

PRESSURE TRANSMITTER

DATA SHEET

The FCX-AII pressure transmitter accurately measures gauge pressure and transmits a proportional 4 to 20mA signal.

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



FEATURES

1. High accuracy up to ±0.04%

0.065% accuracy as standard, 0.04% accuracy as option. Fuji's micro-capacitance silicon sensor assures this accuracy for all elevated or suppressed calibration ranges without additional adjustment.

2. Minimum environmental influence

The "Advance Floating Cell" design which protects the pressure sensor against changes in temperature, and overpressure substantially reduces total measurement error in actual field applications.

3. Fuji/HART[®] bilingual communication protocol

FCX-All series transmitter offers bilingual communications to speak both Fuji proprietary protocol and HART[®]. Any HART[®] compatible devices can communicate with FCX-All

4. Application flexibility

Various options that render the FCX-AII suitable for almost any process applications include:

- Full range of hazardous area approvals
- Built-in RFI filter and lightning arrester
- 5-digit LCD meter with engineering unit
- Stainless steel electronics housing
- 5. Burnout current flexibility (Under Scale: 3.2 to 4.0mA, Over Scale: 20.0 to 22.5mA)

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

6. 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.

Functional specifications

Type: FKG : Smart, 4-20mA cc + Fuji/Hart[®] digital signal **Service:**

Liquid, gas, or vapour Span, range and overrange limit:

Туре	Span limit	[kPa] {bar}	Rang [kPa]	Overrange limit		
.)[Min.	Max.	Lower limit	Upper limit	[MPa] {bar}	
FKG ₀₁	1.3	130	-100	130	1	
	{0.013}	{1.3}	{-1}	{1.3}	{10}	
FKG ₀₂	5	500	-100	500	1.5	
	{0.05}	{5}	{-1}	{5}	{15}	
FKG ₀₃	30	3000	-100	3000	9	
	{0.3}	{30}	{-1}	{30}	{90}	
FKG⊡04	100	10000	-100	10000	15	
	{1}	{100}	{-1}	{100}	{150}	
FKG⊡05	500	50000	-100	50000	75	
	{5}	{500}	{-1}	{500}	{750}	

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

Fuji Electric France S.A.S.

EDSF5-92d Date October, 2010

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FCXX-AII,

Output signal:

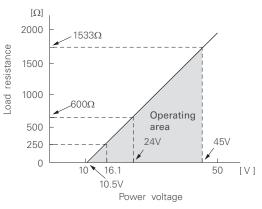
4 to 20mA DC with digital signal superimposed on the 4 to 20mA signal.

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 $HHC^{(1)}$ (Model: FXW), min. of 250Ω required. **Hazardous locations:**

Authority (Digit 10=)		Intrinsic safety					
ATEX (K)	Ex II 1 G Ex II 1 G Ex ia IIC T5 (-40°C \leq Ta \leq +50 °C) Ex ia IIC T4 (-40°C \leq Ta \leq +70 °C) IP66/67 Entity Parameters: Ui \leq 28 Vdc, Ii \leq 94.3 mA, Pi \leq 0.66 W Ci = 36 nF/26 nF for models with/without Arrester Li = 0.7 mH/0.6 mH for models with/without Analog Indicator						
Factory Mutual (pending)	Class I II III Div.1 Groups A, B, C T4 Entity Type 4X	C, D, E, F, G					
(H)	Model code 9th digit A,B,C,D,J L,P,M,1,2,3 Q,S,N,4,5,6 E,F,G,H,K	13th digit Y,G,N Y,G,N Y,G,N Y,G,N W,A,D	Tamb -40°C to +85°C -20°C to +80°C -20°C to +60°C -40°C to +60°C -10°C to +60°C				
	Entity Parameters: Vmax=42.4V, Imax= Ci=35.98nF, Li=0.694	, ,					
CSA (J)	Ex ia Class I, Groups A, B, C and D; Class II, Groups E,F and G; Class III Per drawing TC 522873 Temp. code T5 for Tamb max = +50°C Temp. code T4 for Tamb max = +70°C Entity Parameters: Vmax = 28 Vdc, Imax = 94.3 mA, Pmax = 0.66 W Ci = 36 nF/25 nF for models with/without Arrester Li = 0.7 mH/0.6 mH for models with/without Analog Indicator						
IECEx (T)	Ex ia IIC T5 (-40°C \leq Ta \leq +50 °C) Ex ia IIC T4 (-40°C \leq Ta \leq +70 °C) IP66/67 Entity Parameters: Ui \leq 28 Vdc, li \leq 94.3 mA, Pi \leq 0.66 W Ci = 36 nF/26 nF for models with/without Arrester Li = 0.7 mH/0.6 mH for models with/without Analog Indicator						

