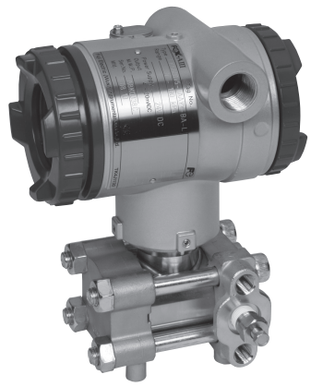
ABSOLUTE PRESSURE TRANSMITTER

DATA SHEET **FKA···5/ FDA···5**

The FCX -AIII absolute pressure transmitter accurately measures absolute pressure 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 tech nology to provide exceptional performance and functionality.It's 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 funtion have obtained the certificate of SIL certification by TÜV.



Features

1. High accuracy
   Absolute pressure transmitter can be carried out with high accuracy measurement in the range of 1.6 ~ 50000kPa abs.
   Standard accuracy: ± 0.1%, Accuracy(50MPa): ± 0.2%
   High accuracy(optional)：± 0.065%
2. Excellent environmental adaptaboility
   The advanced floating cell protects sensor from temperature and overpressure effect, and controls the total measurement error of the filed to the minimun.
3. Excellent operability and easy to use
   It has an excellent operability and easy to use in any application.
   - All range meet the requirements of explosion-proof.
   - 5-digit digital indiactor
   - Stainless steel AMP case
   - Built-in RFI filter and lightning arrester
   - Various anti-corrosive materials
   - 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 bapor
- Range, operating pressure, and overrange limit:

Type	Operating pressure〔kPa abs〕	Span limit〔kPa abs〕		Range limit〔kPa abs〕		Overrange limit〔MPa〕
		Min.	Max.	Lower	Upper	
FKA□01 FDA□01	0 ~ 16	1.6	16	0	16	0.5
FKA□02 FDA□02	0 ~ 130	1.6	130	0	130	0.5
FKA□03 FDA□03	0 ~ 500	5	500	0	500	1.5
FKA□04 FDA□04	0 ~ 3000	30	3000	0	3000	9
FKA□05 FDA□05	0 ~ 10000	100	10000	0	10000	15
FKA□06 FDA□06	0 ~ 50000	500	50000	0	50000	75

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

- Process temperature: -40 ~ +120°C
  Note: When upper range limit is 16kPa abs, the process temperature range is -40 ~ +85°C.
- Remote function: Refer to table 1
  Note: HHC's version must be higher than 7.0 (or FXW□□□□1-□4).
- Output signal: (1)FKA: DC4~20mA+HART protocol
  (2)FDA: FOUNDATION Fieldbus protocol or PROFIBUS-PA
- Allowable load resistance: 0 ~ 600Ω (at DC 24V)
  (Refer to figure 1) For communication with HHC, min. of 250Ω resistor is required.
- Power supply:
  (Refer to figure 1)

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)
- 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 0 kPa abs to upper rang limit.
- 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
  Note: 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

Reference conditions, silicone oil fill, SUS316L diaphragms, 4 to 20mA analog output in linear mode.

- Accuracy rating: (including linearity, hysteresis, repeatability)
  For spans greater than 1/10 of URL: ：
  ± 0.065% or
  ± 0.04%(21th code：H)
  For spans below 1/10 of URL:

$$\pm\left(0.1+0.1\frac{0.1\times \text{URL}}{x}\right)\%$$

- Stability: Zero shift ±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.

$$\text{Zero shift}：\pm\left(0.125+0.1\frac{\text{URL}}{x}\right)\%$$

$$\text{Total shift}：\pm\left(0.15+0.1\frac{\text{URL}}{x}\right)\%$$

In the formual : x：SPAN
URL：Upper range limit

- Overrange effect: Zero shift ±0.2% of URL for any overrange to maximum limit .
- Mounting position effect: 0.1kPa/10°
- Supply voltage effect: ± 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: 0.08s (at 23°C)
  Dead time: approx. 0.12s

Structure and material

- Material of detecting unit:

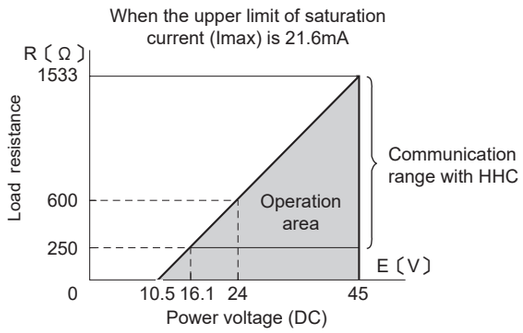
Material code	Process cover	Detecting unit body	
		Seal diaphragm	Other wetted parts
V	SCS14A	SUS316L	SUS316
W	SCS14A	Hastelloy-C	SUS316
H	SCS14A	Hastelloy-C	Hastelloy-C
M	SCS14A	Monel	Monel
T	SCS14A	Tantalum	Tantalum

