Standard Signal Isolator WBT1C1CU05

User Manual

Suitable For T1C1CU05-I、T1C1CU5/U6

ISO9001-2000

ISO140000-2006

ISO18000

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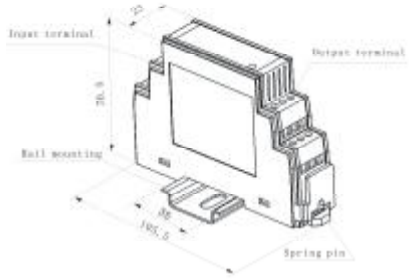
WBT1C1CU05

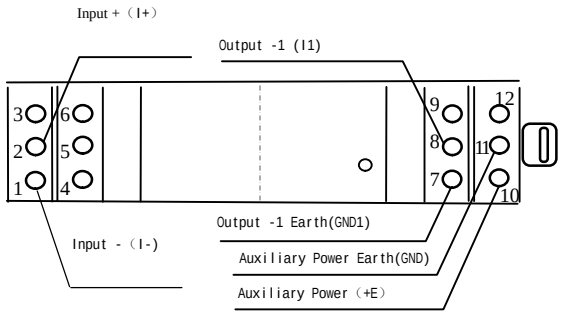
Introduction (1)

Adopts linear photo-electrical isolation principle to isolate, conditioning and transmit 4mA～20mA DC current single. This isolator features total galvanic isolation between input, output and auxiliary power supply. It provides advantages of high accuracy, low power consumption, low thermal drift to solve the problem of interference from signal sampling caused by far distance signal transmission.

Dimensional Drawing (unit:mm)



Wiring Terminal Identification



Key Technical Datasheets

1. Input: 4 - 20mA;
2. Output: 2 channels 4-20mA;
3. Accuracy: 0.5;
4. Input Impedance: 300Ω
5. Linear Range:0%～120%;
6. Response Time: 150ms;
7. Overload Capacity: 2 times of Input;
8. Maximum Load: 500Ω
9. Auxiliary Power: DC +24V;
10. Static Current: 60mA;
11. Isolation Voltage: Input and output＞DC 1.5kV

Power and Output:＞DC 1.5kV

Power and Input:＞DC 1.5kV

Output1 and Output2: ＞DC 1.5kV

12. Output Ripple: 10mV;Output load 250Ω;
13. Thermal Drift:250×10^{-6}/□;
14. Operating Temperature:0□～50□，

Industrial Grade:-25□～+70□。

Right Use Of WBT1C1CU05

1. Installation

DIN Rail mounting.

NS35/7.5 ,NS35/15 (European standard EN50022)

1) Fix the isolator onto the DIN rail.

2) Pull off the spring clasp.

3) Rotating the isolator until the whole mounting trough has clutched the mounting rail.

4) Release the spring clasp to make sure the installation properly.

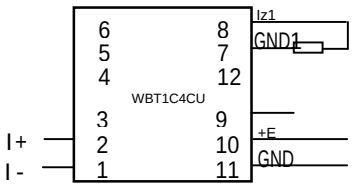
2.the product has already calibrated well before out of plant. After correct wiring, it can be powered and used immediately. For high accuracy measurement, user can warm -up the product about 3 minutes before using.

3.The auxiliary power requires isolation voltage greater than 2000V ac, output ripple smaller than 10mV. Multiple WBT1C4CU05 can be shared

with one set of power supply. and the power supply wire should be short as possible.

4. Output I1 and I2 are designed base on the standard resistor of 250 Ohm. When Load Resistor RL smaller than 100Ohm, the output circuit should have connected with reducing consumption resistor to keep the load resistor among 100 - 300Ohm.

5. Wiring Diagram Drawing



Basic Method for accuracy Testing

1. According to terminal definition table to connect the testing circuit.

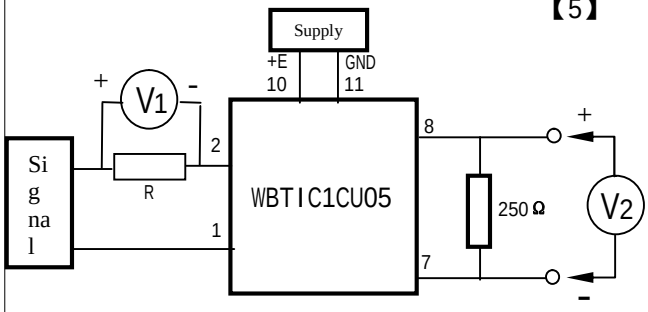
2. The testing must be done under following conditions;

Auxiliary Power : 24V +-1%

Ambient Temperature:25□±5□

Relative Humidity: (45～75)%

Accuracy of Signal Power Source: 0.5%



Notice: Use R convert measured current into dc voltage, See V1 value. Use 250Ohm convert current output into Voltage output, see V2 value to monitor.

3. Warm up for 3 minutes;

4. Given any Input value *I r* within the measurement range, the expected value of output should be calculated as:

Iz = Ir

5. Use V2 to measure the dc voltage *U0 between the 250Ohm; Introduced error of converter is* γ: the formula is:

γ= (*U*o－*I*z×250Ω)/[(20mA－4mA)×250Ω] ×100

6. Repeat step 4 and 5,if calculated absolute value is less than the given accuracy, the converter's accurate is qualified

7. Same testing method for output 2 .

Caution:

1. Pay attention to the auxiliary power information, especially the grade and polarity.

2. Be aware of the wiring connection and polarity of the wiring terminals.

3. Please don't dismantle of the product and avoiding bump and fall break.

4. Be ware of the shield of input wire as the product using in the strong magnetic field working environment. For intensive installation, the minimum installation space should not smaller than 10mm.

5. Only use identified terminals.

6. There is no lightening protection circuit design in this product. For out door and hazardous environment application please add protective alternatives.

7. The product uses ABS plastic housing case, the temperature limitation is 85□. Please be ware of high heat environment to keep from deformation.

Input and Output Characteristic Curve