Authority	Flameproof
ATEX (X)	Ex II 2 GD Ex II 2 GD Ex d IIC T6 (-40°C \leq Ta \leq +65 °C) Ex d IIC T5 (-40°C \leq Ta \leq +85 °C) Ex tD A21 IP66/67 T 85°C Ex tD A21 IP66/67 T 100°C Electrical ratings Model Without arrester: Ui \leq 45 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Model With arrester: Ui \leq 32 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W
Factory Mutual (pending) (D)	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 (E)	Class I, Groups C and D; Class II, Groups E,F and G ; Class III Maximum ambient temperature 85° C Maximum working pressure 50 Mpa Electrical ratings Model Without arrester: Ui ≤ 45 Vdc, 4-20 mA Model With arrester: Ui ≤ 32 Vdc, 4-20 mA Note: "Seal not required"
IECEx (R)	Ex d IIC T6 (-40°C \leq Ta \leq +65 °C) Ex d IIC T5 (-40°C \leq Ta \leq +85 °C) DIP A21 IP66/67 T 85°C DIP A21 IP66/67 T 100°C Electrical ratings Model Without arrester: Ui \leq 45 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Model With arrester: Ui \leq 32 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W
Authority (Digit 10=)	Type n Nonincendive

(Digit 10=)		I ype n Nonincendive					
ATEX (P)	Ex II 3 G Ex nA II T5 (-40°C \leq Ta \leq +70 °C) IP66/67 Electrical ratings Model Without arrester: Ui \leq 45 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Model With arrester: Ui \leq 32 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Optional Analog indicator is not available for type "n"						
Factory Mutual (pending)	Class I II III Div.2 Groups A, B, C, D, F, G T4 Entity Type 4X						
(H)	Model code Tamb 9th digit 13th digit -40°C to +85°C A,B,C,D,J Y,G,N -40°C to +80°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) (J)	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 = 28 Vdc, Imax = 94.3 mA, Pmax = 0.66 W Ci = 36 nF/25 nF for models with/without Arrester Li = 0.7 mH/0.6 mH for models with/without Arrester						
IECEx (Q)	Ex nA II T5 (-40°C \leq Ta \leq +70 °C) IP66/67 Electrical ratings Model Without arrester: Ui \leq 45 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Model With arrester: Ui \leq 32 Vdc, 4-20 mA loop powered, Pi \leq 1.0125 W Optional Analog indicator is not available for type "n"						

Zero/span adjustment:

Zero and span are adjustable from the HHC⁽¹⁾. 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 adjustment unit with LCD display.

The time constant is adjustable between 0 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⁽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.

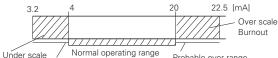
"Output Hold":

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)



Under scale / Normal operating range Burnout Probable under range Probable over range

Output limits conforming to NAMUR NE43 by order. Loop-check output:

Transmitter can be configured to provide constant signal 3.2mA through 22.5mA by HHC $^{(1)}$.

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:

- 20 to +80°C for fluorinated oil fill sensor
- Storage: 40 to +90°C

Humidity limit:

0 to 100% RH

Communication:

Damping

Output mode

With HHC⁽¹⁾ (model FXW, consult DS N°EDS8-47), following items can be remotely displayed or configured. Note: HHC's version must be higher than 7.0 (or FXW \Box \Box \Box \Box), for FCX-All for supporting these items:

"Saturate current", "Write protect", and "History".							
Items		rotocol FXW	Hart Protocol				
	Display	Set	Display	Set			
Tag No.	v	v	v	V			
Model No.	v	v	—	_			
Serial No. & Software Version	v	—	v	_			
Engineering unit	v	v	v	V			
Range limit	v	_	v	_			
Measuring range	v	v	V	v			