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

- Amp case materials: Aluminium die casting + Polyester coating (color: silvery) or Stainless steel(SCS14A)
- Amp case cover materials: Aluminium die casting + Polyester coating (color: blue) or Stainless steel(SCS14A)
- 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. 2.9~3.4kg (body)
- 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
- Preocess connection: Rc1/4 or 1/4-18NPT (Refer to the model code table for details.)
- Mounting method: Mounting on 50A(2B) pipe with U-bolt, or mounting on the wall (according to model and specification)
- 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 amplifer unit
  Class 2.5, moving-coil, movement 90°,
  0 ~ 100% evenly divided scale or actual scale
- Digital indicator: Built in amplifer unit, 5 digit LCD and unit dispaly,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 amplifer unit
  Lightning performance: 4kV(1.2× 50μs)
- NACE specifications: H_2S treatment countermeasure based on NACE specification.
- Anti-corrosive coating of detecting unit: Epoxy and polyurethane double coating
- Stainless steel tag plate: The plate can be engraved up to 14 characters (lettters and numbers)



〔Note〕The load resistance varies according to the upper limit of saturation current.

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

Figure 1 Operation area of power voltage and load resistance

The product conforms to the requoirments of European EMC directive "Electromagnetic Compatibility Directive2004/108/EC". The detail content is recorded in the techiacal construction file nmber 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.

Table1 Adjustment function

No.	Items	HHC (Model:FXW)Note1)		Local configurator (With 3 push buttons)	
		Display	Set	Dispaly	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	Linzearize	○	○	—	—
I	Rerange	○	○	○	○
J	Saturation current Write	○	○	○	○
K	protect	○	○	○	○
L	History -Calibration history -Temperature history	 ○ ○	 ○ —	 ○ ○	 ○ —

Nore1) The version of HHC must be higher than 7.0 when it supports FCX-AIII 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 deatils.

Scope of delivery

Instrument body, pipe mounting bracket
(according to type selection)

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 lettters and numbers).

Mode code

Digit	Discription	Note
	Absolute pressure transmiter DC4~20mA+HART FOUNDATION Fieldbus and PROFIBUS	
4	<Process cover> <Preocess conn.> <Oval flange screw> <AMP case> <Conduit conn.> <Case type>	
	Rc1/4 7/16-20UNF G1/2 T type	5
	1/4-18NPT 7/16-20UNF 1/2-14NPT T type	6
	1/4-18NPT M10(or M12) Pg 13.5 T type	Note7 7
	1/4-18NPT M10(or M12) M20 × 1.5 T type	Note7 8
	1/4-18NPT 7/16-20UNF Pg 13.5 T type	9
	Rc1/4 7/16-20UNF G1/2 L type	S
	1/4-18NPT 7/16-20UNF 1/2-14NPT L type	T
	1/4-18NPT M10(or M12) Pg 13.5 L type	Note7 V
	1/4-18NPT M10(or M12) M20 × 1.5 L type	Note7 W
	1/4-18NPT 7/16-20UNF Pg 13.5 L type	X
6	<Span limit [kPa abs] >	
	1.6····· 16	1
	1.6····· 130	2
	5 ····· 500	3
	30····· 3000	4
	100····· 10000	5
	500····· 50000	6
7	<Process cover material> <Diaphragm material> <Wetted cell body material>	
	SCS14A SUS316L SUS316	V
	SCS14A Hastelloy C SUS316	W
	SCS14A Hastelloy C Hastelloy C	H
	SCS14A Monel Monel	M
	SCS14A Tantalum Tantalum	Note1 T
8	<Version>	Note11 5
9	<Field indicator> <Indicator scale> <Arrester>	
	None None	A
	Analog 0 ~ 100% evenly divided scale None	B
	Analog Actual scale None	D
	None Yes	E
	Analog 0 ~ 100% evenly divided scale Yes	F
	Analog Actual scale Yes	H
	Digital 0 ~ 100% scale display None	L
	Digital Actual scale display None	P
	Digital 0 ~ 100% scale dispaly Yes	Q
	Digital Actual scale display Yes	S
	Digital(with local adj. function) 0 ~ 100% scale display None	1
	Digital(with local adj. function) Actual scale display None	2
	Digital(with local adj. function) 0 ~ 100% scale display Yes	4
	Digital(with local adj. function) Actual scale display Yes	5
	None Foundation Fieldbus None Note6	A
	None Foundation Fieldbus Yes Note6	E
	Digital Foundation Fieldbus None Note6	P
	Digital Foundation Fieldbus Yes Note6	S
	None Profibus None Note6	R
	None Profibus Yes Note6	V
	Digital Profibus None Note6	T
	Digital Profibus Yes Note6	W
10	<Explosion proof specifications>	
	General Non explosion proof	A
	TIIS (Cable gland seel) explosion proof Note8	C
	TIIS intrinsic safety	G
	FM Flameproof Note10	D
	FM Intrinsic safety	H
	FM Combined of flameproof and intrinsic safety Note10	V
	ATEX Flameproof Note9	X
	ATEX Intrinsic safety	K
	ATEX Type n	P
	ATEX Combined of flameproof and intrinsic safety Note9	M
	IECEx Flameproof Note9	R
	IECEx Intrinsic safety	T
	CSA Flameproof Note10	E
	CSA Intrinsic safety	J
	NEPSI Flameproof	F
	NEPSI Intrinsic safety	S
	NEPSI Combined of flameproof, intrinsic safety and dust ignition proof	U

