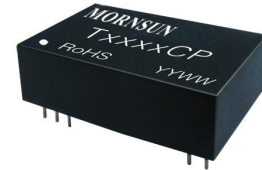


## ACTIVE HIGH PRECISION AMPLIFIER

POSITIVE AND NEGATIVE SIGNAL INPUT & POSITIVE AND NEGATIVE SIGNAL OUTPUT



RoHS

### DESCRIPTION

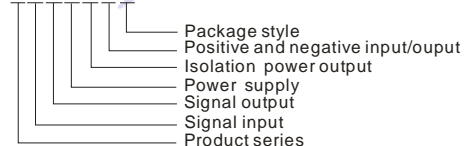
The T\_CP series are a high integration and efficiency active isolation amplifier module, with positive & negative signal input and positive & negative signal output. These modules, with a high efficiency isolated micro-power source built-in, can provide energy for inner signal processing circuit and a isolation power out for front-end circuit. The product greatly simplifies the design of the user in the applications of three-wire and four-wire, also it improves the using room ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep higher accuracy and extremely lower temperature drift more than photocoupler isolation. These modules have four-port isolation (input, output, power supply and Isolation power output).

### FEATURES

- Four-port isolation (between input, output, power supply and Isolation power output)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage (2.5KVDC/60S)
- High frequency response
- Extremely low temperature drift (35PPM/°C)
- Industry standard (Operating Temperature Range: -25 ~ 71°C)
- High reliability (MTBF > 500,000 hours)

### MODEL SELECTION

TXXXXCP



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

Address: No. 5, Kehui St. 1, Kehui development center, Science Ave., Guangzhou Science City, Luogang district, Guangzhou, P.R.China.  
Tel: 86-20-28203030  
Fax: 86-20-28203068

<http://www.mornsun-power.com>

### PRODUCT PROGRAM

Part Number	Power Supply	Input	Output	Isolation Power Output	Channels
T5530CP	24V	±10V	±10V	NONE	1
T5533CP	24V	±10V	±10V	24V	1
T5540CP	15V	±10V	±10V	NONE	1
T6630CP	24V	±5V	±5V	NONE	1
T6640CP	15V	±5V	±5V	NONE	1
T6650CP	12V	±5V	±5V	NONE	1

Note: We could also offer customer design for special input and output.  
Power supply: 24/15/12VDC;  
Input signal: 0~±5V/±10V;  
Output signal: 0~±5V/±10V;  
Isolation power output: 24/15/12/5VDC.

### ELECTRICAL CHARACTERISTICS

Power Supply Parameter	Power Supply	(Nominal Power Supply) ±5%
	Input consumption	≤2W
	Power Protection	Reverse protection
Isolation Power Output Parameter	Output Voltage	(Nominal) ±10%
	Output Current	≤25mA
Input Parameter	Input Signal	See product program
	Input Impedance	≥10MΩ (@ max input signal)
	Overload	-15V < Vin < 15V
Output Parameter	Output Signal	See product program
	Load Capacity	≥2kΩ (@ max output)

### TRANSMISSION CHARACTERISTICS

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

### ISOLATION CHARACTERISTICS

Galvanic Isolation	Four-port isolation (input, output, power supply and Power distribution)
Isolation Voltage	2.5kVDC (Tested for 1 minute and leakage current < 1mA, humidity < 70%) (Note: It is 500VDC between input and isolation power out when there is isolation power out)
Insulation Resistance	100MΩ, 500VDC (Between signal input, signal output, power supply and isolation power output)

