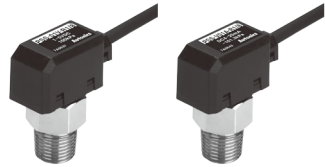


# Autonics Small Pressure Sensor PSS SERIES

## INSTRUCTION MANUAL



Thank you for choosing our Autonics product.  
Please read the following safety considerations before use.

### ■ Safety Considerations

- ※Please observe all safety considerations for safe and proper product operation to avoid hazards.
- ※Safety considerations are categorized as follows.
- Warning** Failure to follow these instructions may result in serious injury or death.
- Caution** Failure to follow these instructions may result in personal injury or product damage.
- ※The symbols used on the product and instruction manual represent the following.
- △symbol represents caution due to special circumstances in which hazards may occur.

#### △ Warning

- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)**  
Failure to follow this instruction may result in personal injury, fire, or economic loss.
- Do not use the unit in flammable gas because it does not have an explosion proof construction.**  
Failure to follow this instruction may result in explosion.

#### △ Caution

- Do not use the unit outdoors.**  
Failure to follow this instruction may result in shorten the life cycle of the unit or electric shock. This unit is designed only for the indoors environment.
- Do not apply the pressure beyond rated pressure.**  
Failure to follow this instruction may result in product damage.
- Do not use the unit beyond the rated power supply.**  
Failure to follow this instruction may result in product burn out.
- Do not make a short circuit for the load.**  
Failure to follow this instruction may result in product damage.
- Check the polarity of the power contact before wiring the unit.**  
Failure to follow this instruction may result in product burn out.
- The unit is only for non-corrosive gas. Do not use corrosive gas or liquid.**  
Failure to follow this instruction may result in product damage.
- Do not apply excessive force or twist the case.**  
Failure to follow this instruction may result in product damage.

### ■ Ordering Information

PS S - V 01 V - R1/8

Pressure port	R1/8	Standard
Output	V	Voltage(1-5VDC) output
	A	Current(DC4-20mA) output
Pressure range	01	100kPa
	1	1,000kPa
Pressure type	No-mark	Standard pressure type
	V	Negative pressure type
	C	Compound pressure type
Size	S	Small(W11.8 × H29.3 × L24.8mm)
Item	PS	Pressure sensor

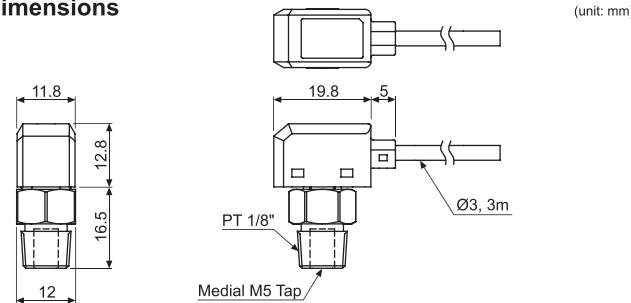
※ The above specifications are subject to change and some models may be discontinued without notice.

### ■ Specifications

Pressure type		Gauge pressure			
		Negative pressure	Standard pressure		Compound pressure
Model	Voltage (1-5VDC) output	PSS-V01V-R1/8	PSS-01V-R1/8	PSS-1V-R1/8	PSS-C01V-R1/8
	Current(DC4-20mA) output	PSS-V01A-R1/8	PSS-01A-R1/8	PSS-1A-R1/8	PSS-C01A-R1/8
Rated pressure range		0.0 to -101.3kPa	0.0 to 100.0kPa	0 to 1,000kPa	-101.3 to 100.0kPa
Analog output range		5.0 to -101.3kPa	-5.0 to 110.0kPa	-50 to 1,100kPa	-101.3 to 110.0kPa
Max. pressure range		2 times of rated pressure	2 times of rated pressure	1.5 times of rated pressure	2 times of rated pressure
Applied fluid		Air, Non-corrosive gas			
Power supply		12-24VDC (ripple P-P: Max. 10%)			
Permissible voltage range		90 to 110% of rated voltage			
Current consumption		Voltage output type: Max. 15mA, Current output type: —			
Effect by power supply		Max. ±0.3%F.S.			
Protection circuit		Reverse polarity protection circuit			
Analog output	Voltage output	●Output voltage: 1-5VDC ±2% F.S.		●Linear: Max. ±1% F.S.	
	Current output	●Output impedance: 1kΩ		●Output current: DC4-20mA ±2% F.S.	
Temp. characteristics of analog output		Max. ±2% F.S. of output voltage/current at 25°C within temperature range 0 to 50°C			
Insulation resistance		Over. 50MΩ(at 500VDC megger)			
Dielectric strength		2000VAC 50/60Hz for 1minute			
Vibration		1.5mm amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 2 hours			
Environ-ment	Ambient temp.	0 to 50°C, storage: -10 to 60°C			
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH			
Protection structure		IP40(IEC Standards)			
Material		Front case: PC, Rear case: PC, Pressure port: Nickel Plated Brass			
Cable		Ø3mm, 4-wire, Length: 3m (AWG28, Core diameter: 0.08mm, Number of cores: 19, Insulator diameter: Ø0.88mm)			
Sold separately		Sensor connector wire mount plug(CNE-P04-YG)			
Approval		CE			
Weight <sup>※1</sup>		Approx. 60g (approx. 26g)			

