Pressure Transmitter

KIT-LP/HP Series

KIT-LP15

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

Measuring Range
· Gauge Pressure : 0 ~ 0.5 to 600bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

Overload
· X 1.5 ~ 4 FS without Damage

Accuracy
· ±0.5% F · S

Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

Power supply
· 18 ~ 36V DC (STD. 24V DC)

Operating Conditions

	≤0.35bar	≥1.05bar
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

Electrical Connections
· PF 1/2"

Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

Material
· Diaphragm : CERAMIC
· Wet part : STS 316L
· Case : ADC12

KIT-LP25

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

Measuring Range
· Gauge Pressure : 0 ~ 0.5 to 600bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

Overload
· X 1.5 ~ 4 FS without Damage

Accuracy
· ±0.5% F · S

Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

Power supply
· 18 ~ 36V DC (STD. 24V DC)

Operating Conditions

	≤0.35bar	≥1.05bar
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

Electrical Connections
· PG11

Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

Material
· Diaphragm : CERAMIC
· Wet part : STS 316L
· Case : STS 316L

KIT-LP35

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

Measuring Range
· Gauge Pressure : 0 ~ 0.5 to 600bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

Overload
· X 1.5 ~ 4 FS without Damage

Accuracy
· ±0.5% F · S

Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

Power supply
· 18 ~ 36V DC (STD. 24V DC)

Operating Conditions

	≤0.35bar	≥1.05bar
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

Electrical Connections
· Lead wire

Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

Material
· Diaphragm : CERAMIC
· Wet part : STS 316L
· Case : STS 316L

KIT-LP45

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

▶Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

▶Measuring Range
· Gauge Pressure : 0 ~ 0.5 to 600bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

▶Overload
· X 1.5 ~ 4 FS without Damage

▶Accuracy
· ±0.5% F · S

▶Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

▶Power supply
· 18 ~ 36V DC (STD. 24V DC)

▶Operating Conditions

	≤0.35bar	≥1.05bar
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

▶Electrical Connections
· Lead wire

▶Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

▶Material
· Diaphragm : CERAMIC
· Wet part : STS 316L
· Case : STS 316L

KIT-HP12

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

▶Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

▶Measuring Range
· Gauge Pressure : 0 ~ 0.2 to 350bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

▶Overload
· X 3 FS without Damage

▶Accuracy
· ±0.2% F · S

▶Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

▶Power supply
· 18 ~ 36V DC (STD. 24V DC)

▶Operating Conditions

	≤0.35kg/㎠	≥1.05kg/㎠
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

▶Electrical Connections
· PF 1/2"

▶Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

▶Material
· Diaphragm : STS 316L
· Wet part : STS 316L
· Case : ADC12

KIT-HP22

Applications

- Process control
- Hydraulics & Pneumatics
- Compressor control
- Chillers
- Refrigeration Equipment

Specifications

▶Principle of Pressure Measurement
· Gauge / Absolute / Vacuum and Compound

▶Measuring Range
· Gauge Pressure : 0 ~ 0.2 to 350bar
· Compound Pressure : –760mmHg ~ 0 to 30bar
· Absolute Pressure : 0 ~ 1 to 30bar

▶Overload
· X 3 FS without Damage

▶Accuracy
· ±0.2% F · S

▶Output signal
· 4~20mA DC, 0~5(10)V, 1~5V

▶Power supply
· 18 ~ 36V DC (STD. 24V DC)

▶Operating Conditions

	≤0.35kg/㎠	≥1.05kg/㎠
Compensated	0 ~ 50℃	-20 ~ 70℃
Operating	-10 ~ 70℃	-10 ~ 125℃

▶Electrical Connections
· PG 11

▶Process Connections
· PT(PF) 1/4", 3/8", 1/2"
· Female and other connection available

▶Material
· Diaphragm : STS 316L
· Wet part : STS 316L
· Case : STS 316L

KIT210-G : Gauge Pressure Transmitter
KIT210-A : Absolute Pressure Transmitter

The pressure transmitter KIT210-G/210-A is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. KIT210-G/210-A outputs a 4 to 20 mA DC signal corresponding to the measured pressure. The key features include quick response, remote set-up using communications, self-diagnostics and optional status output for pressure high/low alarm.

STANDARD SPECIFICATIONS

1 PERFORMANCE SPECIFICATIONS

Reference Accuracy of Calibrated Span (includes terminal-based linearity, hysteresis, and repeatability) ± 0.075%;

If TD>10 (TD=URL/SPAN): ±(0.0075×TD)%

Ambient Temperature Effects

Span Code	-20℃~65℃ Every 10℃ is ±0.08% x Span (TD=1)
B/L	±(0.20×TD+0.10)%×Span
Others	±(0.15×TD+0.05)%×Span
Span Code	-40℃~-20℃ & 65℃~85℃
B/L	±(0.40×TD+0.20)%×Span
Others	±(0.30×TD+0.10)%×Span

Overpressure Effects

±0.075%×Span

Stability

Span Code	Stability
B/L	±0.20%×Span / 2year
Others	±0.15%×Span / 2year

Power Supply Effects:

±0.001% /10V (12~42V DC)

2 FUNCTIONAL SPECIFICATIONS

Span and Range Limits (KIT210-G)

Span/Range Limits		kPa	bar
B	Span	0.6~6	6~60mbar
	Range Limits	-6~6	-60~60mbar
C	Span	2~40	0.02~0.4
	Range Limits	-40~40	-0.4~0.4
D	Span	2.5~250	0.025~2.5
	Range Limits	-100~250	-1~2.5
F	Span	30~3000	0.3~30
	Range Limits	-100~3000	-1~30
G	Span	0.1~10MPa	1~100
	Range Limits	-0.1~10MPa	-1~100
H	Span	0.21~21 MPa	2.1~210
	Range Limits	-0.1~21 MPa	-1~210
I	Span	0.4~40 MPa	4~400
	Range Limits	-0.1~40 MPa	-1~400
J	Span	0.6~60 MPa	6~600
	Range Limits	-0.1~60 MPa	-1~600

Span and Range Limits (KIT210-A)

Span/Range Limits		kPa	bar
L	Span	2~40	0.02~0.4
	Range Limits	0~40	0~0.4
M	Span	2.5~250	0.025~2.5
	Range Limits	0~250	0~2.5
O	Span	30~3000	0.3~30
	Range Limits	0~3000	0~30

External Zero Adjustment

External zero is continuously adjustable with 0.01% incremental resolution of span. Re-range can be done locally using the range setting switch.

