e-Front runners

Fuji Instrumentation & Control

Electronic Transmitters

FCX-AIII Series

Fuji Electric Systems Co., Ltd.

ECXNO:639

World Top Class FCX-AIII

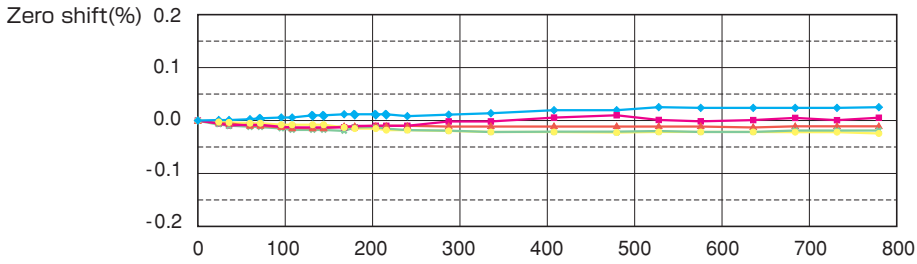
The FCX Series transmitters were introduced in 1989 and have an installed base of more than one million. The FCX-AIII Series is the latest transmitter model demonstrating improved accuracy and long-term stability. The FCX-AIII provides superior reliability, simplified user operation, expanded menu structure,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

Excellence of performance

High Accuracy

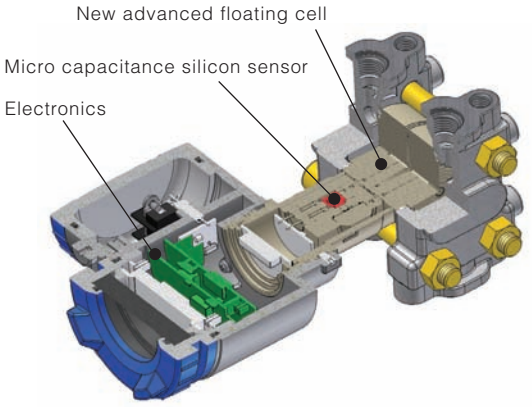
- Up to 0.04% (Option) / 0.065% (Standard*)
  (*)Applicable even on low differential pressure range (1kPa)
  (This is exceptional feature of Fuji and not available on any other transmitter manufactures.)

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

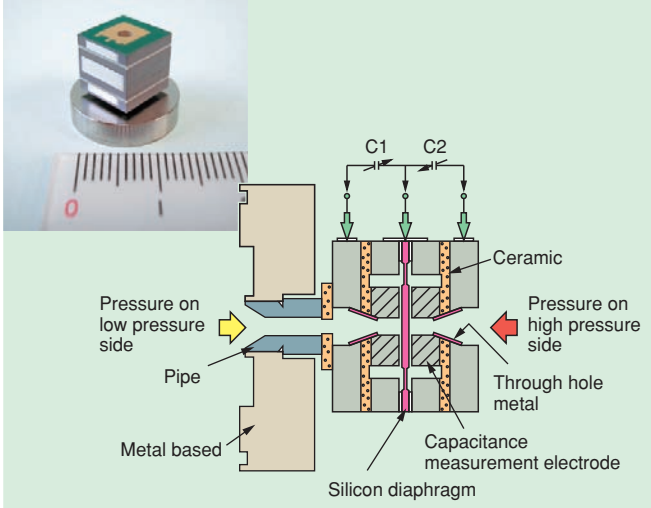


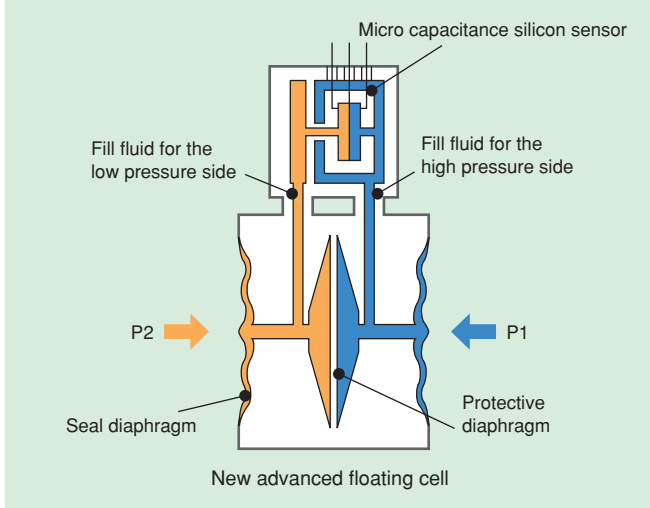
Micro capacitance silicon sensor

- 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.





