

## ■ DATA SHEET

The ProcessX differential pressure (flow) transmitter accurately measures differential pressure, liquid level, gauge pressure or flow rate 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. Georgin's micro-capacitance silicon sensor assures this accuracy for all elevated or suppressed calibration ranges without additional adjustment.
- 2. Minimum environmental influence**  
The "Advanced Floating Cell" design which protects the pressure sensor against changes in temperature, static pressure, and overpressure substantially reduces total measurement error in actual field applications.
- 3. GEORGIN//HART™ bilingual communication protocol**  
The communication module is "bilingual" to speak both Georgin proprietary protocol and HART®. Any HART® compatible devices can communicate with ProcessX series transmitters
- 4. Application flexibility**  
Various options that render the ProcessX suitable for almost any process applications include:
  - Full range of hazardous location approvals
  - Built-in RFI filter and lightning arrester
  - 5-digits LCD meter with engineering unit
  - Stainless steel electronics housing
  - Wide selection of materials
- 5. Programmable output Linearization Function**  
In addition to Linear and Square Root, output signal can be freely programmable. (Up to 14 compensated points at approximation.)
- 6. 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.
- 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

**Type:**  
FKC: Smart, 4-20mA DC + Georgin/Hart® digital signal

**Service:**  
Liquid, gas or vapor

### Static pressure, span, and range limit:

Type	Static pressure [MPa] {bar}	Span limit [kPa] {m bar}		Range limit [kPa] {m bar}
		Min.	Max.	
FKCC11	-0.1 to +3.2 {-1 to +32}	0.1 {1}	1 {10}	±1 {±10}
FKCC22	-0.1 to +10 {-1 to +100}	0.1 {1}	6 {60}	±6 {±60}
FKCC33	-0.1 to +16 {-1 to +160}	0.32 {3.2}	32 {320}	±32 {±320}
FKCC35	-0.1 to +16 {-1 to +160}	1.3 {13}	130 {1300}	±130 {±1300}
FKCC36	-0.1 to +16 {-1 to +160}	5 {50}	500 {5000}	±500 {±5000}
FKCC38	-0.1 to +16 {-1 to +160}	30 {300}	3000 {30000}	±3000 {±30000}
FKCC43	-0.1 to +42 {-1 to +420}	0.32 {3.2}	32 {320}	±32 {±320}
FKCC45	-0.1 to +42 {-1 to +420}	1.3 {13}	130 {1300}	±130 {±1300}
FKCC46	-0.1 to +42 {-1 to +420}	5 {50}	500 {5000}	±500 {±5000}
FKCC48	-0.1 to +30 {-1 to +300}	30 {300}	3000 {30000}	±3000 {±30000}
FKCC49*	-0.1 to +30 {-1 to +300}	500 {5000}	20000 {200000}	+20000,-10000 {+200000,-100000}

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

Important\*: Max possible overload pressure on LP side must be ≤ 100bar

Lower limit of static pressure (vacuum limit) ;  
Silicone fill sensor: See Fig. 1  
Fluorinated fill sensor:  
66kPa abs (500mmHg abs) at temperature below 60°C

FKC-FKC-5-EN-31-07-2012  
Subject to modifications due to technical advances

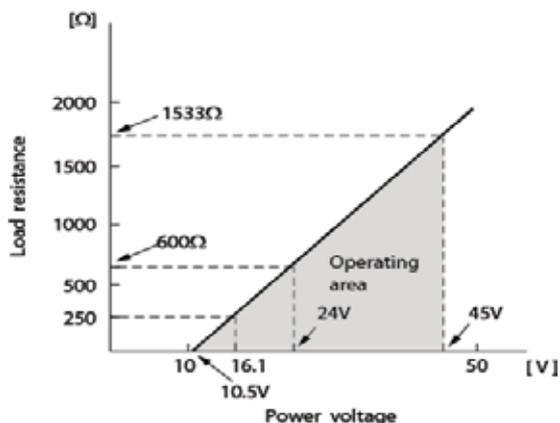


# FKC...5 Differential pressure (flow) transmitter



Safety for Industrial Process

- OVERRANGE LIMIT:**  
To maximum static pressure.
- OUTPUT SIGNAL:**  
4-20 mA DC (linear or square root) 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 <sup>(1)</sup> min. of 250W required.