Mounting Position Effects

Rotation in diaphragm plane has no effect. Tilting up to 90 degree will cause zero shift up to 0.25 kPa which can be corrected by the zero adjustment.

Output

Two wire 4 to 20 mA DC output with digital communications, linear or square root programmable. HART FSK protocol is option superimposed on the 4 to 20 mA signal. Output range: 3.9 mA to 20.5 mA

Failure Alarm (the mode can be selected)

Low Mode (min): 3.7 mA, High Mode (max): 21 mA
No Mode (hold): Keep the effective value before fault.
The standard setting of failure alarm is High Mode.

Response Time

The amplifier damping constant is 0.1 sec; The sensor damping constant is 0.1~1.6 sec, it depends on the range and range compression ratio. Amplifier damping time constant is adjustable from 0 to 60 sec by software and added to response time.

Up Time < 15s

Ambient Temperature Limits: -40 to 85°C
-20 to 65°C with LCD display or fluorine rubber sealing

Storage and Transportation Temperature Limits

-50 to 85°C, -40 to 85°C with LCD display

Working Pressure Limits (Silicone oil)

From vacuum to upper range limits

Overload Pressure Limits

Span	6kPa (B)	40kPa (C)	250kPa (D/M)	3MPa (F/O)
OPL	0.2MPa	1MPa	4MPa	16MPa
Span	10MPa (G)	21MPa (H)	40MPa (I)	60MPa (J)
OPL	20MPa	50MPa	50MPa	70MPa

EMC (EMI, EMS) Conformity Standards

EN 61326-1:2013, EN 61326-2-3:2013
KN 61000-6-1, KN 61000-6-3

3 INSTALL

Supply & Load Requirements

24 V DC supply, R≤(Us-12V)/Imax kΩ, Imax=23 mA. Maximum voltage limited: 42VDC, Minimum voltage limited: 12VDC, 15VDC（with LCD display）
230Ω to 600Ω for digital communication

Electrical Connection

The electrical connection is made via cable entry 1/2-14NPT. The screw terminals are suitable for wire cross-sections up to 2.5mm^2.

Process Connection

Default Process Connection：1/2-NPT female thread.

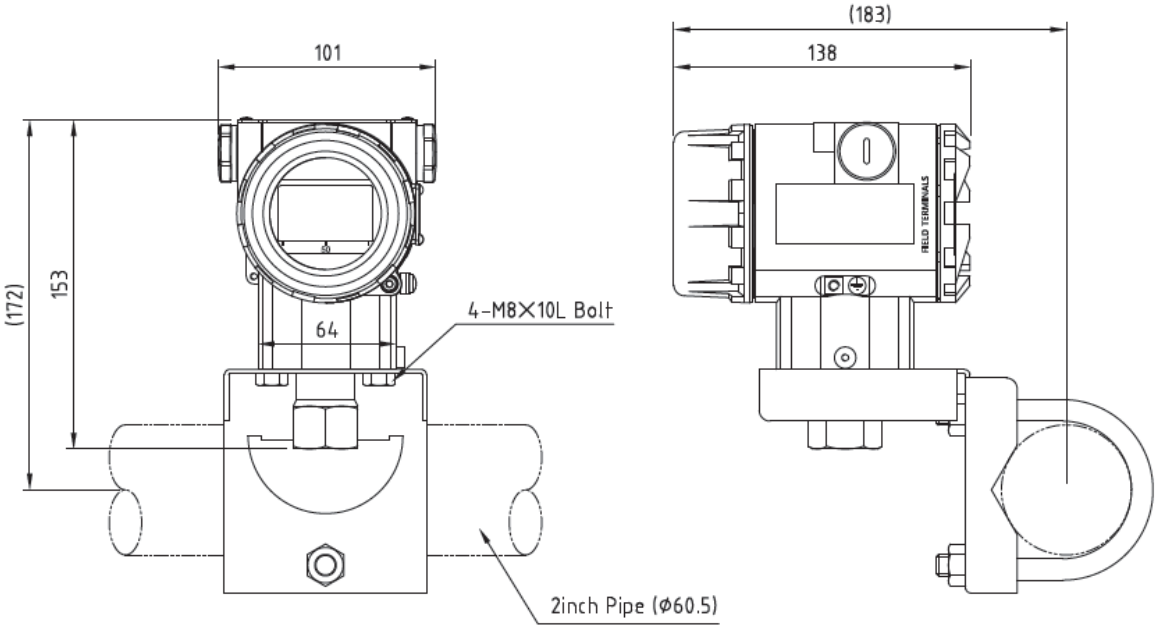
4 PHYSICAL SPECIFICATIONS

Isolating Diaphragm： 316L stainless steel
Hastelloy C / Tantalum
Process Connector： 316 stainless steel
Fill fluid： Silicone oil / Fluorinated oil
Amplifier Housing： Aluminum with epoxy resin coat
Housing Gasket： Perbunan（NBR）/ Silicone
Name plate and tag： 304 stainless steel
Weight： 1.6kg
Enclosure: Ex d IIC T6 / IP67

