

ABSOLUTE PRESSURE TRANSMITTER

DATA SHEET

FKH, FDH...5

The FCX-AII absolute pressure transmitter (Direct mount type) accurately measures absolute pressure and transmits proportional 4 to 20mA signal.

The transmitter utilizes the unique micromachined capacitive silicon sensor with state-of-the-art microprocessor technology to provide exceptional performance and functionality.

FEATURES

1. High accuracy

0.2% accuracy for all calibrated spans is the standard feature. Fuji's micro-capacitance silicon sensor assures this feature for all suppressed calibration ranges without additional adjustment.

2. Minimum inventory

Electronics unit, communication module, local indicators and electronics housing are interchangeable among all FCX-AII models.

3. Replaceable Communication Module

Fuji micro-electronics manufacturing technology offers replaceable communication module that makes FCX-AII transmitter very unique design. In case of change in communication protocol all that needs to be done is just replace the module and the transmitter gets upgraded to the new version.

4. Fuji/HART™ bilingual communication module and FOUNDATION™ Fieldbus and Profibus™ compatibility

The communication module is "bilingual" to speak both Fuji proprietary protocol and HART™. Any HART™ compatible devices can communicate with FCX-AII series transmitters.

Further, by upgrading electronics FOUNDATION™ Fieldbus and Profibus™ are also available.

5. Application flexibility

Example features that render the FCX-AII suitable for almost any process applications includes:

- Full range of hazardous location approvals
- Built-in RFI filter and lightning arrester
- 5-digits LCD meter
- The maximum span of each sensor can be converted to in different units using below factors.



SPECIFICATIONS

Functional specifications

Type:

FKH: Smart, 4 to 20mA DC + Fuji/Hart™ digital signal
FDH: FOUNDATION™ Fieldbus and Profibus™

Service:

Liquid, gas, or vapour

Span, range, and overrange limit:

Type	Span limit [kPa abs] {bar abs}		Range limit [kPa abs] {bar abs}	Overrange limit [MPa] {bar}
	Min.	Max.		
FKH□02	8.125 {0.08125}	130 {1.3}	0 to 130 {0 to 1.3}	0.5 {5}
FKH□03	31.25 {0.3125}	500 {5}	0 to 500 {0 to 5}	1.5 {15}
FKH□04	187.5 {1.875}	3000 {30}	0 to 3000 {0 to 30}	9 {90}

Output signal:

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

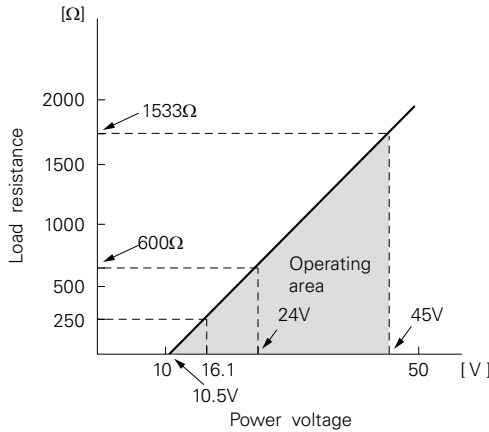
Digital signal based on FOUNDATION™ Fieldbus or Profibus™

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 ⁽¹⁾, min. of 250 Ω required.

Hazardous locations:

Authorities	Intrinsic safety																					
ATEX (pending)	Ex II 1 GD Ex ia IIC T5 Tamb = -40°C to +50°C Ex ia IIC T4 Tamb = -40°C to +70°C Entity Parameters: Ui=28V, li=93.3mA, Pi=0.66W, Ci=25.18nF (Without Arrester), Ci=35.98nF (With Arrester), Li=0.694mH																					
Factory Mutual (pending)	Class I II III Div.1 Groups A, B, C, D, E, F, G T4 Entity Type 4X <table border="1"> <thead> <tr> <th colspan="2">Model code</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A,B,C,D,J</td> <td>Y,G,N</td> <td>-40°C to +85°C</td> </tr> <tr> <td>L,P,M,1,2,3</td> <td>Y,G,N</td> <td>-20°C to +80°C</td> </tr> <tr> <td>Q,S,N,4,5,6</td> <td>Y,G,N</td> <td>-20°C to +60°C</td> </tr> <tr> <td>E,F,G,H,K</td> <td>Y,G,N</td> <td>-40°C to +60°C</td> </tr> <tr> <td>-</td> <td>W,A,D</td> <td>-10°C to +60°C</td> </tr> </tbody> </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,C,D,J	Y,G,N	-40°C to +85°C	L,P,M,1,2,3	Y,G,N	-20°C to +80°C	Q,S,N,4,5,6	Y,G,N	-20°C to +60°C	E,F,G,H,K	Y,G,N	-40°C to +60°C	-	W,A,D	-10°C to +60°C
Model code		Tamb																				
9th digit	13th digit																					
A,B,C,D,J	Y,G,N	-40°C to +85°C																				
L,P,M,1,2,3	Y,G,N	-20°C to +80°C																				
Q,S,N,4,5,6	Y,G,N	-20°C to +60°C																				
E,F,G,H,K	Y,G,N	-40°C to +60°C																				
-	W,A,D	-10°C to +60°C																				
CSA (pending)	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=93mA, Ci=25.18nF (Without Arrester), Ci=35.98nF (With Arrester), Li=0.694mH																					
TIIS (pending)	Ex ia IIC T4 Tamb max = +60°C Entity Parameters: Ui=28V, li=94.3mA, Pi=0.66W, Ci=38.4nF, Li=0.694mH																					
IECEX Scheme (pending)	Ex ia IIC T4 IP66/67 Tamb = -40°C to +70°C Ex ia IIC T5 IP66/67 Tamb = -40°C to +50°C Entity Parameters: Ui=28V, li=93.3mA, Pi=0.66W, Ci=35.98nF, Li=0.694mH																					
NEPSI (pending)	Ex ia IIC T4 Ex d IIB+H ₂ T6 / Ex ia IIC T4 <table border="1"> <thead> <tr> <th colspan="2">Model code</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A,B,D,J</td> <td>Y,G,H,J,S,T,K</td> <td>-40°C to +85°C</td> </tr> <tr> <td>L,P,1,2</td> <td>Y,G,H,J,S,T,K</td> <td>-20°C to +80°C</td> </tr> <tr> <td>Q,S,4,5</td> <td>Y,G,H,J,S,T,K</td> <td>-20°C to +60°C</td> </tr> <tr> <td>E,F,H,K</td> <td>Y,G,H,J,S,T,K</td> <td>-40°C to +60°C</td> </tr> <tr> <td>-</td> <td>W,A,D</td> <td>-10°C to +60°C</td> </tr> </tbody> </table> Entity Parameters: Ui=42.4V, li=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH	Model code		Tamb	9th digit	13th digit		A,B,D,J	Y,G,H,J,S,T,K	-40°C to +85°C	L,P,1,2	Y,G,H,J,S,T,K	-20°C to +80°C	Q,S,4,5	Y,G,H,J,S,T,K	-20°C to +60°C	E,F,H,K	Y,G,H,J,S,T,K	-40°C to +60°C	-	W,A,D	-10°C to +60°C
Model code		Tamb																				
9th digit	13th digit																					
A,B,D,J	Y,G,H,J,S,T,K	-40°C to +85°C																				
L,P,1,2	Y,G,H,J,S,T,K	-20°C to +80°C																				
Q,S,4,5	Y,G,H,J,S,T,K	-20°C to +60°C																				
E,F,H,K	Y,G,H,J,S,T,K	-40°C to +60°C																				
-	W,A,D	-10°C to +60°C																				

Authorities	Flameproof
ATEX (pending)	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 (pending)	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 ₂ T4 Tamb max = +60°C Maximum process temp. = +120°C
IECEX Scheme (pending)	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 ₂ T6 Tamb = -40°C to +60°C

