

## Pressure Transmitters

# FCX-AIII Series

## Proven Quality and Wide Product Range

- ✓ High accuracy
- ✓ Superior long-term stability
- ✓ Hazardous approvals



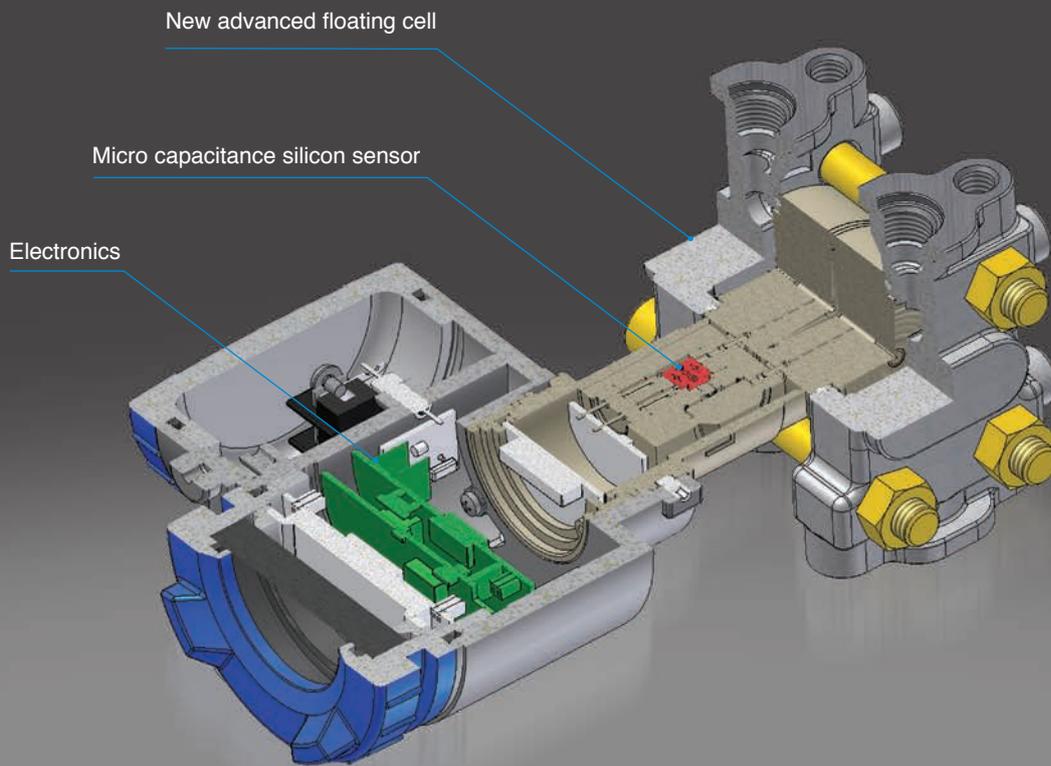
Pressure measurement  
(FKP, FKH, FKG, FKB)

Level measurement  
(FKE)

Differential pressure measurement  
(FKC, FKD)

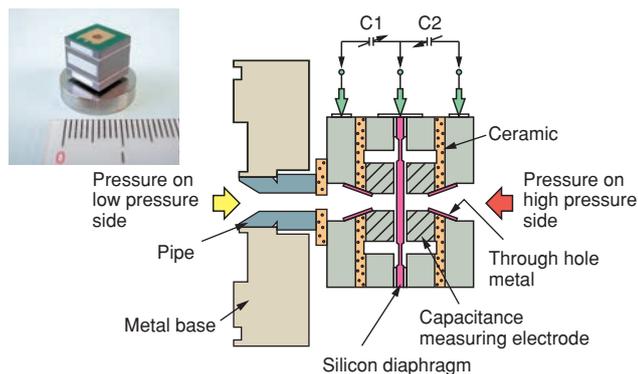
# Reliability and Stability

The FCX Series transmitters were introduced in 1989 and have an installed base of more than 1.5 million. The FCX-AIII Series is the latest transmitter model demonstrating improved accuracy and long-term stability. The FCX-AIII provides superior reliability, simplified user operation, expanded menu structure, and reduced size and weight.



