CS
CODE AND SPECIFICATIONS SHEET

High precision differential pressure mounted gauge pressure transmitter

JUN-E11

JUN-E11 high precision differential pressure installation gauge pressure transmitter is an ultra-high performance pressure transmitter carefully developed using the world's advanced pressure sensor technology and packaging process, measuring precision maximum ± 0.025%, range ratio can reach 100:1. The transmitter has a built-in mono-crystalline silicon sensor to output the DC 4 ～ 20mA signal corresponding to the measured pressure.

The product is suitable for the pressure measurement of gas, liquid, steam and other process fluids, and can be used in the environment with explosion-proof requirements.

Through mutual communication with intelligent terminals, various functions can be set, adjusted and monitored for output signals.

Standard layout

Export

Export Signal: DC 4 ～ 20mA

Output signal range: DC3.8～20.8mA (maximum)

Supply voltage

DC16.5～55V (see Figure 1)

Load impedance

0～2199 Ω is the working status (see Figure 1 for details)

250～600 Ω HART communication

Communication mode

HART、PROFIBUS-PA、FOUNDATION Field-bus

Determine the pressure range

Scope code	Range	Measurement range
G06	6kPa	Minimum range 200Pa,-6～6kPa
G40	40kPa	Minimum range 400Pa,-40～40kPa
G250	250kPa	Minimum range 12.5kPa,-100～250kPa
G1K	1MPa	Minimum range 10kPa,-0.1～1MPa
G3K	3MPa	Minimum range 30kPa,-0.1～3MPa
G10K	10MPa	Minimum range 100kPa,-0.1～10MPa
G40K	40MPa	Minimum range 400kPa,-0.1～40MPa

Withstand voltage

See Table 1 for details

Use the temperature range

Ambient temperature range: -40 to 85℃

Integrated LCD display: -20～70℃

Temperature range: silicone oil-filled sensor-40 -120℃ filled with inert filling fluid-45-160℃

Use humidity range

5%～100%RH@ 40℃

Storage temperature range

-40～110℃, integrated LCD display: -40～85℃

levels of protection

IP67

Failure alarm signal

When the added pressure exceeds the upper limit of range, export alarm current value, lower limit to 3.8mA and upper limit to 20.8mA.

Precision

±0.025%, ±0.05%, ± 0.075%, ± 0.1%

(see Table 2 for details)

Temperature characteristic

Total impact volume in the range of-20 to 80℃: ± (0.1+0.1TD)% range upper limit

Time index

The total damping time constant is equal to the sum of the damping time constants of the electronic circuit component and the sensing membrane box. Damping time of electronic circuit components: 0～100S range adjustable. Damping time of the sensing membrane box: 0.2S

Long-term stability

±0.15%range upper limit / 10 years

Quick operation menu

Function	Explain
PV zero clearing	So that the current simulation export corresponds to the zero pressure value
zero (point) adjustment	The actual export was set to 4mA using the reference pressure
Full point adjustment	The actual export was set to 20mA using the reference pressure
Factory data reset	During a debugging error, restore the factory backup data

Material quality

Provide liquid solution for various anti-corrosive material quality.

The diaphragm material quality: 316L stainless steel, 316L stainless steel gold plated, C, tantalum, Monnell, etc

O-sealing ring material quality: nitrile rubber, fluorine rubber, PFE

Wiring box material quality: aluminum alloy exterior spraying epoxy resin

Flanged and exhaust drain valve material quality: 316 stainless steel

Seal into the liquid

Silicone oil, inert filling fluid, etc

Pressure import interface

Inner thread 1 / 4-18 NPT

Distribution interface

M20*1.5 、1/2NPT

Weight

About 4kg (excluding mounting bracket, process connection accessories)

