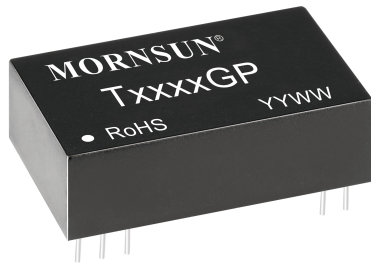


Active high precision signal conditioning module with a positive signal input and with positive and negative signal output



RoHS

## FEATURES

- Three-port isolation (signal input, signal output and power input terminals are all isolated from each other)
- High accuracy of 0.1% Full Scale
- Isolation test voltage 2.5kVDC (60s)
- Industrial grade operating temperature from -40°C to +85°C
- Low ripple & noise 30mVp-p(Typ. )
- ESD protection to IEC/EN61000-4-2, Contact  $\pm 4kV$  with performance Criteria B

TxxxGP series signal conditioning modules (also called isolated transmitter), are analog signal conversion modules, consisting of a positive signal input with positive and negative signal output. The electromagnetism isolation technology of the product ensures that input/output/power supply path are all isolated from each other, meaning these products can completely replace traditional linear optocoupler isolators, providing much higher accuracy and extremely low temperature drift in comparison to optocouplers. The TxxxGP series are widely used in PLC, DCS, MCU and other isolated signal conversion applications.

## Selection Guide

PART NO.	Power Supply input Typ. (VDC)	Input Signal	Output Signal	Isolation Power Output (VDC)
T6530GP	24V	0-5V	-10V to +10V	None

Notes: Customization of products is available on request.

## Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit	
Power Input	Input voltage	Typ.-5%	Typ.	Typ.+5%	VDC	
	Input power	Isolated signal power at full load	--	--	2.0	W
	Power supply protection		Input reverse polarity protection			
Signal Input	Input signal		See selection guide			
	Input impedance	In case of max. input of voltage signal	10	--	--	M $\Omega$
	Over range		--	--	15	V

## Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit	
Signal Output	Output signal		See selection guide			
	Load capacity	In case of max. input of voltage signal	2	--	--	k $\Omega$
	Ripple & Noise	20MHz Bandwidth	--	30	--	mVp-p

## Transmission Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Signal Precision	Ta=25°C	-0.1%FS	--	+0.1%FS	--
Power Regulation	Power supply input Typ. $\pm 5\%$	-0.05%FS	--	+0.05%FS	--
Load Regulation	Change from no-load to full load	-0.05%FS	--	+0.05%FS	--
Temperature Coefficient	Operating temperature range of -40 to +85°C	--	--	100	PPM/°C
Band Width		2	--	--	kHz
Response Time		--	--	5	ms

### General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Electric Isolation		signal input, signal output and power input terminals are all isolated from each other			
Isolation Test	Electric strength test for 1 minute with a leakage current <1mA, humidity <70%	2.5	--	--	kVDC
Insulation Resistance	500VDC	100	--	--	MΩ
Operating Temperature		-40	--	+85	°C
Transportation and Storage Temperature		-40	--	+85	°C
Application Environment		The presence of dust and corrosive gas may cause damage to the product			

### Mechanical Specifications

Case Material	Black plastic, flame-retardant and heat-resistant
Package	DIP24
Weight	11.5g(Typ.)
Cooling Method	Free air convection

### Electromagnetic Compatibility (EMC)

Immunity	ESD	IEC/EN61000-4-2	Contact ±4kV	perf. Criteria B
	EFT	IEC/EN61000-4-4	Power supply port ±2kV (see Fig. 2 for recommended circuit)	perf. Criteria B
		IEC/EN61000-4-4	Other ports ±1kV (see Fig. 2 for recommended circuit)	perf. Criteria B
	Surge	IEC/EN61000-4-5	Power supply port ±1kV (line to line) (see Fig. 2 for recommended circuit)	perf. Criteria B
IEC/EN61000-4-5		Other ports ±1kV (line to ground) (see Fig. 2 for recommended circuit)	perf. Criteria B	

### Application Precautions

- Carefully read and follow the instructions before use; contact our technical support if you have any question;
- Do not use the product in hazardous areas;
- use only DC power supply source for this product. 220VAC power supply is prohibited;
- It is strictly forbidden to disassemble the product privately in order to avoid product failure or malfunction.

#### After-sales service

- Factory inspection and quality control are strictly enforced before shipping any product; please contact your local representative or our technical support if you experience any abnormal operation or possible failure of the module;
- The products have a 3-year warranty period, from the date of shipment. The product will be repaired or exchanged free of charge within the warranty period for any quality problem that occurs under normal use.