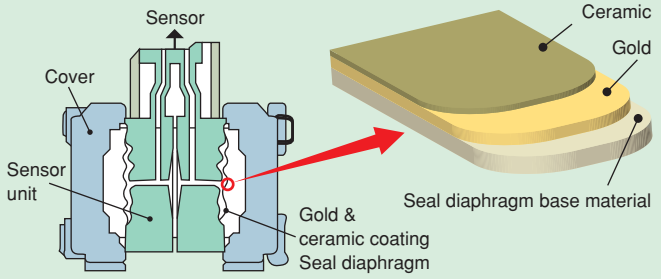
Extensive product lineup for a wide range of application requirements.

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.

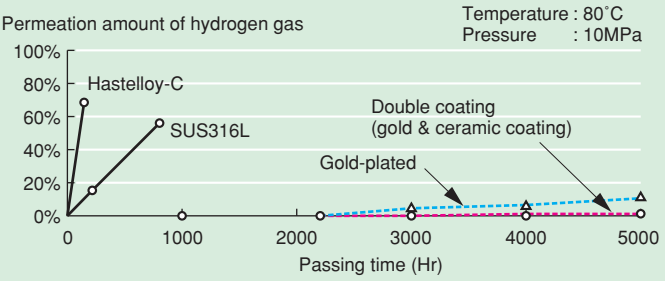
Double coating seal diaphragm for the prevention of hydrogen permeation



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.

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.
(1) Deaeration of parts at high temperatures and in a high vacuum
(2) High temperature and vacuum treatment of fill fluid
(3) 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 toside abd subsea applications
- PED conformity in category IV Module H1

[The type designation] Remote seal type pressure transmitter (FKB)
Remote seal type differential pressure transmitter (FKD)
Level transmitter (FKE)

A wide variely 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 internal requirements.

- Wide array of Communication protocols (Hart/FF/Profibus)

HART COMMUNICATION FOUNDATION

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

FM APPROVED · CSA · Ex · CE · TIIS · Ex NEPSI · PG AIO 18 · SAA

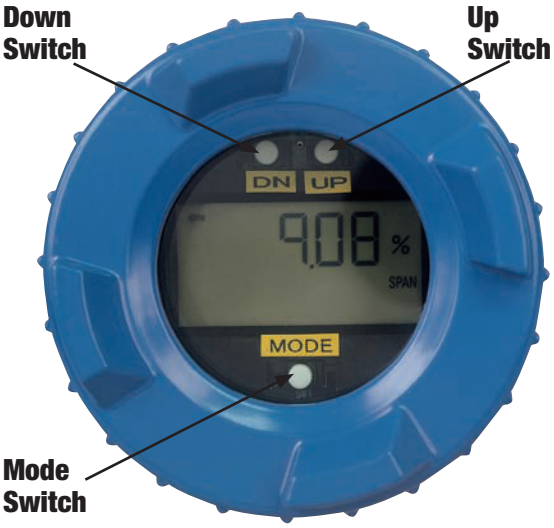
- IEC61508/SIL2 conformity (Functional safety of electrical/electronic/programmable electronic safety-related systems)
- ROHS conformity

RoHS

- ASME B31.3 Pressure piping code construction, excluding level and seal systems
- ANSI/ISA 12.27.01 Secondary seals

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

PC based Maintenance tool
(Fuji Own PC tool, FDT/DTM, AMS and etc.)

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

FDT Group

AMS Intelligent Device Manager
(Pending)

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 reffered 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 adjastment 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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