

# PRESSURE TRANSMITTER

## Hydrosel® Diaphragm Version

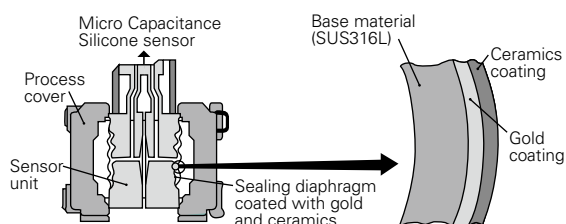
DATA SHEET

FKG...5

### FEATURES

#### 1. Unique hydrosel diaphragm

Permeation of hydrogen into the detecting unit through seal diaphragm can be suppressed thanks to the unique seal diaphragm (double coating) which employs coating of gold and ceramic.



#### 2. High accuracy

±0.15% accuracy for all calibrated spans is the standard feature for pressure transmitter covering 50 to 10000kPa (or 0.5 to 100 kgf/cm<sup>2</sup>). Fuji's Micro-capacitance silicon sensor assures this feature.

#### 3. Minimum environment influence

Fuji's patented "Advanced Floating Cell" design which protects the pressure sensor against changes in temperature and overpressure substantially reduces total measurement error in actual field applications.

#### 4. Fuji/HART® bilingual communications protocol and FOUNDATION™ fieldbus and Profibus™ compatibility

FCX-AIII series transmitter offers bilingual communications to speak both Fuji proprietary protocol and HART®. Any HART® compatible devices can communicate with FCX-AIII. Further, by upgrading electronics FOUNDATION™ fieldbus and Profibus™ are also available.

#### 5. Application flexibility

Various options that render the FCX-AIII series suitable for almost any process applications include.

- Full range of hazardous location approvals
- 5-digit LCD meter with engineering unit
- Stainless steel electronics housing
- Built-in RFI filter and lightning arrester

#### 6. Burnout current flexibility (Under Scale: 3.2 to 4.0mA, Over Scale: 20.0 to 21.6mA)

Burnout signal level is adjustable using Model FXW hand Held Communicator (HHC) to comply with NAMUR NE43.

#### 7. Dry calibration without reference pressure

Thanks to the best combination of unique construction of mechanical parts (Sensor unit) and high performance electronics circuit (Electronics unit), reliability of dry calibration without reference pressure is at equal level as wet calibration.



### SPECIFICATIONS

#### Functional specifications

**Service:** Liquid, gas, or vapour

**Span, range and overrange limit:**

Type	Static pressure [MPa] (kgf/cm <sup>2</sup> )	Span limit [kPa] (bar)		Range limit [kPa] (bar)		Over range limit [MPa] (bar)
		Min.	Max.	Lower limit	Upper limit	
FKG□07	–0.1 to 0.5 (–1 to 5)	50 (0.5)	500 (5)	–100 (–1)	500 (5)	1.5 (15)
FKG□08	–0.1 to 3 (–1 to 30)	300 (3)	3000 (30)	–100 (–1)	3000 (30)	9 (90)
FKG□09	–0.1 to 10 (–1 to 100)	1000 (10)	10000 (100)	–100 (–1)	10000 (100)	15 (150)

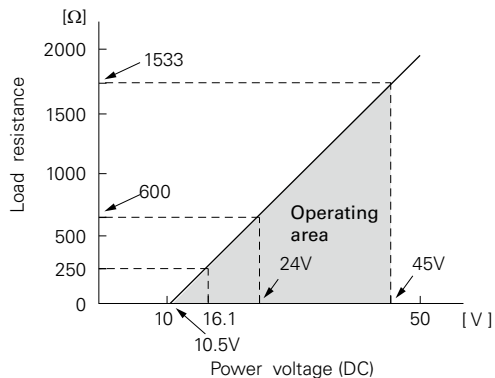
Remark: To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

- Lower range limit (vacuum limit) ;  
Silicone fill sensor: See Fig. 1  
Fluorinated fill sensor: 66kPa abs (500mmHg abs) at below 60°C
- Conversion factors to different units;  
1 MPa=10<sup>3</sup> kPa=10bar=10.19716kgf/cm<sup>2</sup>=145.0377psi  
1kPa=10mbar=101.9716mmH<sub>2</sub>O=4.01463inH<sub>2</sub>O

**Output signal:** 4 to 20mA DC with digital signal super-imposed on the 4 to 20mA signal.

**Power supply:** Transmitter operates on 10.5V to 45V DC at transmitter terminals.  
10.5V to 32V DC for the units with optional arrester.