Burnout direction	V	v	v	v
Calibration	V	v	v	v
Output adjust	—	v	—	v
Data	v	—	v	—
Self diagnoses	v	—	v	—
Printer (In case of FXW with printer option)	v	_	_	_
External switch lock	v	v	v	v
Transmitter display	V	V	v	v
Linearize*	V	v	_	
Rerange	V	v	v	v
Saturate current	v	v	v	v
Write protect	V	V	v	v
History				
 Calibration history 	v	v	v	v
 Ambient temperature history 	V	—	V	-

(Note) (1) HHC: Hand Held Communicator

*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⁾.

Performance specifications

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

Accuracy rating:

(including linearity, hysteresis, and repeatability)

Max span below 10000kPa model:

For spans greater than 1/10 of URL:

±0.065% of span or ±0.04% of span (21th digit: H)

For model with max. span 50000kPa:

For spans greater than 1/10 of URL: ±0.1% of span For spans below 1/10 of URL:

$$\pm \left(0.05 \pm 0.05 \frac{0.1 \times \text{URL}}{\text{Span}} \right) \% \text{ of span}$$

Stability:

±0.1% of upper range limit (URL) for 10 years.

Temperature effect:

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

Double the effects for material code (7th digit in codes symbols) "H", "M" and "T"

Overrange effect:

Zero shift: 0.2% of URL for any overrange to maximum limit

Supply voltage effect:

Less than 0.005% of calibrated span per 1V

Update rate: 60 msec

Response time: (at 63,2% of output signal)

Time constant: 0.08s (at 23°C)

Dead time: approximately 0.12s

Response time = time constant + dead time

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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.

Vibration effect:

< \pm 0,25% Of spans for spans greater than 1/10 of URL. Frequency 10 to 150Hz, acceleration 39,2m/sec²

Material fatigue:

Please consult Fuji Electric.

Dielectric strength:

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

More than $100M\Omega$ at 500V DC.

Internal resistance for external field indicator:

12Ω max (connected to test terminal CK+ and CK-)

Physical specifications

Electrical connections:

1/2"-14 NPT, Pg13.5, or M20 × 1.5

Process connections:

1/4"-18 NPT or Rc 1/2" on 54mm centers, as specified. Meet DIN 19213

Process-wetted parts material:

Material code (7th digit in code symbols)	Process cover	Diaphragm	Wetted sensor body	Vent/drain
V	316 SS (*1)	316L SS	316 SS	316 SS
W	316 SS (*1)	Hastelloy-C	316 SS	316 SS
J	316 SS(*1)	316L SS +Au coating	316 SS	316 SS
н	316 SS(*1)	Hastelloy-C	Hastelloy-C lining	316 SS
М	316 SS(*1)	Monel	Monel lining	316 SS
Т	316 SS(*1)	Tantalum	Tantalum lining	316 SS

Note: *(1) ASTM CF8M

Remark:

Sensor gasket :Viton o-ring or PTFE square section gasketAvailability of above material design depends on ranges and static pressure. Refer to "Code symbols".

Non-wetted parts material:

Electronics housing:

Low copper die-cast aluminum alloy finished with polyester coating (standard), or 316 SS, as specified.

Bolts and nuts:

Cr-Mo alloy (standard), or 316 SS (630 or 660 SS for 50MPa unit).

Fill fluid:

Silicone oil (standard) or fluorinated oil

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Mounting bracket: 304 SS
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Environmental protection:

IEC IP67 and NEMA 6/6P

Mounting:

Without mounting bracket : direct mounting on manifold (optional)

With optional mounting bracket : for 50mm (2") pipe or direct wall mounting.

Mass {weight}:

Transmitter approximately 2.9 to 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

An optional 5-digit LCD meter with engineering unit 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 HHC $^{\mbox{(1)}}.$

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 bound ary parts comply with NACE MR-01-75. 660 or 660/660 stainless steel bolts and nuts comply with NACE.

