HIKMICRO

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Pressure Transmitter

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Contents

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PS pressure transmitter is a high-precision pressure/differential pressure transmitter developed by HIKMICRO with the world's advanced design concepts and processes. This product adopts the world's advanced single-crystal silicon composite sensor, advanced integral diaphragm box structure and the latest microprocessor technology, with a maximum accuracy of 0.05% and a stability of up to ±0.15%/10 years. It has a longer service life and is safer, more reliable and convenient to use. High-reliability electronic modular design, precise temperature and linear correction system and intelligent manufacturing technology ensure the high precision, high stability and consistency of the product.

The product has complete intelligent diagnosis, simulation, monitoring, local configuration and multiple communication functions, complete specifications of liquid contact materials, high-level electromagnetic compatibility and lightning protection performance, and has been widely used in pressure, and liquid level measurement in industries such as electric power, metallurgy, chemical industry, coal chemical industry, petroleum, petrochemical, environmental protection, food processing, medicine, building materials, light industry, etc.

Benefits

- The central sensing unit adopts the world's leading high-precision single-crystal silicon technology, platinum grade ±0.05 %.
- Double overload protection diaphragm design, one-way overpressure up to 40MPa.
- The optimal static pressure error is within ±0.05 %/10MPa, which is far beyond the reach of capacitive products in the same situation.
- The optimal temperature performance is within ±0.04 %/10K, and the temperature effect is minimal.
- The maximum range ratio adjustment is 100:1, which provides wider adaptability.
- Long-term drift: ±0.15 %/10 years;
- Power supply influence: ±0.001 %/10V (12-36V DC), negligible;

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PS00-A/B/C Differential Pressure Transmitter

The PS00-A/B/C is a high precision differential and pressure of liquid, gas or steam, and then convert it into 4~20mADC HART current signal output.

This series of products provides HART and 485-Modbus communication protocols.

This series of products consist of two categories: Mi cro Differential Pressure Transmitter and Standard Differential Pressure Transmitter. For the micro differential pressure transmitter, the span can be as low as 0.1kPa~1 kPa.

Micro Differential Pressure

STANDARD SPECIFICATIONS

SPAN AND RANGE LIMITS

Measurement Span/Range		kPa	inH2O	mbar	mmH2O	psi
A	Span	0.1~1	0.4~4	1~10	10~100	0.015~0.145
	Range	-1~1	- 4~4	-10~10	-100~100	-0.145~0.145

PERFORMANCE SPECIFICATIONS

Range ratio (TD): Maximum range ratio = 10:1
Long-term stability: ± 0.25% URL/10 years

Reference Accuracy of Calibrated Span

Measurement Span		A
PS00-C	TD<=2.5	±0.1%

Ambient Temperature Effects on Accuracy

Pressure Transmitter in Different Temperature		Total Effects
PS00-C	-40°C ~-25°C	± (0.2×TD+0.05)%×Span

	-25°C ~65°C	± (0.15×TD+0.05)%×Span Every 10°C: ±0.08%xSpan (TD=1)
	65°C ~85°C	± (0.2×TD+0.05)%×Span

Over Span Effects on Accuracy

Pressure Transmitter	Effect
PS00-C	±0.1%×Span

Static Pressure Effects per 10MPa on Accuracy

Pressure Transmitter		Effect (per 10MPa)
PS00-C	Without Static Pressure Chip	±0.5% URL + 0.1% Span
	With Static Pressure Chip	±0.025% URL + 0.05% Span

Square Root Output Accuracy

The square root accuracy is 1.5 times of reference accuracy.

Power Supply Effects on Accuracy

±0.001%/10V (12~36VDC), negligible

Mounting Position Effects

Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.4 kPa (1.6 inH2O) which can be corrected by the zero adjustment.

Response Time

The amplifier element damping constant is 0.1s and the sensor time constant is 0.1 to 1.6s, depending on the span and range ratio. The additional adjustable time constant is 0.1 to 60s. The effect on non-linear outputs (e.g. square root output function) depends on this parameter and can be calculated accordingly.

Warm-up Time

< 15 s

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FUNCTIONAL SPECIFICATIONS

Span Upper & Lower Limits

It can be adjusted arbitrarily within the upper and lower limits of the Span. It is recommended to select a Span code with the lowest possible range ratio to optimize performance characteristics.

Zero Adjustment Limits

The zero point and span can be adjusted to any value within the measuring range of the pressure transmitter as long as: the calibrated span ⩾ the minimum span.

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA .
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault
- Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

-40 to 85°C (–40 to 185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

- 50 to 85°C (-58 to 185°F)
- 25 to 85°C (-13 to 185°F) with LCD display

Ambient Humidity Limits

0 -100% RH

Work Pressure Limits

- Rated Working Pressure: 0.2MPa, 7MPa;
- Static Pressure Limit: From 3.5KPa absolute pressure to rated pressure, the protection pressure can be greater than 1.5 times the rated pressure and applied to both sides of the transmitter at the same time;
- One-Way Overload Limit: One-way overload can reach rated pressure;

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires .

Process Connection

The process connection ends have 1/4 NPT, 7/16 UNF and M10 internal threads.

Materials

Measuring Capsule	Stainless Steel 316L
Capsule Diaphragm	Stainless steel 316L, Hastelloy C, Stainless steel 316L gold-plated, Stainless steel 316L FEP-coated, Tantalum
Process Flange	Stainless Steel 316
Nuts & Bolts	Stainless Steel (A2-70), Galvanized Carbon Steel (Grade 12.8)
Process Connection	Stainless Steel 316
Fill Fluid	Silicone Oil, Fluorine Oil
Capsule Gasket	Nitrile Rubber(NBR), Fluor rubber(FKM), Polytetrafluoroethylene (PTFE)
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

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Weight

3.3 Kg (referring to aluminum alloy case, without LCD display, mounting bracket, process connection)

Degrees of Protection

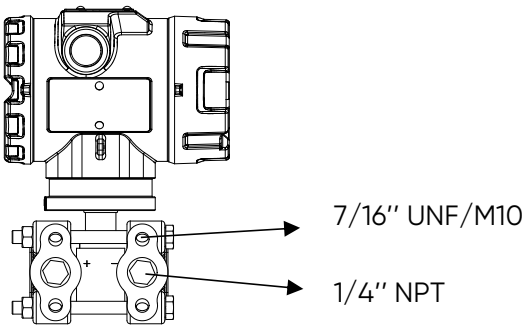
IP66/67

MODEL AND SUFFIX CODES

Model	Suffix Codes	Description
PS00	----------	Differential pressure transmitter
Accuracy	-C----------	0.1%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	A----------	0-100Pa~1kPa
Static pressure chip *1	N---------- 1----------	None 40MPa static pressure chip
Capsule diaphragm	S---------- H---------- G---------- F---------- T----------	Stainless steel 316L Hastelloy C (Hc) Stainless steel 316L gold plated Stainless steel 316L coated with FEP Tantalum
Fill fluid	1---------- 3----------	Silicone oil Fluorine oil
Rated working pressure	1---------- 2----------	0.2 MPa 7 MPa
Process connection *2	B---------- D---------- O---------- U---------- V---------- E---------- F---------- G---------- H---------- J----------	1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the lower side of the flange 1/4" NPT and 7/16" UNF threaded holes, no vent valve 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the upper side of the flange Vertical mounting flange, 1/4" NPT and 7/16" UNF threaded holes, with vent valve 1/4" NPT and M10 threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and M10 threaded holes, the vent valve is installed on the lower side of the flange 1/4" NPT and M10 threaded holes, no vent valve 1/4" NPT and M10 threaded holes, the vent valve is installed on the upper side of the flange Vertical mounting flange, 1/4" NPT and M10 threaded holes, with vent valve
Capsule gasket	N---------- F---------- P----------	Nitrile rubber (NBR) Fluor rubber (FKM) Polytetrafluoroethylene (PTFE)
Housing	-T---------- -G----------	Aluminum alloy housing Stainless steel housing
Electrical connection *3	1---------- 2----------	M20×1.5 1/2'' NPT
Process connection accessories *4	N---------- 1---------- 2----------	None 1/2" NPT internal threaded stainless steel oval flange M20×1.5 external thread stainless steel T-shaped connector
LCD display *5	N---------- 1---------- 2----------	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N---------- D----------	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N---------- 1---------- 2---------- 3----------	None Square root output Lightning protection function Oil-free treatment

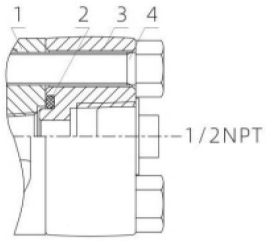
*1: If "Rated working pressure" is chosen as "7MPa", please choose "1: 40MPa static pressure chip".

*2: The process connection refers to the holes below.



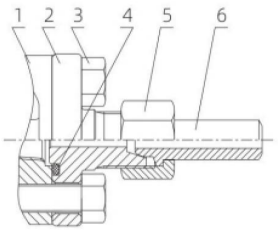
*3: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*4: Drawings of process connection accessories



1. Flange
2. O ring
3. NPT 1/2 oval-shaped
4. Bolt

Oval-shaped Flange with 1/2 NPT Internal Thread



1. Flange
2. M20×1.5 Male thread T shaped connector
3. Bolt
4. O ring
5. Nuts ∅14×3.5
6. Joining pipe

T Shaped Connector with M20x1.5 External Thread

*5: If Output signal is selected as "485-modbus communication", only LCD is available.

Selection example:

Example: PS 00-C1ANS11ON-T1N1NN

[C]: Accuracy level is 0.1 %

[1]: Output signal and communication are 4 ~20 mA, HART communication

[A]: Measurement span is 0-100Pa~1kPa

[N]: No static pressure chip

[S]: Wetted part is stainless steel 316L diaphragm

[1]: Fill liquid is silicone oil

[1]: Rated working pressure is 0.2MPa

[O]: 1/4" NPT and 7/16" UNF threaded holes, no drain valve

[N]: Wetted seal material is nitrile rubber (NBR)

[T]: Housing material is aluminum alloy

[1]: Electrical connection is M20×1.5

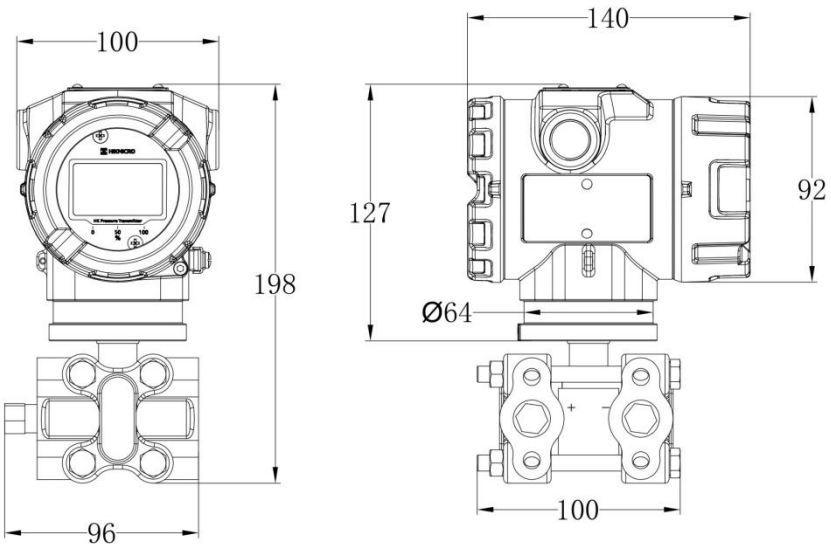
[N]: No process connection accessories

[1]: LCD backlight display

[N]: Non-explosion proof

[N]: No special functions.

DIMENSIONS

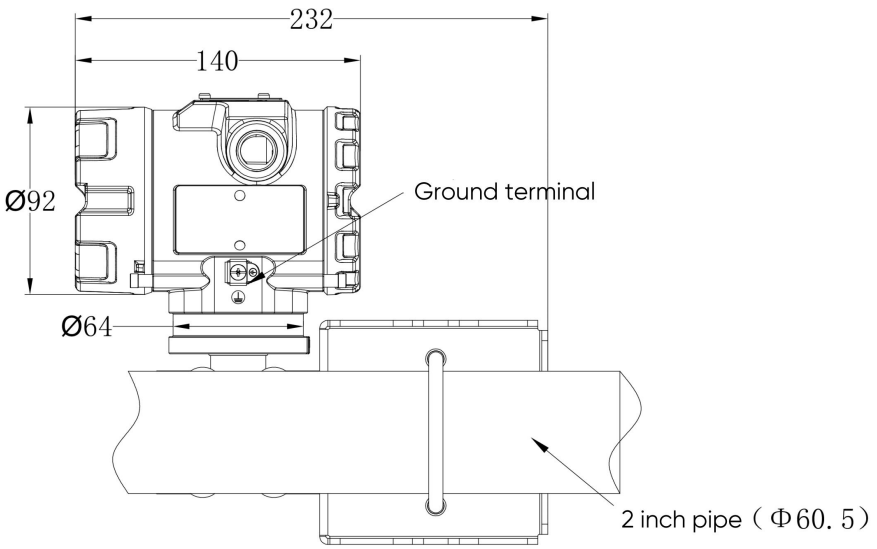


Unit:mm

INSTALLATION

Horizontal Impulse Pipe

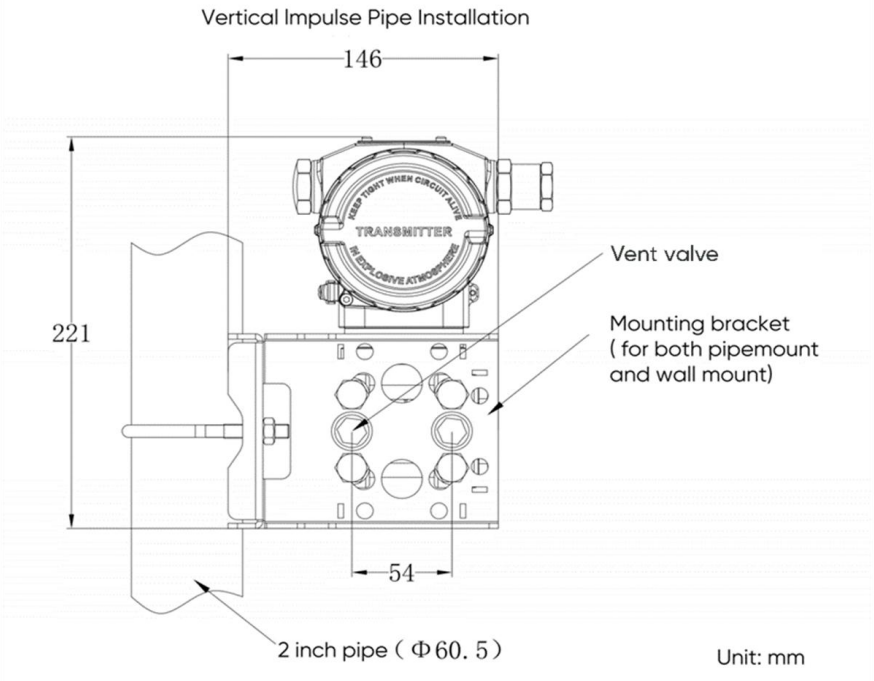
Horizontal Impulse Pipe Installation



Unit: mm

Vertical Impulse Pipe

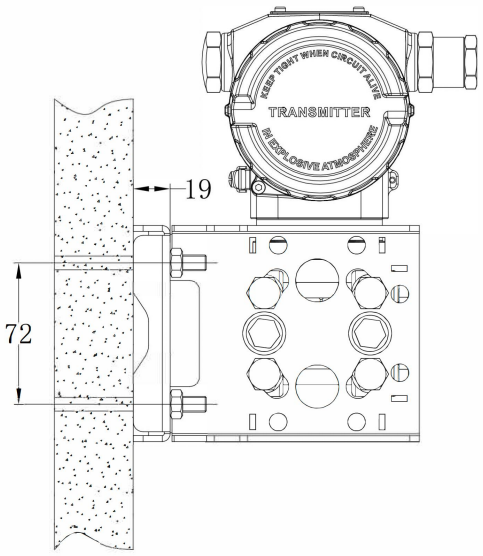
Vertical Impulse Pipe Installation



Unit: mm

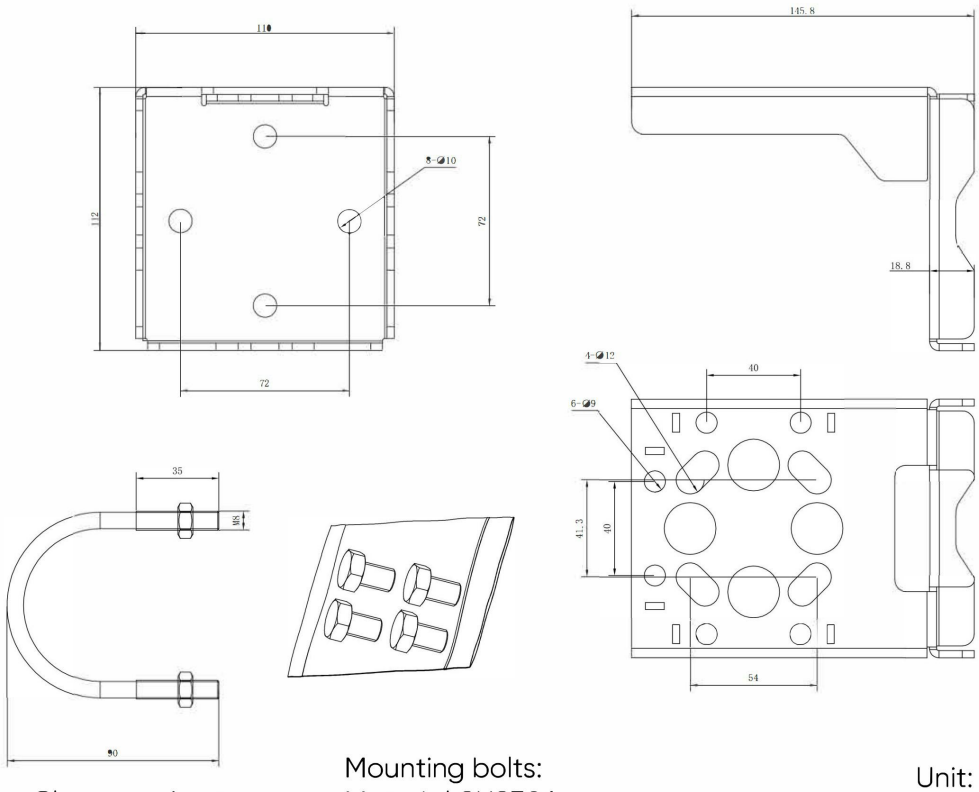
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for differential pressure transmitter: material SUS304



Clamp and nut:
material SUS304

Mounting bolts:
Material SUS304
Specifications: 7/16-20*15 or M10*15, optional

Unit: mm

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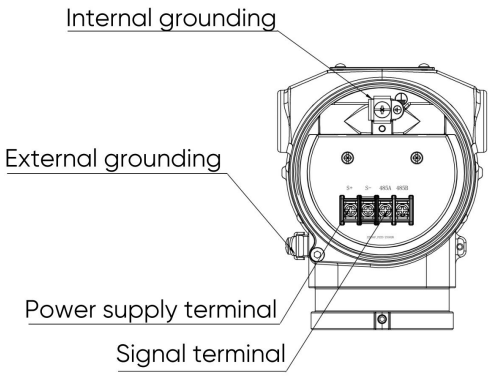
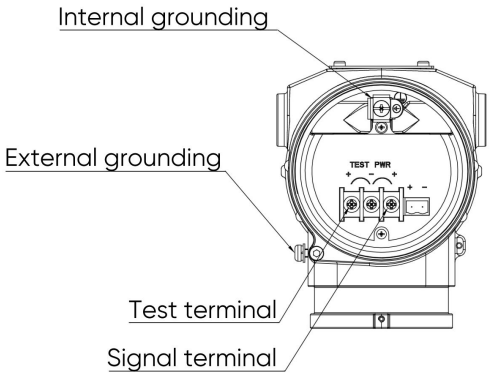
TERMINAL CONFIGURATION



485



HART

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Standard Differential Pressure Transmitter

STANDARD SPECIFICATIONS

SPAN AND RANGE LIMITS

Measurement Span/Range		kPa	inH2O	mbar	mmH2O	psi
B	Span	0.2~6	0.8~24	2~60	20~600	0.029~0.870
	Range	-6~6	- 24~24	-60~60	-600~600	-0.870~0.870
C	Span	0.4~40	1.6~160	4~400	400~4000	0.058~5.802
	Range	-40~40	-160~160	- 400~400	- 4000~4000	-5.802~5.802
D	Span	2.5~250	10~1000	25~2500	0.25~25mH2O	0.363~36.30
	Range	-250~250	- 1 000~1000	- 2500~2500	- 25~25mH2O	-36.30~36.30
E	Span	10~1000	40~4000	0.1~10bar	1~100mH2O	1.450~145
	Range	-1000~1000	-4000~4000	-10~10bar	-100~100H2O	-145~145
F	Span	30~3000	120~12000	0.3~30bar	3~300mH2O	4.351~435.1
	Range	-3000~3000	-12000~12000	-30~30bar	-300~300H2O	-435.1~435.1

Note: PS00-A: supports span C- span F; PS00-B /C: supports span B - span F

PERFORMANCE SPECIFICATIONS

Range ratio (TD): Maximum range ratio = 100:1
Long-term stability: ± 0.15% URL/10 years

Reference Accuracy of Calibrated Span

Measurement Span		B
PS00-B	TD<=6	±0.075%
PS00-C	TD<=6	±0.1%

Measurement Span		C/D/E/F
PS00-A	TD=1	±0.05%
	TD>1	Please confirm with HIKMICRO.
PS00-B	TD<=10	±0.075%
	TD>10	Please confirm with HIKMICRO.
PS00-C	TD<=10	±0.1%
	TD>10	Please confirm with HIKMICRO.

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Ambient Temperature Effects on Accuracy

Pressure Transmitter in Different Temperature		Total Effects
PS00-A	-40°C ~-25°C	± (0.1×TD+0.025)%×Span
	-25°C ~65°C	±(0.075×TD+0.025)%×Span Every 10°C: ±0.08%xSpan (TD=1)
	65°C ~85°C	± (0.1×TD+0.025)%×Span
PS00-B/C	-40°C ~-25°C	± (0.2×TD+0.05)%×Span
	-25°C ~65°C	± (0.15×TD+0.05)%×Span
	65°C ~85°C	± (0.2×TD+0.05)%×Span

Over Span Effects on Accuracy

Pressure Transmitter	Effect
PS00-A	±0.05%×Span
PS00-B/C	±0.075%×Span

Static Pressure Effects per 10MPa on Accuracy

Pressure Transmitter in Different Span		Effect (per 10MPa)
PS00-A	C/D/E/F	±0.025% URL + 0.05% Span
PS00-B	B	±0.45% URL + 0.05% Span
	C/D/E/F	±0.075% URL + 0.05% Span
PS00-C	B	±0.55% URL + 0.05% Span
	C/D/E/F	±0.25% URL + 0.05% Span

Overpressure Effects on Accuracy

Pressure Transmitter	Effect
PS00-A	± 0.05%×Span /10MPa
PS00-B/C	± 0.1%×Span /10MPa

Square Root Output Accuracy

The square root accuracy is 1.5 times of reference accuracy.