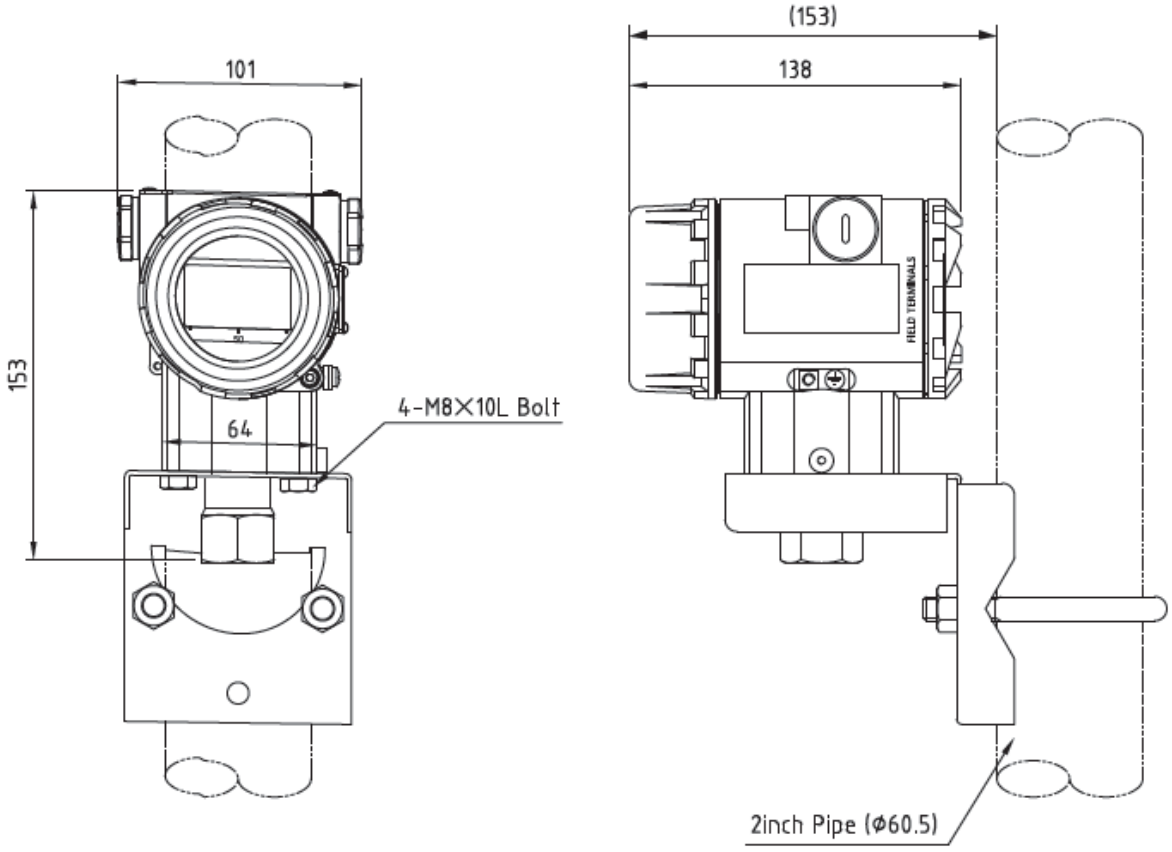
DIMENSIONS

Unit : mm

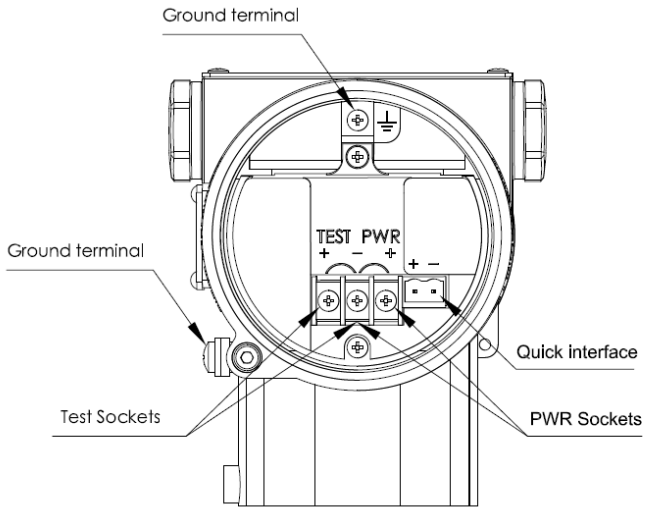
Horizontal Impulse Piping Type



Vertical Impulse Piping Type



5 Terminal Configuration

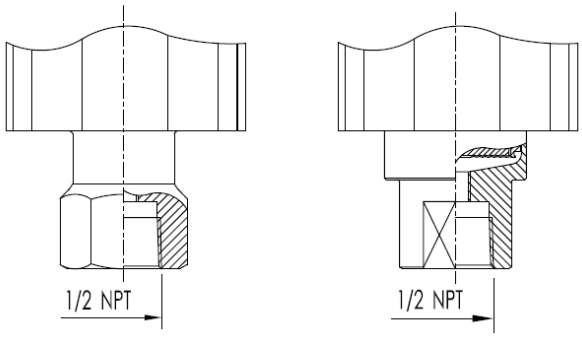


Note：Quick interface functionally equivalent to the signal terminal

6 Process connections Description

6.1 Default Process Connection（Code 1）

M/D/F/G/H/I/J/O Span **B/C/L Span**



7 Model and suffix codes

Gauge Pressure Transmitter KIT210-G									
Absolute Pressure Transmitter KIT210-A									
10	Output								
	H	4-20mA with HART (± 0.075% of Span)							
20	Span[1]								
		Gauge Pressure KIT210-GH							
		B	0-0.6kPa～6kPa /（0-60～600 mmH2O）/(0-6～60mbar)						
		C	0-2kPa～40kPa /（0-200～4000 mmH_2O）/(0-20～400mbar)						
		D	0-2.5kPa～250kPa /（0-0.25～25 mH_2O）/(0-25～2500mbar)						
		F	0-30kPa～3MPa /（0-3～300 mH_2O）/(0-0.3～30bar)						
		G	0-0.1MPa～10MPa /(0-1～100bar)						
		H	0-0.21MPa～21MPa /（0-2.1～210 bar）						
		I	0-0.4MPa～40MPa /（0-4～400 bar）						
		J	0-0.6MPa～60MPa /（0-6～600 bar）						
		Absolute Pressure KIT210-AH							
		L	0-2kPa～40kPa /（0-200～4000 mmH2O）/(0-20～400mbar)						
		M	0-2.5kPa～250kPa /(0-25～2500mbar)						
		O	0-30kPa～3MPa /(0-0.3～30bar)						
30	Diaphragm fill fluid								
			A	316L stainless steel	Silicone oil				
			B	316L stainless steel	Fluorinated oil				
			C	Hastelloy C	Silicone oil				
			D	Hastelloy C	Fluorinated oil				
			E	Tantalum	Silicone oil				
			F	Tantalum	Fluorinated oil				
40	Process connection								
				1	1/2-NPT female thread (Std.)				
				2	Other (with adapter)				
50	Special function								
					N	None (line to line : 500V / line to ground : 1kV)			
					P	Anti-lightning function (line to line : 1kV / line to ground : 2kV)			
					O	Degrease cleansing treatment（Oxygen measurement must be with fluorinated oil filled capsule, Viton (FKM) gasket, <6MPa ,<60℃）			
60	Mounting bracket								
						N	None		
						1	304 stainless steel		
70	Integral indicator								
							N	None	
							1	LCD display	
							2	Backlight LCD display	

80	Electrical connection									
								1	1/2-14NPT	
								2	Other (with adapter)	
90	Hazardous area certifications									
									W	Weatherproof (IP67)
									K	KOSHA Flameproof

Note 1：KIT210-G corresponding to select gauge pressure range code, KIT210-A corresponding to select absolute pressure range code;

Order example：

For example：KIT210-GHCA1N121W

[KIT210-G]：Gauge pressure transmitter

[H]：4-20mA with HART

[C]：Span:0-2kPa～40kPa /（0-200～4000 mmH2O）/(0-20～400mbar)

[A]：316L stainless steel diaphragm, Silicone oil fill fluid

[1]：1/2-NPT female thread process connector

[N]：None

[1]：With 304 stainless steel mounting bracket

[2]：With Backlight LCD display

[1]：1/2-14NPT

[W]：Weatherproof (IP67)

KIT220-G : Gauge Pressure Transmitter
KIT220-A : Absolute Pressure Transmitter

The pressure transmitter KIT220-G/220-A is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. KIT220-G/220-A outputs a 4 to 20 mA DC signal corresponding to the measured pressure. The key features include quick response, remote set-up using communications, self-diagnostics and optional status output for pressure high/low alarm.