Optional tag plate:

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

Vacuum service:

Special silicone oil and filling procedure are applied. See Fig.1 below

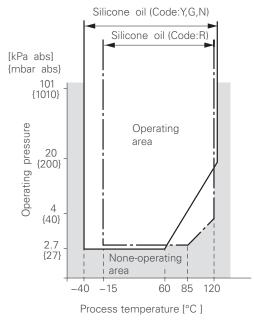


Fig.1 Relation between process temperature and operating pressure

ACCESSORIES

Oval flanges:

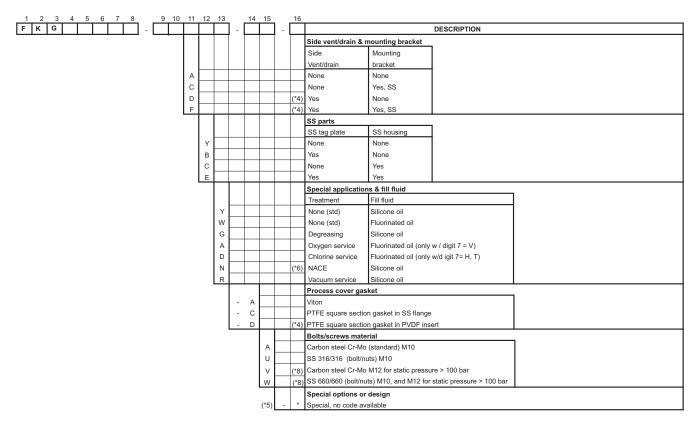
Converts process connection to 1/2"-14 NPT in 316 stainless steel.

Hand-held communicator:

(FXW Model, refer to datasheet N° EDS8-47)

