

Thank you for purchasing the JUXTA Signal Conditioner.
Please read through this manual before use for correct handling.

CAUTIONARY NOTES FOR SAFE USE OF THE PRODUCT

This User's Manual should be carefully read before installing and operating the product. The following symbol is used on the product and in this manual to ensure safe usage.



This symbol is displayed on the product when it is necessary to refer to the User's Manual for information on personal and instrument safety. This symbol is displayed in the User's Manual to indicate precautions to avoid danger to the operator, such as an electric shock.

The following symbols are used only in this manual.



Note

Draws attention to essential information for understanding the operations and/or functions of the product.

CHECKING PRODUCT SPECIFICATIONS AND PACKAGE

(1) Checking the Model and Product Specifications

Check that the model and specifications indicated on the nameplate attached to the main unit are as ordered.

(2) Packaged Items

Check that the package contains the following items:

- VJF1: 1 unit
- Tag number label: 1 sheet
- User's Manual (this manual): 1 copy

GENERAL

The VJF1 is a compact, plug-in pneumatic to electric (P/E) converter that converts pneumatic signal into DC voltage or DC current signals.

MODEL AND SUFFIX CODES

Model	Suffix codes							Description	
VJF1	-0	1	□	-□	□	N	0	/□	Pneumatic to Electric Converter
	-0								Always 0
Output configuration		1							Single
Power supply							6		100-240 V AC/DC ^{(*)1}
							7		15-30 V DC ^{(*)2}
Input signal							1		0.2 to 1 kgf/cm ²
							2		3 to 15 psi
							3		20 to 100 kPa
							Z		(Custom order)
Output-1 signal								A	4 to 20 mA DC
								B	2 to 10 mA DC
								C	1 to 5 mA DC
								D	0 to 20 mA DC
								E	0 to 16 mA DC
								F	0 to 10 mA DC
								G	0 to 1 mA DC
								1	0 to 10 mV DC
								2	0 to 100 mV DC
								3	0 to 1 V DC
								4	0 to 10 V DC
							5	0 to 5 V DC	
							6	1 to 5 V DC	
							7	-10 to 10 V DC	
							Z	(Custom order) ^{(*)3}	
								N	Always N
								0	Always 0
Options									Blank: With socket
								/SN	Without socket

*1 Operating range: 85-264 V

*2 Operating range: 12-36 V

*3 DC voltage signal or DC current signal

1. MOUNTING METHOD

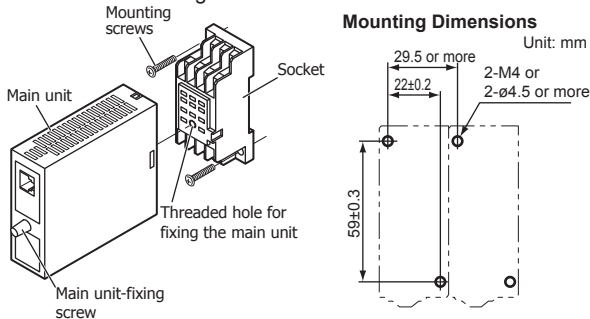


Note

Insert/pull out the main unit into/from the socket vertically to the face of socket. Otherwise the terminals are bent and it may cause a bad contact.

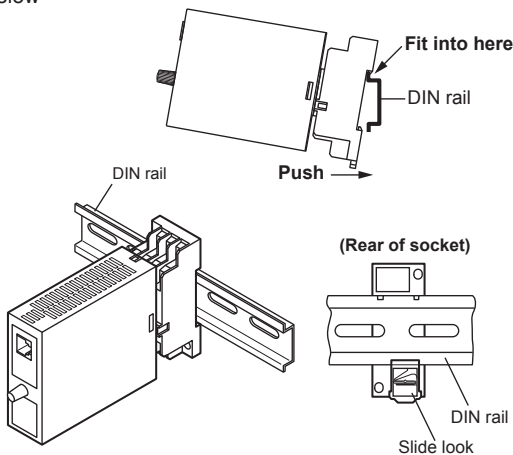
1.1 Wall Mounting

Loosen the main unit-fixing screw of the product and pull out the main unit from the socket. Fix the socket on the wall with screws. Next, insert the main unit into the socket and fasten the main unit with the main unit-fixing screw.



1.2 DIN Rail Mounting

Insert a DIN rail into the upper part of the DIN rail groove on the rear of the socket, and then slide the slide lock at the lower part of the socket upwards until the socket is fixed into position as shown below



1.3 Mounting Using

When using a multi-mounting base, see the User's Manual for VJCE (VJCE Mounting Base).

1.4 Using a Duct

When using a wiring duct, install the duct at least 30 mm away from the top and bottom faces of the main unit.