Authorities	Type n Nonincendive																					
ATEX (pending)	Ex II 3 GD Ex nL IIC T5 Tamb = -40°C to +50°C Ex 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																					
Factory Mutual (pending)	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 code</th> <th>Tamb</th> </tr> <tr> <th>9th digit</th> <th>13th digit</th> <th></th> </tr> </thead> <tbody> <tr> <td>A,B,C,D,J</td> <td>Y,G,N</td> <td>-40°C to +85°C</td> </tr> <tr> <td>L,P,M,1,2,3</td> <td>Y,G,N</td> <td>-20°C to +80°C</td> </tr> <tr> <td>Q,S,N,4,5,6</td> <td>Y,G,N</td> <td>-20°C to +60°C</td> </tr> <tr> <td>E,F,G,H,K</td> <td>Y,G,N</td> <td>-40°C to +60°C</td> </tr> <tr> <td>-</td> <td>W,A,D</td> <td>-10°C to +60°C</td> </tr> </tbody> </table>	Model code		Tamb	9th digit	13th digit		A,B,C,D,J	Y,G,N	-40°C to +85°C	L,P,M,1,2,3	Y,G,N	-20°C to +80°C	Q,S,N,4,5,6	Y,G,N	-20°C to +60°C	E,F,G,H,K	Y,G,N	-40°C to +60°C	-	W,A,D	-10°C to +60°C
Model code		Tamb																				
9th digit	13th digit																					
A,B,C,D,J	Y,G,N	-40°C to +85°C																				
L,P,M,1,2,3	Y,G,N	-20°C to +80°C																				
Q,S,N,4,5,6	Y,G,N	-20°C to +60°C																				
E,F,G,H,K	Y,G,N	-40°C to +60°C																				
-	W,A,D	-10°C to +60°C																				
CSA (pending)	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																					

Zero/span adjustment:

Zero and span are adjustable either from the HHC⁽¹⁾ in Hart™ or Fuji protocol. Zero is also adjustable externally from the adjustable screw.

Damping: Adjustable from the HHC⁽¹⁾.

A damping of the output signal is possible between 0 to 32.0 seconds.

Zero elevation/suppression:

Zero may be elevated within the specified range limit of each sensor model.

Normal/reverse action:

Configurable from HHC⁽¹⁾.

Indication:

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

Burnout direction: Selectable from HHC⁽¹⁾

If self-diagnostic detect transmitter failure, the analog signal will be driven to either “Output Hold”, “Output Overscale” or “Output Underscale” modes.

“Output Hold”:

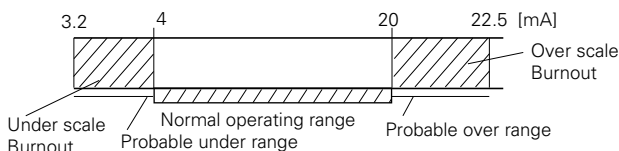
Output signal is hold as the value just before failure happens.

“Output Overscale”:

Adjustable within the range 20.0mA to 22.5mA from HHC⁽¹⁾

“Output Underscale”:

Adjustable within the range 3.2mA to 4.0mA from HHC⁽¹⁾



Loop-check output:

Transmitter can be configured to provide constant signal 3.2mA through 21.6mA by HHC⁽¹⁾.

Temperature limit:

Ambient: -40 to +85°C
 (-20 to +80°C for LCD indicator)
 (-40 to +60°C for arrester option)

For explosionproof units (flameproof or intrinsic safety), ambient temperature must be within the limits specified by each standard.

Process:

-40 to +85°C for silicone fill sensor

Storage: -40 to +90°C

Humidity limit: 0 to 100% RH

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

Note: HHC's version must be higher than 6.0

(or FXW □□□□1-□3), for FCX -AII

For supporting “Saturate current”, “Write protect”, and “History”, HHC's version 6.3 or higher is necessary.

Items	Fuji Protocol with FXW		Hart Protocol	
	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	✓	—	✓	—

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

Local configurator with 3 push button and LCD display can support all items (Fuji Protocol list) except “Linearize” function.

Programmable output linearization function:

Output signal can be characterized with “14 points linear approximation function” from HHC⁽¹⁾.

Fieldbus units:

- Digital signal
- Transmission technique: according to IEC61158-2
- Power supply: 9VDC...32VDC
- Base current: 16±2mA
- Transmission rate: 31,25 kbits/sec
- Profibus-PA: DPV1 version 3.0
- Fieldbus Foundation: FF-890/891

(Note) (1) HHC: Hand Held Communicator

Performance specifications

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

For spans greater than 1/10 of URL: $\pm 0.2\%$ of span

For spans below 1/10 of URL:

$$\pm (0.1 + 0.1 \frac{0.1 \times \text{URL}}{\text{span}}) \% \text{ of span}$$

Stability:

$\pm 0.2\%$ of upper range limit (URL) for 10 years

(In case of 6th digit code "3", "4")

Temperature effect:

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

$$\text{Zero shift: } \pm (0.4 + 0.2 \frac{\text{URL}}{\text{span}}) \% / 28^\circ\text{C}$$

$$\text{Total effect: } \pm (0.475 + 0.2 \frac{\text{URL}}{\text{span}}) \% / 28^\circ\text{C}$$

Overrange effect:

Zero shift, 0.3% of URL for any overrange to maximum limit

Update rate: 60 msec

Step response:

Time constant. 0.08 s (at 23°C)

Dead time: about 0.12 s

(without electrical damping)

Mounting position effect:

Zero shift, less than 0.1kPa 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 Max (connected to test terminal CK+ and CK-

Physical specifications

Electrical connections:

1/2-14NPT, Pg13.5, or M20 x 1.5

Process connections:

1/2-14 NPT, 1/4-18NPT, Rc 1/2, G1/2 A manometer fitting.

Process-wetted parts material:

Material code (7th digit in "Code symbols")	Process cover	Diaphragm	Wetted sensor body	Vent/drain
J	316L SS	316L SS + gold coat	316L SS	316 SS
V	316 SS	316L SS	316L SS	316 SS

Non-wetted parts material:

Electronics housing:

Low copper die cast aluminum alloy (standard), finished with polyester coating, as specified.

Fill fluid: Silicone oil

Mounting bracket: 304 stainless steel

Environmental protection:

IEC IP67 and NEMA 4X

Mounting:

On 60.5mm (JIS 50A or 2B) pipe using mounting bracket, direct wall mounting, or direct process mounting.

Mass{weight}:

Transmitter approximately 2.2kg without options.

Add; 0.5kg for mounting bracket

Optional features

Indicator:

A plug-in turnable analog indicator (2.5% accuracy)
An optional 5 digits LCD meter 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)

Degreasing:

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

NACE specification:

Metallic materials for all pressure boundary parts comply with NACE MR-01-75.

Customer tag:

A stainless steel tag for customer tag data is wired to the transmitter.

ACCESSORIES

Hand held communicator:

(Model FXW, refer to Data Sheet No.EDS 8-47)

Two valve Manifold:

Available in 316 stainless steel and pressure rating 10MPa (100bar).

The product conforms to the requirements of the Electro-magnetic compatibility Directive 89/336/EEC as detailed within the technical construction file number TN513035. The applicable standards used to demonstrate compliance are :

EMI (Emission) EN61326 : 1997

Class A (std for Industrial Location)

Frequency range MHz	Limits	Reference Standard
3 to 230	40dB (µV/m) quasi peak measured at 10m distance	CISPR16-1 and CISPR16-2
230 to 1000	47dB (µV/m) quasi peak, measured at 10m distance	

Note) Definition of performance criteria

A : During testing, normal performance within the specification limits












B : During testing, temporary degradation, or loss of function or performance which is self-recovering.

EMS (Immunity) EN61326 : 1997



Annex A (standard for Industrial Location)

Phenomenon	Test value	Basic Standard	Performance criteria
Electrostatic discharge	4kV (Contact) 8kV (Air)	IEC61000-4-2	B
Electromagnetic field	80 to 1000MHz 10V/m 80%AM (1kHz)	IEC61000-4-3	A
Rated power frequency magnetic field	30A/m 50Hz	IEC61000-4-8	A
Burst	2kV 5kHz	IEC61000-4-4	B
Surge	1.2µs/50µs 1kV (Line to line) 2kV (line to ground)	IEC61000-4-5	B
Conducted RF	0.15 to 80MHz 3V , 80%AM (1kHz)	IEC61000-4-6	A