**HAZARDOUS LOCATION:**

Authority (Digit 10 = )	Intrinsic safety																					
ATEX	Ex II 1 G Ex ia IIC T5 (-40°C ≤ Ta ≤ +50 °C) Ex ia IIC T4 (-40°C ≤ Ta ≤ +70 °C) IP66/67																					
(K)	Entity Parameters: Ui ≤ 28 Vdc, Ii ≤ 94.3 mA, Pi ≤ 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	Class I II III Div.1 Groups A, B, C, D, E, F, G T4 Entity Type 4X																					
(H)	<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> <p>Entity Parameters: Vmax=42.4V, Imax=113mA, Pi=1W, Ci=35.98nF, Li=0.694mH</p>	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
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CSA	Ex ia Class I, Groups A, B, C and D; Class II, Groups E,F and G; Class III Per drawing TC 522873																					
(J)	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																					
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Authority (Digit 10 = )	Type n Nonincendive																					
ATEX	Ex II 3 G Ex nA II T5 (-40°C ≤ Ta ≤ +70 °C) IP66/67																					
(P)	Electrical ratings Model Without arrester: Ui ≤ 45 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Model With arrester: Ui ≤ 32 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Optional Analog indicator is not available for type "n"																					
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IECEX	Ex nA II T5 (-40°C ≤ Ta ≤ +70 °C) IP66/67																					
(Q)	Electrical ratings Model Without arrester: Ui ≤ 45 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Model With arrester: Ui ≤ 32 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Optional Analog indicator is not available for type "n"																					

Authority	Flameproof
ATEX	Ex II 2 GD Ex d IIC T6 (-40°C ≤ Ta ≤ +65 °C) Ex d IIC T5 (-40°C ≤ Ta ≤ +85 °C)
(X)	Ex tD A21 IP66/67 T 85°C Ex tD A21 IP66/67 T 100°C Electrical ratings Model Without arrester: Ui ≤ 45 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Model With arrester: Ui ≤ 32 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W
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
(D)	
CSA	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
(E)	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	Ex d IIC T6 (-40°C ≤ Ta ≤ +65 °C) Ex d IIC T5 (-40°C ≤ Ta ≤ +85 °C) DIP A21 IP66/67 T 85°C DIP A21 IP66/67 T 100°C
(R)	Electrical ratings Model Without arrester: Ui ≤ 45 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W Model With arrester: Ui ≤ 32 Vdc, 4-20 mA loop powered, Pi ≤ 1.0125 W

**ZERO/SPAN ADJUSTMENT:**

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

**DAMPING:**

Adjustable from HHC<sup>(1)</sup> or local adjustment unit with LCD display.

The time constant is adjustable between 0 to 32 seconds.

**ZERO ELEVATION/SUPPRESSION:**

-100% to +100% of URL.

**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":**

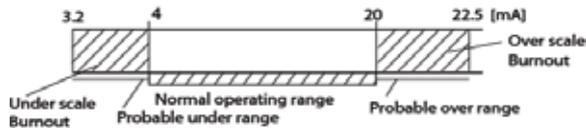
Output signal is hold as the value just before failure happens.

**"Output Overscale":**

Adjustable within the range 20.0mA to 22.5mA from HHC<sup>(1)</sup>.

**"Output Underscale":**

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



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<sup>(1)</sup>.

**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 filled transmitters)

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

**Process :** - 40 to +120°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>, following items can be remotely displayed or configured

Note:

HHC's version must be higher than 7.0, for FKC for supporting these items: "Saturate current", "Write protect", and "History".

Items	Georgin protocol with HHC <sup>(1)</sup>		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
Damping	v	v	v	v
Output mode	Linear	v	v	v
	Square root	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	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 (Georgin Protocol list) except "Linearize" function.

**PROGRAMMABLE OUTPUT LINEARIZATION FUNCTION:**

Output signal can be characterized with "14 points linear approximation function" from HHC<sup>(1)</sup>.



