

# PT-D1 Pressure Transmitter



## Features

- Wider pressure range
- Full stainless steel construction; optional pressure port; flush diaphragm type, sanitation type and anti-corrosive type are available; protection IP65
- Optional output signal; local calibration and displayable
- Reversed-polarity, transient current & voltage protection, which conform to EMI standard
- Intrinsic safe ex-proof version conforming to GB3836.4 Exia II CT6 Ga Regulation; Ex-proof Certificate is issued
- EXD product conforming to GB3836.2 Exd II CT6 Gb Regulation; EXD Certificate is issued
- Ship-use product conforming to CCS Rules of Classification of Sea-going Steel Ships(2018); Ship-use Certificate is issued
- CE and RoHS Certificates
- National patent, patent No.: ZL002 26957.0

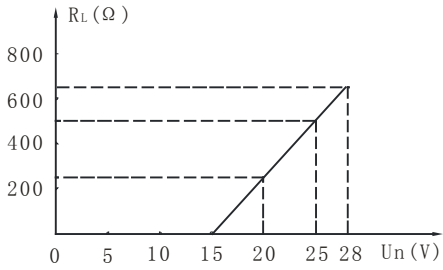
**Introduction** PT-D1 transmitter uses piezoresistive OEM pressure sensor with isolated stainless steel diaphragm as signal sensing element, through automatic testing, laser trimming compensating zero and sensitivity in wider temperature range; the amplifier circuit is in stainless steel housing, transforming sensor signal into standard output signal. Through strict component making, semi-finished product and all-finished product testing and aging, the transmitter is stable and reliable, having excellent flexibility, sensitivity and diversity. The product is widely used for pressure measure and control of petroleum, chemi-industry, metallurgy, power station and hydrology, etc.

## Specification

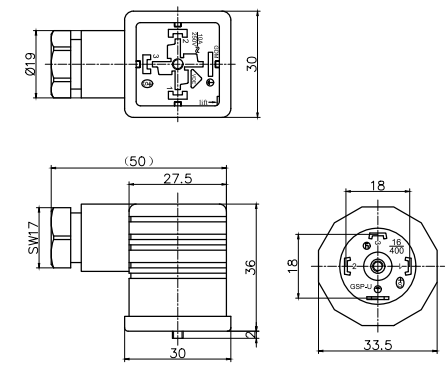
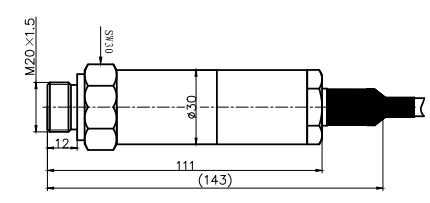
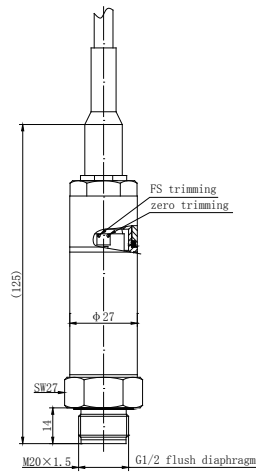
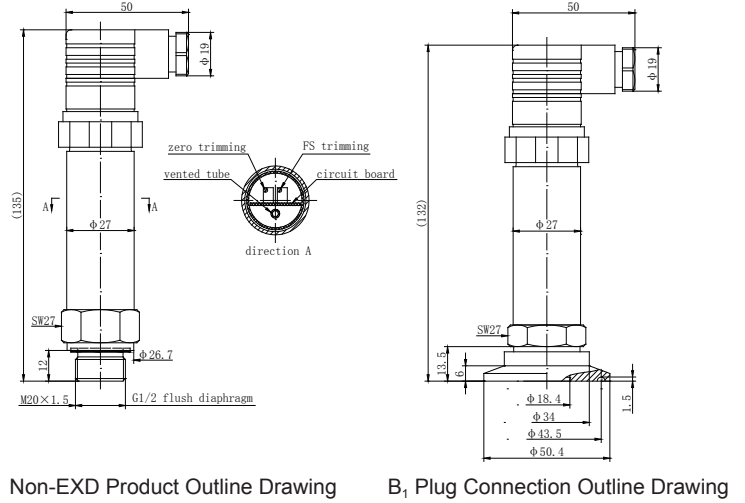
- Pressure range: -1bar...0bar~ 0.1bar...1000bar
- Overpressure: 1.5 times FS or 1100bar(min. value is valid)
- Pressure type: gauge, absolute or sealed gauge
- Accuracy: 0.25%FS(typ.); 0.5%FS(max.)
- Long-term stability: 0.2%FS/year
- Zero temp. drift: 0.03%FS/°C ( $\leq 1$ bar); 0.02%FS/°C ( $> 1$ bar)
- FS temp. drift: 0.03%FS/°C ( $\leq 1$ bar); 0.02%FS/°C ( $> 1$ bar)
- Operation temp.: -30°C ~80°C ; -10°C ~70°C (Cable);  
-10°C ~60°C (Exia); -20°C ~60°C (EXD)
- Storage temp.: -40°C ~120°C ; -20°C ~85°C (Cable)
- Power supply: 15V~28V DC (This case through the safety grid power supply)
- Output signal: 4mA ~20mA DC; 0mA~10/20mA DC;  
0/1V~5/10V DC
- Transmitting: 2-wire                      3-wire                      3-wire
- Load:  $\leq (U-15)/0.02\Omega$        $\leq (U-15)/0.02\Omega$        $> 100k$
- Protection: IP65
- Electric connection: Plug connection or 1.5m cable connection
- Housing: stainless steel 304
- Diaphragm: stainless steel 316L
- O-ring: Viton
- Rubber casing: NBR

