

KL95 Appliances Chemical-Resistance Pressure Transmitter with Display

Outline

This product is a fluoropolymers diaphragm seal type pressure transmitter. As the O-ring-free structure minimizes contamination risk and the elution of metal, it is suitable for pressure monitoring in the semiconductor manufacturing industry. Integral construction design offers 4 digit indicator, semiconductor contact output (2 points) and analog output (Voltage or current).

Features

- Wetted parts which are all made of fluoropolymers (PFA, PTFE), offers improved corrosion resistance.
- Enclosure rating is IP54 to meet the application requirement of wet station with compact resin body.
- Equipped with bright easy-to-see 4 digit indicator. Display element, transmitter and switch are integrated into a single body.



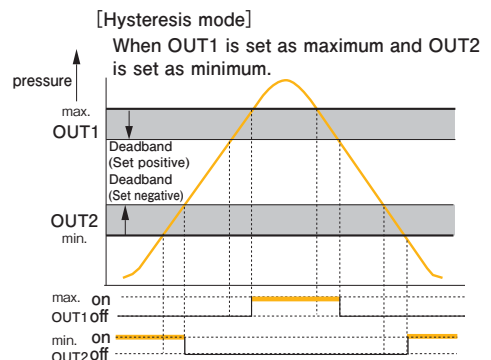
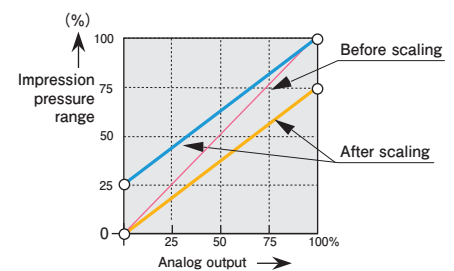
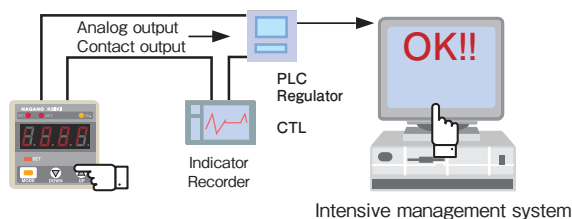
Structure and Chemical Resistance

All the wetted parts use resin (PFA, PTFE) made by fluorine without installing O-ring. This improves corrosion resistance to chemicals, against such as hydrofluoric acid.

*The structure of the wetted part is the same as KL92.

Function

- Display and output scaling function
Free range application is possible by the display and output scaling. Scaling of the analog output can be arbitrarily carried out to a full-scale range.
- Comparator output function
About the comparator output, two relay points of contact are carried. According to a use, two kinds of operation modes can be chosen freely. (A figure is a setting example of Hysteresis mode.)
- Loop check function
Without pressurizing a sensor, output signal can be manual outputted.



Specifications

Item	Description
Fluid	Various liquid to use for a semiconductor (Not corrosive for PFA and PTFE)
Pressure inlet	Inline type Single port type φ1/4, φ3/8, φ1/2 inch Tube connection, various types of nut, male screw
Wetted parts material	Diaphragm: PFA Others: PTFE (PFA)
Pressure range	0 to 0.3, 0.5 MPa (0 to 300, 500 kPa Display)
Allowable pressure	0.7 MPa
Operating temperature	10 to 60°C
Fluid temperature	10 to 80°C
Storage temperature	-10 to 65°C (No freezing inside the sensor)
Operating humidity	25 to 80%RH (No condensation inside the sensor)
Power source	24V DC±10% (In case of 0 to 10 V DC output)
Output	Comparator output: NPN open collector (30V DC 10mA max.) Response: 5ms and under Dead band: Hysteresis mode: Changeble Window comparator mode: 1%F.S. fixed Delay: 0 to 2.00s (Both ON & OFF) Analog output: 4 to 20mA DC (Resistance load 400Ω and under) or 1 to 5, 0 to 5, 0 to 10V DC (Resistance load 10kΩ or more) Output accuracy: ±1% F.S. Response time: 50ms and under (At shipping)
Accuracy	Display accuracy ±(1% F.S.+1 digit)
Temperature coefficient	±0.05% F.S./°C (Zero / Span)
Enclosure	Splash-proof excluding cable end (IP54)
Chassis material	Polypropylene (PP), Fluorocarbon polymers (PTFE, PFA)
Weigh	Approx. 210g (KL95-171 Cable 2 m)
CE compliance	Applicable Standards: EN61326-1: 2013; EN61326-2-3: 2013
Display	Display type 4 digit LED display (Height of letter: 8mm) Display period 0.2s
Display unit	kPa
Consumption electric current	50mA and under
Operation lamp	Red LED (OUT1, 2) Light at ON
Scaling function	Indicated value, Analog output
Loop check function	Comparator output, Analog output
Filter function	OFF, 25ms, 250ms, 2.5s, 5s, 10s
Self check function	Over pressure / Error message for adjustment
Hold function	Peak value / Bottom value indication
Other function	With one touch of zero adjustment, Key lock

