Isolated Transmitter

T1100N/NS Series

MORNSUN®

Passive high precision isolated transmitter

CE RoHS 3 years Warranty

FEATURES

- Two- port isolation (signal input and signal output)
- High precision (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage (3kVDC/60s)
- Extremely low temperature coefficient (35PPM/℃)
- Industrial grade (operating temperature range: -25℃ to +71℃)
- High reliability (MTBF >500,000 hours)
- Low voltage-drop(3V typ: @ 20mA input)
- EN60950 approval

T1100N/NS series are a passive signal isolation module with a standard analog amplifier, 4-20mA current signal input and 4-20mA current signal output. Adopting unique electromagnetism isolation design and high efficiency loop electric-larceny technology, independent power supply is not required for the module, realizing 4-20mA standard signal isolation with high accuracy and linearity. Besides, the modules have extremely low temperature drift (no more than 35ppm/℃ under -25℃ to +71℃). The isolation voltage between the input and output can be up to 3kVDC.

Selection Guide

Certification	Part No.	Power Supply input	Input Signal	Output Signal	Isolation Power Output (VDC)
CE	T1100N	None	4-20mA	4-20mA	None
	T1100NS	None	4-20mA	4-20mA	None
	T1100NS-W	None	4-20mA	4-20mA	None

Input Specifications

Item	Operating Conditions	Value
Power Supply Input	Power Supply	None
	Input power	None
	Power supply protection	None
Signal Input	Input signal	4-20mA
	Maximum continuous over range	≤50mA
	Voltage Drop-out @20mA	3V (Typ.)

Output Specifications

Item	Operating Conditions	Value
Signal Output	Output signal	4-20mA
	Load capacity @20mA	≤300Ω
	Load Regulation	<0.05% meas.val./100Ω

Transmission Specifications

Item	Operating Conditions	Value
Zero Offset		0.1%F.S.
Signal Precision		0.1%F.S.
Temperature Coefficient	Operating temperature range: -25℃ to +71℃	0.0035%F.S./℃

General Specifications

Item	Operating Conditions	Value
Electric Isolation		Two-port isolation (signal input and signal output)
Isolation Voltage	Testing for 1 minute, leakage current <1mA, humidity <70%	3kVDC
Insulation Resistance	500VDC(signal input and signal output)	100MΩ
Operating Temperature		-25℃ to +71℃
Transportation and Storage Temperature		-50℃ to +105℃
Welding Temperature*	Wave-soldering	260±5℃; time:5-10s
	Manual-welding	360±10℃; time:3-5s
	Reflow-soldering	Peak temp.≤245℃, maximum duration time≤60s at 217℃. For actual application, please refer to IPC/JEDEC J-STD-020D.1.
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

Note: * T1100NS can not reflow soldering, if not, internal molten tin of the product.
T1100NS-W can reflow soldering.

Physical Specifications

Casing Material	Black flame-retardant and heat-resistant plastic
Package	DIP16/SOIC16
Weight	8g(typ.)
Cooling Methods	Free air convection

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. For T1100NS products is prohibited reflow.

After-sales service

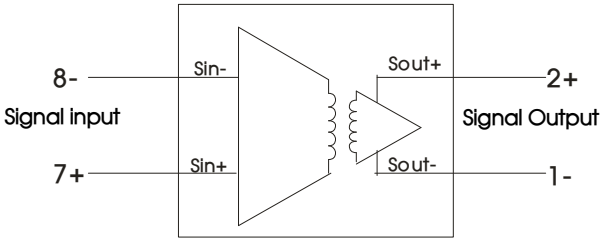
1. Ex-factory inspection and quality control have been strictly conducted for the product; if there occurs abnormal operation or possibility of failure of internal module, please contact the local representative or our technical support.
2. The warranty period for the product is 3 years as calculated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

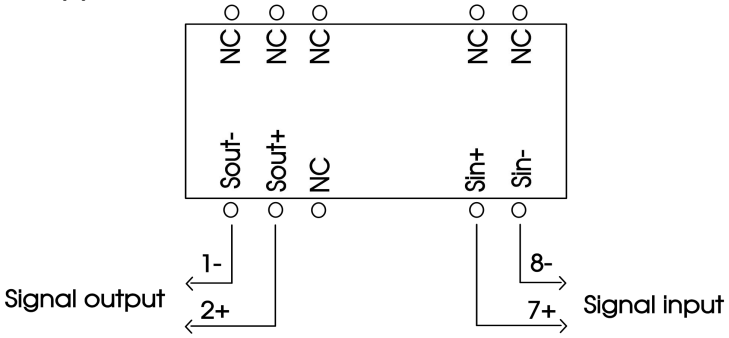
See *Application Notes for Isolated Transmitter* for details.

