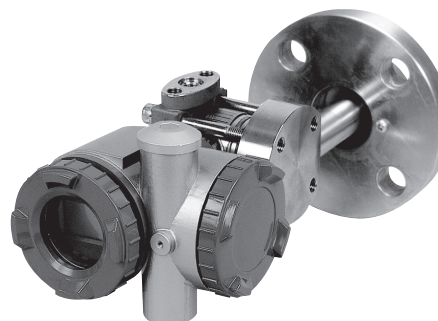


SMALL FLANGE LEVEL TRANSMITTER

DATA SHEET

FKY...5/FDY...5

The FCX -AIII small flange level transmitter accurately measures level, and converts it into an output signal of 4~20mA DC. The transmitter utilizes a unique micromachined capacitance silicon sensor with state-of-the-art microprocessor technology to provide exceptional performance and functionality. Its small volume, light weight, good environment adaptability, and applicable to all fields. If using the hand held communicator(sold separately), it can be set and display via remote operation, without affecting the DC 4~20mA output signal of transmitter. FCX-AIII series transmitters with safety function have obtained the certificate of SIL certification by TÜV.



Features

1. It can be directly connected to 1 1/2 inch, 2 inch flange. The transmitter can be mounted on the 1 1/2B, 2B pipe without the reducer union.
2. Excellent environmental adaptability
The advanced floating cell protects sensor from temperature and overpressure effect, and controls the total measurement error of the field to the minimum.
3. Excellent operability and easy to use
It has an excellent operability and easy to use in any application.
 - 5-digit digital indicator
 - Stainless steel AMP case
 - Built-in RFI filter and lightning arrester
 - Various anti-corrosive materials
 - Products used for high temperature and high vacuum
 - Built-in local configurator with 3 push buttons
4. The transmitter can communicate using FUJI, HART, communication protocol, and also can use FOUNDATION FIELDBUS or PROFIBUS protocol after changing the electronic circuit.

Specifications

Functional specifications

- Measured fluid: Liquid, gas, or vapor
- Measuring range:

Model	Span limit [kPa]		Range limit [kPa]	
	Min.	Max.	Lower	Upper
FKY□□3 FDY□□3	0.8	32	-32	32
FKY□□5 FDY□□5	3	130	-130	130
FKY□□6 FDY□□6	12.5	500	-500	500
FKY□□8 FDY□□8	75	3000	-3000	3000

Note: Recommended span should be greater than 1/40 of max. span.

- Operating pressure: Up to the maximum operating pressure of flange.
- Process temperature, Lower range limit:

Fill fluid	13th digit Code	Process Temperature	Operating pressure
Silicone oil	Y,G	-45 ~ 205°C	Above 2.7kPa abs
Silicone oil	S	0 ~ 250°C	See Figure 1
Fluorinated oil	W,A,D	-20 ~ 80°C	Above atmospheric pressure
Silicone oil	H	0 ~ 315°C	
Food grade oil(Neobee)	F	-15 ~ 120°C	
Silicone oil	J	20 ~ 350°C	
Low temperature oil	X	-75 ~ 150°C	

Note: The process temperature of low pressure side should be below 120°C.

- Remote function: Refer to table 1
Note: HHC's version must be higher than 7.0 (or FXW□□□□1-□4).
- Output signal: (1)FKY: DC4~20mA+HART protocol
(2)FDY: FOUNDATION Fieldbus protocol or PROFIBUS-PA
- Allowable load resistance: 0 ~ 600Ω (at DC 24V)
(Refer to figure 2) For communication with HHC, min. of 250Ω resistor is required.
- Power supply:

General	DC10.5 ~ 45V
Intrinsic safety	DC10.5 ~ 26V
With arrestor	DC10.5 ~ 32V
- Condition of communication line: Length: up to 2km
(0.75 ~ 1.25mm² Using twisted pair cable when instrument control cable is more than 1km.)

Load resistance: 250 ~ 600Ω
(DC24V, including resistance of cable)

Load capacitance: 0.22μF or less

Load inductance: 3.3mH or less

sapcing with power line: 15cm or more

(Please avoid parallel wiring.)

Note: Line condition of intrinsic safety and explosion-proof is different, please refer to the instruction manual.

- Saturation current: Upper limit 20.0 ~ 22.5mA(variable)
Lower limit 3.2 ~ 4.0mA(variable)
(Settable in increments of 0.1mA with HHC or local configurator unit with LCD display.)
- Damping: The time constant is adjustable from 0.06 to 32 seconds.
- Adjustment function: Zero and span are adjustable by the external adjustment screw, or by local configurator with 3 push buttons, or by HHC.
- Zero elevation/suppression: Zero can be elevated or suppressed within the range of -100% to 100% URL.
- Normal/reverse action: Selectable from HHC or LCD unit with local adjustment function.
- Burnout direction: Output hold
Output 20.0 ~ 22.5mA (variable)
Output 3.2 ~ 4.0mA (variable)
(Settable in increments of 0.1mA with HHC or local configurator unit with LCD display.)

- Explosion proof: Refer to table 6
- Ambient temperature: -40 ~ +85°C

With arrester: -40 ~ +60°C
 Filling Fluorinated oil: -10 ~ +60°C
 Silicone oil J,T,H,S,K: -10 ~ +85°C
 Note: 1)When silicone oil is J,T, please wrap the thermal insulation material on the capillary.
 2)The optimum operating temperature of digital indicator is -30 ~ +80°C, response is slow below -30°C.

- Storage temperature: -40 ~ +90°C
- Weather resistance: DIN 40040 GPC
- EMC applicable standard: EN61326-1: 2006 CE

Performance specifications

Silicone oil fill, SUS316L diaphragms

- Accuracy rating: (including linearity, hysteresis, repeatability) (Standard)

For spans greater than 1/10 of URL:
 $\pm 0.1\%$

For spans below 1/10 of URL:
 $\pm \left(0.05 + 0.05 \frac{0.1 \times \text{URL}}{x} \right) \%$

(Optional) (21th digit code: H,K)
 For spans greater than 1/10 of URL:
 $\pm 0.065\%$

For spans below 1/10 of URL:
 $\pm \left(0.05 + 0.05 \frac{0.1 \times \text{URL}}{x} \right) \%$

- Stability: Zero shift $\pm 0.2\%$ of upper range limit (URL) for 10 years.
- Ambient temperature effect: Changed per 28°C in the range of -40°C ~ +85°C.

Zero shift: $\pm 0.5\%/28^\circ\text{C}$
 $(x \geq 1/2\text{URL})$

Zero shift: $\pm \left(0.5 \frac{\text{URL}}{2x} \right) \%/28^\circ\text{C}$
 $(x < 1/2\text{URL})$

Total shift: $\pm 0.75\%/28^\circ\text{C}$
 $(x \geq 1/2\text{URL})$

Total shift: $\pm \left(0.25 + 0.5 \frac{\text{URL}}{2x} \right) \%/28^\circ\text{C}$
 $(x < 1/2\text{URL})$

(Optional) (21th digit code: J, K)

Zero shift: $\pm 0.5\%/28^\circ\text{C}$
 $(x \geq 1/6.5\text{URL})$

Zero shift: $\pm \left(0.5 \frac{\text{URL}}{6.5x} \right) \%/28^\circ\text{C}$
 $(x < 1/6.5\text{URL})$

Total shift: $\pm 0.75\%/28^\circ\text{C}$
 $(x \geq 1/6.5\text{URL})$

Total shift: $\pm \left(0.25 + 0.5 \frac{\text{URL}}{6.5x} \right) \%/28^\circ\text{C}$
 $(x < 1/6.5\text{URL})$

In the formal : x: SPAN

URL: Upper range limit

- Note: (1) It's the output change when remote flange and transmitter body at the same height and temperature.
 (2) When there is temperature difference between remote flange, capillary and transmitter body, the error will increase.

- Unidirectional overrange effect: Zero shift $\pm 0.1\%$ of URL /flange nominal pressure.
 In case of 7th digit code(material) is not "V,N", the value is 2.5 times of above.
- Static pressure effect: Zero shift $\pm 0.2\%$ of URL /1MPa
 In case of 7th digit code(material) is not "V,N", the value is 2.5 times of above.
 Span shift $\pm 0.2\%$ of SPAN/1MPa

- Mounting location effect: 0.3kPa /10°(no extension)
 But when 13th digit code(treatment of wetted parts ,fill fluid) "W,D,A", the value is 2 times of above.
- Supply voltage effect: $\pm 0.005\%$ /1V(DC 16.1 ~ 45V)
- Insulation strength: 500VAC, 50/60Hz, 1 min, between circuit and earth.
- Insulation resistance: More than 100MΩ at 500V DC, between circuit and earth.