Operating condition

Free from combustible gas or liquid causing fire/explosion under normal condition

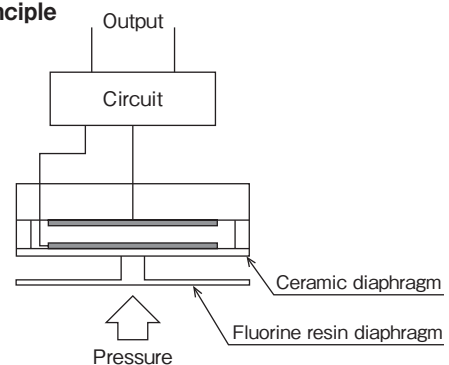
*Please inquire for performance about various liquid.

Pressure range and max. value for each unit:

Pressure range	Max. display value
	kPa
0 to 0.3 kPa	300
0 to 0.5 kPa	500

Display range: -1999 to 6000

Detection principle

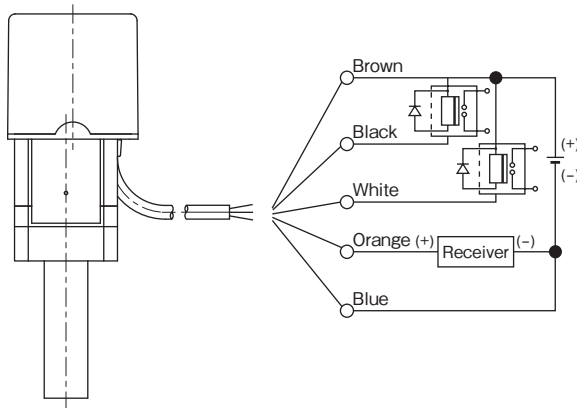


Cable

	Environmental temperature	Conductor		Cable outer diameter (mm)	Minimum bend radius (mm)
		Cross-section area (mm ²)	Twisted conductors (pcs./mm)		
Shielded cable (Standard)	-30 to 80°C	0.18	7/0.18	φ4	16

Wiring

Put the transistor protective diodes in relay in case of relay input.



Load resistance

4 to 20mA DC: 400Ω and under

1 to 5, 0 to 5, 0 to 10V DC: 10kΩ or more

Cable wiring color

Brown Power source (+) 24V DC

Black Open collector (OUT1)

White Open collector (OUT2)

Orange ... Analog output (+)

(4 to 20mA DC or 1 to 5, 0 to 5, 0 to 10V DC)

Blue Power source (-)