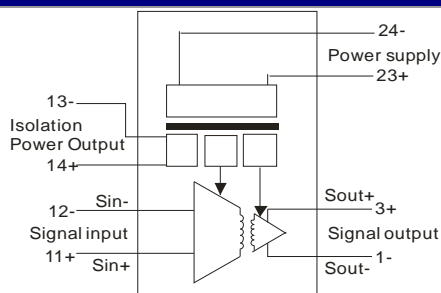
### OTHER CHARACTERISTICS

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

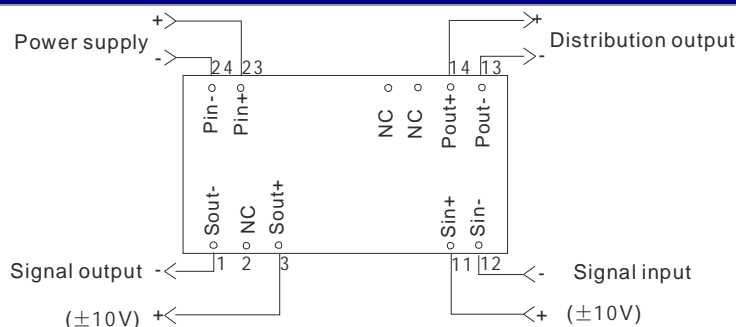
Note:

1. All specifications measured at TA=25°C, humidity < 75%, nominal input voltage and rated output load unless otherwise specified.
2. Only typical models listed, specifications of custom product may be different. Please contact our service people directly for certain conditions;
3. In this datasheet, all the test methods of indications are based on corporate standards.

## SCHEMATIC DIAGRAM

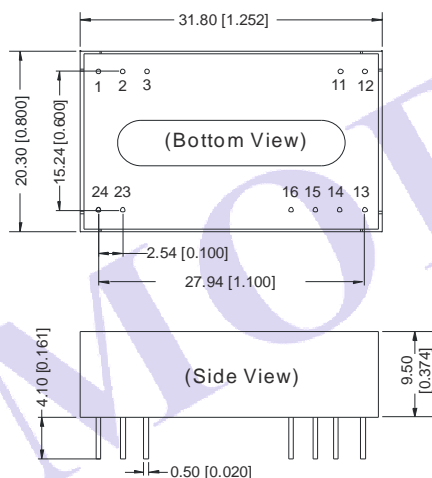


## APPLICATION CIRCUIT DIAGRAM



## PACKAGING SIZE AND PIN CONNECTION

### 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	Pout-	Distribution output(-)
14	Pout+	Distribution output(+)
15,16	NC	No function pin
23	Pin+	Power supply(+)
24	Pin-	Power supply(-)

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

## 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 220VAC power supply.
4. Don't divide the product privately in case the equipments ineffective or go wrong.

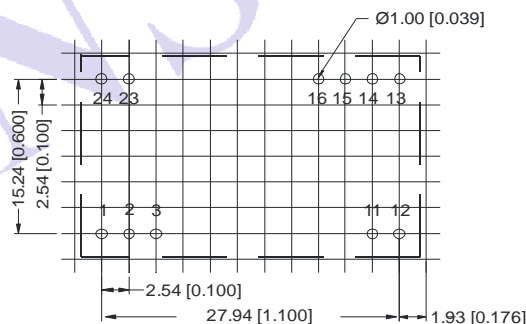
## AFTER SERVICE

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.

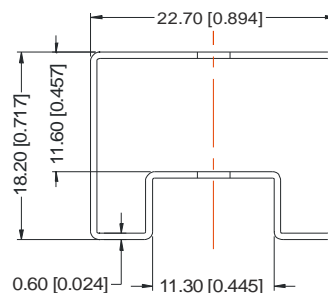
## APPLICATION CIRCUITS

See A GUIDE TO INSTRUMENTATION ISOLATION AMPLIFIERS for more detail.

### 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] Devices per tube quantity: 15pcs  
L=220mm[8.661inch] Devices per tube quantity: 6pcs  
Short tube inner packaging dimensions: 255\*170\*80mm  
Short tube outer packaging dimensions: 375\*280\*270mm  
Long tube inner packaging dimensions: 580\*200\*100mm  
Long tube outer packaging dimensions(with two inner packaging box): 600\*215\*220mm  
Long tube outer packaging dimensions(with three inner packaging box): 600\*215\*325mm