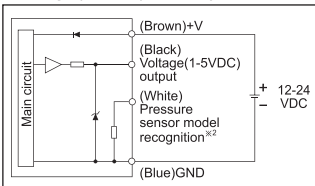
※1: The weight includes packaging. The weight in parentheses in for unit only.  
※F.S.(Full Scale): Rated pressure.  
※Environment resistance is rated at no freezing or condensation.

### ■ Dimensions



### ■ Connections

#### ● Voltage (1-5VDC) output type

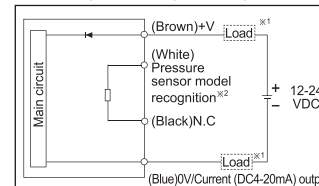


※1: Load can be connected any directions.

※2: Pressure sensor model is automatically recognized only by Autonics PSM Series, Multi-CH Pressure and Sensor indicator.

※ Allowable load impedance: Max. 100Ω for 12VDC power, Max. 500Ω for 24VDC

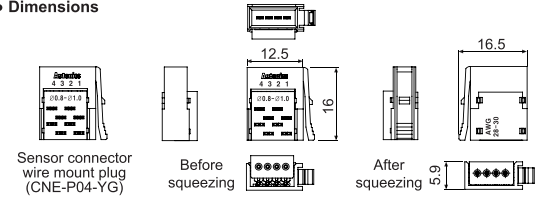
#### ● Current (DC4-20mA) output type



### ■ Sensor Connector Wire Mount Plug (sold separately)

You can connect PSS Series and Autonics PSM Series, Multi-CH Pressure and Sensor indicator, conveniently with sensor connector wire mount plug(CNE-P04-YG, sold separately).

#### ● Dimensions



#### ●Wiring for sensor connector wire mount plug

Voltage(1-5VDC) output type			Current(DC4-20mA) output type		
Pin No.	Color	Function	Pin No.	Color	Function
1	Brown	+V	1	Brown	+V
2	White	Pressure sensor model <sup>※1</sup>	2	White	Pressure sensor model <sup>※1</sup>
3	Blue	0V	3	Black	N-C
4	White	Voltage(1-5VDC) output	4	Blue	0V/Current(DC4-20mA) output

#### ●How to squeeze sensor connector wire mount plug

##### 1. Insert wire

- Check the pin number and insert wires at the insertion part of the cover.
- Check the wires are inserted at the end of a cover.

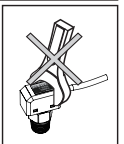
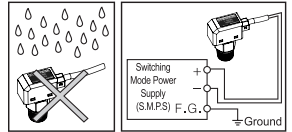
##### 2. Squeeze the connector

- Insert the cover to the body with tools (press fitting plier, etc.)
- ※Squeeze it with tools at the side direction as the right figure.



### ■ Cautions During Use

- Do not insert any sharp or pointed object into pressure port.  
Failure to follow this instruction may result in malfunction and damage the sensor.
- Be sure that this unit must avoid direct touch with water, oil, thinner etc.
- It is ready to operate 3sec. after it is turned ON. Be sure not to use the product within 3sec.
- When using switching mode power supply, frame ground (F.G.) terminal of power supply should be grounded.
- To avoid inductive noise, keep the wiring away from power line, high voltage line.  
Failure to follow this instruction may result in malfunction.
- When moving this unit from warm place to cold place, please remove the humidity on the cover then use it.
- Do not use a spanner for mounting this unit.  
Tightening torque for one touch fitting should be below 10N-m.
- Do not apply a tensile strength in excess of 30N to the cables or connector.
- Allowable installation environment
  - ①It shall be used indoor.
  - ②Altitude Max. 2,000m
  - ③Pollution degree 3
  - ④Installation Category II



※Failure to follow this instruction may result in malfunction.

### ■ Major Products

- Photoelectric sensors
- Fiber optic sensors
- Door sensors
- Door side sensors
- Area sensors
- Proximity sensors
- Pressure sensors
- Rotary encoders
- Connectors/sockets
- Switching mode power supplies
- Control switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper motors/drivers/motion controllers
- Graphic/Logic panels
- Field network devices
- Laser marking system(Fiber, CO<sub>2</sub>, Nd:YAG)
- Laser welding/cutting system
- Temperature controllers
- Temperature/Humidity transducers
- SSR/Power controllers
- Counters
- Timers
- Panel meters
- Tachometer/Pulse(Rate)meters
- Display units
- Sensor controllers

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