

## ACTIVE HIGH PRECISION AMPLIFIER

### BIPOLAR SIGNAL IN & OUT SERIES

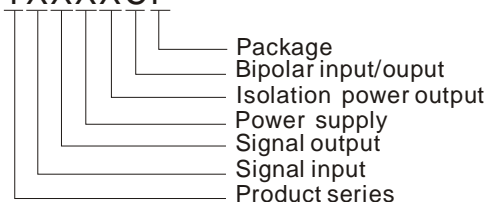
—TxxxxCP



RoHS

#### PART NUMBER SYSTEM

TXXXXCP



#### FEATURES

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

#### GENERAL DESCRIPTION

The TxxxxCP series are a high integration and efficiency active isolation amplifier module, with bipolar signal input and bipolar 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).

#### SELECTION GUIDE

Model	Power Supply	Input	Output	Isolation Power Output	Channels
T5230CP	24V	±10V	±20 mA	None	1
T5530CP	24V	±10V	±10V	None	1
T5533CP	24V	±10V	±10V	24V	1
T5540CP	15V	±10V	±10V	None	1
T5550CP	12V	±10V	±10V	None	1
T6530CP	24V	±5V	±10V	None	1
T6630CP	24V	±5V	±5V	None	1
T6640CP	15V	±5V	±5V	None	1
T6650CP	12V	±5V	±5V	None	1
T6660CP	5V	±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	Power Supply	(Nominal Power Supply) ±5%	
	Input consumption	≤2W	
	Power Protection	Reverse protection	
Isolation Power Output	Output Voltage	(Nominal) ±10%	
	Output Current	≤25mA	
Signal Input	Input Signal	See product program	
	Input Impedance	≥10MΩ (@ max input signal)	
	Overload	-15V<Vin<15V	
Signal Output	Output Signal	See product program	
	Load ability	≥2KΩ(Voltage output)	≤500Ω(Current output @20mA)

## 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 (signal input, signal output, power supply and Power distribution)
Isolation Voltage	2.5kVDC (Tested for 1minute 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)

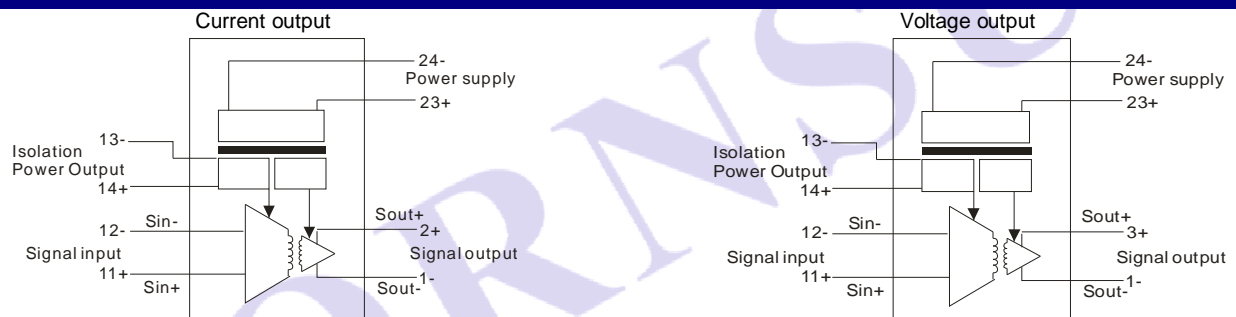
## OTHER CHARACTERISTICS

Ambient temperature	Operation temperature: -25 ~ +71°C
	Transport and Storage temperature: -50 ~ +105°C
Package	DIP24
Weight	10g,typ
Case Material	Plastic (UL94-V0)
Application environment	No dust, fierce vibration, impulsion and corrosive gas

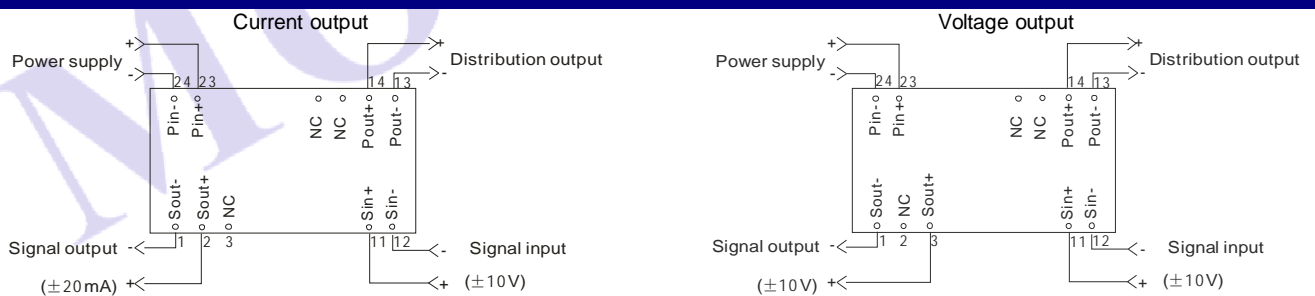
Note:

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



## APPLICATION NOTE

1. Please read the user manual carefully before using. If any question please contact our FAE.
2. Please do not use this product in hazardous area.
3. The power supply of this product should be 24VDC power source. It is forbidden to use 220VAC power supply.
4. To avoid invalid explosion protection function, or any failure, disassembling this product is forbidden.