Additional explain

ATEX explosion-proof certification

Grade 1, zone 1 / 2, Group G, and Ex db IIC T6 Ga/Gb

-30℃≤Tamb≤+75℃ Process temperature≤85℃

Grade 1, zone 1 / 2, Group G, and Ex db IIIC T5 Ga/Gb

-30℃≤Tamb≤+80℃ Process temperature≤100℃

Grade 1, zone 1 / 2, Group G, and Ex db IC T4 Ga/Gb

-30℃≤Tamb≤+80℃ Process temperature≤110℃

Grade 1, zone 2, Group D, and Ex tb IIIC T85℃ Db

-30℃≤Tamb≤+75℃ Process temperature≤ 85℃

Grade 1, zone 2, Group D, and Ex tb IIIC T100℃ Db

-30℃≤Tamb≤+75℃ Process temperature≤100℃

Grade 1, zone 2, Group D, and Ex tb IIIC T110℃ Db

-30℃≤Tamb≤+75℃ Process temperature≤110℃

(notice 1 Use a power cord suitable for working at a temperature 5℃ higher than the surrounding area)

Intrinsic Safety Certification

Grade 1, zone 1, Group G, and Ex ia IIC T4 Ga

-30℃≤Tamb≤+60℃ Process temperature=105℃

Electrical parameters:

Ui=30V,Li=93mA,Pi=1W,Ci=5nF,Li=0.5mH

Grade 1, Zone 1, Group D, Ex ia IIIC T105℃ Da

-30℃≤Tamb≤+60℃ Process temperature=105℃

Group G Ex ic IC T4 Gc in level 3

-30℃≤Tamb≤+60℃ Process temperature=110℃

Electrical parameters: Ui=30V,Ci=5nF,Li=0.5mH

NEPSI Burst isolation certification

Ex d IC T6 Gb; Ex tD A21 T85℃

-30℃≤Tamb≤+75℃ Process temperature=80℃

Ex d IC T5 Gb; Ex tD A21 T100℃

-30℃≤Tamb≤+80℃ Process temperature=95℃

Ex d IIC T4 Gb; Ex tD A21 T115℃

-30℃≤Tamb≤+80℃ Process temperature=110℃

NEPSI Intrinsic Safety Certification

Ex ia IIC T4 Ga

-40℃≤Tamb≤+60℃ Process temperature=105℃

Ex ia IIC T4 Gc

-40℃≤Tamb≤+60℃Process temperature=105℃

Electrical parameters:
Ui=30V,Li=100mA,Pi=1W,Ci=13nF,Li=0.5mH

(Use a power cord suitable for working at a temperature 5℃ above the periphery)

IECEX Explosion certification

Ex d IC T6 Ga/Gb

-30℃≤Tamb≤+75℃ Process temperature≤85℃

Ex d IIC T5 Ga/Gb

-30℃≤Tamb≤+80℃ Process temperature≤100℃

Ex d IIC T4 Ga/Gb

-30℃≤Tamb≤+80℃ Process temperature≤110℃

Ex tb IIIC T85℃ Db

-30° C≤Tamb≤+75℃ Process temperature≤85℃

Ex tb IIIC T100℃Db

-30℃≤Tamb≤+75℃ Process temperature≤100℃

Ex tb IIIC T110℃Db

-30℃≤Tamb≤+75℃ Process temperature≤110℃

(notice :Use a power cord suitable for working at a temperature 5℃ higher than the surrounding area)

IECEX safety safety safety certification

Ex ia IIC T4 Ga

-30℃≤Tamb≤+60℃ Process temperature=105℃

Electrical parameters:

Ui=30V,Li=93mA,Pi=1W,Ci=5nF,Li=0.5mH

Ex ia IIIC T105℃ Da

-30℃≤Tamb≤+60℃ Process temperature=105℃

Ex ic IIC T4 Gc

-30℃≤Tamb≤+60℃ Process temperature=110℃

Electrical parameters: Ui=30V,Ci=5nF,Li=0.5mH

Electromagnetic compatibility (EMC)

EN 61326-1:2013

EN 61326-2-3:2013

EN 61326-2-5:2013

Electromagnetic compatibility instruction: 2014 / 30 / EU

RoHS attestation

EN 50581:2012

EN 62321:2013

Debug method

HART hand operator, local button

The HART manipulator can configure almost all instrument parameters.

The local button can perform various function configurations for the transmitter: zero (point) adjustment, setting the upper and lower limits of pressurized and unpressurized measurement, unit selection, damping setting, export selection, etc.

