C S
CODE AND SPECIFICATIONS SHEET

Flange side mounted differential pressure transmitter

JUN-E40

JUN-E40 flange side-mounted differential pressure transmitter is an ultra-high performance differential pressure transformer carefully developed by using the world's advanced pressure sensor technology and packaging process Transmitter, with the highest measurement accuracy of ± 0.075%. The transmitter has a built-in mono-crystalline silicon sensor to output the DC 4 ～ 20mA signal corresponding to the measured pressure.

The transmitter is connected with the measured medium by capillary and flange, which can not only be used for ordinary gas and liquid measurement, but also suitable for high temperature viscosity, easy crystallization, with, solid particles or suspended matter, highly corrosive or highly toxic medium. It can be used in the environment with explosion-proof requirements.

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



Standard layout

Export
The export signal: DC 4 ～ 20mA
Output signal range: DC3.8～20.8mA (maximum)

Supply voltage
DC16.5～55V (See Figure 1 for details)

Load impedance
0～2199Q is the working status (See Figure 1 for details)
250～600Q HART communication

Communication mode
HART、PROFIBUS-PA、FOUNDATION Field-bus

Determine the pressure range

Scope code	Range	Measurement range
G40	40kPa	Minimum range 4kPa,-40～40kPa
G250	250kPa	Minimum range 12.5kPa,-250～250kPa
G1K	1MPa	Minimum range 50kPa,-0.5～1MPa
G3K	3MPa	Minimum range 300kPa,-0.5～3MPa

Transmitter body pressure limit
Absolute pressure of 3.5kPa to the rated pressure, and the limit pressure can be greater than the rating
1.5 times the pressure, while applied on both sides of the high and low pressure.

Overload limit of the high and low pressure side
See Table 1 for details

Use the temperature range
Range of use:Minimum temperature depends on filling fluid, maximum temperature 85℃.
Integrated LCD display: -20～70℃
Temperature range of the measured medium: see Table 2 for details

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
±0.075%、±0.1%(See Table 3 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 for 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 cartridge: 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.
material quality: 316L stainless steel, 316L stainless steel gold-plated, 316L stainless steel sprayed FEP, Harbin C, tantalum, Monnell, titanium, etc
O-type sealing ring material quality: nitrile rubber
Wiring box material quality: aluminum alloy exterior spraying epoxy resin

Seal into the liquid
Silicone oil, high temperature silicone oil, ultra-low temperature filling fluid, sanitary filling fluid, inert filling fluid, etc

Pressure import connection
Flange and capillary connection, flange nominal diameter DN50～DN100 (can be customized according to user requirements)

Distribution interface
M20*1.5 、1/2NPT

Weight
According to the diameter size of the assigned flange,
the weight is about 7kg～21kg.

Additional instructions

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,Ii=100mA,Pi=1W,Ci=13nF,Li=0.5mH
(Use a power cord suitable for working at a temperature 5℃ higher than the ambient temperature)

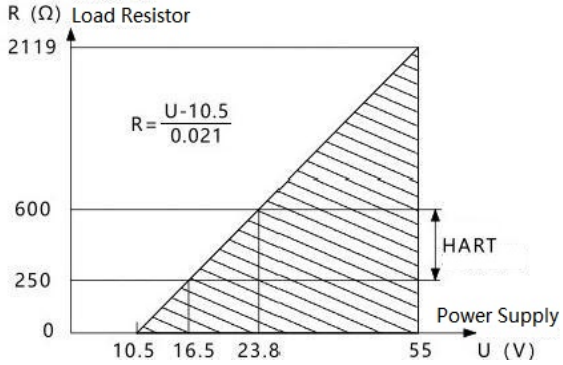
Electromagnetic compatibility (EMC)
EN 61326- 1:2013
EN 61326-2-3:2013
EN 61326-2-5: 2013
Electromagnetic compatibility directive: 2014/30/EU

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 functional configurations of the transmitter: zero (point) adjustment, plus
Set the upper and lower limits of pressure and no pressure, 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.



Range	One-way high-pressure side overload	One-way LV side overload
40kPa	Far pass flange rated pressure	Rated pressure of the transmitter body
250kPa	Far pass flange rated pressure	Rated pressure of the transmitter body
1MPa	Far pass flange rated pressure	Rated pressure of the transmitter body
3MPa	Far pass flange rated pressure	Rated pressure of the transmitter body

Table 1 Overload limit of the high and low pressure side

The filling fluid	Determination of medium temperature
silicone oil	-45～215℃
High temperature silicone oil	-10～305℃
Hygienic filling fluid	-10～180℃
Inert filling fluid	-30～260℃
Plant oil filling fluid	0～250℃
Ultra-low temperature filling fluid	-190～100℃