Load limitations: see figure below



Note: For communication with HHC<sup>(1)</sup> (Model: FXW), min. of 250Ω required.

**Hazardous locations:** (Under an application) See TABLE 2  
**Zero/span adjustment:**

Zero and span are adjustable from the HHC<sup>(1)</sup>. Zero and span are also adjustable externally from the adjustment screw (span adjustment is not available with 9th digit code "L, P, Q, S").

**Damping:** Adjustable from HHC or local configurator unit with LCD display.  
 The time constant is adjustable between 0.06 to 32 seconds.

**Zero elevation/suppression:**  
 Zero can be elevated or suppressed within the specified range limit of each sensor model.

**Normal/reverse action:**  
 Selectable from HHC<sup>(1)</sup>.

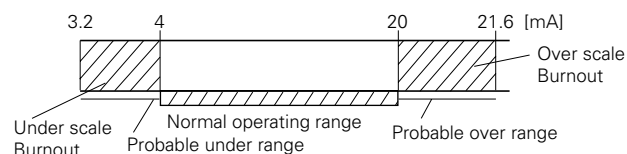
**Indication:** Analog indicator or 5-digit LCD meter, as specified.

**Burnout direction:** Selectable from HHC<sup>(1)</sup>  
 If self-diagnostic detect transmitter failure, the analog signal will be driven to either "Output Hold", "Output Overscale" or "Output Underscale" modes.

**"Output Hold":**  
 Output signal is hold as the value just before failure happens.

**"Output Overscale":**  
 Adjustable within the range 20.0mA to 21.6mA from HHC<sup>(1)</sup>

**"Output Underscale":**  
 Adjustable within the range 3.2mA to 4.0mA from HHC<sup>(1)</sup>



**Loop-check output:**  
 Transmitter can be configured to provide constant signal 3.2mA through 21.6mA by HHC.

**Temperature limit:**

Ambient: -40 to +85°C  
 (-20 to +80°C for LCD indicator)  
 (-40 to +60°C for arrester option)  
 (-10 to +60°C for fluorinated oil fill transmitter)  
 For explosionproof units (flameproof or intrinsic safety), ambient temperature must be within the limits specified by each standard.  
 Process: -40 to +100°C for silicone fill sensor  
 -20 to +80°C for fluorinated oil fill sensor

Storage: -40 to +90°C

**Humidity limit:** 0 to 100% RH

**Communication:** With HHC<sup>(1)</sup> (Model FXW, consult Data Sheet No. EDS8-47), following items can be remotely displayed or configured.

Note: HHC's version must be higher than 7.0 (or FXW □□□□1-□4), for FCX-AⅢ.

**Local configurator with LCD display (option):**

Local configurator with 3 push button and LCD display can support following items.

Items	By communication with FXW		By local configurator (with 3 push button)	
	Display	Set	Display	Set
Tag No.	✓	✓	✓	✓
Model No.	✓	✓	✓	✓
Serial No. & Software Version	✓	—	✓	—
Engineering unit	✓	✓	✓	✓
Range limit	✓	—	✓	—
Measuring range	✓	✓	✓	✓
Damping	✓	✓	✓	✓
Output mode	✓	—	✓	—
Burnout direction	✓	✓	✓	✓
Calibration	✓	✓	✓	✓
Output adjust	—	✓	—	✓
Data	✓	—	✓	—
Self diagnoses	✓	—	✓	—
Printer (In case of FXW with printer option)	✓	—	—	—
External switch lock	✓	✓	✓	✓
Transmitter display	✓	✓	✓	✓
Linearize	✓	✓	—	—
Rerange	✓	✓	✓	✓
Saturate current	✓	✓	✓	✓
Write protect	✓	✓	✓	✓
History				
— Calibration history	✓	✓	✓	✓
— Ambient temperature history	✓	—	✓	—

**EMC Conformity:** EN61326-1: 2006 CE

### Performance specifications

Reference conditions, silicone oil fill, 316SS isolating diaphragms, 4 to 20mA analog output in linear mode.

**Accuracy rating:** (including linearity, hysteresis, and repeatability)

**Stability:** ±0.15% of upper range limit (URL) for 10 years.

**Temperature effect:**

Effects per 28°C change between the limits of -40°C and +85°C

Zero shift:  $\pm(0.1 + 0.075 \frac{\text{URL}}{\text{span}}) \% / 28^\circ\text{C}$

Total effect:  $\pm(0.125 + 0.075 \frac{\text{URL}}{\text{span}}) \% / 28^\circ\text{C}$

**Overrange effect:** Zero shift; 0.4% of URL for any overrange to maximum limit

**Supply voltage effect:**

Less than 0.005% of calibrated span per 1V

**RFI effect:**

Less than 0.2% of URL for the frequencies of 20 to 1000MHz and field strength 30 V/m when electronics covers on.