# FKC...5 Differential pressure (flow) transmitter



Safety for Industrial Process

## ■ PERFORMANCE SPECIFICATIONS FOR LINEAR OUTPUT

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

### ■ ACCURACY RATING:

(including linearity, hysteresis, and repeatability)

#### Max span 32kPa models and above:

For spans > than 1/10 of URL:

±0.065% of span or  
±0.04% of span (optional)

For spans < than 1/10 of URL:

± (0.015 + 0.05  $\frac{0.1 \times \text{URL}}{\text{span}}$ ) % of span

#### Max span 20MPa models:

For spans ≥ than 5MPa :

±0.1% of span

For spans < than 5MPa :

± (0.05 + 0.05  $\frac{5\text{MPa}}{\text{span}}$ ) % of span

#### Max span 1kPa and 6kPa models:

For spans > than 1/10 of URL:

±0.1% of span

For spans < than 1/10 of URL:

± (0.05 + 0.05  $\frac{0.1 \times \text{URL}}{\text{span}}$ ) % of span

### ■ STABILITY:

±0.1% of upper range limit (URL) for 10 years for 6th digit code 3, 5, 6, 8 and 9.

### ■ TEMPERATURE EFFECT:

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

Range code (6th digit in code symbols)	Zero shift (% of span)	Total effect (% of span)
"1"/1kPa {10 mbar}	± (0.125 + 0.1 $\frac{\text{URL}}{\text{span}}$ ) %	± (0.15 + 0.1 $\frac{\text{URL}}{\text{span}}$ ) %
"2"/6kPa {60 mbar}		
"3"/32kPa {320 mbar}	± (0.075 + 0.0125 $\frac{\text{URL}}{\text{span}}$ ) %	± (0.095 + 0.0125 $\frac{\text{URL}}{\text{span}}$ ) %
"5"/130kPa {1300 mbar}		
"6"/500kPa {5000 mbar}		
"8"/3000kPa {30000 mbar}		
"9"/20000kPa {200000 mbar}		

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

### ■ STATIC PRESSURE EFFECT:

Static pressure code (5th digit in Code symbols)	Zero shift (% of URL)
"1" / 1kPa {10 mbar} sensor	±0.2% / 2 MPa {20 bar}
"2" / 6kPa {60 mbar} sensor	±0.2% / 3.2 MPa {32 bar}
"3", "4"	±0.035% / 6.9 MPa {69bar}
"4"	±0.2% / 6.9 MPa {69bar} FKCE49

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

### ■ OVERRANGE EFFECT:

Static pressure code (5th digit in Code symbols)	Zero shift (% of URL)
"1" / 1kPa {10 mbar}	±0.3% / 2 MPa {20 bar}
"2" / 6kPa {60 mbar}	±0.1% / 3.2 MPa {32 bar}
"3"	±0.1% / 16 MPa {160 bar} FKCE35, 36, 38
"3"	±0.15% / 16 MPa {160 bar} FKCE33
"4"	±0.25% / 42 MPa {420 bar} FKCE33, 35, 36, 38
"4"	±0.2% / 10 MPa {100 bar} FKCE49

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

### ■ SUPPLY VOLTAGE EFFECT:

< 0.005% of calibrated span per 1V

### ■ UPDATE RATE:

60 msec

### ■ RESPONSE TIME: (at 63.2% of output signal)

Range code (6th digit in code symbols)	Time constant (at 23°C)	Dead time
"1"	0.33 s	0.12 s
"2"	0.3 s	
"3"	0.12 s	
"5" through "8"	0.08 s	

Response time = time constant + dead time

### ■ MOUNTING POSITION EFFECT:

Zero shift, less than 0.12kPa {1.2 mbar} for a 10° tilt in any plane.

No effect on span.

This error can be corrected by adjusting zero

### ■ VIBRATION EFFECT:

< ±0.25% of span for spans greater than 1/10 of URL.

Frequency 10 to 150Hz, acceleration 39.2m/sec<sup>2</sup>

### ■ MATERIAL FATIGUE:

Consult GeorGIN.

### ■ DIELECTRIC STRENGTH:

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

### ■ INSULATION RESISTANCE:

> than 100 MW at 500 V DC.