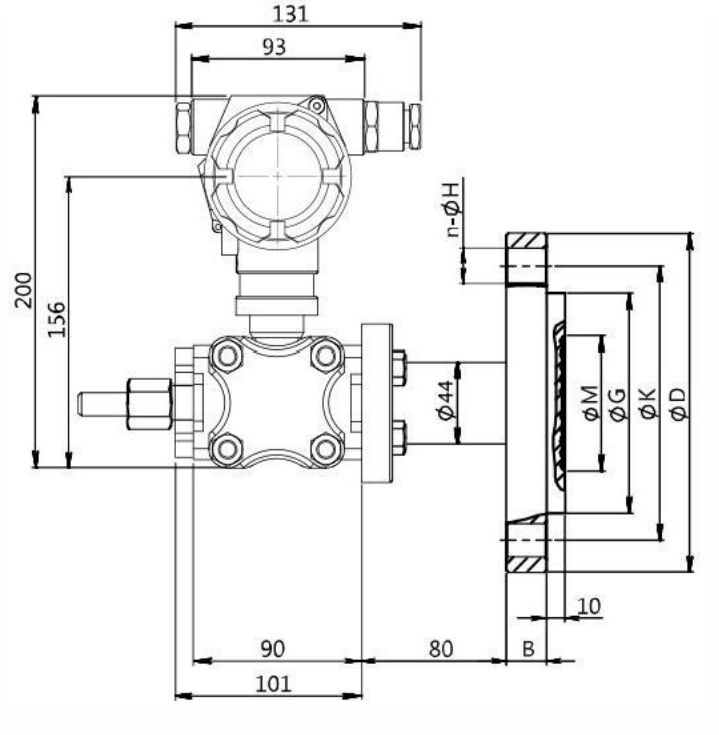
Table 2. Determine the medium temperature range

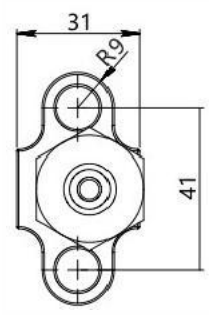
By standards, and test base conditions, including linear, sluggish, and repetitive. Calibration temperature: 20℃± 5℃	
Linear transmission and output accuracy	±0.075%, ± (10 TD) if TD> 10.0075 (Note 1)
	± 0.1%, if TD> 10), it is ± (0.01 TD)%
平The root export accuracy is 1.5 times the linear reference accuracy	
Note 1: TD= max. range / regulatory range	

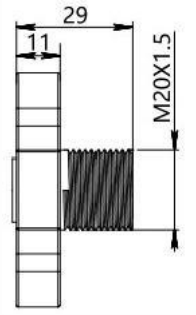
Table 3 refers to the accuracy

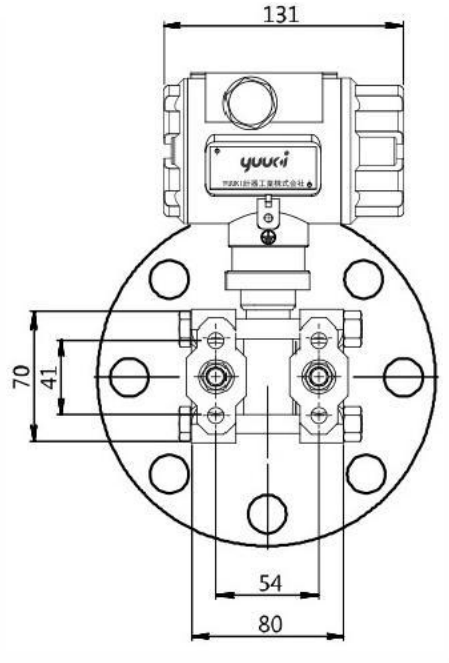
Overall dimension drawing (in mm)

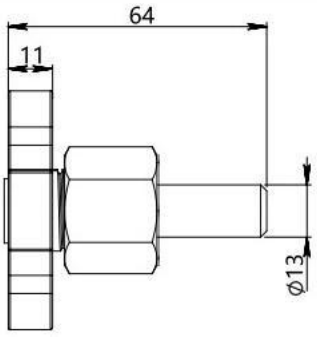
Size drawing of the whole machine with standard flat type display function (with A1 connector)