(Classification: 2-abc: 0.2% span per SAMA PMC 33.1)

**Update period:** 60 msec

**Step response:** Time constant: 0.08s

Dead time: 0.12s  
(without electrical damping)

**Mounting position effect:**

Zero shift, less than 0.1kPa (1m bar) for a 10° tilt in any plane.

No effect on span. This error can be corrected by adjusting Zero.

**Dielectric strength:**

500V AC, 50/60Hz 1 min., between circuit and earth.

**Insulation resistance:**

More than 100MΩ at 500V DC.

**Internal resistance for external field indicator:**

12Ω or less

## Physical specifications

**Electrical connections:**

G1/2, 1/2-14 NPT, Pg13.5, or M20 × 1.5 conduit, as specified.

**Process connections:**

1/4-18 NPT or Rc1/4 on 54mm centers, as specified.

Meet DIN 19213

**Process-wetted parts material:**

Material code	Process cover	Wetted sensor body		Vent/drain
		Diaphragm	Other wetted parts	
C	316 stainless steel (*1)	316L stainless steel (*2)	316 stainless steel	316/316L stainless steel

Notes: (\*1) SCS14A per JIS G 5121 (equivalent CF8M per ASTM A351/A351M)

(\*2) The diaphragm face is coated with gold and ceramic.

Remark: Sensor O-rings : Viton O-ring and teflon gasket selectable

**Non-wetted parts material:**

Electronics housing: Low copper die-cast aluminum alloy finished with epoxy/polyurethane double coating (standard), or 316 stainless steel (SCS14A per JIS G5121), as specified.

Bolts and nuts: Cr-Mo alloy (standard), or 304 stainless steel.

Fill fluid: Silicone oil (standard) or fluorinated oil

Mounting bracket: 304 stainless steel

**Environmental protection:**

IEC IP67 and NEMA 6/6P

**Mounting:**

On 60.5mm (JIS 50A) pipe using mounting bracket, direct wall mounting, or direct process mounting.

**Mass {weight}:**

Transmitter approximately 3.4kg without options.

Add; 0.5kg for mounting bracket

4.5kg for stainless steel housing option

## Optional features

**Indicator:**

A plug-in analog indicator (2.5% accuracy).

An optional 5-digit LCD meter with engineering is also available.

**Local configurator with LCD display:**

An optional 5 digits LCD meter with 3 push buttons can support items as using communication with FXW.

**Arrester:**

A built-in arrester protects the electronics from lightning surges.

Lightning surge immunity : 4kV (1.2 × 50μs)

**Oxygen service:**

Special cleaning procedures are followed throughout the process to maintain all process wetted parts oil-free.

The fill fluid is fluorinated oil.

**Chlorine service:**

The fill fluid is fluorinated oil.

**Degreasing:**

Process-wetted parts are cleaned, but the fill fluid is standard silicone oil. Not for use on oxygen or chlorine measurement.

**NACE specification:**

Metallic materials for all pressure boundary parts comply with NACE MR-01-75. ASTM B7M or L7M bolts and 2HM nuts (Class II) are standard.

**Vacuum service:**

Special silicone oil and filling procedure are applied.

See Fig.1.

**Optional tag plate:**

An extra stainless steel tag with customer tag data is wired to the transmitter.

**Coating of cell:**

Cell's surface is finished with epoxy/polyurethane double coating. Specify if environment is extremely corrosive.