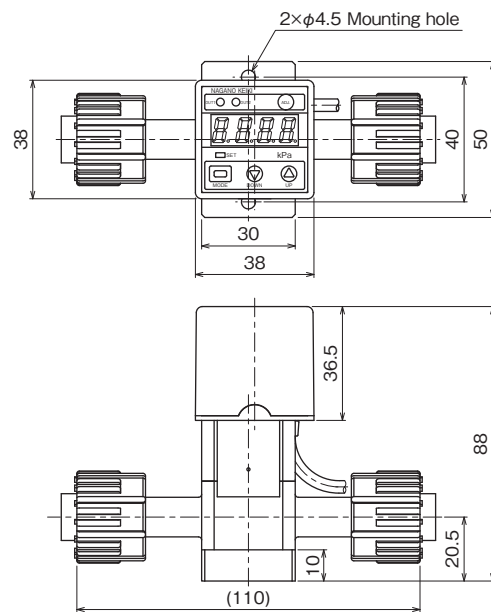
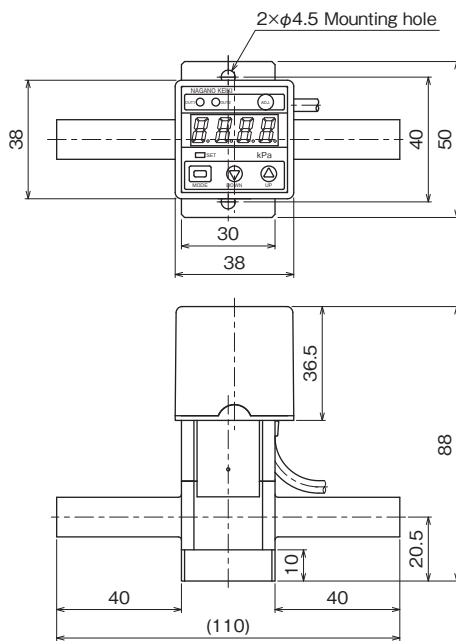
Dimensions 1

Unit: mm

Inline type

Tube connection

S300 nut (Press fit) from Nippon Pillar Packing Co., Ltd.



Model number	Connecting port
KL95-151	φ1/4 inch
KL95-161	φ3/8 inch
KL95-171	φ1/2 inch

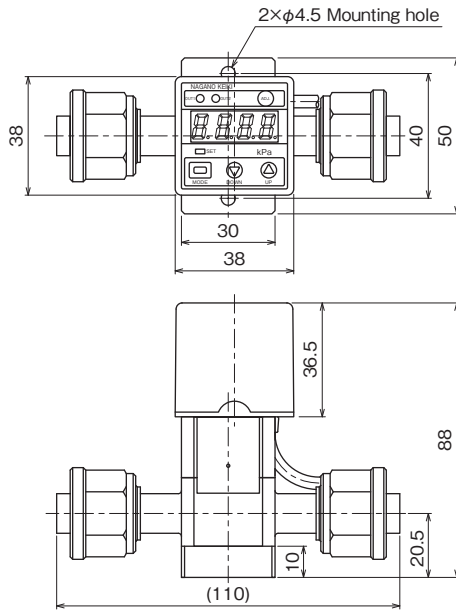
Model number	Connecting port
KL95-152	φ1/4 inch
KL95-162	φ3/8 inch
KL95-172	φ1/2 inch