Update rate: 60ms

Response time:	*Time constant [s]	Dead time [s]
	0.3	approx. 0.12

Note: *Value at 23°C.

Structure and material

- Flange materials: SUS304、SUS316 or carbon steel
- Detecting unit materials:

Material code	H.P. side(mounting flange side)		L.P. side	
	diaphragm	Other wetted parts	diaphragm	Cover
V	SUS316L	SUS316	SUS316L	SCS14A
N	SUS316L	SUS304	SUS316L	SCS14A
J	SUS316L Gold-plated	SUS316	SUS316L	SCS14A
C	Hastelloy-C	SUS316	SUS316L	SCS14A
D	Manel	SUS316	SUS316L	SCS14A
E	Tantalum	SUS316	SUS316L	SCS14A
H	Hastelloy-C	Hastelloy-C	Hastelloy-C	SCS14A
M	Manel	Manel	Manel	SCS14A
T	Tantalum	Tantalum	Tantalum	SCS14A
L	Manel	Manel	Manel	Manel

SCS14A(JIS G 5121).....CF8M(ASTM A351/A351M) Equivalent

- Amp case and case cover materials:
 Aluminium die casting + Polyester coating
 (case color: silvery, case cover color: blue) or stainless steel(SCS14)
- Structure of case: Immersion protected type JIS C 0920
 (Equivalent to IEC IP67, NEMA 6/6P)
- Outline dimension: According to the outline drawing.
- Weight: approx. 10~20kg
- Conduit connection: G1/2, 1/2-14NPT, M20× 1.5, Pg13.5
 (Refer to the model code table for details.)
- External terminal: M3.5 Screw
- L.P. side connection: Rc1/4 or NPT1/4 (Refer to the model code table for details.)
- Flange part specification: JIS standard: 10K,20K,30K - 40,50A
 ANSI/JPI standard: 150LB,300LB, - 1 1/2B,2B
 GB/T/HG standard: PN10, PN20, PN50 - DN40, DN50
 (According to data sheet)
- Diaphragm Extension length: 0, 50, 100, 150, 200mm
 (according to data sheet)
- Mounting method: Flange mounted
- Direction of AMP unit: Amp unit can be turned clockwise or counterclockwise by 90° or 180°, relative to the direction of detecting unit.

Optional specifications

- Analog indicator: Built in amplifier unit
 Class 2.5, moving-coil, movement 90°, 0 ~ 100% evenly divided scale or actual scale
- Digital indicator: Built in amplifier unit, 5 digit LCD and unit display, 0 ~ 100% scale display or actual scale display. Optimum operating temperature range: -30 ~ +80°C,
- Digital indicator: Displaying or setting the items of table 1 (with 3 push buttons) via 3 push buttons of digital indicator.
- Arrester: Built in amplifier unit
 Lightning performance: 4kV(1.2× 50μs)

- Degreasing treatment for oxygen: Filling fluorinated oil, degreasing and cleaning for wetted parts, available only for 7th digit code (material) "V,N".
- Chlorine measurement: Filling fluorinated oil, available only for 7th digit code (material) "H,T".
- Anti-corrosive coating of detecting unit: Epoxy and polyurethane double coating
- Stainless steel tag plate: The plate can be engraved up to 14 characters (letters and numbers)

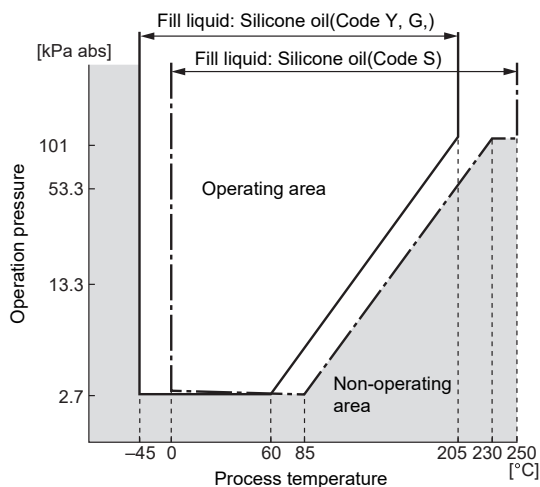
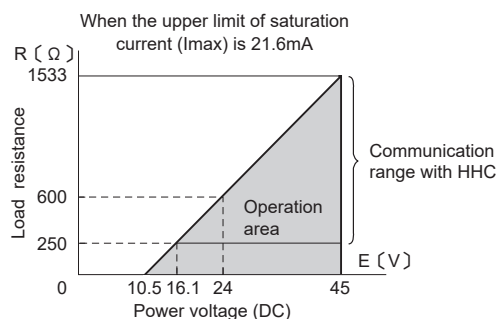


Figure 1 Relation between process temperature and operating pressure



(Note) The load resistance varies according to the upper limit of saturation current.

$$R (\Omega) = \frac{E (V) - 10.5}{(I_{max} (mA) + 0.9) \times 10^{-3}}$$

Figure 2 Operation area of power voltage and load resistance

Scope of delivery

Instrument body

Related products

- Hand held communicator (Model: FXW):
Hand held, built-in battery, setting, display
For the details, please refer to data sheet (CSDS8-47).

Ordering information

1. Model code
2. Span
3. Please select the direction of output (Notuse/OVER/UNDER) when the transmitter is fault (Burnout). If unspecified, it is Notuse.
4. If the scale of indicator is selected to actual scale (9th code: D、H、P、S), please select the items of display (digit, scale, unit, etc).
5. Please select the tag plate according to need.(up to 14 digit, consist of letters and numbers).

Table1 Adjustment function

No.	Items	HHC (Model:FXW)Note1)		Local configurator (With 3 push buttons)	
		Display	Set	Display	Set
1	Tag No.	○	○	○	○
2	Type	○	○	○	○
3	Serial No. & Software Version	○	—	○	—
4	Engineering unit	○	○	○	○
5	Range Limit	○	—	○	—
6	Measuring range	○	○	○	○
7	Damping	○	○	○	○
8	Output mode	○	—	○	—
9	Burnout direction	○	○	○	○
A	Zero/span calibration	○	○	○	○
B	Calibration of output circuit	—	○	—	○
C	Measured data	○	—	○	—
D	Self-diagnosis	○	—	○	—
E	Printer function	○	—	—	—
F	Lock of adj. function	○	○	○	○
G	Indication of digital indicator	○	○	○	○
H	Linzealize	○	○	—	—
I	Rerange	○	○	○	○
J	Saturation current Write	○	○	○	○
K	protect	○	○	○	○
History					
L	-Calibration history	○	○	○	○
	-Temperature history	○	—	○	—

Note1) The version of HHC must be higher than 7.0 when it supports FCX-All series transmitter(or FXW□□□□1-□4).

It can upgrade the version by changing ROM, please consult our company's windows or agency shop nearby for details.

The product conforms to the requirements of European EMC directive "Electromagnetic Compatibility Directive2004/108/EC". The detail content is recorded in the technical construction file number TN5A0704. The applicable standards are as follows:



Emission list:
EN 61326-1 : 2006 Class A (Industrial location)

Frequency range	Limits	Reference standard
30 ~ 230MHz	40dB(μV/m) quasi peak, measured at 10m distance	EN55011:1998 +A1:1999 +A2:2002 (Group1 Class A)
230 ~ 1000MHz	47dB(μV/m) quasi peak, measured at 10m distance	

Immunity requirements:
EN 61326-1 : 2006 Table2 (Industrial location)

Phenomenon	Test value	Basic standard	P.C.
Electrostatic discharge	2/4kV (Contact) 2/4/8kV (Air)	IEC 61000-4-2:1995 +A1:1998+A2:2001	B
Electromagnetic field	10V/m(80 ~ 1000MHz) 3V/m(1.4 ~ 2.0GHz) 1V/m(2.0 ~ 2.7GHz) 80%AM(1kHz)	IEC 61000-4-3:2002 +A1:2002	A
Rated power frequency magnetic field	30 A/m 50/60 Hz	IEC 61000-4-8:1993 +A1:2001	A
Burst	2kV	IEC 61000-4-4:2004	B
Surge	1.2/50μs(Voltage) 8.0/20μs(Current) 0.5/1kV line to line 0.5/1/2kV line to ground	IEC 61000-4-5:1995 +A1:2001	B
Conducted RF	0.15 ~ 80MHz 3V 80%AM(1kHz)	IEC 61000-4-6:1996 +A1:2001	A

Definition of performance criteria:

A: During testing, normal performance within the specification limits.
B: During testing, temporary degradation, or less of function or performance which is self-recovering.