Power Supply Effects on Accuracy

±0.001%/10V (12~36VDC), negligible

Mounting Position Effects

Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.4 kPa (1.6 inH2O) which can be corrected by the zero adjustment.

Response Time

The amplifier element damping constant is 0.1s and the sensor time constant is 0.1 to 1.6s, depending on the span and range ratio. The additional adjustable time constant is 0.1 to 60s. The effect on non-linear outputs (e.g. square root output function) depends on this parameter and can be calculated accordingly.

Warm-up Time

< 15 s

FUNCTIONAL SPECIFICATIONS

Span Upper & Lower Limits

It can be adjusted arbitrarily within the upper and lower limits of the Span. It is recommended to select a Span code with the lowest possible range ratio to optimize performance characteristics.

Zero Adjustment Limits

The zero point and span can be adjusted to any value within the measuring range of the pressure transmitter as long as: the calibrated span ⩾ the minimum span.

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA .
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA

- No Alarm Mode (hold): Maintain the effective current value before the fault
- Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

-40 to 85°C (–40 to 185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

- 50 to 85°C (-58 to 185°F)
- 25 to 85°C (-13 to 185°F) with LCD display

Ambient Humidity Limits

0 -100% RH

Work Pressure Limits

- Rated Working Pressure: 16MPa, 25MPa, 40MPa;
- Static Pressure Limit: From 3.5KPa absolute pressure to rated pressure, the protection pressure can be greater than 1.5 times the rated pressure and applied to both sides of the transmitter at the same time;
- One-Way Overload Limit: One-way overload can reach rated pressure;

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires .

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Process Connection

The process connection ends have 1/4 NPT, 7/16 UNF and M10 internal threads.

Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C, Stainless steel 316L gold-plated, Stainless steel 316L FEP-coated, Tantalum
Process Flange	Stainless Steel 316
Nuts & Bolts	Stainless Steel (A2-70), Galvanized Carbon Steel (Grade 12.8)
Process Connection	Stainless Steel 316
Fill Fluid	Silicone Oil, Fluorine Oil
Capsule Gasket	Nitrile Rubber(NBR), Fluor rubber(FKM), Polytetrafluoroethylene (PTFE)
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

3.3 Kg (referring to aluminum alloy case, without LCD display, mounting bracket, process connection)

Degrees of Protection

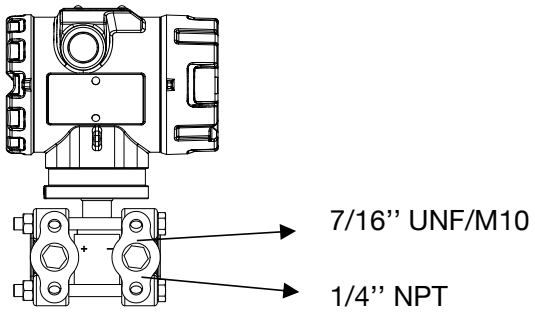
IP66/67

MODEL AND SUFFIX CODES

Model	Suffix Codes	Description
PS00	----------	Differential pressure transmitter
Accuracy	-A---------- -B---------- -C----------	0.05% 0.075% 0.1%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	B---------- C---------- D---------- E---------- F----------	0-200Pa~6kPa 0-400Pa~40kPa 0-2.5kPa~250kPa 0-10kPa~1MPa 0-30kPa~3MPa
Static pressure chip	N----------	None
Capsule diaphragm	S---------- H---------- G---------- F---------- T----------	Stainless steel 316L Hastelloy C (Hc) Stainless steel 316L gold plated Stainless steel 316L coated with FEP Tantalum
Fill fluid	1---------- 3----------	Silicone oil Fluorine oil
Rated working pressure	3---------- 4----------	16 MPa 25 MPa

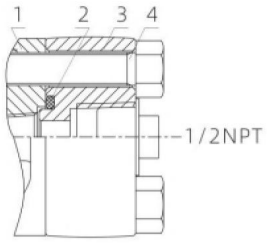
	5----------	40 MPa
Process connection *1	B----------	1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the rear end of the flange
	D----------	1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the lower side of the flange
	O----------	1/4" NPT and 7/16" UNF threaded holes, no vent valve
	U----------	1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the upper side of the flange
	V----------	Vertical mounting flange, 1/4" NPT and 7/16" UNF threaded holes, with vent valve
	E----------	1/4" NPT and M10 threaded holes, the vent valve is installed on the rear end of the flange
	F----------	1/4" NPT and M10 threaded holes, the vent valve is installed on the lower side of the flange
	G----------	1/4" NPT and M10 threaded holes, no vent valve
	H----------	1/4" NPT and M10 threaded holes, the vent valve is installed on the upper side of the flange
	J----------	Vertical mounting flange, 1/4" NPT and M10 threaded holes, with vent valve
Capsule gasket	N----------	Nitrile rubber (NBR)
	F----------	Fluor rubber (FKM)
	P----------	Polytetrafluoroethylene (PTFE)
Housing	-T----------	Aluminum alloy housing
	-G----------	Stainless steel housing
Electrical connection *2	1----------	M20×1.5
	2----------	1/2" NPT
Process connection accessories *3	N----------	None
	1----------	1/2" NPT internal threaded stainless steel oval flange
	2----------	M20×1.5 external thread stainless steel T-shaped connector
LCD display *4	N----------	None
	1----------	LCD backlight display
	2----------	Low temperature LCD display
Explosion-proof selection	N----------	Non-explosion proof
	D----------	Explosion-proof (NEPSI)
Special functions	N----------	None
	1----------	Square root output
	2----------	Lightning protection function
	3----------	Oil-free treatment

*1: The process connection refers to the holes below.



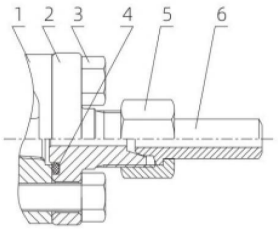
*2: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*3: Drawings of process connection accessories



1. Flange
2. O ring
3. NPT 1/2 oval-shaped
4. Bolt

Oval-shaped Flange with 1/2 NPT Internal Thread



1. Flange
2. M20×1.5 Male thread T shaped connector
3. Bolt
4. O ring
5. Nuts ∅14×3.5
6. Joining pipe

T Shaped Connector with M20x1.5 External Thread

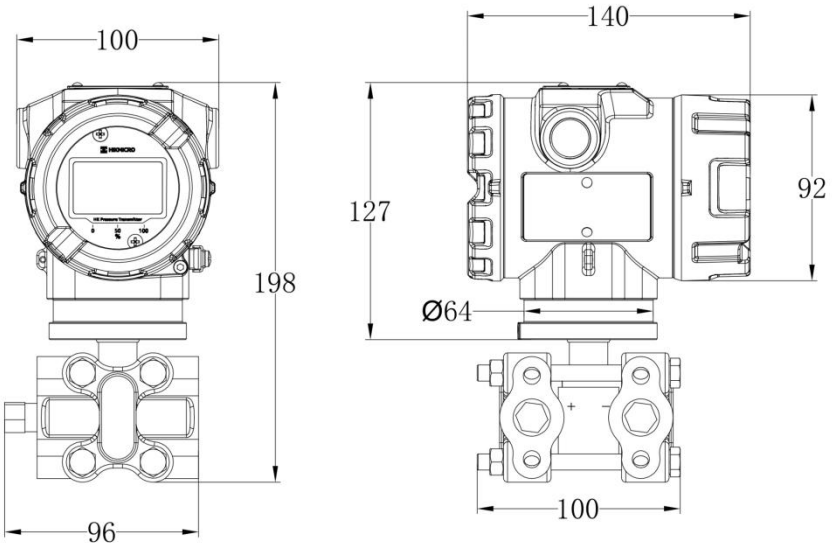
*4: If Output signal is selected as "485-modbus communication", only LCD is available.

Selection example:

Example: PS 00-C1ANS11ON-T1N1NN
[C]: Accuracy level is 0.1 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[A]: Measurement span is 0-100Pa~1kPa
[N]: No static pressure chip
[S]: Wetted part is stainless steel 316L diaphragm
[1]: Fill liquid is silicone oil
[1]: Rated working pressure is 0.2MPa
[O]: 1/4" NPT and 7/16" UNF threaded holes, no drain valve
[N]: Wetted seal material is nitrile rubber (NBR)
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[N]: No process connection accessories
[1]: LCD backlight display
[N]: Non-explosion proof
[N]: No special functions.

DIMENSIONS

Differential Pressure Transmitter

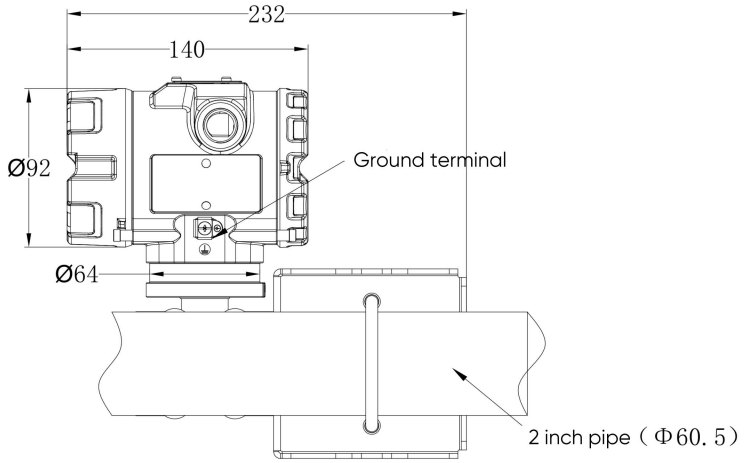


Unit: mm

INSTALLATION

Horizontal Impulse Pipe

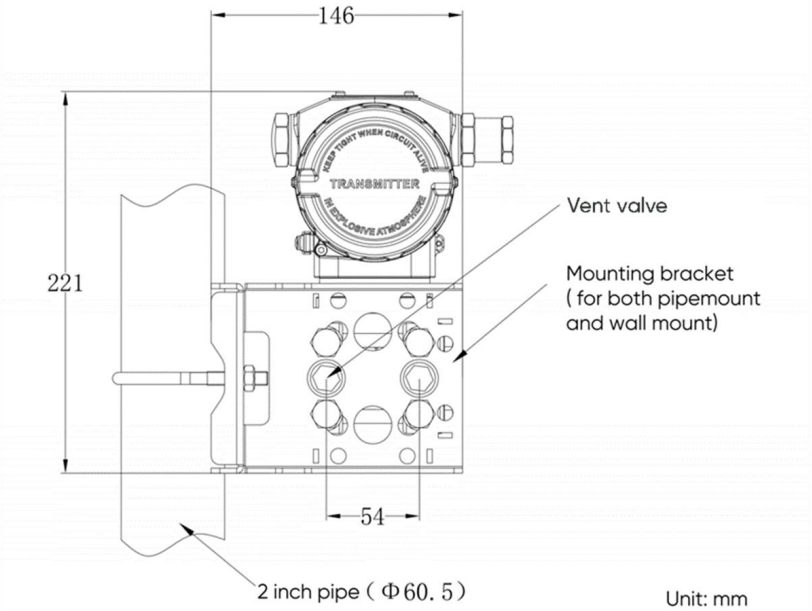
Horizontal Impulse Pipe Installation



Unit: mm

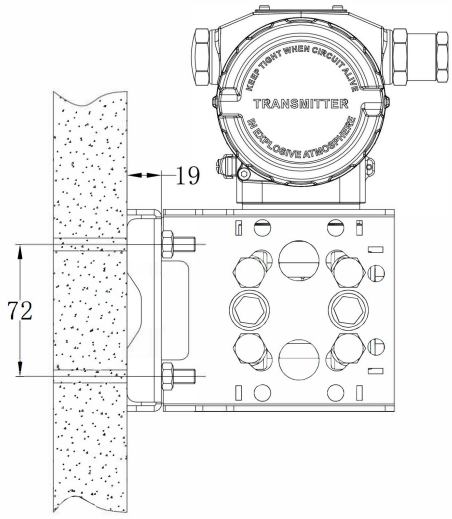
Vertical Impulse Pipe

Vertical Impulse Pipe Installation



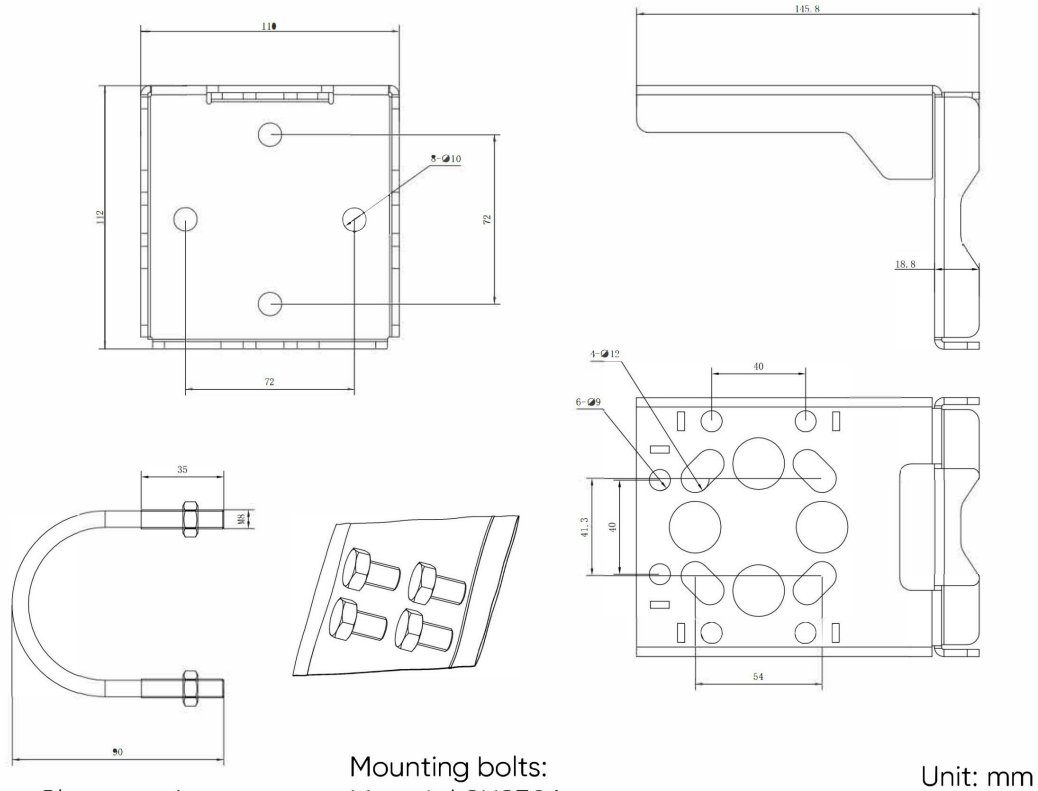
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for differential pressure transmitter: material SUS304

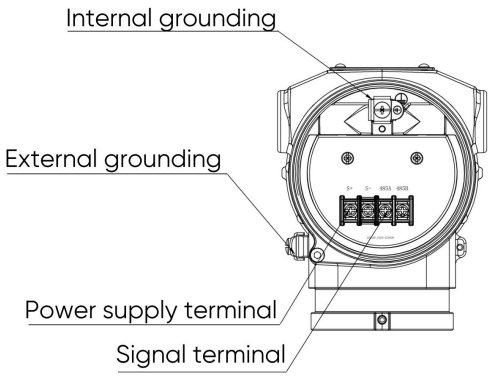


Clamp and nut:
material SUS304

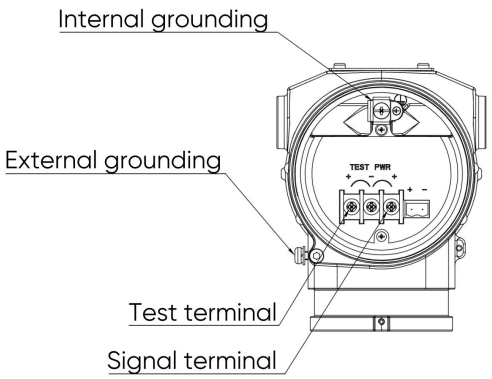
Mounting bolts:
Material SUS304
Specifications: 7/16-20*15 or M10*15, optional

Unit: mm

TERMINAL CONFIGURATION



485



HART

HIKMICRO

PS01/02 High Performance In-Line Mount Gauge/Absolute Pressure Transmitter

The PS01/02 is a high precision gauge/absolute pressure transmitter for measuring the level, density and pressure of liquid, gas or steam, and then convert it into 4~20mADC HART current signal output.

This series of products provides HART and 485-Modbus communication protocols.

STANDARD SPECIFICATIONS

SPAN AND RANGE LIMITS

Measurement Span/Range		kPa	psi	bar	Kgf/ cm2
Gauge Pressure					
B	Span	0.6~6	0.087~0.87	6~60mbar	0.006~0.06
	Range	-6~6	- 0.87~0.87	-60~60mbar	- 0.06~0.06
C	Span	2~40	0.29~5.8	0.02~0.4	0.02~0.4
	Range	-40~40	-5.8~5.8	-0.4~0.4	-0.4~0.4
D	Span	2.5~250	0.3625~36.25	-0.025~2.5	-0.025~2.5
	Range	-100~250	-14.5~ 36.25	-1 ~2.5	-1 ~2.5
E	Span	10~1000	1.45~145	0.1~10	0. 1~10
	Range	-100~1000	-14.5~145	-1~10	-1~10
F	Span	30~3000	4.35~435	0. 3~30	0. 3 ~30
	Range	- 100~3000	-14.5~ 435	-1~30	-1~30
G	Span	0.1MPa ~ 10MPa	14.5~1450	1~100	1~100
	Range	-0.1~10 MPa	- 14.5~1450	- 1~100	-1~100
H	Span	0.21MPa~21MPa	30.45~3045	2.1~210	2.1~210
	Range	-0.1 ~21MPa	-14.5~8000	-1~210	-1~210
I	Span	0.4MPa~40MPa	58~5800	4~400	4~400
	Range	-0.1~40MPa	-14.5~5800	-1~400	-1~400
J	Span	0-0.6MPa~60MPa	87~8700	6~600	6.12~612
	Range	-0.1~60MPa	-14.5~8700	-1~600	-1.02~612
Absolute Pressure					
L	Span	10~40	1.45~5.8	0.1 ~0.4	0.1 ~0.4
	Range	0~40	0~5.8	0 ~0.4	0 ~0.4
M	Span	10~250	1.4503~36.25	0.1~2.5	0.1~2.5
	Range	0~250	0~36.25	0~2.5	0~2.5
O	Span	0~3000	4.35~435	0.3~30	0.3~30
	Range	0~3000	0~435	0~30	0~30

Note:
PS01-A: supports span C, D, E, F, G, H, I, J;

PS02-A: supports span M and span O
PS01-B/C: supports span B, C, D, E, F, G, H, I, J;
PS02-B/C: supports span L, span M, span O;

PERFORMANCE SPECIFICATIONS

Range ratio (TD): Maximum range ratio = 100:1
Long-term stability: ± 0.15% URL/10 years

Reference Accuracy of Calibrated Span

Measurement Span		B
PS01/02-B	TD<=6	±0.075%
PS01/02-C	TD<=6	±0.1%

Measurement Span		C/D/E/F/G/H/I/J/L/M/O
PS01/02-A	TD=1	±0.05%
	TD>1	Please confirm with HIKMICRO.
PS01/02-B	TD<=10	±0.075%
	TD>10	Please confirm with HIKMICRO.
PS01/02-C	TD<=10	±0.1%
	TD>10	Please confirm with HIKMICRO.

Ambient Temperature Effects on Accuracy

Pressure Transmitter in Different Temperature		Total Effects
PS01/02-A	-40°C ~-25°C	± (0.1×TD+0.025)%×Span
	-25°C ~65°C	±(0.075×TD+0.025)%×Span Every 10°C: ±0.04%xSpan (TD=1)
	65°C ~85°C	± (0.1×TD+0.025)%×Span
PS01/02-B/C	-40°C ~-25°C	± (0.2×TD+0.05)%×Span
	-25°C ~65°C	± (0.15×TD+0.05)%×Span Every 10°C: ±0.08%xSpan (TD=1)
	65°C ~85°C	± (0.2×TD+0.05)%×Span

Over Span Effects on Accuracy

Pressure Transmitter	Effect
PS01/02-A	±0.05%×Span
PS01/02-B/C	±0.075%×Span

Square Root Output Accuracy

The square root accuracy is 1.5 times of reference accuracy.

Power Supply Effects on Accuracy

±0.001%/10V (12~36VDC), negligible

Mounting Position Effects

Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.4 kPa (1.6 inH2O) which can be corrected by the zero adjustment.

Response Time

The amplifier element damping constant is 0.1s and the sensor time constant is 0.1 to 1.6s, depending on the span and range ratio. The additional adjustable time constant is 0.1 to 60s. The effect on non-linear outputs (e.g. square root output function) depends on this parameter and can be calculated accordingly.

Warm-up Time

< 15 s

FUNCTIONAL SPECIFICATIONS

Span Upper & Lower Limits

It can be adjusted arbitrarily within the upper and lower limits of the Span. It is recommended to select a Span code with the lowest possible range ratio to optimize performance characteristics.

Zero Adjustment Limits

The zero point and span can be adjusted to any value within the measuring range of the pressure transmitter as long as: the calibrated span ⩾ the minimum span.

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA .
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault
- Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

-40 to 85°C (–40 to 185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

- 50 to 85°C (-58 to 185°F)
- 25 to 85°C (-13 to 185°F) with LCD display

Ambient Humidity Limits

0 -100% RH

Working Pressure

Vacuum to maximum range

Overload Limits

Span	6kPa (B)	40kPa (C/L)	250kPa (D/M)	1Mpa (E)	3Mpa (F/O)	10Mpa (G)	21Mpa (H)	40Mpa (I)	60Mpa (J)
Overload Limit	0.2MPa	1MPa	4MPa	6MPa	15MPa	20MPa	50MPa	50MPa	70MPa

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

HIKMICRO

PHYSICAL SPECIFICATION

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires.