Digit No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	21
	F		A						-					-			-
	F	K	A		0			5	-					-			-
	F	D	A		0			5	-					-			-

Digit	Discription	Note
	Absolute pressure transmiter DC4~20mA+HART FOUNDATION Fieldbus and PROFIBUS	
11	<Side vent/drain plug> <Mounting bracket> None (Standard) None None (Standard) Flat type (SUS304) None (Standard) Flat type (SUS316) None (Standard) L type (SUS304) None (Standard) L type (SUS316) Yes None Yes Flat type (SUS304) Yes Flat type (SUS316) Yes L type (SUS304) Yes L type (SUS316)	
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	Note5 Note5
13	<Treatment of wetted parts > <Fill fluid> Standard Silicone oil (General) Degreasing Silicone oil NACE Specification Silicone oil	Note2
14	<O ring material> Teflon(Gasket)	
15	<Vent/Drain plug type> <Bolt/Nut marerial> Standard Standard(Cr-Mo hexagon socket bolt/carbon steel nut) Standard Cr-Mo hexagon head bolt/carbon steel nut Standard NACE Bolt/Nut (*A) Standard NACE Bolt/Nut (*B) Standard SUS304 Bolt/Nut Standard SUS316 Bolt/Nut	Note4
16	<Options> <Material> None None Two valves manifold SUS304 Two valves manifold SUS316 Oval flange SUS304 Oval flange SUS316 Adapter SUS304 Adapter SUS316 Oval flange + Adapter SUS304 Oval flange + Adapter SUS316	
21	<Other> High accuracy type Inspection report	Note3

Digit No.	1	2	3	4	5	6	7	8		9	10	11	12	13		14	15	16		21
	F		A						-						-				-	
	F	K	A		0			5	-						-				-	
	F	D	A		0			5	-						-				-	
												A C K M N D F L P Q								
													Y B M N P Q							
														Y G N						
																B				
																	A B C D E U			
																		Y A B C D J K E F		
																				H F

(*A) NACE Bolt/Nut material: ASTM A193 B7M/A194 2HM
(*B) NACE Bolt/Nut material: ASTM A320 L7M/A194 2HM

Note1) Not available for 6th digit code "1".
Note2) Not available for 7th digit code "T" or 15th digit cade "A","B"
Note3) The digit is blank when not needed.
Note4) Please select SUS bolts and nuts for tropical area.
Note5) Not available for 10th digit code"C".
Note6) Please note when select Fieldbus or Profibus transmitter.(Under development)
Note7) Screw size is M12 for 6th code"6".
Note8) Available only for 4th digit code "5", "S".
Note9) Available only for 4th digit code "6","8","T","W".
Note10) Available only for 4th digit code "6","T".
Note11) The 8th digit code can be seleced 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)