FKY

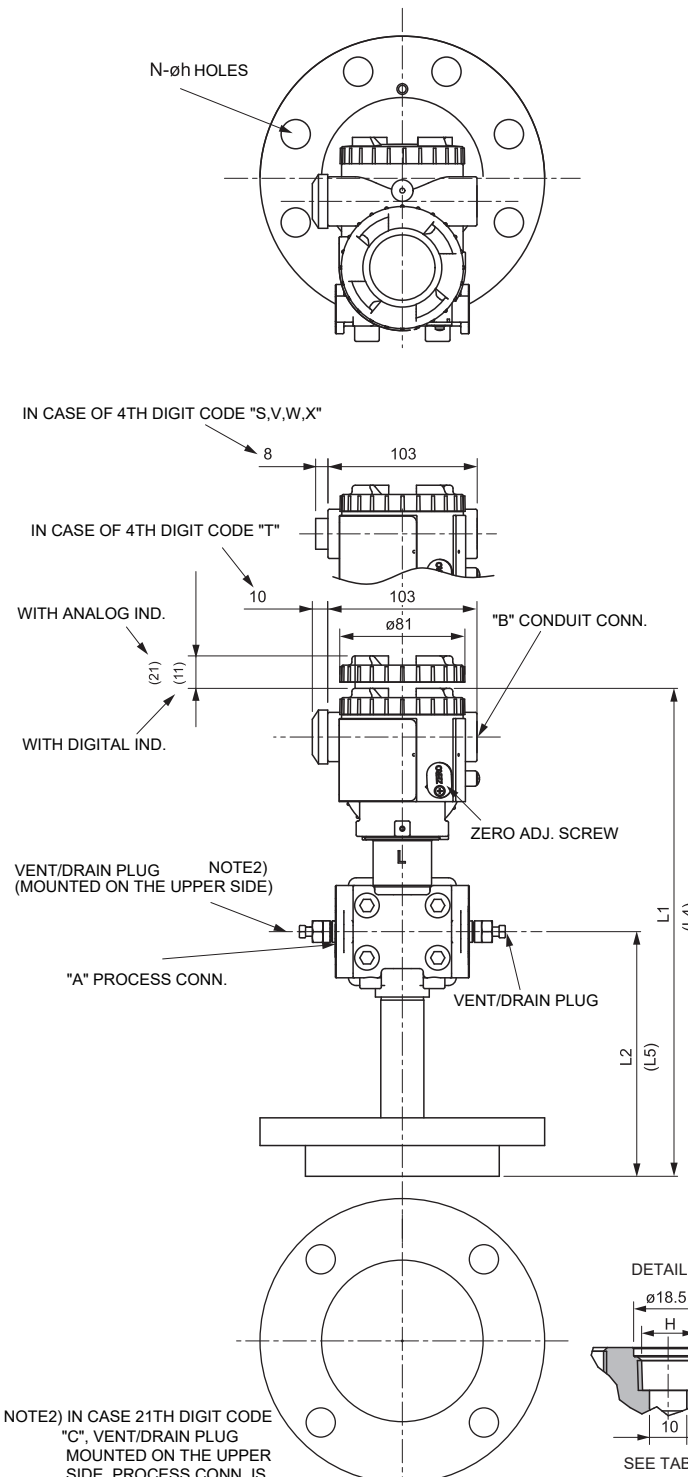
Digit	Discription	Note	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	21	22	← Digit No.
	Small flange level transmitter DC4~20mA+HART FOUNDATION Fieldbus and PROFIBUS		F	Y																			
			FKY				5																
			FDY				5																
10	<Explosion proof specifications> General Non explosion proof TIIS (Cable gland seal) explosion proof TIIS intrinsic safety	Note13									A												
	FM Flameproof FM Intrinsic safety FM Combined of flameproof and intrinsic safety	Note15									D												
	ATEX Flameproof ATEX Intrinsic safety ATEX Type n AATEX Combined of flameproof and intrinsic safety	Note14									X												
	IECEx Flameproof IECEx Intrinsic safety CSA Flameproof CSA Intrinsic safety NEPSI Flameproof NEPSI Intrinsic safety NEPSI Combined of flameproof, intrinsic safety and dust ignition proof	Note14									K												
		Note14									P												
		Note14									M												
		Note15									R												
		Note15									T												
		Note15									E												
		Note15									J												
		Note15									F												
		Note15									S												
11	<Diaphragm extension length [mm]> 0 50 100 150 200	Note1 Note1 Note1 Note1									Y												
	50 100 150 200	Note9 Note9 Note9 Note9									A												
	50 100 150 200	Note12 Note12 Note12 Note12									B												
	50 100 150 200	Note18 Note18 Note18 Note18									C												
		Note18									D												
12	<Special specification> Standard specification Stainless steel tag plate																						
	Anti-corrosive coating of detecting unit Anti-corrosive coating of detecting unit, SS tag plate Anti-corrosive coating of detecting unit,SS AMP case Anti-corrosive coating of detecting unit,SS AMP case,SS tag plate	Note8 Note8									Y												
		Note8									B												
		Note8									M												
		Note8									N												
		Note8									P												
		Note8									Q												
13	<Treatment of wetted parts> Standard Standard Standard Degreasing Standard	<Fill fluid> Silicone oil (General) Fluorinated oil Food grade oil(Neobee M20) Silicone oil Low temperature oil(Syltherm XLT, -75°C~150°C. When process temperature is -120°C~60°C, this code is "C").																					
	Oxygen service Chlorine service Standard Standard Standard	Fluorinated oil Fluorinated oil Silicone oil(for high temperature: 0~315°C) Silicone oil(for high temperature: 20~350°C) Silicone oil(for high temperature and vacuum: 0~250°C)	Note2 Note3 Note4 Note2								Y												
		Note2									W												
		Note3									F												
		Note4									G												
		Note2									X												
		Note2									A												
		Note2									D												
		Note2									H												
		Note2									J												
		Note2									S												
14	<Teflon diaphragm> None Yes None Yes None Yes	<Oval flange> None None Yes (SUS304) Yes (SUS304) Yes (SUS304) Yes (SUS304)	Note9 Note9 Note9 Note9																				
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					
		Note9																					

Digit	Description	Note	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	21	22
	Small flange level transmitter DC4~20mA+HART FOUNDATION Fieldbus and PROFIBUS		F	Y																		
			FKY				5															
			FDY				5															
	GB/T / HG DN40 PN63	SUS316																				
	GB/T / HG DN40 PN100	Carbon steel																				
	GB/T / HG DN40 PN100	SUS304																				
	GB/T / HG DN40 PN100	SUS316																				
	GB/T / HG DN50 PN10/16	Carbon steel																				
	GB/T / HG DN50 PN10/16	SUS304																				
	GB/T / HG DN50 PN10/16	SUS316																				
	GB/T / HG DN50 PN20(class 150)	Carbon steel																				
	GB/T / HG DN50 PN20(class 150)	SUS304																				
	GB/T / HG DN50 PN20(class 150)	SUS316																				
	GB/T / HG DN50 PN50(class 300)	Carbon steel																				
	GB/T / HG DN50 PN50(class 300)	SUS304																				
	GB/T / HG DN50 PN50(class 300)	SUS316																				
	GB/T / HG DN50 PN25/40	Carbon steel																				
	GB/T / HG DN50 PN25/40	SUS304																				
	GB/T / HG DN50 PN25/40	SUS316																				
	GB/T / HG DN50 PN63	Carbon steel																				
	GB/T / HG DN50 PN63	SUS304																				
	GB/T / HG DN50 PN63	SUS316																				
	GB/T / HG DN50 PN100	Carbon steel																				
	GB/T / HG DN50 PN100	SUS304																				
	GB/T / HG DN50 PN100	SUS316																				
	ANSI 150LB 1 1/2B	SUS316																				
	ANSI 300LB 1 1/2B	SUS316																				
	ANSI 600LB 1 1/2B	SUS316																				
	ANSI 150LB 2B	SUS316																				
	ANSI 300LB 2B	SUS316																				
	ANSI 600LB 2B	SUS316																				
21	<Other> None High accuracy type Low temperature type H+J Vent/drain plug mounted on the upper side Inspection report																					Y H J K C F
22	<Flush ring> Yes None Yes	<Companion flange> None Yes Yes																				A B C