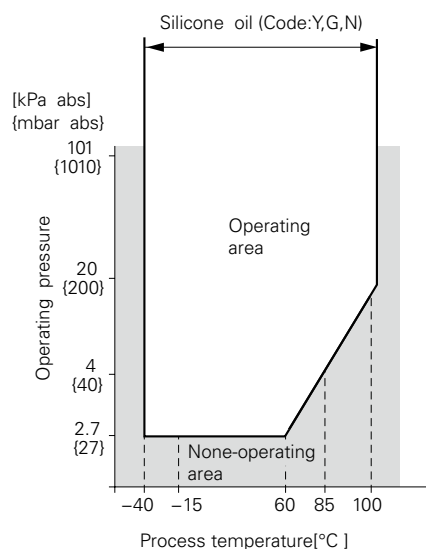


Fig. 1 Relation between process temperature and operating pressure

## CODE SYMBOLS

Digit	Description	Note	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	21	← Digit No. of code
4	<Connections>		F	K	G	0	5												
	Process connection	Oval flange screw																	
	Rc1/4	7/16-20UNF						5											
	1/4-18NPT	7/16-20UNF						6											
	1/4-18NPT	M10						7											
	1/4-18NPT	M10						8											
	1/4-18NPT	7/16-20UNF						9											
	Rc1/4	7/16-20UNF						S											
	1/4-18NPT	7/16-20UNF						T											
	1/4-18NPT	M10						V											
	1/4-18NPT	M10						W											
	1/4-18NPT	7/16-20UNF						X											
6	<Span [KPa] (kgf/cm2)>							7											
	50 ..... 500 (or 0.5...5)							8											
	300 ..... 3000 (or 3...30)							9											
	1000 ..... 10000 (or 10...100)																		
7	<Material>																		
	Process cover	Wetted cell body																	
		Diaphragm																	
	316 Stainless Steel	316 Stainless Steel (*1)																	
		316 Stainless Steel																	
9	<Indicator and arrester>																		
	Indicator	Arrester																	
	None	None																	
	Analog, 0 to 100% linear scale	None																	
	Analog, custom scale	None																	
	None	Yes																	
	Analog, 0 to 100% linear scale	Yes																	
	Analog, custom scale	Yes																	
	Digital, 0 to 100% linear scale	None																	
	Digital, custom scale	None																	
	Digital, 0 to 100% linear scale	Yes																	
	Digital, custom scale	Yes																	
	Digital, 0 to 100% linear scale	None																	
	(Local configurator unit with LCD display)	None																	
	Digital, custom scale	None																	
	(Local configurator unit with LCD display)	None																	
	Digital, 0 to 100% linear scale	Yes																	
	(Local configurator unit with LCD display)	Yes																	
	Digital, custom scale	Yes																	
	(Local configurator unit with LCD display)	Yes																	
10	<Approvals for hazardous locations>																		
	None (for ordinary locations)																		
	TIIS, Flameproof (Conduit seal) (*5)	Note 5																	
	TIIS, Flameproof (Cable gland seal) (*5)	Note 5																	
	TIIS, Intrinsic safety																		
	FM, Flameproof (or explosionproof) (*6)	Note 6																	
	FM, Intrinsic safety and nonincentive																		
	FM Combined of flameproof and intrinsic safety (*6)	Note 6																	
	ATEX Flameproof (*7)	Note 7																	
	ATEX Intrinsic safety																		
	ATEX Type n																		
	ATEX Combined of flameproof and intrinsic safety (*7)	Note 7																	
	IECEx Scheme, Flameproof (*7)	Note 7																	
	IECEx Scheme, Intrinsic safety																		
	CSA, Flameproof (or explosionproof) (*8)	Note 8																	
	CSA, Intrinsic safety and nonincentive																		
	NEPSI, Flameproof (or explosionproof) (*6)	Note 6																	
	NEPSI, Intrinsic safety (Entity)																		
	NEPSI, Combined of flameproof and intrinsic safety (*6)	Note 6																	
11	<Vent/ drain and mounting bracket>																		
	Vent/drain	Mounting bracket																	
	Standard	None																	
	Standard	Yes, SUS304																	
	Standard	Yes, SUS316																	
	Side	None																	
	Side	Yes, SUS304																	
	Side	Yes, SUS316																	

Note 1: (\*1) The diaphragm face is coated with gold and ceramic.

Digit	Description	Note	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	21	← Digit No. of code
12	<Options> Extra SS tag plate      Stainless steel elec. housing      Coating of cell		F	K	G	0			5	-									
	None      None      None													Y					
	Yes      None      None													B					
	None      None      Yes	Note 2												M					
	Yes      None      Yes													N					
	None      Yes      Yes	Note 9												P					
	Yes      Yes } (*9)      Yes	Note 9												Q					
13	<Special applications and fill fluid> Treatment      Fill fluid																		
	Standard      Silicone oil														Y				
	Standard      Fluorinated oil														W				
	Degreasing      Silicone oil														G				
	Oxygen service      Fluorinated oil														A				
	NACE specification      Silicone oil (Not available for 15th digit code "A", "B")														N				
14	<Sensor O-ring / Gasket> Teflon (gasket)															B			
15	<Bolt/nut> (*4)      Vent Drain plug type	Note 4																	
	Cr-Mo alloy hexagon socket head cap screw/carbon steel nut      Standard																	A	
	Cr-Mo alloy hexagon bolt/nut      Standard																	B	
	NACE bolt/nut (ASTM A193 B7M/A194 2HM)      Standard																	C	
	NACE bolt/nut (ASTM A320 L7M/A194 2HM)      Standard																	D	
	304 stainless steel bolt/304 stainless steel nut      Standard																	E	
	316 stainless steel bolt/316 stainless steel nut      Standard																	U	
21	<Other options> (*3) Instruction manual unattached	Note 3																	
	Opposite Vent/Drain Plug Position      Instruction manual attached																		
	Opposite Vent/Drain Plug Position      Instruction manual unattached																		L
																			C
																			P

Note2: (\*2) Customer tag number can be engraved on standard stainless steel name plate. If extra tag plate is required, select "Yes".