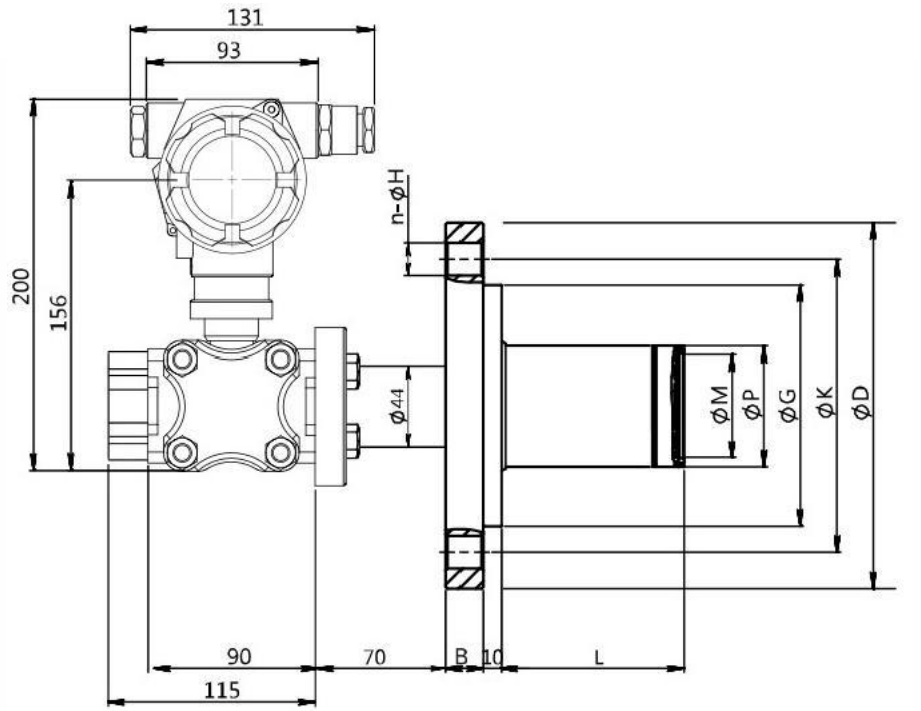


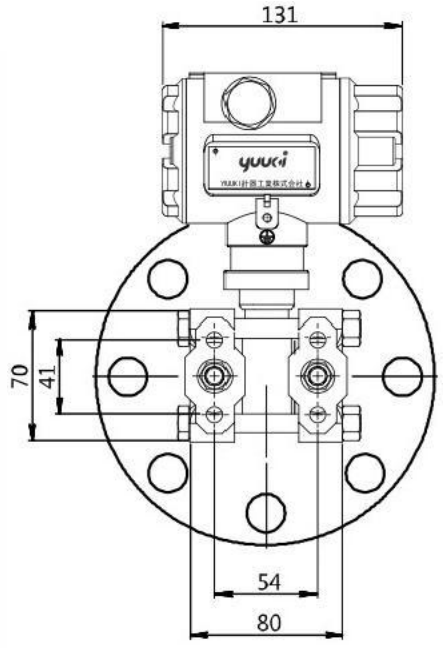


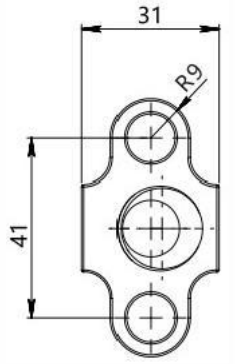


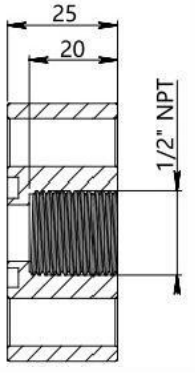


Size drawing of whole machine with display function (with A2 connector)