### ■ INTERNAL RESISTANCE FOR EXTERNAL FIELD INDICATOR:

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



Safety for Industrial Process

# FKC...5 Differential pressure (flow) transmitter



## ■ PERFORMANCE SPECIFICATIONS FOR SQUARE ROOT OUTPUT

### ■ ACCURACY RATING:

Output signal	Span	
	>0.1 × URL	<0.1 × URL
50 à 100%	±0.065 %	±(0.015+0.05 × 0.1 × URL/span)%
20 à 50%	±0.163 %	±2.5 × (0.015+0.05 × 0.1 × URL/span)%
10 à 20%	±0.325 %	±5 × (0.015+0.05 × 0.1 × URL/span)%

### MAX SPAN 1 kPA, 6kPA MODELS:

Output signal	Accuracy
50 to 100%	±0.1%
20 to 50%	±0.25%
10 to 20%	±0.5%

### TEMPERATURE EFFECT:

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

Range code	Shift at 20% output signal
"1" and "2"	± (0.375 + 0.25 $\frac{\text{URL}}{\text{span}}$ ) % /28°C
"3" and "9"	± (0.24 + 0.03125 $\frac{\text{URL}}{\text{span}}$ ) % /28°C

### LOW FLOW CUT-OFF:

Customer configurable for any point between 0 to 20% of output

## ■ PHYSICAL SPECIFICATIONS

### ■ ELECTRICAL CONNECTIONS:

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

### ■ PROCESS CONNECTIONS:

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

Meets DIN 19213.

Option: 1/2"-14 NPT for oval flanges

### ■ PROCESS-WETTED PARTS MATERIAL:

Code (7th digit)	Process cover	Diaphragm	Wetted sensor body	Vent/drain
V	316L SS(*1)	316L SS	316/31803 SS	316 SS
W	316L SS(*1)	Hastelloy-C	316 SS	316 SS
H	316L SS(*1)	Hastelloy-C	Hastelloy-C lining	316 SS
J	316L SS(*1)	316L SS + gold coating	316 SS	316 SS
M	316L SS(*1)	Monel	Monel lining	316 SS
T	316L SS(*1)	Tantalum	Tantalum lining	316 SS

Notes: \*(1) ASTM CF8M

### Remark:

Sensor gasket :Viton o-ring or PTFE square section gasket. Availability 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 316SS as specified.

#### Bolts and nuts:

- Cr-Mo alloy (standard) till 420 bar,
- 316 stainless steel for static pressure if 160 bar max.
- SS660 for static pressure > 160 bar

#### Fill fluid:

Silicone oil (standard) or fluorinated oil

#### Mounting bracket:

304 stainless steel

### ■ 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 3.1 to 3.6 kg 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 digits 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<sup>(1)</sup>.
- **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 for oxygen or chlorine measurement.
- **NACE SPECIFICATION:**  
 Metallic materials for all pressure boundary 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 for customer tag data is wired to the transmitter.
- **VACUUM SERVICE:**  
 Special silicone oil and filling procedure are applied.

## ACCESSORIES

- **MANIFOLDS:**  
 Available in 316 stainless steel and in pressure rating 16MPa or 42MPa.
- **OVAL FLANGES:**  
 Converts process connection to 1/2"-14 NPT in 316L SS
- **HAND HELD COMMUNICATOR (HHC):**