Dimensions 2

Unit: mm

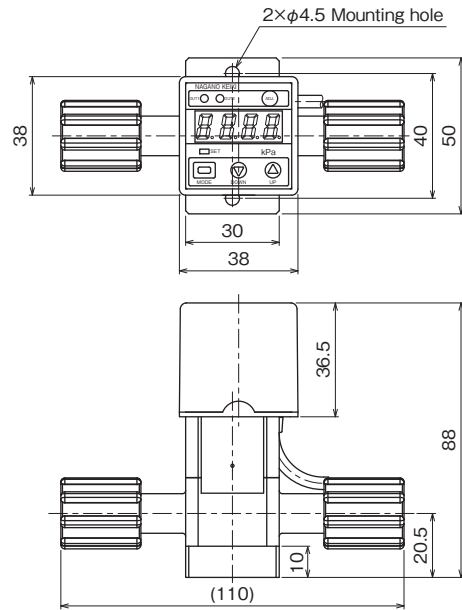
Inline type

20 series nut (Press fit) from Flowell Corporation



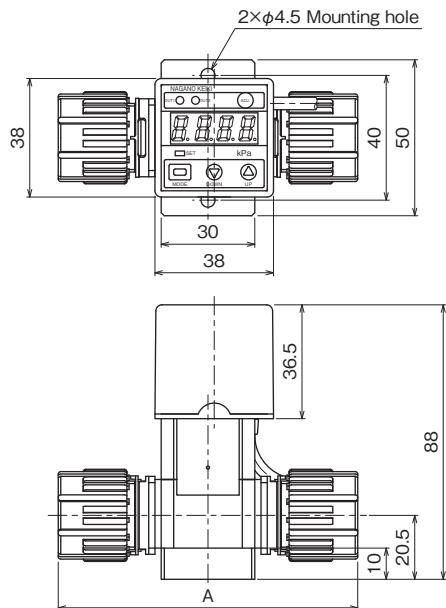
Model number	Connecting port
KL95-154	φ1/4 inch
KL95-164	φ3/8 inch
KL95-174	φ1/2 inch

Flare nut (Insert)



Model number	Connecting port
KL95-156	φ1/4 inch
KL95-166	φ3/8 inch
KL95-176	φ1/2 inch

S300 male screw from Nippon Pillar Packing Co., Ltd.



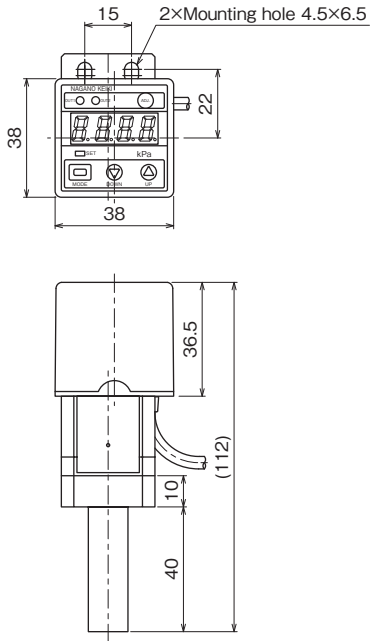
Model number	Connecting port	A size
KL95-15A	φ1/4 inch	68
KL95-16A	φ3/8 inch	80
KL95-17A	φ1/2 inch	96

Dimensions 3

Unit: mm

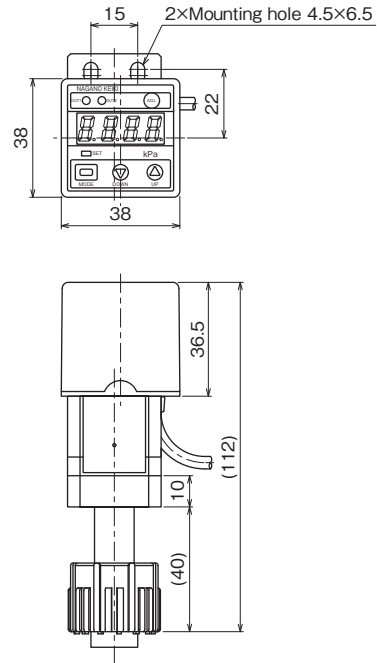
Single port type

Tube connection



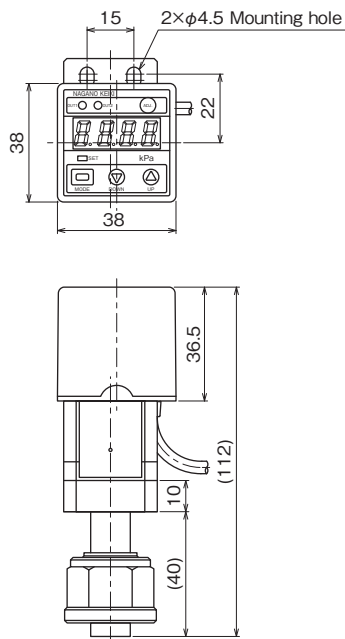
Model number	Connecting port
KL95-251	φ1/4 inch
KL95-261	φ3/8 inch
KL95-271	φ1/2 inch

S300 nut (Press fit) from Nippon Pillar Packing Co., Ltd.