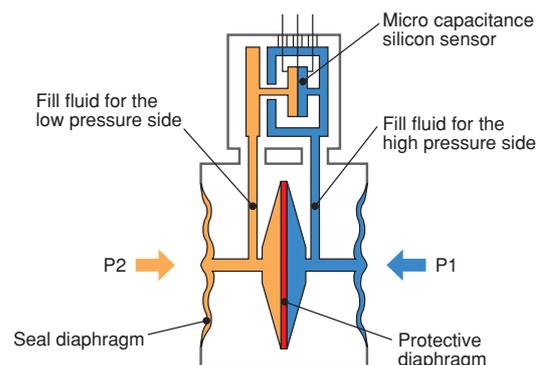
## Micro Capacitance Silicon Sensor

The monocrystal silicon sensor minimizes hysteresis, thereby achieving excellent stability and reproducibility. Optimized structure enhanced the output stability and long-term stability.



## New Advanced Floating Sensor

The advanced floating sensor protects transmitters against various severe environmental conditions, assuring stability. The downsized sensor enables easy handling while offering improved temperature effect and static pressure effect, and excessive overload pressure.



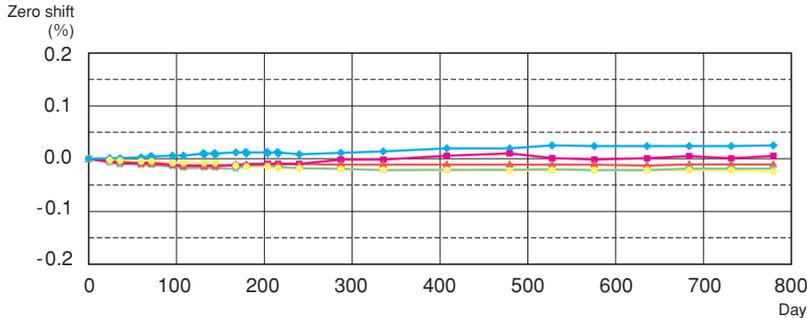
# Excellent Performance

## High accuracy

Up to  $\pm 0.04\%$  (Option) /  $\pm 0.065\%$  (Standard\*)

\*Applicable even on low differential pressure range (2kPa or lower)

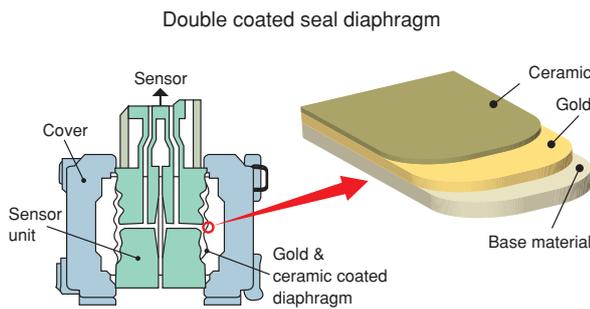
## Long term stability : $\pm 0.1\%$ of upper range limit / 10 years



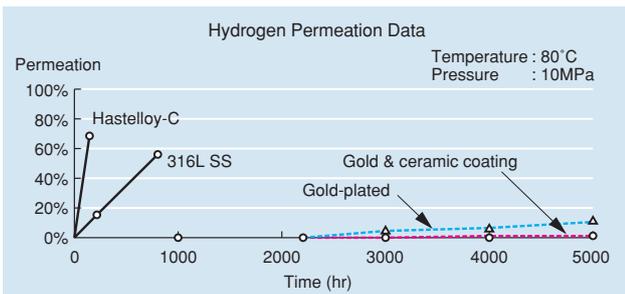
Test data of long term stability  
 Type: FK535V5 (Maximum span 130kPa)  
 Calibrated range : 0 to 130kPa,  
 Temperature : Room temperature  
 Quantity of tested unit : 5 units.

# Variety of Diaphragm Materials

## Against Hydrogen Permeation: Gold & Ceramic Coating



Hydrogen is the smallest atom element. So, it can penetrate the metal process diaphragms of pressure transmitters, reducing measurement accuracy and a transmitter's lifetime. Since our special seal diaphragm double coated with gold and ceramic significantly suppresses the hydrogen permeation, the transmitter is suitable for desulfurization facilities and hydrogen production units for petroleum refining.



## Against Corrosion: Hastelloy, Monel, Tantalum

Selecting the most suitable material releases you from maintenance work.

