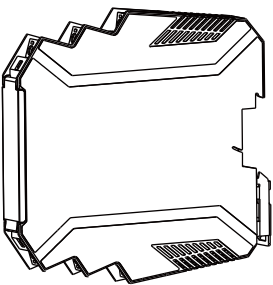


User Manual of  
Current Input Signal Isolator



 [www.supmea.com](http://www.supmea.com)  
 [info@supmea.com](mailto:info@supmea.com)  
Supmea Automation Co.,Ltd.  
Add: 5th floor,Building 4,Singapore Hangzhou  
Science Technology Park,No. 6 street, Hangzhou  
Economic Development Area, Hangzhou  
310018, China

Version  
U-SUP-1002S-EN5

1. Product Overview

The isolator provides isolated working power to 2-wire and 3-wire transmitters, isolating and converting the current signal generated by the transmitter into signals required by other instruments. It achieves three-terminal isolation between input, output, and power, thereby improving the industrial process control system's anti-interference capability, ensuring system stability, and reliability. The isolator can be used in conjunction with various instruments, DCS, PLC, and other equipment, and has wide applications in major projects in industries such as petroleum, petrochemical, manufacturing, power, and metallurgy.

Note: This product is not allowed for use in explosion-proof environments.

2. Product Features

- Low power consumption with efficient heat dissipation design.
- Distributive output with current-limiting protection for increased reliability and safety.
- Supports a maximum load of 550Ω for current output.
- Ultra-thin design with a 13mm slim casing, saving installation space.
- Flame-retardant casing for enhanced safety.

3. Technical Parameter

|                                                 |                                                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Input signal                                    | (4~20)mA、(0~20)mA                                                                                  |
| Input impedance                                 | ≤100Ω                                                                                              |
| Input current                                   | ≤30mA                                                                                              |
| Distribution voltage/max current                | ≥20V、20mA                                                                                          |
| Output signal                                   | (0~20)mA、(4~20)mA、<br>(0~5)V、(1~5)V、(0~10)V、(2~10)V                                                |
| Output load resistance                          | (4~20)mA、(0~20)mA: $R_L \leq 550\Omega$ ;<br>(0~5)V、(1~5)V、(0~10)V、(2~10)V:<br>$R_L \geq 1M\Omega$ |
| Transmission accuracy (20℃)                     | 0.1%FS                                                                                             |
| Isolation strength (between input/output/power) | 1500Vrms (1 min, no spark)                                                                         |
| Response time                                   | ≤400ms                                                                                             |
| Temperature drift                               | ≤50ppm                                                                                             |
| EMC                                             | EMC conforms to GB/T18268 (IEC 61326-1) requirements for industrial equipment application          |
| Power supply                                    | (20~35)VDC                                                                                         |
| Power consumption                               | Single-channel output: ≤1.5W<br>Double-channel output: ≤2.6W                                       |
| Operating temperature                           | (-20~60)℃                                                                                          |
| Storage temperature                             | (-20~60)℃                                                                                          |
| Relative humidity                               | 25%~85%                                                                                            |
| Installation method                             | 35mm DIN rail mounting                                                                             |
| Applicable field devices                        | 2-wire, 3-wire transmitters, DC current sources                                                    |

## 4. Dimension

Dimensions: 117.5mm\*110mm\*13mm.

Weight: 130g.

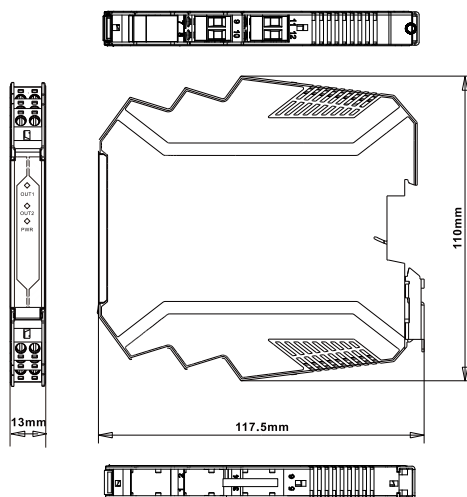


Fig.1 Dimension

Note: The number of terminal connectors in the figure may vary depending on the product specifications; please refer to the actual product.