- Note1) Available only for 7th digit code "V,N,H,C,G". Not available for 40A, 1 1/2B, DN40 flange.
- Note2) Available only for 7th digit code "V, N".
- Note3) Available only for 7th digit code "H, T, C, D".
- Note4) Available only for 7th digit code "V, N, C, H".
- Note5) Not available for 11th digit code "A,B,C,D" and 13th digit code "H, S".
- The operating pressure and temperature for using teflon diaphragm:
- Atmospheric pressure~max. operating pressure of flange(not available for vacuum)
 - 0 ~ 120° C
- Note6) The digit is blank when not needed.
- Note7) Please select SUS bolts and nuts for tropical area.
- Note8) Not available for 10th digit code "C".
- Note12) Available only for 7th digit code "H, C".
- Note10) 900LB or other standard flanges are available.
- Note11) Please note when select Fieldbus or Profibus transmitter.
- Note12) Available only for 7th digit code "E, T".
- Note13) Available only for 4th digit code "5, S".
- Note14) Available only for 4th digit code "6, 8, T, W".
- Note15) Available only for 4th digit code "6, T".
- Note16) Please specify the flange specifications at "16th,17th,18th" digit code, when 5th digit code "9"(Chinese flange).
- Note17) Please specify the flange specifications at "16th,17th,18th" digit code, when 5th digit code "8"(ANSI standard SUS316 flange).
- Note18) Available only for 7th digit code "J".
- Note19) The ultra thick diaphragm is for the requirements of wear resistance or process condition of solid particle erosion.
- Note20) The 8th digit code can be selected as "S", this means that it's the transmitter with safety function. SIL2 capability for single transmitter use, SIL3 capability for dual transmitter use.

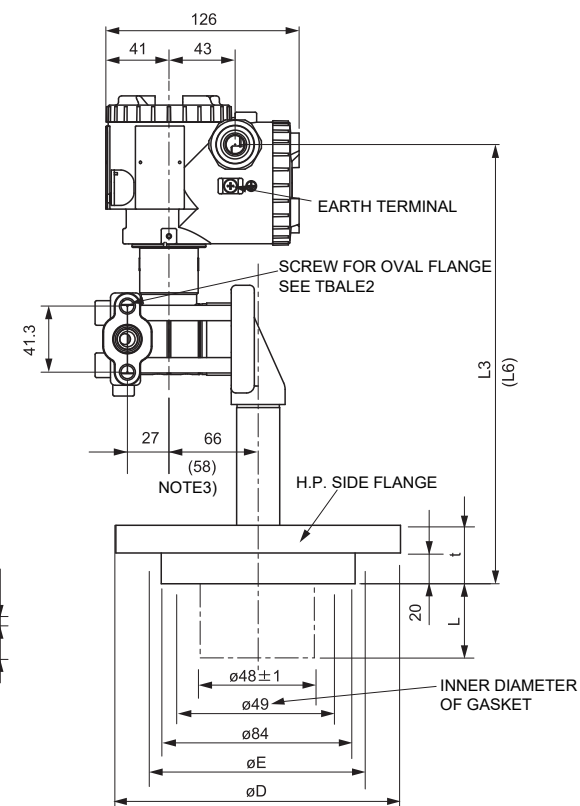
OUTLINE DIAGRAM (Unit: mm)

<AMP. CASE: L TYPE> EXCEPT 7TH DIGIT CODE "L"



5th digit code	øD	øE	t	N-øh	Flange
0, G	140	105	36	4-19	JIS-10K-40A
1, H	155	120	36	4-19	JIS-10K-50A
2, J	140	105	39	4-19	JIS-20K-40A
3, K	155	120	38	8-19	JIS-20K-50A
4, L	160	120	42	4-23	JIS-30K-40A
5, M	165	130	42	8-19	JIS-30K-50A
A, Q	127	98.4	37.5	4-16	ANSI/JPI-150LB-1 1/2B
B, R	152	120.6	39.5	4-20	ANSI/JPI-150LB-2B
C, S	156	114.3	41	4-23	ANSI/JPI-300LB-1 1/2B
D, T	165	127	42.5	8-20	ANSI/JPI-300LB-2B

16th to 18th digit code	øD	øE	t	N-øh	Flange
B4C, B4U, B4W	150	110	38	4-18	GB/T / HG DN40 PN10/16
C4C, C4U, C4W	130	98.5	37.5	4-16	GB/T / HG DN40 PN20(class 150)
E4C, E4U, E4W	150	110	38	4-18	GB/T / HG DN40 PN25/40
D4C, D4U, D4W	155	114.5	41	4-22	GB/T / HG DN40 PN50(class 300)
F4C, F4U, F4W	170	125	46	4-22	GB/T / HG DN40 PN63
G4C, G4U, G4W	170	125	46	4-22	GB/T / HG DN40 PN100
B5C, B5U, B5W	165	125	40	4-18	GB/T / HG DN50 PN10/16
C5C, C5U, C5W	150	120.5	39.5	4-18	GB/T / HG DN50 PN20(class 150)
E5C, E5U, E5W	165	125	40	4-18	GB/T / HG DN50 PN25/40
D5C, D5U, D5W	165	127	42.5	8-18	GB/T / HG DN50 PN50(class 300)
F5C, F5U, F5W	180	135	46	4-22	GB/T / HG DN50 PN63
G5C, G5U, G5W	195	145	48	4-26	GB/T / HG DN50 PN100
H4W	127	98.4	37.5	4-16	ANSI 150LB 1/2B
J4W	156	114.3	41	4-23	ANSI 300LB 1/2B
K4W	156	114.3	42.5	4-23	ANSI 600LB 1/2B
H5W	152	120.6	39.5	4-20	ANSI 150LB 2B
J5W	165	127	42.5	8-20	ANSI 300LB 2B
K5W	165	127	42.5	8-20	ANSI 600LB 2B

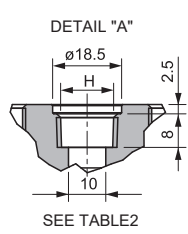


NOTE2) IN CASE 21TH DIGIT CODE "C", VENT/DRAIN PLUG MOUNTED ON THE UPPER SIDE, PROCESS CONN. IS ON THE LOWER SIDE.

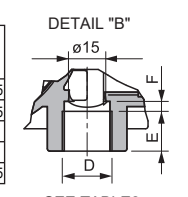
4th digit code	Conduit conn.			Process conn.		Oval flange screw
	D	E	F	H		
S	G1/2	18	2	Rc 1/4	7/16-20UNF SCREW DEPTH 15	
T	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH 15	
V	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH 15	
W	M20×1.5	16	4	1/4-18NPT	M10 SCREW DEPTH 15	
X	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH 15	

Table 2

11th digit code	L	Weight(kg)	L1	L2	L3	Note3)		
						L4	L5	L6
Y	0	8.2 ~ 11.7	309	151	278	320	159	289
A	50	8.7 ~ 15.7	304	146	273	315	154	284
B	100	9.2 ~ 16.2						
C	150	9.7 ~ 16.7						
D	200	10.2 ~ 17.2						



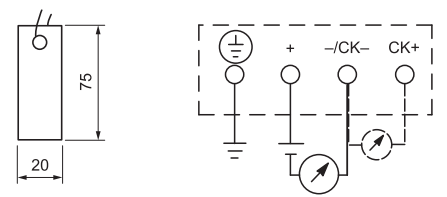
SEE TABLE 2



SEE TABLE 2

Note3) IN CASE OF 7TH DIGIT CODE "H,M,T".

