

**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)  $\pm 0.075\%$ ;

If  $TD > 10$  ( $TD = URL/SPAN$ ):  $\pm(0.0075 \times TD)\%$

**Ambient Temperature Effects**

Span Code	-20°C ~ 65°C Every 10°C is $\pm 0.08\% \times \text{Span}$ ( $TD=1$ )
B/L	$\pm(0.20 \times TD + 0.10)\% \times \text{Span}$
Others	$\pm(0.15 \times TD + 0.05)\% \times \text{Span}$
Span Code	-40°C ~ -20°C & 65°C ~ 85°C
B/L	$\pm(0.40 \times TD + 0.20)\% \times \text{Span}$
Others	$\pm(0.30 \times TD + 0.10)\% \times \text{Span}$

**Overpressure Effects**

$\pm 0.075\% \times \text{Span}$

**Stability**

Span Code	Stability
B/L	$\pm 0.20\% \times \text{Span} / 2\text{year}$
Others	$\pm 0.15\% \times \text{Span} / 2\text{year}$

**Power Supply Effects:**

$\pm 0.001\% / 10V$  (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,  $R_s \leq (U_s - 12V) / I_{max}$  kΩ,  $I_{max} = 23$  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<sup>2</sup>.

**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

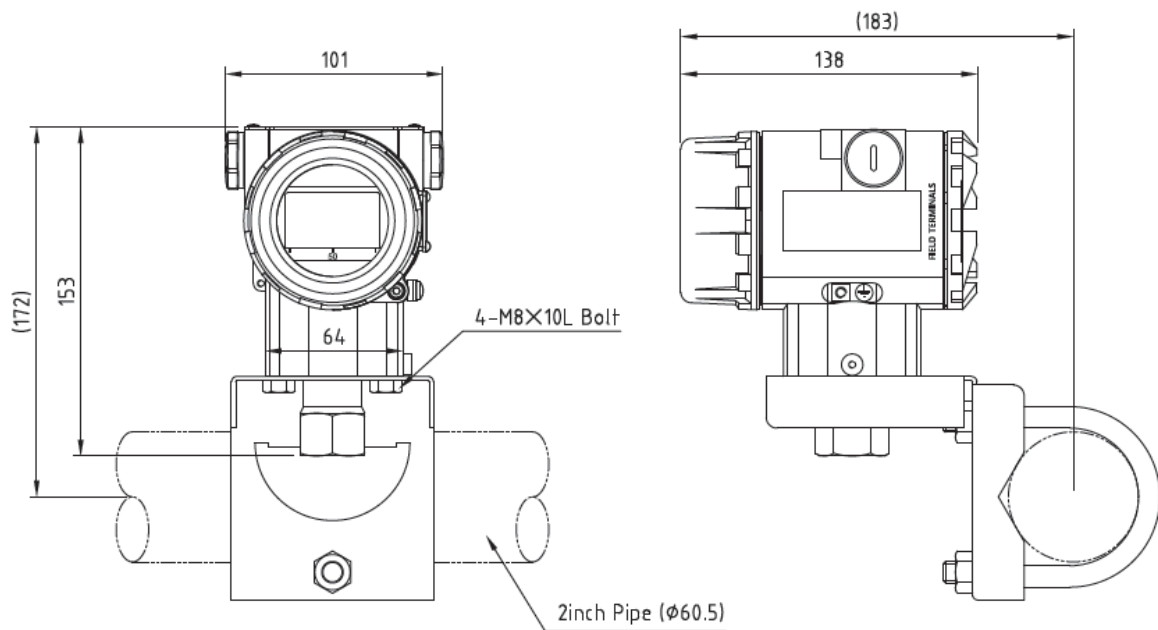
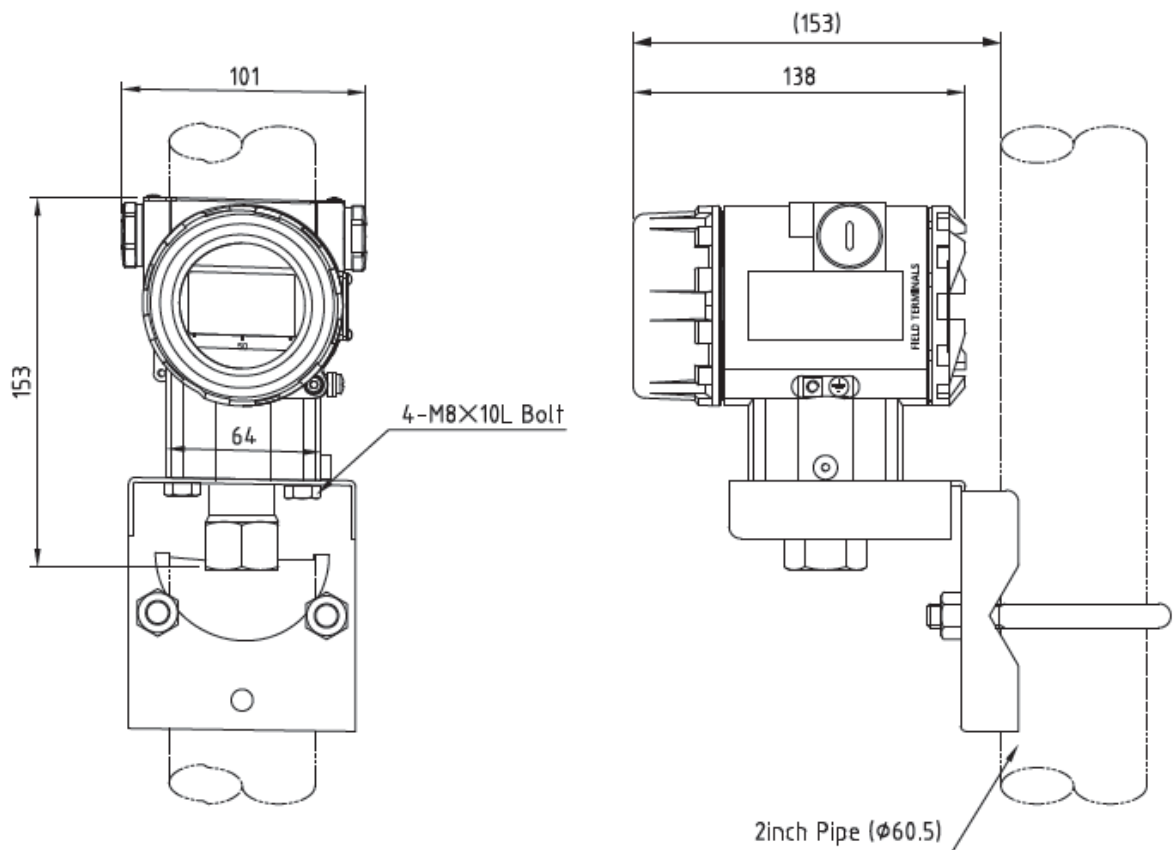
**Name plate and tag:** 304 stainless steel

