



Pressure transmitter P3000 series Datasheet





FACTO COMPONENTS CO., LTD. | บริษัท แฟ็คโต คอมโพเนนส์ จำกัด

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The high performance Gauge / Absolute pressure transmitter MIK-P600 is suitable to measure liquid, gas, or steam flow as well as liquid level, density and pressure. it outputs a 4~20 ma DC signal corresponding to the measured pressure. Its highly accurate and stable sensor can also measure the static pressure which can be shown on the integral indicator or remotely monitored via HART communications. Other key features include quick response, remote set-up using communications, self-diagnostics and optional status output for pressure high/low alarm.

FUNCTIONAL SPECIFICATIONS

Span/	Range Limits	kPa	psi	bar	Kgf/cm ²
C/S	Span	2~40	0.29~5.8	0.02~0.4	0.02~0.4
	Range limits	-40~40	-5.8~5.8	-0.4~0.4	-0.4~0.4
D	Span	2.5~250	0.3625~36.25	0.025~2.5	0.025~2.5
	Range limits	-100~250	-14.5~36.25	-1~2.5	-1~2.5
F	Span	30~3000	4.35~435	0.3~30	0.3~30
	Range limits	-100~3000	-14.5~435	-1~30	-1~30
G	Span	0.1~10MPa	14.5~1450	1~100	1~100
	Range limits	-0.1~10MPa	-14.5~1450	-1~100	-1~100
Н	Span	0.21~10MPa	30.45~3045	2.1~210	2.1~210
	Range limits	-0.1~21MPa	-14.5~8000	-1~210	-1~210
Ι	Span	0.4~40MPa	58~5800	4~400	4~400
	Range limits	-0.1~40MPa	-14.5~5800	-1~400	-1~400

High accuracy Gauge pressure :

High accuracy Absolute pressure :

М	Span	2.5~250	0.3625~36.25	0.025~2.5	0.025~2.5
	Range limits	0~250	0~36.25	0~2.5	0~2.5
0	Span	30~3000	-4.35~435	0.3~30	0.3~30
	Range limits	0~3000	0~435	0~30	0~30

PERFORMANCE SPECIFICATIONS

Reference Accuracy of Calibrated Span: (includes terminal-based linearity, hysteresis, and repeatability) ±0.075%, ±0.1% If TD>10(TD=URL/SPAN), ±(0.005×TD)%

Ambient Temperature Effects

-20°C~65°C: ±(0.075×TD+0.025)%×Span Every 10°C is ±0.04% ×Span (TD=1) -40°C~-20°C & 65°C~85°C:±(0.1×TD+0.025)%×Span



Over pressure Effects

±0.05%×Span

Stability ±0.1%×Span /3 years

Power Supply Effects ±0.001% /10V (12~36V DC)

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°C will cause Span C zero shift up to 0.25 kPa, others up to 0.15kpa ,which can be corrected by the zero adjustment.

Output

Two wire 4~20 mADC output with digital communications, linear or square root programmable. HART FSK protocol are superimposed on the 4~20 mADC 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 $0.1 \sim 1.6$ sec, it depends on the range and range compression ratio. Amplifier damping time constant is adjustable from 0.1 to 60 sec by software and added to response time.

UpTime <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

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Pressure Limits

Vacuum to maximum working pressure.

Overload Pressure Limit

Span	401	ĸPa	250kPa(D/M)	3MPa(F/O)
	(C)	(S)		
maximum	1MPa	7MPa	4MPa	15MPa
overload pressure				
Span	10MI	Pa(G)	21MPa(H)	
maximum	20N	ЛРа	50MPa	50MPa
overload pressure				5

Electromagnetic Compatibility (EMC)

Look the EMC Performance Table

Explosion Protected Type Need confirmation

NEPSI / ATXE: Ex dIIC T6 NEPSI / ATXE: Ex iaIIC T4 Amb. Temp.: -40~65°C

INSTALL

Supply & Load Requirements

24VDC supply, R \leq (Us-12V)/Imax k Ω , Imax=23 mA. Maximum voltage limited: 36VDC, Minimum voltage limited: 8.3VDC, 11.3VDC (with LCD display) 230 Ω to 600 Ω for digital communication