STANDARD SPECIFICATIONS

1 PERFORMANCE SPECIFICATIONS

Reference Accuracy of Calibrated Span (includes terminal-based linearity, hysteresis, and repeatability) ± 0.075%;

If TD>10 (TD=URL/SPAN): ±(0.0075×TD)%;

Ambient Temperature Effects

Span Code	-20℃~65℃ Every 10℃ is ±0.08% x Span (TD=1)
B/L	±(0.20×TD+0.10)%×Span
Others	±(0.15×TD+0.05)%×Span
Span Code	-40℃~-20℃ & 65℃~85℃
B/L	±(0.40×TD+0.20)%×Span
Others	±(0.30×TD+0.10)%×Span

Overpressure Effects

±0.075%×Span

Stability

Span Code	Stability
B/L	±0.20%×Span / 2year
Others	±0.15%×Span / 2year

Power Supply Effects:

±0.001% /10V (12~42V DC)

2 FUNCTIONAL SPECIFICATIONS

Span and Range Limits (KIT220-G)

Span/Range Limits		kPa	bar
1B	Span	0.6~6	6~60mbar
	Range Limits	-6~6	-60~60mbar
1C	Span	2~40	0.02~0.4
	Range Limits	-40~40	-0.4~0.4
1D	Span	2.5~250	0.025~2.5
	Range Limits	-100~250	-1~2.5
1E	Span	20~2000	0.2~20
	Range Limits	-100~2000	-1~20
1G	Span	0.1~10MPa	1~100
	Range Limits	-0.1~10MPa	-1~100
1H	Span	0.21~21 MPa	2.1~210
	Range Limits	-0.1~21 MPa	-1~210
1I	Span	0.4~40 MPa	4~400
	Range Limits	-0.1~40 MPa	-1~400

Span and Range Limits (KIT220-A)

Span/Range Limits		kPa	bar
1L	Span	2~40	0.02~0.4
	Range Limits	0~40	0~0.4
1M	Span	2.5~250	0.025~2.5
	Range Limits	0~250	0~2.5
1O	Span	30~3000	0.3~30
	Range Limits	0~3000	0~30

External Zero Adjustment

External zero is continuously adjustable with 0.01% incremental resolution of span. Re-range can be done locally using the range setting switch.

Mounting Position Effects

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

Output

Two wire 4 to 20 mA DC output with digital communications, linear or square root programmable. HART FSK protocol is option superimposed on the 4 to 20 mA signal. Output range: 3.9 mA to 20.5 mA

Failure Alarm (the mode can be selected)

Low Mode (min): 3.7 mA, High Mode (max): 21 mA
No Mode (hold): Keep the effective value before fault.
The standard setting of failure alarm is High Mode.

Response Time

The amplifier damping constant is 0.1 sec; The sensor damping constant is 0.1~1.6 sec, it depends on the range and range compression ratio. Amplifier damping time constant is adjustable from 0 to 60 sec by software and added to response time.

Up Time < 15s

Ambient Temperature Limits: -40 to 85°C
-20 to 65°C with LCD display or fluorine rubber sealing

Storage and Transportation Temperature Limits
-50 to 85°C, -40 to 85°C with LCD display

Working Pressure Limits (Silicone oil)

From vacuum to upper range limits

Overload Pressure Limits

Span	6kPa (1B)	40kPa (1C)	250kPa (1D/1M)	2(3)MPa (1E/1O)
OPL	16MPa	16MPa	16MPa	16MPa
Span	10MPa (1G)	21MPa (1H)	40MPa (1I)	
OPL	20MPa	50MPa	50MPa	

EMC (EMI, EMS) Conformity Standards

EN 61326-1:2013, EN 61326-2-3:2013
KN 61000-6-1, KN 61000-6-3

3 INSTALL

Supply & Load Requirements

24 V DC supply, R≤(Us-12V)/Imax kΩ, Imax=23 mA. Maximum voltage limited: 42VDC, Minimum voltage limited: 12VDC, 15VDC（with LCD display）
230Ω to 600Ω for digital communication

Electrical Connection

The electrical connection is made via cable entry 1/2-14NPT. The screw terminals are suitable for wire cross-sections up to 2.5mm^2.

Process Connection

Default Process Connection：Flange with fixing thread 7/16-20 UNF and 1/4-18 NPT female thread on both sides.