## Load Characteristic

- 2-wire, 4mA~20mA DC output
- 3-wire, 0mA~10/20mA DC output
- 15V~28V DC power supply
- $RL < (Un-15)/0.02$  ( $\Omega$ )



## Outline Construction (Unit: mm)



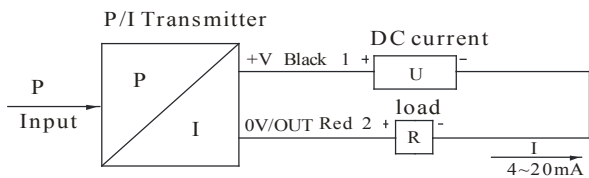
### Electrical Connection

Plug Connection:

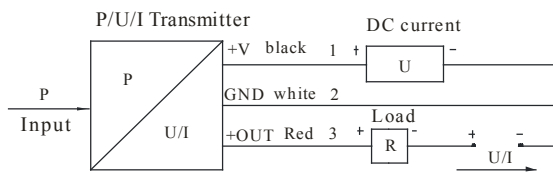
Pin	2-wire	3-wire
1	+V	+V
2	0V/+OUT	GND
3	Null	+OUT

Cable Connection:

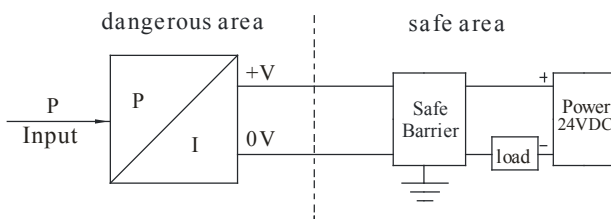
Wire color	2-wire	3-wire
Black	+V	+V
Red	0V/+OUT	+OUT
White	Null	GND



Electrical Connection for transmitter output 2-wire 4mA~20mA DC



Electrical Connection for transmitter 3-wire 0/1V~5V DC, 0mA~10/20mA DC



Electrical Connection for Ex-proof transmitter (Intrinsic safe system 2-wire 4mA~20mA DC)

Transmitter Ex-proof parameter:

Ui: 28V DC li: 93mA DC

Li: 0mH Ci: 0.044uF

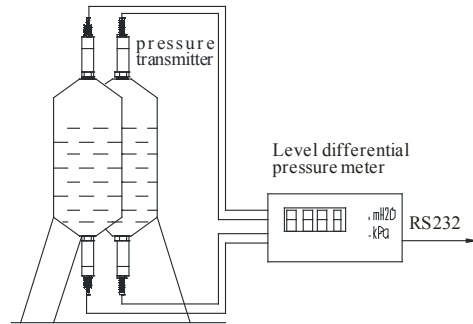
Pi: 0.65W

Safe barrier's ex-proof parameter:

Uo: 28V DC Io: 93mA DC

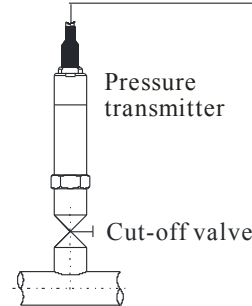
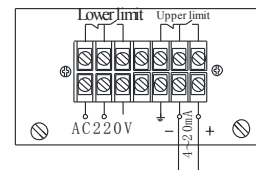
Po: 0.65W

### Application Example



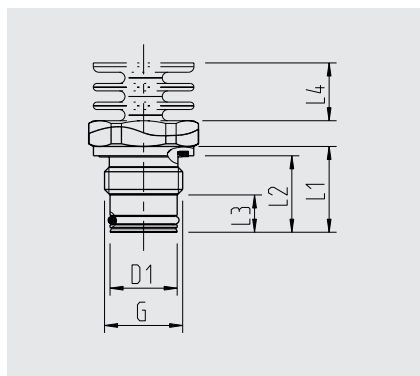
Flush diaphragm transmitter installed on beer tank to measure level