Display interface

Identification	Explain
PV	The main screen displays process variables, the secondary screen displays percentage and progress bar
mA	The main screen shows the current value, and the secondary screen shows the percentage and progress bar
%	Home screen display percentage, secondary screen display percentage and progress bar

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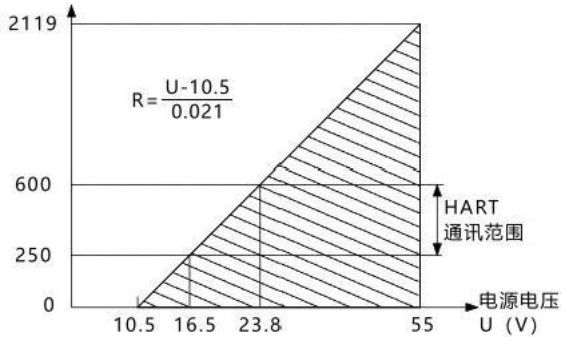


Figure 1. Power supply and load conditions

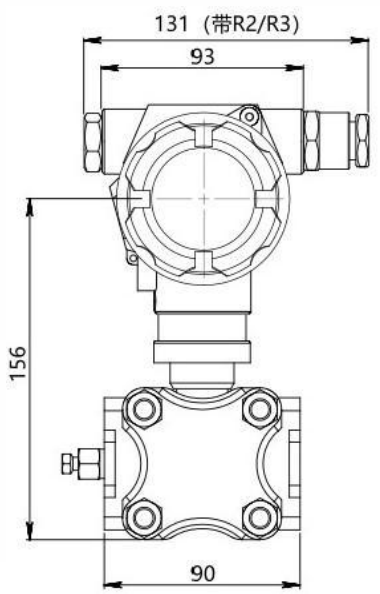
Range	One-way high-pressure side overload
6kPa	25MPa
40kPa	25MPa
250kPa	25MPa
1MPa	25MPa
3MPa	25MPa
10MPa	25MPa
40MPa	42MPa

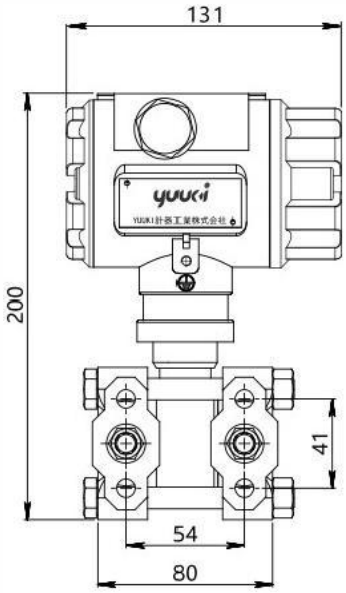
Table 1 Maximum use pressure and pressure resistance

By standards, and test base conditions, including linear, sluggish, and repetitive. Calibration temperature: 20℃± 5℃	
Linear transmission and output accuracy	± 0.025%, if TD> 10 (Note 1), then ± (0.0025 TD)%
	± 0.05%, ± (0.005 TD) if TD> 10%
	± 0.075%, ± (0.0075 TD)% if TD> 10
	± 0.1%, ± (0.01 TD) if TD> 10%
The square-root export-precision is 1.5 times that of the linear reference precision above	
Note 1: TD= max. range / regulatory range	