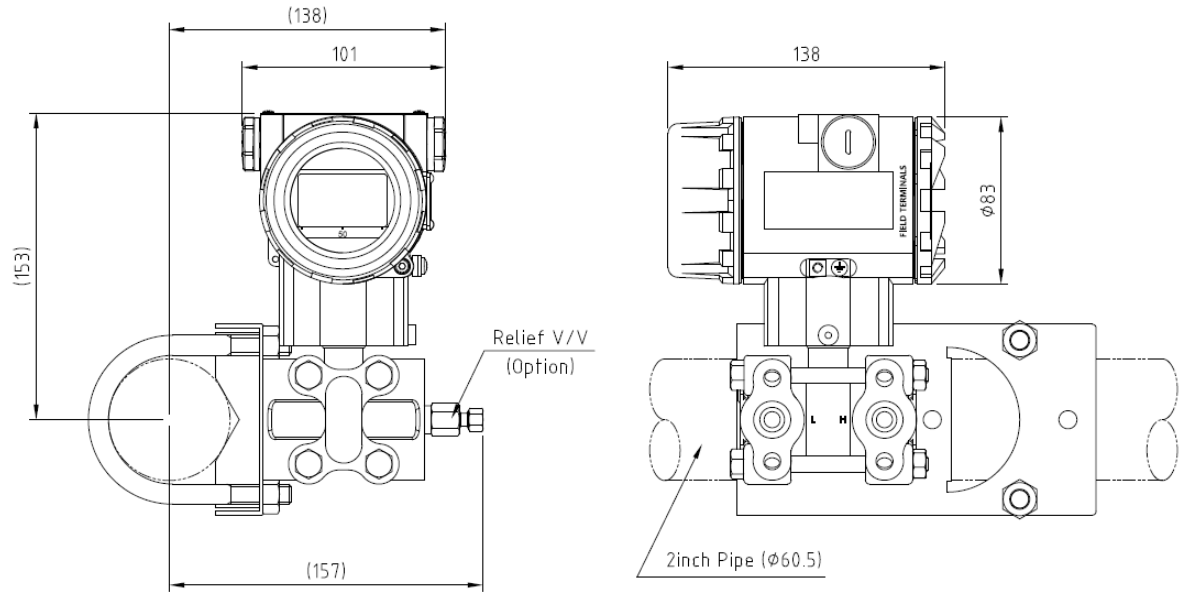
4 PHYSICAL SPECIFICATIONS

Isolating Diaphragm： 316L stainless steel
Hastelloy C / Tantalum
Process Connector： 316 stainless steel
Fill fluid： Silicone oil / Fluorinated oil
Process Connector Gasket： Teflon (PTFE)
Amplifier Housing： Aluminum with epoxy resin coat
Housing Gasket： Perbunan（NBR）/ Silicone
Name plate and tag： 304 stainless steel
Weight： 3.3kg
Enclosure: Ex d IIC T6 / IP67

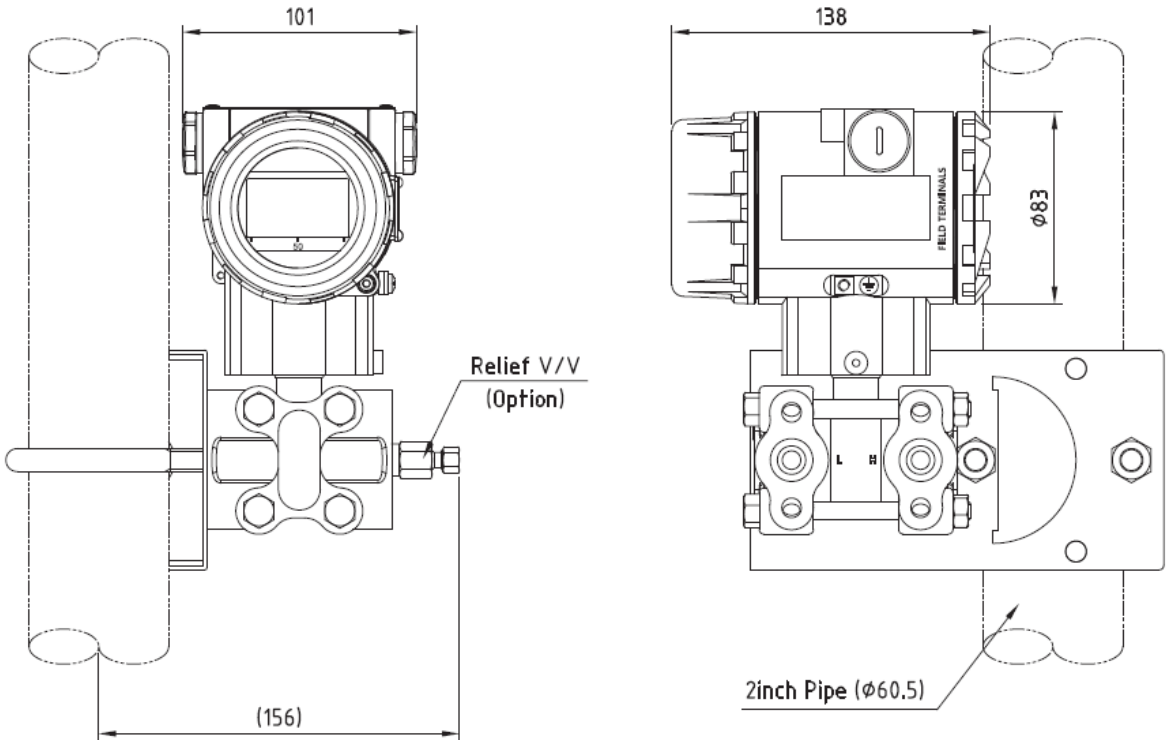
DIMENSIONS

Unit : mm

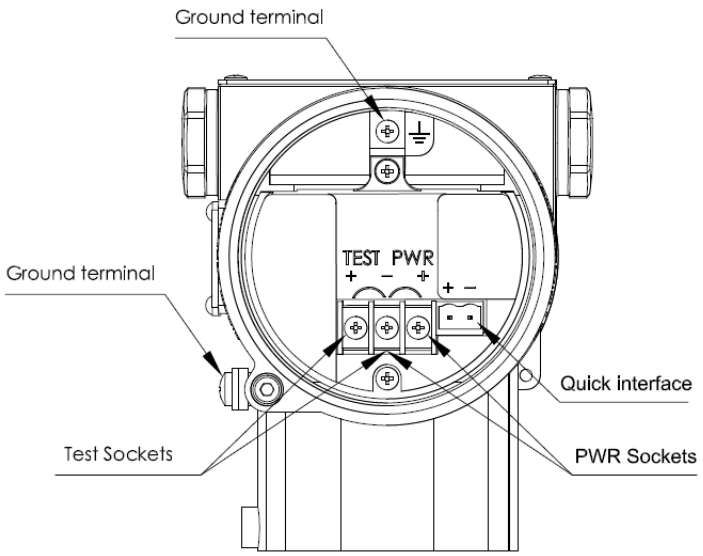
Horizontal Impulse Piping Type



Vertical Impulse Piping Type



5 Terminal Configuration

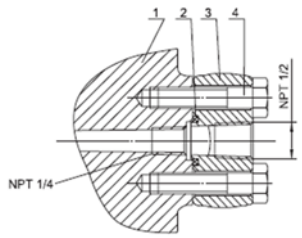


Note：Quick interface functionally equivalent to the signal terminal

6 Process connections Description

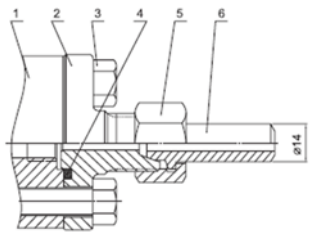
Process connections

Oval-shaped flange with 1/4-18 NPT female thread(code 1)