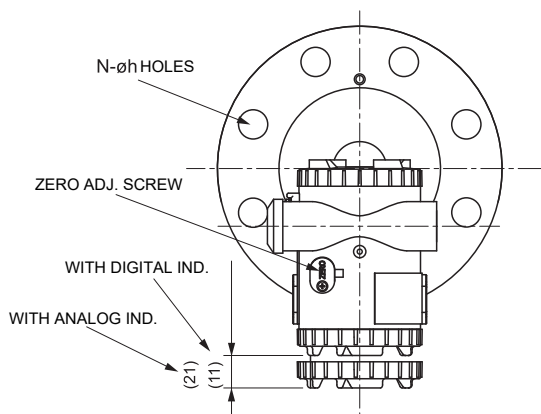
<SS TAG PLATE(OPTIONAL)> <CONNECTION DIAGRAM>



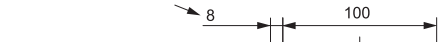
<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS> (OMITTED)

FKY

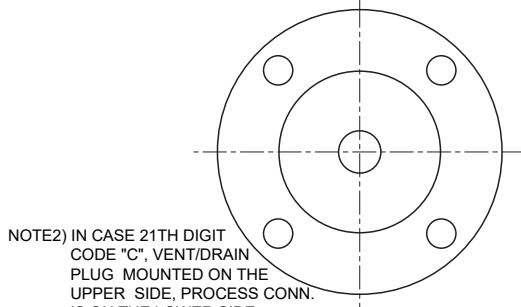
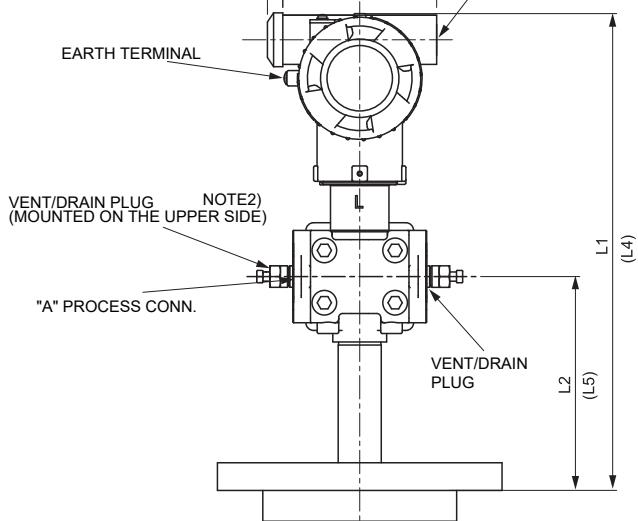
<AMP. CASE: T TYPE> EXCEPT 7TH DIGIT CODE "L"



IN CASE OF 4TH DIGIT CODE "5,7,8,9"



IN CASE OF 4TH DIGIT CODE "6"



NOTE2) IN CASE 21TH DIGIT CODE "C", VENT/DRAIN PLUG MOUNTED ON THE UPPER SIDE, PROCESS CONN. IS ON THE LOWER SIDE.

4th digit code	Conduit conn.			Process conn.		Oval flange screw
	D	E	F	Rc	H	
5	G1/2	18	2	Rc 1/4		7/16-20UNF SCREW DEPTH 15
6	1/2-14NPT	16	4	1/4-18NPT		7/16-20UNF SCREW DEPTH 15
7	Pg13.5	10.5	4.5	1/4-18NPT		M10 SCREW DEPTH 15
8	M20 x 1.5	16	4	1/4-18NPT		M10 SCREW DEPTH 15
9	Pg13.5	10.5	4.5	1/4-18NPT		7/16-20UNF SCREW DEPTH 15

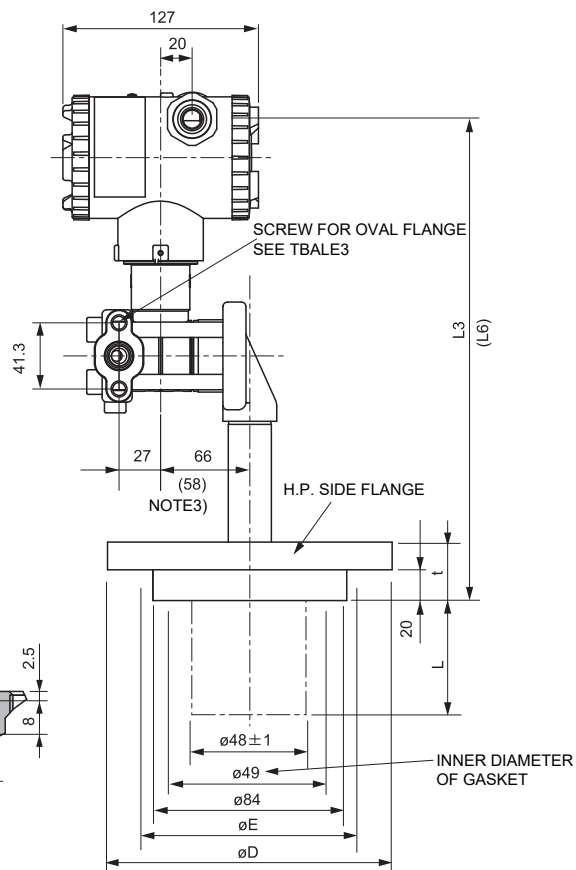
Table 3

11th digit code	L	Weight(kg)	L1	L2	L3	Note3)		
						L4	L5	L6
Y	0	8.2 ~ 11.7	322	151	305	333	159	316
A	50	8.7 ~ 15.7						
B	100	9.2 ~ 16.2	317	146	300	328	154	311
C	150	9.7 ~ 16.7						
D	200	10.2 ~ 17.2						

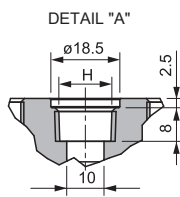
<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS> (OMITTED)

5th digit code	øD	øE	t	N-øh	Flange
0, G	140	105	36	4-19	JIS-10K-40A
1, H	155	120	36	4-19	JIS-10K-50A
2, J	140	105	39	4-19	JIS-20K-40A
3, K	155	120	38	8-19	JIS-20K-50A
4, L	160	120	42	4-23	JIS-30K-40A
5, M	165	130	42	8-19	JIS-30K-50A
A, Q	127	98.4	37.5	4-16	ANSI/JPI-150LB-1 1/2B
B, R	152	120.6	39.5	4-20	ANSI/JPI-150LB-2B
C, S	156	114.3	41	4-23	ANSI/JPI-300LB-1 1/2B
D, T	165	127	42.5	8-20	ANSI/JPI-300LB-2B

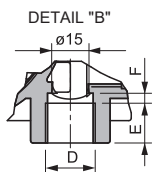
16th to 18th digit code	øD	øE	t	N-øh	Flange
B4C, B4U, B4W	150	110	38	4-18	GB/T / HG DN40 PN10/16
C4C, C4U, C4W	130	98.5	37.5	4-16	GB/T / HG DN40 PN20
E4C, E4U, E4W	150	110	38	4-18	GB/T / HG DN40 PN25/40
D4C, D4U, D4W	155	114.5	41	4-22	GB/T / HG DN40 PN50
F4C, F4U, F4W	170	125	46	4-22	GB/T / HG DN40 PN63
G4C, G4U, G4W	170	125	46	4-22	GB/T / HG DN40 PN100
B5C, B5U, B5W	165	125	40	4-18	GB/T / HG DN50 PN10/16
C5C, C5U, C5W	150	120.5	39.5	4-18	GB/T / HG DN50 PN20
E5C, E5U, E5W	165	125	40	4-18	GB/T / HG DN50 PN25/40
D5C, D5U, D5W	165	127	42.5	8-18	GB/T / HG DN50 PN50
F5C, F5U, F5W	180	135	46	4-22	GB/T / HG DN50 PN63
G5C, G5U, G5W	195	145	48	4-26	GB/T / HG DN50 PN100
H4W	127	98.4	37.5	4-16	ANSI 150LB 11/2B
J4W	156	114.3	41	4-23	ANSI 300LB 11/2B
K4W	156	114.3	42.5	4-23	ANSI 600LB 11/2B
H5W	152	120.6	39.5	4-20	ANSI 150LB 2B
J5W	165	127	42.5	8-20	ANSI 300LB 2B
K5W	165	127	42.5	8-20	ANSI 600LB 2B



Note3) IN CASE OF 7TH DIGIT CODE "H, M, T".