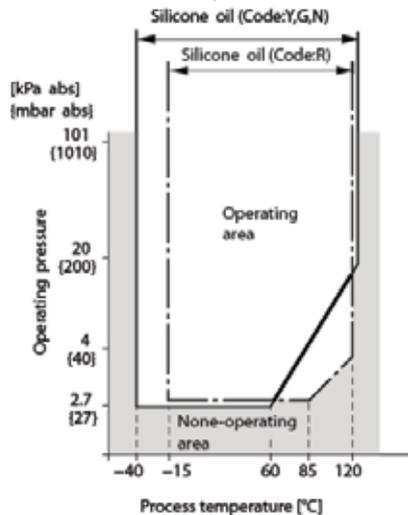
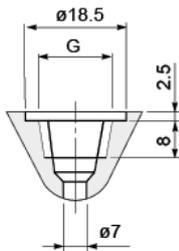
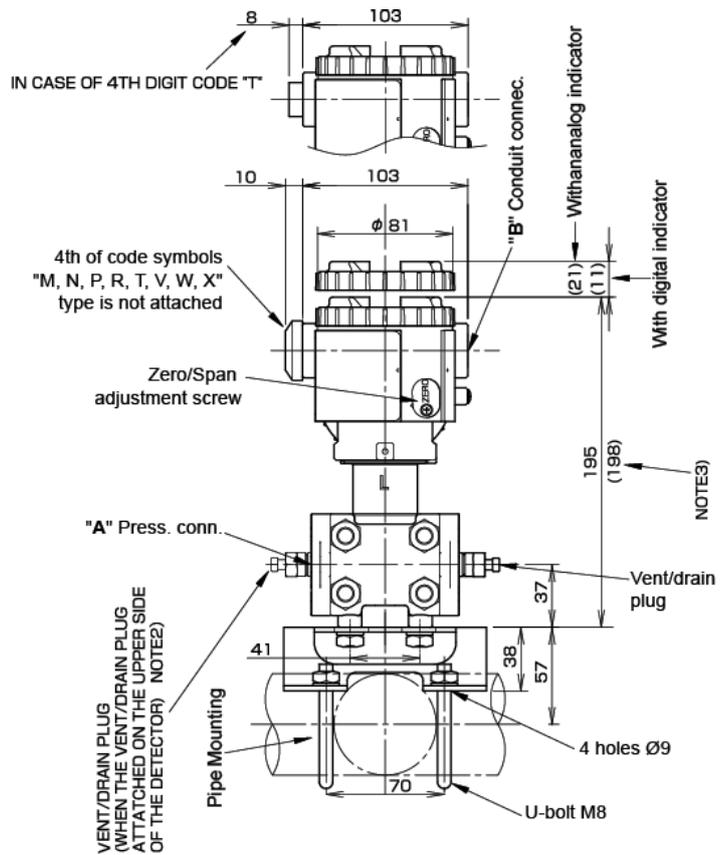
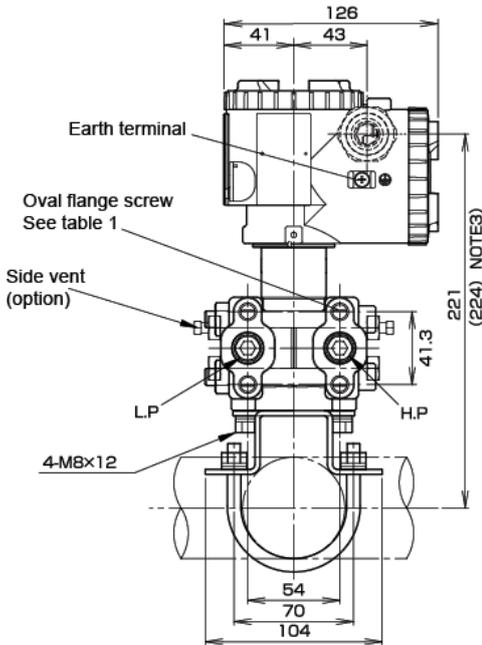


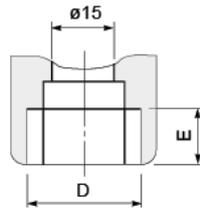
Fig. 1 Relation between process temperature and operating pressure

## ■ OUTLINE DIAGRAM (UNIT:MM)

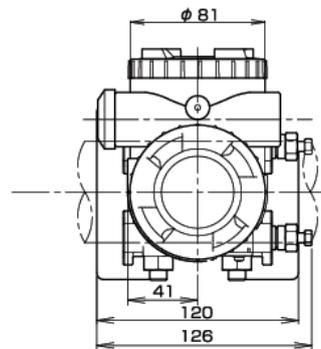
<7TH DIGIT CODE : V, H, M, T>



Details of "A"



Details of "B"



