

Active high precision signal conditioning module



RoHS



FEATURES

- Two- port isolation (signal input and signal output)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage (2KVAC/60s)
- Low ripple & noise: ($\leq 35\text{mVpp}$, 20MHz)
- Extremely low temperature coefficient (50PPM/°C)
- Operating temperature range: -40°C to $+85^{\circ}\text{C}$
- Compact size: DIP18 (26*9.5*12.5mm)
- ESD protection (IEC/EN61000-4-2 Contact $\pm 4\text{KV}$ perf. Criteria B)
- EN60950 approval

TExxxCN series is analog signal isolation modules with front-end positive/negative voltage signal input and rear-end positive/negative voltage signal output. They are equipped with built-in efficient micro-power source and can supplying power to the internal circuit of the product. 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 (Power input and the signal output are on the common ground. Isolated between signal input terminal and signal output terminal).

Selection Guide

Certification	Model	Power Supply input Typ. (VDC)	Input Signal	Output Signal	Isolation power output (VDC)
CE	TE5540CN	15VDC	$\pm 10\text{V}$	$\pm 10\text{V}$	None
	TE5550CN	12VDC	$\pm 10\text{V}$	$\pm 10\text{V}$	None
	TE6640CN	15VDC	$\pm 5\text{V}$	$\pm 5\text{V}$	None
	TE6650CN	12VDC	$\pm 5\text{V}$	$\pm 5\text{V}$	None

Notes: Customization products are available if required.

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Power Input	Input Voltage		-5%(Nominal value)	Nominal value	+5%(Nominal value)	VDC
	Input Power	Signal full load	--	--	1.0	W
Signal Input	Input Signal		Reference selection guide			
	Input Impedance	In case of max. input of voltage signal	10	--	--	M Ω
	Overload	Maximum continuous over range	-15	--	+15	V

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Signal	Output Signal		Reference selection guide			
	Load Capacity	Voltage output	2	--	--	K Ω
	Ripple & Noise*	20MHz bandwidth	--	--	35	mVp-p

Transmission Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Signal Precision	$T_a=25^{\circ}\text{C}$		-0.1%F.S.	--	+0.1%F.S.	--
Power regulation	(Typ. value of power supply input) $\pm 5\%$		-0.05%F.S.	--	+0.05%F.S.	--
Load regulation	Change between no-load and full load (2K Ω - ∞)		-0.05%F.S.	--	+0.05%F.S.	--
Temperature Coefficient	Operating temperature range of -40°C to $+85^{\circ}\text{C}$		--	--	50	PPM/°C
Bandwidth			2	--	--	KHz
Response time			--	--	1	ms

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Electric Isolation		Power input and the signal output are on the common ground. Isolated between signal input terminal and signal output terminal.			
Isolation Voltage	Testing for 1 minute, leakage current <1mA, humidity <70%	2	--	--	KVAC
Insulation Resistance	500VDC	100	--	--	MΩ
Operating Temperature		-40	--	+85	°C
Transportation and Storage Temperature		-40	--	+85	°C
Casing Temperature Rise	Ta=25°C	--	--	30	°C
Safety Standard		EN60950			
Safety Certification		EN60950			
Safety Class		CLASS III			
Application Environment		The presence of dust, fierce vibration,impulsion and corrosive gas may cause damage to the product.			

Physical Specifications

Casing Material	Black flame-retardant and heat-resistant plastic
Package	DIP18
Weight	5.8g(Typ.)
Cooling Method	Free air convection

EMC Specifications

EMS	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. 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 220V AC power supply is prohibited;
4. Do not dismount and assemble the product without permission to avoid failure or malfunction of equipment;
5. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C , humidity<75% with power input nominal voltage and rated signal output full load.

After-sales service

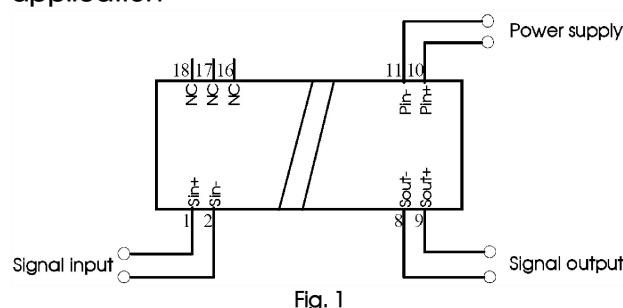
1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support;
2. The warranty period for the product is 3 years as calculated 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 Signal conditioning module application manual*.

Design Reference

1.Wiring diagram for product application



Notes: NC: Not available for electrical connection

2.EMC solution-recommended circuit

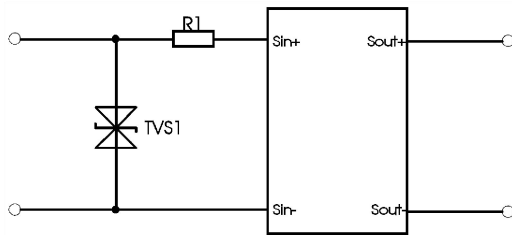


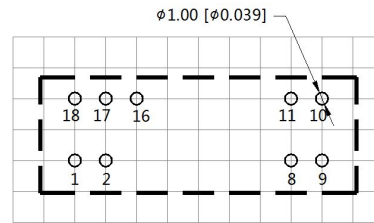
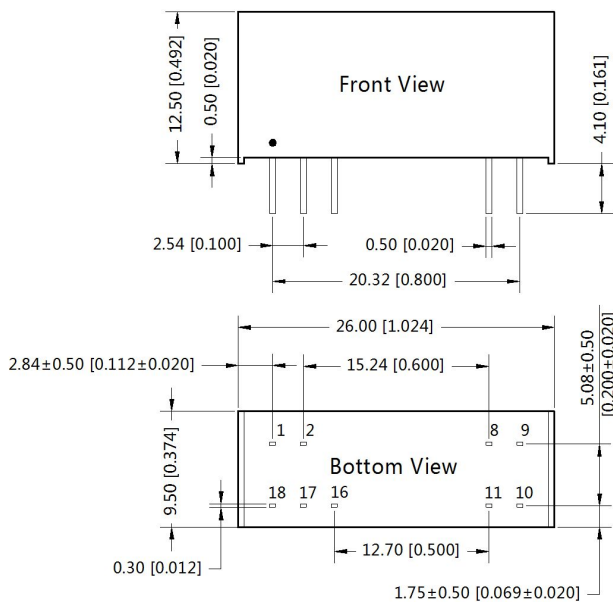
Fig. 2

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

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 supply(+)
11	Pin-	Power supply(-)
Others : NC		

NC:Not available for electrical 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 which can be downloaded from www.mornsun-power.com. Packing bag number: 58240002;
2. All index testing methods in this datasheet are based on our Company's corporate standards;
3. 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;
4. We can provide product customization service;
5. Specifications of this product are subject to changes without prior notice.
6. Our products shall be classified and stored after being scrapped, and shall be handled by qualified units.

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