Process Connection

The process connection ends have 1/2NPT internal thread, can be converted to 1/2NPT , G1/2 and M20 × 1.5 external threads, KF16 vacuum interface;

Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C
Process Flange	Stainless Steel 316
Nuts & Bolts	Stainless Steel (A2-70), Galvanized Carbon Steel (Grade 12.8)
Process Connection	Stainless Steel 316
Fill Fluid	Silicone Oil, Fluorine Oil
Capsule Gasket	Nitrile Rubber(NBR), Fluor rubber(FKM), Polytetrafluoroethylene (PTFE)
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

1.6 Kg (referring to aluminum alloy case, without LCD display, mounting bracket, process conection)

Degrees of Protection

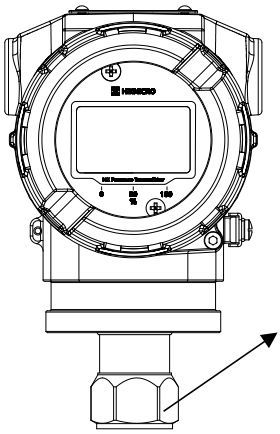
IP66/67

HIKMICRO

MODEL AND SUFFIX CODES

Model	Suffix Codes	Description
PS01	----------	In-Line Mount Gauge pressure transmitter
PS02	----------	In-Line Mount Absolute pressure transmitter
Accuracy	-A---------- -B---------- -C----------	0.05% 0.075% 0.1%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	B---------- C---------- D---------- E---------- F---------- G---------- H---------- I---------- J---------- L---------- M---------- O----------	**In-Line Mount Gauge pressure transmitter:** 0-0.6kPa~6kPa (Accuracy B/C) 0-2kPa~40kPa (Accuracy A/B/C) 0-2.5kPa~250kPa (Accuracy A/B/C) 0-10kPa~1MPa (Accuracy A/B/C) 0-30kPa~3MPa (Accuracy A/B/C) 0-0.1MPa~10MPa (Accuracy A/B/C) 0-0.21MPa~21MPa (Accuracy A/B/C) 0-0.4MPa~40MPa (Accuracy A/B/C) 0-0.6MPa~60MPa (Accuracy A/B/C) **In-Line Mount Absolute pressure transmitter:** 0-10 kPa~40kPa (Accuracy B/C) 0-10kPa~250kPa (Accuracy A/B/C) 0-30kPa~3MPa (Accuracy A/B/C)
Capsule diaphragm	S---------- H---------- G---------- T----------	Stainless steel 316L Hastelloy C (Hc) Stainless steel 316L gold plated Tantalum
Fill fluid	1---------- 3----------	Silicone oil Fluorine oil
Process connection*1	1---------- 2---------- 3---------- 4---------- 5---------- 6---------- 7----------	1/2" NPT external thread 1/2" NPT internal thread 1/4" NPT internal thread M20×1.5 external thread G1/2 external thread Vacuum connection DIN 28403 KF16/ISO 2861 1/4" NPT external thread
Housing	-T---------- -G----------	Aluminum alloy housing Stainless steel housing
Electrical connection*2	1---------- 2----------	M20×1.5 1/2" NPT
LCD display*3	N---------- 1---------- 2----------	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N---------- D----------	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N---------- 2---------- 3----------	None Lightning protection function Oil-free treatment

*1: The process connection is referred below.



1/2" NPT external thread

1/2" NPT internal thread

1/4" NPT internal thread

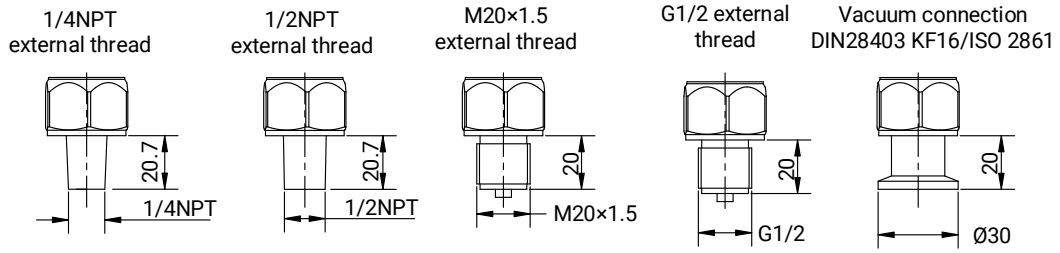
M20×1.5 external thread

G1/2 external thread

Vacuum connection DIN 28403 KF16/ISO 2861

1/4" NPT external thread

The standard process connection is: 1/2 NPT internal threaded, which can be connected to the following connectors (optional):



*2: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*3: If Output signal is selected as "485-modbus communication", only LCD is available.

Selection example:

Example: PS 01-B1CS11-T11NN

[B]: Accuracy level is 0.075 %

[1]: Output signal and communication are 4 ~20 mA, HART communication

[C]: Measurement span is 0-2kPa~40kPa

[S]: Wetted part is stainless steel 316L diaphragm

[1]: Fill liquid is silicone oil

[1]: 1/2 inch NPT external thread process connection

[T]: Housing material is aluminum alloy

[1]: Electrical connection is M20×1.5

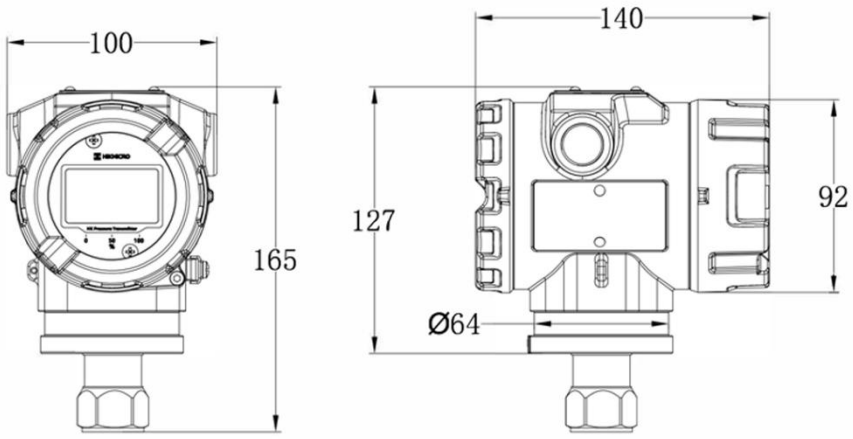
[1]: LCD backlight display

[N]: None explosion proof

[N]: No special functions.

DIMENSIONS

In-Line Mount Gauge/Absolute Pressure Transmitter

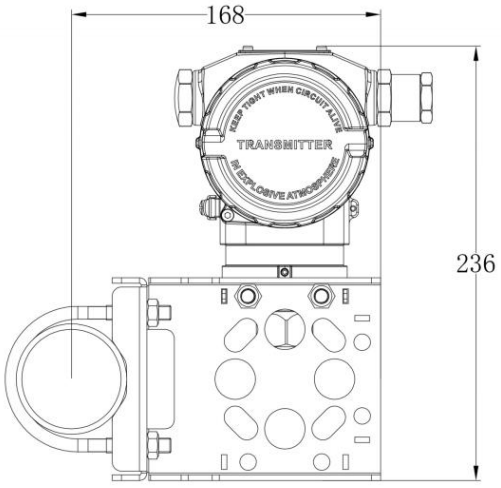


Unit: mm

INSTALLATION

Horizontal Impulse Pipe

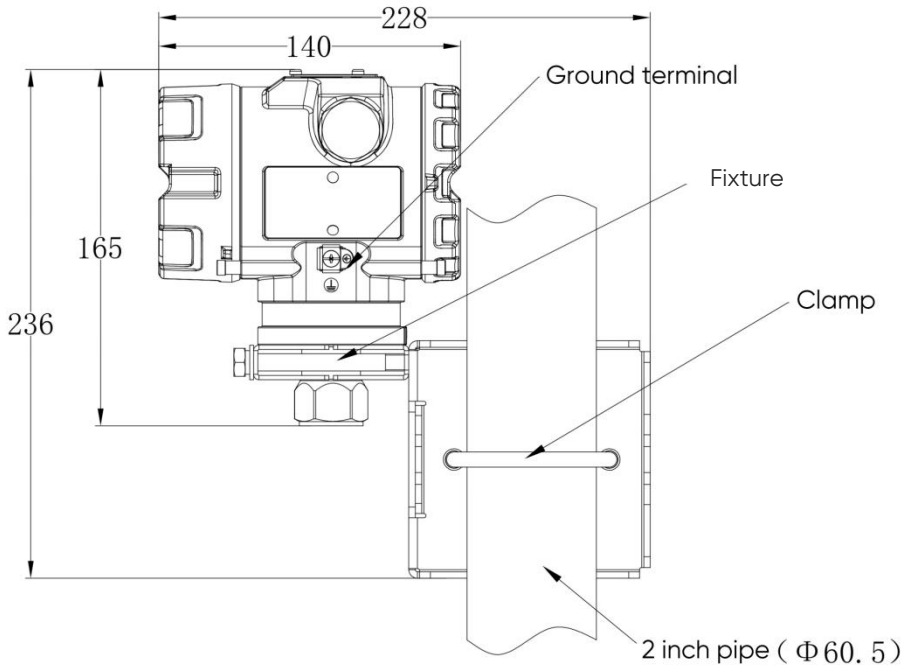
Horizontal Impulse Pipe Installation



Unit: mm

Vertical Impulse Pipe

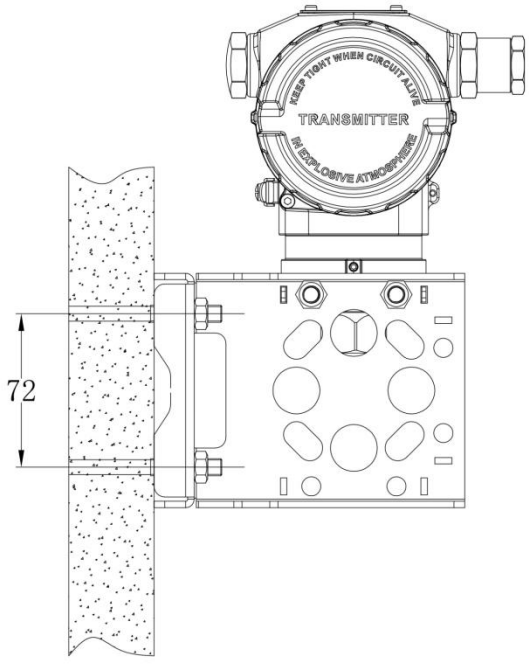
Vertical Impulse Pipe Installation



Unit: mm

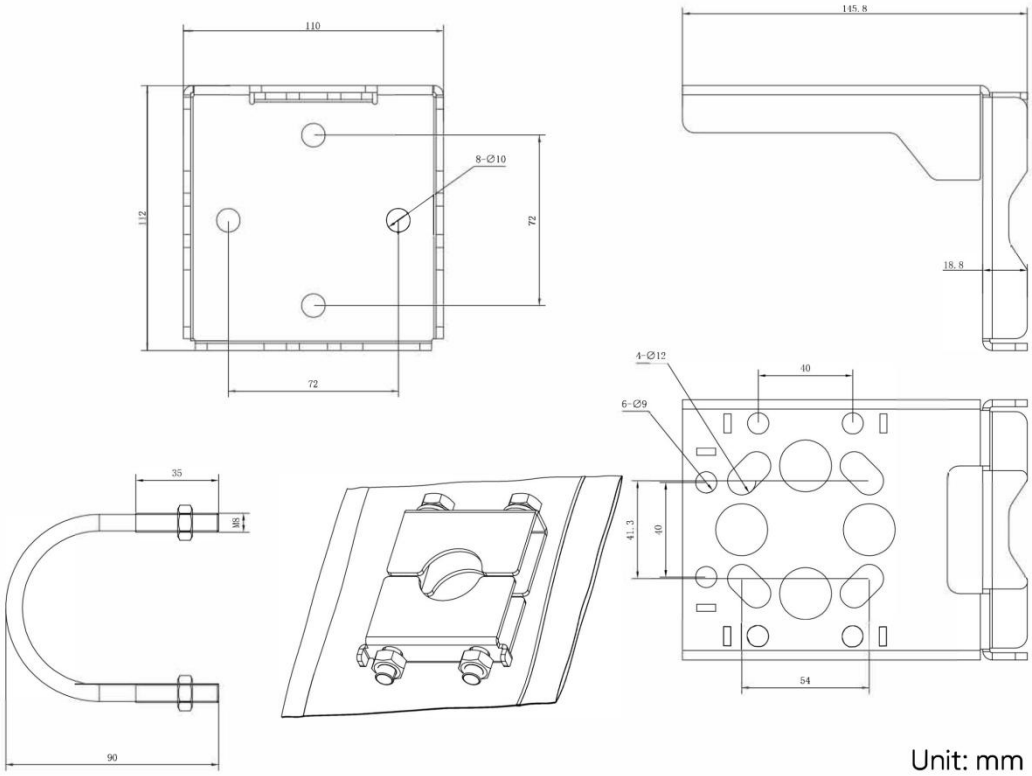
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for gauge/absolute pressure transmitter: material SUS304

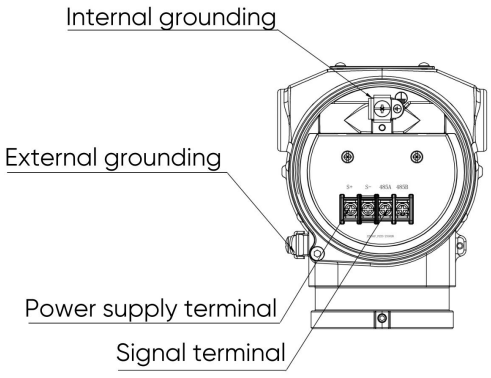


Unit: mm

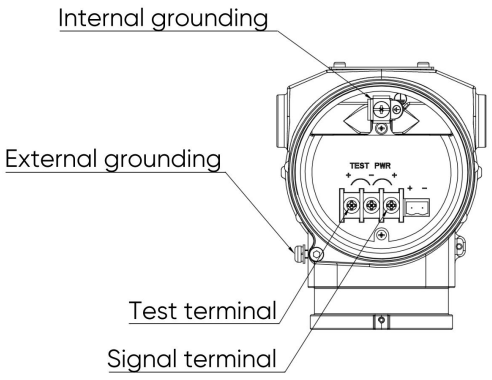
Clamp and nut:
material SUS304

Installation fixture:
Material SUS304 or galvanizedcarbon steel, optional

TERMINAL CONFIGURATION



485



HART

HIKMICRO

PS03/04 High Performance Traditional-mount Gauge/Absolute Pressure Transmitter

The PS03/04 is a high precision traditional-mount gauge/absolute pressure transmitter for measuring the level, density and pressure of liquid, gas or steam, and then convert it into 4~20mADC HART current signal output.

This series of products provides HART and 485-Modbus communication protocols.

STANDARD SPECIFICATIONS

SPAN AND RANGE LIMITS

Measurement Span/Range		kPa	psi	bar	Kgf/ cm2
Gauge Pressure					
B	Span	0.6~6	0.087~0.87	6~60mbar	0.006~0.06
	Range	-6~6	- 0.87~0.87	-60~60mbar	- 0.06~0.06
C	Span	2~40	0.29~5.8	0.02~0.4	0.02~0.4
	Range	-40~40	-5.8~5.8	-0.4~0.4	-0.4~0.4
D	Span	2.5~250	0.3625~36.25	-0.025~2.5	-0.025~2.5
	Range	-100~250	-14.5~ 36.25	-1 ~2.5	-1 ~2.5
E	Span	10~1000	1.45~145	0.1~10	0. 1~10
	Range	-100~1000	-14.5~145	-1~10	-1~10
F	Span	30~3000	4.35~435	0. 3~30	0. 3 ~30
	Range	- 100~3000	-14.5~ 435	-1~30	-1~30
G	Span	0.1MPa ~ 10MPa	14.5~1450	1~100	1~100
	Range	-0.1~10 MPa	- 14.5~1450	- 1~100	-1~100
H	Span	0.21MPa~21MPa	30.45~3045	2.1~210	2.1~210
	Range	-0.1 ~21MPa	-14.5~8000	-1~210	-1~210
I	Span	0.4MPa~40MPa	58~5800	4~400	4~400
	Range	-0.1~40MPa	-14.5~5800	-1~400	-1~400
J	Span	0-0.6MPa~60MPa	87~8700	6~600	6.12~612
	Range	-0.1~60MPa	-14.5~8700	-1~600	-1.02~612
Absolute Pressure					
L	Span	10~40	1.45~5.8	0.1 ~0.4	0.1 ~0.4
	Range	0~40	0~5.8	0 ~0.4	0 ~0.4

M	Span	10~250	1.4503~36.25	0.1~2.5	0.1~2.5
	Range	0~250	0~36.25	0~2.5	0~2.5
O	Span	0~3000	4.35~435	0.3~30	0.3~30
	Range	0~3000	0~435	0~30	0~30

Note:
PS03-A: supports span C, D, E, F, G, H , I , J;
PS04-A: supports span M and span O
PS03-B/C: supports span B, C, D, E, F, G, H , I , J;
PS04-B/C: supports span L, span M, span O;

PERFORMANCE SPECIFICATIONS

Range ratio (TD): Maximum range ratio = 100:1
Long-term stability: ± 0.15% URL/10 years

Reference Accuracy of Calibrated Span

Measurement Span		B
PS03/04-B	TD<=6	±0.075%
PS03/04-C	TD<=6	±0.1%

Measurement Span		C/D/E/F/G/H/I/J/L/M/O
PS03/04-A	TD=1	±0.05%
	TD>1	Please confirm with HIKMICRO.
PS03/04-B	TD<=10	±0.075%
	TD>10	Please confirm with HIKMICRO.
PS03/04-C	TD<=10	±0.1%
	TD>10	Please confirm with HIKMICRO.

Ambient Temperature Effects on Accuracy

Pressure Transmitter in Different Temperature		Total Effects
PS03/04-A	-40°C ~-25°C	± (0.1×TD+0.025)%×Span
	-25°C ~65°C	±(0.075×TD+0.025)%×Span Every 10°C: ±0.04%xSpan (TD=1)
	65°C ~85°C	± (0.1×TD+0.025)%×Span
PS03/04-B/C	-40°C ~-25°C	± (0.2×TD+0.05)%×Span
	-25°C ~65°C	± (0.15×TD+0.05)%×Span Every 10°C: ±0.08%xSpan (TD=1)
	65°C ~85°C	± (0.2×TD+0.05)%×Span

Over Span Effects on Accuracy

Pressure Transmitter	Effect
PS03/04-A	±0.05%×Span
PS03/04-B/C	±0.075%×Span

Power Supply Effects on Accuracy

±0.001%/10V (12~36VDC), negligible

Mounting Position Effects

Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.4 kPa (1.6 inH2O) which can be corrected by the zero adjustment.

Response Time

The amplifier element damping constant is 0.1s and the sensor time constant is 0.1 to 1.6s, depending on the span and range ratio. The additional adjustable time constant is 0.1 to 60s. The effect on non-linear outputs (e.g. square root output function) depends on this parameter and can be calculated accordingly.

Warm-up Time

< 15 s

FUNCTIONAL SPECIFICATIONS

Span Upper & Lower Limits

It can be adjusted arbitrarily within the upper and lower limits of the Span. It is recommended to select a Span code with the lowest possible range ratio to optimize performance characteristics.

Zero Adjustment Limits

The zero point and span can be adjusted to any value within the measuring range of the pressure transmitter as long as: the calibrated span ⩾ the minimum span.

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA .
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault
- Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

-40 to 85°C (–40 to 185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

- 50 to 85°C (-58 to 185°F)
- 25 to 85°C (-13 to 185°F) with LCD display

Ambient Humidity Limits

0 -100% RH

Working Pressure

Vacuum to maximum range

Overload Limits

Span	40kPa (C/L)	250kPa (D/M)	1Mpa (E)	3Mpa (F/O)	10Mpa (G)	21 Mpa (H)	40 Mpa (I)
Overload Limit	16/40MPa	16/40MPa	16/40MPa	16/40MPa	20MPa	25MPa	45MPa

Note: When the span is selected as C, D, E or F, the default overload is 16 MPa. If an overload of 40 MPa is required, a note is required.

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires.

Process Connection

The process connection ends have 1/4 NPT, 7/16 UNF and M10 internal threads.

Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C
Process Flange	Stainless Steel 316
Nuts & Bolts	Stainless Steel (A2-70), Galvanized Carbon Steel (Grade 12.8)
Process Connection	Stainless Steel 316
Fill Fluid	Silicone Oil, Fluorine Oil
Capsule Gasket	Nitrile Rubber(NBR), Fluororubber(FKM), Polytetrafluoroethylene (PTFE)
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

3.3 Kg (referring to aluminum alloy case, without LCD display, mounting bracket, process connection)

Degrees of Protection

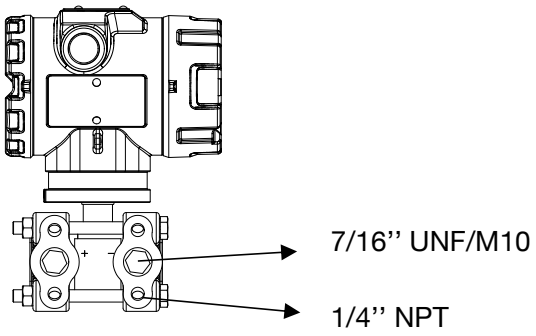
IP66/67

HIKMICRO

MODEL AND SUFFIX CODES

Model	Suffix Codes	Description
PS03	----------	Traditional-mount gauge pressure transmitter
PS04	----------	Traditional-mount absolute pressure transmitter
Accuracy	-A---------- -B---------- -C----------	0.05% 0.075% 0.1%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	B---------- C---------- D---------- E---------- F---------- G---------- H---------- I---------- J---------- L---------- M---------- O----------	0-0.6kPa~6kPa (Accuracy B/C) 0-2kPa~40kPa (Accuracy A/B/C) 0-2.5kPa~250kPa (Accuracy A/B/C) 0-10kPa~1MPa (Accuracy A/B/C) 0-30kPa~3MPa (Accuracy A/B/C) 0-0.1MPa~10MPa (Accuracy A/B/C) 0-0.21MPa~21MPa (Accuracy A/B/C) 0-0.4MPa~40MPa (Accuracy A/B/C) 0-0.6MPa~60MPa (Accuracy A/B/C) 0-10 kPa~40kPa (Accuracy B/C) 0-10kPa~250kPa (Accuracy A/B/C) 0-30kPa~3MPa (Accuracy A/B/C)
Capsule diaphragm	S---------- H---------- G---------- T----------	Stainless steel 316L Hastelloy C (Hc) Stainless steel 316L gold plated Tantalum
Fill fluid	1---------- 3----------	Silicone oil Fluorine oil
Rated working pressure	3---------- 4---------- 5----------	16 MPa 25 MPa 40 MPa
Process connection *1	B---------- D---------- O---------- U---------- V---------- E---------- F---------- G---------- H---------- J----------	1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the lower side of the flange 1/4" NPT and 7/16" UNF threaded holes, no vent valve 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the upper side of the flange Vertical mounting flange, 1/4" NPT and 7/16" UNF threaded holes, with vent valve 1/4" NPT and M10 threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and M10 threaded holes, the vent valve is installed on the lower side of the flange 1/4" NPT and M10 threaded holes, no vent valve 1/4" NPT and M10 threaded holes, the vent valve is installed on the upper side of the flange Vertical mounting flange, 1/4" NPT and M10 threaded holes, with vent valve
Capsule gasket	N---------- F---------- P----------	Nitrile rubber (NBR) Fluor rubber (FKM) Polytetrafluoroethylene (PTFE)
Housing	-T---------- -G----------	Aluminum alloy housing Stainless steel housing
Electrical connection *2	1---------- 2----------	M20×1.5 1/2'' NPT
Process connection accessories *3	N---------- 1---------- 2----------	None 1/2" NPT internal threaded stainless steel oval flange M20×1.5 external thread stainless steel T-shaped connector
LCD display *4	N---------- 1---------- 2----------	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N---------- D----------	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N---------- 2---------- 3----------	None Lightning protection function Oil-free treatment

*1: The process connection refers to the holes below.