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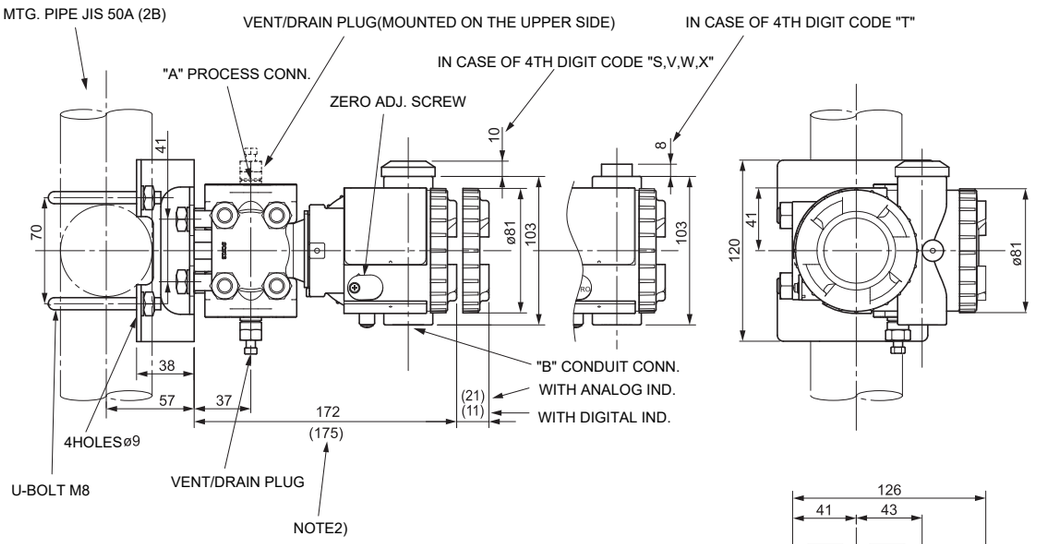
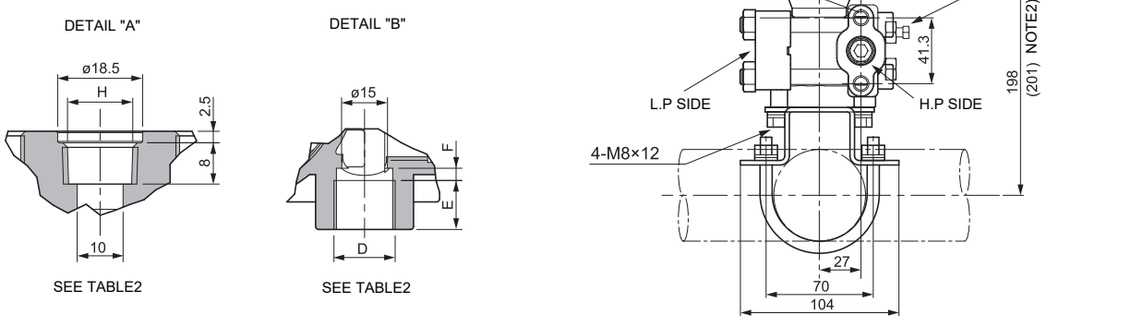


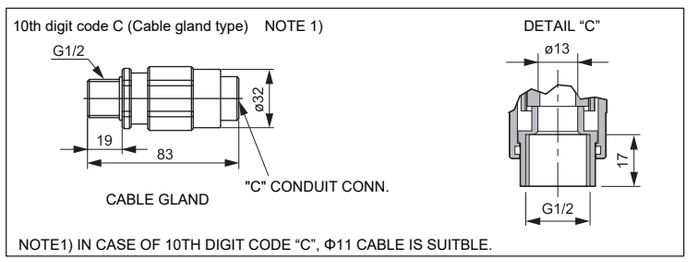
NOTE2) IN CASE OF 7TH DIGIT CODE "H,M,T"



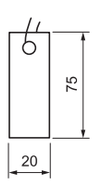
4th digit code	Conduit conn.			Process conn.	Oval flange screw
	D	E	F	H	
S	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH 15
T	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH 15
V	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH 15
W	M20×1.5	16	4	1/4-18NPT	M10 SCREW DEPTH 15
X	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH 15

TABLE 2

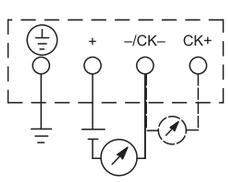
<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS>