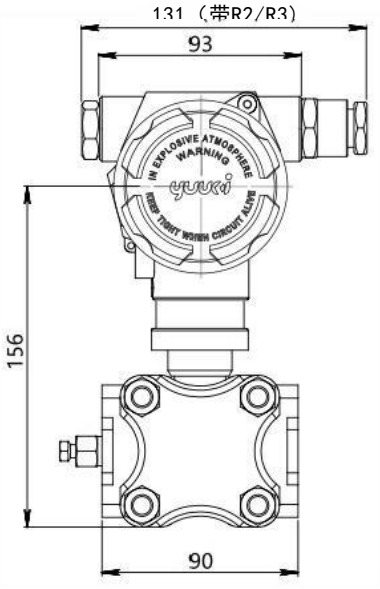
In table 2, refer to the precision

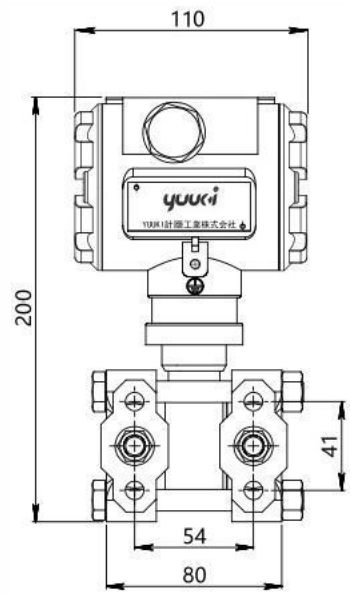
Overall size drawing with display function