1. Flange
2. O ring
3. Oval-shaped flange
4. Bolt

D-shaped connector with M20x1.5 male thread(code 2)



1. Flange
2. D-shaped connector
3. Bolt
4. O ring
5. M20x1.5 Nut
6. Joining pipe

7 Model and suffix codes

Gauge Pressure Transmitter KIT220-G										
Absolute Pressure Transmitter KIT220-A										
10	Output									
	H	4-20mA with HART								
20	Span[1]									
		Gauge Pressure KIT220-GH								
		1B	0-0.6kPa～6kPa /（0-60～600 mmH2O）/(0-6～60mbar)							
		1C	0-2kPa～40kPa /（0-200～4000 mmH_2O）/(0-20～400mbar)							
		1D	0-2.5kPa～250kPa /（0-0.25～25 mH_2O）/(0-25～2500mbar)							
		1E	0-20kPa～2MPa /（0-2～200 mH_2O）/(0-0.2～20bar)							
		1G	0-0.1MPa～10MPa /(0-1～100bar)							
		1H	0-0.21MPa～21MPa /（0-2.1～210 bar）							
		1I	0-0.4MPa～40MPa /（0-4～400 bar）							
		Absolute Pressure KIT220-AH								
		1L	0-2kPa～40kPa /（0-200～4000 mmH2O）/(0-20～400mbar)							
		1M	0-2.5kPa～250kPa /(0-25～2500mbar)							
		1O	0-30kPa～3MPa /(0-0.3～30bar)							
30	Diaphragm fill fluid									
			A	316L stainless steel	Silicone oil					
			B	316L stainless steel	Fluorinated oil					
			C	Hastelloy C	Silicone oil					
			D	Hastelloy C	Fluorinated oil					
			E	Tantalum	Silicone oil					
			F	Tantalum	Fluorinated oil					
40	Process connection									
				N	7/16-20 UNF and 1/4-18 NPT female thread, No relief valve					
				B	7/16-20 UNF and 1/4-18 NPT female thread, Relief valves at end of flange					
50	Process connector gasket									
					P	Teflon (PTFE)				
60	Special function									
						N	None (line to line : 500V / line to ground : 1kV)			
						P	Anti-lightning function (line to line : 1kV / line to ground : 2kV)			
						O	Degrease cleansing treatment (Oxygen measurement must be with fluorinated oil filled capsule, Viton (FKM) gasket, <6MPa ,<60℃)			
70	Mounting bracket									
							N	None		
							1	304 stainless steel		
80	Integral indicator									
								N	None	
								1	LCD Display	
								2	Backlight LCD display (Std.)	

90	Process connector accessory												
									N	None			
									1	Stainless steel oval-shaped flange with 1/2 NPT female thread			
									2	Stainless steel D-shaped connector with M20x1.5 male thread			
100	Electrical connection												
											1	1/2-14NPT	
											2	Other (with adapter)	
110	Hazardous area certifications												
												W	Weatherproof (IP67)
												K	KOSHA Flameproof

Note 1：KIT220-G corresponding to select gauge pressure range code, KIT220-A corresponding to select absolute pressure range code;

Order example：

For example：KIT220-GHCANPN12N1W

[KIT220-G]：Gauge pressure transmitter

[H]：4-20mA with HART

[C]：Span:0-2kPa～40kPa /（0-200～4000 mmH2O）/(0-20～400mbar)

[A]：316L stainless steel diaphragm, Silicone oil fill fluid

[N]：7/16-20 UNF and 1/4-18 NPT female thread, No relief valve

[P]：Teflon (PTFE)

[N]：None

[1]：With 304 stainless steel mounting bracket

[2]：With Backlight LCD display

[N]：None

[1]：1/2-14NPT

[W]：Weatherproof (IP67)

KIT220-D : Differential Pressure Transmitter

The differential pressure transmitter KIT220-D is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. KIT220-D: B/C outputs a 4 to 20 mA DC HART signal corresponding to the measured differential pressure. Other key features include quick response, remote set-up using communications, self-diagnostics and optional status output for pressure high/low alarm.

STANDARD SPECIFICATIONS

1 PERFORMANCE SPECIFICATIONS

Reference Accuracy of Calibrated Span (includes terminal-based linearity, hysteresis, and repeatability) ± 0.075%

If TD>10 (TD=URL/SPAN): ±(0.0075×TD)%

The square root accuracy is 1.5 times of reference accuracy of calibrated span.

Ambient Temperature Effects

Span Code	-20℃～65℃ Every 10℃ is ±0.08% x Span (TD=1)
A	±(0.25×TD+0.15)%×Span
B	±(0.20×TD+0.10)%×Span
C/D/E	±(0.15×TD+0.05)%×Span
Span Code	-40℃～-20℃ & 65℃～85℃
A	±(0.50×TD+0.30)%×Span
B	±(0.40×TD+0.20)%×Span
C/D/E	±(0.30×TD+0.10)%×Span

Static Pressure Effects

Span Code	Static Pressure Effects
A	±(0.15%URL+0.10%Span)/4MPa
B	±(0.10%URL+0.075%Span)/16MPa
C/D/E	±(0.05%URL+0.05%Span)/16MPa

Overpressure Effects

Span Code	Overpressure Effects
A	±0.2%×Span / 4MPa
B	±0.2%×Span / 16MPa
C/D/E	±0.1%×Span / 16MPa

Stability

Span Code	**Stability**
A	±0.25%×Span / 2year
B	±0.20%×Span / 2year
C/D/E	±0.15%×Span / 2year

Power Supply Effects

±0.001% /10V (12～42V DC)

2 FUNCTIONAL SPECIFICATIONS

Span and Range Limits

Span/ Range Limits		kPa	mbar
A	Span	0.1～1	1～10
	Range Limits	-1～1	-10～10
B	Span	0.2～6	2～60
	Range Limits	-6～6	-60～60
C	Span	0.4～40	4～400
	Range Limits	-40～40	-400～400
D	Span	2.5～250	25～2500
	Range Limits	-250～250	-2500～2500
E	Span	20～2000	0.2～20 bar
	Range Limits	-500～2000	-5～20bar

Zero Adjustment Limits

Zero can be fully elevated or suppressed, within the lower and upper range limits of the capsule.

External Zero Adjustment

External zero is continuously adjustable with 0.01% incremental resolution of span. Re-range can be done locally using the range setting switch.