*2: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*3: Drawings of process connection accessories

Oval-shaped Flange with 1/2 NPT Internal Thread

T Shaped Connector with M20x1.5 External Thread

*4: If Output signal is selected as "485-modbus communication", only LCD is available.

Selection example:

Example: PS03-B1CS1ON-T1N1NN

[B]: Accuracy level is 0.075 %

[1]: Output signal and communication are 4 ~20 mA, HART communication

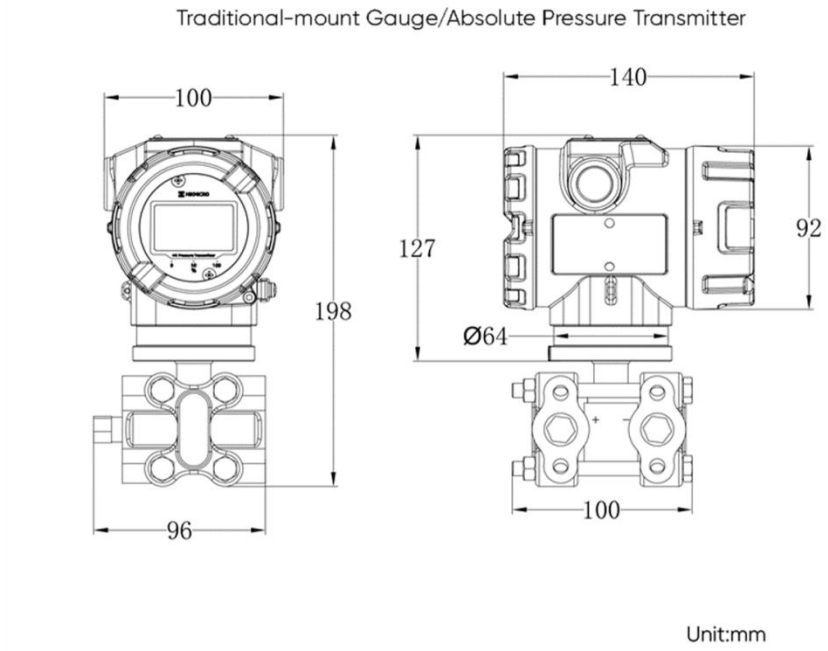
[C]: Measurement span is 0-2kPa~40kPa

[S]: Capsule Diaphragm is stainless steel 316L

[1]: Fill fluid is silicone oil

[O]: 1/4" NPT and 7/16" UNF threaded holes, no vent valve
[N]: Capsule gasket is nitrile rubber (NBR)
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[1]: LCD backlight display
[N]: Non-explosion proof
[N]: No special functions.

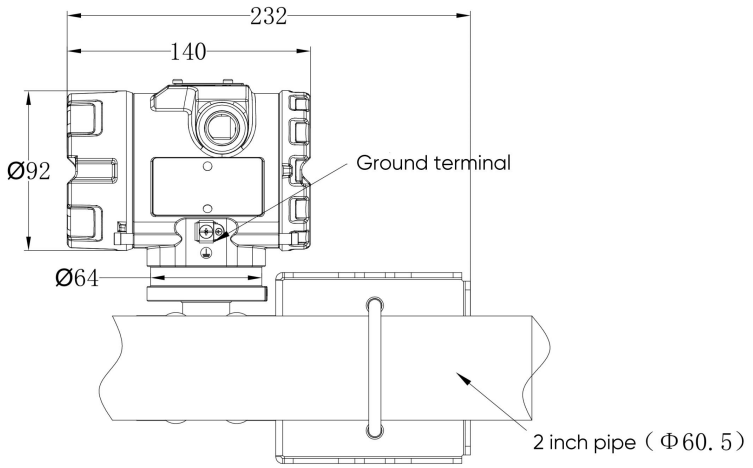
DIMENSIONS



INSTALLATION

Horizontal Impulse Pipe

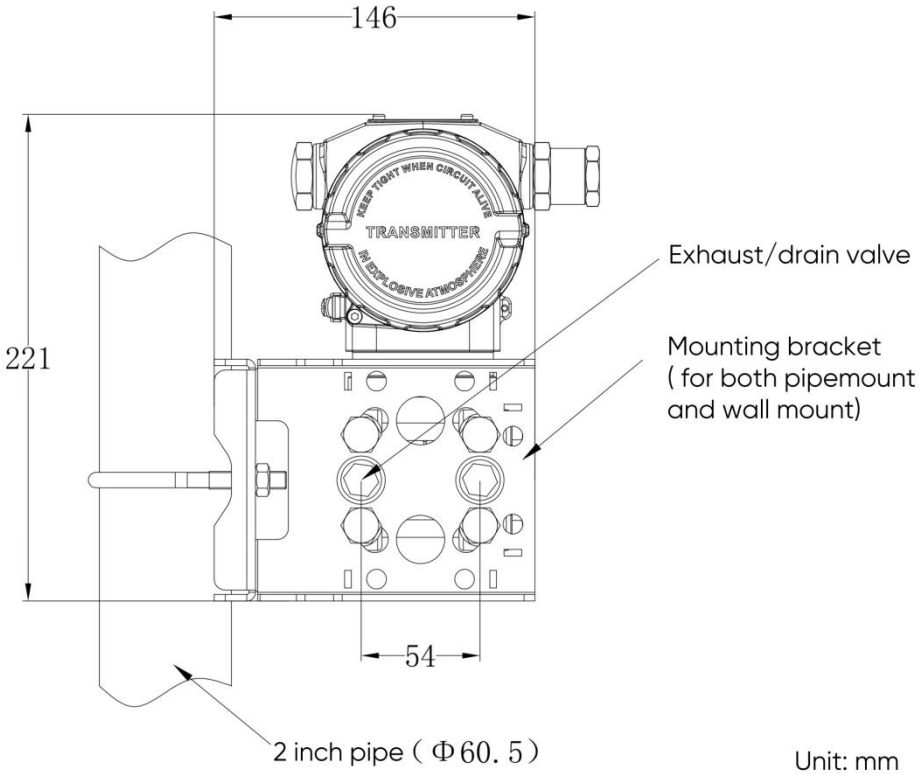
Horizontal Impulse Pipe Installation



Unit: mm

Vertical Impulse Pipe

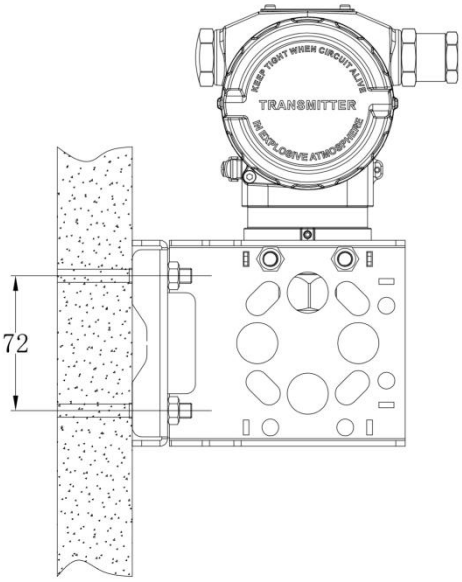
Vertical Impulse Pipe Installation



Unit: mm

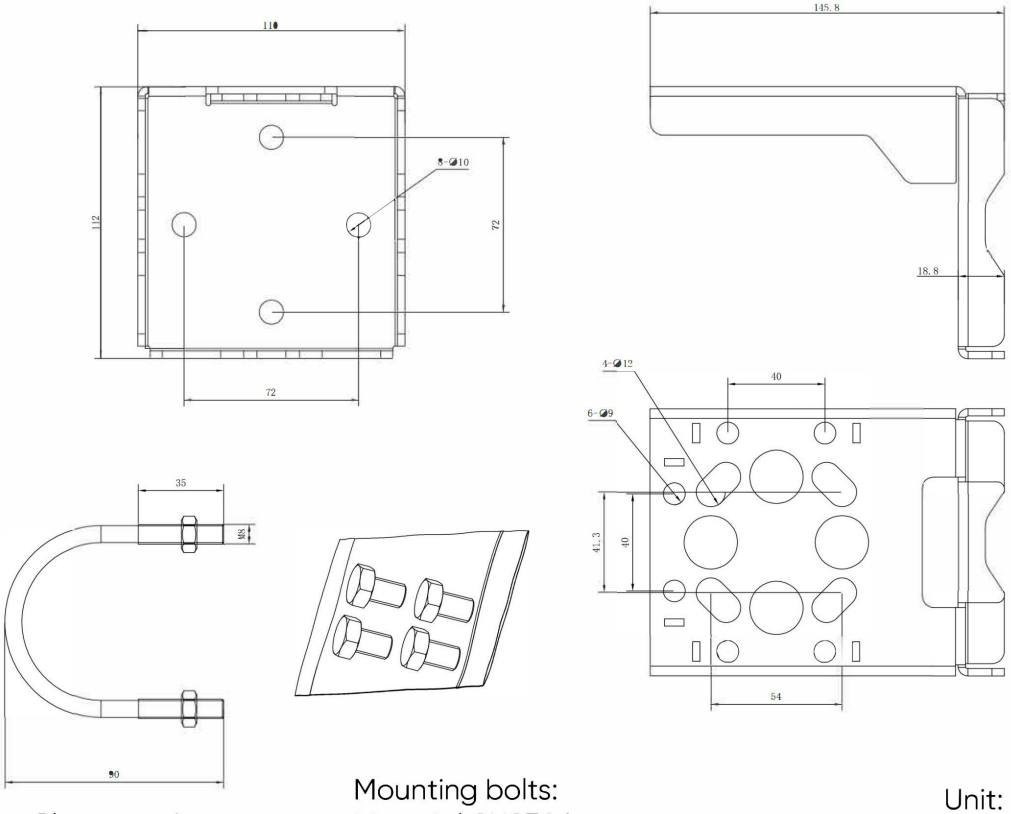
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for differential pressure transmitter: material SUS304

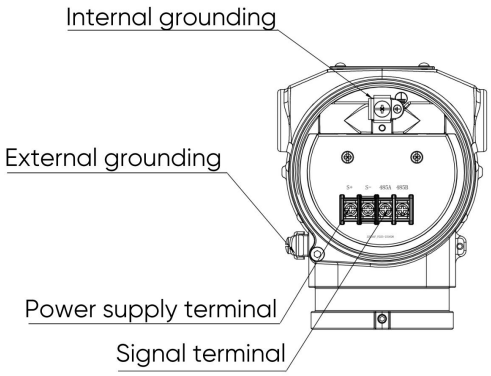


Clamp and nut:
material SUS304

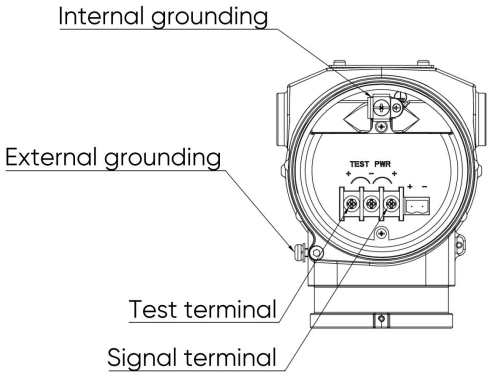
Mounting bolts:
Material SUS304
Specifications: 7/16-20*15 or M10*15, optional

Unit: mm

TERMINAL CONFIGURATION


Internal grounding
External grounding
Power supply terminal
Signal terminal

485

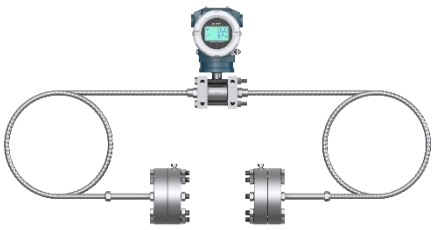

Internal grounding
External grounding
TEST PWR
Test terminal
Signal terminal

HART

HIKMICRO

PS0A/0B Diaphragm Sealed Differential Pressure Transmitter

The diaphragm seals of the differential pressure remote transmitter is used to prevent the medium in the pipeline from directly entering the pressure-sensing assembly of the differential pressure transmitter. The pressure is transmitted between it and the transmitter using a filling liquid such as silicone oil.



PS0A/0B diaphragm sealed differential pressure transmitter is used to measure the pressure of liquid, gas or steam, and then convert it into a 4~20mADC HART current signal output. This series of products supports HART and 485-Modbus communication protocols.

STANDARD SPECIFICATIONS

SPAN

Table 1 Comparison Table of Span Code and Span

Span Code	Minimum Span	Maximum Span	Rated Pressure
B	1kPa	6kPa	Rated pressure of the flange
C	4kPa	40kPa	
D	25kPa	250kPa	
E	100kPa	1MPa	
F	200kPa	3MPa	

Table 2 Comparison Table of Flange Type and Minimum Span

Flange Type	Nominal Diameter	Minimum Span	
		Single Capillary	Dual Capillary
Flat	DN 50/2″	10kPa	6kPa
	DN 80/3″	6kPa	4kPa
	DN 100/4″	6kPa	4kPa
Plug-in	DN 50/2″	16kPa	6kPa
	DN 80/3″	6kPa	4kPa
	DN 100/4″	6kPa	4kPa

Note: The minimum span of the diaphragm sealed differential pressure transmitter should be the larger value of the minimum span in Table 1 and Table 2 above. The adjusted span shall not be less than the minimum span. The maximum span of the transmitter should be the minimum of the maximum span of the transmitter body and the rated pressure of the flange.

RANGE LIMITS

Lower limit value: -100 % URL (continuously adjustable)

Upper limit value: +100% URL (continuously adjustable)

PERFORMANCE SPECIFICATIONS

Square Root Output Accuracy

The square root accuracy is 1.5 times of reference accuracy.

Response Time

The damping constant of the amplifier component is 0.1s; The time constant of the sensor and flange is 0.2~6s, depending on the sensor span, range ratio, capillary length, and filling fluid viscosity. The additional adjustable time constant is: 0.1~60s.

FUNCTIONAL SPECIFICATIONS

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA.
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault
  Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)

-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)

Ambient Humidity Limits

0 -100% RH

Shock Resistance

Acceleration: 50g, Duration: 11ms

Vibration Resistance

2g to 500Hz

Medium Limits

Depends on the medium type. Refer to the fill liquid temperature parameters in the selection table.

Fill Fluid	Silicone Oil	High Temperature Silicone Oil	Vegetable Oil	Fluorine Oil
Density (25°C)	960kg/m3	980 kg/m3	937kg/m3	1.8g/cm3
Operating Temperature Range	-40~220°C	-10~350°C	0~250°C	-40~150°C
Temperature(°C)	Working Pressure Range (kPa absolute pressure)			
20	>10	>10	>25	
100	>25	>25	>50	
150	>50	>50	>75	
200	>75	>75	>100	
250		>100	>100	
350		>100		

Work Pressure Limits

- Transmitter: From 3.5kPa absolute pressure to rated pressure, the protection pressure can be greater than 1.5 times the rated pressure and applied to both sides of the transmitter.
- Flange rated pressure: 150psi~600psi (ANSI Standard), PN 1.6MPa~PN 10Mpa (DIN standard)

- One-Way Overload Limit: The low-pressure side is the rated pressure of the transmitter body, and the high-pressure side is the rated pressure of the liquid level flange. Correctable zero drift may occur.

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Installation Conditions

The transmitter can be directly fixed in any position through the flange. The best state is to make the process flange axis in a vertical state, and the position deviation will produce a correctable zero offset. The electronic housing can be rotated up to 360° and the positioning screw can fix it in any position.

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires.

Process Connection

The negative cavity side of the transmitter has NPT1/4 and UNF7/16" internal threads. The flange on the positive cavity side of the transmitter conforms to ANSI standards or DIN standards.

Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C, Tantalum
Process Flange	Stainless steel 304, Stainless Steel 316L
Fill Fluid	Silicone Oil, High Temperature Silicone Oil, Vegetable Oil, Fluorine Oil
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

- Unilateral remote transmission: DN 50/2″ is about 7 ~10kg ; DN 80/3″ is about 8 ~11kg ; DN 4″ is about 9 ~12kg.
- Bilateral remote transmission: DN 50/2″ is about 10 ~16.5kg ; DN 80/3″ is about 12 ~18kg ; DN 4″ is about 14 ~21kg

Degrees of Protection

IP66/67

MODEL AND SUFFIX CODES

The model codes of Diaphragm Sealed Differential Pressure Transmitter consist of a transmitter part and a diaphragm seal (s) part. This specification sheet introduces these two parts separately. The transmitter body section is shown in one table, and the diaphragm seal section specifications are listed according to the process connection style. First select the model and suffix codes of transmitter body section and then continue on one of the diaphragm seal section.

Ordering Part Number = Transmitter Section + Diaphragm Seal Section (High Pressure Side) + Diaphragm Seal Section (Low Pressure Side)

Transmitter Section

Model	Suffix Codes	Description
PS0A **PS0B**	---------- ----------	Diaphragm Sealed Differential Pressure Transmitter with Flanged Mount Diaphragm Sealed Differential Pressure Transmitter with Threaded Mount
Accuracy	-D----------	0.2%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	B---------- C---------- D---------- E---------- F----------	0-200Pa~6kPa 0-400Pa~40kPa 0-2.5kPa~250kPa 0-10kPa~1MPa 0-30kPa~3MPa
Capsule diaphragm	S----------	Stainless steel 316L
Fill fluid	1----------	Silicone oil
Rated working pressure	3---------- 4----------	16 MPa 25 MPa
Process connection*1	RO---------- RB---------- RU---------- RD---------- RR----------	1/4" NPT and 7/16" UNF threaded holes, no vent valve 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the upper side of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the lower side of the flange 7/16" UNF threaded holes, double flange remote transmission
Capsule gasket	N----------	Nitrile rubber (NBR)

Housing	-T---------- -G----------	Aluminum alloy housing Stainless steel housing
Electrical connection *2	1---------- 2----------	M20×1.5 1/2" NPT
Process connection accessories *3	N---------- 1---------- 2----------	None 1/2" NPT internal threaded stainless steel oval flange M20×1.5 external thread stainless steel T-shaped connector
LCD display *4	N---------- 1---------- 2----------	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N---------- D----------	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N------ 1------- 2------- 3-------	None Square root output Lightning protection function Oil-free treatment

Diaphragm Seal Section (PS0A, High Pressure Side)

Model	Suffix Codes	Description
Diaphragm seal outlet	-HA---------- -HB----------	Diaphragm seal vertical outlet with capillary Diaphragm seal horizontal outlet with capillary
Process connection *5	A---------- B---------- C---------- D---------- E---------- F----------	DN50 DIN2501, E type DIN2526 DN80 DIN2501, E type DIN2526 DN100 DIN2501, E type DIN2526 DN2" ANSI B 16.5, RF type ANSI B 16.5 DN3" ANSI B 16.5, RF type ANSI B 16.5 DN4" ANSI B 16.5, RF type ANSI B 16.5
Diaphragm material *6	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Rated working pressure	1---------- 2---------- 3---------- 4---------- 5---------- 6---------- 7---------- 8---------- 9---------- 0----------	PN 1MPa/4MPa (DN50, DN80 optional), DIN2501 PN 6.3MPa (DN50, DN80 optional), DIN2501 PN 10MPa (DN50, DN80 optional), DIN2501 PN 1MPa/1.6MPa (DN100 only), DIN2501 PN 2.5MPa/4MPa (DN100 only), DIN2501 class 150 (DN2" , DN3" optional), ANSI B 16.5 class 300 (DN2" , DN3" optional), ANSI B 16.5 class 600 (DN2" , DN3" optional), ANSI B 16.5 class 150 (DN4" only) , ANSI B 16.5 class 300 (DN4" only) , ANSI B 16.5
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L
Process connection style	O---------- A---------- B---------- C---------- D---------- E---------- F----------	Flush type Extended type *7, stainless steel 316 L, 50 mm Extended type, stainless steel 316 L, 100 mm Extended type, stainless steel 316 L, 150 mm Extended type, Hastelloy C, 50 mm Extended type, Hastelloy C, 100 mm Extended type, Hastelloy C, 150 mm
Fill fluid	1---------- 2---------- 3---------- 4----------	Silicone oil (-40~220°C/-40~428°F) High temperature silicone oil (-10 ~350°C/14~662°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Capillary length	01---------- 02---------- 03---------- 04---------- 05---------- 06---------- 07---------- 08---------- 09---------- 10---------- 11---------- 12----------	1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m
Protective layer of capillary	N---------- P----------	None with PVC protective layer
Diaphragm treatment (Multiple choices)	N---------- 1---------- 2----------	None FEP (only for stainless steel 316L) PFA (only for stainless steel 316L)

	3----------	PTFE
	4----------	Vacuum proof treatment

Diaphragm Seal Section (PS0A, Low Pressure Side)

Model	Suffix Codes	Description
Diaphragm seal outlet	-LA---------- -LB----------	Diaphragm seal vertical outlet with capillary Diaphragm seal horizontal outlet with capillary
Process connection	A---------- B---------- C---------- D---------- E---------- F----------	DN50 DIN2501, E type DIN2526 DN80 DIN2501, E type DIN2526 DN100 DIN2501, E type DIN2526 DN2" ANSI B 16.5, RF type ANSI B 16.5 DN3" ANSI B 16.5, RF type ANSI B 16.5 DN4" ANSI B 16.5, RF type ANSI B 16.5
Diaphragm material	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Rated working pressure	1---------- 2---------- 3---------- 4---------- 5---------- 6---------- 7---------- 8---------- 9---------- 0----------	PN 1MPa/4MPa (DN50, DN80 optional), DIN2501 PN 6.3MPa (DN50, DN80 optional), DIN2501 PN 10MPa (DN50, DN80 optional), DIN2501 PN 1MPa/1.6MPa (DN100 only), DIN2501 PN 2.5MPa/4MPa (DN100 only), DIN2501 class 150 (DN2" , DN3" optional), ANSI B 16.5 class 300 (DN2" , DN3" optional), ANSI B 16.5 class 600 (DN2" , DN3" optional), ANSI B 16.5 class 150 (DN4" only) , ANSI B 16.5 class 300 (DN4" only) , ANSI B 16.5
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L
Process connection style	O---------- A---------- B---------- C---------- D---------- E---------- F----------	Flush type Extended type, stainless steel 316 L, 50 mm Extended type, stainless steel 316 L, 100 mm Extended type, stainless steel 316 L, 150 mm Extended type, Hastelloy C, 50 mm Extended type, Hastelloy C, 100 mm Extended type, Hastelloy C, 150 mm
Fill fluid	1---------- 2---------- 3---------- 4----------	Silicone oil (-40~220°C/-40~428°F) High temperature silicone oil (-10 ~350°C/14~662°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Capillary length	01---------- 02---------- 03---------- 04---------- 05---------- 06---------- 07---------- 08---------- 09---------- 10---------- 11---------- 12----------	1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m
Protective layer of capillary	N---------- P----------	None with PVC protective layer
Diaphragm treatment (Multiple choices)	N---------- 1---------- 2---------- 3---------- 4----------	None FEP (only for stainless steel 316L) PFA (only for stainless steel 316L) PTFE Vacuum proof treatment

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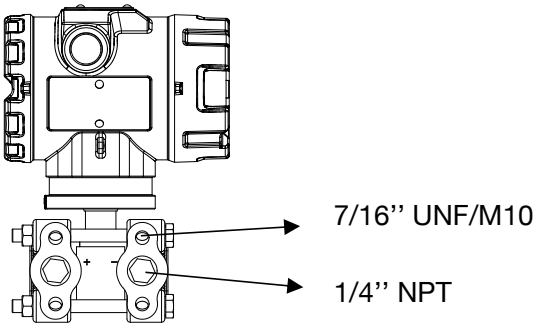
Diaphragm Seal Section (PS0B, High Pressure Side)

Model	Suffix Codes	Description
Diaphragm seal outlet	-H----------	Diaphragm seal outlet with capillary
Diaphragm material	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L
Flushing hole	N---------- Y----------	None Yes (1 by default)
Fill fluid	1---------- 2---------- 3---------- 4----------	Silicone oil (-40~220°C/-40~428°F) High temperature silicone oil (-10 ~350°C/14~662°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Capillary length	01---------- 02---------- 03---------- 04---------- 05---------- 06---------- 07---------- 08---------- 09---------- 10---------- 11---------- 12----------	1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m
Protective layer of capillary	N---------- P----------	None with PVC protective layer
Diaphragm treatment (Multiple choices)	N---------- 4----------	None Vacuum proof treatment

Diaphragm Seal Section (PS0B, Low Pressure Side)

Model	Suffix Codes	Description
Diaphragm seal outlet	-L----------	Diaphragm seal outlet with capillary
Diaphragm material	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L
Flushing hole	N---------- Y----------	None Yes (1 by default)
Fill fluid	1---------- 2---------- 3---------- 4----------	Silicone oil (-40~220°C/-40~428°F) High temperature silicone oil (-10 ~350°C/14~662°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Capillary length	01---------- 02---------- 03---------- 04---------- 05---------- 06---------- 07---------- 08---------- 09---------- 10---------- 11---------- 12----------	1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m
Protective layer of capillary	N---------- P----------	None with PVC protective layer
Diaphragm treatment (Multiple choices)	N---------- 4----------	None Vacuum proof treatment

*1: The process connection refers to the holes below.