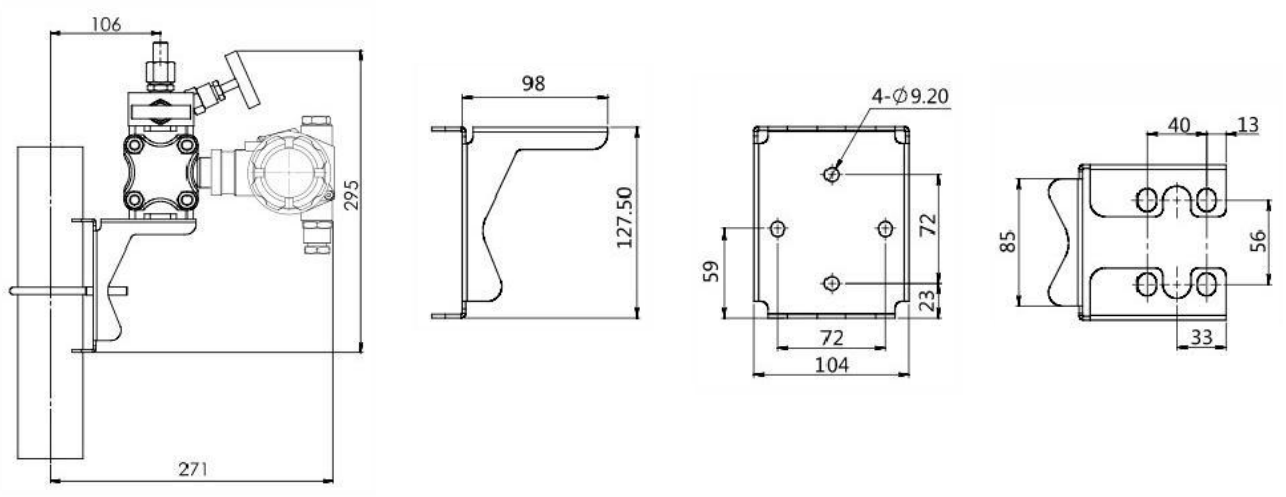


Size drawing of the whole machine without display function

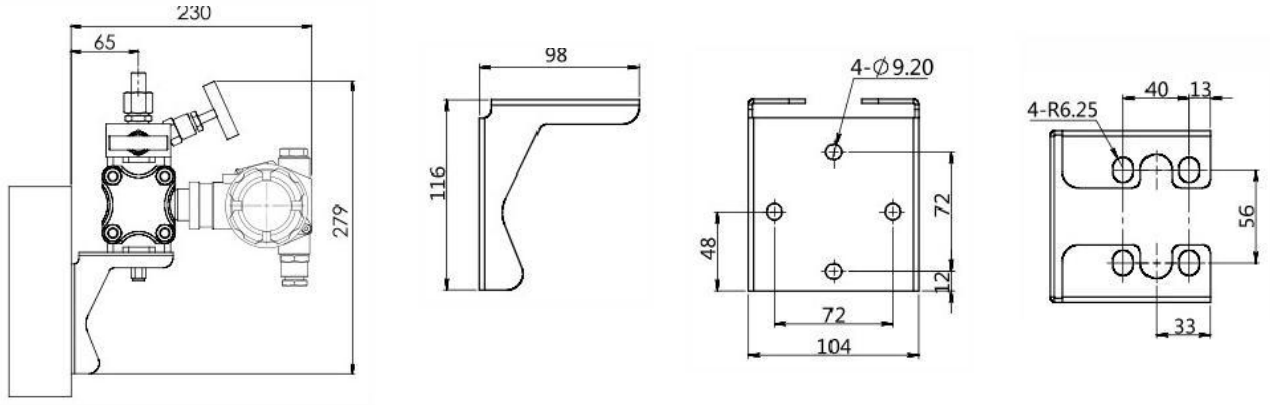




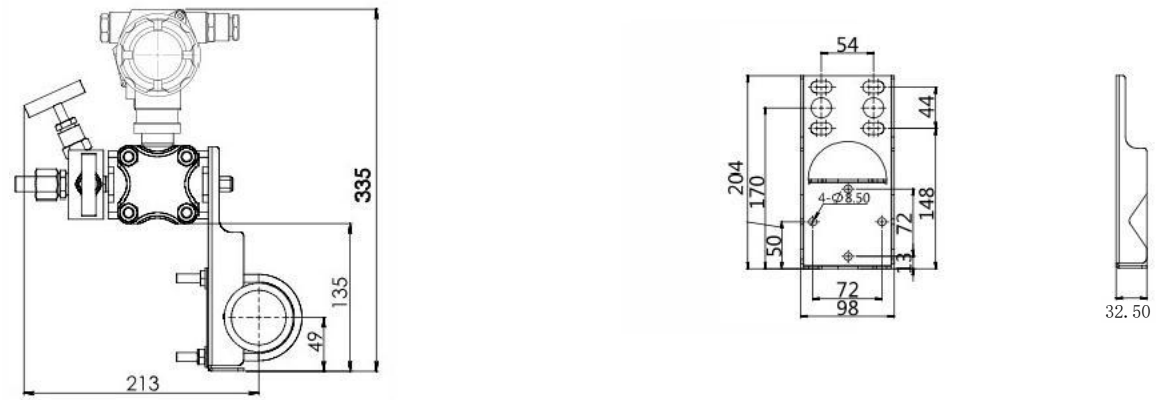
Installation dimensions of pipe bent bracket



Installation dimensions of plate bending bracket



Installation dimensions of flat bracket



Order number	Project	Code	Content
1	Model	JUN-E11	High precision Differential pressure mounted gauge pressure transmitter
2	Precision	A	±0.05%
		B	±0.075%
		C	±0.1%
		D	±0.025%
3	Range	G06	0～6kPa,Minimum range 200Pa(0～1kParange Please select the micro-differential pressure transmitter)
		G40	0～40kPa,Minimum range 400Pa
		G250	0～250kPa,Minimum range 2.5kPa
		G1K	0～1MPa,Minimum range 10kPa
		G3K	0～3MPa,Minimum range 30kPa
		G10K	0～10MPa,Minimum range 100kPa
		G40K	0～40MPa,Minimum range 400kPa
4	Communication mode	H	4 ～ 20mA + HART, made in two lines
		P	PROFIBUS-PA(The delivery date shall be inquired)
		F	FOUNDATION Field-bus(The delivery date shall be inquired)
5	Explosion-proof	N	No explosion-proof function
		G	PCEC Explosion suppression
		D	NEPS Iexplosion suppression
		A	NEPSI Ben Ann
		E	ATEX explosion suppression
		B	ATEX Ben Ann
		M	IECEX explosion suppression
		W	IECEX Ben Ann
6	Display	N	No display
		L	LCD liquid-crystal display
		O	OLED show（The delivery date shall be inquired)
7	The liquid patch material quality	S	And 316L of stainless steel
		U	The 316L stainless steel is gold-plated
		H	Hastelloy C
		T	Ta
		M	Monnell

