

QYB400

High Precision Pressure Transmitter

Overview

QYB400 intelligent pressure transmitter adopts a modular design with a microprocessor as the core and advanced digital isolation technology in circuit design, making the instrument highly anti-interference and stable. The built-in temperature sensor compensates the transmitter, improves measurement accuracy, reduces temperature drift, and has the characteristics of good long-term stability, high reliability, and strong self-diagnosis capability. Structurally, users can easily calibrate, set and configure the transmitter through the HART communication handheld terminal.

It measuring pressure and level in pipes and tanks, electricity/city gas, pulp/paper, for furnace pressure, etc.



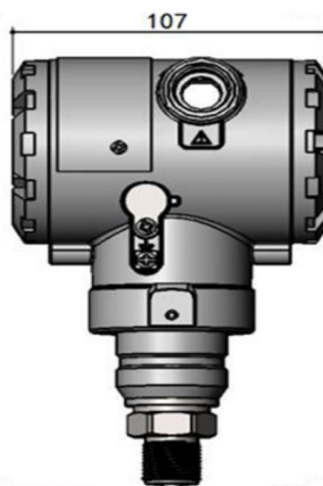
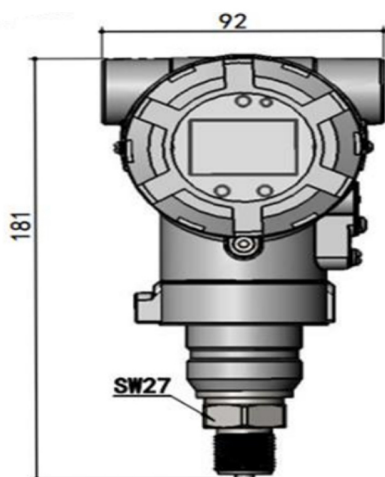
Features

- High accuracy
- Import high-precision monocrystalline silicon sensor chip, accuracy $\leq \pm 0.05\%$.
- Strong load resistance
- Double overload protection diaphragm design, single overvoltage can reach 25MPa.
- Excellent environmental adaptability
- Intelligent static pressure compensation and temperature compensation eliminate the influence of temperature, static pressure and overload on the transmitter, minimizing the comprehensive measurement error on site.
- Excellent long-term stability
- Stability can be maintained at 0.1%F.S/10 years.
- The latest one-click clearing function does not affect the electrical protection level, making it safer and faster
- Flexible remote assistance debugging function
- Realize remote and local parameter setting function configuration through Hart or RS485 communication and panel buttons

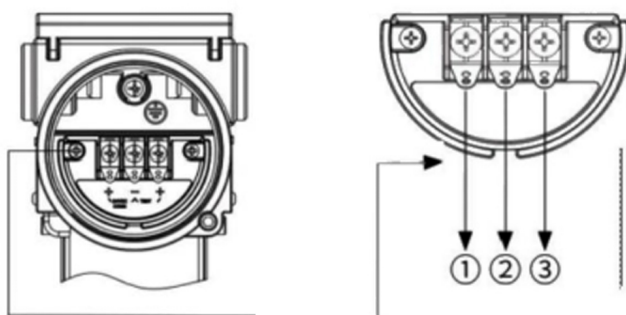
Performance Parameter

Measuring Medium	Measuring the pressure of liquids, gases or vapors
Measurement Type	Gauge Pressure/Absolute Pressure
Output	4~20mA+HART/RS485/FF
Range	(0~0.6)KPa~6KPa/TD: 10:1
	(0~2)KPa~40KPa/TD: 10:1
	(0~2.5)KPa~250KPa/TD: 10:1
	(0~10)KPa~1MPa/TD: 10:1
	(0~30)KPa~3MPa/TD: 10:1
	(0~0.1)MPa~10MPa/TD: 10:1
	(0~0.21)MPa~21MPa/TD: 10:1
	(0~0.4)MPa~40MPa/TD: 10:1
Accuracy	$\pm 0.05\%F.S./\pm 0.075\%F.S./\pm 0.1\%F.S$
If TD>10 (TD=maximum range/adjustment range)	$\pm (0.005*TD)\% / \pm (0.0075*TD)\% / \pm (0.01*TD)\%$
Ambient Temperature Effect	The total influence at (-25~+65)°C is $\pm (0.15*TD+0.05)\%*Span$ The total influence at (-40~-25)°C and (+65~+85)°C is $\pm (0.2*TD+0.05)\%*Span$
Overvoltage Effects	$\pm 0.075\%*Span$
long Term Etability	$\pm 0.1\%*Span/3year$
Power Supply Impact	0.001%/10V(12~36)V DC,Negligible
Insulation Resistance	More than 100MΩ to ground (DC500V)
Dielectric Strength	AC 500V50/60Hz to ground, 1 minute
Ambient Temperature	-40~+85°C -20~+65°C(With display)
Alarm Current Goes Offline	3.6mA
Alarm Current Goes Online	21mA
Process Temperature	-40~125°C
Storage Temperature	-40~+85°C -20~+65°C(With display)
Isolation Diaphragm	SS316L/Hastelloy C-276/Tantalum/Overgild
Process Connection Material	SS304/SS316L
Nuts And Bolts	SS(A2-70)/Galvanized carbon steel(12.8)
Pressure Transmitter Housing	Aluminum alloy material, surface sprayed with epoxy resin/Stainless Steel materials
Sealing Ring	Nitrile rubber (NBR), fluorine rubber (FKM), polytetrafluoroethylene (PTFE)
Housing Seal	Nitrile rubber
Filler	Silicone oil, edible oil, FL oil
Electrical Connections	M20*1.5 cable sealing buckle, terminal block suitable for (0.5~2.5)mm ² wires
Thread	NPT1/2F NPT1/2M G1/2M M20*1.5F
Protection Level	IP65, IP67 (explosion-proof type)
Weight	1.6Kg (without mounting bracket, process connection accessories)

