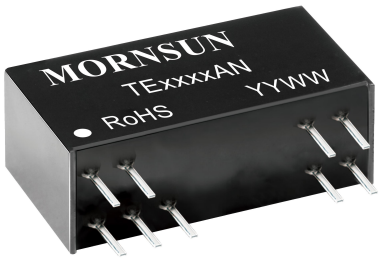
Signal conditioning modules



3 years Warranty

CE Report EN62368-1

RoHS

FEATURES

- Two-port isolation (signal input and signal output)
- High accuracy of 0.1% Full Scale
- High linearity of 0.1% Full Scale
- Isolation test voltage 2kVAC for 60s
- Extremely low temperature coefficient of ≤50PPM/℃
- Industrial grade operating temperature range from -40℃ to +85℃
- High reliability, MTBF >500,000 hours
- Low ripple & noise: ≤35mVpp, 20MHz
- ESD protection to IEC/EN61000-4-2, Contact ±4kV with performance Criteria B
- Compact DIP18 package, size 26 x 9.5 x 12.5mm
- Signal load capacity ≥2kΩ (@ signal output 10V Max.)

TExxxxAN series are analog signal isolation modules with incoming positive/negative signal input and transformed positive signal output. They are equipped with an efficient built-in micro-power source that supplies additionally power to the internal input signal circuitry. The adopted electromagnetic isolation technology has a better performance, a much higher accuracy and a lower temperature drift in comparison with photo/opto-coupler isolators. This type of product has in addition to low temperature drift and high linearity, a low power consumption and low ripple & noise. They have a two-terminal isolation from signal input to signal output/power input.

Selection Guide

Certification	Part No.	Power Supply Input Typ. (VDC)	Input Signal	Output Signal	Isolated Power Output (VDC)
EN	TE5530AN	24	-10V to 10V	0 - 10V	NC
	TE5650AN	12	-10V to 10V	0 - 5V	NC
	TE6630AN	24	-5V to 5V	0 - 5V	NC
	TE6650AN	12	-5V to 5V	0 - 5V	NC

Input Specifications

Item		Operating Conditions	Value
Power Input	Input Voltage		Typ. ±5%
	Input Power	Signal full load	≤1W
	Power Protection		Input reverse polarity protection
Signal Input	Input Signal		See selection guide
	Input Impedance	In case of max. input of voltage signal	≥10MΩ
	Over Range	Maximum continuous over range	±30VDC

Output Specifications

Item		Operating Conditions	Value
Signal Output	Output Signal		See selection guide
	Load Capacity	Voltage output	≥2kΩ
	Load Regulation	Full scale output	≤0.05%
	Power Regulation	Power voltage Typ. ±5%	≤0.05%
	Ripple & Noise	Bandwidth 20MHz	≤35mVpp

Transmission Specifications

Item	Operating Conditions	Value
Zero Offset		0.1%FS
Signal Precision		0.1%FS
Temperature Coefficient	Operating temperature range from -40 to +85℃	≤50PPM/℃
Band Width		≥2kHz
Response Time		≤1ms

General Specifications

Item	Operating Conditions	Value
Electric Isolation		Isolated between the signal input and the signal output.
Isolation Test	Electric strength test for 1 minute with a leakage current <1mA, humidity <70%RH	2kVAC
Insulation Resistance	At 500VDC	100MΩ
Operating Temperature		-40℃ to +85℃
Transportation and Storage Temperature		-50℃ to +105℃
Max. Case Temperature	Ta=25℃	≤55℃
Safety Standard		EN62368-1 (Report)
Safety Class		CLASS III
Application Environment		The presence of dust, severe vibration, shock and corrosive gas may cause damage to the product

Mechanical Specifications

Case Material	Black plastic, flame-retardant heat- resistant
Package	DIP18
Weight	5.4g(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	Signal input port ±1kV(see Fig. 2 for recommended circuit)	perf. Criteria B
	Surge	IEC/EN61000-4-5	Signal input port ±1kV (line-to-ground)(see Fig. 2 for recommended circuit)	perf. Criteria B

Application Precautions

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

After-sales service

1. 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;
2. 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

