Single phase AC Voltage Tranducer

Istructions

CE-VJ03-**MS*-0.5

1 Overview

This device is a 1-phase AC voltage electrical isolation transducer. Using the principle of electromagnetic isolation, the input of the AC voltage and current signals are converted into standard analog signal output, to achieve the AC voltage signal measurement and monitoring. The input and output of the product have very good linearity. The products are widely used in telecommunications, electricity, railways, industrial monitoring and other fields.

Features:

- Ø Product voltage input port and power port have a strong anti-interference ability, can withstand 4KV and 2KV surge impact;
- Ø Input and output are isolated from each other, safe and reliable;
- Ø Rail or screw for installation,, easy and reliable ;

2 Case Style

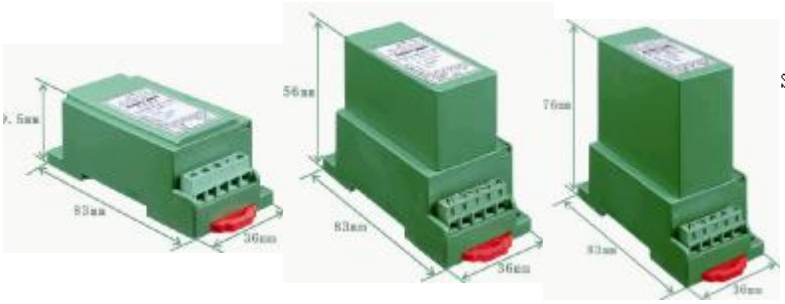

Figure 1, the voltage-type of MS1 (left), MS2 and MS3

3 Part Number

CE— V J 03—# # M S—0.5

- Brand
- VJ: AC voltage
- 1-phase double-isolation
- Output: 3: 0-5V, 4: 0-20Ma, T: special 5: 4-20Ma, 8: 0-10V, F: frequency,
- Power supply: 2: +12V, 3:+15V, 4: 24V, 9: 220V/AC/DC
- Aperture: M: none
- Case style: S1, S2, S3,
- Accuracy

4 Specifications

Test conditions: room temperature: 25℃

Input range: voltage 0-1V~500V AC;

Output: 0-5V, 0-20mA, 0-10V, 4-20mA; 0-5KHz, 0-10KHz;

Power supply: 12V, 15V, 24V DC, 85-265V AC/DC（MS3 case）;

Accuracy: 0.5;

Load capacity: ≥2KΩ (voltage output); ≤250Ω (current output);

Temperature drift: ≤200ppm/°C;

Isolation voltage: ≥2500 V DC;

Response time: ≤300 mS;

Rated power consumption: <0.5W;

Output ripple: ≤10mV

Frequency range: (45~65Hz up to 5K, please specify when ordering)

Surge immunity:

Power port level ± 0.5KV (L-N/2Ω/integrated wave)

Analog I / O port.± 0.5KV (L-N/40Ω/ integrated wave)

Impulse immunity: input / power port ± 2KV, analog I / O port ± 1KV;

Input overload capacity: Voltage: 2 times the nominal value

Operating temperature: -10 ~ 60°C; humidity: ≤95 %(no dew);

Storage temperature: -55 ~+65°C; humidity: ≤95 % (no dew).

5 Connections Diagram

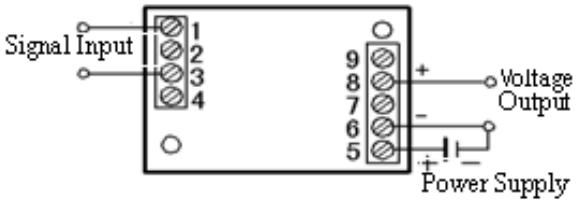

Figure 2, current output wiring drawing of CE-VJ03 - ** MS *

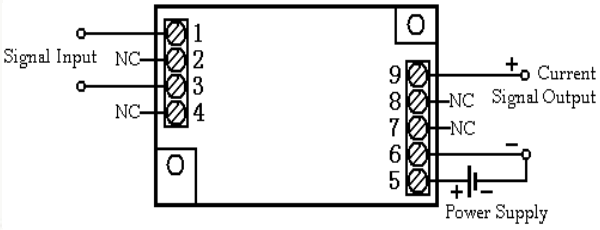

Figure 3, voltage output wiring drawing of CE-VJ03 - ** MS *

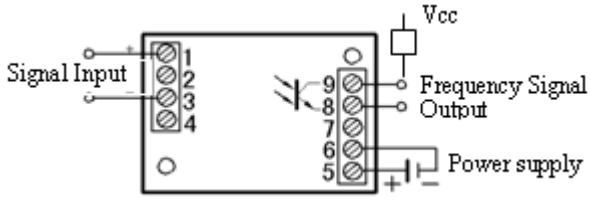

Figure 4, frequency output wiring drawing of CE-VJ03-F * MS * (24V pull-up voltage RL recommended 5K; 12V pull-up voltage RL recommended 3K)

6 Installations

DIN35 rail mounting or screw mounting, the installation size as shown (in mm).