<SS TAG PLATE(OPTIONAL)>



<CONNECTION DIAGRAM>



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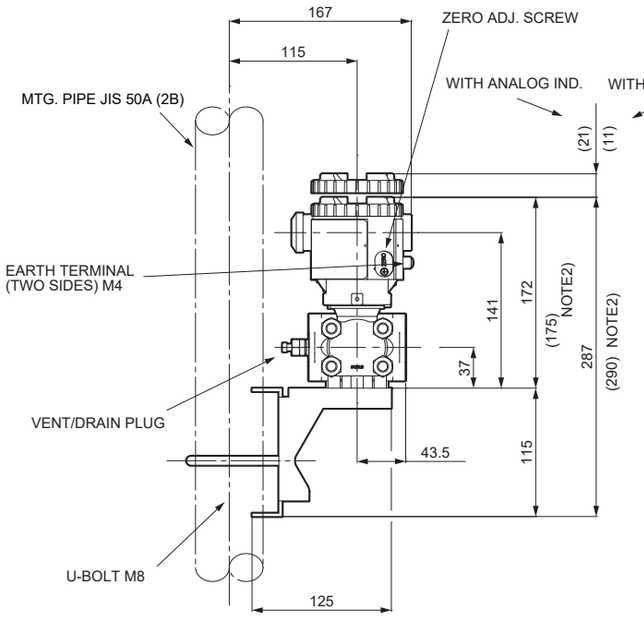
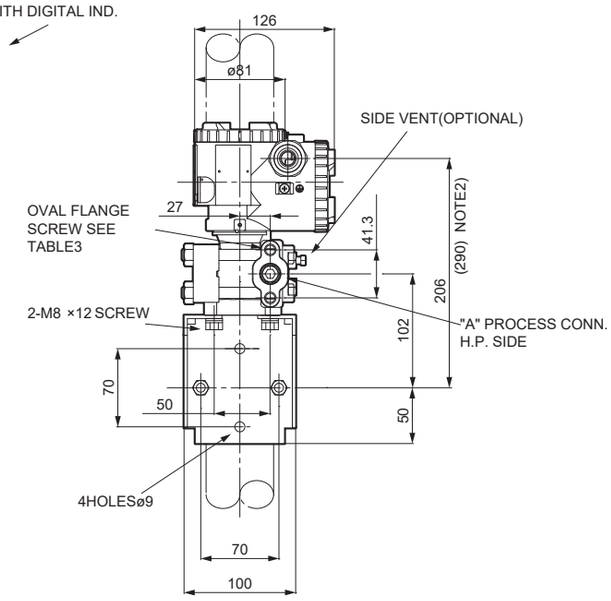
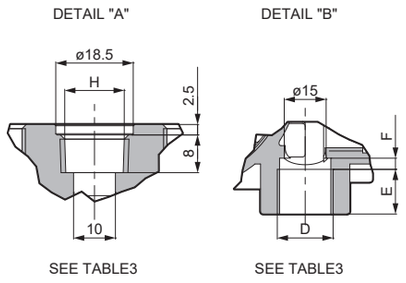
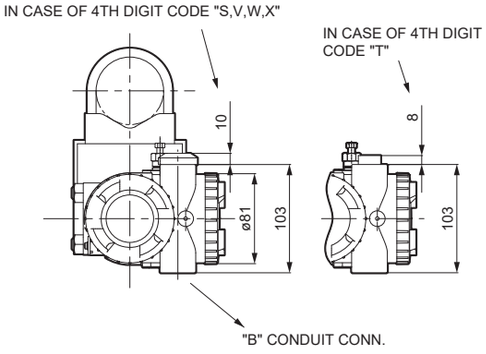


NOTE2) IN CASE OF 7TH DIGIT CODE "C,H,M,T"



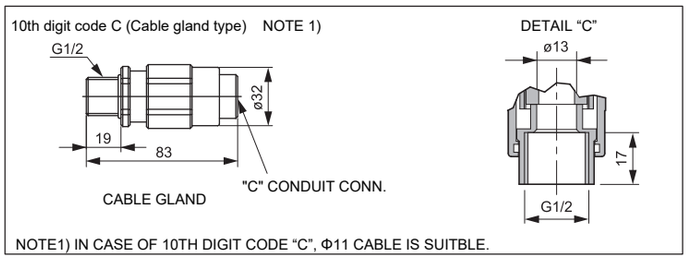




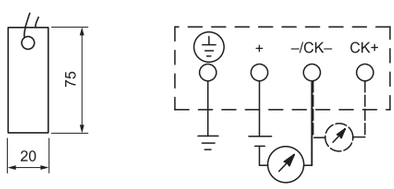
4th digit code	Conduit conn.			Process conn.	Oval flange screw
	D	E	F	H	
S	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH 15
T	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH 15
V	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH 15
W	M20×1.5	16	4	1/4-18NPT	M10 SCREW DEPTH 15
X	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH 15