CODE SYMBOLS

1 2 3 4 5 6	7	8	9	10	11	12 13	14	4 15		16					
FKG	5	; -] - [- [DESCRIPTION		
											Туре				
											Smart, 4-20 mAdc +	Fuji/Hart [®] digital signa	al		
											Connections				
											Process connection	Oval flange connect	Electrical connection		
R											1/4"-18 NPT	7/16"-20 UNF	M20 x 1,5		
т											1/4"-18 NPT	7/16"-20 UNF	1/2"-14 NPT		
V									((*1)	1/4"-18 NPT	M10 or M12 (*1)	Pg 13,5		
w									((*1)	1/4"-18 NPT	M10 or M12 (*1)	M20 x 1,5		
x											1/4"-18 NPT	7/16"-20 UNF	Pg 13,5		
											Range & wetted par	ts material			
									((*2)	Spans (*2)	Process cover	Measuring diaphragm	Wetted cell body	
0 1	v											316L SS	316L SS	316 SS	
0 1	w											316L SS	Hast. C	316 SS	
0 1	н										13	316L SS	Hast. C	Hast. C lining	
0 1	м											316L SS	Monel	Monel lining	
0 1	1								((*3)	4-	316L SS	Gold coat	316 SS	
0 1	Т									_	to	316L SS	Tantalum	Tantalum lining	
9 1	н							_		(*4)		PVDF insert	Hast. C	Hast. C lining	
	M	_	-				+	-		(*4)	1300 mbar	PVDF insert	Monel	Monel lining	
	Т									(*4)	1500 IIIbai	PVDF insert	Tantalum	Tantalum lining	
	v	_	_					-			0.05	316L SS	316L SS	316 SS	
	w		_					-			0,05	316L SS	Hast. C	316 SS	
	н	_					+	-				316L SS	Hast. C	Hast. C lining	
	м	_	_					-				316L SS	Monel	Monel lining	
0 2	1	_	_					-	((*3)	to	316L SS	Gold coat	316 SS	
	T -	_	_				+	-				316L SS	Tantalum	Tantalum lining	
	<u>+</u> -	_					+	-		(*4)	-	PVDF insert	Hast. C	Hast. C lining	
	M	-	-				+	-		(*4) (*4)	5 bar	PVDF insert	Monel	Monel lining	
9 2	Т	+-		\vdash	\vdash		+	+		(4)		PVDF insert	Tantalum	Tantalum lining	
	w –	-	_							_	0,3	316L SS	316L SS	316 SS 316 SS	
			-					-		_		316L SS 316L SS	Hast. C Hast. C		
	н	-						-		-				Hast. C lining	
0 3 0 3	м	-						-		(*3)	to	316L SS 316L SS	Monel Gold coat	Monel lining 316 SS	
	J т	-	_					-		(3)	10	316L SS	Tantalum	Tantalum lining	
	н́Г	-	-					+		(*4)		PVDF insert	Hast. C	Hast. C lining	
	м	-								(*4)		PVDF insert	Monel	Monel lining	
	т	+						-		(*4)	30 bar	PVDF insert	Tantalum	Tantalum lining	
	v	+	-					+	ľ	.,		316L SS	316L SS	316 SS	
	w							-			1	316L SS	Hast. C	316 SS	
0 4	н											316L SS	Hast. C	Hast. C lining	
0 4	м		-					+			to	316L SS	Monel	Monel lining	
0 4	J								((*3)	400 h	316L SS	Gold coat	316 SS	
0 4	т									<u> </u>	100 bar	316L SS	Tantalum	Tantalum lining	
0 5	V		-					-	((*8)	5	316L SS	316L SS	316 SS	
0 5	w											316L SS	Hast. C	316 SS	
0 5	н								((*8)	to	316L SS	Hast. C	Hast. C lining	
0 5	J								(*3	*8)	500 bar	316L SS	Gold coat	316 SS	
											Indicator & Arreste	er (next)			
											Indicator			Arrester	Initial setting
	5	5 -		\square							None			None	
	5	5 -	В	\square							Analog, 0-100% line	ear scale		None	
	5	5 -	D	\square							Analog, Custom sca	ale		None	
	5	5 -					\square				Analog, double sca	le		None	4-20mA DC
	5		_	\square			\square	-		_	None			Yes	+
	5			\square			\square	-		_	Analog, 0-100% line			Yes	Hart [®] /Fuji
	5			\square				-			Analog, Custom sca			Yes	digital signal
	5			\square				-			Analog, double sca	le		Yes	"SMART"
	5			\mid							digital, 0-100%			None	
	5		_	$\mid \mid$						_	digital, Custom scal	e		None	
	5			$\mid \mid$				_			digital, 0-100%			Yes	
	5	5 -	5							_	digital, Custom scal			Yes	
								_		_		ardous locations (c	onsult FUJI for availa	ability)	
	A None (Standard)														
				X	\vdash		ATEX - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only) ATEX - Intrinsic Safety								
				К	\vdash		+	-	<u> </u>						
				D	\vdash		+	-	((*7) FM - Explosion-Proof (digit 4 = "P" & "T" only) CSA - Explosion-Proof (digit 4 = "P" & "T" only)					
				E	\vdash		+	-							
				H	\vdash			-		FM - Intrinsic Safety and Non Incendive					
				J				-		CSA - Intrinsic Safety					
				Р				-		ATEX - Type "n" (digit 9 = A, E, 1, 2, 3, 4, 5 & 6 only)					
				Q				-		_	IECEx - Type "n" (digit 9 = A, E, 1, 2, 3, 4, 5 & 6 only)				
				R				-		_	IECEx - Flameproof enclosures (digit 4 = "M, P, R, T" & "W" only)				
				Т						_	IECEx - Intrinsic S	-		1710 11 1 2 2 2 2	5 11 ()
				L	\vdash					_			ety combined approv		
				М	\vdash			_		_					"M, P, R, T" & "W" only)
				Ν	\vdash			_		_			-		= "M, P, R, T" & "W" only)
				V							FM - Explosion-Pr	oof & Intrinsic Safe	ty combined approva	I (digit 4 = "P" & "T	" only)

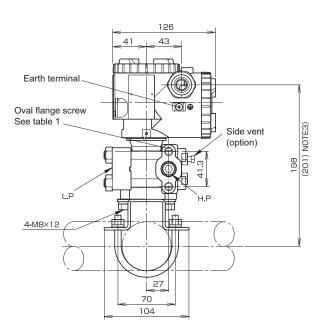


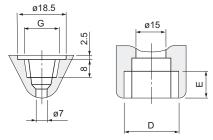
Notes* :