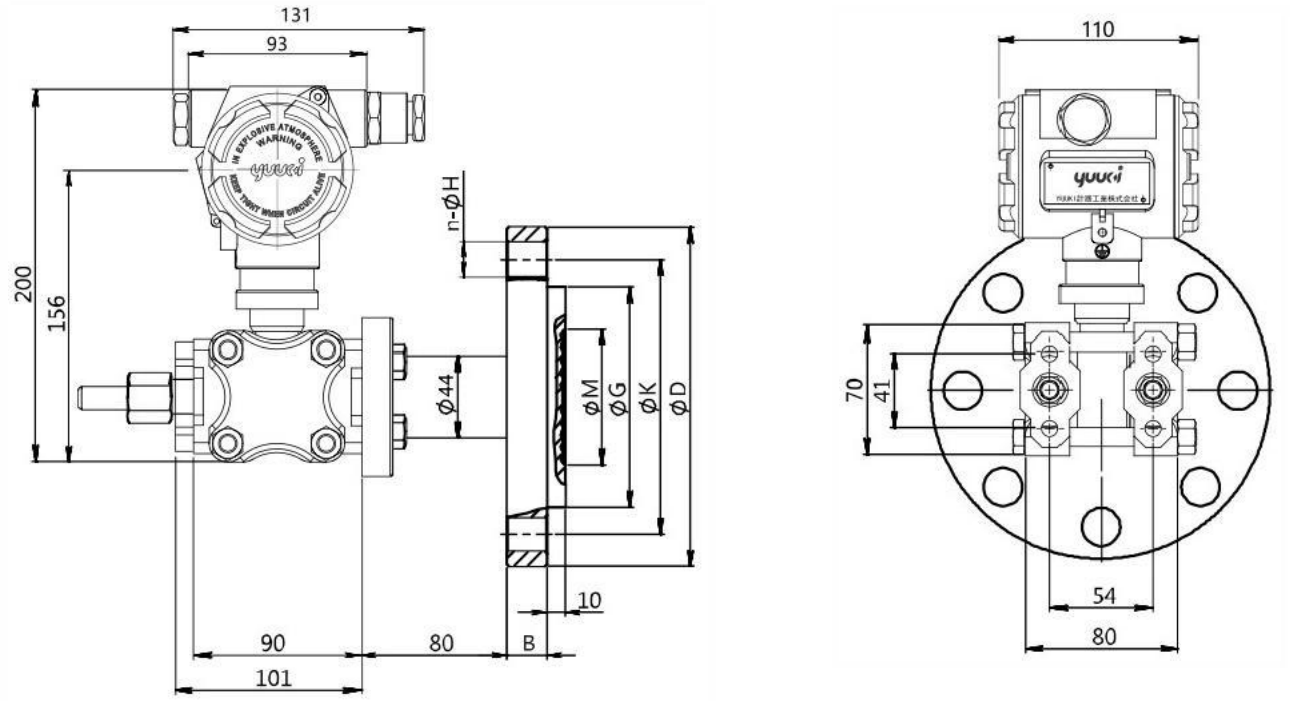




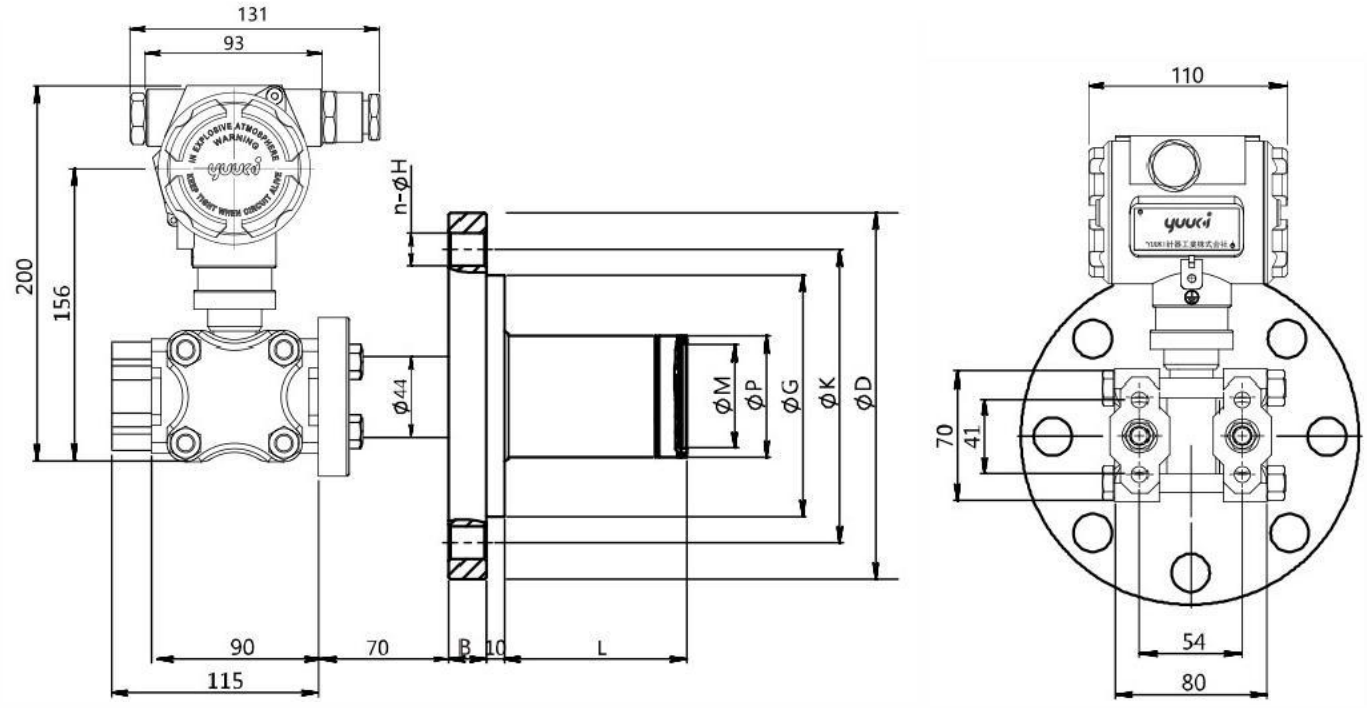




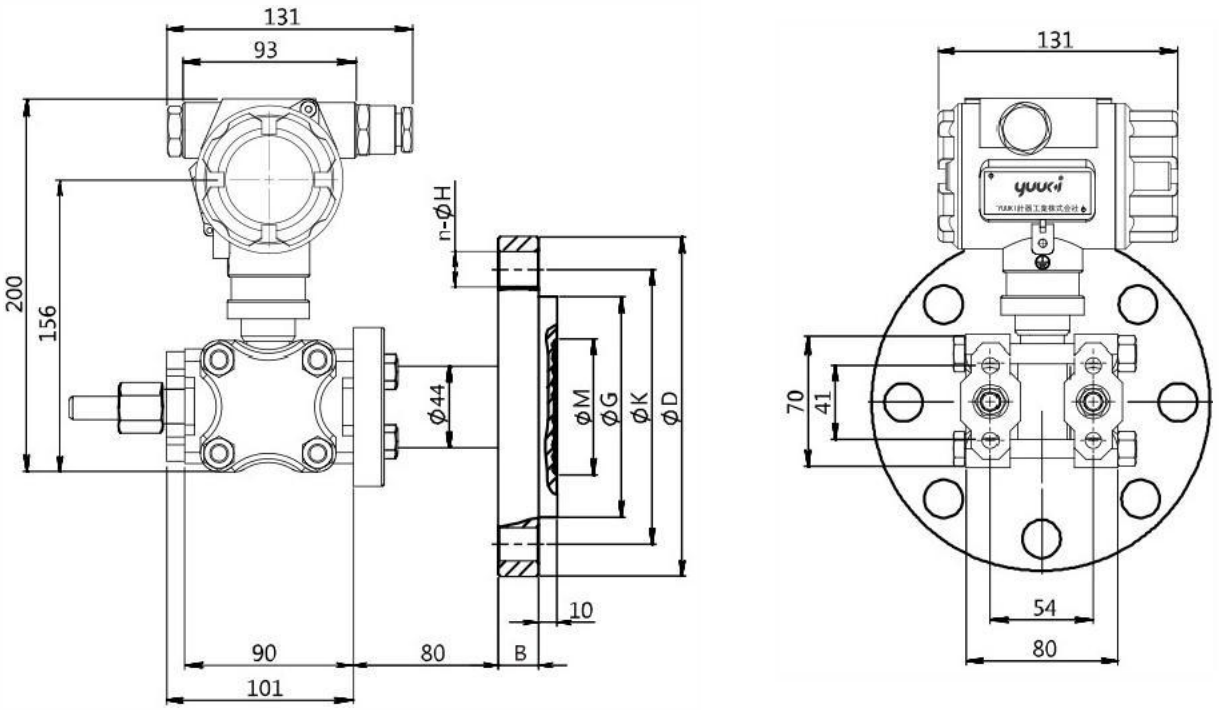
Standard flat type size diagram of the whole machine without display function