*2: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

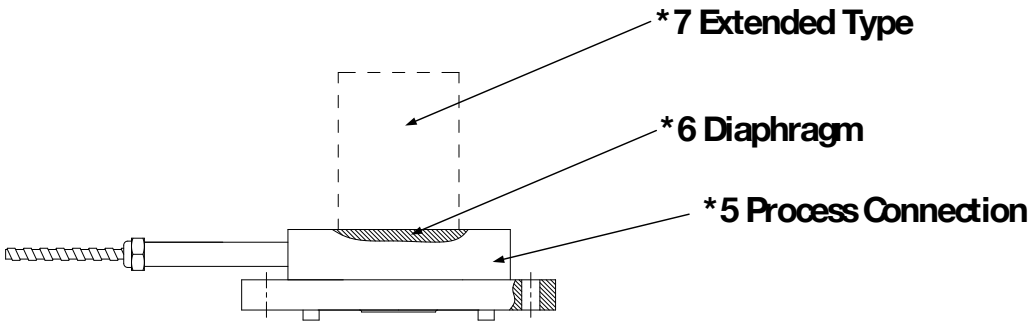
*3: Drawings of process connection accessories

Oval-shaped Flange with 1/2 NPT Internal Thread

T Shaped Connector with M20x1.5 External Thread

*4: If Output signal is selected as "485-modbus communication", only LCD is available.

*5,*6, *7: The structures are shown in the figure below.



Note:

1. When selecting diaphragm seal section, the selection of the transmitter section should be completed first;

2. The diaphragm with PTFE membrane can be used for negative pressure measurement greater than 50kPa absolute pressure, but it is only suitable for flush type flanges;

3. When the measured pressure or working static pressure is <50kPa (absolute pressure), the flange should be treated to prevent vacuum;

4. The minimum span of the differential pressure transmitter is the larger value of the minimum span in Table 1, Table 2 and Table 3. The adjustment span shall not be less than the minimum span. In order to optimize the performance of the transmitter, the range ratio should be selected <10:1;

Selection example:

Example: PS0A-D1DS13RON-T1N1NN-HAAS21A205NN-LAAS21A205NN

Transmitter Section:

[D]: Accuracy level is 0.2 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[D]: Span is 0-2.5kPa~250kPa
[S]: Capsule diaphragm is stainless steel 316L
[1]: Fill fluid is silicone oil
[3]: Rated working pressure is 16 MPa
[RO]: 1/4" NPT and 7/16" UNF threaded holes, no vent valve
[N]: Capsule gasket is nitrile rubber (NBR)
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[N]: No process connection accessories for negative cavity side
[1]: LCD backlight display
[N]: Non-explosion-proof
[N]: No special functions

Diaphragm Seal Section for High Pressure Side:

[HA]: Diaphragm seal vertical outlet with capillary
[A]: Process connection is DN50 DIN2501, E type DIN2526
[S]: Diaphragm material is Stainless steel 316L
[2]: Rated working pressure is PN 6.3MPa, DIN2501
[1]: Process flange material is stainless steel 304
[A]: Extended type, stainless steel 316 L, 50 mm
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

Diaphragm Seal Section for Low Pressure Side:

[LA]: Diaphragm seal vertical outlet with capillary
[A]: Process connection is DN50 DIN2501, E type DIN2526
[S]: Diaphragm material is Stainless steel 316L
[2]: Rated working pressure is PN 6.3MPa, DIN2501
[1]: Process flange material is stainless steel 304
[A]: Extended type, stainless steel 316 L, 50 mm
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

Example: PS0B-D1DS13RON-T1N1NN-HAS1Y205NN-LAS1Y205NN

Transmitter Body:

[D]: Accuracy level is 0.2 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[D]: Span is 0-2.5kPa~250kPa
[S]: Capsule diaphragm is stainless steel 316L
[1]: Fill fluid is silicone oil
[3]: Rated working pressure is 16 MPa
[RO]: 1/4" NPT and 7/16" UNF threaded holes, no vent valve
[N]: Capsule gasket is nitrile rubber (NBR)
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[N]: No process connection accessories for negative cavity side
[1]: LCD backlight display
[N]: Non-explosion-proof

[N]: No special functions

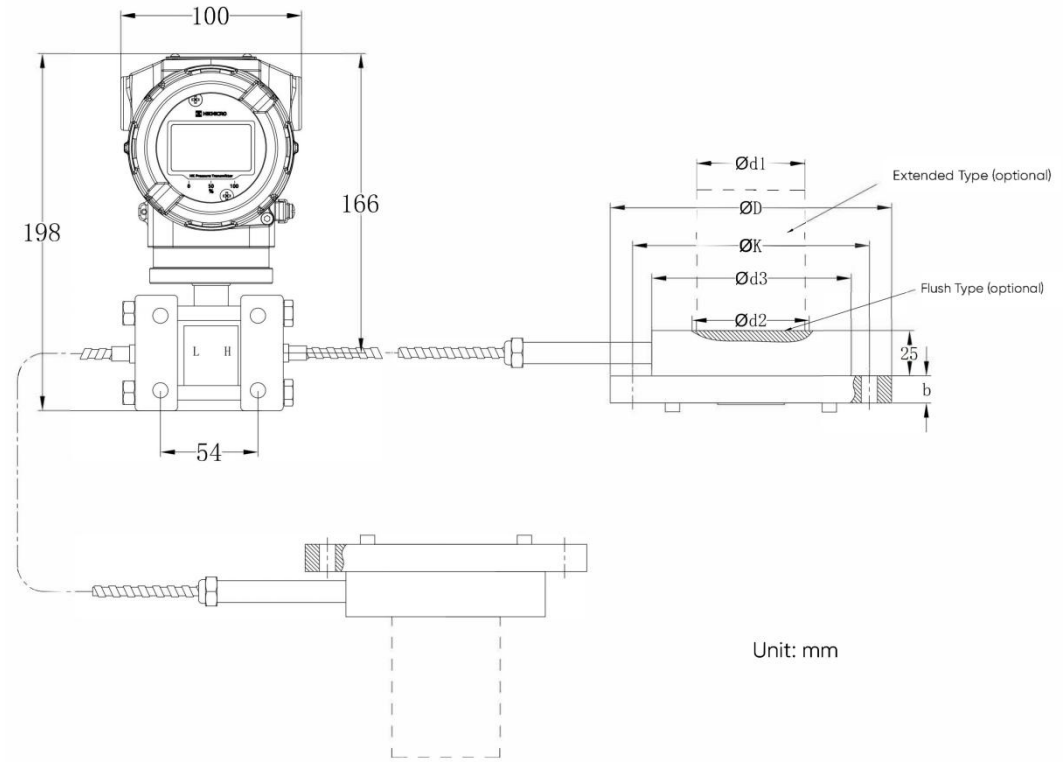
Diaphragm Seal Section for High Pressure Side:

[H]: Diaphragm seal outlet with capillary
[S]: Diaphragm material is Stainless steel 316L
[1]: Connection flange material is stainless steel 304
[Y]: There is a flushing hole
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

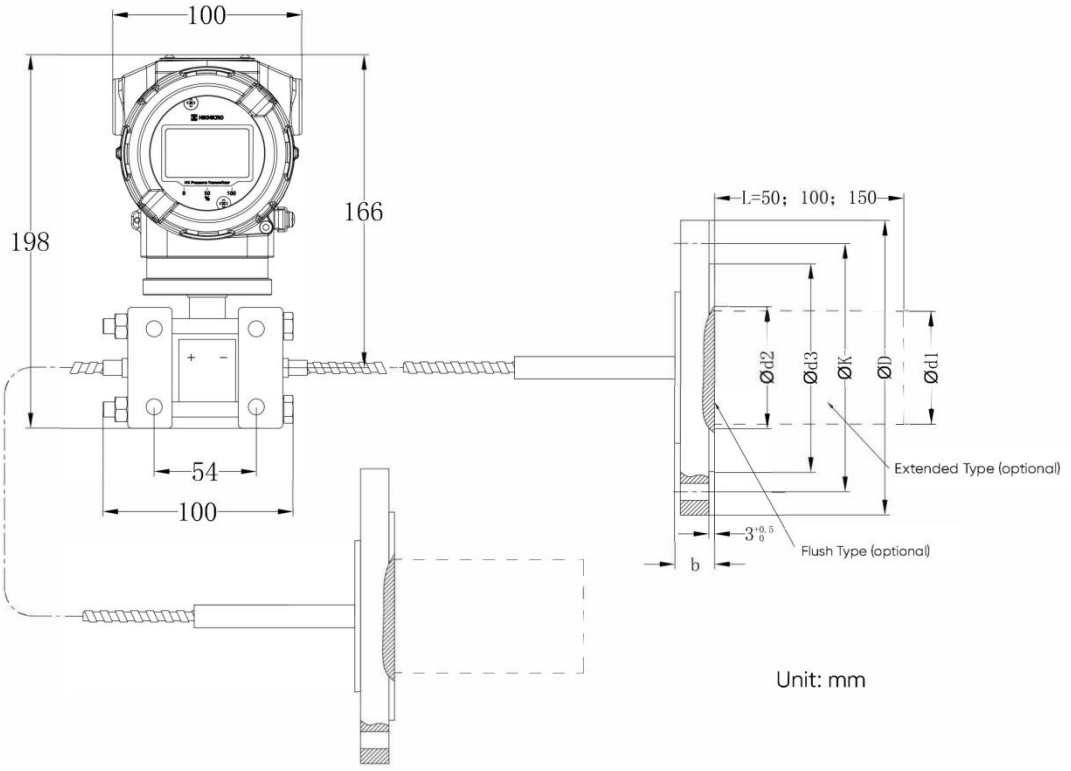
Diaphragm Seal Section for Low Pressure Side:

[H]: Diaphragm seal outlet with capillary
[S]: Diaphragm material is Stainless steel 316L
[1]: Connection flange material is stainless steel 304
[Y]: There is a flushing hole
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

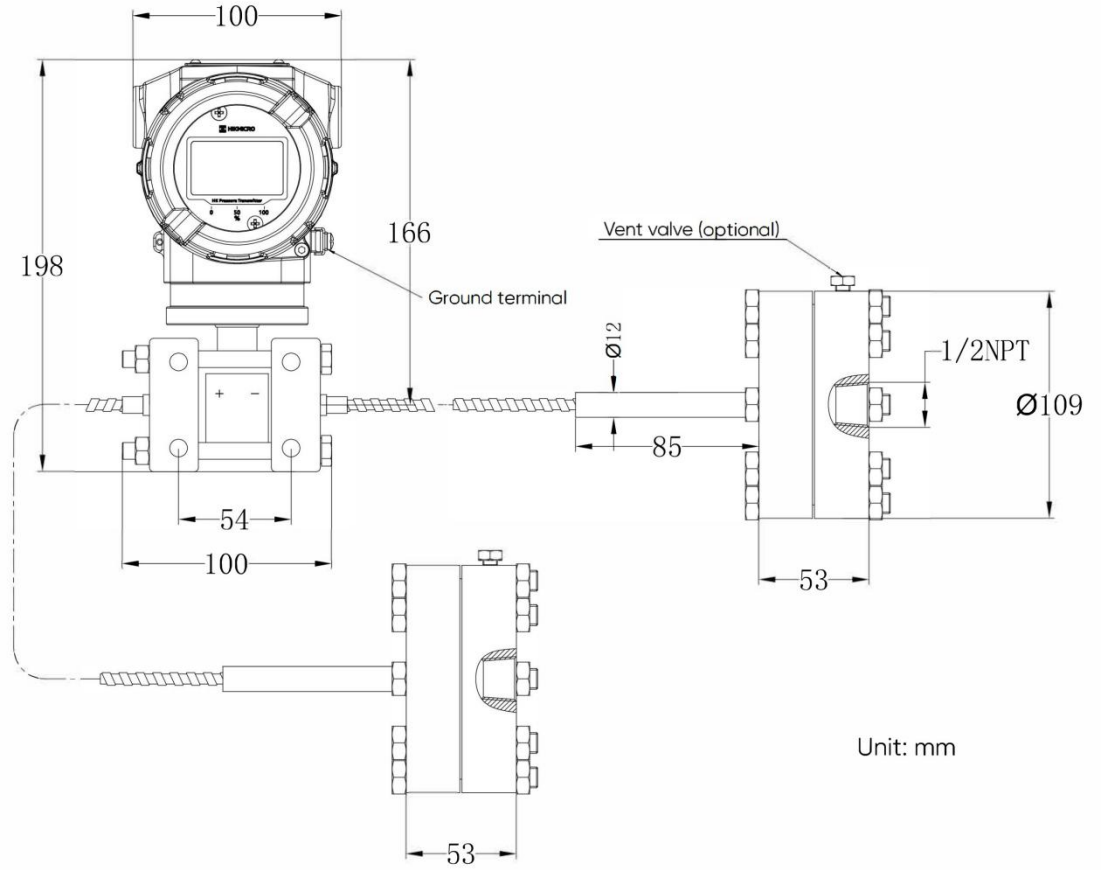
DIMENSIONS



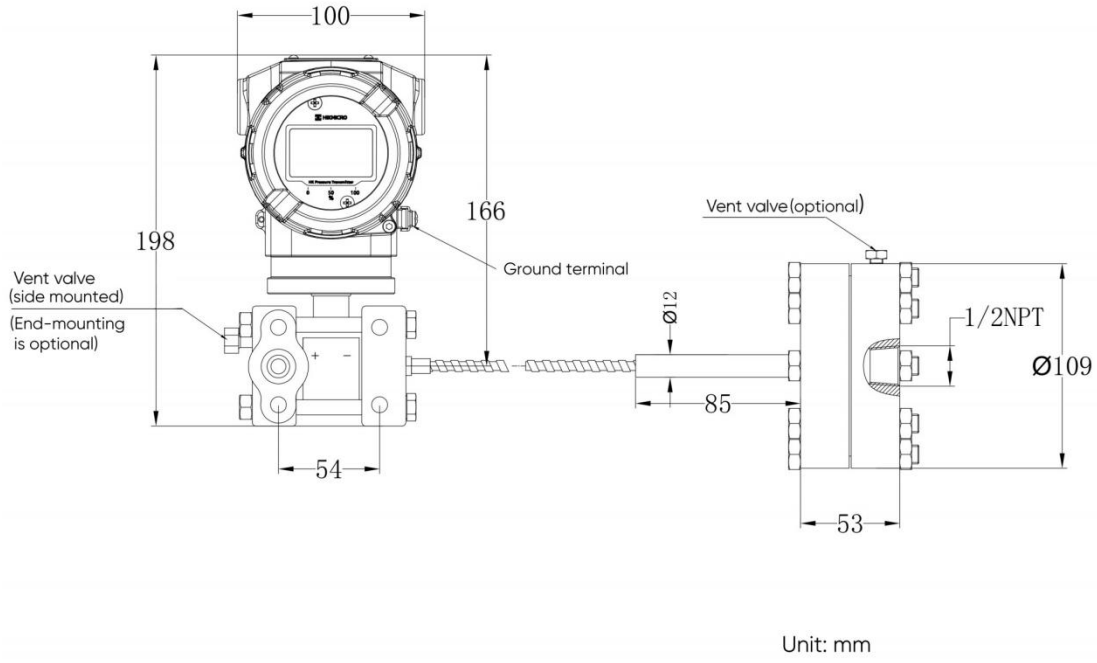
Flanged Mount, Diaphragm Seal Horizontal Outlet



Flanged Mount, Diaphragm Seal Vertical Outlet



Double Side Threaded Mount



One Side Threaded Mount

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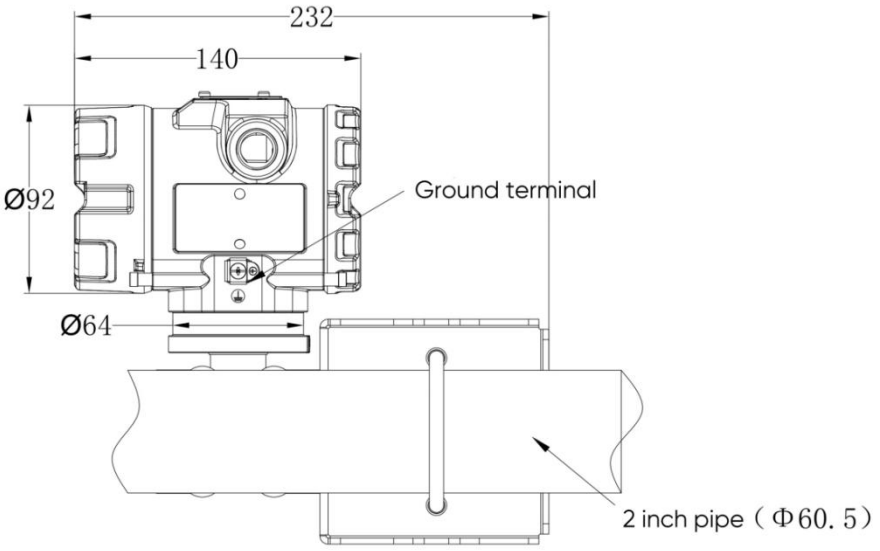
INSTALLATION

Horizontal Impulse Pipe

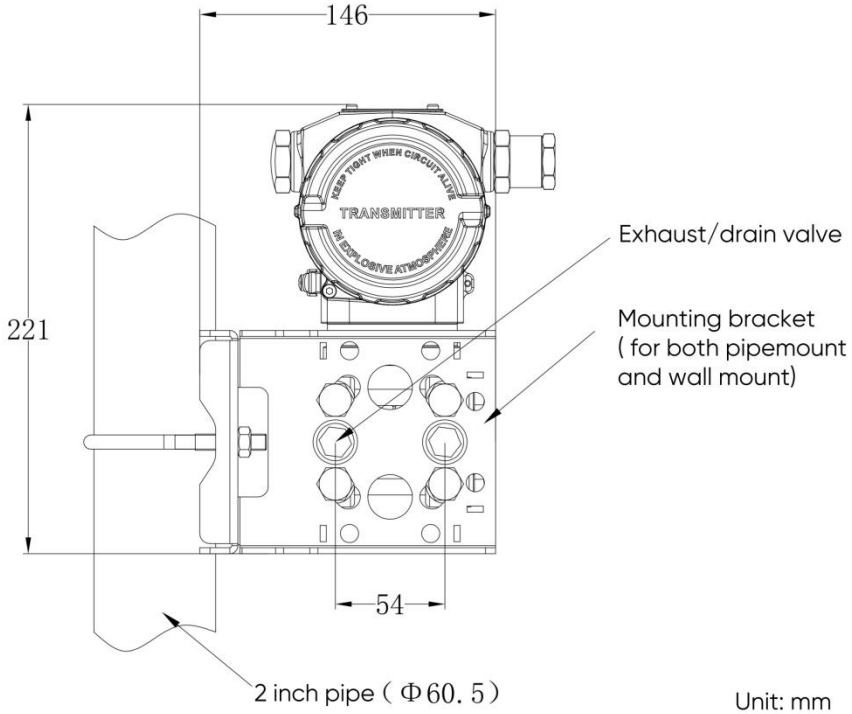
Horizontal Impulse Pipe Installation



Unit: mm

Vertical Impulse Pipe

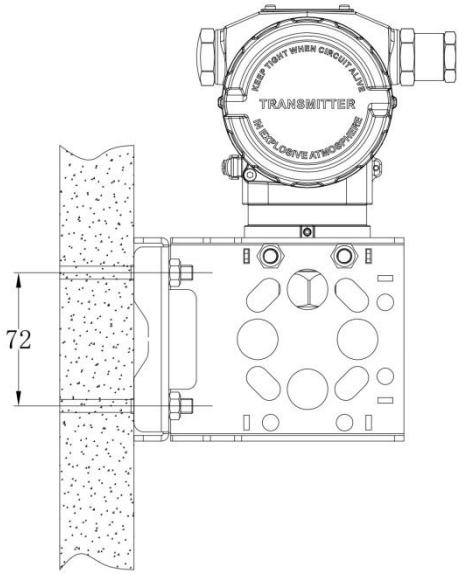
Vertical Impulse Pipe Installation



Unit: mm

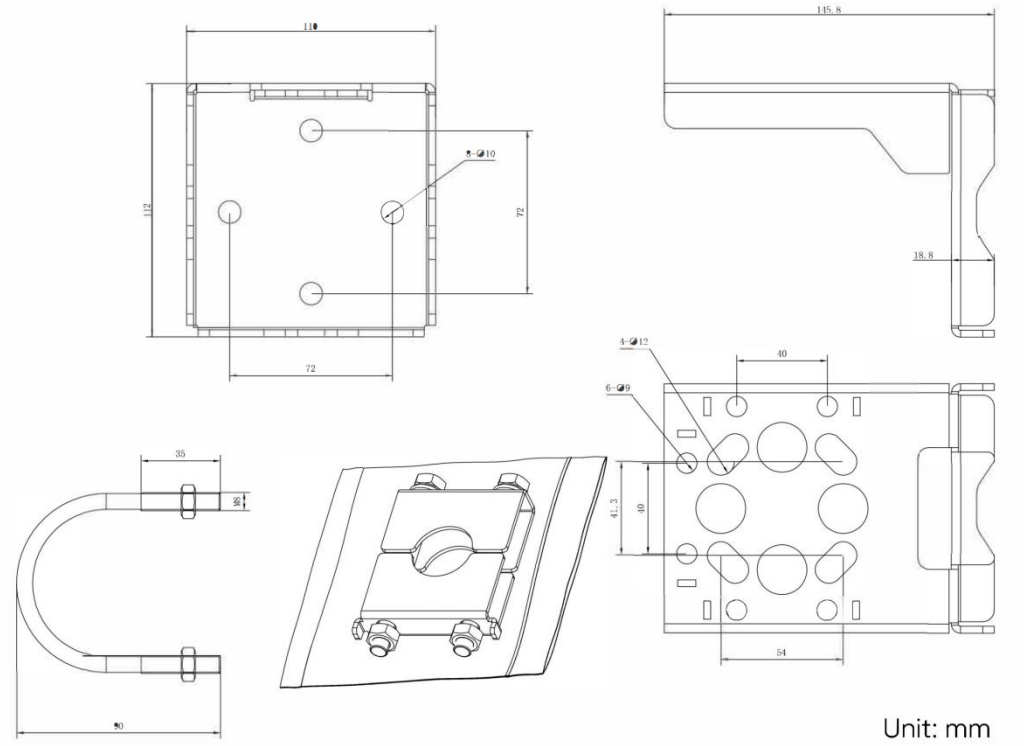
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for gauge/absolute pressure transmitter: material SUS304