Note3: (\*3) If other option is not necessary, 21st digit code is blank.  
In case of 21st digit code is blank, instruction manual attached.

Note4: (\*4) In case of tropical use, select stainless bolts and nuts.

Note5: (\*5) Available for 4th digit code "5", "S".

Note6: (\*6) Not available for 4th digit code "8", "W".

Note7: (\*7) Available for 4th digit code "6", "8", "T", "W".

Note8: (\*8) Available for 4th digit code "6", "T".

Note9: (\*9) Not available for 10th digit code "B", "C".

## ACCESSORIES

**Oval flanges:** (Model FFP, refer to Data Sheet No. EDS6-128)  
Converts process connection to 1/2-14 NPT or to Rc1/2; in carbon steel or in 316 stainless steel.

**Hand-held communicator:**  
(Model FXW, refer to Data Sheet No. EDS8-47)

## ORDERING INFORMATION

When ordering this instrument, specify.

1. CODE SYMBOLS
2. Measuring range
3. Output orientation (burnout direction) when abnormality is occurred in the transmitter.  
Hold / Underscale / Overscale  
Unless otherwise specified, output hold function is supplied.
4. Indication method (indicated value and unit) in case of the actual scale (code D,H,P,S on 9th digit).
5. Tag No. (up to 14 alphanumeric characters), if required.

