Signal conditioning modules



FEATURES

- two-terminal isolation (signal input and output are mutually isolated)
- High precision grade (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage (2KVAC/60s)
- Extremely low temperature drift (50PPM/℃)
- Industrial grade
  (range of operating temperature: -40℃ to +85℃)
- High reliability (MTBF >500,000 hours)
- Low ripple & noise: ≤30mVp-p(20MHz)
- ESD protection (IEC/EN61000-4-2 Contact ±4KV perf. Criteria B)
- Small footprint： DIP Package(26*9.5*12.5mm)
- Signal load capacity: ≥2KΩ (@Max. signal output @10V)

TExxxxAN series is analog signal isolation modules with front-end positive/negative signal input and rear-end positive signal output. They are equipped with built-in efficient micro-power source can supply other power to the internal circuit of input signal. The product adopts the electromagnetic isolating technology as a substitute for the traditional linear opto-isolator. In contrast, this type of product has a better performance in temperature drift, linearity, low power consumption and Low ripple. They are two -terminal isolation (input of power supply , signal output and signal output are mutually isolated)

Selection Guide

Part No.	Power Supply input (VDC)	Input Signal	Output Signal	Isolation Power Output (VDC)
TE5530AN	24	-10V~10V	0~10V	NC
TE5650AN	12	-10V~10V	0~5V	NC
TE6630AN	24	-5V~5V	0~5V	NC

Input Specifications

Item		Operating Conditions	Value
Input Power Supply	Input voltage		Input nominal ±5%
	Input power	Signal full load	≤1W
	Power protection		Anti-reverse connection protection
Input	Input signal		See selection guide
	Input impedance	in case of max. input of voltage signal	≥10MΩ
	Over-load	Max. over-load voltage	±30VDC

Output Specifications

Item		Operating Conditions	Value
Output	Output signal		See selection guide
	Load capacity	Voltage output	≥2KΩ
	Load Regulation	Power voltage nominal, full load 2KΩ, Full scale output	≤0.05%
	Power Regulation	Power voltage nominal ±5%, full load output	≤0.05%
	Ripple & noise	Bandwidth 20MHz	≤35mVpp

Transmission Specifications

Item	Operating Conditions	Value
Zero Offset		0.1%F.S.
Precision		0.1%F.S.
Temperature Drift	Operating temperature range of -40 to +85℃	≤50PPM/℃
bandwidth		≥2KHz
Response Time		≤1ms

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General Specifications

Item	Operating Conditions	Value
Electric Isolation		Power input and the signal output are on the common ground. Isolated between signal input terminal and signal output terminal.
Degree of Isolation	testing for 1 minute, leakage current <1mA, humidity <70%	2KVAC
Isolation Resistance		100MΩ, 500VDC (signal input terminal and signal output terminal)
Operating Temperature		-40℃~+85℃
Transportation and Storage Temperature		-50℃~+105℃
Max. Operating Temperature for casing	Ta=25℃	≤55℃
Application Environment		The presence of dust, fierce vibration, impulsion and corrosive gas may cause damage to the product

Physical Specifications

Casing Material	WH8100-F (1)
Package	DIP18
Weight	8g(Typ.)
Cooling Method	Natural cooling

EMC Specifications

EMS	Electrostatic Discharge	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 Immunity	IEC/EN61000-4-5	Signal input port ±1KV (line-to-ground)(see Fig. 2 for recommended circuit)	perf. Criteria B

Application Precautions

1. Please read the instructions carefully before use; contact our technical support if you have any problem.
2. Do not use the product in hazardous areas.
3. Use DC power supply for the product and 220VAC power supply is prohibited.
4. Do not dismount and assemble the product without permission to avoid failure or malfunction of equipment.

After-sales service

1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support.
2. The warranty period for the product is 3 years as calculated from the date of delivery. If any quality problem occurs under normal use within the warranty period, the product can be repaired or changed for free.

Applied circuit

See *Application Notes for Isolated Transmitter* for details.

Design Reference

1. Wiring diagram for product application

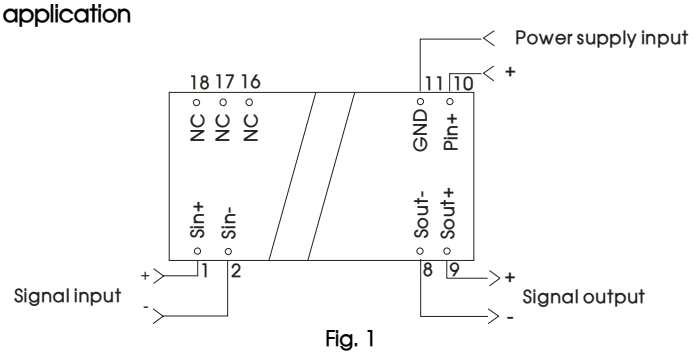


Fig. 1

Note: 16,17,18 pin is the internal test pin, can not have any electrical connection to an external circuit.