Electrical Connection

The electrical connection is made via cable entry M20x1.5.The screw terminals are suitable for wire cross-sections $0.5 \sim 2.5 \text{mm}^2$

Process Connection

Standard process connection: NPT1/2 female thread; Can be changed to NPT1/2,G1/2,M20*1.5 male thread and KF16 Vacuum interface



PHYSICAL SPECIFICATIONS

Wetted Parts Materials

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

Items	Test items	Test conditions	Performance Level
1	Radiated interference (Housing)	30MHz~1000MHz	OK
2	Conducted interference (DC power port) \$	0.15MHz~30MHz	ОК
3	Electrostatic Discharge (ESD) Immunity	4kV(Line) 8kV(Air)	В
4	RF electromagnetic field immunity	10V/m (80MHz~1GHz)	А
5	Frequency magnetic field immunity	30A/m	А
6	Electrical Fast Transient Burst Immunity	2kV(5/50ns,5kHz)	В
7	Surge Immunity	0.5kV(line to line) 1kV(line to ground) (1.2us/50us)	В
8	Conducted interference immunity induced by RF field	3V (150KHz~80MHz)	А

EMC Performance Table

Note:

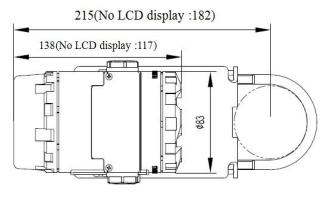
(1) Performance level A description: The technical specifications within the limits of normal performance.

(2) Performance level B description: Temporary reduction or loss of functionality or performance, it can restore itself. The actual operating conditions, storage, and data will not be changed.

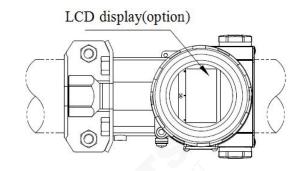


DIMENSIONS

1 Horizontal Impulse Piping Type(side face)

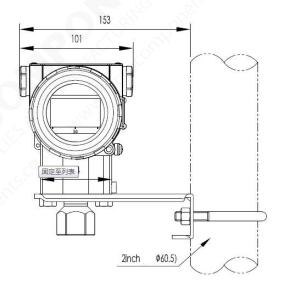


Unit : mm 2Horizontal Impulse Piping Type(front side)

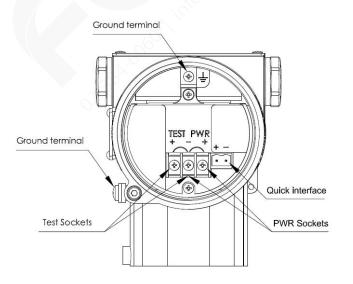


3 Horizontal Impulse Wall mounting Type

- 4 Vertical Impulse Piping Type





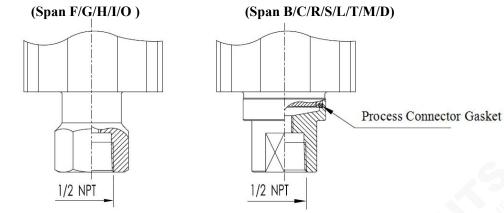


Note: Quick interface functionally equivalent to the signal terminal

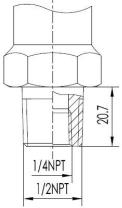




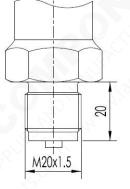
6.1 Standard type(model code 1)



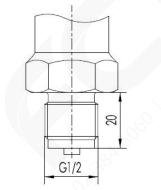
6.2 Other thread type1/2 NPT male thread(model code 2)



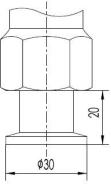
M20*1.5 male thread(model code 3)



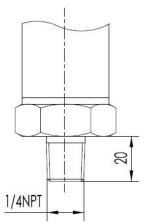
G1/2 male thread(model code 4)



Vacuum interface DIN 28403 KF16(model code 5)



1/4 NPT male thread(model code 2)





7 Model and suffix codes

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