Split Core 1-element DC current transducer

CE-IZ04-**GS4-1.0

1 Overview

This device is a split core DC current isolation transducer. It is used Hall isolation principle, the input DC current signal can be isolatedly converted into standard output DC signal, So as to realize the isolation between the input and output systems, and solve the problems of common ground and strong electrical interference may exist between input and output system. The use of new technology to achieve a very small DC current measurement of the split core, greatly facilitate the use of the site.

Features:

*Simple opening and closing, easy installation, can be a reliable opening and closing without the use of additional tools to the sensor, easy to install in a variety of systems;

*Good repeatability of opening and closing;

* The minimum current range to 10A, good stability;

* Small output temperature drift small.

2 Case Style

Figure 1 Product Outline

3 产品型号

CE— I Z 04—# # G S4

Brand

DC current

Hall isolation

Output: 3: 0-5V, 4: 0-20Ma, 5: 4-20Ma, 8: 0-10V,

Power supply: 2: +12V, 3:+15V, 4: 24V,

Aperture: G: Φ31mm

Case style: S4

4 Specifications

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

Input range: 10ADC~1000A DC;

Output: 0-5VDC, 0-10VDC, 0-20mADC, 4-20mADC;

Output ripple: ≤10mV;

Accuracy: 1.0, (10A range of 2.0);

Linearity range: 0 ~ 120%;

Response time: ≤200mS;

Isolation voltage: 2500V DC/1 minter

Working environment: Temperature: -10 °C ~ +60 °C;

Temperature drift: ≤800ppm/ °C;

Auxiliary Power: +12V, +15V, +24V;

Load capacity: ≤250Ω;

Rated power consumption: <1.2W;

Output ripple: ≤15mV;

Frequency range: none;

Surge impact immunity: none

Burst immunity: None;

Input overload capacity: 20 times the nominal value (Applied for 1 second, repeated 5 times, interval of 300 seconds);

Storage temperature: -10~60°C.

5 Connections Diagram

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

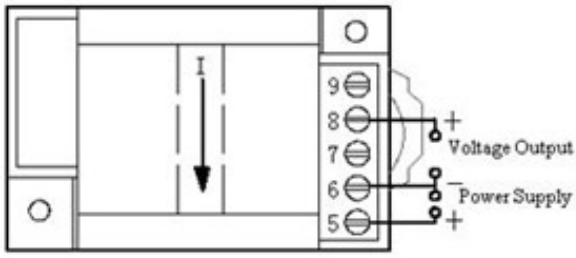

Figure 2 voltage output product wiring diagram

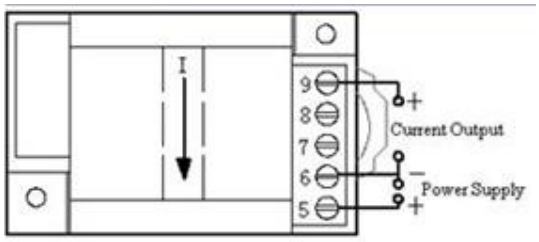

Figure 3 current output product wiring diagram

Note: To ensure accuracy, place the input current conductor as far as possible in the center hole of the transducer.

6 Installations

DIN35 rail mounting or screw mounting installation, the installation size is shown in Figure 4 (in mm).

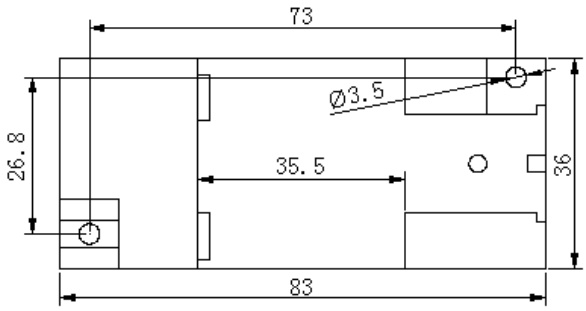

Figure 4 installation dimensions

7 Product′s Service

7.1 Installation

7.1.1 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.

7.1.2 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.

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

7.3 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.

7.4 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.

7.5 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.

8Example of product accuracy level verification

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

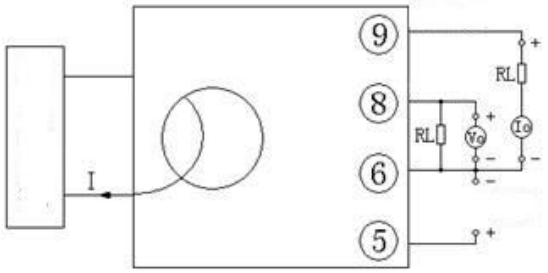

Figure 5 product accuracy test wiring

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

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

◆Power supply: nominal ± 5%, ripple ≤ 10mV;

◆Ambient temperature: 25 °C ± 5°C;

◆Relative humidity: RH (45 ~ 80)%;

◆The accuracy is 0.05 above. of the signal source and measurement instrument.

8.3 Power preheat 2min;

8.4 Current I input and monitoring methods

①A high-precision high-current meter calibrator can directly input current, and record the display data of the meter calibration instrument.

②When using the common high-accuracy meter calibrator as the signal source, use ampere-turn method to output small current (5A, 10A or higher), and input it to the transducer input coil. The precision ammeter is tandem connection to the calibrator output end to detect input current, and convert the input current I value according to the ampere-turn method.

8.5 Assuming the transducer input is 0-300ADC, the output is 0-5VDC, given any input value I he transducer range, the theoretical output value (Vz) of the transducer is calculated as follows:

$$Vz = I/300 \times 5V$$

If the output is 4-20mA, then Iz = 4+I/300×16mA;

If the output is 0-20mA, then Iz = I/300×20mA;

8.6 The monitoring table measures the DC voltage output value Vo or current output value Io:

|Vo-Vz|≤50mV normal, or excessive (-5V output, 1.0);

|Io-Iz|≤160uA normal, or excessive (4-20mA output,1.0）;

|Io-Iz|≤200uA normal, or excessive (0-20mA output, 1.0);

8.7 Repeat the 8.4 and 8.5 two operations, the resulting point value |Vo-Vz|≤50mV or |Io-Iz|≤160uA, the transducer accuracy level is qualified.

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

9 Notes

9.1 Verify the part number and description are correct according to the packing list and product labels.

9.2 Apply power to the transducers only after a through checking the input signal and power supply according to connections diagram.

9.3 The transducer should only be used in environment having no static electricity, excessive dust, corrosive or explosive gases.

9.4 If a group of transducers are mounted together, keep a space more than 10mm between adjacent units.

9.5 The transducers have been calibrated before delivery, please contact the company if readjustments are required.

9.6 Transducer for the integrated structure, not removable, and should avoid collision and fall. Do not remove and destroy the product labels.

9.7 There is no lightning protection circuit inside the transducers. Please pay attention to lightning protection when the input and output feeders of the transducers are exposed to adverse weather conditions.

9.8 To ensure measurement accuracy, the input current conductor must be placed in the center of the transducer perforation.