Mounting Position Effects

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

Output

Two wire 4 to 20 mA DC output with digital communications, linear or square root programmable. HART FSK protocol is option superimposed on the 4 to 20 mA signal. Output range: 3.9 mA to 20.5 mA.

Failure Alarm (the mode can be selected)

Low Mode (min): 3.7 mA

High Mode (max): 21 mA

No Mode (hold): Keep the effective value before the fault. Note: The standard setting of failure alarm is High Mode.

Response Time

The amplifier damping constant is 0.1 sec; The sensor damping constant is 0.1~1.6 sec, it depends on the range and range compression ratio. Amplifier damping time constant is adjustable from 0 to 60 sec by software and added to response time.

Up Time < 15s

Ambient Temperature Limits

-40 to 85℃

-20 to 65℃ with LCD display or fluorine rubber sealing

Storage and Transportation Temperature Limits

-50 to 85℃; -40 to 85℃ with LCD display

Working Pressure Limits (Silicone oil)

Maximum working pressure: 16MPa,25MPa,40MPa

Static Pressure Limits

3.5kPa abs. to maximum working pressure.

One-way Overload Pressure Limit

The maximum one-way overload pressure is maximum working pressure.

EMC (EMI, EMS) Conformity Standards

EN 61326-1:2013, EN 61326-2-3:2013

KN 61000-6-1, KN 61000-6-3

3 INSTALL

Supply & Load Requirements

24 V DC supply, R≤(Us-12V)/Imax kΩ, Imax=23 mA. Maximum voltage limited: 42VDC, Minimum voltage limited: 12VDC, 15VDC（with LCD display）

230Ω to 600Ω for digital communication

Electrical Connection

The electrical connection is made via cable entry 1/2-14NPT. The screw terminals are suitable for wire cross-sections up to 2.5mm^2.

Process Connection

Flange with fixing thread 7/16-20 UNF and 1/4-18 NPT female thread on both sides.

4 PHYSICAL SPECIFICATIONS

Sensor Body： 316L stainless steel

Isolating Diaphragm： 316L stainless steel
Hastelloy C / Tantalum

Nuts and Bolts： 304 stainless steel

Process Connector： 316 stainless steel

Fill fluid： Silicone oil / Fluorinated oil

Process Connector Gasket： Teflon (PTFE)

