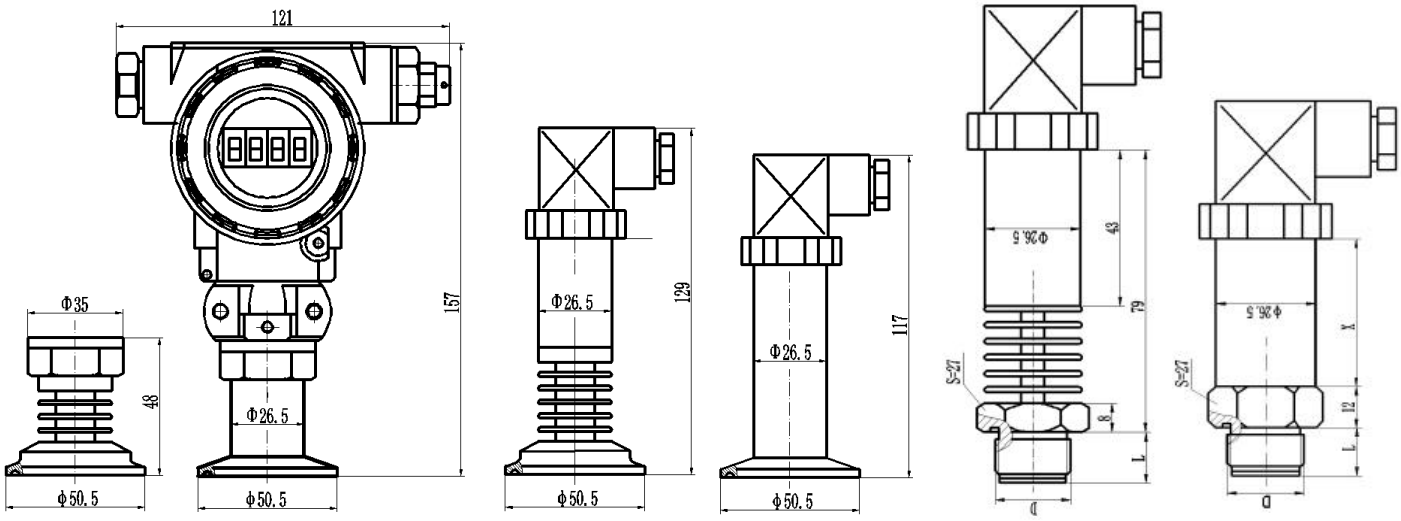
Thanks to the front-flush welded stainless steel membrane, it does not have dead space and is especially easy to clean. Low-maintenance and trouble-free pressure measurement is thus also guaranteed in critical applications with frequently changing media.

For high medium temperatures of up to 150℃, the pressure transmitter is also available with an integrated cooling element. High accuracy, a robust design, high quality workmanship are the key features of the model.

Specifications

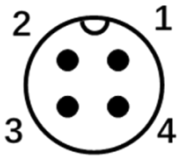
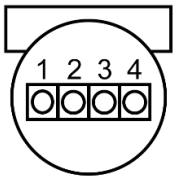
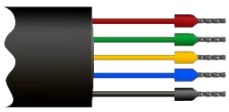
Model	PWP410 / PWP411		
Pressure Type	Relative (gauge) /Absolute pressure/Sealed gauge pressure		
Pressure Range	-0.1MPa ... 0kPa~10kPa …7MPa		
Safe Overload	≤200%FS		
Burst Pressure	300%FS		
Electrical Connection & IP Rating	DIN43650 Hirschmann Connector... IP65 M12*4pins connector... IP67 Directly outlet cable... IP67		
Accuracy	±0.5%FS(Typical), ±0.25%FS, ±0.1%FS optional		
Signal Output & Power Supply	4-20mA(2 wires) 12-30VDC 0.5-4.5V(3 wires) 5VDC 0-5V(3 wires) 8-24VDC 0-10V(3 wires) 12-30VDC --- I^2C 3.3 or 5VDC RS485 Modbus 5-30VDC		
Response Time	≤3ms (10%~90%)		
Medium Compatible	Liquid compatible with ceramic and stainless steel SUS304, SS316L material		
Load Resistance(2 wires)	R≤(U-10)/0.02-RD (U: Power supply, RD: Internal resistance in the cable)		
Total current consumption	Current signal(2wires): Max about 23mA Voltage signal(3wires): <5mA I^2C(4wires): <1.3mA (Available to customize low consumption <5 μA) RS485(4wires): <5mA (Available to customize low consumption <1.1mA)		
Accuracy&Performance	0.1% Accuracy Class	0.25% Accuracy Class	0.5% Accuracy Class
Non-linear (%FS)	≤0.1	≤0.2	≤0.4
Hysteresis (%FS)	≤0.05	≤0.05	≤0.1
Repeatability (%FS)	≤0.05	≤0.05	≤0.1
Long-term Stability (%FS/year)	≤0.1	≤0.2	≤0.5
Zero Temp Drift (%FS/℃)	≤0.01	≤0.03	≤0.05
Compensation Temp.	0℃~+50℃(≤200kPa), -10℃~+60℃(>200kPa)		
Working Temp.	-20℃~+85℃(Typical); -20℃~+150℃(With cooling element)		
Storage Temp.	-40℃~+85℃		
Vibration Environment	10g (@10Hz~2000Hz)		
Impact Resistance	100g/11ms		
Service Life	>10 million load cycles (within measurement range)		
Explosion Proof	Optional		
EMC Standard	EN IEC 61326-1:2021; EN IEC 61326-2:2021		