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

TABLE 1

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/DRAINPLUG IS ATTACHED ON THE UPPER SIDE OF THE DETECTOR (WHEN THE 21TH DIGIT OF THE CODE SYMBOLS : C).  
 NOTE3) WHEN THE 5TH DIGIT OF THE CODE SYMBOLS "1.2.4" OR THE 7TH DIGIT OF THE CODE SYMBOLS "C.H.M.T"



# FKC...5 Differential pressure (flow) transmitter



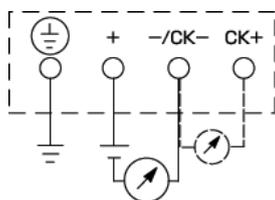
Safety for Industrial Process

## CODIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16																					
DESCRIPTION																					
Type																					
Smart, 4-20 mAdc + Georjin/Hart® digital signal																					
Connections																					
Process connections																					
Oval flange connection																					
Electrical connection																					
Range & wetted parts material																					
Static pressure limits																					
Spans (*2)																					
Process - cover																					
LP side																					
HP - side																					
Measuring diaphragm																					
Wetted cell body																					
M																(*9)	1/4"-18 NPT	M10	M20 x 1,5		
N																(*9)	1/4"-18 NPT	M10	Pg 13,5		
P																(*9)	1/4"-18 NPT	M10	1/2"-14 NPT		
R																(*8)	1/4"-18 NPT	7/16"-20 UNF	M20 x 1,5		
T																(*8)	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																(*8)	1/4"-18 NPT	7/16"-20 UNF	Pg 13,5		
1	1	V														(*2)	-1	10/100	316L SS	316L SS	31803 SS
1	1	W														(*3)	to	mm WC	316L SS	Hast C	31803 SS
1	1	J															32 bar		316L SS	Gold coat	31803 SS
1	1	H																	316L SS	Hast C	Hast C lining
2	2	V															-1	10/600	316L SS	316L SS	31803 SS
2	2	W															to	mm WC	316L SS	Hast C	31803 SS
2	2	J																	316L SS	Gold coat	31803 SS
2	2	H															100 bar		316L SS	Hast C	Hast C lining
3	3	V															-1	32	316L SS	316L SS	318 SS
3	3	W															to	/3200	316L SS	Hast C	318 SS
3	3	H																mm WC	316L SS	Hast C	Hast C lining
3	3	M																	316L SS	Monel	Monel lining
3	3	J														(*4)			316L SS	Gold coat	316 SS
3	3	T																	316L SS	Tantalum	Tantalum lining
3	5	V															to	0,13	316L SS	316L SS	316 SS
3	5	W																/13	316L SS	Hast C	316 SS
3	5	H																m WC	316L SS	Hast C	Hast C lining
3	5	M																	316L SS	Monel	Monel lining
3	5	J														(*4)			316L SS	Gold coat	316 SS
3	5	T																	316L SS	Tantalum	Tantalum lining
3	6	V															160 bar (*3)		316L SS	316L SS	316 SS
3	6	W																	316L SS	Hast C	316 SS
3	6	H																0,5/50	316L SS	Hast C	Hast C lining
3	6	J														(*4)		m WC	316L SS	Gold coat	316 SS
3	6	M																	316L SS	Monel	Monel lining
3	6	T																	316L SS	Tantalum	Tantalum lining
3	8	V																3/300 m WC	316L SS	316L SS	316 SS
3	8	W																	316L SS	Hast C	316 SS
3	8	J														(*4)			316L SS	Gold coat	316 SS
4	3	V														(*11)	-1	32/3200	316L SS	316L SS	316 SS
4	3	W														(*11)	to	mm WC	316L SS	Hast C	316 SS
4	3	H														(*11)			316L SS	Hast C	Hast C lining
4	3	M														(*11)			316L SS	Monel	Monel lining
4	3	J														(*4, *11)			316L SS	Gold coat	316 SS
4	5	V														(*11)			316L SS	316L SS	316 SS
4	5	W														(*11)	to	0,13/13	316L SS	Hast C	316 SS
4	5	H														(*11)		m WC	316L SS	Hast C	Hast C lining
4	5	M														(*11)			316L SS	Monel	Monel lining
4	5	J														(*4, *11)			316L SS	Gold coat	316 SS
4	6	V														(*11)			316L SS	316L SS	316 SS
4	6	W														(*11)		0,5/50	316L SS	Hast C	316 SS
4	6	H														(*11)		m WC	316L SS	Hast C	Hast C lining
4	6	M														(*11)			316L SS	Monel	Monel lining
4	6	J														(*4, *11)			316L SS	Gold coat	316 SS
4	8	V														(*11)	-1 to 300 bar	3/300 m WC	316L SS	316L SS	316 SS
4	8	W														(*11)			316L SS	Hast C	316 SS
4	8	J														(*4, *11)			316L SS	Gold coat	316 SS
4	9	V														(*11)	-1 to 300 bar	50/2000 m WC	316L SS	316L SS	316 SS
4	9	J														(*12) (*4, *11)			316L SS	Gold coat	316 SS
8	1	H														(*5)	0	10/100 mmWC	PVDF Insert	Hast C	Hast C lining
8	2	H														(*5)		60/600 mmWC	PVDF Insert	Hast C	Hast C lining
8	3	H														(*5)	to	32	PVDF Insert	Hast C	Hast C lining
8	3	M														(*5)		/3200	PVDF Insert	Monel	Monel lining
8	3	T														(*5)	15 bar	mm WC	PVDF Insert	Tantalum	Tantalum lining
8	5	H														(*5)	0	0,13	PVDF Insert	Hast C	Hast C lining
8	5	M														(*5)		/13	PVDF Insert	Monel	Monel lining
8	5	T														(*5)	to	m WC	PVDF Insert	Tantalum	Tantalum lining
8	6	H														(*5)	15 bar	0,5	PVDF Insert	Hast C	Hast C lining
8	6	M														(*5)		/50	PVDF Insert	Monel	Monel lining
8	6	T														(*5)		m WC	PVDF Insert	Tantalum	Tantalum lining
9	1	H														(*5)		10/100 mmWC	PVDF Insert	316L SS	Hast C
9	2	H														(*5)		10/600 mmWC	PVDF Insert	316L SS	Hast C
9	3	H														(*5)		32	PVDF Insert	316L SS	Hast C
9	3	M														(*5)		/3200	PVDF Insert	316L SS	Monel
9	3	T														(*5)		mm WC	PVDF Insert	316L SS	Tantalum
9	5	H														(*5)	to	0,13	PVDF Insert	316L SS	Hast C
9	5	M														(*5)		/13	PVDF Insert	316L SS	Monel
9	5	T														(*5)	15 bar	m WC	PVDF Insert	316L SS	Tantalum
9	6	H														(*5)		0,5	PVDF Insert	316L SS	Hast C
9	6	M														(*5)		/50	PVDF Insert	316L SS	Monel
9	6	T														(*5)		m WC	PVDF Insert	316L SS	Tantalum