# OUTLINE DIAGRAM (Unit:mm)

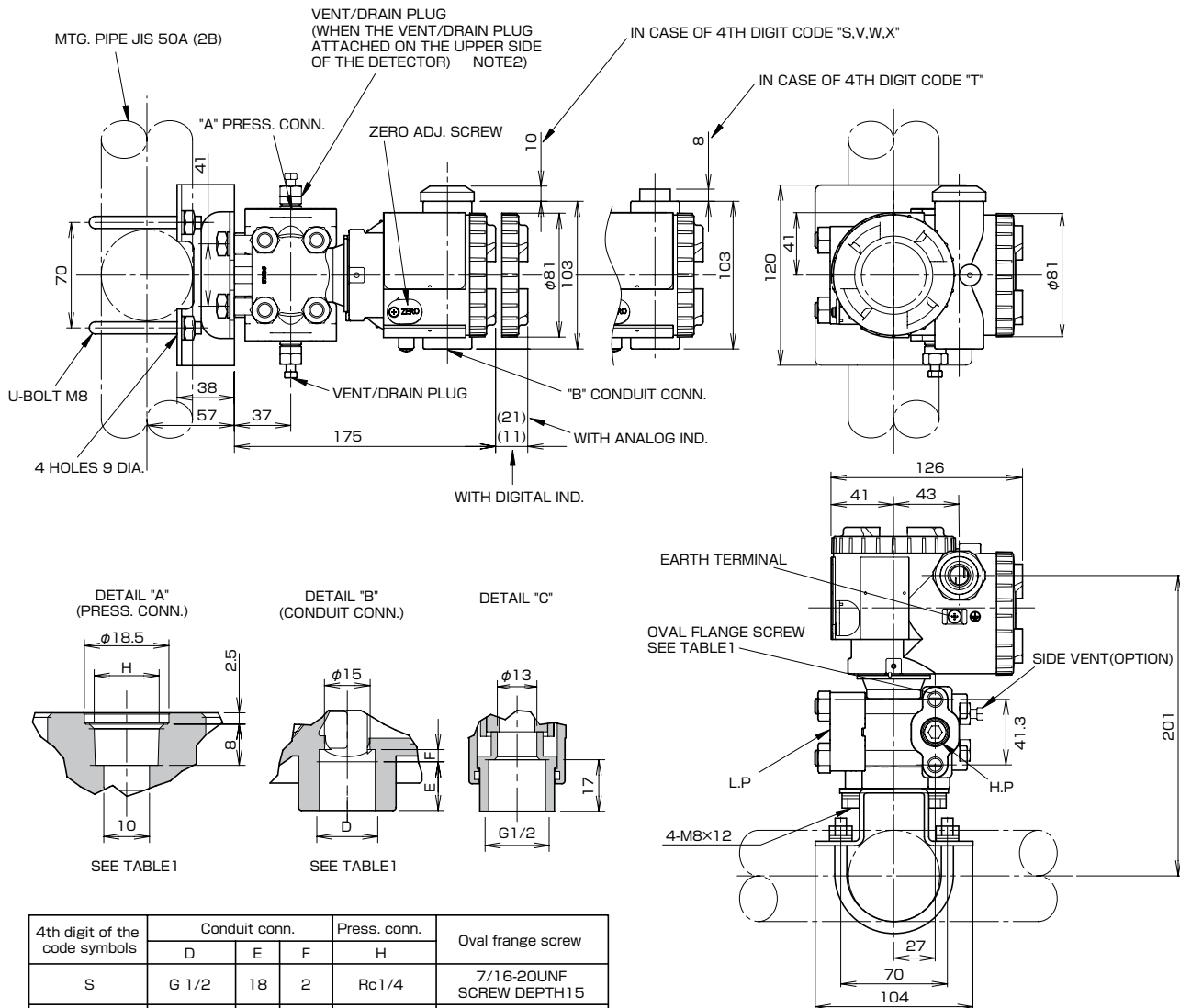
< CODE SYMBOLS : FKG 

SW
TX
V

 0 

C5
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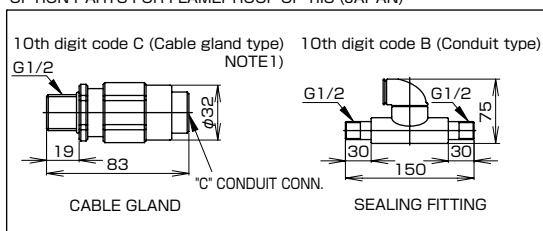
 >



4th digit of the code symbols	Conduit conn.			Press. conn.	Oval frange screw
	D	E	F	H	
S	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH15
T	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH15
V	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH15
W	M20x1.5	16	4	1/4-18NPT	M10 SCREW DEPTH15
X	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH15

TABLE 1

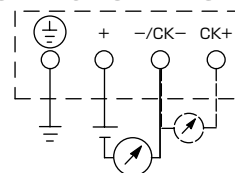
OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)



NOTE1) IN CASE OF 10TH CODE "C",  $\phi 11$  CABLE IS SUITBLE.

NOTE2) THE PRESSURE CONNECTOR IS LOCATED ON THE DOWN SIDE SURFACE OF THE DETECTOR, WHEN THE VENT/RAIN PLUG IS ATTACHED ON THE UPPER SIDE OF THE DETECTOR (WHEN THE 21ST DIGIT OF THE CODE SYMBOLS : C, P).

## CONNECTION DIAGRAM



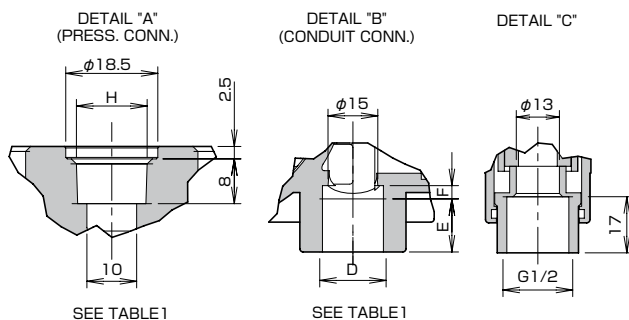
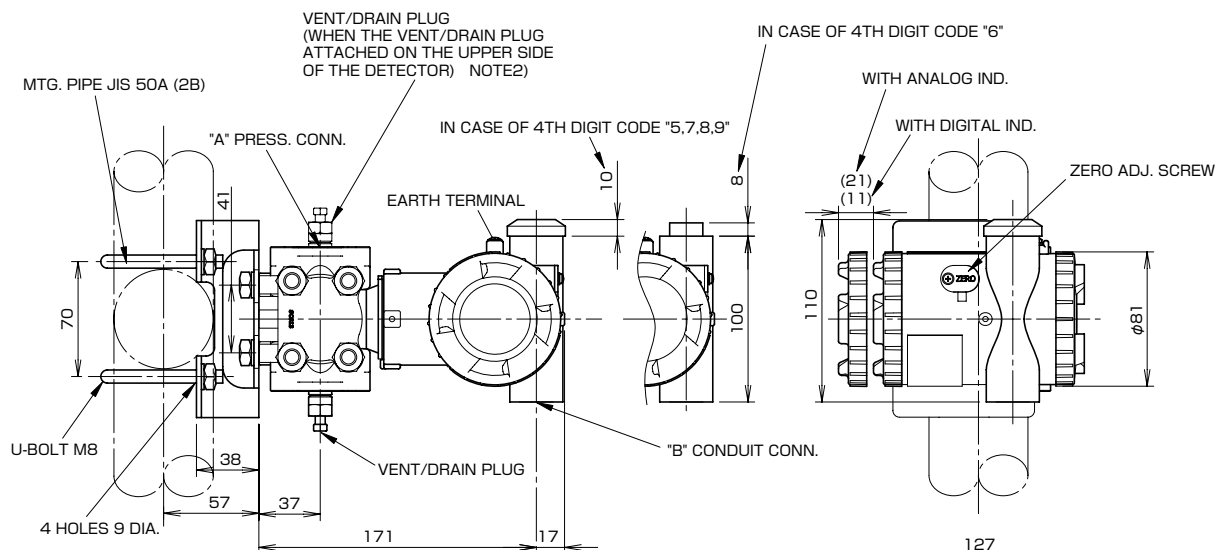
< CODE SYMBOLS : FKG 