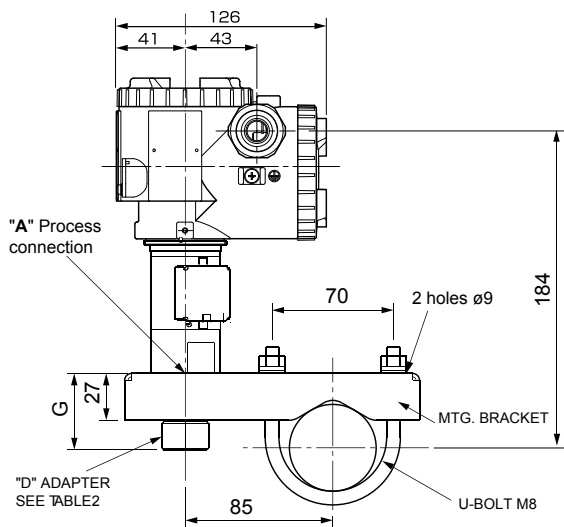
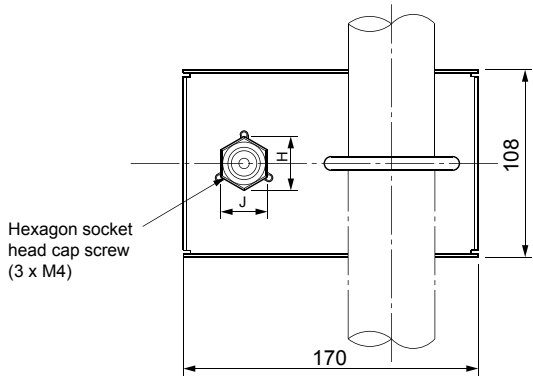
CODE SYMBOLS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	DESCRIPTION																																							
F	K	H		0			S								Type Smart, 4-20 mA dc + Fuji/Hart™ digital signal Fieldbus Foundation™ & Profibus™																																							
F	D	H													Connections <table border="1"> <tr> <th>Process connections</th><th>Electrical connection</th></tr> <tr> <td>see digit 15</td><td>1/2-14 NPT</td></tr> <tr> <td>see digit 15</td><td>Pg 13.5</td></tr> <tr> <td>see digit 15</td><td>M 20 x 1.5</td></tr> </table>	Process connections	Electrical connection	see digit 15	1/2-14 NPT	see digit 15	Pg 13.5	see digit 15	M 20 x 1.5																															
Process connections	Electrical connection																																																					
see digit 15	1/2-14 NPT																																																					
see digit 15	Pg 13.5																																																					
see digit 15	M 20 x 1.5																																																					
															Range & wetted parts material <table border="1"> <thead> <tr> <th>Span</th><th>Diaphragm material</th><th>Wetted parts</th></tr> </thead> <tbody> <tr> <td>0,08125/1,3 bar</td><td>316 L SS</td><td>316 SS</td></tr> <tr> <td>0,08125/1,3 bar</td><td>316 L SS/gold coat</td><td>316 SS</td></tr> <tr> <td>0,3125/5 bar</td><td>316 L SS</td><td>316 SS</td></tr> <tr> <td>0,3125/5 bar</td><td>316 L SS/gold coat</td><td>316 SS</td></tr> <tr> <td>1,875/30 bar</td><td>316 L SS</td><td>316 SS</td></tr> <tr> <td>1,875/30 bar</td><td>316 L SS/gold coat</td><td>316 SS</td></tr> </tbody> </table>	Span	Diaphragm material	Wetted parts	0,08125/1,3 bar	316 L SS	316 SS	0,08125/1,3 bar	316 L SS/gold coat	316 SS	0,3125/5 bar	316 L SS	316 SS	0,3125/5 bar	316 L SS/gold coat	316 SS	1,875/30 bar	316 L SS	316 SS	1,875/30 bar	316 L SS/gold coat	316 SS																		
Span	Diaphragm material	Wetted parts																																																				
0,08125/1,3 bar	316 L SS	316 SS																																																				
0,08125/1,3 bar	316 L SS/gold coat	316 SS																																																				
0,3125/5 bar	316 L SS	316 SS																																																				
0,3125/5 bar	316 L SS/gold coat	316 SS																																																				
1,875/30 bar	316 L SS	316 SS																																																				
1,875/30 bar	316 L SS/gold coat	316 SS																																																				
															Indicator & Arrester <table border="1"> <thead> <tr> <th>Indicator</th><th>Arrester</th><th>Initial setting</th></tr> </thead> <tbody> <tr> <td>None</td><td>None</td><td></td></tr> <tr> <td>Analog, 0-100% linear scale</td><td>None</td><td></td></tr> <tr> <td>Analog, Custom scale</td><td>None</td><td></td></tr> <tr> <td>Analog, double scale</td><td>None</td><td></td></tr> <tr> <td>None</td><td>Yes</td><td>4-20 mA DC</td></tr> <tr> <td>Analog, 0-100% linear scale</td><td>Yes</td><td></td></tr> <tr> <td>Analog, Custom scale</td><td>Yes</td><td>+</td></tr> <tr> <td>Analog, double scale</td><td>Yes</td><td></td></tr> <tr> <td>Digital, 0-100%</td><td>None</td><td>Hart/Fuji™</td></tr> <tr> <td>Digital, Custom scale</td><td>None</td><td>digital signal</td></tr> <tr> <td>Digital, 0-100%</td><td>Yes</td><td>"SMART"</td></tr> <tr> <td>Digital, Custom scale</td><td>Yes</td><td></td></tr> </tbody> </table>	Indicator	Arrester	Initial setting	None	None		Analog, 0-100% linear scale	None		Analog, Custom scale	None		Analog, double scale	None		None	Yes	4-20 mA DC	Analog, 0-100% linear scale	Yes		Analog, Custom scale	Yes	+	Analog, double scale	Yes		Digital, 0-100%	None	Hart/Fuji™	Digital, Custom scale	None	digital signal	Digital, 0-100%	Yes	"SMART"	Digital, Custom scale	Yes	