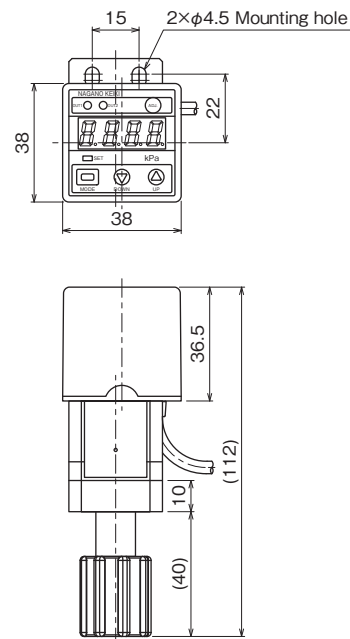
Model number	Connecting port
KL95-252	φ1/4 inch
KL95-262	φ3/8 inch
KL95-272	φ1/2 inch

20 series nut (Press fit) from Flowell Corporation



Model number	Connecting port
KL95-254	φ1/4 inch
KL95-264	φ3/8 inch
KL95-274	φ1/2 inch

Flare nut (Insert)



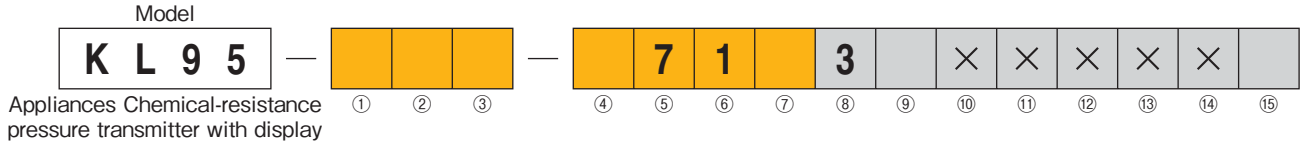
Model number	Connecting port
KL95-256	φ1/4 inch
KL95-266	φ3/8 inch
KL95-276	φ1/2 inch

KL95

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Model number configuration

Please specify the model number, each specs and the range for ordering.



Model number		Selective spec.		Additional spec. (Option)	
① Connecting type	1	In-line type	Element: PFA Sensing part (Case, Fitting): PTFE (PFA)		
	2	Single port type	Element: PFA Sensing part (Case, Fitting): PTFE (PFA)		
② Pressure connecting bore diameter	5	Bore diameter (O.D. 1/4", I.D. 5/32")			
	6	Bore diameter (O.D. 3/8", I.D. 1/4")			
	7	Bore diameter (O.D. 1/2", I.D. 3/8")			
③ Pressure connecting port	1	Tube connection			
	2	S300 nut (Press fit) from Nippon Pillar Packing Co., Ltd.			
	4	20S nut (Press fit) from Flowell Corporation			
	6	Flare nut (Insert)			
	A	S300 male screw from Nippon Pillar Packing Co., Ltd. (Inline type only)			
④ Pressure range	3	0 to 0.3MPa (300kPa Display)			
	5	0 to 0.5MPa (500kPa Display)			
⑤ Accuracy	7	±(1%F.S.+1 digit)			
⑥ Power source	1	24V DC±10%			
⑦ Analog output	7	0 to 10V DC			
	6	0 to 5V DC			
	8	1 to 5V DC			
	1	4 to 20mA DC			
⑧ Signal output	3	NPN open-collector output × 2 points			
⑨ Other additional spec.	1	Cable 2 m (Standard)			
	2	Cable 4 m			
⑮ Documents	0	Nil			
	1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, inspection / traceability certificate, standard inspection report, attended inspection			

Please specify the pressure range and units separately besides selection of range code.

*Specify "X" if there is no applicable specification.