#### Instruments

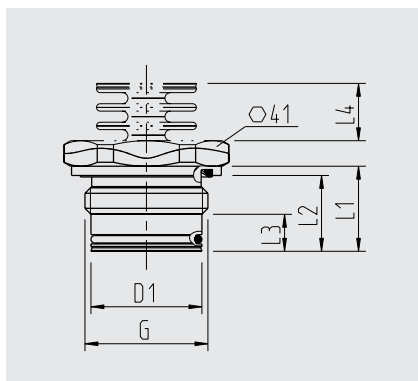


General transmitter installed on tube to measure pressure

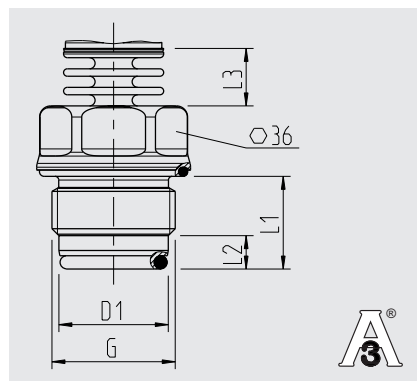
## Process connections



G	D1	L1	L2	L3	L4
G 1/2 B	18 (0.71)	23 (0.91)	20.5 (0.81)	10 (0.4)	15.5 (0.61)



G	D1	L1	L2	L3	L4
G 1 B	30 (1.19)	23 (0.91)	20.5 (0.81)	10 (0.4)	15.5 (0.61)





G	D1	L1	L2	L3
G 1 B hygienic	29.5 (1.17)	25 (0.99)	9 (0.36)	15.5 (0.61)

Surface roughness of wetted metallic parts, Ra ≤ 0.76 µm

For information on tapped holes and welding sockets, see Technical information IN 00.14 at [www.wika.com](http://www.wika.com).

## Accessories

### Welding socket

	Designation	Order number
	Welding socket for G 1/2 B flush	1192299
	Welding socket for G 1 B flush	1192264
	Welding socket for G 1 B hygienic flush	14145179
	Welding socket for G 1 B hygienic flush with leak-control channel Fulfils the 3-A Sanitary Standards	 14145183

For further adapter systems for measuring instruments with G 1 B hygienic process connection, see data sheet AC 09.20.

### Mating connector

Designation	Order number			
	without cable	2 m cable, shielded	5 m cable, shielded	10 m cable, shielded
Angular connector DIN 175301-803 A				
■ with cable gland, metric	11427567	14100465	14100466	-
■ with cable gland, conduit	11022485	-	-	-
Circular connector M12 x 1 (4-pin)				
■ straight	-	14086880	14086883	14086884
■ angled	-	14086889	14086891	14086892

## Order Guide

PT-D1		Pressure Transmitter			
Range		Pressure range: -1bar...0bar~0.1bar...1000bar			
[0~X]bar		X= actual pressure range			
Code		Output signal			
E		4mA~20mA DC			
F		1V~5V DC			
J		0V~5V DC			
Q		0mA~10mA DC			
U		0mA~20mA DC			
V		0V~10V DC			
Code		Construction material			
		Diaphragm	Pressure port	Housing	
22		SS 316L	SS	SS	
24		SS 316L	SS 316L	SS 316L	
25		Tantalum	SS	SS	
35		Tantalum	Hastelloy C	SS	
Code		Other			
B <sub>1</sub>		Plug connection			
B <sub>2</sub>		Cable connection cable length: 1.5m			
B <sub>3</sub>		7-pin plug connection			
PC <sub>1</sub>		Flush diaphragm, M20×1.5 male			
PC <sub>3</sub>		Flush diaphragm, G1/2 male			
P <sub>3</sub>		Sanitationtype:-1bar...0bar~0.2bar...20bar,DN25clamp connection			
M <sub>6</sub>		4 digits LED digital indicator(only for 4mA~20mA) Non-explosion-proof or non-inspection products			
M <sub>7</sub>		4 digits LCD digital indicator(only for 4mA~20mA) Non-explosion-proof or non-inspection products			
i		Intrinsic safe version Exia II CT6 Ga			
T		Ship-use			
d		G 1" mail			
C <sub>1</sub>		M20×1.5 male, face type seal			
C <sub>3</sub>		G1/2 male			
C <sub>5</sub>		M20×1.5 male, waterline seal			
Code		Other			
G		Gauge			
A		Absolute			
S		Sealed gauge			
PT-D1	[0~1]bar	E	22	B <sub>1</sub> PC <sub>3</sub> G	the whole spec.

## Notes:

- Please pay attention that the media should be compatible with contacting material;
- Please pay attention for transmitter with LCD or LED, the power supply of the transmitter should not be less than 20V DC;
- When users choose LED digital indicator (M<sub>6</sub>), environment temperature range for transmitter:-20℃ ~ 70℃ ; for LCD digital indicator (M<sub>7</sub>), Range:-10℃ ~60℃ .Table head Settings refer to our company table head selection,which can be obtained from our website;
- The measurement range of flush membrane (PC<sub>1</sub>, PC<sub>3</sub>) transmitters is 0bar ~ 0.7bar...350bar;
- If ordering products need metrological verification certificate,or other special requirements,please contact us and indicate in the order.