

# KL14 Differential Pressure Transmitter

## Outline

This differential pressure transmitter is equipped with a high-sensitivity and high-precision silicon diaphragm sensor.

It can be used mainly for monitoring the filter for clean-room/bio-clean room, etc. and controlling the pressure in the rooms.

- Monitoring of indoor pressure such as clean room, etc.
- Detection of air conditioner filter clogging.

## Features

- High-precision and high-reliance capacitance-type sensor is equipped.
- Both surface mounting and DIN rail mounting are available.
- Easy wiring by pluggable connector prevents miswiring.
- ON/OFF status is displayed LED.



## Features of sensor

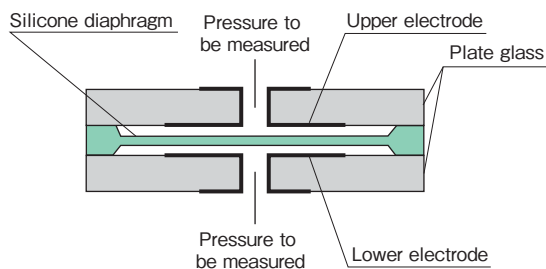
### Silicon capacitance (SC) Sensor

Because of its simple construction designed with moving parts fewer than ever, combined with a fine, micro silicone diaphragm, the sensor is very resistant to vibrations and shocks.

#### Actual size



SC Sensor  
Sensor chip



## Attachment method



Easy wiring by  
pluggable connector.

Surface mounting: 35 mm DIN rail mounting



Conduit mounting kit (Option) is available.

### Specifications

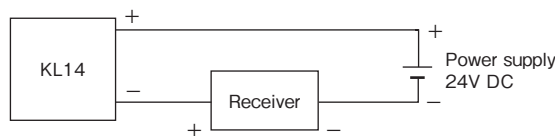
Item	Description
Fluid	Dry air, Nitrogen gas
Operating condition	Free from combustible gas or liquid causing fire/explosion under normal condition
Type	Surface mounting (DIN rail)
Differential pressure range	0 to 50 Pa → 5 kPa, ± 50 Pa → ± 2 kPa
Output signal	4 to 20mA DC 2 wire system
Power supply (Load resistance)	12V DC (0Ω) to 36V DC (1091Ω) Refer to Power Supply Voltage - Loop Resistance Graph.
Allowable maximum pressure	Single withstand pressure 100kPa Double withstand pressure 100kPa
Accuracy	±0.8%F.S. incl. linearity and hysteresis
Positioning error	±1%F.S. Maximum (Range of 250 Pa and under) Calibration in vertical position at shipping
Fitting	φ5 Barb type, Rc1/8 *1
Gas contact parts material	Glass, Aluminum, Silicon, PBT resin, Brass
Temperature coefficient	±0.06%F.S./°C
Compensated temp. range	2 to 55°C (No freezing)
Operating temperature limits	-15 to 70°C (No freezing, no condensation)
Storage temperature range	-40 to 80°C (No freezing, no condensation)
Operating humidity limits	10 to 80%RH (No condensation)
Response	250 ms
Chassis material	ABS Resin, Incombustibility (UL94-5VA)
Casing protection structure	Indoor use
Weight	Approx. 80g
CE Compliance *2	Applicable Directive: 89/336/EEC Applicable Standards: EN61326:1997; EN61326/A1:1998; EN61326/A2:2001; EN61326/A3:2003 (EMI Class B / EMS Annex A, F)

\*1 For Rc1/8 fitting, please contact us. It becomes the lot production counterparts.

\*2 Please connect supply of electric power net that doesn't receive the influence of the excess voltage by the thunder. It is not possible to use as safety accessories.