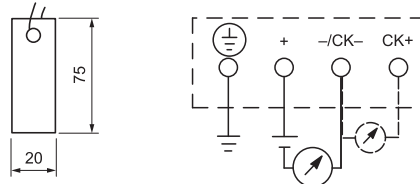


SEE TABLE 3

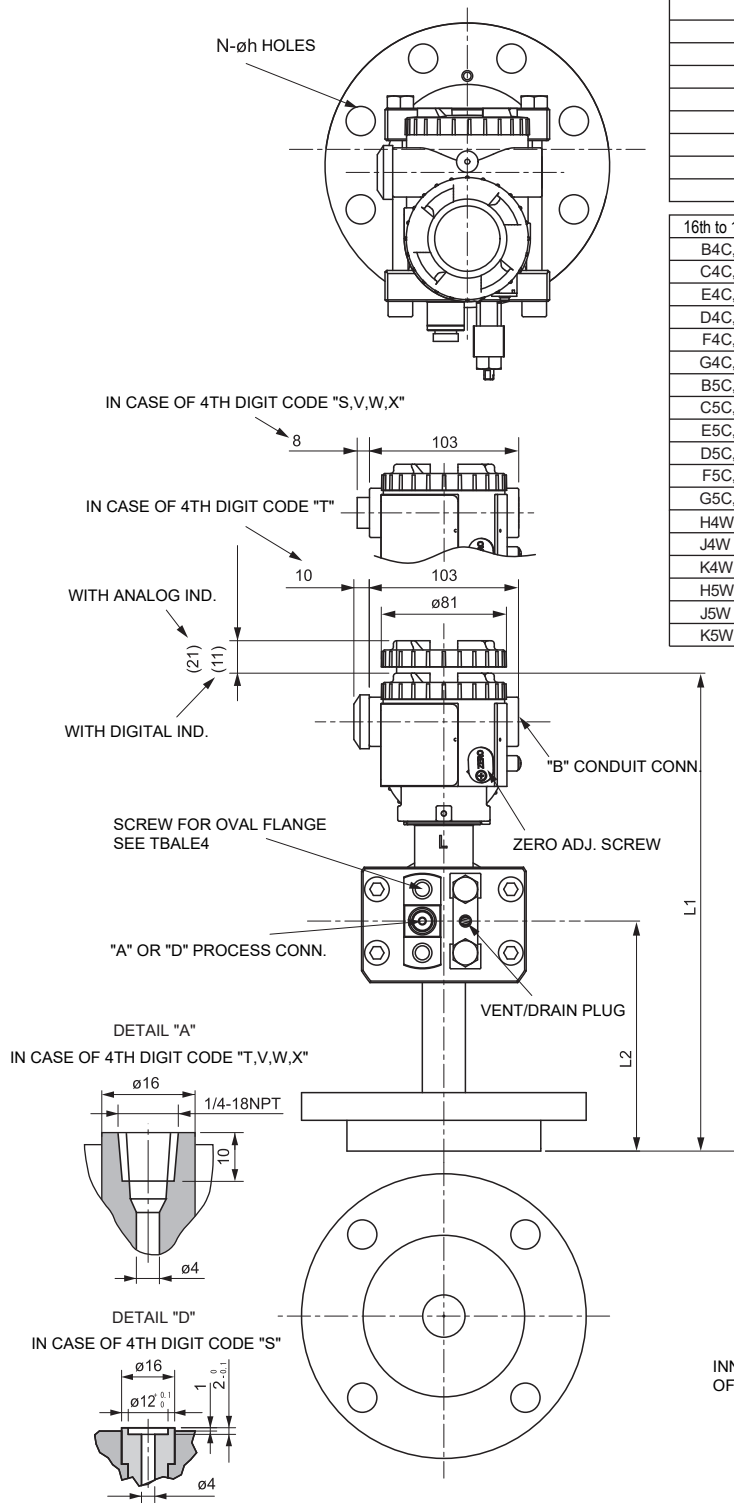


SEE TABLE 3

<SS TAG PLATE(OPTIONAL)> <CONNECTION DIAGRAM>

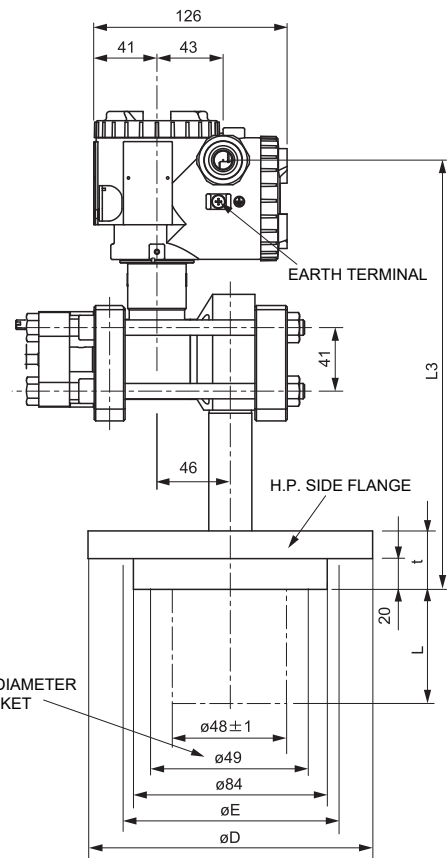


<AMP. CASE: L TYPE> 7TH DIGIT CODE "L"



5th digit code	øD	øE	t	N-øh	Flange
0, G	140	105	36	4-19	JIS-10K-40A
1, H	155	120	36	4-19	JIS-10K-50A
2, J	140	105	39	4-19	JIS-20K-40A
3, K	155	120	38	8-19	JIS-20K-50A
4, L	160	120	42	4-23	JIS-30K-40A
5, M	165	130	42	8-19	JIS-30K-50A
A, Q	127	98.4	37.5	4-16	ANSI/JPI-150LB-1 1/2B
B, R	152	120.6	39.5	4-20	ANSI/JPI-150LB-2B
C, S	156	114.3	41	4-23	ANSI/JPI-300LB-1 1/2B
D, T	165	127	42.5	8-20	ANSI/JPI-300LB-2B

16th to 18th digit code	øD	øE	t	N-øh	Flange
B4C, B4U, B4W	150	110	38	4-18	GB/T / HG DN40 PN10/16
C4C, C4U, C4W	130	98.5	37.5	4-16	GB/T / HG DN40 PN20
E4C, E4U, E4W	150	110	38	4-18	GB/T / HG DN40 PN25/40
D4C, D4U, D4W	155	114.5	41	4-22	GB/T / HG DN40 PN50
F4C, F4U, F4W	170	125	46	4-22	GB/T / HG DN40 PN63
G4C, G4U, G4W	170	125	46	4-22	GB/T / HG DN40 PN100
B5C, B5U, B5W	165	125	40	4-18	GB/T / HG DN50 PN10/16
C5C, C5U, C5W	150	120.5	39.5	4-18	GB/T / HG DN50 PN20
E5C, E5U, E5W	165	125	40	4-18	GB/T / HG DN50 PN25/40
D5C, D5U, D5W	165	127	42.5	8-18	GB/T / HG DN50 PN50
F5C, F5U, F5W	180	135	46	4-22	GB/T / HG DN50 PN63
G5C, G5U, G5W	195	145	48	4-26	GB/T / HG DN50 PN100
H4W	127	98.4	37.5	4-16	ANSI 150LB 11/2B
J4W	156	114.3	41	4-23	ANSI 300LB 11/2B
K4W	156	114.3	42.5	4-23	ANSI 600LB 11/2B
H5W	152	120.6	39.5	4-20	ANSI 150LB 2B
J5W	165	127	42.5	8-20	ANSI 300LB 2B
K5W	165	127	42.5	8-20	ANSI 600LB 2B



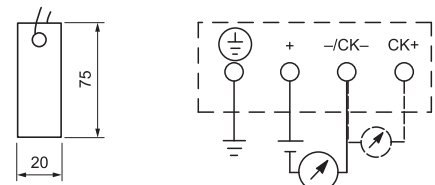
4th digit code	Conduit conn.			Oval flange screw
	D	E	F	
S	G1/2	18	2	7/16-20UNF SCREW DEPTH 15
T	1/2-14NPT	16	4	7/16-20UNF SCREW DEPTH 15
V	Pg13.5	10.5	4.5	M10 SCREW DEPTH 15
W	M20×1.5	16	4	M10 SCREW DEPTH 15
X	Pg13.5	10.5	4.5	7/16-20UNF SCREW DEPTH 15

Table 4

11th digit code	L	Weight(kg)	L1	L2	L3
Y	0	9.3 ~ 11.8	311	150	280
A	50	9.8 ~ 16.8			
B	100	10.3 ~ 17.3	305	144	274
C	150	10.8 ~ 17.8			
D	200	11.3 ~ 18.3			