TABLE 3

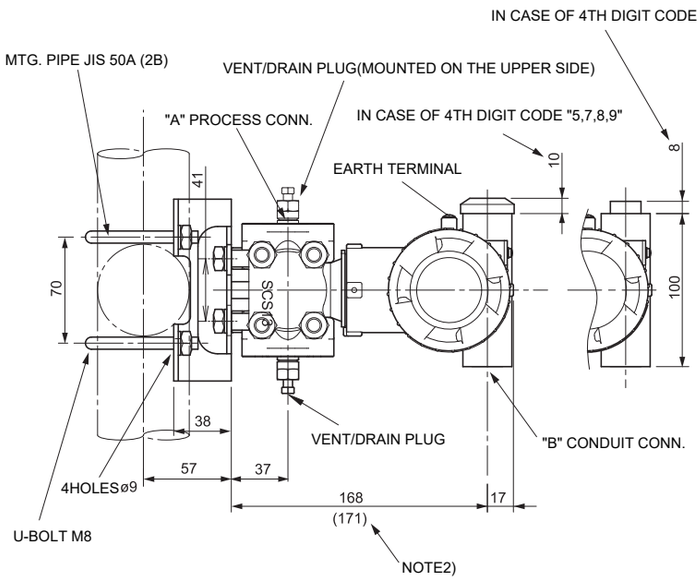
<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS>



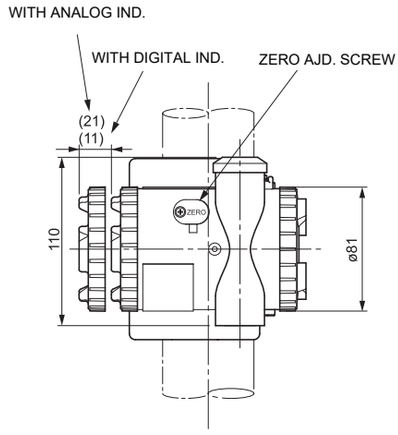
<SS TAG PLATE(OPTIONAL)> <CONNECTION DIAGRAM>

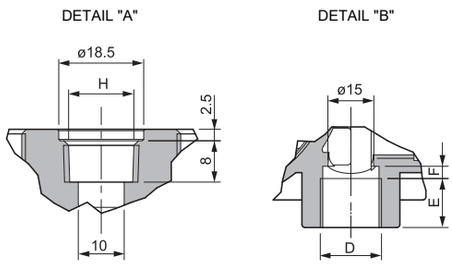


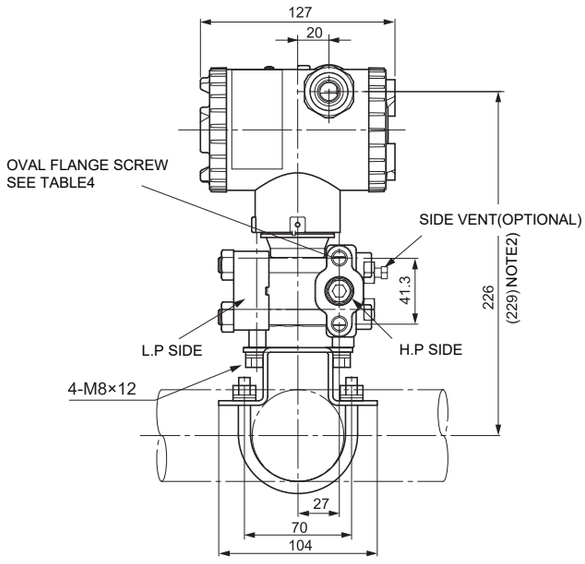
<AMP. CASE: T TYPE > IN CASE OF 11TH DIGIT CODE "C, K, F, L"



NOTE2) IN CASE OF 7TH DIGIT CODE "H,M,T"



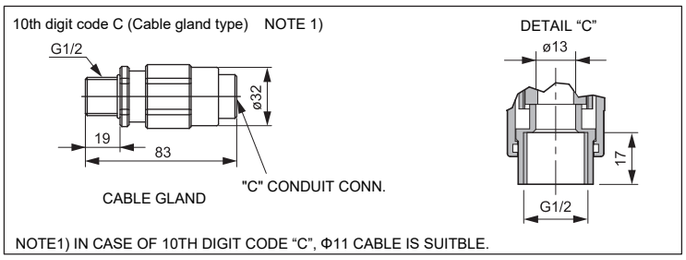




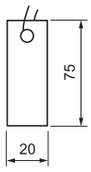
4th digit code	Conduit conn.			Process conn.	Oval flange screw
	D	E	F	H	
5	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH 15
6	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH 15
7	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH 15
8	M20×1.5	16	4	1/4-18NPT	M10 SCREW DEPTH 15
9	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH 15

