

ISOLATION AMPLIFIER
(current output, 3-port isolation)MODEL **20VS5-301****BEFORE USE**

Thank you for choosing us. Before use, please check contents of the package you received as outlined below.

If you have any problems or questions with the product, please contact our sales office or representatives.

■ PACKAGE INCLUDES:

Amplifier.....(1)

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

POINTS OF CAUTION**■ POWER INPUT RATING & OPERATIONAL RANGE**

- Locate the power input rating marked on the product and confirm its operational range as indicated below:
12V DC $\pm 10\%$, $\leq 70\text{mA}$ with 20mA output
- When there is spike noises in the power, make a filter with an appropriate capacitor and inductor to cut it off.

■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within -10 to $+70^{\circ}\text{C}$ (-14 to 158°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

■ WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

■ INSTALLING THE MODULE

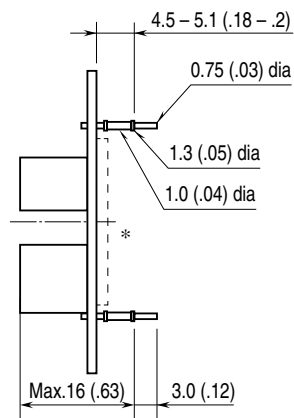
- When it is installed on the printed wiring board, land diameter $\phi 1.5$ and through-hole $\phi 0.9$ are recommended.
- Do not place any parts and circuit trace under the unit.

■ AND

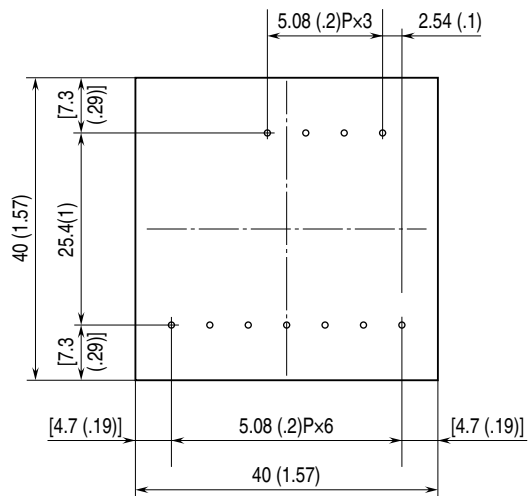
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.
- With voltage output, do not leave the output terminals shortcircuited for a long time. The unit is designed to endure it without breakdown, however, it may shorten appropriate life duration.

TERMINAL CONNECTIONS

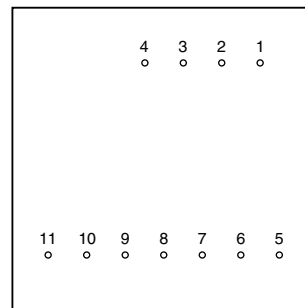
■ EXTERNAL DIMENSIONS unit: mm (inch)



* Part height: Max. 1.5 (.06)

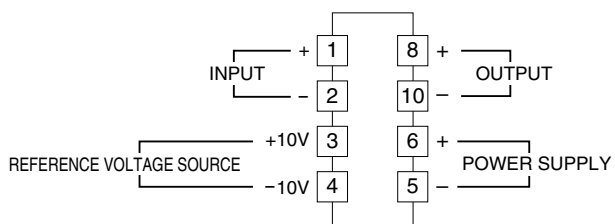


PIN ASSIGNMENT



(BOTTOM VIEW)

■ CONNECTION DIAGRAM



APPLICATION EXAMPLES

$$I_0 = 20 \text{ K}\Omega / (R_1 + VR_1) \times (V_{in} / 120 \text{ }\Omega)$$

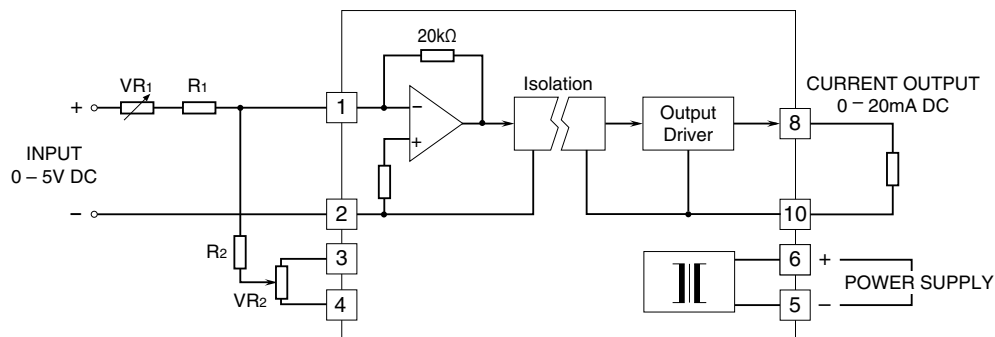
R_2 : approx. 2 M Ω , VR_2 : 50 k Ω

$R_1 + VR_1 = 41.6 \text{ k}\Omega$; 20 mA output with 5 V input

$R_1 + VR_1 = 20.8 \text{ k}\Omega$; 20 mA output with 2.5 V input

R_1 's and R_2 's resistance temperature coefficients: $\pm 20 - 50 \text{ ppm}/^\circ\text{C}$ with tolerance of $\pm 1\%$

VR_1 's and VR_2 's resistance temperature coefficients: $\pm 100 \text{ ppm}/^\circ\text{C}$



CHECKING

- 1) Terminal wiring: Check that wiring is correctly connected according to the connection diagram.
- 2) Power input voltage: Check voltage across the pins.
- 3) Input: Check that the input signal is within 0 – 100% of the full-scale.
- 4) Output: Check that the load resistance meets the described specifications.

MAINTENANCE

Regular calibration procedure is explained below:

■ CALIBRATION

Warm up the unit for at least 10 minutes. Apply 0%, 25%, 50%, 75% and 100% input signal. Check that the output signal for the respective input signal remains within accuracy described in the data sheet.