Unit: mm

Clamp and nut:
material SUS304

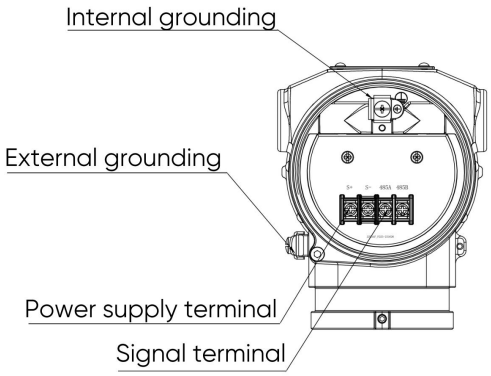
Installation fixture:
Material SUS304 or galvanizedcarbon steel, optional

Process Flange Size

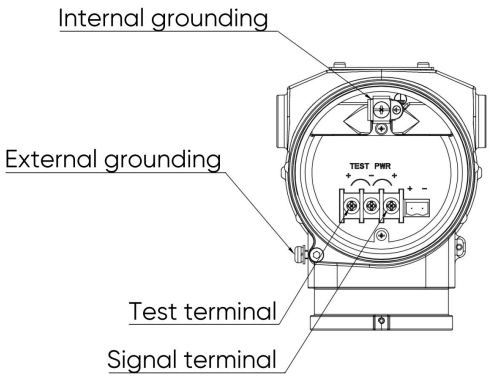
Nominal Diameter	Flange Rating	ΦD	ΦK	Φd1 Plug-in Type	Φd2 Flat Type	Φd3		b	Bolt Holes	
						Vertical Outlet	Horizontal Outlet		No.	Diameter
DN50	PN 1.6/4MPa	165	125	48.3	57	102	102	20	4	M16
	PN 6.3MPa	180	135	48.3	57	102	102	26	4	M20
	PN 10MPa	195	145	48.3	57	102	102	28	4	M24
DN80	PN 1.6/4MPa	200	160	70	75	138	127	24	8	M16
	PN 6.3MPa	215	170	70	75	138	127	28	8	M20
	PN 10MPa	230	180	70	75	138	127	32	8	M24
DN 100	PN 1/1.6MPa	220	180	89	95	156	156	20	8	M16
	PN 2.5/4MPa	235	190	89	95	156	156	24	8	M20
DN 2"	150 psi	150	120.7	48.3	57	92.1	102	17.4	4	M16
	300 psi	165	127	48.3	57	92.1	102	20.6	8	M16
	600 psi	165	127	48.3	57	92.1	102	25.4	8	M16
DN 3"	150 psi	190	152.4	70	75	127	127	22.2	4	M16
	300 psi	210	168.3	70	75	127	127	27.0	8	M20
	600 psi	210	168.3	70	75	127	127	31.8	8	M20
DN 4"	150 psi	230	190.5	89	95	156	156	22.3	8	M16
	300 psi	255	200	89	95	156	156	30.2	8	M20

Note: Bolts and nuts are optional for users

TERMINAL CONFIGURATION



485



HART

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PS0C/0D/0E/0F Diaphragm Sealed Gauge/Absolute Pressure Transmitter

The diaphragm seals of the differential pressure remote transmitter is used to prevent the medium in the pipeline from directly entering the pressure-sensing assembly of the pressure transmitter. The pressure is transmitted between it and the transmitter using a filling liquid such as silicone oil.

PS0C/0D/0E/0F diaphragm sealed gauge/absolute pressure transmitter is used to measure the pressure of liquid, gas or steam, and then convert it into a 4~20mADC HART current signal output. This series of products supports HART and 485-Modbus communication protocols.

STANDARD SPECIFICATIONS

SPAN AND RANGE LIMITS

Measurement Span/Range		kPa	psi	bar	Kgf/ cm2
Gauge Pressure					
C	Span	2~40	0.29~5.8	0.02~0.4	0.02~0.4
	Range	-40~40	-5.8~5.8	-0.4~0.4	-0.4~0.4
D	Span	2.5~250	0.3625~36.25	-0.025~2.5	-0.025~2.5
	Range	-100~250	-14.5~ 36.25	-1 ~2.5	-1 ~2.5
E	Span	10~1000	1.45~145	0.1~10	0. 1~10
	Range	-100~1000	-14.5~145	-1~10	-1~10
F	Span	30~3000	4.35~435	0. 3~30	0. 3 ~30
	Range	- 100~3000	-14.5~ 435	-1~30	-1~30
G	Span	0.1MPa ~ 10MPa	14.5~1450	1~100	1~100
	Range	-0.1~10 MPa	- 14.5~1450	- 1~100	-1~100
H	Span	0.21MPa~21MPa	30.45~3045	2.1~210	2.1~210
	Range	-0.1 ~21MPa	-14.5~8000	-1~210	-1~210
I	Span	0.4MPa~40MPa	58~5800	4~400	4~400
	Range	-0.1~40MPa	-14.5~5800	-1~400	-1~400
Absolute Pressure					
L	Span	10~40	1.45~5.8	0.1 ~0.4	0.1 ~0.4
	Range	0~40	0~5.8	0 ~0.4	0 ~0.4
M	Span	10~250	1.4503~36.25	0.1~2.5	0.1~2.5
	Range	0~250	0~36.25	0~2.5	0~2.5

O	Span	0~3000	4.35~435	0.3~30	0.3~30
	Range	0~3000	0~435	0~30	0~30

Note:
PS0C/0E-B/C: supports span C, D, E, F, G, H, I;
PS0D/0F-B/C: supports span L, M, O;

Table 2 Comparison Table of Flange Type and Minimum Span

Flange Type	Nominal Diameter	Minimum Span/Maximum Span	Maximum Capillary Length
Flat	DN 25/1″	160kPa/25MPa	10m
	DN 50/2″	10kPa/10MPa	12m
	DN 80/3″	6kPa/10MPa	16m
Plug-in	DN 100/4″	6kPa/3MPa	16m
	DN 50/2″	16kPa/10MPa	10m
	DN 80/3″	6kPa/10MPa	16m
	DN 100/4″	6kPa/3MPa	16m
Threaded Mount	Outer Diameter 109 mm	160kPa/25MPa	10m

Note: The minimum span of the diaphragm sealed gauge/absolute pressure transmitter should be the larger value of the minimum span in Table 1 and Table 2 above. The adjusted span shall not be less than the minimum span. The maximum span of the transmitter should be the minimum of the maximum span of the transmitter body and the rated pressure of the flange.

RANGE LIMITS

Lower limit value: -100 % URL (continuously adjustable)
Upper limit value: +100% URL (continuously adjustable)

PERFORMANCE SPECIFICATIONS

Response Time

The damping constant of the amplifier component is 0.1s; The time constant of the sensor and flange is 0.2~6s, depending on the sensor span, range ratio, capillary length, and filling fluid viscosity. The additional adjustable time constant is: 0.1~60s.

FUNCTIONAL SPECIFICATIONS

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.

- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA.
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)

Ambient Humidity Limits

0 -100% RH

Shock Resistance

Acceleration: 50g, Duration: 11ms

Vibration Resistance

2g to 500Hz

Medium Limits

Depends on the medium type. Refer to the fill liquid temperature parameters in the selection table.

Fill Fluid	Silicone Oil	High Temperature Silicone Oil	Vegetable Oil	Fluorine Oil
Density (25°C)	960kg/m3	980 kg/m3	937kg/m 3	1.8g/cm3
Operating Temperature Range	-40~220°C	-10~350°C	0~250°C	-40~150°C

Temperature(°C)	Working Pressure Range (kPa absolute pressure)			
20	>10	>10	>25	
100	>25	>25	>50	
150	>50	>50	>75	
200	>75	>75	>100	
250		>100	>100	
350		>100		

Work Pressure Limits

- Transmitter: Vacuum to maximum pressure
- Flange rated pressure: 150psi~600psi (ANSI Standard), PN 1.6MPa~PN 10Mpa (DIN standard)
- One-Way Overload Limit: The low-pressure side is the rated pressure of the transmitter body, and the high-pressure side is the rated pressure of the liquid level flange. Correctable zero drift may occur.

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA
- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Installation Conditions

The transmitter can be directly fixed in any position through the flange. The best state is to make the process flange axis in a vertical state, and the position deviation will produce a correctable zero offset. The electronic housing can be rotated up to 360° and the positioning screw can fix it in any position.

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires.

Process Connection

Flange needs to conform to ANSI standards or DIN standards.

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Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C, Tantalum
Process Flange	Stainless steel 304, Stainless Steel 316L
Fill Fluid	Silicone Oil, High Temperature Silicone Oil, Vegetable Oil, Fluorine Oil
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

DN 50/2″ is about 7 ~10kg ; DN 80/3″ is about 8 ~11kg ; DN 4″ is about 9 ~12kg.

Degrees of Protection

IP66/67

MODEL AND SUFFIX CODES

The model and suffix codes for PS0C/0D/0E/0F consist of two parts; a transmitter section and a diaphragm seal section. This specification sheet introduces these two parts separately. The transmitter body section is shown in one table, and the diaphragm seal section specifications are listed according to the process connection style. First select the model and suffix codes of transmitter body section and then continue on one of the diaphragm seal section.

Ordering Part Number = Transmitter Section + Diaphragm Seal Section

Transmitter Section

Model	Suffix Codes	Description
PS0C	----------	Diaphragm Sealed Gauge Pressure Transmitter with Flanged Mount
PS0D	----------	Diaphragm Sealed Absolute Pressure Transmitter with Flanged Mount
PS0E	----------	Diaphragm Sealed Gauge Pressure Transmitter with Threaded Mount
PS0F	----------	Diaphragm Sealed Absolute Pressure Transmitter with Threaded Mount
Accuracy	-D----------	0.2%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	C---------- D---------- E---------- F---------- G----------	**Diaphragm Sealed Gauge Pressure Transmitter:** 0-2kPa~40kPa 0-2.5kPa~250kPa 0-10kPa~1MPa 0-30kPa~3MPa 0-0.1MPa~10MPa

	H I L M O	0-0.21MPa~21MPa 0-0.4MPa~40MPa **Diaphragm Sealed Absolute Pressure Transmitter:** 0-10 kPa~40kPa 0-10kPa~250kPa 0-30kPa~3MPa
Capsule diaphragm	S	Stainless steel 316L
Fill fluid	1	Silicone oil
Process connection	R	Flange
Housing	-T -G	Aluminum alloy housing Stainless steel housing
Electrical connection *1	1 2	M20×1.5 1/2" NPT
LCD display *2	N 1 2	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N D	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N 2 3	None Lightning protection function Oil-free treatment

Diaphragm Seal Section (PS0C, PS0D)

Model	Suffix Codes	Description
Diaphragm seal outlet	-N -A -B	Direct mount, no capillaries Diaphragm seal vertical outlet with capillary Diaphragm seal horizontal outlet with capillary
Process connection *3	A B C D E F S W	DN50 DIN2501, E type DIN2526 DN80 DIN2501, E type DIN2526 DN100 DIN2501, E type DIN2526 DN2" ANSI B 16.5, RF type ANSI B 16.5 DN3" ANSI B 16.5, RF type ANSI B 16.5 DN4" ANSI B 16.5, RF type ANSI B 16.5 DN25 DIN2501, D type DIN2526 DN1" ANSI B 16.5, RF type ANSI B 16.5
Diaphragm material *4	S H T	Stainless steel 316L Hastelloy C Tantalum
Rated working pressure	1 2 3 4 5 6 7 8 9 0 A B C	PN 1MPa/4MPa (DN50, DN80 optional), DIN2501 PN 6.3MPa (DN50, DN80 optional), DIN2501 PN 10MPa (DN50, DN80 optional), DIN2501 PN 1MPa/1.6MPa (DN100 only), DIN2501 PN 2.5MPa/4MPa (DN100 only), DIN2501 class 150 (DN2" , DN3" optional), ANSI B 16.5 class 300 (DN2" , DN3" optional), ANSI B 16.5 class 600 (DN2" , DN3" optional), ANSI B 16.5 class 150 (DN4" only) , ANSI B 16.5 class 300 (DN4" only) , ANSI B 16.5 class 1500 (DN 1" only), ANSI B 16.5 PN 16MPa(DN25), DIN2501 PN 25 MPa (DN25), DIN2501
Process flange material	1 2	Stainless steel 304 Stainless steel 316L
Process connection style	O A B D E F	Flush type Extended type *5, stainless steel 316 L, 50 mm Extended type, stainless steel 316 L, 100 mm Extended type, stainless steel 316 L, 150 mm Extended type, Hastelloy C, 50 mm Extended type, Hastelloy C, 100 mm Extended type, Hastelloy C, 150 mm
Fill fluid	1 2 3 4	Silicone oil (-40~220°C/-40~428°F) High temperature silicone oil (-10 ~350°C/14~662°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Capillary length	00 01 02	No capillary 1m 2m

	03----------	3m
	04----------	4m
	05----------	5m
	06----------	6m
	07----------	7m
	08----------	8m
	09----------	9m
	10----------	10m
	11----------	11m
	12----------	12m
Protective layer of capillary	N----------	None
	P----------	with PVC protective layer
Diaphragm treatment (Multiple choices)	N----------	None
	1----------	FEP (only for stainless steel 316L)
	2----------	PFA (only for stainless steel 316L)
	3----------	PTFE
	4----------	Vacuum proof treatment
Gasket material *6	N----------	None
	1----------	Polytetrafluoroethylene (PTFE)
	2----------	Stainless steel 316L
	3----------	Hastelloy C
	4----------	Tantalum

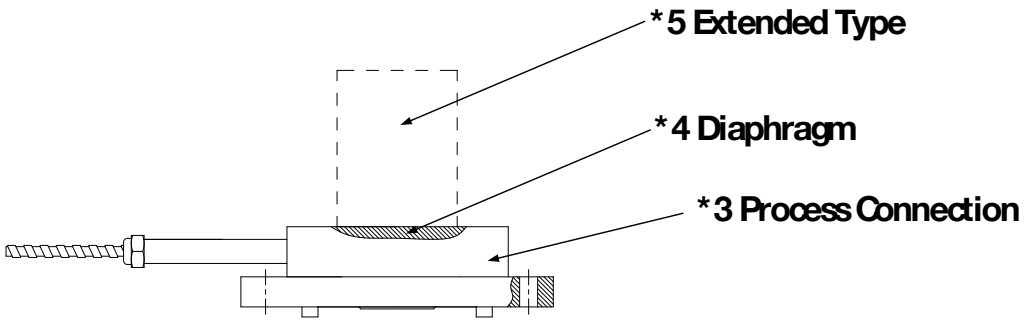
Diaphragm Seal Section (PS0E, PS0F)

Model	Suffix Codes	Description
Diaphragm seal outlet	-H----------	Diaphragm seal outlet with capillary
Diaphragm material	S----------	Stainless steel 316L
	H----------	Hastelloy C
	T----------	Tantalum
Process flange material	1----------	Stainless steel 304
	2----------	Stainless steel 316L
Flushing hole	N----------	None
	Y----------	Yes (1 by default)
Fill fluid	1----------	Silicone oil (-40~220°C/-40~428°F)
	2----------	High temperature silicone oil (-10 ~350°C/14~662°F)
	3----------	Fluorine oil (- 40~150°C/-40~302°F)
	4----------	Vegetable oil (0~250°C/32~482°F)
Capillary length	01----------	1m
	02----------	2m
	03----------	3m
	04----------	4m
	05----------	5m
	06----------	6m
	07----------	7m
	08----------	8m
Protective layer of capillary	N----------	None
	P----------	with PVC protective layer
Diaphragm treatment (Multiple choices)	N----------	None
	4----------	Vacuum proof treatment

*1: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*2: If Output signal is selected as "485-modbus communication", only LCD is available.

*3, *4, *5: The structures are shown in the figure below.



*6: This bit is only available when "Process Connection for Positive Cavity" is chosen as "S: DN25 DIN2501, D type DIN2526"

Note:
1. When selecting diaphragm seal section, the selection of the gauge/absolute pressure transmitter section should be completed first;

2. The diaphragm with PTFE membrane can be used for negative pressure measurement greater than 50kPa absolute pressure, but it is only suitable for flat flanges;

3. When the measured pressure or working static pressure is <50kPa (absolute pressure), the flange should be treated to prevent vacuum;

4. The minimum span of the transmitter is the larger value of the minimum span in Table 1, Table 2 and Table 3. The adjustment span shall not be less than the minimum span. In order to optimize the performance of the transmitter, the range ratio should be selected <10:1;

Selection example:

Example: PS0C-D1DS1R-T11NN-AAS11A205NN

Transmitter Section:

[D]: Accuracy level is 0.2 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[D]: Span is 0-2.5kPa~250kPa
[S]: Capsule diaphragm material is stainless steel 316L
[1]: Fill fluid is silicone oil
[R]: Process connection is flange
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[1]: LCD backlight display
[N]: Non-explosion-proof
[N]: No special functions

Diaphragm Seal Section:

[A]: Diaphragm seal vertical outlet with capillary
[A]: Process connection is DN50 DIN2501, E type DIN2526

[S]: Diaphragm material is Stainless steel 316L
[1]: Rated working pressure is PN 1Mpa/4MPa, DIN2501
[1]: Process flange material is stainless steel 304
[A]: Extended type, stainless steel 316 L, 50 mm
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

Example: PS0E-D1DS1R-T11NN-HS1Y205NN

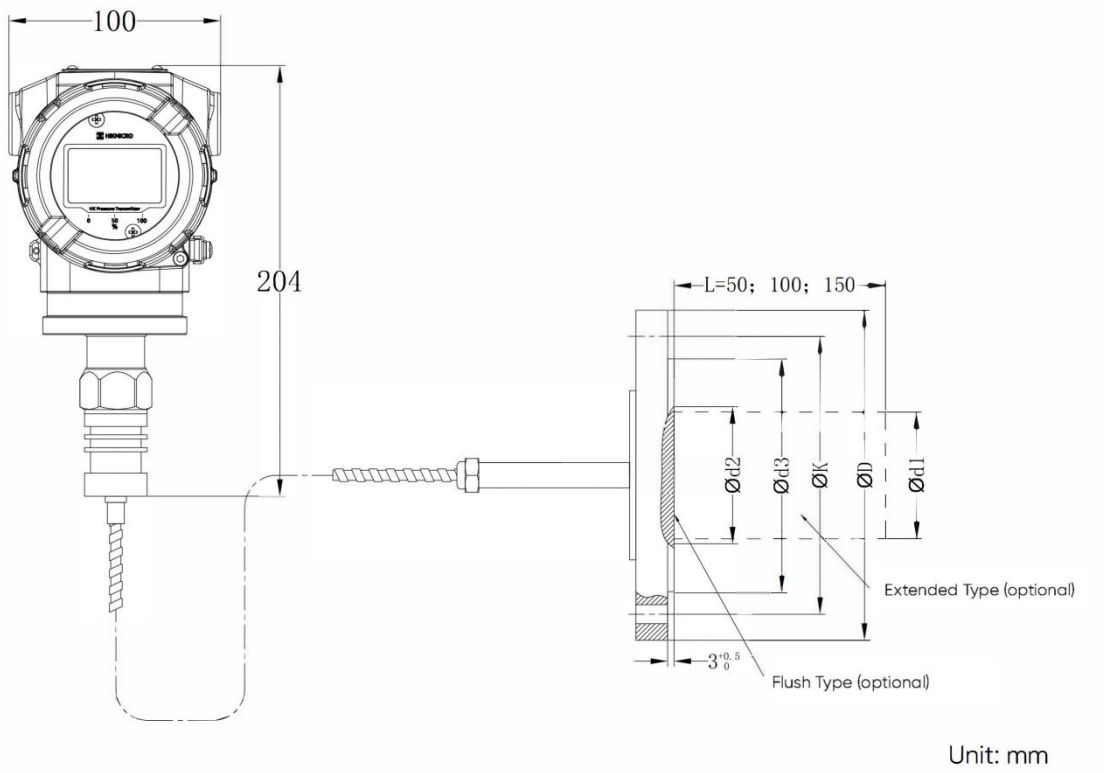
Transmitter Body:

[D]: Accuracy level is 0.2 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[D]: Span is 0-2.5kPa~250kPa
[S]: Capsule diaphragm material is Stainless steel 316L
[1]: Fill fluid is silicone oil
[R]: Process connection is flange
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[1]: LCD backlight display
[N]: Non-explosion proof
[N]: No special functions