Indicator	Arrester	Initial setting																																																				
None	None																																																					
Analog, 0-100% linear scale	None																																																					
Analog, Custom scale	None																																																					
Analog, double scale	None																																																					
None	Yes	4-20 mA DC																																																				
Analog, 0-100% linear scale	Yes																																																					
Analog, Custom scale	Yes	+																																																				
Analog, double scale	Yes																																																					
Digital, 0-100%	None	Hart/Fuji™																																																				
Digital, Custom scale	None	digital signal																																																				
Digital, 0-100%	Yes	"SMART"																																																				
Digital, Custom scale	Yes																																																					
															Fieldbus Foundation™ <table border="1"> <thead> <tr> <th>Indicator</th><th>Arrester</th><th>Initial setting</th></tr> </thead> <tbody> <tr> <td>None</td><td>No</td><td>Fieldbus Foundation™</td></tr> <tr> <td>None</td><td>Yes</td><td>Fieldbus Foundation™</td></tr> <tr> <td>Digital</td><td>No</td><td>Fieldbus Foundation™</td></tr> <tr> <td>Digital</td><td>Yes</td><td>Fieldbus Foundation™</td></tr> </tbody> </table>	Indicator	Arrester	Initial setting	None	No	Fieldbus Foundation™	None	Yes	Fieldbus Foundation™	Digital	No	Fieldbus Foundation™	Digital	Yes	Fieldbus Foundation™																								
Indicator	Arrester	Initial setting																																																				
None	No	Fieldbus Foundation™																																																				
None	Yes	Fieldbus Foundation™																																																				
Digital	No	Fieldbus Foundation™																																																				
Digital	Yes	Fieldbus Foundation™																																																				
															Profibus <table border="1"> <thead> <tr> <th>Indicator</th><th>Arrester</th><th>Initial setting</th></tr> </thead> <tbody> <tr> <td>None</td><td>No</td><td>Profibus</td></tr> <tr> <td>None</td><td>Yes</td><td>Profibus</td></tr> <tr> <td>Digital</td><td>No</td><td>Profibus</td></tr> <tr> <td>Digital</td><td>Yes</td><td>Profibus</td></tr> </tbody> </table>	Indicator	Arrester	Initial setting	None	No	Profibus	None	Yes	Profibus	Digital	No	Profibus	Digital	Yes	Profibus																								
Indicator	Arrester	Initial setting																																																				
None	No	Profibus																																																				
None	Yes	Profibus																																																				
Digital	No	Profibus																																																				
Digital	Yes	Profibus																																																				