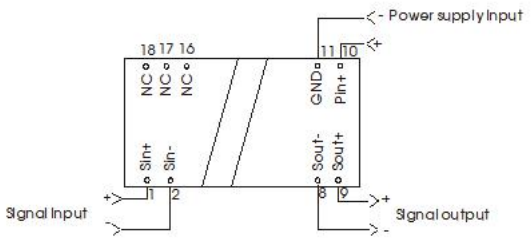


Fig. 1

Notes: NC: Not available for electrical connection

2. EMC compliance circuit

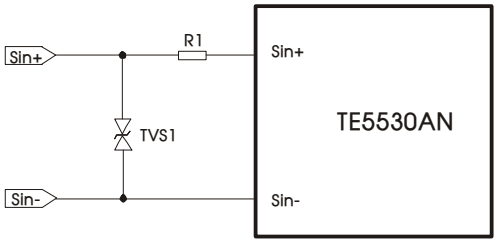


Fig. 2

Component	Recommended part, value
R1	12Ω/2W
TVS1	SMBJ15CA

3. Schematic diagram of signal input and signal output(Ideal state)

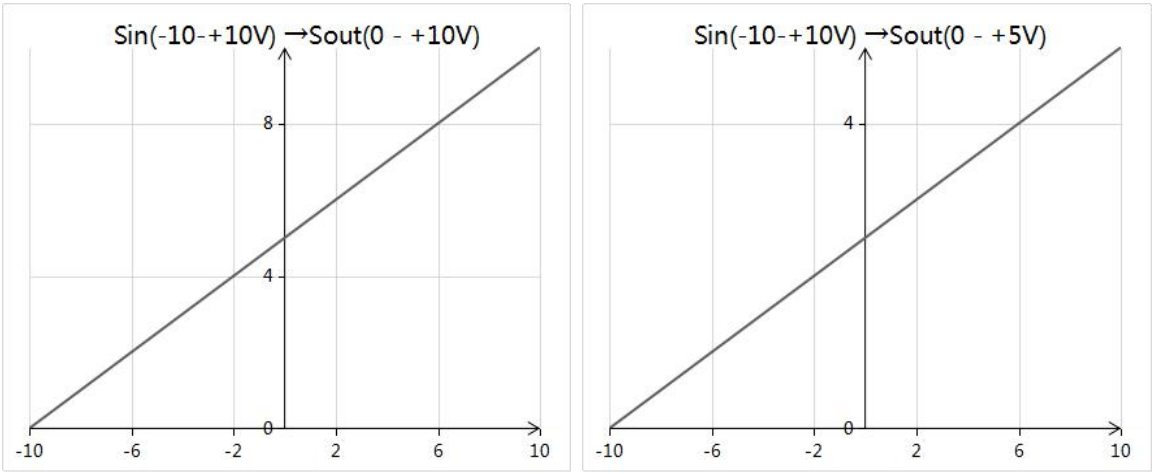
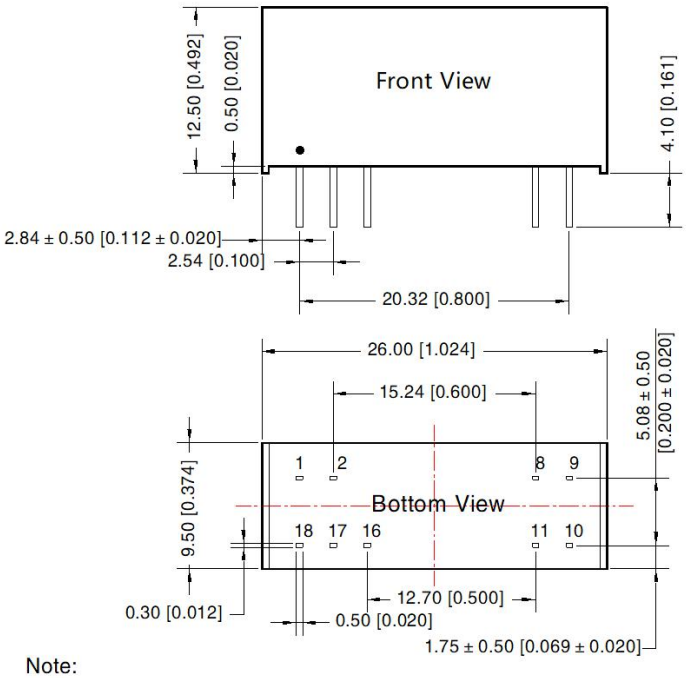


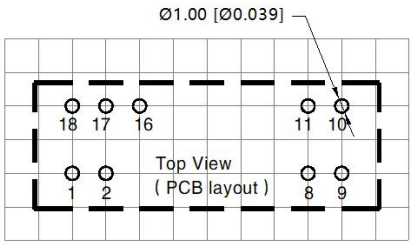
Fig. 3

4. For additional information please find the application notes on www.mornsun-power.com

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION





Note: Grid 2.54*2.54mm

Pin-Out		
1	Sin+	Signal input(+)
2	Sin−	Signal input(−)
8	Sout−	Signal output(−)
9	Sout+	Signal output(+)
10	Pin+	Power input(+)
11	GND	GND
Others：NC		

NC: No connection

Note:
Unit: mm[inch]
Pin section tolerances: ± 0.10[± 0.004]
General tolerances: ± 0.25[± 0.010]

Notes:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. The Packaging bag number: 58240002;
2. All index testing methods in this datasheet are based on company corporate standards;
3. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load.
4. 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;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. 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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