One input one output signal isolator

One input two output signal isolator

Istructions

CE-*Z*7-**MS3-*

1Overview

This product is a standard signal isolator. The use of electromagnetic isolation principle, can output DC current or voltage signal after electrical isolation of the input DC current or voltage signal. Its input, outputs and power supply are electrically isolated from each other. It is especially suitable to use in these devices, which requires electrically isolated, such as sensors, transducers and meters. It may be widely used in measuring and controlling systems with PLC, computer and automatic control systems.

Features:

- Product's power port and output port can withstand 4KV and 2KV surge impact, safe and reliable.
- High accuracy, high isolation, low drift and wide range of operation temperature
- High Anti-interference ability, all input, power supply and output isolation from each other to solve the problem of common mode interference, strong electrical interference and other issues of sensor or instrument signal in transmission process.

2 Case style

MS3 case: Length × width × height = 83mm × 36mcm × 76mm

Figure 1, MS3 case

3 Part number

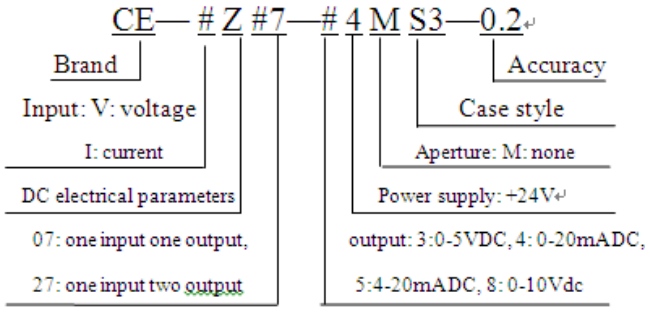

Figure 2, product selection table

4 Specifications

Test conditions: power supply: +24V; room temperature: 25℃;

Input range: 0~ 4~20mADC, 0 ~ 300VDC;

Output: 4~ 20mADC, 0~20mADC, 0~VDC,
0~10VDC, 0~15VDC;

Auxiliary power: +24VDC;

Accuracy: 0.2 class (one input and one output),
0.5 class (one input and two output);

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

Temperature drift: ≤200ppm/℃;

Isolation voltage: 2500VDC;

Response time: ≤300mS;

Rated power consumption: <2.3W;

Output ripple: ≤15mV;

Frequency response range: none;

Surge immunity:

Power port four 4KV (L-N/2Ω/integrated wave),

Output port Secondary 2KV (L-N/40Ω/integrated wave)

Impulse immunity: none;

Input overload capacity:

Voltage: 2 times of full span (1 second, 10 times)

Current: 2 times of full span and less than 10A, 5 times a second;

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

Storage temperature: -40~+70℃;

5 Connections Diagram

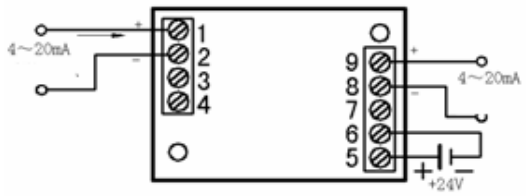

Figure3, VZ07/IZ07 product wiring diagram

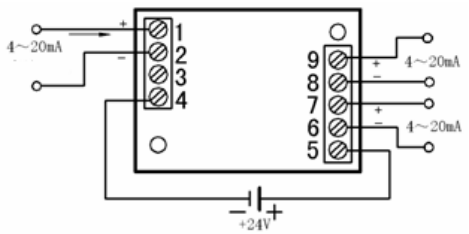

Figure 4, VZ27/IZ27 product wiring diagram

6 Installations

DIN35 rail mounting: card slot width: 35.5mm;

With screw mounting size: 83mm × 26.8mm;

http://www.ce-transducer.com
sales@ce-transducer.com
Unit 501,BLDG C, BAOFU Jewelry Garden, 33 BULAN Road, Longgang district,
Shenzhen City, China Post code: 518049

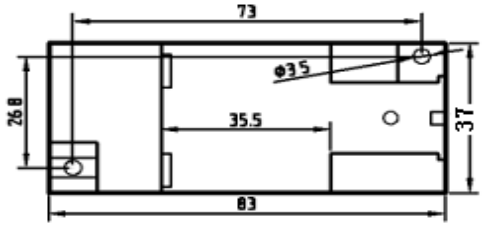

Figure 5 installation dimensions

7 Product's Service

7.1 DIN rail installation method:

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

②Pull the spring pin down;

③Clip the transducer mount on the mounting rail;

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

7.2 Screw mounting method:

①Insert a M3 screw hole on the mounting plate according to the screw hole position shown in Figure 4;

②Insert the screw M3 to into hole and secure.

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

7.4 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.

7.5 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.

7.6 The transducers output 0-20mA (or 4-20mA), the RL standard is ≤ 250Ω, and 0-5V voltage output RL standard is ≥ 1KΩ, can guarantee the output accuracy and linearity over the entire rated input range.

8. Example of product accuracy level verification

8.1 According to the definition of the transducer terminals to connect the test circuit

(This experiment takes VZ07-54MS3 as an example)

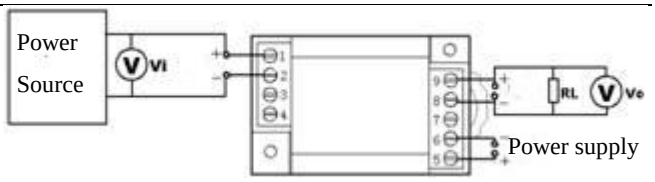

Figure 6, accuracy test wiring diagram (take the voltage output model as an example)

Note: The voltage input is measured with the Vi meter and the voltage output is measured with the Vo meter.

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

Auxiliary power supply: nominal value ± 5%, ripple ≤ 10mV;

- Ambient temperature: 25 °C ± 5°C;
- Relative humidity: RH (45 ~ 80)%;
- The accuracy of the signal source and measurement instrument is 0.05% above.

8.3 Power preheat 2mins;

8.4 Current I input and monitoring methods:

A high-precision high-current meter calibrator can directly input voltage Vi, and record the display data of the meter calibration instrument.

8.5 Assuming that the isolator input range is 0-100VDC, output is 0-5VDC, give an input value Vi within the measurement range of the isolator, the expected theoretical output (Vz) of the isolator is calculated as follows:

$$Vz = Vi \div 100V \times 5V$$

When input is 50VDC, then Vo =50÷100×5=2.5VDC;

8.6Measure voltage output Vo with the output monitoring table.

$|Vo-Vz| \leq 10mV$ normal, or excessive (0-5V output, 0.2 class);

8.7 Repeat NO.8.4 and NO.8.5 operations to get the average value in each point $|Vo-Vz| \leq 10mV$, the transducer accuracy level is qualified.

Note: please consult with our company for the verification method of other technical indicators.

9 Notes

9.1 Please pay attention to the power supply information on the product label, and the power supply used grade of the transducer, otherwise it will cause the damage to the product.

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

9.3 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.

9.4 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.

9.5 Transducer has a certain anti-lightning ability, but when the transducer input and output feeders exposed in extreme bad environments, must take lightning protection measures.

9.6 Don't damage or modify the product label and logo. Don't disassemble or modify the transmitter, otherwise the company will no longer provide the product "three guarantees" (replacement, return, repair) services.

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

9.8 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. The wiring diameter of terminals ≤ 1.4mm, otherwise it may cause the terminal screw to slip the wire