Application examples			
Material	Applications	Material	Applications
<b>Gold &amp; ceramic coating</b>	Desulfurization facility, hydrogen production and supply system, ionized gas (Hydrogen Sulfide)	<b>Hastelloy-C</b>	Various organic acid, inorganic acid, alkalis
<b>Tantalum</b>	Hydrochloric acid, sulfuric acid, nitric acid, aqua regia	<b>Monel</b>	Alkalis, fluorinated acid
<b>Titanium</b>	Chloride salt, sulfated compound	<b>Zirconium</b>	Hydrochloric acid, caustic soda, bleaching agent

# For High Temperature and High Vacuum

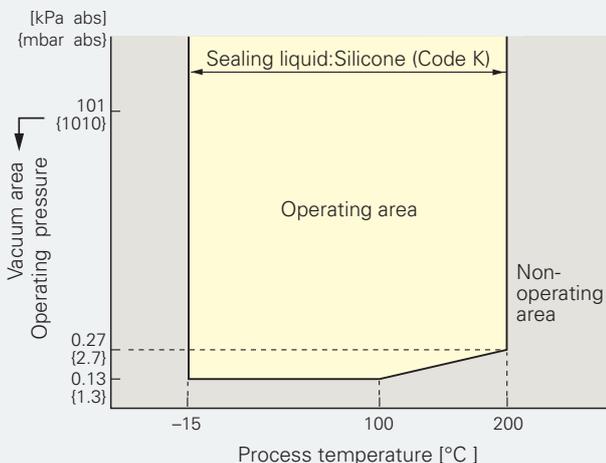
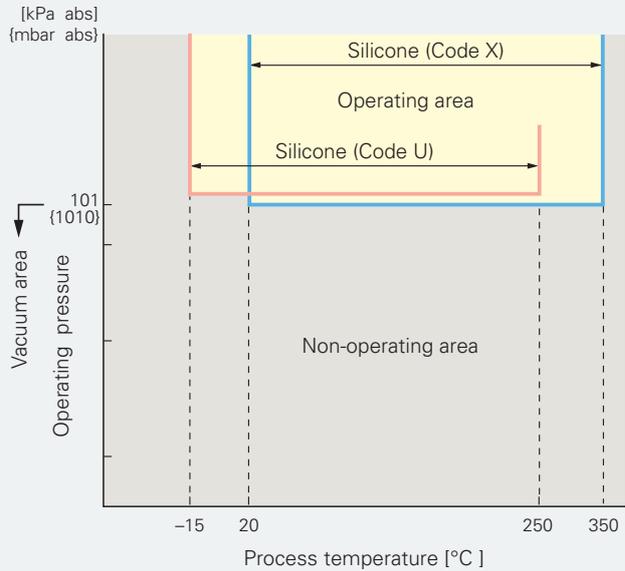
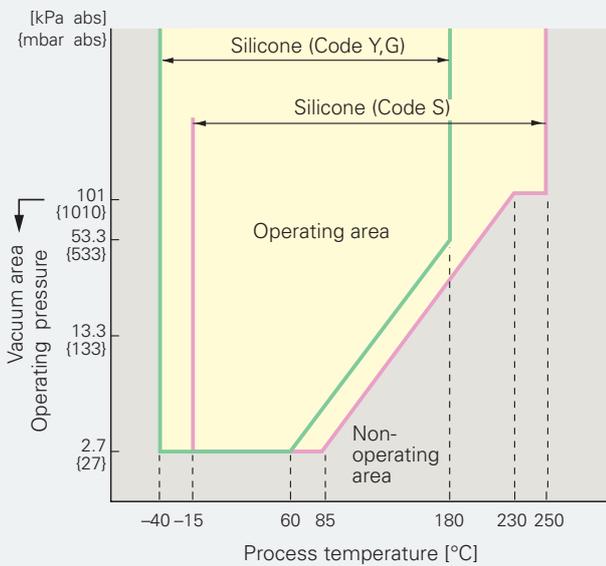
Up to 200°C at 0.27 kPa abs



Remote seal type pressure transmitter (FKB)  
 Remote seal type differential pressure transmitter (FKD)  
 Level transmitter (FKE)

Our special treatment for remote seal transmitters enables stable measurement even at high temperature and in a high vacuum. To ensure the quality, we apply strict control throughout our production process especially:

- Deaeration of parts at high temperatures and in a high vacuum
- High temperature and vacuum treatment of fill fluid
- Fluid filling at high temperature and in a high vacuum



# Housing Selection

L-shape and T-shape housings are compatible for vertical and horizontal pipings.