Dimensions



Electrical connection diagram



①	+	Power and HART communication terminals	digital output
②	-		
②	-	External indicator (Ammeter) terminal	
③	+		

Electromagnetic Compatibility Environment

- Electromagnetic Compatibility Schedule
- The performance of this product complies with the requirements of the European EMC directive "Electromagnetic Compatibility Directive 2002/108/EC" standard.
- EN61326-1:2006 Class A (industrial area)

Serial Number	Test Experiment	Basic Standards	Test Conditions	Performance Level
1	30~230MHz	EN55011:1998 +A1:1999/+A2:2002 (Group1 Class A)	40dB(μV/m) quasi-peak, measured at a distance of 10 meters	\
2	230~1000MHz		47dB(μV/m) quasi-peak, measured at 10 meters distance	\

- Anti-interference requirements
- EN61326-1:2006 Table2(industrial area)

3	Electrostatic Discharge	IEC 61000-4-2:1995 +A1:1998+A2:2001	2/4KV(contact) 2/4/8KV(Air)	B
4	Electromagnetic field	IEC 61000-4-3:2002 +A1:2002	10V/m(80~1000MHz) 3V/m(1.4~2.0GHz) 1V/m(2.0~2.7GHz) 80%Am(1KHz)	A
5	Rated Power Frequency Electromagnetic Field	IEC 61000-4-8:1993 +A1:2001	30A/m 50/60Hz	A
6	Burst	IEC 61000-4-4:2004	2KV	B
7	Surge	IEC 61000-4-5:1995 +A1:2001	1.2/50μs(Voltage) 8.0/20μs(Current) 0.5/1kV Fire Wire - Fire Wire 0.5/1/2kV Fire Wire - Bottom Wire	B
8	Conducted RF	IEC 61000-4-6:1996+A1:2001	0.15~80MHz 3V 80%AM(1KHz)	A

Performance standard definition:

A: During the measurement process, it meets the standard performance index requirements.

B: During the measurement process, there is a temporary performance degradation or loss of function/performance, but it can recover on its own.

Ordering Guide

QYB400	High Precision Pressure Transmitter	
GP/AP	Code	Connection Type
	GP/AP	Thread
	GT/AT	Process type single flange(DN25~DN150)
	GF/AF	Direct-connected remote flange(DN25~DN150)
GP	Code	Pressure Type
	GP	Gauge Pressure
	AP	Absolute Pressure
OB	Code(Range)	
	OB (0~0.6)KPa~6KPa	OG (0~3.0)KPa~3MPa
	OC (0~2)KPa~40KPa	OH (0~0.1)MPa~10MPa
	OE (0~2.5)KPa~250KPa	OI (0~0.21)MPa~21MPa
	OF (0~10)KPa~1MPa	OJ (0~0.4)MPa~40MPa
E	Code	Output
	E	4-20mA+HART
	R	RS485
C1	Code	Thread
	C1 M20X1.5(M) end seal	C7 NPT1/8(M)
	C2 M20X1.5(M)waterline seal	C8 NPT1/8 (F)
	C3 G1/4(M)	C9 NPT1/4 (M)
	C4 G1/4(F)	C10 NPT1/4(F)
	C5 G1/2 (M)end seal	C11 NPT1/2(M)
	C6 G1/2(M)waterline seal	C12 NPT1/2(F)
S	Code	Isolation Diaphragm
	S	SS316L
	C	HC-276
	T	Tantalum
	L	Titanium
	G	SS316L gold plated
G	Code	Sensor Filling fluid
	G	Silicone oil
	F	Fluorine oil
	S	Edible oil
E0	Code	Explosion-proof Certification
	EO	Non-explosion Proof
	E1	Exia IIBT6Ga
	E2	Exdb CT6Gb
	E3	Extd A21P67 T85°C
W	Code	Mounting Brackets
	W	No mounting bracket
	U	Elbow bracket, stainless steel