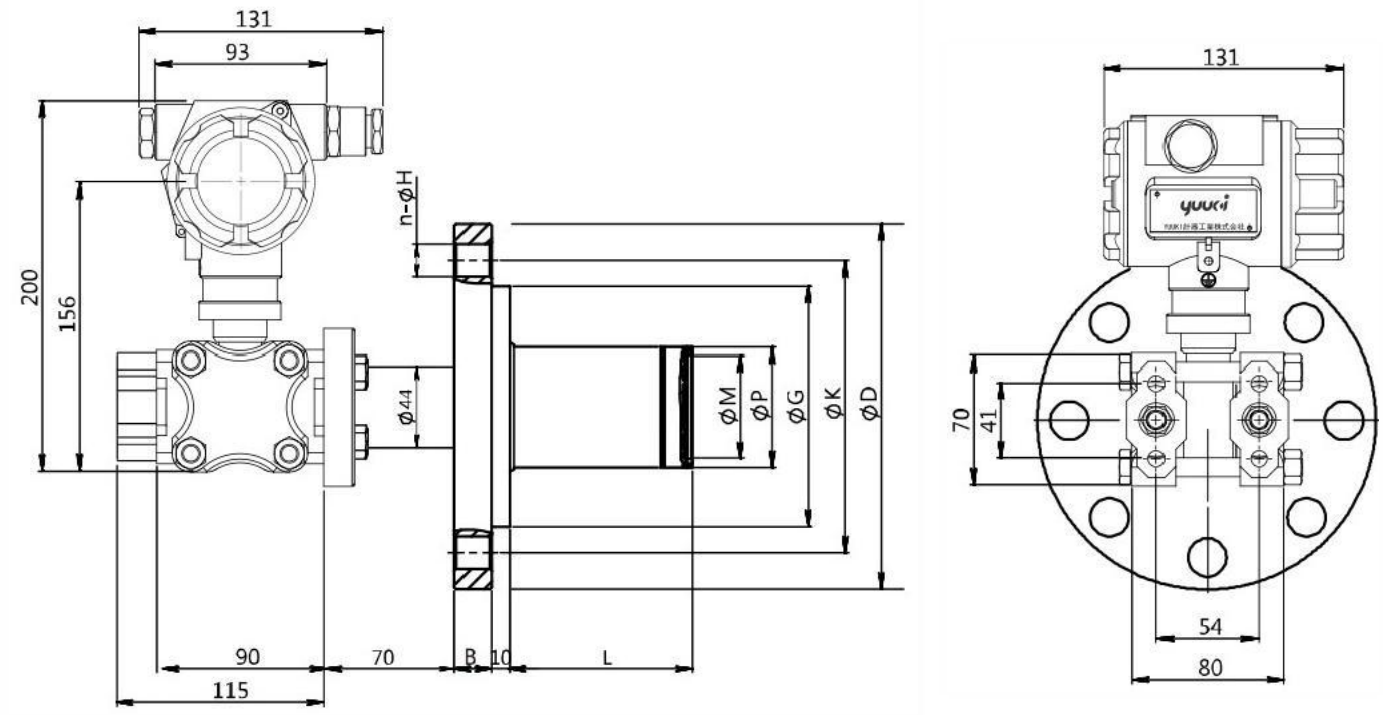
Size drawing of standard insertion cylinder without display function



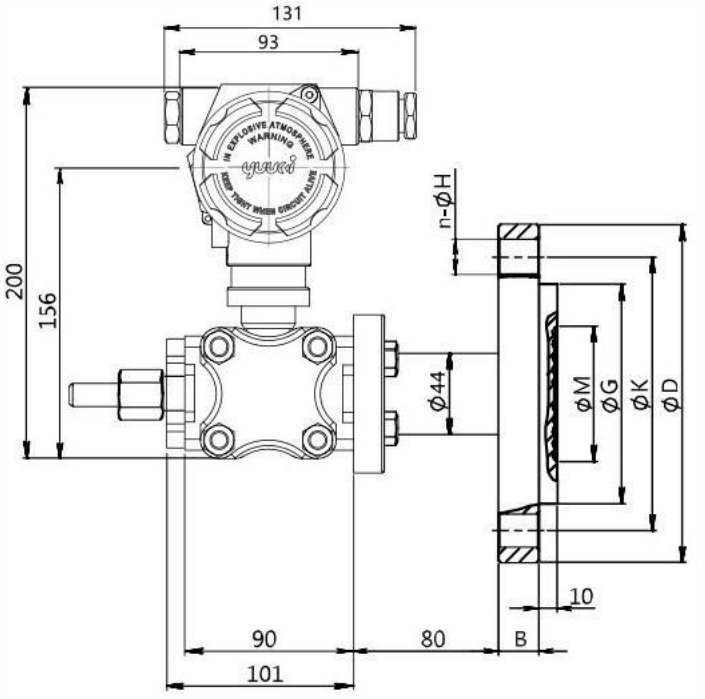
Size diagram of the whole machine with double diaphragm flat type display function

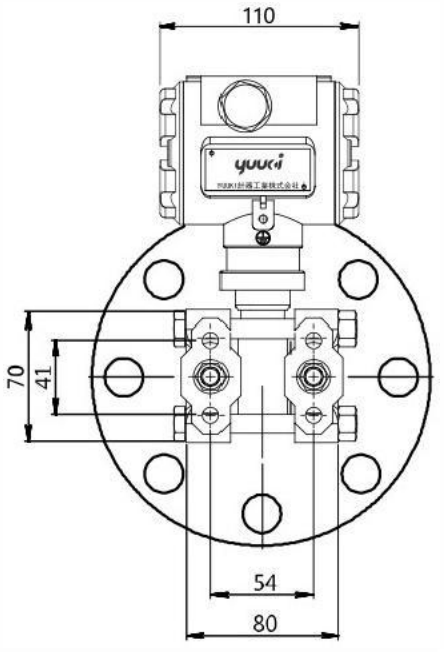


Size diagram of the whole machine with double diaphragm type insertion tube belt display function