### Wiring

2 wire system (4 to 20mA DC)



### Loop resistance

#### [Loop Resistance]

To Determine minimum loop supply voltage:

$$LSV (\text{min}) = 12 \text{ VDC} + [0.022 (\text{A}) \times RL (\Omega)]$$

Where:

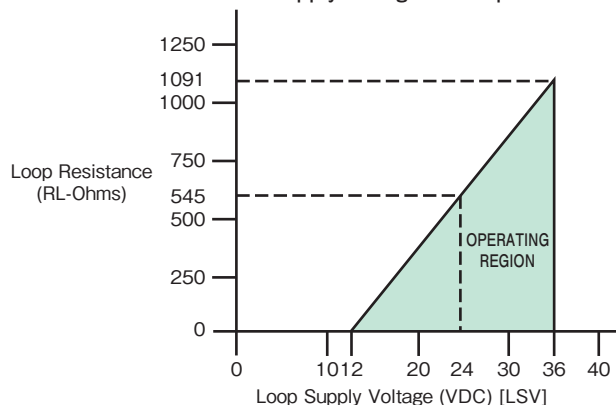
LSV = Loop Supply Voltage (VDC)

RL = Loop Resistance (Rs + Rw) (Ω)

Rs = Sense Resistance (Ω)

Rw = Wiring Resistance (Ω)

Power Supply Voltage vs. Loop Resistance

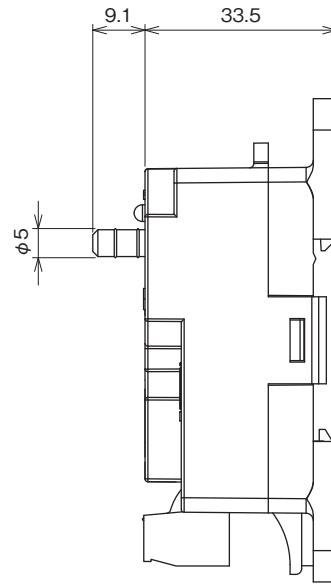
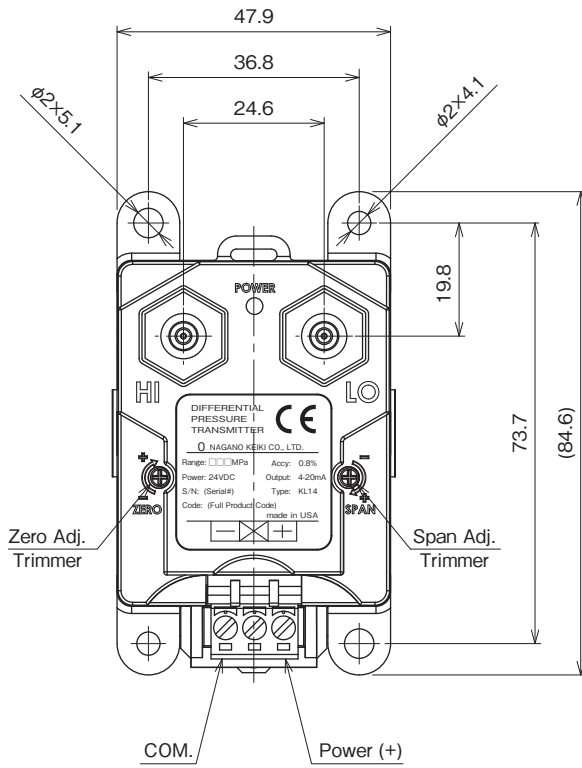


# KL14

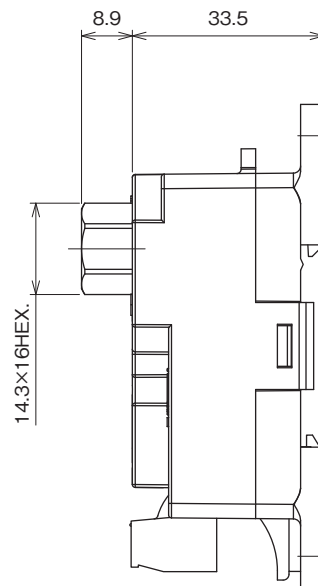
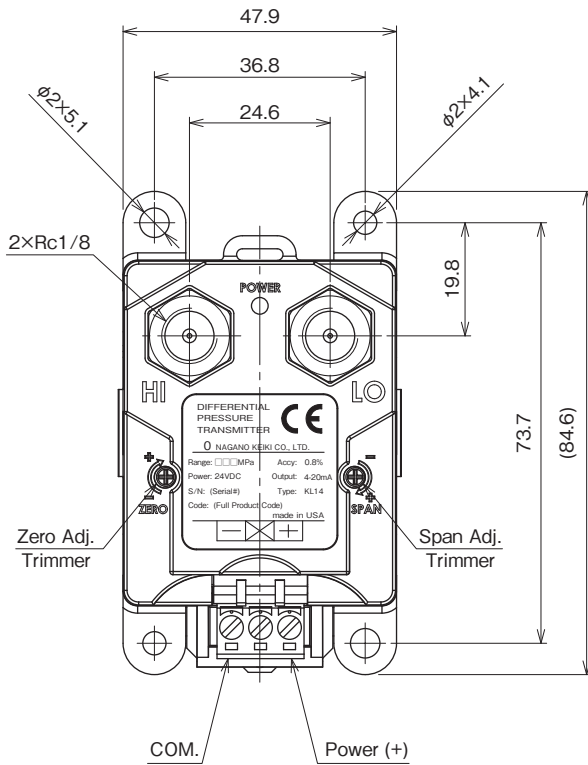
## Differential Pressure Transmitter

