

## 1 -element DC current transducer

### Instructions

#### CE-IZ02-\*\*MS\*

#### 1 Overview

This product is double-isolation DC current transducer. Using the electromagnetic isolation principle to detect DC current signal, output linear standard signal (0 ~ 5V, 0 ~ 10VDC, 0 ~ 20mA or 4 ~ 20mA optional) after isolation. The product provides complete isolation of input and output, input and power supply. The transducer has the advantages of high precision, fast response, high isolation voltage, low temperature drift, simple installation and so on. It can be widely used in computer field data acquisition, industrial control, PLC and other automatic control systems.

#### Features:

- Ø High isolation voltage, the voltage between input and output between can reach 2500Vdc;
- Ø Using electromagnetic isolation technology, stable and reliable performance, small temperature drift;
- Ø Products power port and the output port can withstand 4KV surge impact;
- Ø High precision, better than 0.2;
- Ø Using rail installation, easy to install, in line with international standards.

#### 2 Case Style

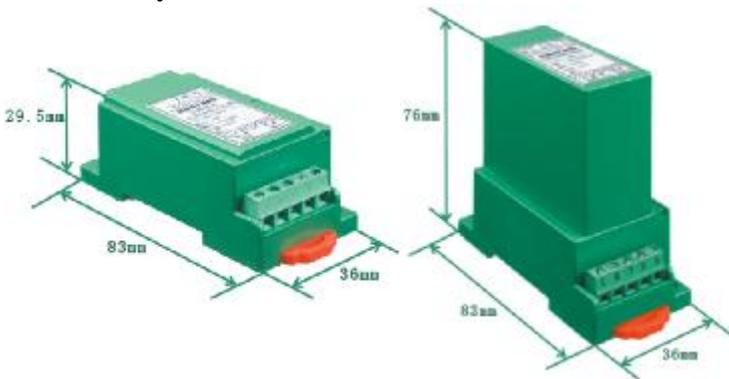


Figure 1 MS1 case, MS3 case product shape

#### 3 Part Number

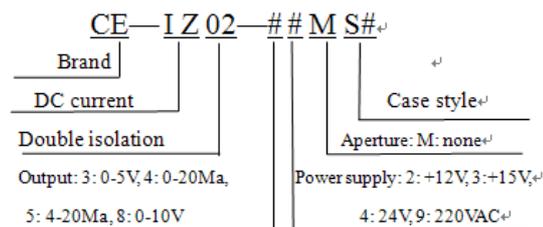


Figure 2 Product Selection Guide

**Note:** When the auxiliary power supply is 220VAC, the shell is

MS3 case.

#### 4 Specifications

Test conditions: auxiliary power: +24 V, room temperature: 25°C;

Input range: 0 ~ 5 ADC (can detect the DC current of 1mA);

Output: 0~5VDC, 4~20mA, 0~10VDC, 0~20mA;

Power supply: 12VDC, 15VDC, 24VDC, 220VAC optional;

Accuracy: 0.2 (2A below), 0.5 (2A above);

Load capacity: load  $\geq$  2K $\Omega$  (voltage Vz output),

Load  $\leq$  250 $\Omega$  (current Iy, Iz output);

Temperature drift:  $\leq$ 300ppm/°C;

Isolation voltage: 2500 V DC;

Response time:  $\leq$ 300 mS;

Rated power consumption: voltage output  $\leq$ 400mW,

Current output (4~20mA) $\leq$ 800mW;

Output ripple:  $\leq$ 10mV;

Frequency range: none;

Input overload capacity: 2 times the rated input value, 1 second 10 times;

Surge impact immunity:

Power supply port three 2000V (L-N / 2 $\Omega$  / integrated wave),

Analog I / O port three 2000V (L-N / 40 $\Omega$  / integrated wave);

Operating temperature: -10~60°C;

Storage temperature: -40~70°C.