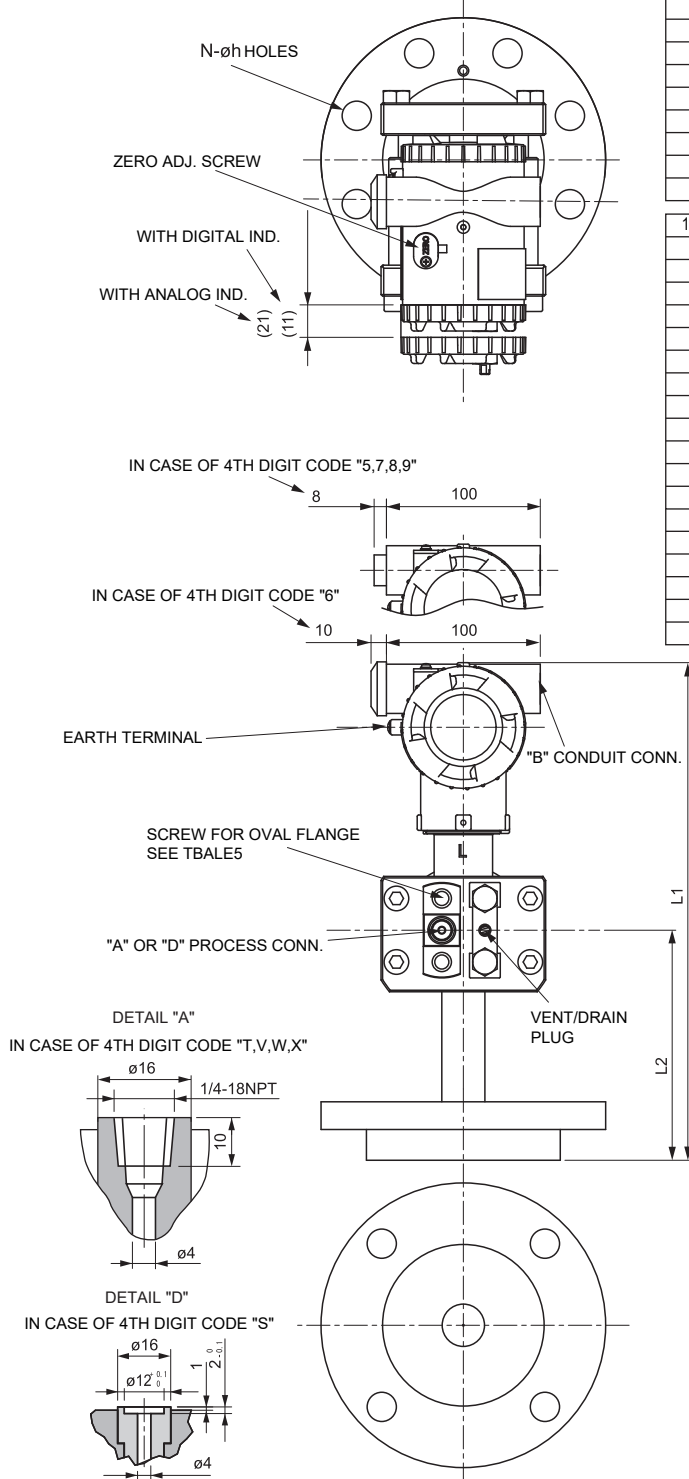
<OPTIONAL PARTS FOR FLAMEPROOF OF THIS> (OMITTED)

<SS TAG PLATE(OPTIONAL)> <CONNECTION DIAGRAM>



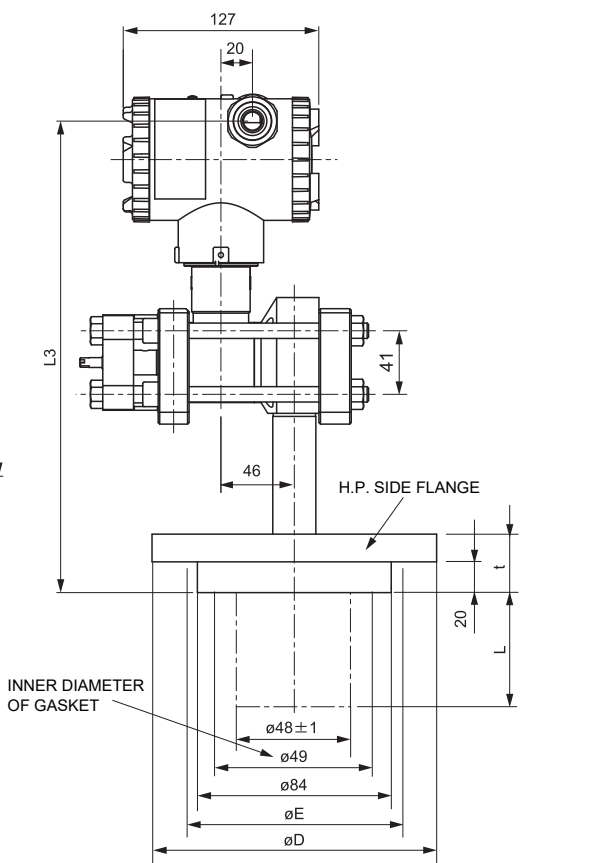
FKY

<AMP. CASE: T TYPE> 7TH DIGIT CODE "L"



5th digit code	øD	øE	t	N-øh	Flange
0, G	140	105	36	4-19	JIS-10K-40A
1, H	155	120	36	4-19	JIS-10K-50A
2, J	140	105	39	4-19	JIS-20K-40A
3, K	155	120	38	8-19	JIS-20K-50A
4, L	160	120	42	4-23	JIS-30K-40A
5, M	165	130	42	8-19	JIS-30K-50A
A, Q	127	98.4	37.5	4-16	ANSI/JPI-150LB-1 1/2B
B, R	152	120.6	39.5	4-20	ANSI/JPI-150LB-2B
C, S	156	114.3	41	4-23	ANSI/JPI-300LB-1 1/2B
D, T	165	127	42.5	8-20	ANSI/JPI-300LB-2B

16th to 18th digit code	øD	øE	t	N-øh	Flange
B4C, B4U, B4W	150	110	38	4-18	GB/T / HG DN40 PN10/16
C4C, C4U, C4W	130	98.5	37.5	4-16	GB/T / HG DN40 PN20(class 150)
E4C, E4U, E4W	150	110	38	4-18	GB/T / HG DN40 PN25/40
D4C, D4U, D4W	155	114.5	41	4-22	GB/T / HG DN40 PN50(class 300)
F4C, F4U, F4W	170	125	46	4-22	GB/T / HG DN40 PN63
G4C, G4U, G4W	170	125	46	4-22	GB/T / HG DN40 PN100
B5C, B5U, B5W	165	125	40	4-18	GB/T / HG DN50 PN10/16
C5C, C5U, C5W	150	120.5	39.5	4-18	GB/T / HG DN50 PN20(class 150)
E5C, E5U, E5W	165	125	40	4-18	GB/T / HG DN50 PN25/40
D5C, D5U, D5W	165	127	42.5	8-18	GB/T / HG DN50 PN50(class 300)
F5C, F5U, F5W	180	135	46	4-22	GB/T / HG DN50 PN63
G5C, G5U, G5W	195	145	48	4-26	GB/T / HG DN50 PN100
H4W	127	98.4	37.5	4-16	ANSI 150LB 11/2B
J4W	156	114.3	41	4-23	ANSI 300LB 11/2B
K4W	156	114.3	42.5	4-23	ANSI 600LB 11/2B
H5W	152	120.6	39.5	4-20	ANSI 150LB 2B
J5W	165	127	42.5	8-20	ANSI 300LB 2B
K5W	165	127	42.5	8-20	ANSI 600LB 2B



4th digit code	Conduit conn.			Oval flange screw
	D	E	F	
5	G1/2	18	2	7/16-20UNF SCREW DEPTH 15
6	1/2-14NPT	16	4	7/16-20UNF SCREW DEPTH 15
7	Pg13.5	10.5	4.5	M10 SCREW DEPTH 15
8	M20×1.5	16	4	M10 SCREW DEPTH 15
9	Pg13.5	10.5	4.5	7/16-20UNF SCREW DEPTH 15

Table 5

11th digit code	L	Weight(kg)	L1	L2	L3
Y	0	9.3 ~ 11.8	324	150	307
A	50	9.8 ~ 16.8			
B	100	10.3 ~ 17.3	318	144	301
C	150	10.8 ~ 17.8			
D	200	11.3 ~ 18.3			

<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS> (OMITTED)

