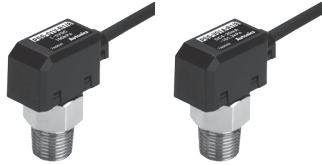


Autonics Small Pressure Sensor PSS SERIES

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 fire, 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 fire.
- Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in fire.
- Check 'Connections' before wiring.**
Failure to follow this instruction may result in fire.
- Do not disassemble or modify the unit.**
Failure to follow this instruction may result in fire.

Caution

- Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage.
- Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in fire.
- 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 product damage.
- 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 fire or explosion.
- Keep metal chip, dust, and wire residue from flowing into the unit.**
Failure to follow this instruction may result in fire or 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

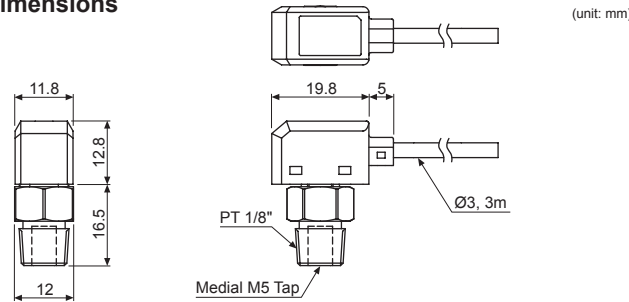
- ⊗ The above specifications are subject to change and some models may be discontinued without notice.
- ⊗ Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

Specifications

Pressure type	Gauge pressure				
	Negative pressure	Standard pressure	Compound pressure		
Model	Voltage (1-5VDC) output	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 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				
Environment	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)				

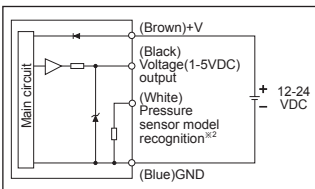
- *1: The weight includes packaging. The weight in parenthesis is for unit only.
- *F.S.(Full Scale): Rated pressure.
- *Do not pull the cable with a tensile strength of 30N or over.
- *Environment resistance is rated at no freezing or condensation.

Dimensions



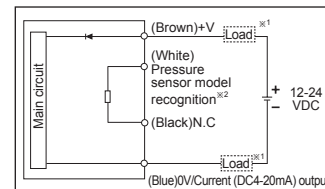
Connections

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
- *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.

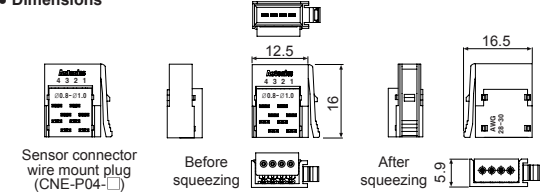
Current (DC4-20mA) output type



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-□, 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

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

- 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 'Specifications')
 - 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/Socket
- 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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