#### 5 Connections Diagram

(Special products, please refer to the wiring diagram on the product)

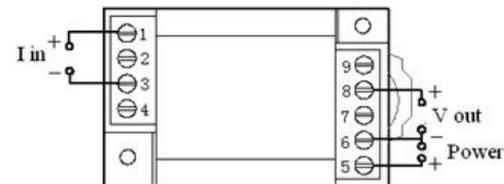


Figure 3 voltage output product wiring diagram

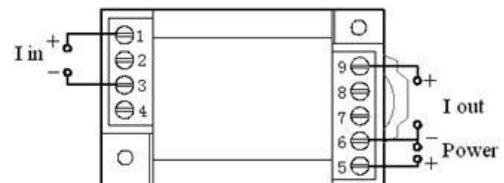


Figure 4 current output product wiring diagram

#### 6 Installations

DIN35 rail mounting or screw mounting installation, the installation size is shown in Figure 5.

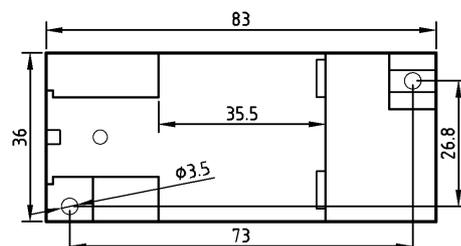


Figure 5 installation dimensions

**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  $\Phi 3.5$  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  $\geq 2000VAC$ , 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  $\leq 250\Omega$ , and 0-5V voltage output RL standard is  $\geq 2K\Omega$ , can guarantee the output accuracy and linearity over the entire rated input range.

**8 Example of product accuracy level verification**

1 According to the definition of the transmitter terminal to connect the test circuit as shown.

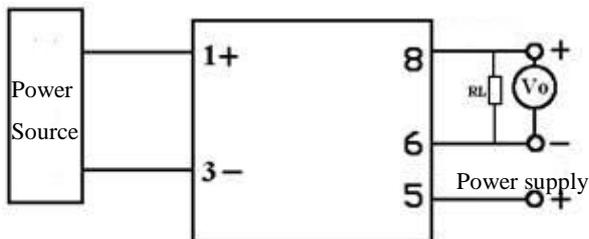


Figure 6 voltage output product accuracy test wiring diagram

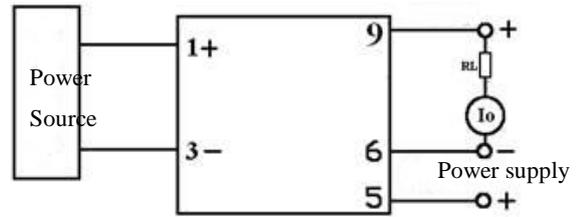


Figure 7 current output product accuracy test wiring diagram

**Note:** The voltage input is measured with the  $V_i$  meter, and the voltage output is measured with the  $V_o$  meter.

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

- ◆ Power supply: nominal  $\pm 5\%$ , ripple  $\leq 10mV$ ;
- ◆ Ambient temperature:  $25\text{ }^\circ C \pm 5\text{ }^\circ C$ ;
- ◆ Relative humidity: RH (45 ~ 80)%;
- ◆ The accuracy is 0.05 above. of the signal source and measurement instrument.

3 Power preheat 2min;

4 Current input and monitoring methods:

Using the standard signal source to directly input current I, and record the standard signal source of the display data.

5 Assuming the transducer input is 0-3ADC, the output is 0-5VDC, given any input value I he transducer range, the theoretical output value ( $V_z$ ) of the transducer is calculated as follows:

$$V_z = I \div 3 \times 5V$$

If the output is 4-20mA, then  $I_z = 4 \div 3 \times 16mA$ ;

If the output is 0-20mA, then  $I_z = I \div 3 \times 20mA$ ;

6 The monitoring table measures the DC voltage output value  $V_o$  or current output value  $I_o$ :

$|V_o - V_z| \leq 10mV$  is normal, or excessive (0-5V output, 0.2);

$|V_o - V_z| \leq 25mV$  is normal, or excessive (0-5V output, 0.5);

$|I_o - I_z| \leq 32\mu A$  is normal, or excessive (4-20mA output, 0.2);

$|I_o - I_z| \leq 80\mu A$  is normal, or excessive (4-20mA output, 0.5);

$|I_o - I_z| \leq 40\mu A$  is normal, or excessive (0-20mA output, 0.2) ;

$|I_o - I_z| \leq 100\mu A$  is normal, or excessive(0-20mAoutput,0.2).

7 Repeat the 4 and 5 two operations, the resulting point value  $|V_o - V_z|$  are within the above ranges, 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 °C. 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.