Design Reference

1. Schematic diagram



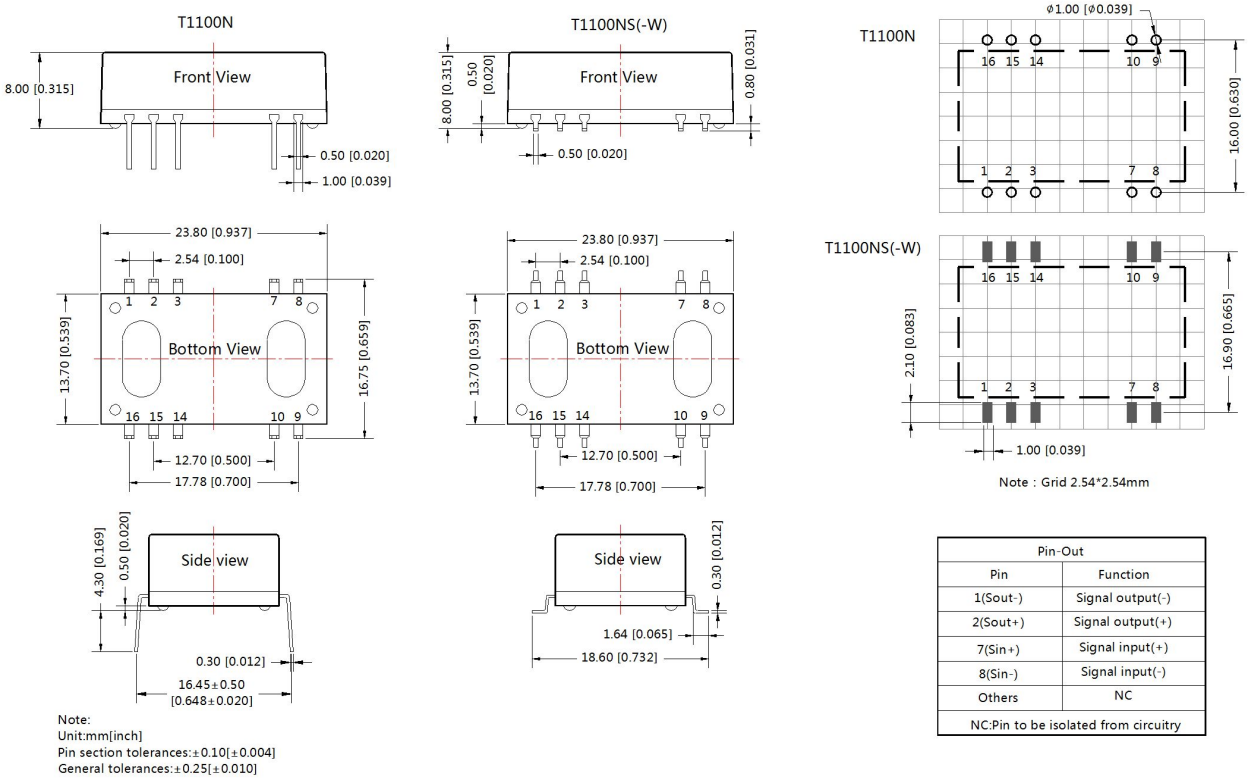
2. Wiring diagram for product application



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

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

Pin-Out	
Pin	Function
1(Sout-)	Signal output(-)
2(Sout+)	Signal output(+)
7(Sin+)	Signal input(+)
8(Sin-)	Signal input(-)
Others	NC
NC:Pin to be isolated from circuitry	

Note:

1. Packing information please refer to Product Packing Information which can be downloaded from www.mornsun-power.com. Packing bag number: 58210019;
2. Unless otherwise specified, parameter indexes in this datasheet is measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load;
3. All testing methods in this datasheet are based on our Company's corporate standards;
4. The parameter indexes above are for the modules listed in this datasheet, for non-standard module's parameter indexes, please contact our technicians for specific information;
5. We can provide custom design;
6. Specifications are subject to change without prior notice.

Mornsun Guangzhou Science & Technology Co., Ltd.
Address: No. 5, kehui St. 1, kehui Development Center, Science Ave., Guangzhou Science City, Luogang District, Guangzhou, P. R. China
Tel: 86-20-38601850-8801 Fax: 86-20-38601272 E-mail: info@mornsun.cn