

**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)  $\pm 0.075\%$ ;

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 (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,  $R \leq (U_s - 12V) / I_{max}$  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: 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

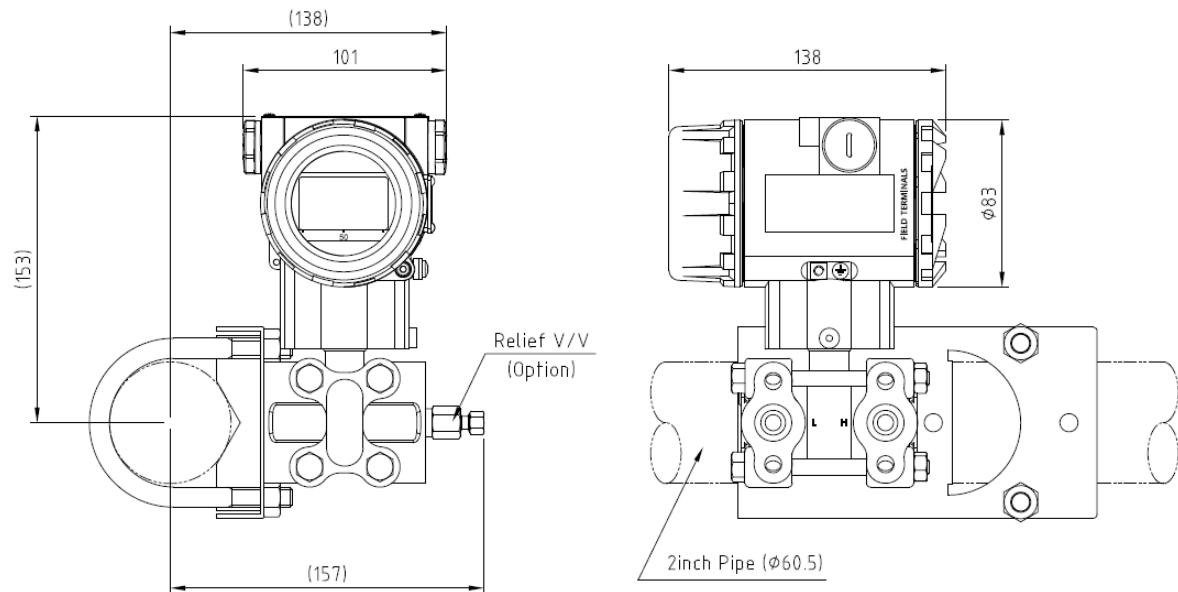
**Weight:** 3.3kg

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

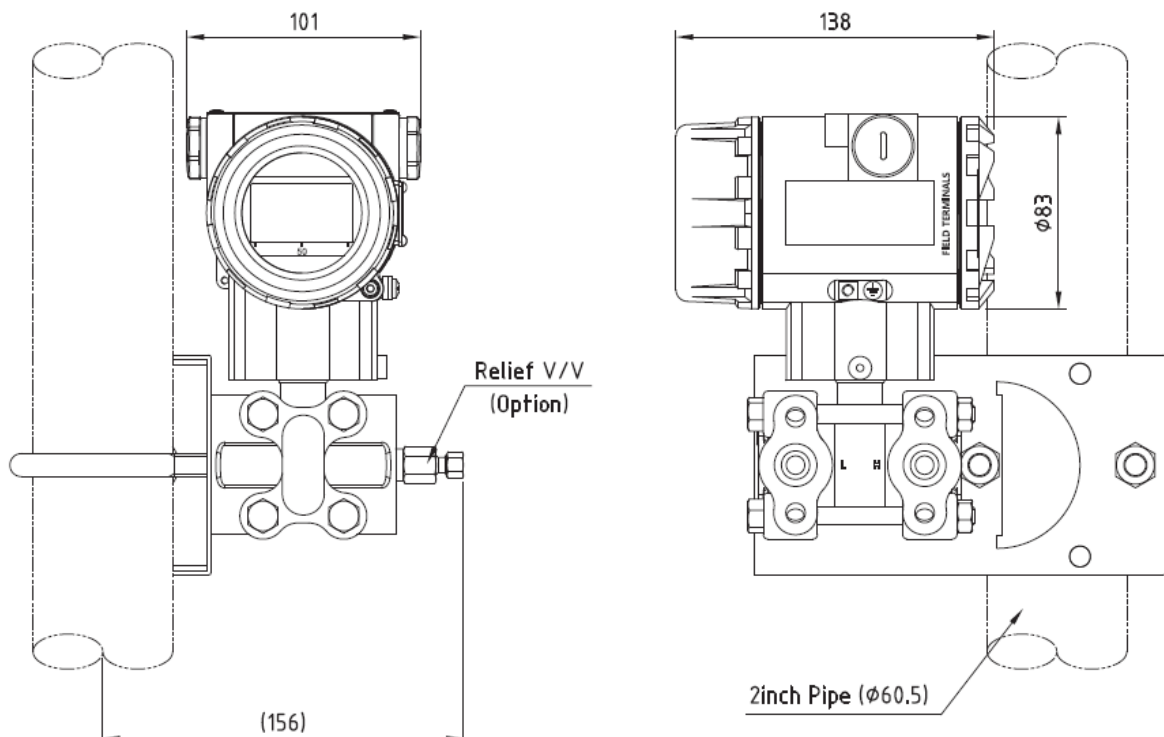
## DIMENSIONS

Unit : mm

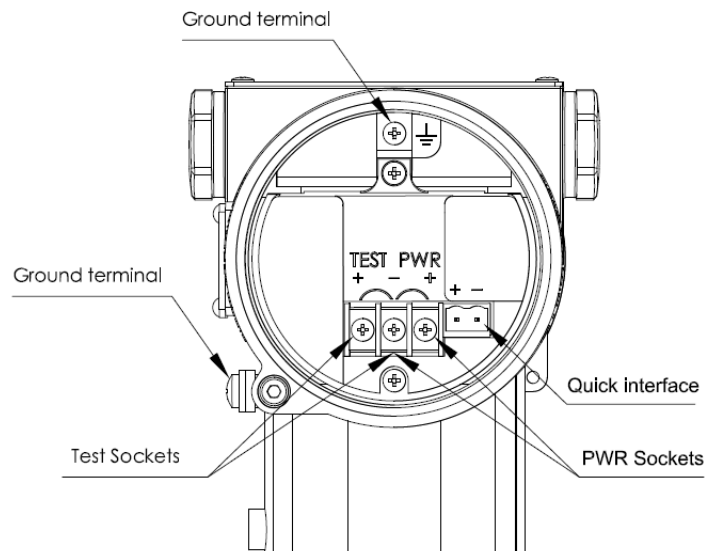
## Horizontal Impulse Piping Type



## Vertical Impulse Piping Type

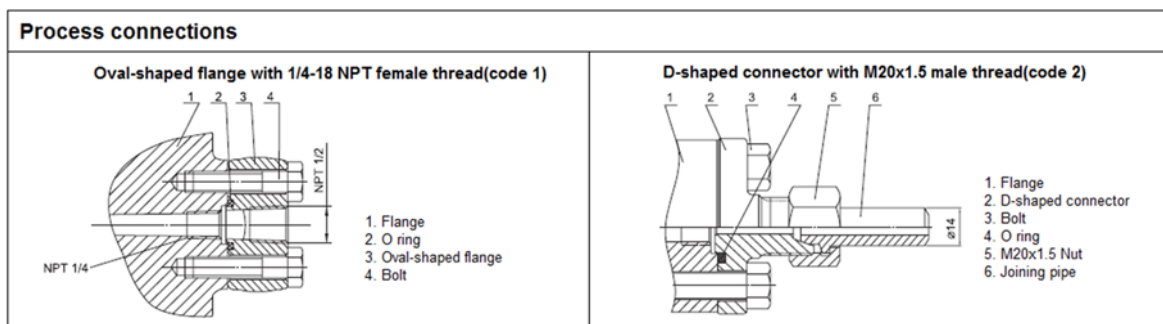


## 5 Terminal Configuration



Note: Quick interface functionally equivalent to the signal terminal

## 6 Process connections Description



## 7 Model and suffix codes

Gauge Pressure Transmitter    KIT220-G									
Absolute Pressure Transmitter    KIT220-A									
10	Output								
	H	4-20mA with HART							
20	Span <sup>[1]</sup>								
		Gauge Pressure KIT220-GH							
	1B	0-0.6kPa～6kPa / ( 0-60～600 mmH <sub>2</sub> O ) /(0-6～60mbar)							
	1C	0-2kPa～40kPa / ( 0-200～4000 mmH <sub>2</sub> O ) /(0-20～400mbar)							
	1D	0-2.5kPa～250kPa / ( 0-0.25～25 mH <sub>2</sub> O ) /(0-25～2500mbar)							
	1E	0-20kPa～2MPa / ( 0-2～200 mH <sub>2</sub> O ) /(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 mmH <sub>2</sub> O ) /(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 mmH<sub>2</sub>O) / (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)