### Dimensions 1

Unit: mm



[KL14-201]



[KL14-261]

# KL14

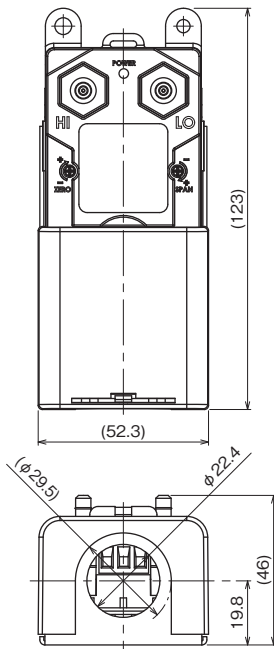
## Differential Pressure Transmitter

### Dimensions 2

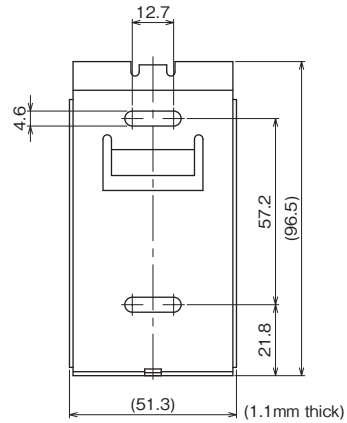
Conduit mounting kit (Option)

Unit: mm

[KL14-201]



Dimension for installation



### Model number configuration

For ordering, please specify the model number, each specs and the differential pressure range.

Model		Differential Pressure Transmitter																	
Model number		Selective spec.			Additional spec. (Option)														
KL14		2	1	6	9	1	X	X	X	X	X	X	X	X	X	X	X		
①	Type	2	Surface mounting																
②	Pressure connecting port	0	$\phi 5$ , Barb type																
		6	Rc1/8 (④ Differential pressure range field marked with *, lot production compatible product)																
③	Gas contact parts material	1	Glass, Aluminum, Silicon, PBT resin, Brass																
Please specify the differential pressure range and units separately besides selection of range code.	④	Differential pressure range	M	0 to 50Pa										T	0 to 5kPa *				
			N	0 to 100Pa										B	$\pm 50$ Pa				
			P	0 to 200Pa *										C	$\pm 100$ Pa				
			J	0 to 300Pa *										D	$\pm 200$ Pa *				
			Q	0 to 500Pa *										E	$\pm 500$ Pa				
			R	0 to 1kPa										F	$\pm 1$ kPa *				
			S	0 to 2kPa *										G	$\pm 2$ kPa *				
			⑤	Accuracy	6	$\pm 0.8\%$ F.S.													
⑥	Power supply	9	12V DC (0 $\Omega$ ) to 36V DC (1091 $\Omega$ ) Refer to Power Supply Voltage - Loop Resistance Graph.																
⑦	Output	1	4 to 20mA DC																
⑨	Other additional spec.	0	Nil																
		L	Conduit mounting kit																
⑮	Documents	0	Nil																
		1	Required (Please specify the desired documents separately.) Submission drawings, instruction manual, inspection procedure, test report (1 pc 1 copy), inspection / traceability certificate, attended inspection																

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※Specify "X" if there is no specification item.