Amplifier Housing： Aluminum with epoxy resin coat

Housing Gasket： Perbunan（NBR）/ Silicone

Name plate and tag： 304 stainless steel

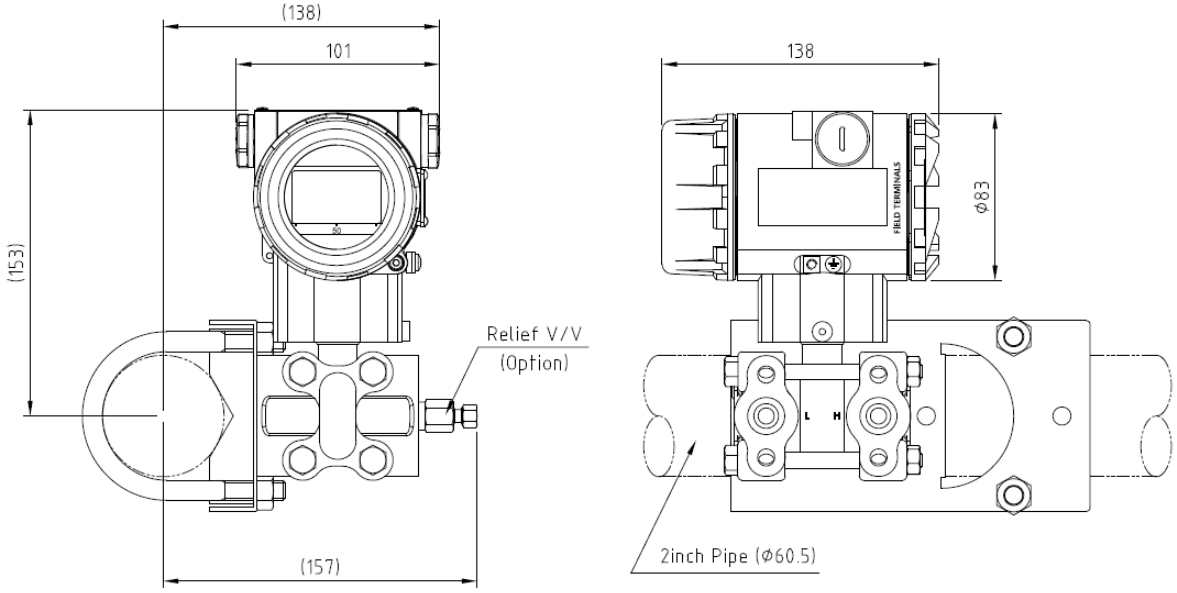
Weight： 3.3kg

Enclosure: Ex d IIC T6 / IP67

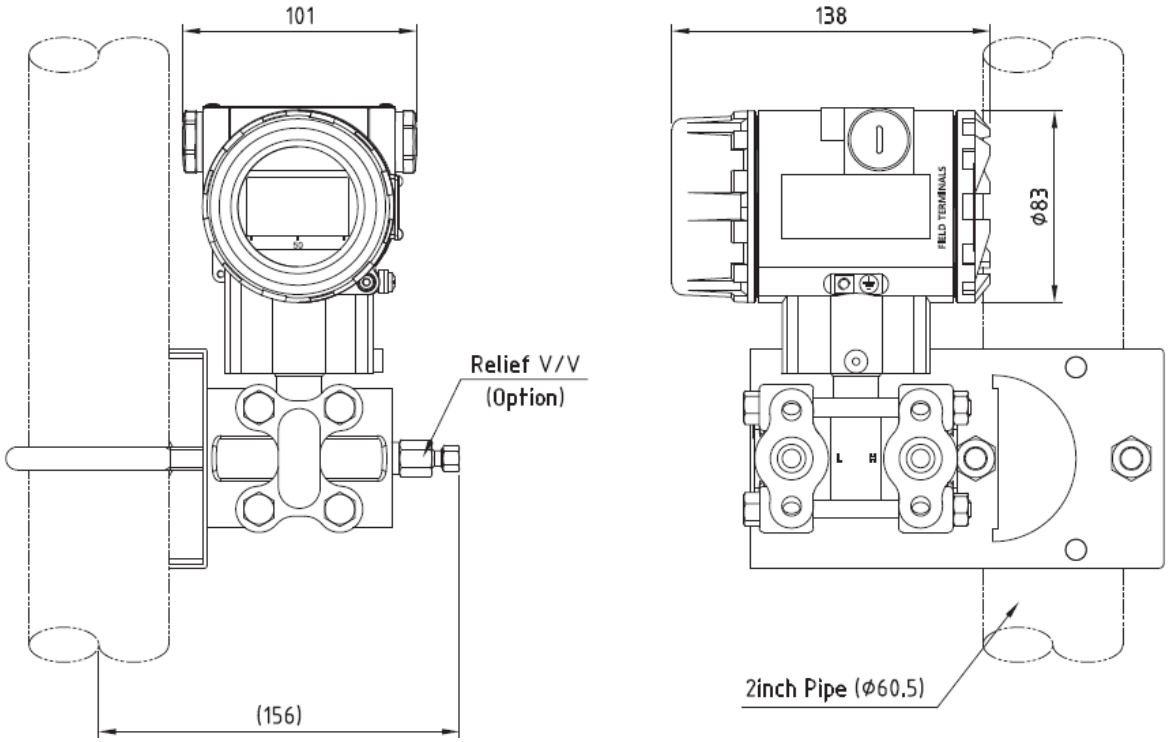
DIMENSIONS

Unit : mm

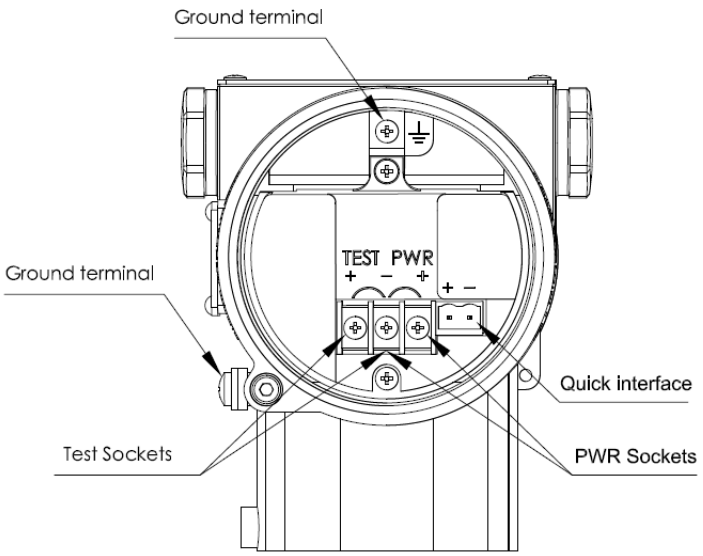
Horizontal Impulse Piping Type



Vertical Impulse Piping Type



5 Terminal Configuration

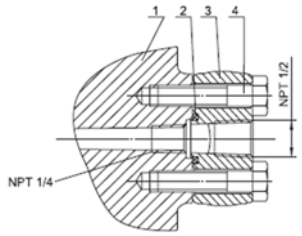


Note：Quick interface functionally equivalent to the signal terminal

6 Process connections Description

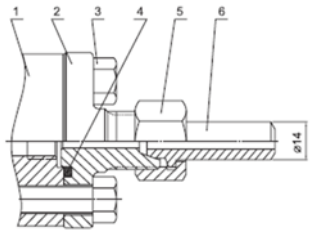
Process connections

Oval-shaped flange with 1/4-18 NPT female thread(code 1)



1. Flange
2. O ring
3. Oval-shaped flange
4. Bolt

D-shaped connector with M20x1.5 male thread(code 2)



1. Flange
2. D-shaped connector
3. Bolt
4. O ring
5. M20x1.5 Nut
6. Joining pipe

7 Model and suffix codes

Differential Pressure Transmitter KIT220-D													
10	Output												
	H	4-20mA with HART											
20	Span												
		A	0-100Pa～1kPa（0-10～100 mmH2O）/(0-1～10mbar)										
		B	0-200Pa～6kPa（0-20～600 mmH2O）/(0-2～60mbar)										
		C	0-400Pa～40kPa（0-40～4000 mmH2O）/(0-4～400mbar)										
		D	0-2.5kPa～250kPa（0-0.25～25 mH2O）/(0-25～2500mbar)										
		E	0-20kPa～2MPa（0-2～200 mH2O）/(0-0.2～20bar)										
30	Diaphragm fill fluid												
				A	316L stainless steel	Silicone oil							
				B	316L stainless steel	Fluorinated oil							
				C	Hastelloy C	Silicone oil							
				D	Hastelloy C	Fluorinated oil							
				E	Tantalum	Silicone oil							
				F	Tantalum	Fluorinated oil							
40	Working pressure												
					1	16MPa							
					2	25MPa							
					3	40MPa							
50	Process connections												
						N	7/16-20 UNF and 1/4-18 NPT female thread, No relief valve						
						B	7/16-20 UNF and 1/4-18 NPT female thread, Relief valves at end of flanges						
60	Process connector gasket												
							P	Teflon (PTFE)					
70	Special function												
								N	None (line to line : 500V / line to ground : 1kV)				
								P	Anti-lightning function (line to line : 1kV / line to ground : 2kV)				
								O	Degrease cleansing treatment (Oxygen measurement must be with fluorinated oil filled capsule, Viton (FKM) gasket, <6MPa ,<60℃)				
80	Mounting bracket												
									N	None			
									1	304 stainless steel			
90	Process connector accessory												
										N	None		
										1	Stainless steel oval-shaped flange with 1/2 NPT female thread		
										2	Stainless steel D-shaped connector with M20x1.5 male thread		
100	Integral indicator												
											N	None	
											1	LCD display	
											2	Backlight LCD display (Std.)	

110	Electrical connection													
												1	1/2-14NPT	
												2	Other (with adapter)	
120	Hazardous area certifications													
													W	Weatherproof (IP67)
													K	KOSHA Flameproof

Order example：

For example：KIT220-DHCA1BPN1121W

[H]：4-20mA with HART

[C]：Span:0-400Pa～40kPa（0-40～4000 mmH2O）

[A]：316L stainless steel diaphragm, Silicone oil fill fluid

[1]：Working pressure:16MPa

[B]：7/16-20 UNF and 1/4-18 NPT female thread, Relief valves at end of flanges

[P]：Teflon (PTFE) process connector gasket

[N]：None

[1]：With 304 stainless steel mounting bracket

[1]：With stainless steel oval-shaped flange with 1/2 NPT female thread

[2]：With Backlight LCD display

[1]：1/2-14NPT

[W]：Weatherproof (IP67)