Dimensions and Drawings



*Unit is mm. Above is typical structures. Other structures and dimensions can be customized.

Electrical Connection

DIN43650 Hirschmann connector					
	Terminal	Current(2wires)	Voltage(3wires)	IIC(4wires)	RS485(4wires)
	1	Vcc	Vcc	Vcc	Vcc
	2	Iout	GND	GND	GND
	3	/	Vout	SCL	RS485A
	⏚	PE	PE	SDA	RS485B
M12 4 pins connector					
	Terminal	Current(2wires)	Voltage(3wires)	IIC(4wires)	RS485(4wires)
	1	Vcc	Vcc	Vcc	Vcc
	2	Iout	GND	GND	GND
	3	PE	Vout	SCL	RS485A
	4	/	PE	SDA	RS485B
Industrial Terminals					
	Terminal	Current(2wires)	Voltage(3wires)	IIC(4wires)	RS485(4wires)
	1	PE	PE	SDA	RS485B
	2	/	Vout	SCL	RS485A
	3	Iout	GND	GND	GND
	4	Vcc	Vcc	Vcc	Vcc
Directly outlet cable					
	Wire Color	Current(2wires)	Voltage(3wires)	IIC(4wires)	RS485(4wires)
	Red	Vcc	Vcc	Vcc	Vcc
	Green	Iout	GND	GND	GND
	Yellow	/	Vout	SCL	RS485A
	Blue	/	/	SDA	RS485B
	Black	PE	PE	PE	PE

How to Order

Example Part Number: 410H[10]HGT1S2C1U2A1M2000

Model No.	PWP410=Tri-clamp flush diaphragm PWP411=Threaded flush diaphragm	410
Electronic Connection	H=DIN43650 Hirschmann terminal box C=Direct outlet cable M=M12 4pins connector LD=LCD digital display(for 4-20mA only) 0=Customized	H
Pressure Range	-0.1MPa … 0kPa~10kPa … 7MPa Directly write in []	[10]
Pressure Units	B=bar P=Psi K=kPa M=MPa H=mH2O I=inWC	H
Pressure Type	G= Gauge/Relative A=Absolute S=Sealed gauge pressure	G
Signal Output	T1=4-20mA(2wires) T2=0-5V(3wires) T3=1-5V(3wires) T4=0-10V(3wires) T5=0.5-4.5V(3wires) T6=I^2C(4wires) T7=RS485(4 wires) T0=Customized	T1
Power Supply	S1=8-24VDC S2=12-30VDC S3=5VDC S4=3.3VDC S5=5-30VDC S0=Customized	S2
Pressure Connection	C1=Clamp Φ50(only for PWP410) C2=G1/2”male C3=G1” male C4=M20x1.5 male C0=Customized	C1
Medium Temp.	U1=-20℃~+85℃(Typical) U2=-20℃~+150℃(With cooling element)	U2
Accuracy	A1=0.5%F.S. A2=0.25%F.S. A3=0.1%F.S.	A1
Housing Material	M1=SUS304(Typical) M2=316L M0=Customized	M2
Cable Length	000=Non-cable 001= 1m cable 002= 2m cable ...	000

*Means to order: Pressure transmitter PWP410 with Hirschmann connector, 0~10 meters water Gauge, 4-20mA, 12-30VDC, G1/4” female, max 150℃, 0.5%FS accuracy, 316L housing material, cable length is 0.

You may also Need

Reference Picture	Description	Product
	To connect with pressure transmitter and to have a site indicator of the measured value, have high&low value alarms, record and control.	Display/indicator/controller PWD Series
	Cast aluminum material with IP67 protection level for submersible pressure transmitter. Moisture-proof sealing design, insulation protection against electric shock. To be placed in dry environment or in a cabinet.	Terminal box 0010

***Tell us medium / which application / measuring range / working temperature / signal output / what you wanna to realize, our sales engineer will recommend suitable model for you.*