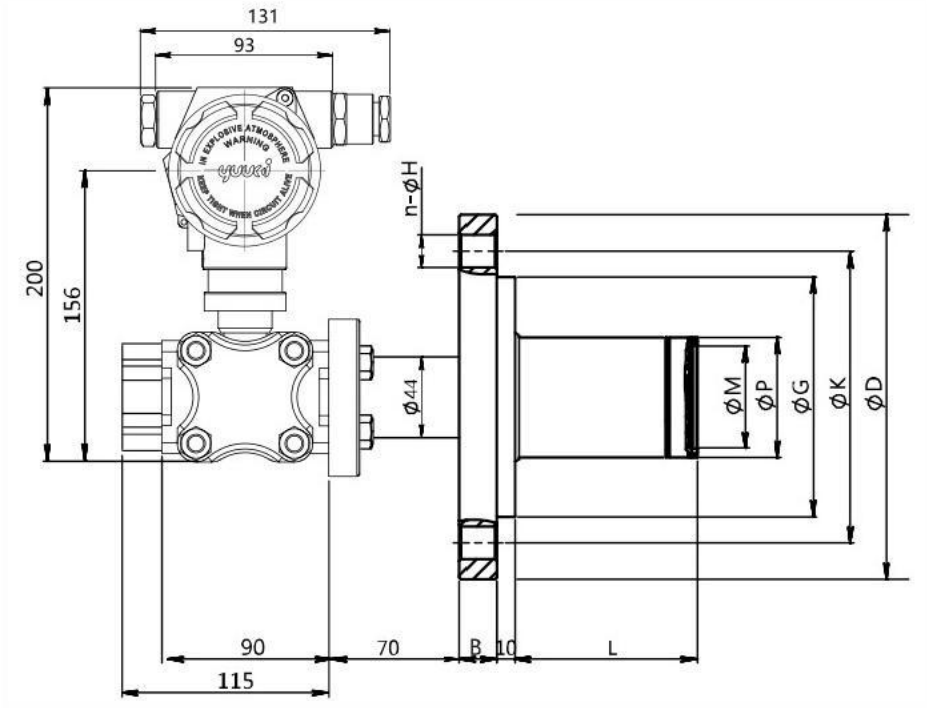


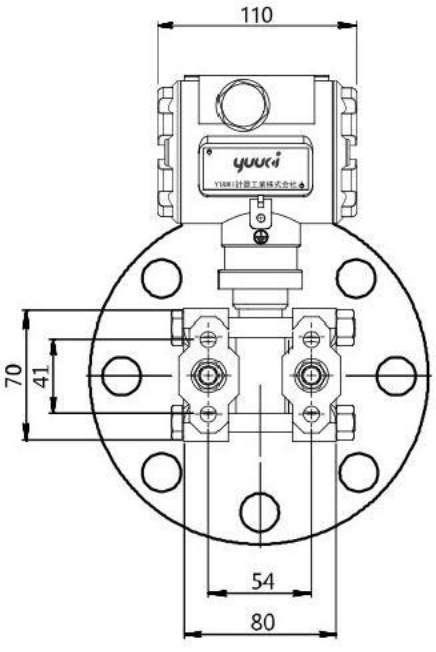
Double diaphragm flat type without display function



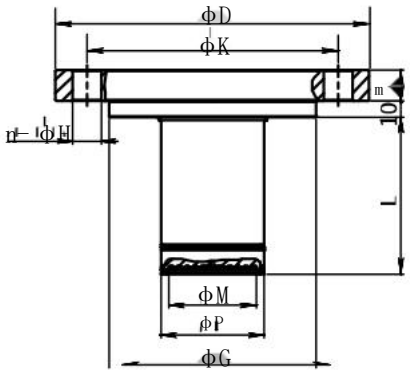


Size drawing of double diaphragm insert tube without display function





Size diagram of the remote transmission flange connection



The flange is called diameter	Nominal pressure	ΦD	ΦK	Plug-in ΦP	Flat type ΦM	ΦG	B	Supporting bolts
DN50 Sealing face DIN2526E flange DIN2501	PN1.6MPa/4MPa	165	125	66	42	102	20	M16×4
	PN6.4MPa	180	135	66	42	102	26	M20×4
	PN10MPa	195	145	66	42	102	28	M24×4
DN80 Sealing face DIN2526E flange DIN2501	PN1.6MPa/4MPa	200	160	66	42	138	24	M16×8
	PN6.4MPa	215	170	66	42	138	28	M20×8
	PN10MPa	230	180	66	42	138	32	M24×8
DN100 Sealing face DIN2526E flange DIN2501	PN1MPa/1.6MPa	220	180	77	42	158	22	M16×8
	PN2.5MPa/4MPa	235	190	77	42	162	26	M20×8
DN2″ The ANSI B16.5 RF type	150psi	152.4	120.6	66	42	92.1	17.4	M16×4
	300psi	165.1	127	66	42	92.1	20.6	M16×8
	600psi	165.1	127	66	42	92.1	31.75	M16×8
DN3″ The ANSI B16.5 RF type	150psi	190.5	152.4	66	42	127	22.2	M16×4
	300psi	209.5	168.3	66	42	127	27	M20×8
	600psi	209.5	168.3	66	42	127	38.05	M20×8
DN4″ The ANSI B16.5 RF type	150psi	229	191	77	42	157	30	M16×8
	300psi	255	200	77	42	157	32	M20×8

