

Electronic Transmitters

FCX-AIII Series



Fuji Electric Co., Ltd.

World Top Class FCX-AIII

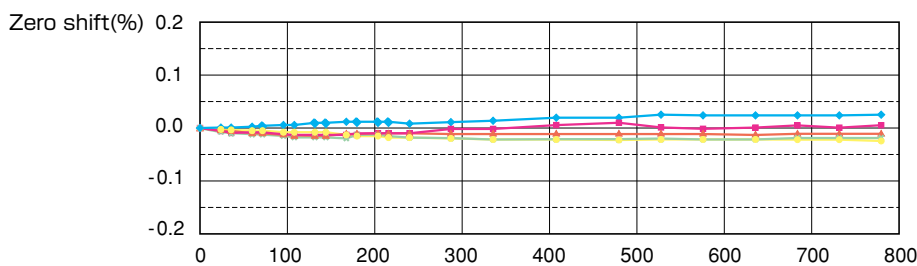
The FCX Series transmitters were introduced in 1989 and have an installed base of more than one million. The FCX-AIII Series is the latest transmitter model demonstrating improved accuracy and long-term stability. The FCX-AIII provides superior reliability, simplified user operation, expanded menu structure,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

Excellence of performance

High Accuracy

- Up to 0.04% (Option) / 0.065% (Standard*)
- (*)Applicable even on low differential pressure range (1kPa)
- (This is exceptional feature of Fuji and not available on any other transmitter manufactures.)

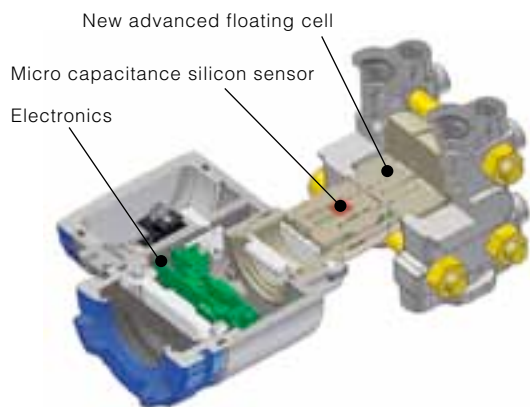
Extra Long term stability : +/- 0.1% / 10 years



Test data of long term stability

Type : FKC535V5 (Maximum span 130kPa)
 Calibrated range : 0 to 130kPa,
 Temperature : Room temperature
 Quantity of tested unit : 5 units.

Reliability and stability established by abundant performance and technological innovation

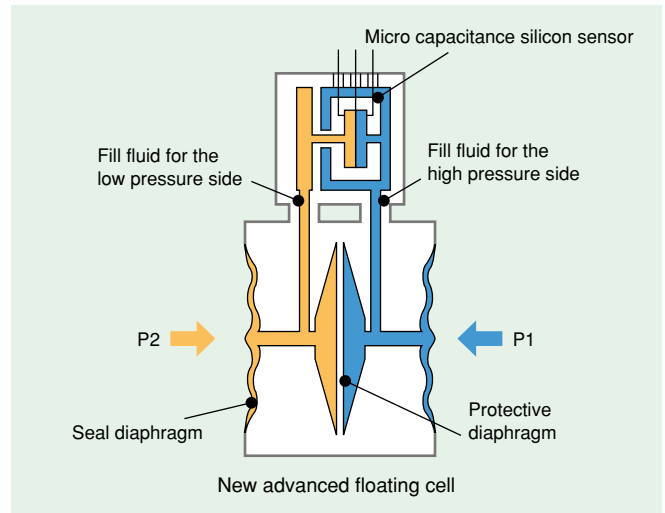
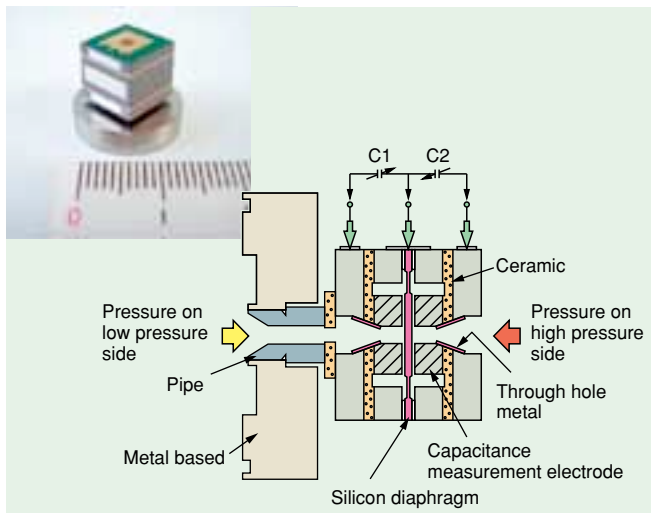


Micro capacitance silicon sensor

- Electrostatic capacitance type silicon sensor used for over a million transmitters. The crystal silicon material has reduced the size of the hysteresis, achieving excellent stability and reproducibility. Optimizing the configuration has helped realize output stability and long-term stability.