<SS TAG PLATE(OPTIONAL)> <CONNECTION DIAGRAM>

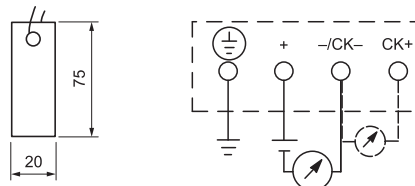


Table 6 Explosion proof

Authorities	Intrinsic safety	Authorities	Flameproof																																									
ATEX	Ex II 1 G Ex ia II C T5 Tamb = -40°C ~ +50°C Ex ia II C T4 Tamb = -40°C ~ +70°C	ATEX	Ex II 2 GD EEx d II C T6 IP66/67 T85°C Tamb = -40°C ~ +65°C EEx d II C T5 IP66/67 T100°C Tamb = -40°C ~ +85°C																																									
	Entity Parameters: Ui = 28V, Ii = 94.3mA, Pi = 0.66W Ci = 26nF(without arrester), Li = 0.6mH(without analog indicator) Ci = 36nF(with arrester), Li = 0.7mH(with analog indicator)		FM	Class I Div.1 Groups B, C, D T6 Type 4X Class III Div.1 Groups E, F, G T6 Type 4X Tamb max = +60°C																																								
FM	Class I II III DIV.1 Groups A, B, C, D, E, F, G T4 Entity Type 4X	CSA	Class I Div.1 Groups C, D Class II Div.1 Groups E, F, G Class III Div.1 Note) "Seal Not Required" enclosure is allowed.																																									
	<table border="1"> <thead> <tr> <th colspan="2">Model</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A, B, D</td> <td>Y, G, N</td> <td>-40°C ~ +85°C</td> </tr> <tr> <td>L, P, 1, 2</td> <td>Y, G, N</td> <td>-20°C ~ +80°C</td> </tr> <tr> <td>Q, S, 4, 5</td> <td>Y, G, N</td> <td>-20°C ~ +60°C</td> </tr> <tr> <td>E, F, H</td> <td>Y, G, N</td> <td>-40°C ~ +60°C</td> </tr> <tr> <td>-</td> <td>W, A, D</td> <td>-10°C ~ +60°C</td> </tr> </tbody> </table>		Model		Tamb	9th digit	13th digit		A, B, D	Y, G, N	-40°C ~ +85°C	L, P, 1, 2	Y, G, N	-20°C ~ +80°C	Q, S, 4, 5	Y, G, N	-20°C ~ +60°C	E, F, H	Y, G, N	-40°C ~ +60°C	-	W, A, D	-10°C ~ +60°C	TIIS	Ex do IIB+H2 T4 Tamb max = +60°C Maximum process temp. = +120°C																			
Model		Tamb																																										
9th digit	13th digit																																											
A, B, D	Y, G, N	-40°C ~ +85°C																																										
L, P, 1, 2	Y, G, N	-20°C ~ +80°C																																										
Q, S, 4, 5	Y, G, N	-20°C ~ +60°C																																										
E, F, H	Y, G, N	-40°C ~ +60°C																																										
-	W, A, D	-10°C ~ +60°C																																										
CSA	Class I Div.1 Groups A, B, C, D Class II Div.1 Groups E, F, G Class III Div.1	IECEX Scheme	Ex d II C T5 IP66/67 Tamb = -40°C ~ +85°C Ex d II C T6 IP66/67 Tamb = -40°C ~ +65°C																																									
	Temp code T5 Tamb max = +50°C Temp code T4 Tamb max = +70°C Entity Parameters: Vmax = 28V Imax = 94.3mA Ci = 25nF(without arrester), Li = 0.6mH(without analog indicator) Ci = 36nF(with arrester), Li = 0.7mH(with abalig indicator)		NEPSI	Ex d II B+H2 T6 Tamb = -40°C ~ +60°C																																								
TIIS	Ex ia IIC T4 Tamb max = +60°C Entity Parameters: Ui = 28V, Ii = 94.3mA, Pi = 0.66W, Ci = 38.4nF, Li = 0.694mH	Authorities	Type n Nonincendive																																									
IECEX Scheme	Ex ia II C T4 Tamb = -40°C ~ +70°C Ex ia II C T5 Tamb = -40°C ~ +50°C Entity Parameters: Ui = 28V Ii = 94.3mA Pi = 0.66W Ci = 26nF(without arrester), Li = 0.6mH(without analog indicator) Ci = 36nF(with arrester), Li = 0.7mH(with abalig indicator)	ATEX	Ex II3 GD EEx nL IIC T5 Tamb = -40°C ~ +50°C EEx nL IIC T4 Tamb = -40°C ~ +70°C Specific Parameters: Model without arrester: Ui=42.4V, Ii=113mA, Pi=1W, Ci=25.18nF, Li=0.694mH Model with arrester: Ui=32V, Ii=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH																																									
	Entity Parameters: Vmax=28V, Ii=113mA, Pmax=1W Model with arrester: Umax=32V, Imax=113mA, Pmax=1W		FM	EEx nAL IIC T5 Tamb = -40°C ~ +50°C EEx nAL IIC T4 Tamb = -40°C ~ +70°C Specific Parameters: Model without arrester: Umax=42.4V, Imax=113mA, Pmax=1W Model with arrester: Umax=32V, Imax=113mA, Pmax=1W																																								
NEPSI	Ex ia IIC T4 Ex d IIB+H2T6/Ex ia IIC T4	CSA	Class I II III Div.2 Groups A, B, C, D, F, G T4 Entity Type 4X																																									
	<table border="1"> <thead> <tr> <th colspan="2">Model</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A, B, D</td> <td>Y, G, N</td> <td>-40°C ~ +85°C</td> </tr> <tr> <td>L, P, 1, 2</td> <td>Y, G, N</td> <td>-20°C ~ +80°C</td> </tr> <tr> <td>Q, S, 4, 5</td> <td>Y, G, N</td> <td>-20°C ~ +60°C</td> </tr> <tr> <td>E F H</td> <td>Y, G, N</td> <td>-40°C ~ +60°C</td> </tr> <tr> <td>-</td> <td>W, A, D</td> <td>-10°C ~ +60°C</td> </tr> </tbody> </table>		Model		Tamb	9th digit	13th digit		A, B, D	Y, G, N	-40°C ~ +85°C	L, P, 1, 2	Y, G, N	-20°C ~ +80°C	Q, S, 4, 5	Y, G, N	-20°C ~ +60°C	E F H	Y, G, N	-40°C ~ +60°C	-	W, A, D	-10°C ~ +60°C	Entity Parameters: Ui = 42.4V, Ii = 113mA, Pi = 1W, Ci = 35.98nF, Li = 0.694mH	<table border="1"> <thead> <tr> <th colspan="2">Model</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A, B, D</td> <td>Y, G, N</td> <td>-40°C ~ +85°C</td> </tr> <tr> <td>L, P, 1, 2</td> <td>Y, G, N</td> <td>-20°C ~ +80°C</td> </tr> <tr> <td>Q, S, 4, 5</td> <td>Y, G, N</td> <td>-20°C ~ +60°C</td> </tr> <tr> <td>E, F, H</td> <td>Y, G, N</td> <td>-40°C ~ +60°C</td> </tr> <tr> <td>-</td> <td>W, A, D</td> <td>-10°C ~ +60°C</td> </tr> </tbody> </table>	Model		Tamb	9th digit	13th digit		A, B, D	Y, G, N	-40°C ~ +85°C	L, P, 1, 2	Y, G, N	-20°C ~ +80°C	Q, S, 4, 5	Y, G, N	-20°C ~ +60°C	E, F, H	Y, G, N	-40°C ~ +60°C	-
Model		Tamb																																										
9th digit	13th digit																																											
A, B, D	Y, G, N	-40°C ~ +85°C																																										
L, P, 1, 2	Y, G, N	-20°C ~ +80°C																																										
Q, S, 4, 5	Y, G, N	-20°C ~ +60°C																																										
E F H	Y, G, N	-40°C ~ +60°C																																										
-	W, A, D	-10°C ~ +60°C																																										
Model		Tamb																																										
9th digit	13th digit																																											
A, B, D	Y, G, N	-40°C ~ +85°C																																										
L, P, 1, 2	Y, G, N	-20°C ~ +80°C																																										
Q, S, 4, 5	Y, G, N	-20°C ~ +60°C																																										
E, F, H	Y, G, N	-40°C ~ +60°C																																										
-	W, A, D	-10°C ~ +60°C																																										

FKY