- 1- M12 oval flange screw required for 500 bar units
- 2- Turn down of 100:1 is possible, but it should be used at a span greater than 1/40 of the maximum span for better performance.
- 3- Gold coating on wetted measuring cell parts for Hydrogen service Hydroseal version gold/ceramic coating is available upon request.
- 4- Process cover with PVDF insert with 1/2"-14 NPT side process connection/no vent drain, other upon request square section PTFE gasket
- 5- When no code can be found in the current code symbols, place * in concerned code digit(s) & add * in 16 th digit
- 6- Our stainless steel bolts/nuts in SS660 are in conformity with the NACE requirements and must be used for NACE service
- 7- Code "D & V" FM approval only possible with electrical connection 1/2-14 NPT.
- 8- M12 bolting must be used for 500 bar transmitter

OUTLINE DIAGRAM (Unit:mm)

<7th digit code: V, H, M, T>





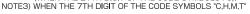
Details of "A"

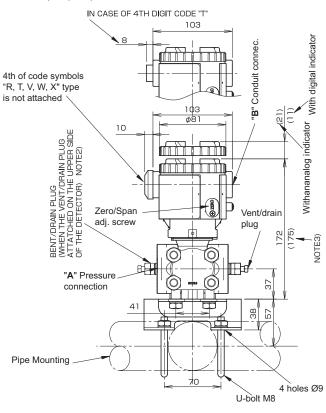
4th digit of the	Conduit co	onn.	Press. conn.	Oval frange screw			
code symbols	D	Е	G				
R	M20x1.5	16	1/4-18 NPT	7/16-20 UNF			
Т	1/2-14NPT	16	1/4-18 NPT	7/16-20 UNF			
V	Pg13.5	10,5	1/4-18 NPT	M10 or M12			
W	M20x1.5	16	1/4-18 NPT	M10 or M12			
Х	Pg13.5	10,5	1/4-18 NPT	7/16-20 UNF			

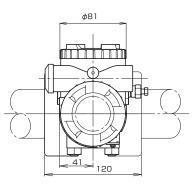
Details of "B"

TABLE 1

NOTE1) IN CASE OF 10TH CODE "C". ¢11 CABLE IS SUITBLE. NOTE2) THE PRESSURE CONNECTOR IS LOCATED ON THE DOWN SIDE SURFACE OF THE DETECTOR, WHEN THE VENT/DRAINPLUG IS ATTATCHED ON THE UPPER SIDE OF THE DETECTOR (WHEN THE 21TH DIGIT OF THE CODE SYMBOLS : C). NOTE3) WHEN THE 7TH DIGIT OF THE CODE SYMBOLS "C,H,M,T"

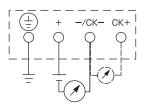






FKG---5

CONNECTION DIAGRAM



EMC Directive (2004/108/EC)

All models of FCX series transmitters type FCX-All are in accordance with :

• the harmonized standards:

- EN 61326-1 : 2006 (Electrical equipment for measurement, control and laboratory use - EMC requirements).

- EN 61326-2-3 : 2006 (Part 2-3 : Particular requirements - Test configuration, operational conditions and performance criteria for tranducers with integrated or remote signal conditioning)

Emission limits : EN 61326-1 : 2006

Frequency range (MHz)	Limits	Basic standard
30 to 230	40 dB (µV/m) quasi peack, measured at 10m distance	EN 55011 / CISPR 11
		Group 1 Class A
230 to 1000	47 dB (μ V/m) quasi peack, measured at 10m distance	

Immunity requirements : EN 61326-1 : 2006 (Table 2)

Phenomenon	Test value	Basic standard	Performance criteria
Electrostatic discharge (EDS)	4 kV (Contact)	EN 61000-4-2	В
	8 kV (Air)	IEC 61000-4-2	
Electromagnetic field	10V/m (80 to 1000 MHz)	EN 61000-4-3	
	3 V/m (1.4 to 2.0 GHz)	IEC 61000-4-3	А
	1 V/m (2.0 to 2.7 GHz)		
Rated power frequency	30 A/m	EN 61000-4-8	А
Magnetic field		IEC 61000-4-8	
Burst	2 kV (5/50 NS, 5 kHz	EN 61000-4-4	В
		IEC 61000-4-4	
Surge	1 kV Line to line	EN 61000-4-5	В
	2 kV Line to line	IEC61000-4-5	
Conducted RF	3 V (150 kHz to 80 MHz)	EN 61000-4-6	Α
		IEC61000-4-6	

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.

Fuji Electric

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