

## mV-LEVEL SIGNAL AMPLIFIER



### DESCRIPTION

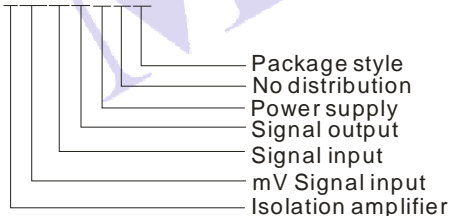
mV-level isolation amplifier can receive the mV-voltage signal input from the field, and transmit a standard output signal to the control room or DCS after isolated. With characteristics of high output accuracy, good linearity and low temperature drift, it needs an independent power supply. These modules have three-port isolation(input, output and power supply),and the isolation voltage between them is up to 2.5KVDC.

### FEATURES

- Three-port Isolation(input, output and power supply)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage(2.5KVDC/60s)
- High frequency response
- Low temperature drift(35PPM/°C)
- Industry class(Operation temp.: -25°C ~ 71°C)
- High reliability(MTBF>500,000 hours)

### MODEL SELECTION

TMXXX0P



### MORNSUN Science & Technology Co.,Ltd.

Address: 2th floor 6th building, Huangzhou Industrial District, Guangzhou, China  
Tel: 86-20-38601850  
Fax: 86-20-38601272  
[Http://www.mornsun-power.com](http://www.mornsun-power.com)

### PRODUCT PROGRAM

Part Number	Power Supply	Input	Output	Channels
TM4530P	24V	50mV	0~10V	1
TM4630P	24V	50mV	0~5V	1
TM5530P	24V	75 mV	0~10V	1
TM5630P	24V	75 mV	0~5V	1
TM6530P	24V	100 mV	0~10V	1
TM6630P	24V	100 mV	0~5V	1

Note: We could also offer customer design for special input and output as follow:

Power supply:24/15/12VDC;  
Input signal:0~10/20/30/50/75/100mV;  
Output signal: 0~ 5V/10V.

### ELECTRICAL CHARACTERISTICS

Power Supply Parameter	Power Supply	(Nominal Power Supply)±5%
	Power consumption	≤1W
	Power Protection	Reverse protection
Input Parameter	Input signal	See product program
	Input Impedance	≥10MΩ
	Overload	≤10V
Output Parameter	Output signal	See product program
	Load capacity	≥2KΩ(@ 10V output)

### TRANSMISSION CHARACTERISTICS

Zero Offset	0.1%F.S.
Gain Error	0.1%F.S.
Temperature Drift	0.0035%F.S./°C (-25°C ~ +71°C)

### ISOLATION CHARACTERISTICS

Galvanic Isolation	Three-port Isolation(input, output, power supply)
Isolation Voltage	2.5KVDC (Tested for 1minute and leakage current< 1mA, humidity < 70%)
Insulation Resistance	100MΩ, 500VDC (Between signal input ,signal output and power supply)

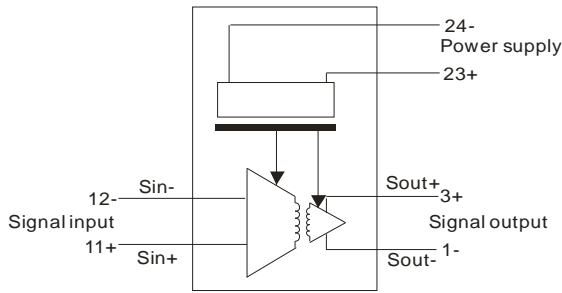
### OTHER CHARACTERISTICS

Ambient temperature	Operation temperature: -25°C ~ +71°C
	Transport and Storage temperature: -50°C ~ +105°C
Package	DIP24
Weight	About 10g
Application environment	No dust, fierce vibration, impulsion and corrosive gas

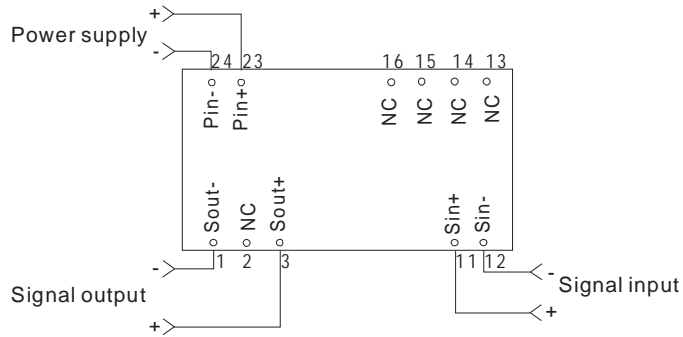
Note:

- 1 .All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- 2 .See application circuits for more details.