Order number	Project	Code	Content
8	Type O sealing ring material quality	N	Acrylonitrile-butadiene rubber
		F	Fluorine(-containing)rubber
		P	PTFE
9	Seal into the liquid	S	Silicone oil, applicable to the direct contact temperature range of-40 to 120℃
		D	Inert filling fluid for direct contact temperature range-45 to 160℃
10	Type O sealing ring	0	No special treatment
		1	No oil treatment
		2	Water ban treatment
11	Pressure import connection	H1	Process connection internal thread 1 / 4-18 NPT, exhaust drain valve at the rear end of the flange
		H2	Process connection internal thread 1 / 4-18 NPT, exhaust drain valve is located at the lower side of the flange
		H3	Process connection internal thread 1 / 4-18 NPT, exhaust drain valve is located on the upper part of the flange side
		H4	Vertical mounting flange, process connection internal thread 1 / 4-18 NPT, exhaust drain valve is located on the side of the flange
12	Distribution connection	T1	Two M20 * 1.5 internal threads
		R1	Two M20 * 1.5 internal threads, M20 * 1.5 waterproof joint on one side and PVC material quality plug on the other side
		R2	Inner thread 1 / 2 NPT connector on one side and stainless steel on the other side material quality end cap
		R3	M20 * 1.5 connector on one side and stainless steel on the other side material quality end cap
13	Additional options-Pressure-in connection accessories	-A1	Adapter M20 * 1.5 external thread and lead pipe Φ 14 * 2 * 30,304 stainless steel material quality
		-A2	Adapter 1 / 2-14 NPT inner thread, 304 stainless steel material quality
14	Additional options-Fixed mounting fitting	-B1	2 ″ Pipe bending bracket
		-B2	Board bending bracket
		-B3	2 ″ Pipe flat bracket
		-B4	U-shaped bracket, 2 ″ tube mounting
15	Additional option-welded pipe joint	-C	1 / 2 NPT to Φ 14 welded pipe joint
16	Additional option-Valve set	-3	Three-valve set, 304 stainless steel material quality
		-4	Three-valve set, 316 stainless steel material quality
		-5	Five-valve set, 304 stainless steel material quality
		-6	Five-valve set, 316 stainless steel material quality
17	Additional option-Check the report	-Q2	Provide a nationally recognized third-party verification report

Matters need attention

To better perform the performance of the transmitter, please pay attention to the following before use and read the instructions.

Note for transmitter installation

Notice
When installing the transmitter, ensure that the sealing gasket is connected in the process, not from the transmitter to the process fluid (such as fitting flange connection, connecting pipe Lane, flange) connected prominent, if the sealing gasket protruding outside, may lead to liquid leakage and output errors. Do not use the transmitter beyond the specified pressure, temperature range and operating conditions of the product specification, otherwise it may cause the leakage of the product and cause serious accidents. When wiring in dangerous areas, please follow the operation method specified in the explosion-proof standard instructions.

Notice
Please do not stand on the installed transmitter, take it as a foot.foot may occur splash, causing fluid splash injury personnel. Be careful of the glass display, do not use tools to hit the glass part of the digital watch head, breaking the glass may cause body injury. The transmitter is heavy, please carefully install and wear safety shoes. The collision transmitter may damage the sensor module.

Wiring notice matters

Warning
To prevent a short circuit, please do not use wet hands or in a live state of the wiring work.

Notice
Please connect correctly according to the technical specification. Wrong wiring will cause instrument failure or irreparable damage. Please use the power supply that meets the technical specification. Using the inappropriate power supply can cause instrument failure or irreparable damage.

Use the HART protocol equipment notice matters

If the instrument is operated by the helper (HART Communicator, etc.), set the communication interval of the server (DCS, equipment management system) for more than 8 seconds, or stop the communication between the server and the instrument. If the server communicates with the instrument repeatedly within 8 seconds, the instrument may not accept the request of the helper (may not be able to communicate with the instrument)。

If the electrical noise interference in the surrounding environment affects the HART communication with the server, please take corresponding measures, such as separating the signal cable from the noise source, improving the grounding or replacing the signal shielding cable, etc. If an analog signal of 4-20mA is used, the use will not be affected even if the HART communication is disturbed by the noise。

△ Read the operation manual carefully before using this product.

△ Any change in appearance or specification due to improvement without notice.