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2. Recommended EMC circuit

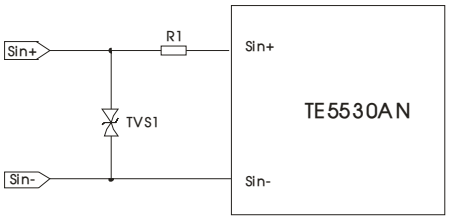
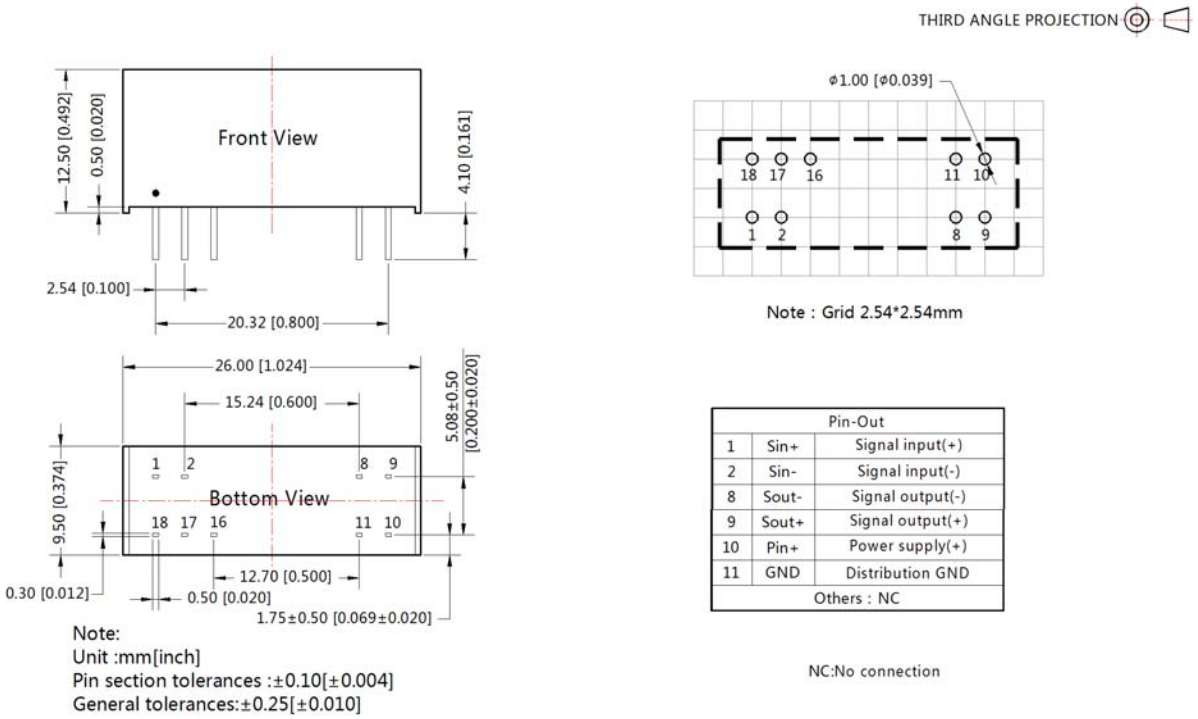


Fig. 2

Components	Recommended parameters
R1	12Ω/2W
TVS1	SMBJ15CA

3. For more information please find the application notes on www.mornsun-power.com

Dimensions and Recommended Layout



Pin-Out		
1	Sin+	Signal input(+)
2	Sin-	Signal input(-)
8	Sout-	Signal output(-)
9	Sout+	Signal output(+)
10	Pin+	Power supply(+)
11	GND	Distribution 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. Packing Information please refer to 'Product Packing Information'. Packing bag number: 58240002;
2. Unless otherwise specified, data in this datasheet should be tested under the conditions of Ta=25℃, humidity<75% when inputting nominal voltage and outputting rated load;
3. All index testing methods in this datasheet are based on our Company's corporate standards;
4. The performance indexes of the product models listed in this datasheet are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, and please directly contact our technician for specific information;
5. We can provide product customization service;
6. Specifications of this product are subject to changes without prior notice.

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