Order number	Project	Code	Content
1	Model	JUN-E40	Flange side-mounted differential pressure transmitter
2	Accuracy	B	±0.075%
		C	±0.1%
3	Range	G40	0～40kPa,Minimum range 4kPa
		G250	0～250kPa,Minimum range 25kPa
		G1K	0～1MPa ,Minimum range 100kPa
		G3K	0～3MPa ,Minimum range 300kPa
4	Communication mode	H	4～20mA + HART, made in two lines
		P	PROFIBUS-PA (ask separately for delivery date)
		F	FOUNDATION Field-bus (Request for delivery delivery)
5	Explosion-proof	N	No explosion-proof function
		G	NEPSI explosion suppression
		A	NEPSI Ben Ann
		B	ATEX Ben Ann
6	Show	N	No display
		L	LCD liquid-crystal display
		O	OLED display (ask later)
7	Body membrane sheet, quality and filling fluid	S	SUS316L Membrane sheet, silicone oil filling fluid
8	Nominal working pressure	1	16MPa
		2	25MPa
9	Type O sealing ring material quality	F	Fluorine-rubber
10	Selection of remote transmission seal device	/HL	The high pressure side is a fixed connection, and the low pressure side is a 1 / 4 NPT internal thread
		/H	Select this item when both the high and low pressure sides are connected by the diaphragm system
11	Flange size and diaphragm, material quality	A	DN 50 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, SUS 316L diaphragm
		B	DN 50 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, Hab C diaphragm
		C	DN50 DIN 2501 / HG20592, Type E DIN2526 sealing surface, tantalum diaphragm 200℃

Order number	Project	Code	content
11	Flange size and diaphragm, material quality	D	DN50 DIN 2501 / HG20592, type E DIN2526 sealing face, moner diaphragm
		E	DN 80 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, SUS 316L diaphragm
		F	DN 80 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, Hab C diaphragm
		G	DN80 DIN 2501 / HG20592, Type E DIN2526 seal surface, tantalum diaphragm Temperature 200℃)
		H	DN80 DIN 2501 / HG20592, type E DIN 2526 sealing face, moner diaphragm
		I	DN 100 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, SUS 316L diaphragm
		J	DN 100 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, Hab C diaphragm
		K	DN 100 DIN 2501 / HG 20592, Type E DIN 2526 seal surface, tantalum diaphragm Temperature 200℃)
		L	DN100 DIN 2501 / HG20592, type E DIN 2526 sealing face, moner diaphragm
		M	DN 2 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, SUS 316L diaphragm
		N	DN 2 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Haralloy diaphragm
		O	DN 2 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, tantalum diaphragm (temperature 200℃)
		P	DN 2 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Moner diaphragm
		Q	DN 3 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, and SUS 316L diaphragm
		R	DN 3 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Harbin alloy C film
		S	DN 3 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, tantalum diaphragm (temperature 200℃)
		T	DN 3 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Moner diaphragm
		U	DN 4 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, SUS 316L diaphragm
		V	DN 4 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Harbin alloy C diaphragm
		W	DN 4 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, tantalum diaphragm (temperature 200℃)
		Y	DN 4 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, Moner diaphragm
		1	DN 50 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, titanium diaphragm
		2	DN 80 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, titanium diaphragm
		3	DN 100 DIN 2501 / HG 20592, Type E DIN 2526 sealing surface, titanium diaphragm
		4	DN 2 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, titanium film
		5	DN 3 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, titanium diaphragm
		6	DN 4 ″ ANSI B 16.5/HG 20615, RF type ANSI B 16.5, titanium diaphragm
12	Flange rated pressure and material quality	1	PN1MPa/4MPa,DIN2501/HG 20592, SUS 304
		2	PN6.4MPa,DIN2501/HG20592,SUS 304