## 5. Installation and Disassembly

The isolator is for indoor use only. Please install it in a safe location and meet the environmental conditions required by the isolator's technical specifications.

The isolator can be mounted on a standard 35mm DIN rail, complying with the TH35-7.5 type rail size specifications in national standard GB/T19334-2003.

When installing or disassembling instruments, please turn off the power and disconnect the signal input to ensure safety. Do not apply loads exceeding the design capacity to the instrument.

**Mounting Method on the DIN rail (see Fig.2):**

- (1) Hook the upper end of the instrument's mounting bracket onto the standard DIN rail.
- (2) Push the instrument towards the DIN rail to fully fit the mounting bracket onto the DIN rail.
- (3) Press the installation locking clip to secure it to the DIN rail.

**Disassembly method from the DIN rail (see Fig.3):**

- (1) Insert a flat-head screwdriver (blade width  $\leq 3\text{mm}$ ) into the instrument's installation locking clip.
- (2) Pry open the installation locking clip slightly to release the instrument from the DIN rail.
- (3) Remove the instrument from the DIN rail.

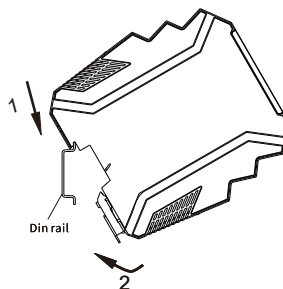


Fig.2: Mounting method

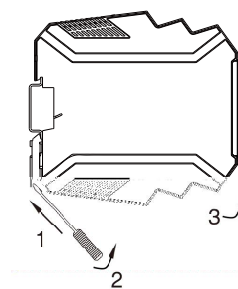


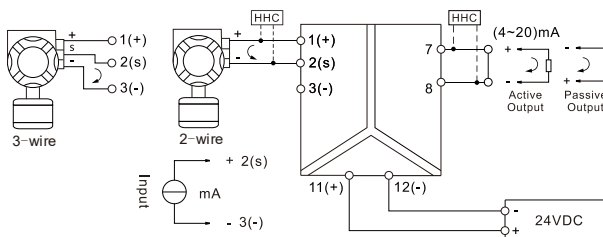
Fig.3 Disassembly method

## 6. Electrical Connection

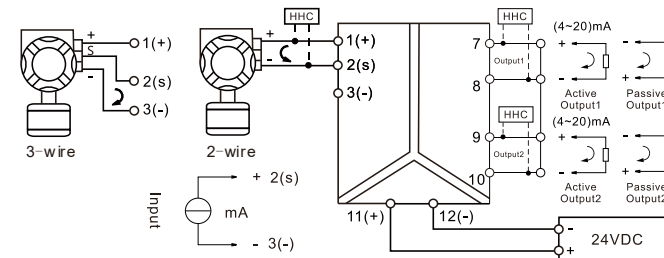
### Wiring Requirements:

The wiring cable of the instrument should be far away from electromagnetic interference sources (such as relay drive cables, high-frequency wires, etc.). The wiring cable should be a single-core or multi-core cable with a cross-section of  $0.5\text{mm}^2$  to  $2.5\text{mm}^2$ .

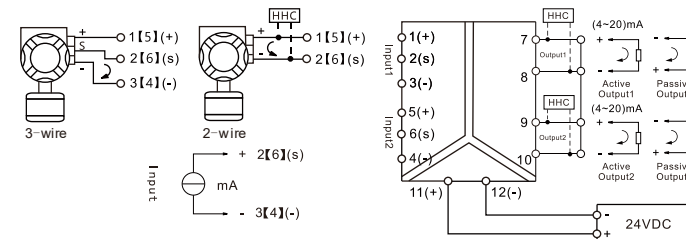
### Wiring diagram of Single-channel input and Single-channel output:



### Wiring diagram of Single-channel input and Double-channel output:



### Wiring diagram of Double-channel input and Double-channel output:



## 7. Panel Indicator

**PWR:** Power indicator, green. When the instrument is powered, it will light up.