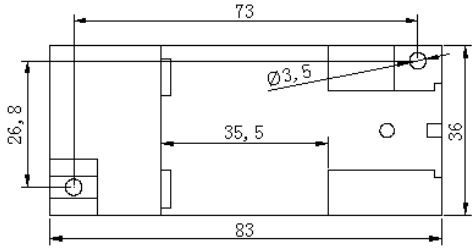

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Figure 5 installation dimensions

7 Product's Service

1 Installation

1.1 DIN rail installation method:

① Fix the transducer on the side of the card slot and hook on the mounting rail;

② Pull the spring pin down;

③ Clip the transducer mount on the mounting rail;

④ Release the spring pin and clip the transmitter on the mounting rail.

1.2 Screw mounting method:

①4mm diameter hole in the fixed plate according to the screw hole position shown in Fig. 5;

②Use the screw Φ3.5 to insert into hole and secure it.

2 Products factory has been accurately set according to the "product standard". Apply power after determine the correct wiring.

3 The maximum wire diameter of the terminal block is 2mm (16-26AWG). Remove the 4mm ~ 5mm insulation layer from the end of the mounting wire and insert it into the terminal block, then tighten the screw.

4 Product supply power requires the isolation voltage ≥ 2000VAC, AC ripple <10mV. Multiple transducers can share a common set of power supplies, but the power circuit can no longer be used to drive relays and other can produce spikes in the load, in order to avoid interference signal transmission to the transducer.

5 The transducers output 0-20mA (or 4-20mA), the RL standard is ≤ 250Ω, and 0-5V voltage output RL standard is ≥ 2KΩ, can guarantee the output accuracy and linearity over the entire rated input range. When 24V power supply, the current output can improve the load capacity to 500Ω.

8Example of product accuracy level verification

1 S2-type current signal 4-20mA output as an example, according to the definition of the transducer terminal to connect the test circuit as shown.

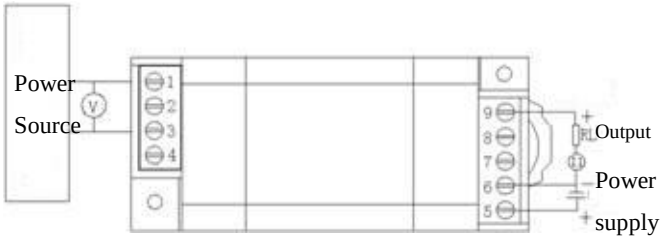

Figure 6 accuracy test wiring diagram of voltage input current output

2 The test shall be carried out under the following environmental conditions:

- ◆ Power supply: nominal ± 5%, ripple ≤ 10mV;
- ◆ Ambient temperature: 25 ℃ ± 5 ℃;
- ◆ Relative humidity: RH (45 ~ 80)%;
- ◆ The accuracy is 0.05 above. of the signal source and measurement instrument.

3 Power preheat 2min;

4 Voltage V input and monitoring methods:

①A high-precision high-voltage meter calibrator can directly input voltage V, and record the meter calibration instrument display data;

$$I1 = (16mA/V) * V1 + 4mA$$

V1: Actual input voltage value V: Input range

Measure the DC current output value I1 with an output monitor table;

| I1'-I1 | ≤ 80uA is normal, or excessive (4-20mA output, 0.5);

5 Repeat 4 and 5 two operations, the resulting point | I * '- I * | ≤ 80uA, the transducer accuracy level is qualified.

Note: and other technical indicators of the verification method detailed consultation with our company.

9 Notes

1 Please pay attention to the wiring on product label and the output contact capacity.

2 Transducer for the integrated structure, not removable, and should avoid collision and fall.

3 The transducers are used in environments with strong electromagnetic interference. Standard precaution such as shielding the input and /or output lines should be observed. All lines should be as short as possible. If a group of transducers are mounted together, keep a space more than 10mm between adjacent units.

4 The input value given on the transducer label refers to the rms value of the ac signal.

5 Only use the effective terminal of the transducer. The other terminals may be connected with the internal circuit of the transducer, and can't be used for other purposes.

6 Transducer has a certain anti-lightning ability, but when the transducer input and output feeders exposed to extreme bad

environments, must be taken lightning protection measures.

7 Don’t damage or modify the product label and logo. Don’t disassemble or modify the transducer, otherwise the company will no longer provide the product "three guarantees" (replacement, returns, repair) services.

8 The transducers use flame-retardant ABS plastic shell package. which limit temperature is +75 ℃. The shell will be deformed with high-temperature baking, and will affect product performance. Do not use or save the product near the heat source. Do not bake the product in a high-temperature oven.

9 When measuring the voltage or current with the multi meter pen, please screw the terminal screw in the end, otherwise it may not measure the voltage or current output value.