															Approvals for hazardous locations (consult FUJI for availability) None (standard) Flameproof housing ATEX  II 2 GD - Ex d IIC T5/T6 (code 4 = "M, P, R, T" & "W" only) Intrinsic Safety ATEX  II 1 GD - Ex ia IIC T4/T5 FM - Flameproof housing Class I, Division 1, Groups B,C,D; T6 Dust ignitionproof Class II/III, Division 1, Groups E,F,G; T6; Type 4x - (code 4 = "P" & "T" only) CSA - Flameproof housing Class I, Groups C,D - Class II, Group E,F,G Class III - (code 4 = "P" & "T" only) FM - Intrinsic safety Class I, II, III, Division 1, Group A,B,C,D,E,F,G; T4 Non-Incendive Class I,II,III, Division 2, Groups A,B,C,D,F,G; T4; Type 4x CSA - Intrinsic safety & Non-Incendive Class I, Groups A,B,C,D - Class II, Groups E,F,G - Class III Type n ATEX II 3 GD - Ex nA / Ex nL IIC T4/T5 IECEx Type n IECEx Flameproof housing Ex d IIC T5/T6 (code 4 = "M, P, R, T" & "W" only) IECEx Intrinsic safety Ex ia T4/T5 Combined CSA approval for flameproof and Intrinsic safety (code 4 = "P" & "T" only) Combined ATEX approval for flameproof and Intrinsic safety (code 4 = "M, P, R, T" & "W" only) Combined IECEx approval for flameproof and Intrinsic safety (code 4 = "M, P, R, T" & "W" only) Combined FM approval for flameproof and Intrinsic safety (code 4 = "P" & "T" only)																																							
															Fieldbus Foundation & Profibus <table border="1"> <thead> <tr> <th>Indicator</th><th>Arrester</th><th>Initial setting</th></tr> </thead> <tbody> <tr> <td>None (standard)</td><td></td><td></td></tr> <tr> <td>Flameproof housing ATEX  II 2 GD - Ex d IIC T5/T6</td><td></td><td></td></tr> <tr> <td>Intrinsic Safety ATEX  II 1 GD - Ex ia IIC T4</td><td></td><td></td></tr> <tr> <td>ATEX - FISCO  II 1 GD - Ex ia IIC T4</td><td></td><td></td></tr> </tbody> </table>	Indicator	Arrester	Initial setting	None (standard)			Flameproof housing ATEX  II 2 GD - Ex d IIC T5/T6			Intrinsic Safety ATEX  II 1 GD - Ex ia IIC T4			ATEX - FISCO  II 1 GD - Ex ia IIC T4																										
Indicator	Arrester	Initial setting																																																				
None (standard)																																																						
Flameproof housing ATEX  II 2 GD - Ex d IIC T5/T6																																																						
Intrinsic Safety ATEX  II 1 GD - Ex ia IIC T4																																																						
ATEX - FISCO  II 1 GD - Ex ia IIC T4																																																						
															Mounting bracket None Yes (SS)																																							
															SS parts <table border="1"> <thead> <tr> <th>SS tag plate</th><th>SS housing</th></tr> </thead> <tbody> <tr> <td>None</td><td>None</td></tr> <tr> <td>Yes</td><td>None</td></tr> <tr> <td>None</td><td>Yes</td></tr> <tr> <td>Yes</td><td>Yes</td></tr> </tbody> </table>	SS tag plate	SS housing	None	None	Yes	None	None	Yes	Yes	Yes																													
SS tag plate	SS housing																																																					
None	None																																																					
Yes	None																																																					
None	Yes																																																					
Yes	Yes																																																					
															Special applications & fill fluid <table border="1"> <thead> <tr> <th>Treatment</th><th>Fill fluid</th></tr> </thead> <tbody> <tr> <td>None (std)</td><td>Silicone oil</td></tr> <tr> <td>Degreasing</td><td>Silicone oil</td></tr> <tr> <td>NACE</td><td>Silicone oil</td></tr> </tbody> </table>	Treatment	Fill fluid	None (std)	Silicone oil	Degreasing	Silicone oil	NACE	Silicone oil																															
Treatment	Fill fluid																																																					
None (std)	Silicone oil																																																					
Degreasing	Silicone oil																																																					
NACE	Silicone oil																																																					
															Processconnection (welded) adaptor - all stainless steel parts None - (1/2 - 14 NPTI connection) Rc 1/2 I 1/4 - 18 NPTI 1/2 - 14 NPTE G 1/2"A manometer fitting																																							