New advanced floating cell

- The advanced floating cell protects the sensor from various severe environmental conditions, assuring stability. The downsized sensor has facilitated handling in the field and has superior properties in terms of temperature, static pressure, and excessive pressure in comparison to our conventional model.



Extensive product lineup for a wide range of application requirements.

Seal diaphragm materials resist corrosion and hydrogen permeation

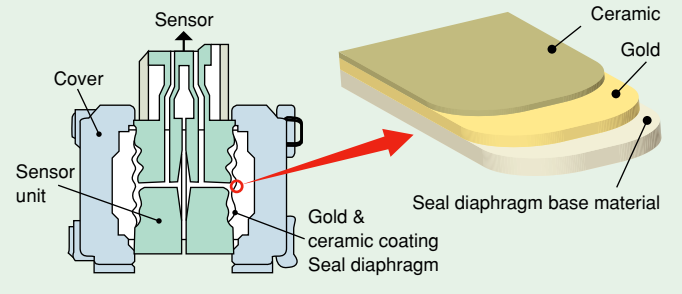
For applications requiring the prevention of hydrogen permeation : Gold & ceramic coating

- The phenomenon, whereby hydrogen and hydrogen atoms in a medium being measured permeate a seal diaphragm and change into hydrogen molecules in the fill fluid, reducing measurement accuracy and a transmitter's lifetime, is known as the "permeation of hydrogen in transmitters." Since our special seal diaphragm double coated with gold and ceramic significantly suppresses the permeation of hydrogen, the transmitter is suitable for the desulfurization facility and hydrogen production unit for petroleum refining.

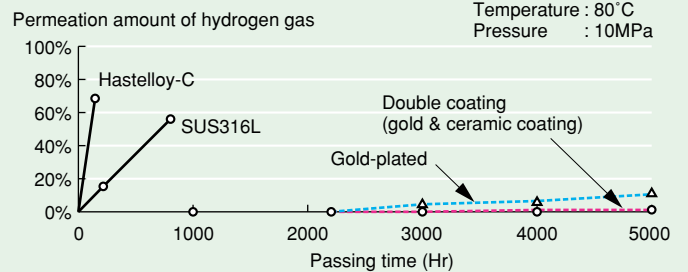
Anti-corrosive type : Titanium, Zirconium, Hastelloy, Monel, Tantalum

- Titanium and Zirconium were added to the lineup of seal diaphragm materials in addition to conventional materials such as Hastelloy, Monel, and Tantalum. By selecting the most appropriate choice from the wide range of corrosion-resistant materials, a process known for corrosion troubles changes into one requiring no maintenance.

Double coating seal diaphragm for the prevention of hydrogen permeation



Relative comparison of hydrogen permeation amount of diaphragm materials



Sample application of various diaphragms

Material name	Sample applications	Material name	Sample applications
Gold & ceramic coating	Desulfurization facility, hydrogen production and supply system, ionized gas (Hydrogen Sulfide)	Hastelloy-C	Various organic acid, inorganic acid, alkaline type
Zirconium	Hydrochloric acid, caustic soda, bleaching agent	Monel	Alkaline type, fluorinated acid
Titanium	Chloride salt, sulfated compound	Tantalum	Hydrochloric acid, sulfuric acid, nitric acid, aqua regalis

High temperature/vacuum transmitter with solid technology

High temperature/vacuum specifications based on our special treatment method

- The remote seal type transmitter designed for high temperatures/vacuum enables stable measurement, even at high temperature and in a high vacuum, via the following special methods used for treatment and assembly. The transmitters are manufactured using methods under strict quality control.
 - 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
- New DP transmitter for static pressure till 1035 Bar (15 000 Psi)
 - Differential pressure ranges : 0 to 1300/5000/30 000 mBar
 - All welded construction (no gasket in contact with the process)
 - Adapted for topside and subsea applications
 - PED conformity in category IV Module H1








A wide variety of products

Can be mounted on both a horizontal and vertical pipe.

Lineup of L type and T type housing

- Lineup of L type housing suitable for the mounting of a vertical pipe stanchion and T type housing suitable for the mounting of a horizontal pipe. A direct mount type is also available, which is compact and lightweight and can be directly mounted on the process.

Two types of Electronics Housings

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

Conformity to various international standards and approvals

FCX-AIII transmitter is a world-class product which comply with all kinds of international requirements.

- Wide array of Communication protocols Hart



- World-wide Hazardous approvals
(FM, CSA, ATEX, TIIS, NEPSI, GOST, IECEx and etc)



- IEC61508/SIL2 conformity
(Functional safety of electrical/electronic/programmable electronic safety-related systems)

- ROHS conformity



Enhanced Configuration & Maintenance tools

Field configuration by 3 push-buttons on LCD indicator

(All parameter settings and configurations can be supported without use of Hand Held Communicator)