		L type	T type
1	Differential pressure		
2	Gauge pressure		
3	Gauge pressure Direct mount	—	

# Level Transmitter and Remote Seal Transmitter



Level transmitter (FKE)



Remote seal type pressure transmitter (FKB)

Remote seal type differential pressure transmitter (FKD)

# Approvals

FCX-AIII transmitter is a world-class product which conforms to:

- HART communication protocol



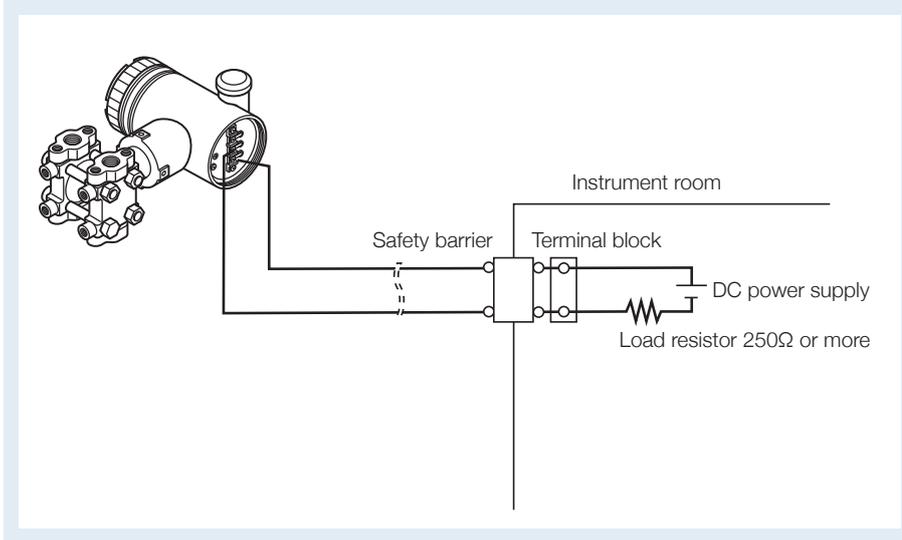
- Hazardous approvals (FM, CSA, ATEX, TIIS, IECEx etc.)



# Ease of Use and Maintenance

## Communication

FCX-A III Series transmitter supports both Fuji protocol and HART communication protocol without any hardware change. These digital signals are superimposed on 4-20 mA analog output signal of transmitters.



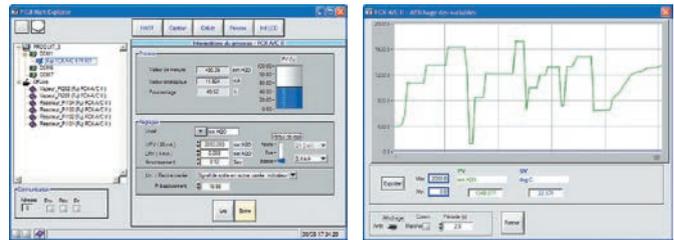
FCX-A III transmitters can be configured by any HART compatible hand held communicators.



The FCX-A III series transmitter can also be configured using HART communication based software installed on your laptop or desktop PC.

- Configuration of parameters
- Range setting
- Process data display and monitoring
- Gathering fault information, diagnosis
- Trend display

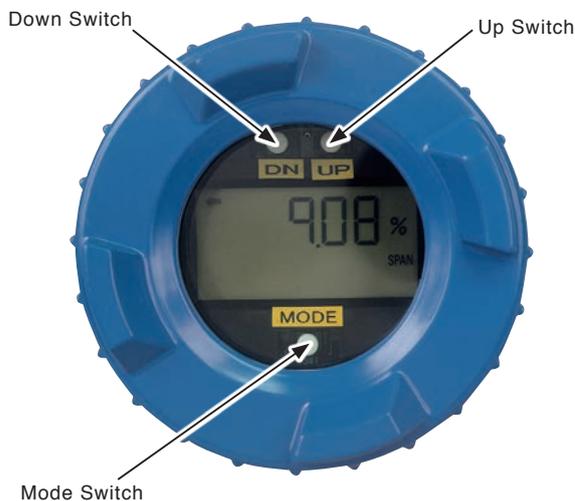
“HART Explorer” PC software (note)screen example;



Note) You can download Fuji Electric France Web site([www.fujielectric.fr](http://www.fujielectric.fr)).