Notes :

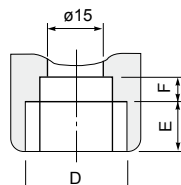
- * 1 - Digit 11 code "C" not possible - no mounting bracket can be used on these transmitters.
- * 2 - Code "D" FM approval only possible with electrical connection 1/2" NPT.
- * 3 - For FKH transmitter please use approval ATEX  II 1 GD - EEEx ia IIC T4/T5 and for FDH transmitter ATEX  II 1 GD - EEEx ia IIC T4

OUTLINE DIAGRAM (Unit:mm)



"D" ADAPTER				
CONN.L	G	H	J	K
1/4 NPT	14	25	22	8

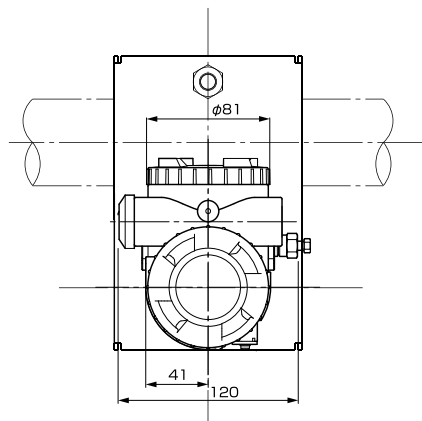
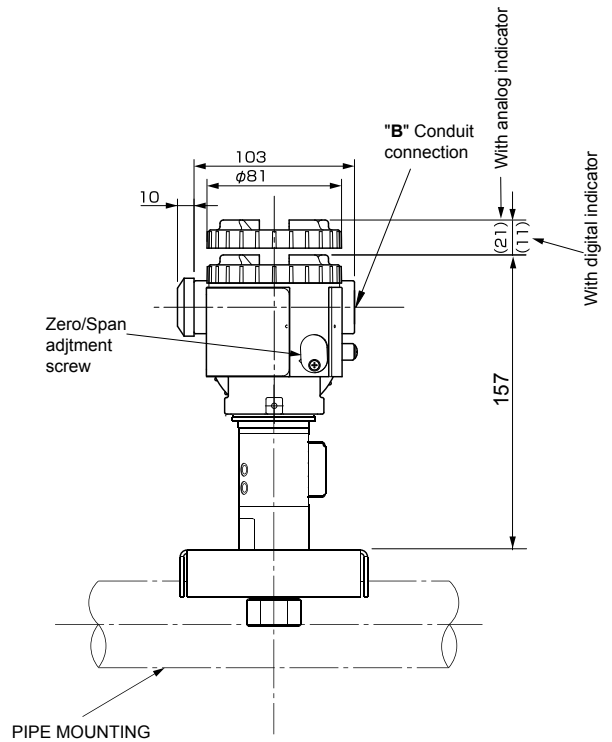
Table 2



Details of "B"

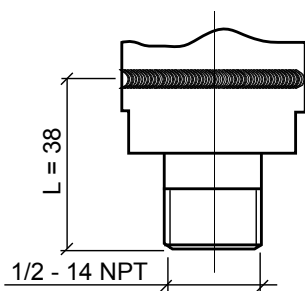
4th digit of the code symbols	Conduit connections		
	D	E	F
T	1/2-14NPT	16	5
V	Pg13.5	8	4.5
W	M20x1.5	16	5

Table 1

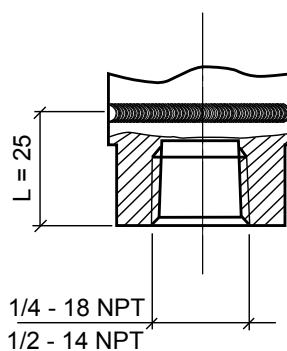


Details "A" - Process connection

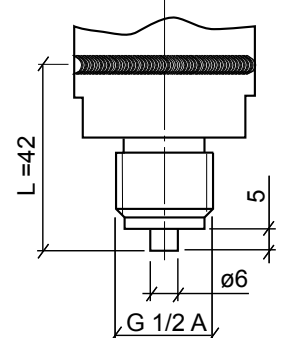
Code digit 15 = D

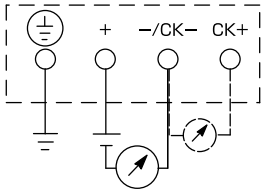


Code digit 15 = Y ou C



Code digit 15 = E



CONNECTION DIAGRAM

Fuji Electric France S.A.

46, Rue Georges Besse - Z I du Brézet

63 039 Clermont-Ferrand cedex 2 — FRANCE

France : Tél. 04 73 98 26 98 - Fax 04 73 98 26 99

International : Tél. (33) 4 7398 2698 - Fax. (33) 4 7398 2699

E-mail : sales.dpt@fujielectric.fr

Web : www.fujielectric.fr

Fuji Electric can accept no responsibility for possible errors in catalogues, brochures and other printed material. Fuji Electric reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. All rights reserved.
