



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 2.5mm².

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

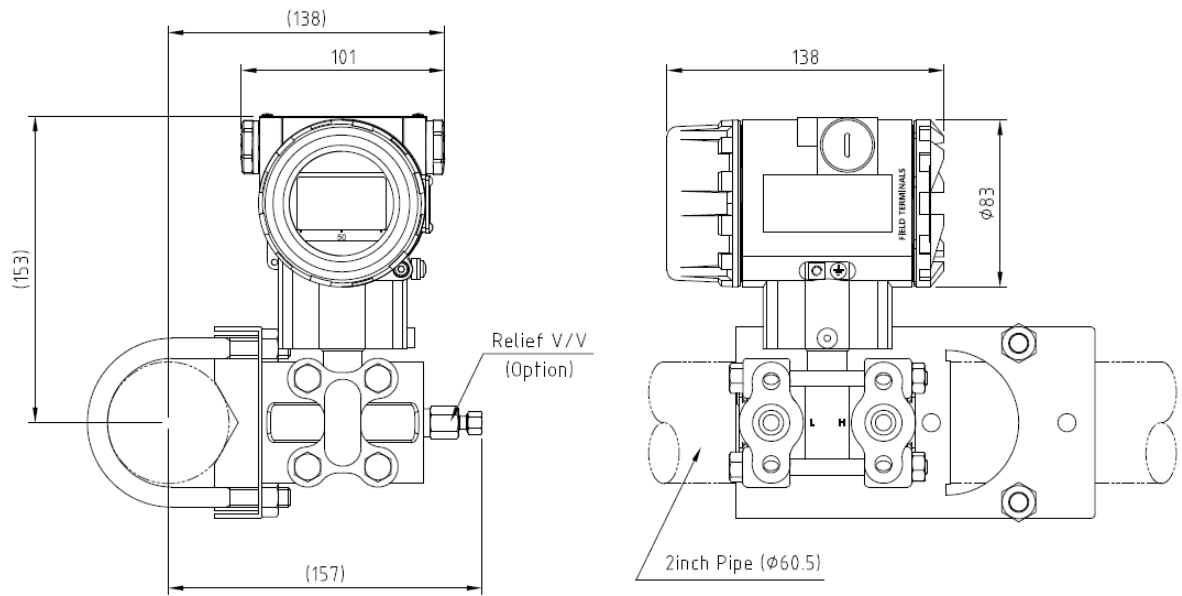
Weight: 3.3kg

Enclosure: Ex d IIC T6 / IP67

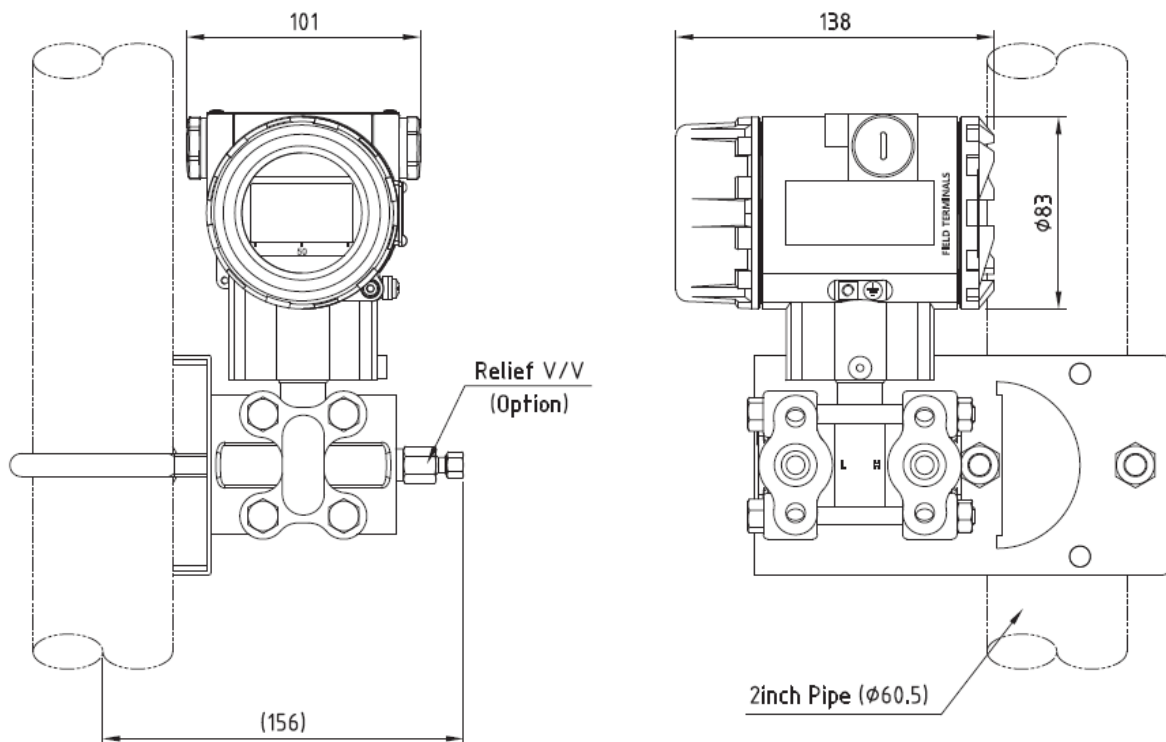
DIMENSIONS

Unit : mm

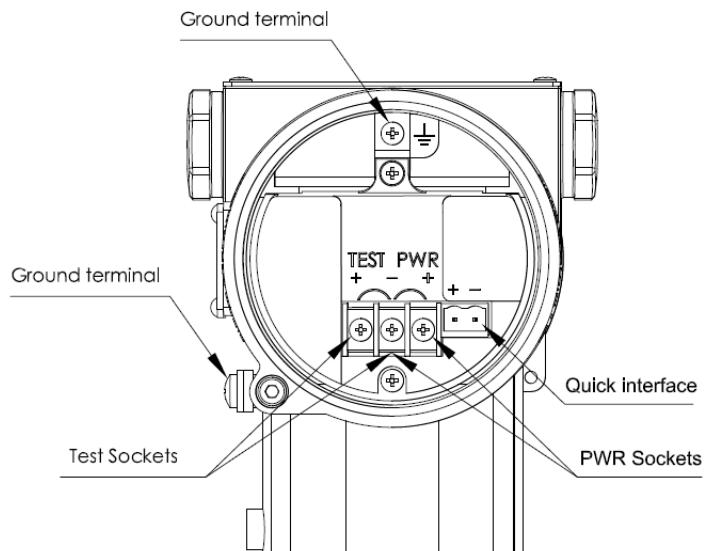
Horizontal Impulse Piping Type



Vertical Impulse Piping Type

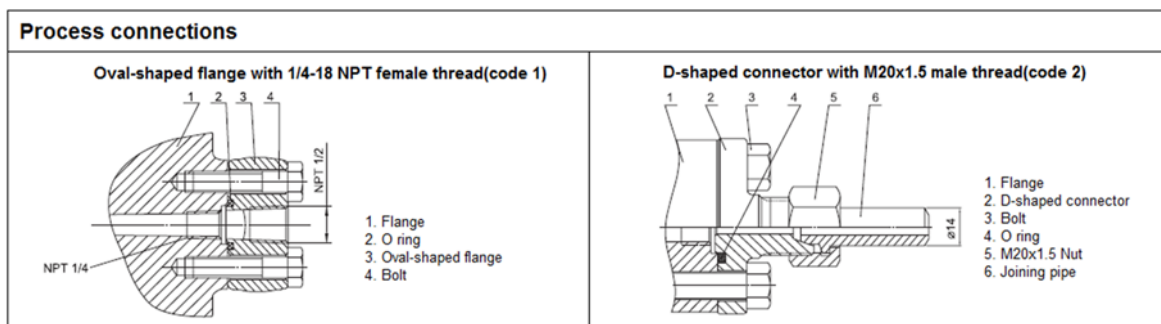


5 Terminal Configuration



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 ^[1]
	Gauge Pressure KIT220-GH
	1B 0-0.6kPa~6kPa / (0-60~600 mmH ₂ O) /(0-6~60mbar)
	1C 0-2kPa~40kPa / (0-200~4000 mmH ₂ O) /(0-20~400mbar)
	1D 0-2.5kPa~250kPa / (0-0.25~25 mH ₂ O) /(0-25~2500mbar)
	1E 0-20kPa~2MPa / (0-2~200 mH ₂ 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 ₂ 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 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)