## SCHEMATIC DIAGRAM



## APPLICATION CIRCUIT DIAGRAM



## APPLICATION NOTE

1. Please read instruction book carefully before using the product. If you have any question, please contact with our technical support.
2. Please don't install in the dangerous zone.
3. The power supply is DC power source. It is forbidden to use AC power supply.
4. Don't divide the product privately in case the equipments ineffective or go wrong.

## AFTER SERVICE

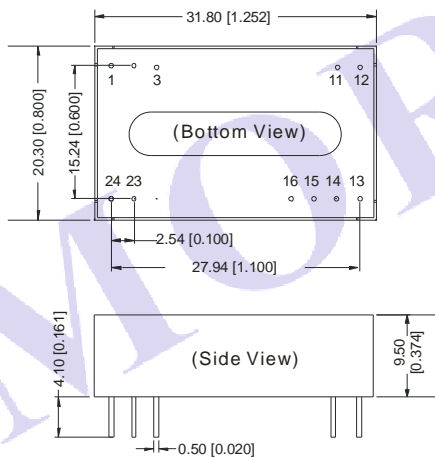
1. Products are carefully inspected and controlled before going out from our factory. If they operated abnormally or there were anything wrong in the inner parts, please contact with our agents near you or technical support in our company as soon as possible.
2. 3 years warranty since the delivery date. During the period of quality guarantee, our company will repair or change free of charge if product has any quality problem in the process of normally using.

## APPLICATION CIRCUITS

See *A GUIDE TO INSTRUMENTATION ISOLATION AMPLIFIERS* for more detail.

## PACKAGING SIZE AND TERMINAL DESCRIPTION

### MECHANICAL DIMENSIONS

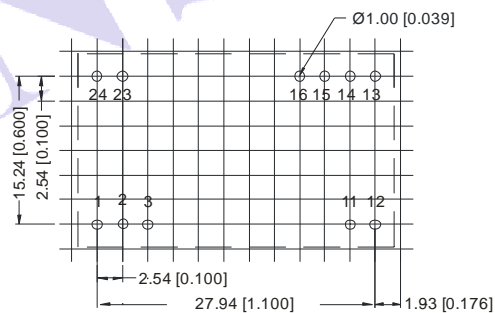


Note:  
Unit: mm[inch]  
Pinsection tolerances:  $\pm 0.10\text{mm}[\pm 0.004\text{inch}]$   
General tolerances:  $\pm 0.25\text{mm}[\pm 0.010\text{inch}]$

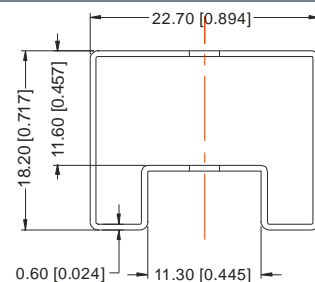
FOOTPRINT DETAIL		
Pin	Sign	Function
1	Sout-	Signal output(-)
2	NC	No function pin
3	Sout+	Signal output(+)
11	Sin+	Signal input(+)
12	Sin-	Signal input(-)
13,14	NC	No function pin
15,16	NC	No function pin
23	Pin+	Power supply(+)
24	Pin-	Power supply(-)

NC: No connection, or the module will be damaged.

### RECOMMENDED FOOTPRINT



### TUBE OUTLINE DIMENSIONS



Note:  
Unit : mm[inch]  
General tolerances:  $\pm 0.50\text{mm}[\pm 0.020\text{inch}]$

L=530mm[20.866inch] pcs/tube : 15  
L=220mm[8.661inch] pcs/tube: 6pcs