5	8
6	9
7	

 0 

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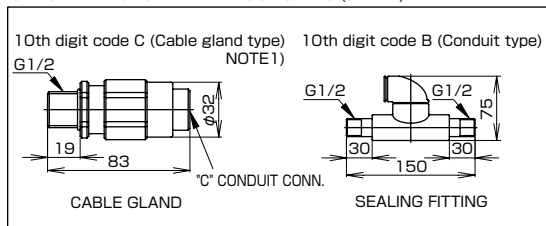
 C5 >



4th digit of the code symbols	Conduit conn.			Press. conn.	Oval frange screw
	D	E	F	H	
5	G 1/2	18	2	Rc1/4	7/16-20UNF SCREW DEPTH15
6	1/2-14NPT	16	4	1/4-18NPT	7/16-20UNF SCREW DEPTH15
7	Pg13.5	10.5	4.5	1/4-18NPT	M10 SCREW DEPTH15
8	M20x1.5	16	4	1/4-18NPT	M10 SCREW DEPTH15
9	Pg13.5	10.5	4.5	1/4-18NPT	7/16-20UNF SCREW DEPTH15

TABLE 1

OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)



NOTE1) IN CASE OF 10TH CODE "C", Ø11 CABLE IS SUITBLE.

NOTE2) THE PRESSURE CONNECTOR IS LOCATED ON THE DOWN SIDE SURFACE OF THE DETECTOR, WHEN THE VENT/RAIN PLUG IS ATTACHED ON THE UPPER SIDE OF THE DETECTOR (WHEN THE 21ST DIGIT OF THE CODE SYMBOLS : C, P).