## Field Configurator (Option)

Allows you to configure all the parameters on site by using Up/Down switches.



### Major Functions

Zero adjustment
Span adjustment
Constant current output (4-20mA)
4mA output calibration
20mA output calibration
Damping
Range
Unit
LCD display setting
External switch lock

# Specifications

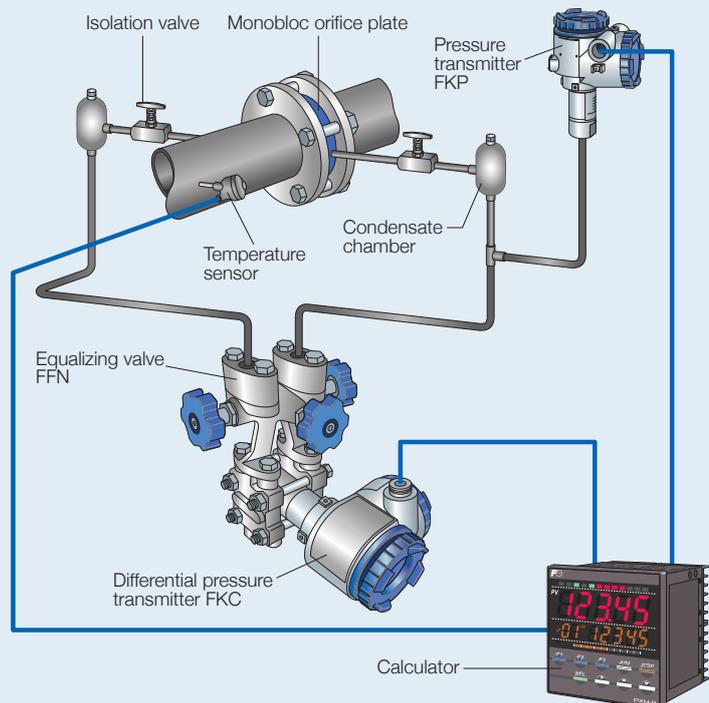
Type	FKC	FKG	FKA	FKE	FKB	FKD	FKP	FKH
Appearance	 Differential pressure (flow)	 Pressure	 Absolute pressure	 Level	 Remote seal type pressure	 Remote seal type differential pressure (flow)	 Pressure	 Absolute pressure
Maximum span (kPa) [URL]	1 6 32 130 500 3000 20000	130 500 3000 10000 50000	16 130 500 3000	32 130 500	130 500 3000 10000 50000	32 130 500	130 500 3000 10000	130 500 3000
Weight in kg (No indicator)	3.1	2.9	2.9	9-19	4-18	9-19	2	2
Accuracy rating	±0.04% (option)/±0.065% (standard) *Refer to the data sheets for details.						±0.1%	±0.2%
Diaphragm materials	316L SS Hastelloy-C Monel Tantalum 316L SS Gold-plated Gold & ceramic coating		316L SS Hastelloy-C Monel Tantalum	316L SS Hastelloy-C Monel Titanium Zirconium 316L SS Gold-plated			316L SS	
Process connection	Rc 1/4			Flange			NPT1/2, Rc1/4, Rc1/2, NPT1/4	
Common specifications	Elevation / Suppression: -100 to +100%URL Span setting range: 1 to 1/100URL Setting interval: 60ms Temperature range: Sensor unit: -40 to +120°C (version for higher temperature available) Electronics: -40 to 85°C Power supply voltage: 10.5-45V DC Output signal / Allowable load resistance: 4-20mA DC/600Ω or less (When 24V DC is applied)				Communication protocol: Fuji protocol or HART protocol Damping time constant: configurable between 0-32 s Zero/span adjustment: by adjustment screws, by optional field configurator, or by HART compatible hand held communicators. Electric cable inlet: G1/2, 1/2-14 NPT, pg13.5 or M20x1.5 Options: Analog indicator, digital indicator, cleaning for oxygen service, cleaning for chlorine service, stainless housing, stainless tag plate, field configurator			

## Equalizing Valve (FFN)

- Compact and lightweight
- Direct coupling type or pressure pipe equipped type



## Flow Measurement System Overview



Information in this catalog is subject to change without notice.  
Read the instruction manuals thoroughly before using the products.

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