**Weight:** 1.6kg

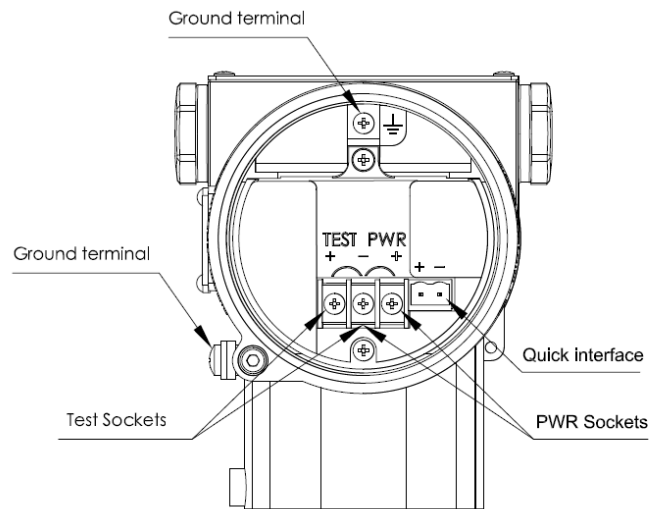
**Enclosure:** Ex d IIC T6 / IP67

**DIMENSIONS**

Unit : mm

**Horizontal Impulse Piping Type****Vertical Impulse Piping Type**

## 5 Terminal Configuration

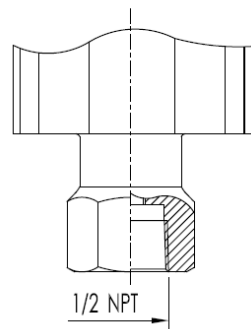


Note: Quick interface functionally equivalent to the signal terminal

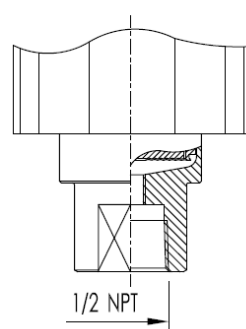
## 6 Process connections Description

### 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 <sup>[1]</sup>								
		Gauge Pressure KIT210-GH							
	B	0-0.6kPa～6kPa / ( 0-60～600 mmH <sub>2</sub> O ) /(0-6～60mbar)							
	C	0-2kPa～40kPa / ( 0-200～4000 mmH <sub>2</sub> O ) /(0-20～400mbar)							
	D	0-2.5kPa～250kPa / ( 0-0.25～25 mH <sub>2</sub> O ) /(0-25～2500mbar)							
	F	0-30kPa～3MPa / ( 0-3～300 mH <sub>2</sub> O ) /(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 mmH <sub>2</sub> O ) /(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 (Std.)			

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 mmH<sub>2</sub>O) / (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)