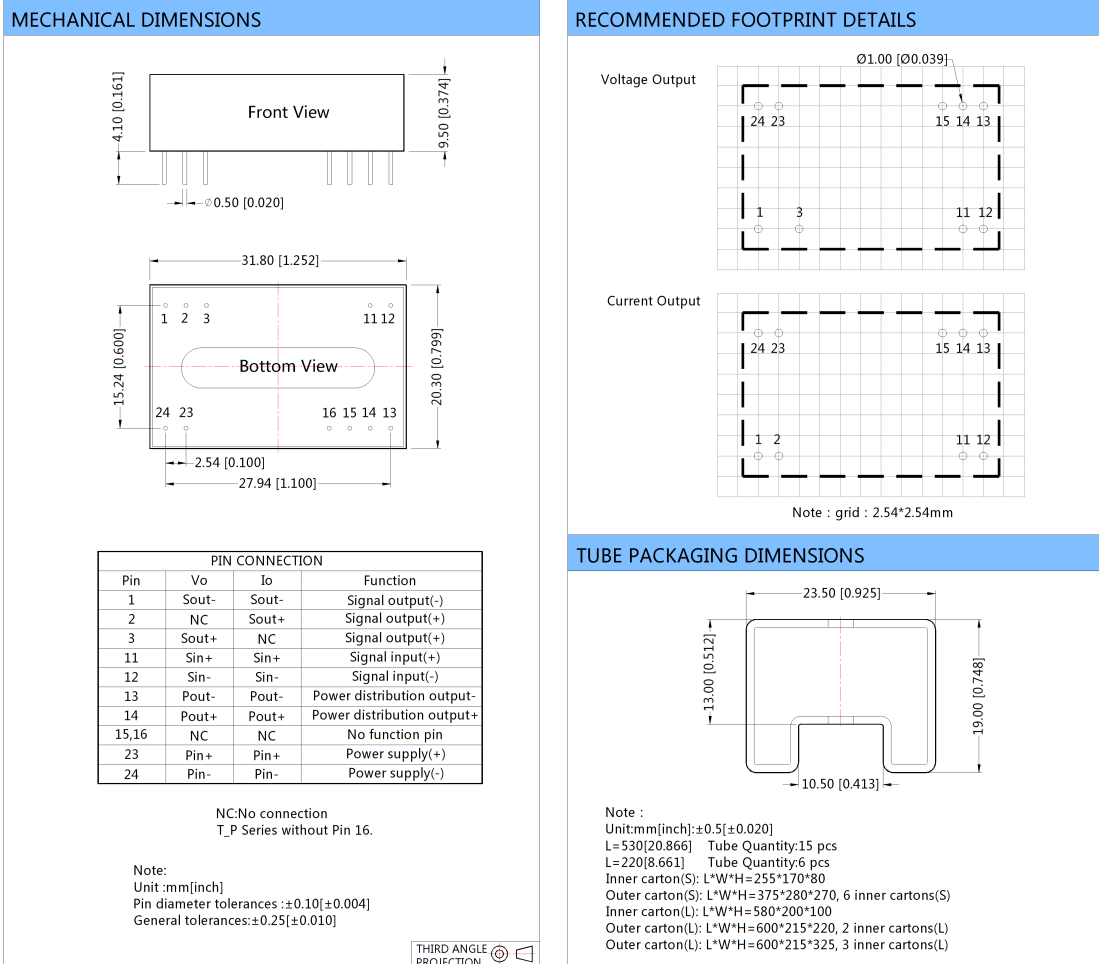
## AFTER-SALES SERVICE

1. Products are carefully inspected and quality controlled during production and before shipment. If they operated abnormally or there was anything wrong, please contact our agent from which you purchased or MORNSUN FAE as soon as possible.
2. MORNSUN warranty our product for 3 years from manufacturing date. During this period, MORNSUN will repair or replace the product if product was found to have manufacturing defect.

## APPLICATION CIRCUIT

You can see " A APPLICATION GUIDE TO ISOLATION TRANSMITTER "

## DIMENSIONS, RECOMMENDED FOOTPRINT & PACKAGING



Note:

1. All specifications are measured at Ta=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. In this datasheet, all the test setup and methods are based on our corporate standards.
3. All characteristics are meant for listed model, non-standard models may perform differently, Please contact our technical support for more detail.
4. Contact us for your specific requirement.
5. Specifications are subject to change without prior notice.

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