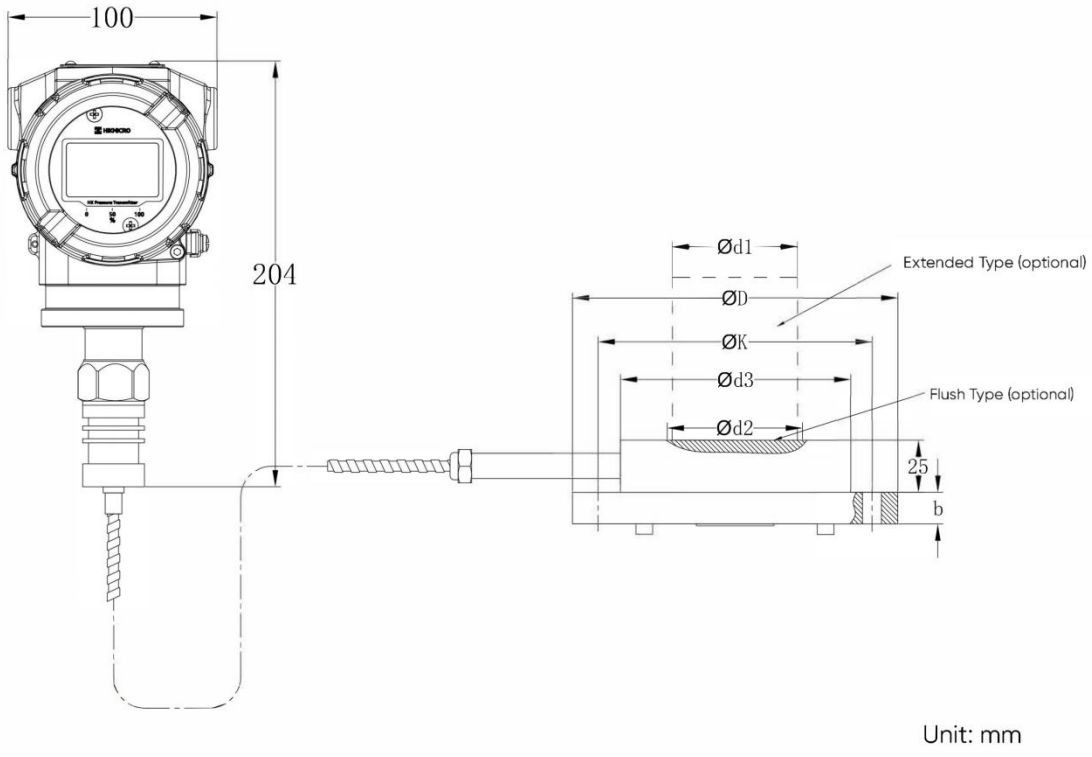
Diaphragm Seal Section:

[H]: Diaphragm seal threaded mount with capillary
[S]: Diaphragm material is Stainless steel 316L
[2]: Flange material is stainless steel 316L
[Y]: There is a flushing hole
[2]: Fill fluid is high temperature silicone oil
[05]: Capillary is stainless steel 304, length is 5m
[N]: Capillary has no protective layer
[N]: There is no special treatment for diaphragm

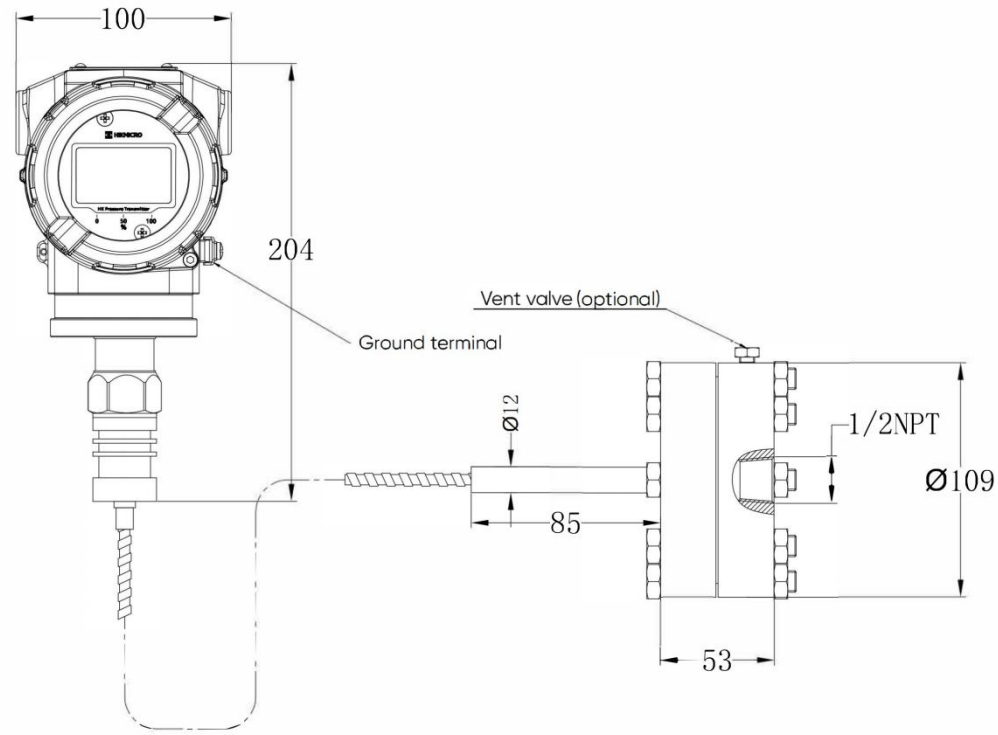
DIMENSIONS



Flanged Mount, Diaphragm Seal Vertical Outlet

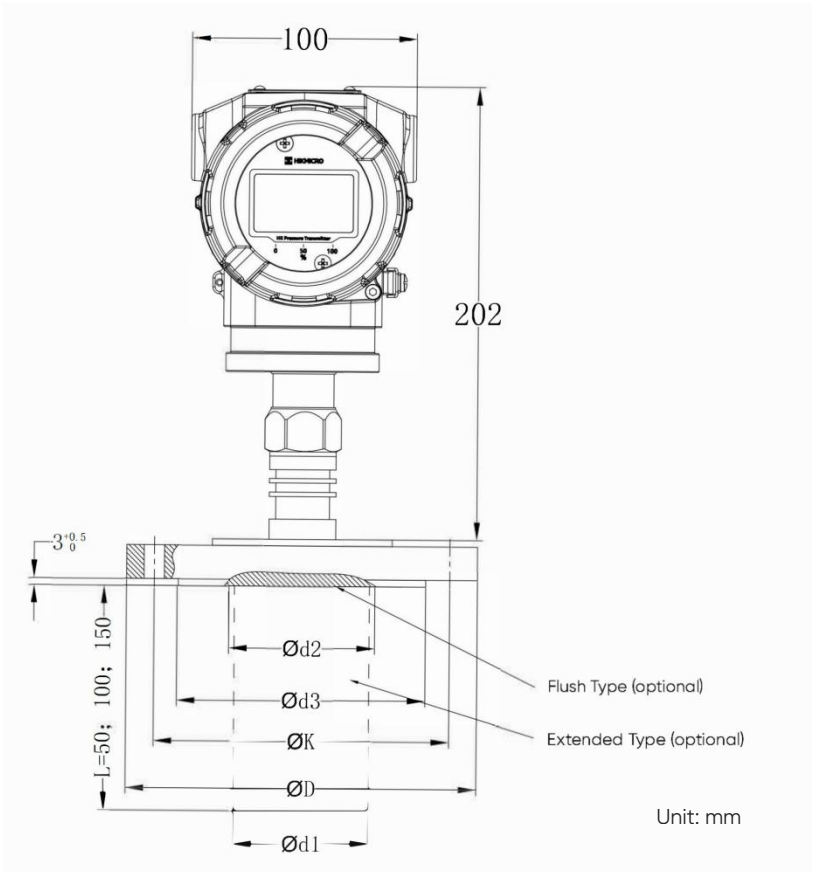


Flanged Mount, Diaphragm Seal Horizontal Outlet



Unit: mm

Threaded Mount

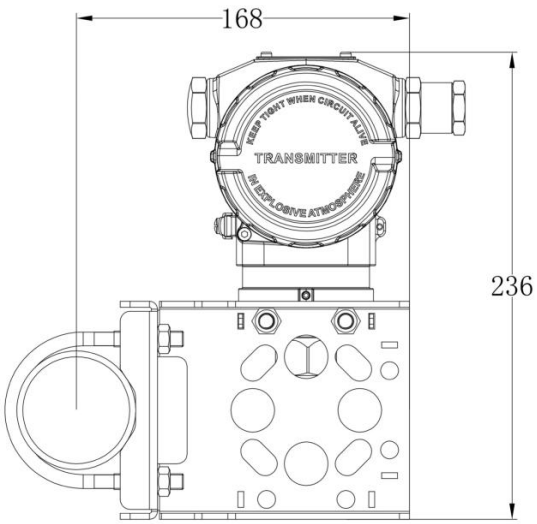


Direct Flanged Mount

INSTALLATION

Horizontal Impulse Pipe

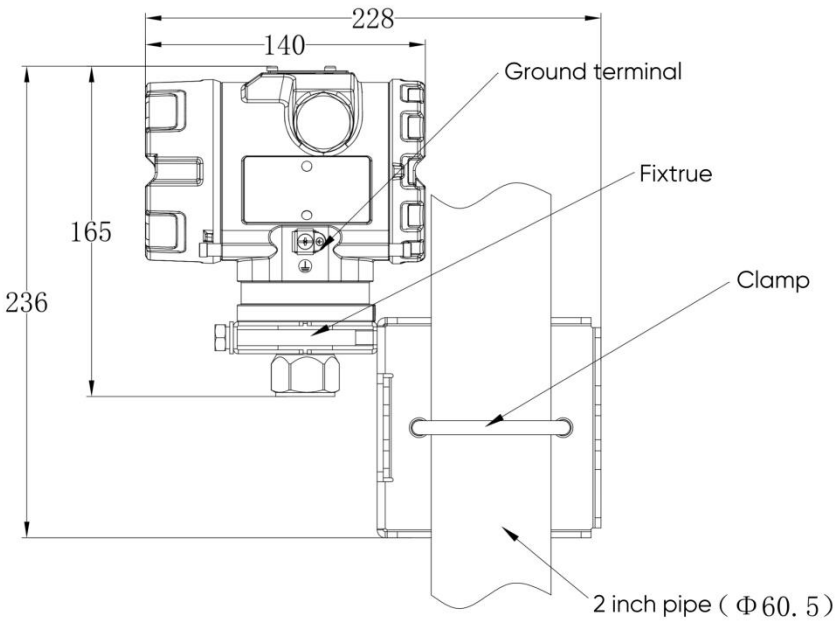
Horizontal Impulse Pipe Installation



Unit: mm

Vertical Impulse Pipe

Vertical Impulse Pipe Installation



Unit: mm

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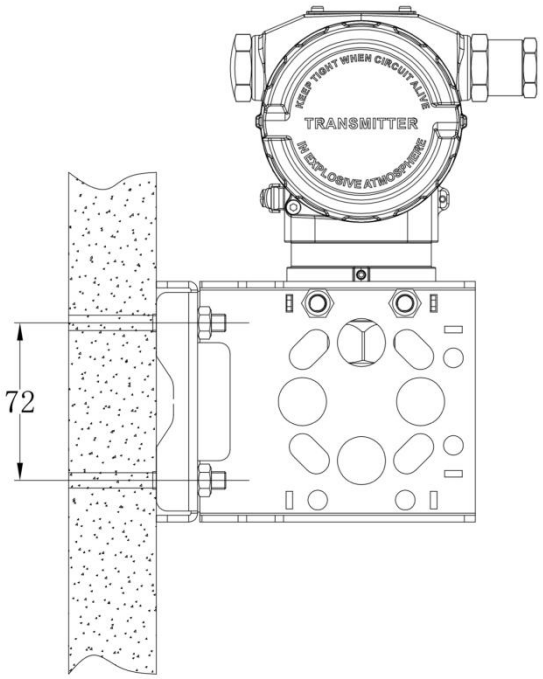
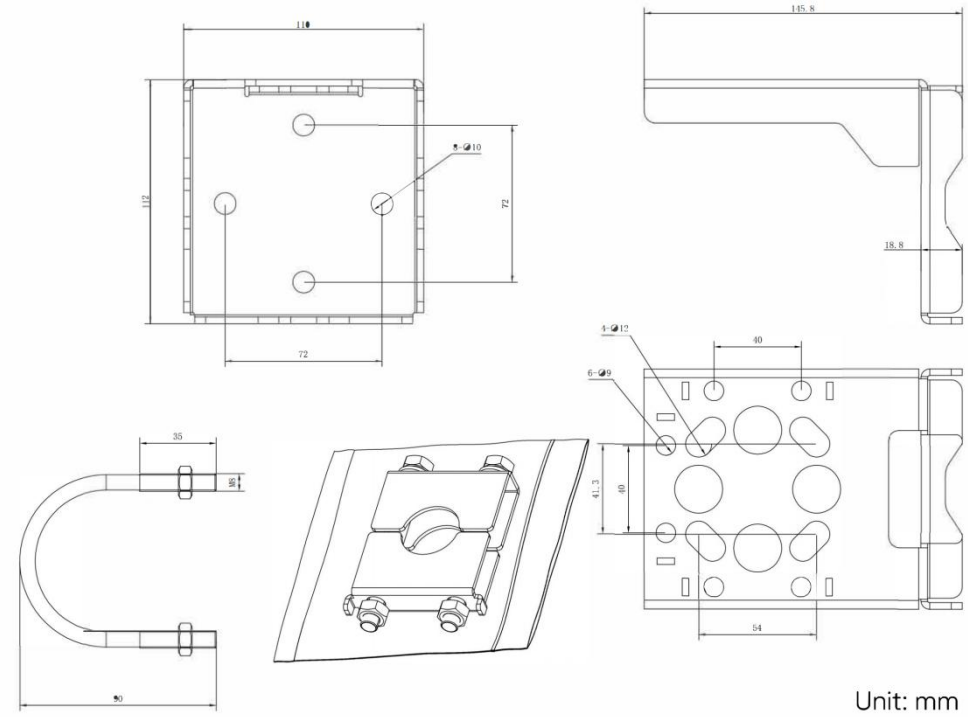
Wall Mount

Wall Mount Installation



Unit: mm

Bracket for gauge/absolute pressure transmitter: material SUS304



Unit: mm

Clamp and nut:
material SUS304

Installation fixture:
Material SUS304 or galvanizedcarbon steel, optional

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Process Flange Size

Nominal Diameter	Flange Rating	ΦD	ΦK	Φd1 Plug-in Type	Φd2 Flat Type	Φd3		b	Bolt Holes	
						Vertical Outlet	Horizontal Outlet		No.	Diameter
DN50	PN 1.6/4MPa	165	125	48.3	57	102	102	20	4	M16
	PN 6.3MPa	180	135	48.3	57	102	102	26	4	M20
	PN 10MPa	195	145	48.3	57	102	102	28	4	M24
DN80	PN 1.6/4MPa	200	160	70	75	138	127	24	8	M16
	PN 6.3MPa	215	170	70	75	138	127	28	8	M20
	PN 10MPa	230	180	70	75	138	127	32	8	M24
DN 100	PN 1/1.6MPa	220	180	89	95	156	156	20	8	M16
	PN 2.5/4MPa	235	190	89	95	156	156	24	8	M20
DN 2″	150 psi	150	120.7	48.3	57	92.1	102	17.4	4	M16
	300 psi	165	127	48.3	57	92.1	102	20.6	8	M16
	600 psi	165	127	48.3	57	92.1	102	25.4	8	M16
DN 3″	150 psi	190	152.4	70	75	127	127	22.2	4	M16
	300 psi	210	168.3	70	75	127	127	27.0	8	M20
	600 psi	210	168.3	70	75	127	127	31.8	8	M20
DN 4″	150 psi	230	190.5	89	95	156	156	22.3	8	M16
	300 psi	255	200	89	95	156	156	30.2	8	M20

Note: Bolts and nuts are optional for users

Size of Small Diameter Process Flange Complies with DIN 2501 Standard

DN	PN	Size (mm)						Weight (Kg)
		D	K	d4	b	f	d2	
25	1MPa/4MPa	115	85	68	22	2	14	1.5
25	6.3MPa/16MPa	140	100	68	24	2	18	3.2

Size of Small Diameter Process Flange Complies with ANSIB 16.5 Standard

DN	psi	Size (mm)						Weight (Kg)
		D	K	d4	b	f	d2	
1″	150	110	79.5	51	22	2	16	1.4
	300	125	89	51	22	2	18	1.7
1″	600	125	89	51	25	7	18	3.6
	900/1500	150	101.5	51	36	7	26	4.0

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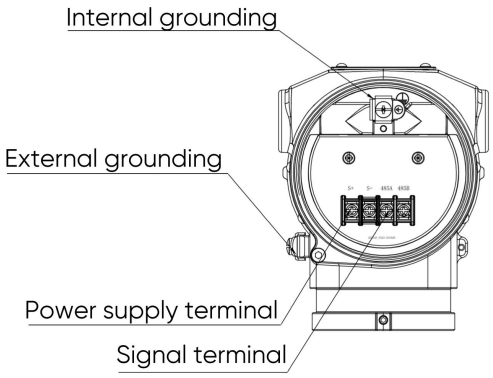
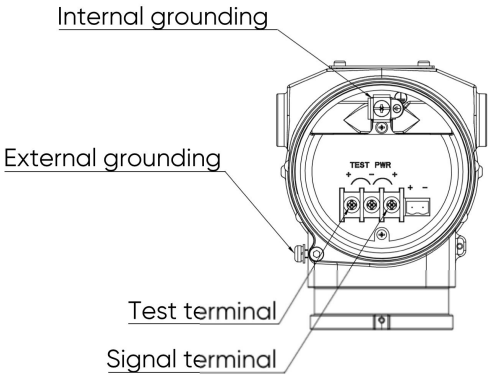
TERMINAL CONFIGURATION



485



HART

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PS0G High Performance Diaphragm Sealed Traditional-mount Level Pressure Transmitter

The diaphragm seals of the level pressure transmitter is used to prevent the medium in the pipeline from directly entering the pressure-sensing assembly of the pressure transmitter. The pressure is transmitted between it and the transmitter using a filling liquid such as silicone oil.

PS0G diaphragm sealed level pressure transmitter is used to measure the pressure of liquid, and then convert it into a 4~20mADC HART current signal output. This series of products supports HART and 485-Modbus communication protocols.

STANDARD SPECIFICATIONS

SPAN

Table 1 Comparison Table of Span Code and Span

Span Code	Minimum Span	Maximum Span	Rated Pressure
B	1kPa	6kPa	Rated pressure of the flange
C	4kPa	40kPa	
D	25kPa	250kPa	
E	100kPa	1MPa	
F	200kPa	3MPa	

Table 2 Comparison Table of Flange Type and Minimum Span

Flange Type	Nominal Diameter	Minimum Span
Flush Type	DN 50/2"	6kPa
	DN 80/3"	4kPa
	DN 100/4"	4kPa
Extended Type	DN 50/2"	6kPa
	DN 80/3"	4kPa
	DN 100/4"	4kPa

Note: The minimum span of the diaphragm sealed level pressure transmitter should be the larger value of the minimum span in Table 1 and Table 2 above. The adjusted span shall not be less than the minimum span. The maximum span of the transmitter should be the minimum of the maximum span of the transmitter body and the rated pressure of the flange.

RANGE LIMITS

Lower limit value: -100 % URL (continuously adjustable)
Upper limit value: +100% URL (continuously adjustable)

PERFORMANCE SPECIFICATIONS

Response Time

The damping constant of the amplifier component is 0.1s; The time constant of the sensor and flange is 0.2~6s, depending on the sensor span, range ratio, capillary length, and filling fluid viscosity. The additional adjustable time constant is: 0.1~60s.

FUNCTIONAL SPECIFICATIONS

Output

- Two-wire, 4-20 mA + HART, digital communication; linear or square root output can be selected, HART protocol is superimposed on the 4-20 mA signal.
- Output Signal Limit: Imin =3.9 mA, Imax = 20.5 mA.
- 24VDC+ RS485/RTU-Modbus

Alarm Current

Mode adjustable, 4-20 mA/HART only:

- Low Alarm Mode (minimum): 3.6mA
- High Alarm Mode (maximum): 21mA
- No Alarm Mode (hold): Maintain the effective current value before the fault
  Alarm Current Standard Setting: High Alarm Mode

NORMAL OPERATING CONDITION

Ambient Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)
-20 to 65°C (-4 to 149°F) with LCD display

Process Temperature Limits

Minimum temperature: depends on the fill fluid; Maximum: 85 ° C (185°F)

Ambient Humidity Limits

0 -100% RH

Shock Resistance

Acceleration: 50g, Duration: 11ms

Vibration Resistance

2g to 500Hz

Medium Limits

Depends on the medium type. Refer to the fill liquid temperature parameters in the selection table.

Fill Fluid	Silicone Oil	High Temperature Silicone Oil	Vegetable Oil	Fluorine Oil
Density (25°C)	960kg/m3	980 kg/m3	937kg/m 3	1.8g/cm3
Operating Temperature Range	-40~220°C	-10~350°C	0~250°C	-40~150°C
Temperature(°C)	Working Pressure Range (kPa absolute pressure)			
20	>10	>10	>25	
100	>25	>25	>50	
150	>50	>50	>75	
200	>75	>75	>100	
250		>100	>100	
350		>100		

Work Pressure Limits

- Transmitter: From 3.5kPa absolute pressure to rated pressure, the protection pressure can be greater than 1.5 times the rated pressure and applied to both sides of the transmitter.
- Flange rated pressure: 150psi~600psi (ANSI Standard), PN 1.6 MPa~PN 10 Mpa (DIN standard)
- One-Way Overload Limit: The low-pressure side is the rated pressure of the transmitter body, and the high-pressure side is the rated pressure of the liquid level flange. Correctable zero drift may occur.

Power Supply & Load Conditions

- Power supply voltage is 24V, R≤ (Us-12V)/I max kΩ, where I max =23 mA

- Maximum Power Supply Voltage: 36V DC
- Minimum Power Supply Voltage: 13.5V DC (Backlight LCD Display, Low temperature LCD display)
- Digital Communication Load Range: 250~600 Ω

PHYSICAL SPECIFICATION

Installation Conditions

The transmitter can be directly fixed in any position through the flange. The best state is to make the process flange axis in a vertical state, and the position deviation will produce a correctable zero offset. The electronic housing can be rotated up to 360° and the positioning screw can fix it in any position.

Electrical Connection

M20 × 1.5 or 1/2 NPT internal thread, standard M20 × 1.5 nylon cable gland, terminal block suitable for 0.5 ~2.5 mm^2 wires.

Process Connection

The negative cavity side of the transmitter has NPT1/4 and UNF7/16" internal threads. The flange on the positive cavity side of the transmitter conforms to ANSI standards or DIN standards.

Materials

Measuring Capsule	**Stainless Steel 316L**
Capsule Diaphragm	Stainless steel 316L, Hastelloy C, Tantalum, PFA, PTFE
Process Flange	Stainless steel 304, Stainless Steel 316L
Fill Fluid	Silicone Oil, High Temperature Silicone Oil, Vegetable Oil, Fluorine Oil
Transmitter Housing	Aluminum alloy, epoxy resin sprayed on the surface; Stainless steel housing is optional
Housing Seal	EPDM
Name Plate	Stainless Steel 304

Weight

DN 50/2″ is about 7 ~10kg ; DN 80/3″ is about 8 ~11kg ; DN 4″ is about 9 ~12kg.

Degrees of Protection

IP66/67

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MODEL AND SUFFIX CODES

The model and suffix codes for PS0G consist of two parts; a transmitter section and a diaphragm seal section. This specification sheet introduces these two parts separately. The transmitter body section is shown in one table, and the diaphragm seal section specifications are listed according to the process connection style. First select the model and suffix codes of transmitter body section and then continue on one of the diaphragm seal section.