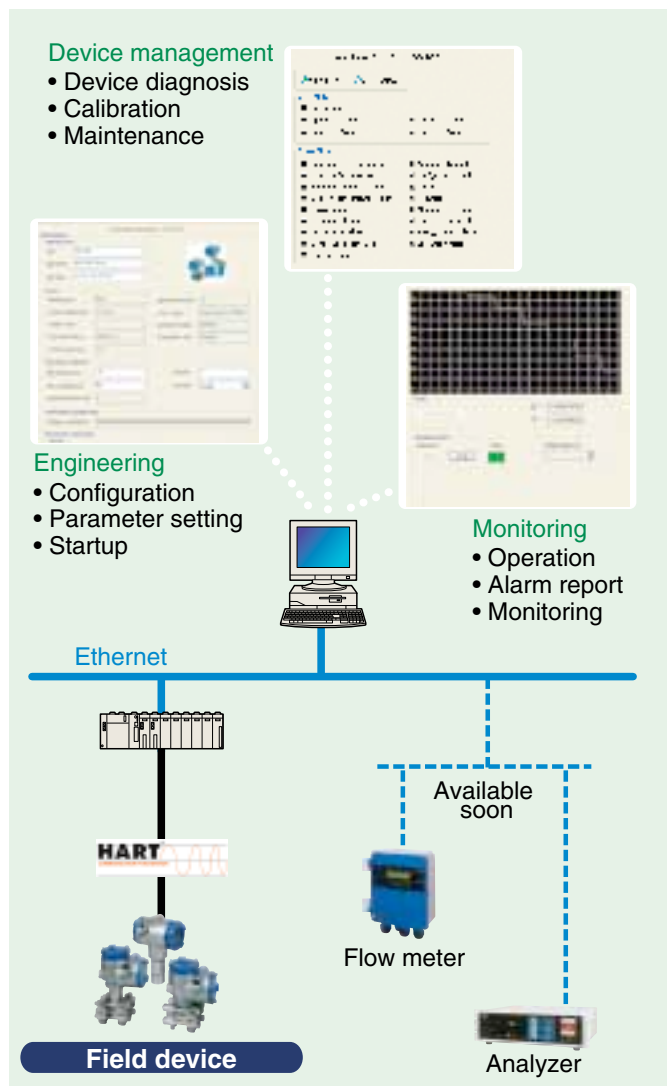
Menu (Example)

1.	Zero Adjustment
2.	Span Adjustment
3.	Constant Current Output(4-20mA)
4.	4mA Current Output Calibration
5.	20mA Current Output Calibration
6.	Damping
7.	Range
8.	Unit
9.	LCD Display Setting
10.	External switch lock









Provision for network

Output signal of FCX-AIII series transmitter conforms to standard HART specification plus (4 to 20mA DC), and it is possible to build up maintenance tool easily.

- Parameter setting
- Range setting
- Process data display
- Gathering fault information, diagnosis
- Trend display, etc



Specifications

External appearance								
	Differential pressure (flow) transmitter	Pressure transmitter	Absolute pressure transmitter	Level transmitter	Remote seal type pressure transmitter	Remote seal type differential pressure (flow) transmitter	Pressure transmitter	Absolute pressure transmitter
Type	FKC	FKG	FKA	FKE,FKY	FKB,FKW	FKD,FKX	FKP	FKH
Specification sheet No.	EDSX6-134	EDSX5-92	EDSX5-91	EDSX7-66 EDSX7-67	EDSX5-94 EDSX5-95	EDSX6-136 EDSX6-137	EDSX5-98	EDSX5-97
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
Approx. Weight (kg) (No indicator)	3.1	2.9	2.9	Approx. 9~19	Approx. 4~18	Approx. 9~19	2	2
Accuracy rating	Up to ±0.04% / standard ±0.065% (Other to be referred to the data sheets)						±0.1%	±0.2%
Diaphragm materials	SUS316L Hastelloy-C Monel Tantalum SUS316L Gold-plated Gold & ceramic coating		SUS316L Hastelloy-C Monel Tantalum	SUS316L Hastelloy-C Monel Tantalum Titanium Zirconium SUS316L Gold-plated			SUS316L	
Process connection dimension	Rc1/4			Individual flange rating			NPT1/2, Rc1/4, Rc1/2, NPT1/4	
Common Specifications	Elevation / Suppression: -100~+100%URL Span setting range: 1~1/100URL Setting interval: 60ms Temperature range Sensor unit: -40~20°C Electronics: -40~85°C Power supply voltage: DC10.5~45V Output signal / Allowable load resistance: DC4~20mA/600Ω or less (When 24V DC is applied)				Support communication protocol: Fuji's protocol and HART's protocol Damping: Time constant: 0 to 32 seconds. Settable. Zero/span adjustment: local zero-span adjustment is standard. 3 push button with LCD or HHC is option. Dimension of the electric cable inlet: G1/2, 1/2-14 NPT, pg13.5 or M20×1.5 Optional specifications: Analog indicator, Digital indicator, Degreasing treatment for oxygen, Chlorine measurement, stainless housing, Stainless tag plate			

Hand held communicator (HHC) Type: FXW



- Display: LCD 16 digits, 4 lines
- Printer (optional): 24 lines print, thermal recording paper
- Weight: Approx. 500g*
- Outline dimensions: 55×98×223mm*

*When no printer is provided.

Equalizing valve Type: FFN



- Downsized and lightweight
- Lineup of the direct equalizing valves and the unequal pressure valves for the connecting tube

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