#### Applied circuit

Please refer to Isolated Transmitter application notes.

### Design Reference

#### 1. Wiring diagram for product application

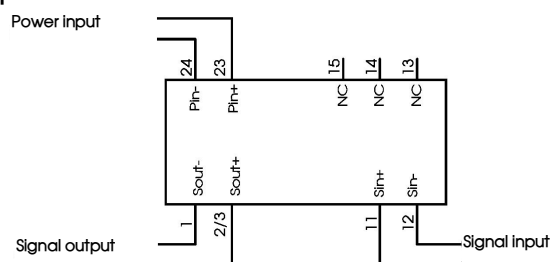


Fig. 1

## 2. EMC compliance recommended circuit

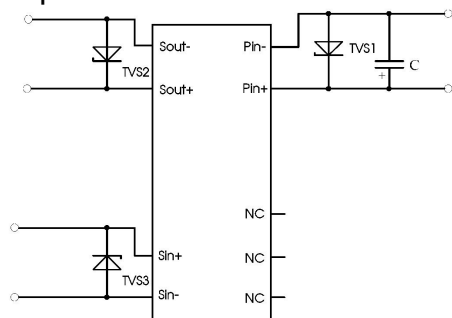
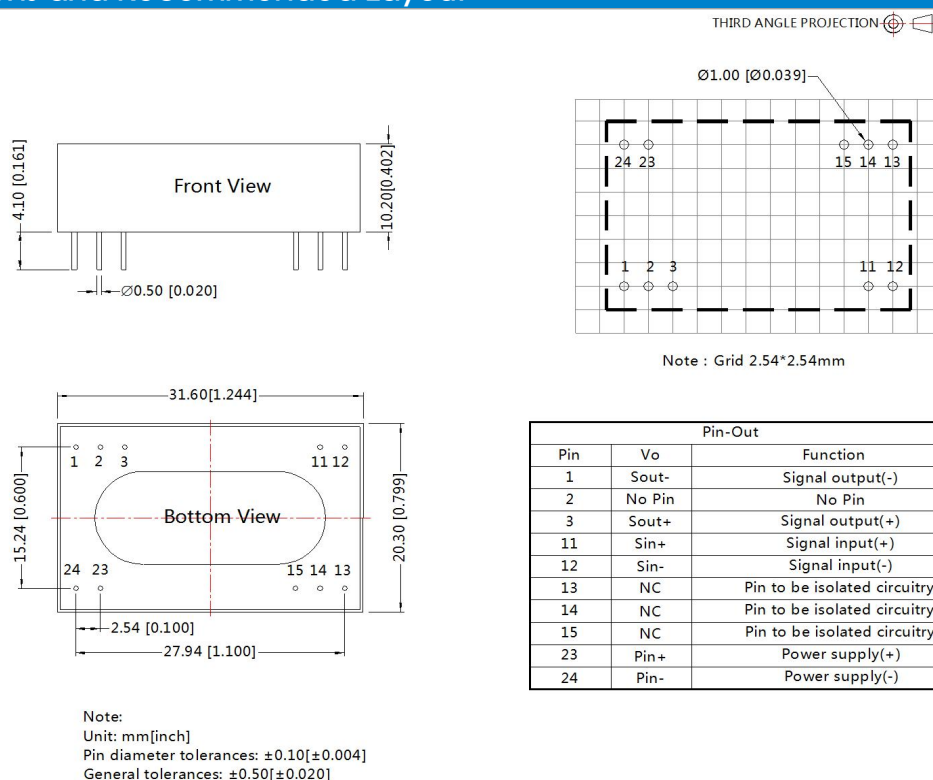


Fig. 2

Component	Recommended part
TVS1	SMCJ30A
TVS2	SMBJ15A
TVS3	SMBJ15A
C	220uF/35V

3. For more information please find the application notes on [www.mornsun-power.com](http://www.mornsun-power.com)

## Dimensions and Recommended Layout



### Notes:

- For additional information on Product Packaging please refer to [www.mornsun-power.com](http://www.mornsun-power.com). The Packaging bag number: 58210008;
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75%RH with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on company corporate standards;
- The above are the performance indicators of the product models listed in this datasheet. Some indicators of non-standard models will exceed the above requirements. For details, please contact our technical staff;
- We can provide product customization service;
- Products are related to laws and regulations: see "Features" and "EMC";
- Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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