Ordering Part Number = Transmitter Section + Diaphragm Seal Section (High Pressure Side) + Diaphragm Seal Section (Low Pressure Side)

Transmitter Section

Model	Suffix Codes	Description
PS0G	----------	Diaphragm Sealed Traditional-mount Level Pressure Transmitter
Accuracy	-D----------	0.2%
Output signal	1---------- 2----------	4-20mA , HART communication 485 - Modbus communication
Measurement span	B---------- C---------- D---------- E---------- F----------	0-2kPa~6kPa 0-4kPa~40kPa 0-2.5kPa~250kPa 0-10kPa~1MPa 0-30kPa~3MPa
Capsule diaphragm	S----------	Stainless steel 316L
Fill fluid	1----------	Silicone oil
Rated working pressure	3----------	16 MPa
Process connection *1	LO---------- LB---------- LU---------- LD---------- LR----------	1/4" NPT and 7/16" UNF threaded holes, no vent valve 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the rear end of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the upper side of the flange 1/4" NPT and 7/16" UNF threaded holes, the vent valve is installed on the lower side of the flange 7/16" UNF threaded holes, high pressure side for direct mount flange, low pressure side for remote sealed flange
Capsule gasket	N---------- F---------- P----------	Nitrile rubber (NBR) Fluororubber (FKM) Polytetrafluoroethylene (PTFE)
Housing	-T---------- -G----------	Aluminum alloy housing Stainless steel housing
Electrical connection *2	1---------- 2----------	M20×1.5 1/2" NPT
Process connection accessories *3	N---------- 1---------- 2----------	None 1/2" NPT internal threaded stainless steel oval flange M20×1.5 external thread stainless steel T-shaped connector
LCD display *4	N---------- 1---------- 2----------	None LCD backlight display Low temperature LCD display
Explosion-proof selection	N---------- D----------	Non-explosion proof Explosion-proof (NEPSI)
Special functions	N------ 1------- 2------- 3-------	None Square root output Lightning protection function Oil-free treatment

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Diaphragm Seal Section (High Pressure Side)

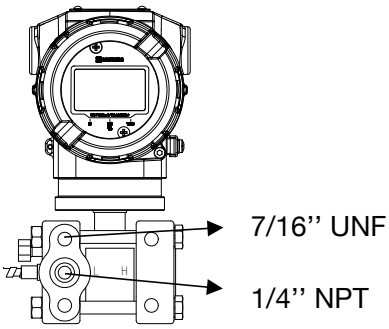
Model	Suffix Codes	Description
Diaphragm seal outlet	-HN----------	Direct mounted diaphragm seal *5
Process connection *6	A---------- B---------- C---------- D---------- E---------- F----------	DN50 DIN2501, E type DIN2526 DN80 DIN2501, E type DIN2526 DN100 DIN2501, E type DIN2526 DN2" ANSI B 16.5, RF type ANSI B 16.5 DN3" ANSI B 16.5, RF type ANSI B 16.5 DN4" ANSI B 16.5, RF type ANSI B 16.5
Diaphragm material *7	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Rated working pressure	1---------- 2---------- 3---------- 4---------- 5---------- 6---------- 7---------- 8---------- 9---------- 0----------	PN 1MPa/4MPa (DN50, DN80 optional), DIN2501 PN 6.3MPa (DN50, DN80 optional), DIN2501 PN 10MPa (DN50, DN80 optional), DIN2501 PN 1MPa/1.6MPa (DN100 only), DIN2501 PN 2.5MPa/4MPa (DN100 only), DIN2501 class 150 (DN2" , DN3" optional), ANSI B 16.5 class 300 (DN2" , DN3" optional), ANSI B 16.5 class 600 (DN2" , DN3" optional), ANSI B 16.5 class 150 (DN4" only) , ANSI B 16.5 class 300 (DN4" only) , ANSI B 16.5
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L
Process connection style	O---------- A---------- B---------- C---------- D---------- E---------- F----------	Flush type Extended type *8, stainless steel 316 L, 50 mm Extended type, stainless steel 316 L, 100 mm Extended type, stainless steel 316 L, 150 mm Extended type, Hastelloy C, 50 mm Extended type, Hastelloy C, 100 mm Extended type, Hastelloy C, 150 mm
Fill fluid	1---------- 3---------- 4----------	Silicone oil (-40~220°C/-40~428°F) Fluorine oil (- 40~150°C/-40~302°F) Vegetable oil (0~250°C/32~482°F)
Diaphragm treatment (Multiple choices)	N---------- 1---------- 2---------- 3---------- 4----------	None FEP (only for stainless steel 316L) PFA (only for stainless steel 316L) PTFE Vacuum proof treatment

Diaphragm Seal Section (Low Pressure Side, Optional)

Model	Suffix Codes	Description
Diaphragm seal outlet	-LA---------- -LB----------	Diaphragm seal vertical outlet with capillary Diaphragm seal horizontal outlet with capillary
Process connection	A---------- B---------- C---------- D---------- E---------- F----------	DN50 DIN2501, E type DIN2526 DN80 DIN2501, E type DIN2526 DN100 DIN2501, E type DIN2526 DN2" ANSI B 16.5, RF type ANSI B 16.5 DN3" ANSI B 16.5, RF type ANSI B 16.5 DN4" ANSI B 16.5, RF type ANSI B 16.5
Diaphragm material	S---------- H---------- T----------	Stainless steel 316L Hastelloy C Tantalum
Rated working pressure	1---------- 2---------- 3---------- 4---------- 5---------- 6---------- 7---------- 8---------- 9---------- 0----------	PN 1MPa/4MPa (DN50, DN80 optional), DIN2501 PN 6.3MPa (DN50, DN80 optional), DIN2501 PN 10MPa (DN50, DN80 optional), DIN2501 PN 1MPa/1.6MPa (DN100 only), DIN2501 PN 2.5MPa/4MPa (DN100 only), DIN2501 class 150 (DN2" , DN3" optional), ANSI B 16.5 class 300 (DN2" , DN3" optional), ANSI B 16.5 class 600 (DN2" , DN3" optional), ANSI B 16.5 class 150 (DN4" only) , ANSI B 16.5 class 300 (DN4" only) , ANSI B 16.5
Process flange material	1---------- 2----------	Stainless steel 304 Stainless steel 316L

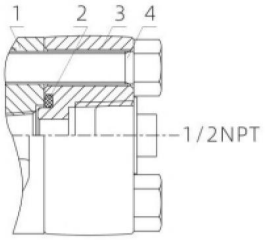
Process connection style	O----------	Flush type
	A----------	Extended type, stainless steel 316 L, 50 mm
	B----------	Extended type, stainless steel 316 L, 100 mm
	C----------	Extended type, stainless steel 316 L, 150 mm
	D----------	Extended type, Hastelloy C, 50 mm
	E----------	Extended type, Hastelloy C, 100 mm
	F----------	Extended type, Hastelloy C, 150 mm
Fill fluid	1----------	Silicone oil (-40~220°C/-40~428°F)
	3----------	Fluorine oil (- 40~150°C/-40~302°F)
	4----------	Vegetable oil (0~250°C/32~482°F)
Capillary length	01----------	1m
	02----------	2m
	03----------	3m
	04----------	4m
	05----------	5m
	06----------	6m
	07----------	7m
	08----------	8m
	09----------	9m
	10----------	10m
	11----------	11m
	12----------	12m
Protective layer of capillary	N----------	None
	P----------	with PVC protective layer
Diaphragm treatment (Multiple choices)	N----------	None
	1----------	FEP (only for stainless steel 316L)
	2----------	PFA (only for stainless steel 316L)
	3----------	PTFE
	4----------	Vacuum proof treatment

*1: The process connection refers to the holes below.



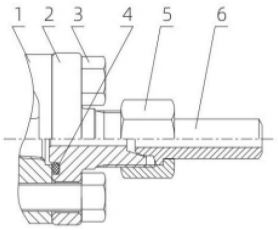
*2: If Housing is selected as "Stainless steel housing", only M20x1.5 is available.

*3: Drawings of process connection accessories



1. Flange
2. O ring
3. NPT 1/2 oval-shaped
4. Bolt

Oval-shaped Flange with 1/2 NPT Internal Thread

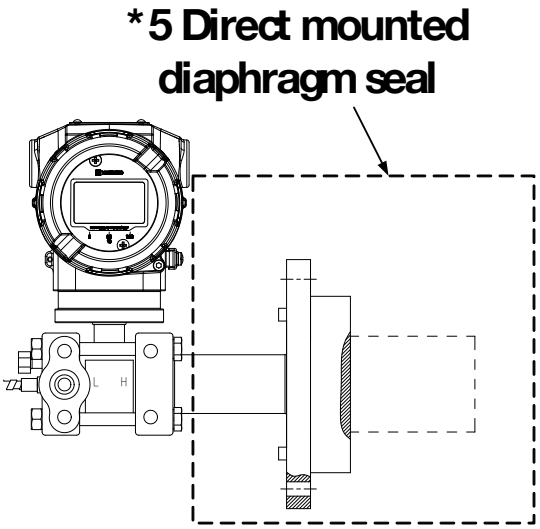


1. Flange
2. M20×1.5 Male thread T shaped connector
3. Bolt
4. O ring
5. Nuts Ø14×3.5
6. Joining pipe

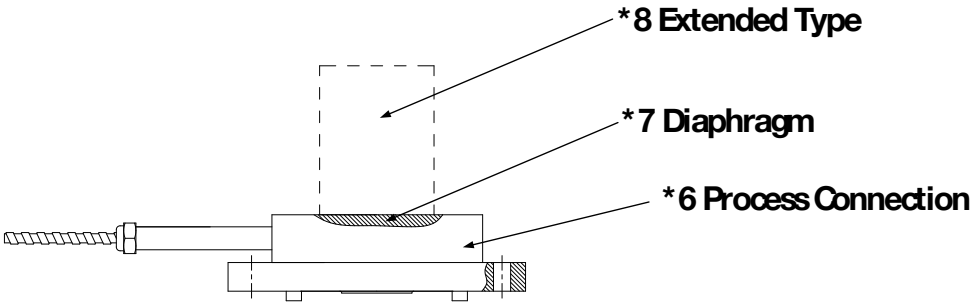
T Shaped Connector with M20x1.5 External Thread

*4: If Output signal is selected as "485-modbus communication", only LCD is available.

*5: This structure is shown in the feature below.



*6, *7. *8: The structures are shown in the figure below.



Note:
1. When selecting diaphragm seal section, the selection of the differential pressure transmitter section should be completed first;

2. The diaphragm with PTFE membrane can be used for negative pressure measurement greater than 50 kPa absolute pressure, but it is only suitable for flat flanges;

3. When the measured pressure or working static pressure is <50kPa (absolute pressure) , the flange should be treated to prevent vacuum;

4. The minimum span of the transmitter is the larger value of the minimum span in Table 1, Table 2 and Table 3. The adjustment span shall not be less than the minimum span. In order to optimize the performance of the transmitter, the range ratio should be selected <10:1;

Selection example:

Example: PS0G-D1DS13LON-T1N1NN-HNAS21A1N

Transmitter Section:

[D]: Accuracy level is 0.2 %
[1]: Output signal and communication are 4 ~20 mA, HART communication
[D]: Span is 0-2.5kPa~250kPa
[S]: Capsule diaphragm material is stainless steel 316L
[1]: Fill fluid is silicone oil
[3]: Rated working pressure is 16 MPa
[LO]: 1/4" NPT and 7/16" UNF threaded holes, no vent valve
[N]: Capsule gasket is nitrile rubber (NBR)
[T]: Housing material is aluminum alloy
[1]: Electrical connection is M20×1.5
[N]: No process connection accessories for negative cavity side
[1]: LCD backlight display
[N]: Non-explosion proof
[N]: No special functions

Diaphragm Seal Section for High Pressure Side:

[HN]: Direct mounted diaphragm seal
[A]: Process connection is DN50 DIN2501, E type DIN2526
[S]: Diaphragm material is Stainless steel 316L
[2]: Rated working pressure is PN 6.3MPa, DIN2501
[1]: Process flange material is stainless steel 304
[A]: Extended type, stainless steel 316 L, 50 mm
[1]: Fill fluid is silicone oil
[N]: There is no special treatment for diaphragm

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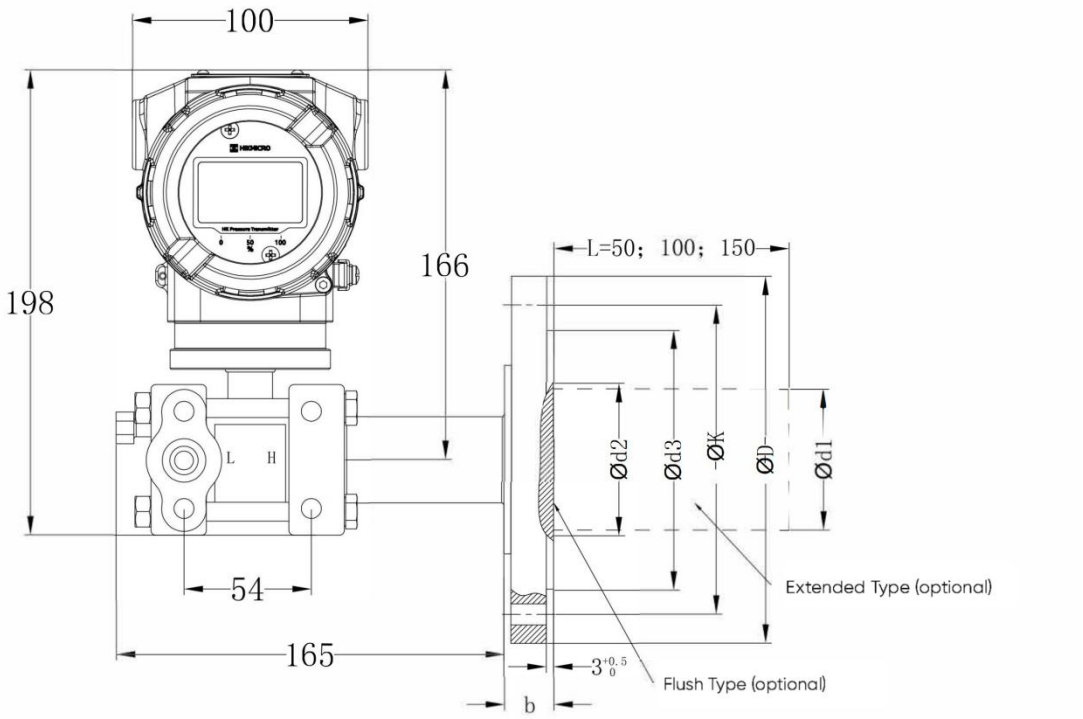
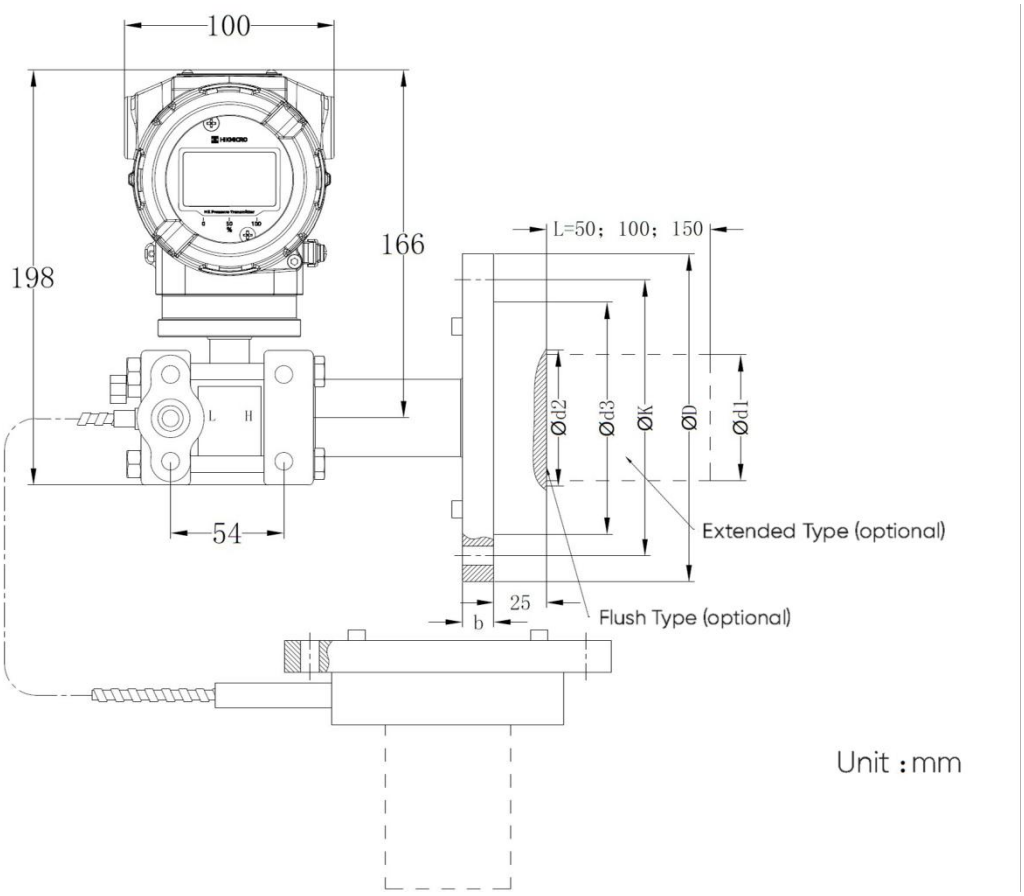
DIMENSIONS

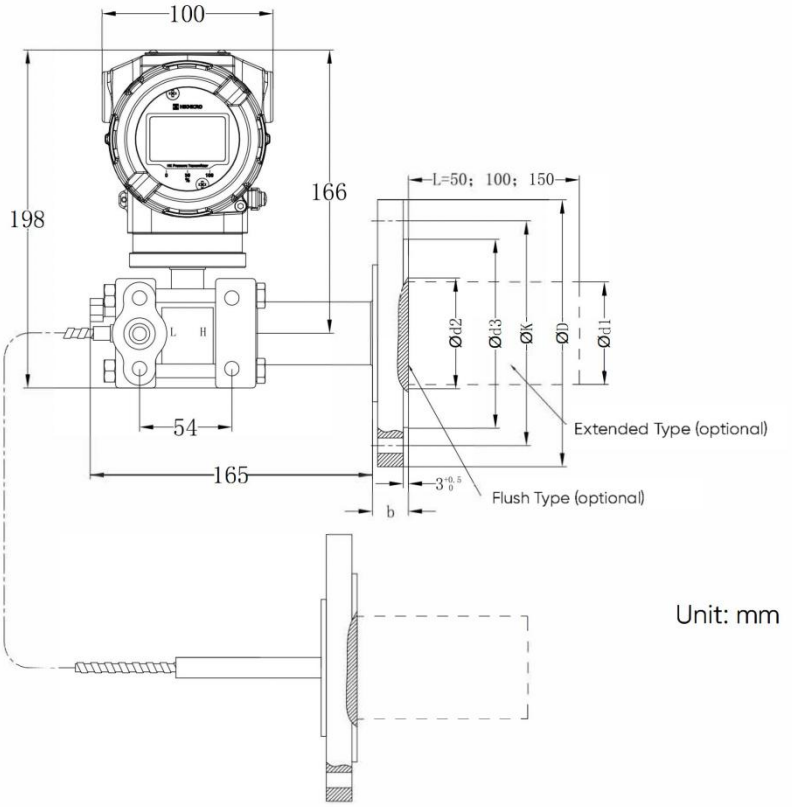


Unit: mm

Direct Mounted



Diaphragm Seal Horizontal Outlet for Low Pressure Side



Diaphragm Seal Vertical Outlet for Low Pressure Side

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Process Flange Size

Nominal Diameter	Flange Rating	ΦD	ΦK	Φd1 Plug-in Type	Φd2 Flat Type	Φd3		b	Bolt Holes	
						Vertical Outlet	Horizontal Outlet		No.	Diameter
DN50	PN 1.6/4MPa	165	125	48.3	57	102	102	20	4	M16
	PN 6.3MPa	180	135	48.3	57	102	102	26	4	M20
	PN 10MPa	195	145	48.3	57	102	102	28	4	M24
DN80	PN 1.6/4MPa	200	160	70	75	138	127	24	8	M16
	PN 6.3MPa	215	170	70	75	138	127	28	8	M20
	PN 10MPa	230	180	70	75	138	127	32	8	M24
DN 100	PN 1/1.6MPa	220	180	89	95	156	156	20	8	M16
	PN 2.5/4MPa	235	190	89	95	156	156	24	8	M20
DN 2"	150 psi	150	120.7	48.3	57	92.1	102	17.4	4	M16
	300 psi	165	127	48.3	57	92.1	102	20.6	8	M16
	600 psi	165	127	48.3	57	92.1	102	25.4	8	M16
DN 3"	150 psi	190	152.4	70	75	127	127	22.2	4	M16
	300 psi	210	168.3	70	75	127	127	27.0	8	M20
	600 psi	210	168.3	70	75	127	127	31.8	8	M20
DN 4"	150 psi	230	190.5	89	95	156	156	22.3	8	M16
	300 psi	255	200	89	95	156	156	30.2	8	M20

Note: Bolts and nuts are optional for users

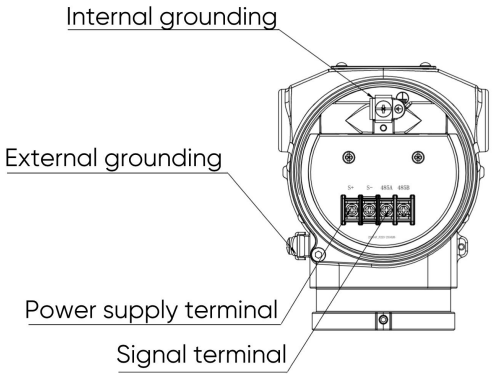
Size of Small Diameter Process Flange Complies with DIN 2501 Standard

DN	PN	Size (mm)						Weight (Kg)
		D	K	d4	b	f	d2	
25	1MPa/4MPa	115	85	68	22	2	14	1.5
25	6.3MPa/16MPa	140	100	68	24	2	18	3.2

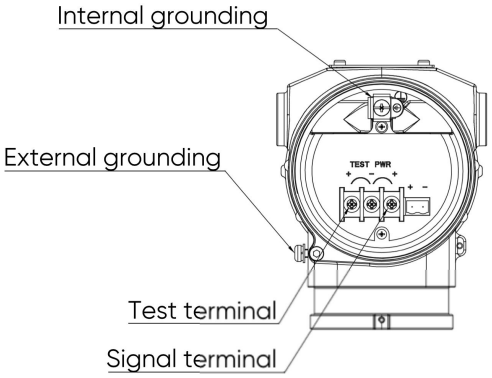
Size of Small Diameter Process Flange Complies with ANSIB 16.5 Standard

DN	psi	Size (mm)						Weight (Kg)
		D	K	d4	b	f	d2	
1"	150	110	79.5	51	22	2	16	1.4
	300	125	89	51	22	2	18	1.7
1"	600	125	89	51	25	7	18	3.6
	900/1500	150	101.5	51	36	7	26	4.0

TERMINAL CONFIGURATION


Internal grounding
External grounding
Power supply terminal
Signal terminal

485


Internal grounding
External grounding
TEST PWR
Test terminal
Signal terminal

HART

HIKMICRO

Pressure Transmitter

Hikmicro Industrial
HIKMICRO
hikmicro_industrial
www.hikmicrotech.com
HIKMICRO Industrial
info@hikmicrotech.com