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.

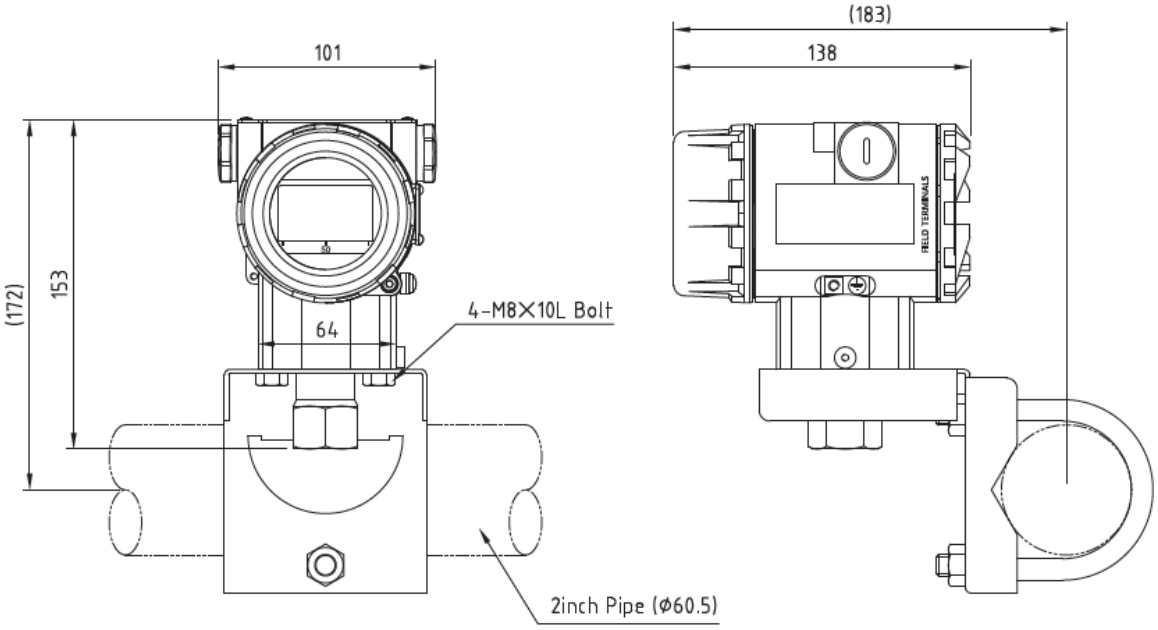
4 PHYSICAL SPECIFICATIONS

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

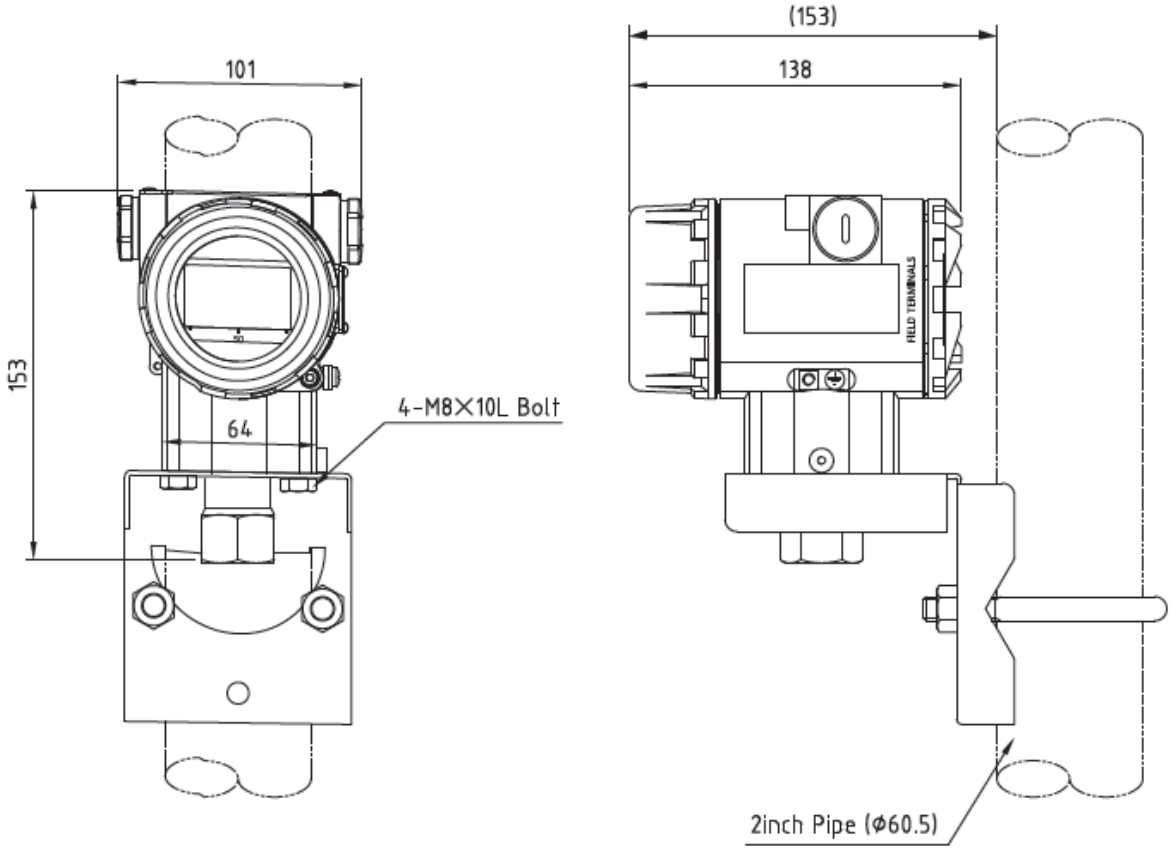
DIMENSIONS

Unit : mm

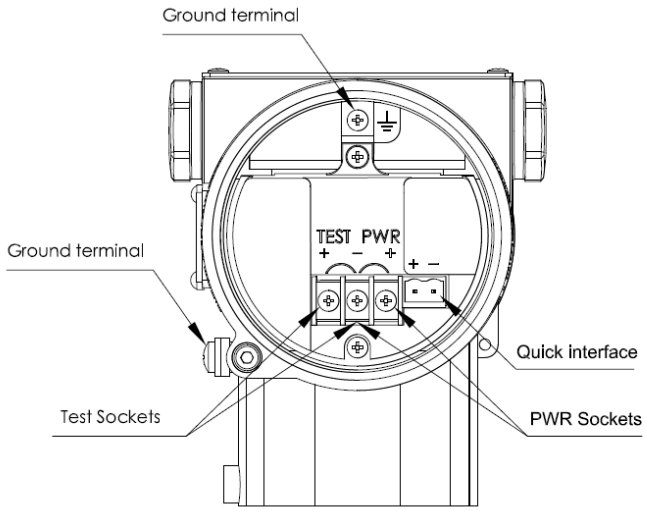
Horizontal Impulse Piping Type



Vertical Impulse Piping Type



5 Terminal Configuration

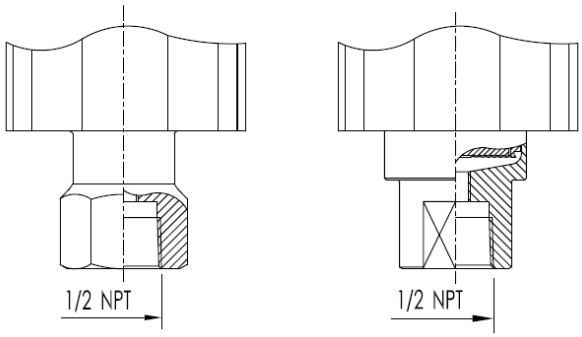


Note：Quick interface functionally equivalent to the signal terminal

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)