Order number	Project	Code	Content
12	Flange rated pressure and material quality	3	PN10MPa,DIN2501/HG20592, SUS304
		4	PN 1MPa / 1.6MPa, DIN 2501 / HG 20592 (DN 100 flange as applicable), SUS 304
		5	PN 2.5MPa / 4MPa, DIN 2501 / HG 20592 (DN 100 flange as applicable), SUS 304
		6	Class 150, ANSI B16.5/HG20615, SUS 304
		7	Class 300, ANSI B16.5/HG20615, SUS304
		8	Class 600,ANSI B16.5/HG20615, SUS304
		9	Class 150, ANSI B16.5/HG20615 (4 ″ flange as applicable), SUS304
		0	Class 300, ANSI B16.5/HG20615 (4 ″ flange as applicable), SUS304
		A	PN1MPa/4MPa,DIN2501/HG 20592, SUS 316
		B	PN6.4MPa,DIN2501/HG20592, SUS316
		C	PN10MPa, DIN2501/HG20592, SUS316
		D	PN 1MPa / 1.6MPa, DIN 2501 / HG 20592 (DN 100 flange as applicable), SUS 316
		E	PN 2.5MPa / 4MPa, DIN 2501 / HG 20592 (DN 100 flange as applicable), SUS 316
		F	Class 150, ANSI B16.5/HG20615,SUS316
		G	Class 300, ANSI B16.5/HG20615, SUS316
		H	Class 600,ANSI B16.5/HG20615, SUS316
		I	Class 150, ANSI B16.5/HG20615 (4 ″ flange as applicable), SUS316
		J	Class 300, ANSI B16.5/HG 20615 (4 ″ flange as applicable), SUS 316
13	Insert tube	0	Flat type
		1	Insertion, liquid diaphragm material quality SUS 316L, cylinder material quality SUS 316, insert length 50mm
		2	Insertion, liquid diaphragm material quality SUS 316L, cylinder material quality SUS 316, insertion length 100mm
		3	Insertion, liquid diaphragm material quality SUS 316L, cylinder material quality SUS 316, insertion length 150mm
		4	Inset, liquid diaphragm material quality Hell C, cylinder material quality SUS 316, insert length 50mm
		5	Insertion, liquid diaphragm material quality Hell C, cylinder material quality SUS 316, insert length 100mm
		6	Insertion, liquid diaphragm material quality Hell C, cylinder material quality SUS 316, insertion length 150mm
		7	Insertion type, liquid diaphragm material quality tantalum, barrel material quality SUS316, insertion length 50mm
		8	Insertion type, liquid diaphragm material quality tantalum, barrel material quality SUS316, insertion length 100mm
		9	Insertion type, liquid diaphragm material quality tantalum, barrel material quality SUS316, insertion length 150mm
		A	Insertion, liquid membrane material quality Monnell, cylinder material quality SUS316, insertion length 50mm
		B	Insertion, liquid membrane material quality Monnell, cylinder material quality SUS316, insertion length 100mm
		C	Insertion, liquid membrane material quality Monnell, cylinder material quality SUS316, insertion length 150mm

Order number	Project	Code	Content
13	Insert tube	D	Insertion type, liquid diaphragm material quality titanium, cylinder material quality S US316, insertion length 50mm
		E	Insertion type, liquid diaphragm material quality titanium, cylinder material quality S US316, insertion length 100mm
		F	Insertion type, liquid diaphragm material quality titanium, cylinder material quality SUS316, insertion length 150mm
14	Seal into the liquid	K	Silicone oil-45～215℃
		L	High temperature silicone oil-10～305℃
		M	Sanitary filling fluid-10-180℃
		N	Inert filling fluid-30～260℃
		O	Plant oil filling fluid0～250℃
		P	Ultra-low temperature filling fluid-190 to 100℃
15	The LP side capillary length and material quality	00	No capillary tube, direct-mounted type
		01	1m, SUS304
		02	2m, SUS304
		03	3m, SUS304
		…	
		A1	1m,SUS316
		A2	2m, SUS316
		A3	3m, SUS316
16	Capillary sheath	N	not have
		P	PVC sheath
17	Flange liquid surface handle	NN	not have
		20	DN 50 / 2 ″ SUS 316L diaphragm coated with PFA (temperature 260℃)
		21	DN 80 / 3 ″ SUS 316L diaphragm coated with PFA (temperature 260℃)
		22	DN 100 / 4 ″ SUS 316L diaphragm coated with PFA (temperature 260℃)
		30	DN 50 / 2 ″ SUS 316L diaphragm with P TFE film (temperature 200℃)
		31	DN 80 / 3 ″ SUS 316L diaphragm with P TFE film (temperature 200℃)
		32	DN 100 / 4 ″ SUS 316L Film with P TFE film (temperature 200℃)
		40	The DN 50 / 2 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with an insertion depth of 50mm
		41	The DN 80 / 3 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with an insertion depth of 50mm
		42	The DN100 / 4 ″ SUS316L diaphragm was coated with PFA (temperature 260℃) with an insertion depth of 50mm
		43	DN 50 / 2 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with a depth of 100mm

Order number	Project	Code	Content
17	Flange liquid surface handle	44	The DN 80 / 3 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with an insertion depth of 100mm
		45	DN 100 / 4 ″ SUS 316L diaphragm coated with PFA (temperature 260℃), insertion depth of 100mm
		46	DN 50 / 2 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with a depth of 150mm
		47	The DN 80 / 3 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with an insertion depth of 150mm
		50	DN 100 / 4 ″ SUS 316L diaphragm was coated with PFA (temperature 260℃) with insertion depth of 150mm
		60	Anti-vacuum treatment (temperature 120℃, working pressure 150kPa absolute pressure)
		70	The DN 50 / 2 ″ SUS 316L diaphragm is gold-plated
		71	DN 80 / 3 ″ SUS 316L diaphragm is gold-plated
		72	DN 100 / 4 ″ SUS 316L sheet gold plated
		73	DN 50 / 2 ″ SUS 316L diaphragm coated with ruby (temperature 260℃)
		74	DN 80 / 3 ″ SUS 316L diaphragm coated with ruby (temperature 260℃)
		75	DN 100 / 4 ″ SUS 316L diaphragm coated with ruby (temperature 260℃)
		80	No oil treatment
		81	Water ban treatment
18	Distribution connection	T1	Two M20 * 1.5 internal thread electrical interfaces
		R1	Two M20 * 1.5 internal thread electrical interfaces, with M20 * 1.5 waterproof connector on one side and PVC material quality plug on the other side
		R2	Inner 1 / 2 NPT connector on one side and stainless steel material quality plug on the other side
		R3	One inner thread M20 * 1.5 joint, the other side with stainless steel material quality plug
19	Install accessories	-B2	Board bending bracket
		-B3	2 ″ Pipe flat bracket
20	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.

All rights reserved. Copyright © 2023, YUUKI meter Industrial Corporation