2. INSTALLATION LOCATION

- Avoid the following environments for installation locations: Areas with vibration, corrosive gases, dust, water, oil, solvents, direct sunlight, radiation, a strong electric field, and/or a strong magnetic field, altitude of more than 2000m above sea level.
- If there is any risk of a surge being induced into the power line and/or signal lines due to lightning or other factors, a dedicated lightning arrester should be used as protection for both this converter and a field-installed device.
- Operating temperature/humidity range: 0 to 50°C/5 to 90%RH (no condensation)

3. EXTERNAL WIRING



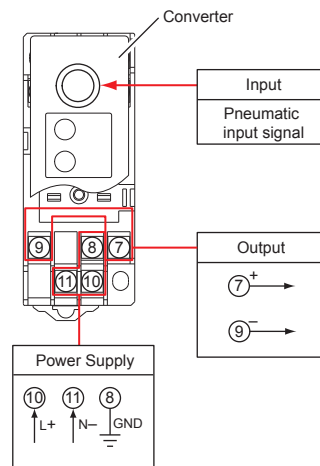
WARNING

Be sure to turn OFF the power supply before wiring to avoid the risk of electric shock. Use a tester or similar device to ensure that no power is being supplied to a cable to be connected.

3.1 Wiring

Wiring should be connected to the terminals on the socket of the product. The terminals for external connections are of M3 screws. Use crimp-on terminal lugs for connections to the terminals.

- Recommended cables: A nominal cross-sectional area of 0.5 mm² or thicker for signal cables, and that of 1.25 mm² or thicker for power cables.



Note

- The power line and input/output signal lines should be installed away from noise-generating sources. Other wise accuracy cannot be guaranteed.
- Make sure to earth ground the ground terminal through minimum resistance. The length and thickness of the grounding cable should be as short and thick as possible. Directly connect the lead from the ground terminal (terminal no. 8) of the product to the ground. Do not carry out daisy-chained inter-ground terminal wiring
- Use of the product ignoring the specifications may cause overheating or damage. Before turning on the power, ensure the following:
 - Power supply voltage and input signal value applied to the product should meet the required specifications.
 - The external wiring to the terminals and wiring to ground are as specifications.
- Do not operate the product in the presence of flammable or explosive gases or vapors. To do so is highly dangerous.
- The product is sensitive to static electricity; exercise care in operating it. Before you operate the product, touch a nearby metal part to discharge static electricity.
- For 15-30 V DC (±20%) power supply, as a safety measure, always install a circuit breaker (an IEC 60947-compatible product, 1 A, 30 V DC) in an easily accessible location near the instrument. Moreover, provide indication that the switch is a device for turning off the power to the instrument.

3.2 Plumbing

Connect the piping of the input air pressure to the pneumatic connection port on the front panel.

Use one-touch fittings (∅6mm) for the connection port.

- Applicable tubing material: nylon or urethane

4. MAINTENANCE

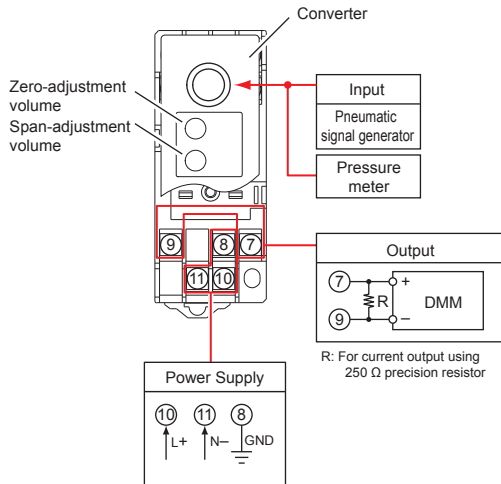
The product starts running immediately when the power is turned on; however, it needs 10 to 15 minutes of warm-up before it meets the specified performance.

4.1 Calibration Apparatus

- A pneumatic Signal Generator (YOKOGAWA 7674 or the equivalent)
- A pressure Meter (YOKOGAWA 7673 or the equivalent)
- A digital multimeter (YOKOGAWA 7561 or the equivalent)
- A precision resistor of $250\ \Omega \pm 0.01\%$, 1W

4.2 Calibration Procedure

1. Connect the instruments as shown below.



2. Apply the input signal equivalent to 0, 25, 50, 75, and 100% of the input span to the input of the converter from a pneumatic signal generator.
3. Check to see the corresponding output voltages are 0, 25, 50, 75, and 100% respectively and within the specified accuracy rating. "R" is used for current output.
- If the output signals are out of the accuracy rating range, adjust the output signal level using the zero and span adjustment volumes on front face of the product.