TABLE 4

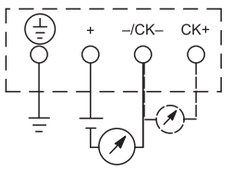
<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS>



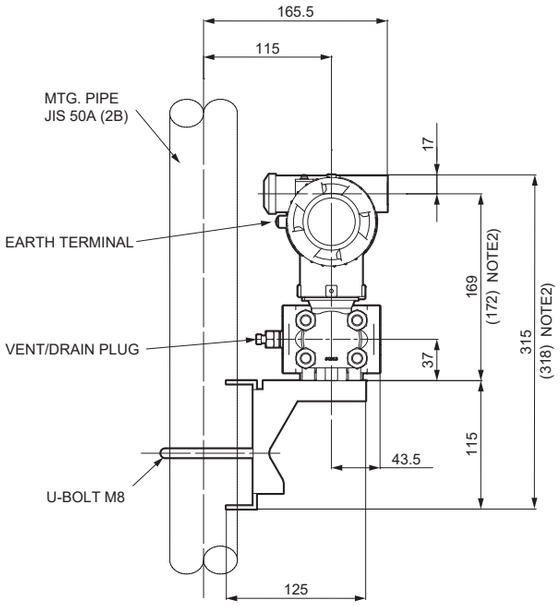
<SS TAG PLATE(OPTIONAL)>

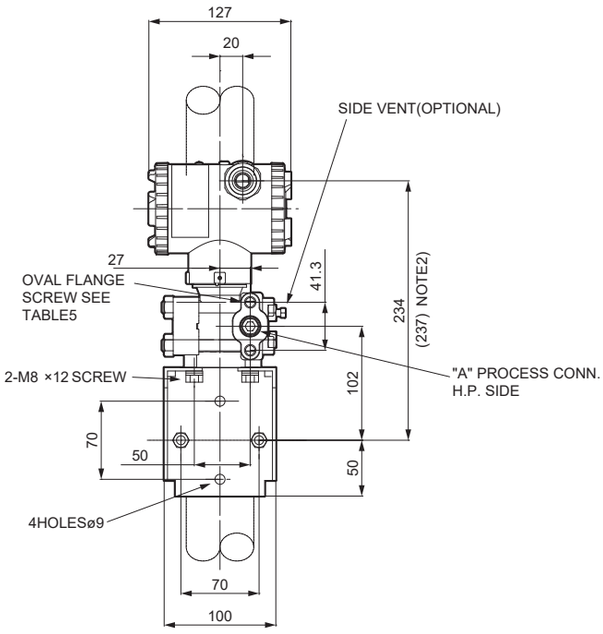


<CONNECTION DIAGRAM>

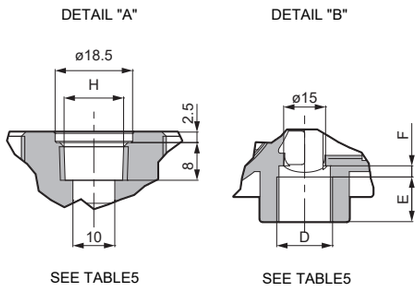


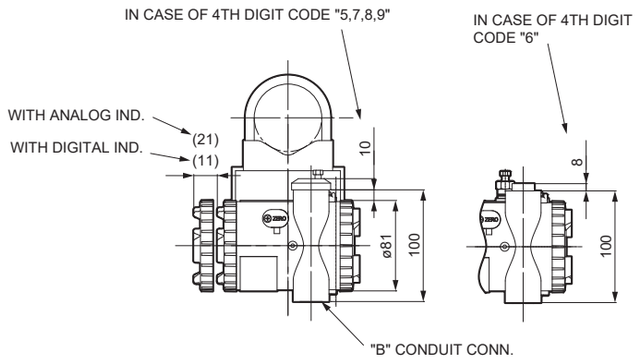
<AMP. CASE: T TYPE > IN CASE OF 11TH DIGIT CODE "M, N, P, Q"





NOTE2) IN CASE OF 7TH DIGIT CODE "W,J,H,M,T"



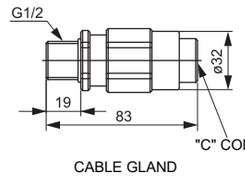


4th digit code	Conduit conn.			Process conn.	Oval flange screw
	D	E	F	H	
5	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH 15
6	1/2-14NPT	16	4	1/4-18NPT	/16-20UNF SCREW DEPTH 15
7	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH 15
8	M20×1.5	16	4	1/4-18NPT	M10 SCREW DEPTH 15
9	Pg13.5	10.5	4.5	1/4-18NPT	/16-20UNF SCREW DEPTH 15

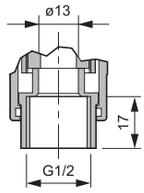
TABLE 5

<OPTIONAL PARTS FOR FLAMEPROOF OF TIIS>

10th digit code C (Cable gland type) NOTE 1)

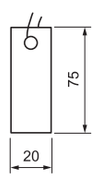


DETAIL "C"



NOTE1) IN CASE OF 10TH DIGIT CODE "C", Φ11 CABLE IS SUITBLE.