CONNECTION DIAGRAM

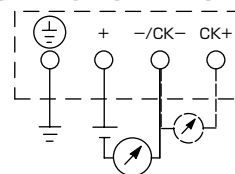


TABLE 2

Authorities	Intrinsic safety																				
ATEX	Ex II 1 G Ex ia IIC T5 Tamb = -40°C to +50°C Ex ia IIC T4 Tamb = -40°C to +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)																				
Factory Mutual (pending)	Class I II III Div.1 Groups A, B, C, D, E, F, G T4 Entity Type 4X <table><tr><th colspan="2">Model code</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 to +85°C</td></tr><tr><td>L,P1,2</td><td>Y,G,N</td><td>-20°C to +80°C</td></tr><tr><td>Q,S,4,5</td><td>Y,G,N</td><td>-20°C to +60°C</td></tr><tr><td>E,F,H</td><td>Y,G,N</td><td>-40°C to +60°C</td></tr><tr><td>-</td><td>W,A</td><td>-10°C to +60°C</td></tr></table> Entity Parameters: Vmax=42.4V, Imax=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH	Model code		Tamb	9th digit	13th digit	A,B,D	Y,G,N	-40°C to +85°C	L,P1,2	Y,G,N	-20°C to +80°C	Q,S,4,5	Y,G,N	-20°C to +60°C	E,F,H	Y,G,N	-40°C to +60°C	-	W,A	-10°C to +60°C
Model code		Tamb																			
9th digit	13th digit																				
A,B,D	Y,G,N	-40°C to +85°C																			
L,P1,2	Y,G,N	-20°C to +80°C																			
Q,S,4,5	Y,G,N	-20°C to +60°C																			
E,F,H	Y,G,N	-40°C to +60°C																			
-	W,A	-10°C to +60°C																			
CSA	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), Ci=36nF (With Arrester), Li=0.6mH (Without analog meter), Li=0.7mH (With analog meter)																				
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																				
IECEX Scheme	Ex ia IIC T4 Tamb = -40°C to +70°C Ex ia IIC T5 Tamb = -40°C to +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 analog indicator)																				
NEPSI	Ex ia IIC T4 Ex d IIB+H2 T6 / Ex ia IIC T4 <table><tr><th colspan="2">Model code</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 to +85°C</td></tr><tr><td>L,P1,2</td><td>Y,G,N</td><td>-20°C to +80°C</td></tr><tr><td>Q,S,4,5</td><td>Y,G,N</td><td>-20°C to +60°C</td></tr><tr><td>E,F,H</td><td>Y,G,N</td><td>-40°C to +60°C</td></tr><tr><td>-</td><td>W,A</td><td>-10°C to +60°C</td></tr></table> Entity Parameters: Ui=42.4V, Ii=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH	Model code		Tamb	9th digit	13th digit	A,B,D	Y,G,N	-40°C to +85°C	L,P1,2	Y,G,N	-20°C to +80°C	Q,S,4,5	Y,G,N	-20°C to +60°C	E,F,H	Y,G,N	-40°C to +60°C	-	W,A	-10°C to +60°C
Model code		Tamb																			
9th digit	13th digit																				
A,B,D	Y,G,N	-40°C to +85°C																			
L,P1,2	Y,G,N	-20°C to +80°C																			
Q,S,4,5	Y,G,N	-20°C to +60°C																			
E,F,H	Y,G,N	-40°C to +60°C																			
-	W,A	-10°C to +60°C																			

Authorities	Flameproof																				
ATEX	Ex II 2 GD Ex d IIC T6 IP66/67 T85°C Tamb = -40°C to +65°C Ex d IIC T5 IP66/67 T100°C Tamb = -40°C to +85°C																				
Factory Mutual	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																				
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.																				
TIIS	Ex do IIB+H <sub>2</sub> T4 Tamb max = +60°C Maximum process temp. = +120°C																				
IECEX Scheme	Ex d IIC T5 IP66/67 Tamb = -40°C to +85°C Ex d IIC T6 IP66/67 Tamb = -40°C to +65°C																				
NEPSI	Ex d IIB+H <sub>2</sub> T6 Tamb = -40°C to +60°C																				
Authorities	Type n Nonincendive																				
ATEX	Ex II 3 GD EEx nL IIC T5 Tamb = -40°C to +50°C EEx nL IIC T4 Tamb = -40°C to +70°C Specific Parameters: Model without arrester: Ui=42.4V, li=113mA, Pi=1W, Ci=25.18nF, Li=0.694mH Model with arrester: Ui=32V, li=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH  EEx nAL IIC T5 Tamb = -40°C to +50°C EEx nAL IIC T4 Tamb = -40°C to +70°C Specific Parameters: Model without arrester: Umax=42.4V, Imax=113mA, Pmax=1W Model with arrester: Umax=32V, Imax=113mA, Pmax=1W																				
Factory Mutual (pending)	Class I II III Div.2 Groups A, B, C, D, F, G T4 Entity Type 4X <table><tr><th colspan="2">Model code</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 to +85°C</td></tr><tr><td>L,P1,2</td><td>Y,G,N</td><td>-20°C to +80°C</td></tr><tr><td>Q,S,4,5</td><td>Y,G,N</td><td>-20°C to +60°C</td></tr><tr><td>E,F,H</td><td>Y,G,N</td><td>-40°C to +60°C</td></tr><tr><td>-</td><td>W,A</td><td>-10°C to +60°C</td></tr></table>	Model code		Tamb	9th digit	13th digit	A,B,D	Y,G,N	-40°C to +85°C	L,P1,2	Y,G,N	-20°C to +80°C	Q,S,4,5	Y,G,N	-20°C to +60°C	E,F,H	Y,G,N	-40°C to +60°C	-	W,A	-10°C to +60°C
Model code		Tamb																			
9th digit	13th digit																				
A,B,D	Y,G,N	-40°C to +85°C																			
L,P1,2	Y,G,N	-20°C to +80°C																			
Q,S,4,5	Y,G,N	-20°C to +60°C																			
E,F,H	Y,G,N	-40°C to +60°C																			
-	W,A	-10°C to +60°C																			
CSA	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																				

 Caution on Safety

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

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### International Sales Div.1

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