## ■ CONNEXION ÉLECTRIQUE



### EMC Directive (2004/108/EC)

All models of ProcessX series transmitters 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 transducers with integrated or remote signal conditioning).

**Emission limits :** EN 61326-1 : 2006

Frequency range (MHz)	Limits	Basic standard
30 to 230	40dB ( $\mu\text{V/m}$ ) quasi peak, measured at 10m distance	EN 55011 / CISPR 11 Group 1 Class A
230 to 1000	47dB ( $\mu\text{V/m}$ ) quasi peak, 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) 8 kV (Air)	EN 61000-4-2 IEC 61000-4-2	<b>B</b>
Electromagnetic field	10V/m (80-1000MHz) 3 V/m (1.4-2.0 GHz) 1V/m (2.0-2.7 GHz)	EN 61000-4-3 IEC 61000-4-3	<b>A</b>
Rated power frequency Magnetic field	30 A/m	EN 61000-4-8 IEC 61000-4-8	<b>A</b>
Burst	2kV (5/50 NS, 5 kHz)	EN 61000-4-4 IEC 61000-4-4	<b>B</b>
Surge	1 kV Line to line 2 kV Line to line	EN 61000-4-5 IEC 61000-4-5	<b>B</b>
Conducted RF	3 V (150 kHz à 80 MHz)	EN 61000-4-6 IEC 61000-4-6	<b>A</b>

### 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.