<SS TAG PLATE(OPTIONAL)>



<CONNECTION DIAGRAM>

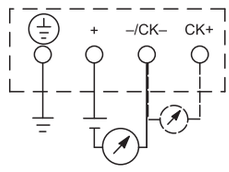


Table 6 Explosion proof

<table>
<tr><th>Authorities</th><th>Intrinsic safety</th></tr>
<tr><td>ATEX</td><td>Ex II 1 G
Ex ia II C T5 Tamb = -40°C ~ +50°C
Ex ia II C T4 Tamb = -40°C ~ +70°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)</td></tr>
<tr><td>FM</td><td>Class I II III
DIV.1 Groups A, B, C, D, E, F, G
T4 Entity Type 4X
<table>
<tr><th colspan="2">Model</th><th rowspan="2">Tamb</th></tr>
<tr><th>9th digit</th><th>13th digit</th></tr>
<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>
</table>
Entity Parameters:
Vmax = 28V, Imax = 94.3mA, Pi = 0.66W,
Ci = 35.98nF, Li = 0.694mH</td></tr>
<tr><td>CSA</td><td>Class I
Div.1 Groups A, B, C, D
Class II
Div.1 Groups E, F, G
Class III
Div.1
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)</td></tr>
<tr><td>TIIS</td><td>Ex ia IIC T4
Tamb max = +60°C
Entity Parameters:
Ui = 28V, Ⅰi = 94.3mA, Pi = 0.66W,
Ci = 38.4nF, Li = 0.694mH</td></tr>
<tr><td>IECEx
Scheme</td><td>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)</td></tr>
<tr><td>NEPSI</td><td>Ex ia IIC T4
Ex d IIB+H₂T6/Ex ia IIC T4
<table>
<tr><th colspan="2">Model</th><th rowspan="2">Tamb</th></tr>
<tr><th>9th digit</th><th>13th digit</th></tr>
<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>
</table>
Entity Parameters:
Ui = 42.4V, Ii = 113mA, Pi = 1W,
Ci = 35.98nF, Li = 0.694mH</td></tr>
</table>

<table>
<tr><th>Authorities</th><th>Flameproof</th></tr>
<tr><td>ATEX</td><td>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</td></tr>
<tr><td>FM</td><td>Class I
Div.1 Groups B, C, D
T6 Type 4X
Class Ⅱ Ⅲ
Div.1 Groups E, F, G
T6 Type 4X
Tamb max = +60°C</td></tr>
<tr><td>CSA</td><td>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.</td></tr>
<tr><td>TIIS</td><td>Ex do IIB+H₂ T4
Tamb max = +60°C
Maximum process temp. = +120°C</td></tr>
<tr><td>IECEx
Scheme/SAA</td><td>Ex d II C T5 IP66/67
Tamb = -40°C ~ +85°C
Ex d II C T6 IP66/67
Tamb = -40°C ~ +65°C</td></tr>
<tr><td>NEPSI</td><td>Ex d II B+H₂ T6
Tamb = -40°C ~ +60°C</td></tr>
</table>

<table>
<tr><th>Authorities</th><th>Type n Nonincendive</th></tr>
<tr><td>ATEX</td><td>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

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</td></tr>
<tr><td>FM</td><td>Class I II III
Div.2 Groups A、B、C、D、F、G
T4 Entity Type 4X
<table>
<tr><th colspan="2">Model</th><th rowspan="2">Tamb</th></tr>
<tr><th>9th digit</th><th>13th digit</th></tr>
<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>
</table></td></tr>
<tr><td>CSA</td><td>Class I
Div.2 Groups A, B, C, D
Class II
Div.2 Groups E, F, G
Class III
Div.2
Temp code T5 Tamb max = +50°C
Temp code T4 Tamb max = +70°C
Entity Parameters:
Vmax=28V,Ci=25.18nF (without arrester),
Ci=35.98nF (with arrester), Li=0.694mH</td></tr>
</table>

⚠ Caution on Safety

* Before using this product, be sure to read its instruction manual in advance.