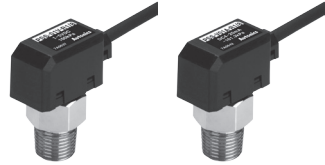


# Small Pressure Sensor PSS SERIES

## 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, or economic loss.
- Install on a device panel or to a pressure port directly to use.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Do not connect, repair, or inspect the unit while connected to a power source.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Check 'Connections' before wiring.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Do not disassemble or modify the unit.**  
Failure to follow this instruction may result in personal injury, or economic loss.

#### Caution

- Use the unit within the rated specifications.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Use dry cloth to clean the unit, and do not use water or organic solvent.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- This product is designed to detect the pressure of noncorrosive gas. Do not use for corrosive gas.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**  
Failure to follow this instruction may result in personal injury, or economic loss.
- Keep metal chip, dust, and wire residue from flowing into the unit.**  
Failure to follow this instruction may result in personal injury, or economic loss.

### 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                |

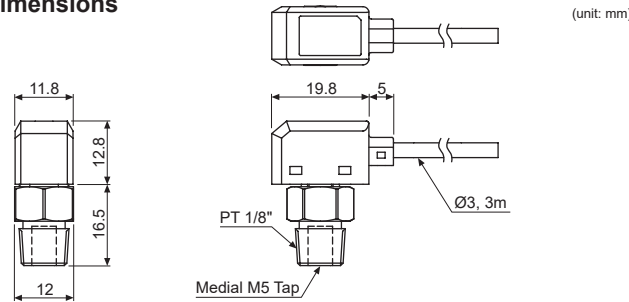
- ⊗ The above specifications are subject to change and some models may be discontinued without notice.
- ⊗ Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

### Specifications

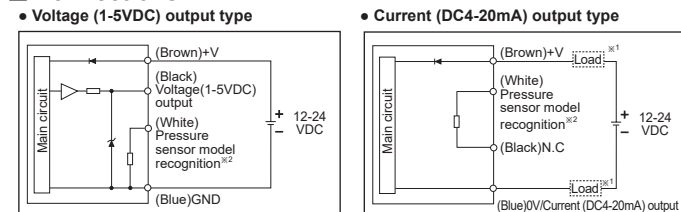
|  |   |                                   |   |                           |
|--|---|-----------------------------------|---|---------------------------|
| Pressure type                          | Gauge pressure  |                                   |   |                           |
|  | Negative pressure   | Standard pressure                 |   | Compound pressure         |
| Model                                  | Voltage (1-5VDC) output<br>PSS-V01V-R1/8  | PSS-01V-R1/8                      | PSS-1V-R1/8   | PSS-C01V-R1/8             |
|  | Current(DC4-20mA) output<br>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                                | 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 current: DC4-20mA ±2% F.S. •Linear: Max. ±1% 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-□)  |                                   |   |                           |
| Approval                               | CE  |                                   |   |                           |
| Weight*1                               | Approx. 60g (approx. 26g)   |                                   |   |                           |

- \*1: The weight includes packaging. The weight in parenthesis is for unit only.
- \*F.S.(Full Scale): Rated pressure.
- \*Do not pull the cable with a tensile strength of 30N or over.
- \*Environment resistance is rated at no freezing or condensation.

### Dimensions



### Connections

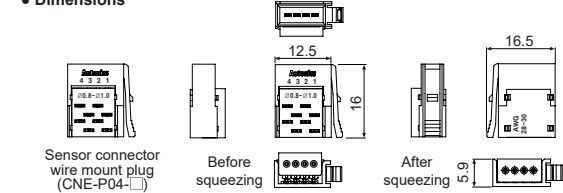


- \*1: Load can be connected any directions.
- \*2: Pressure sensor model is automatically recognized only by Autonics PSM Series, Multi-CH Pressure and Sensor indicator.
- \*Allowable load impedance: Max. 100Ω for 12VDC power, Max. 500Ω for 24VDC
- \*The product is not equipped with the output short over current protection circuit. If short-circuit the control output terminal or supply current over the rated specification, it may result in product damage.

### 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-□, 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  | 2                             | White | Pressure sensor model       |
| 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

- 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.
- Squeeze the connector**  
- Insert the cover to the body with tools (press plier, etc.)  
⊗ Squeeze it with tools at the side direction as the right

### Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, It may cause unexpected accidents.
- 12-24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- Use the product, 3 sec after supplying power.
- When using switching mode power supply, frame ground (F.G.) terminal of power supply should be grounded.
- Wire as short as possible and keep away from high voltage lines or power lines, to prevent inductive noise.
- This unit may be used in the following environments.
  - ① Indoors (in the environment condition rated in)
  - ② Altitude max. 2,000m
  - ③ Pollution degree 3
  - ④ Installation category II

### 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., Nd: YAG)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometers/Pulse (Rate) Meters
- Display Units
- Sensor Controllers

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