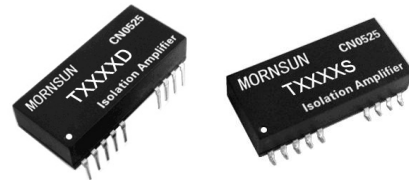


# MORNSUN



## ACTIVE SIGNAL AMPLIFIER lin &out

T11/12/21/22\_D/S

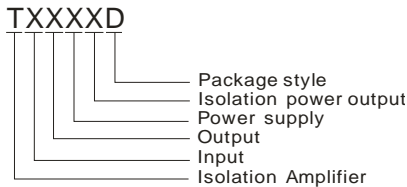
### DESCRIPTION

The series is a high integration, high efficiency polygonal - line active isolation amplifier module, with anterior circuit current signal input and posterior current signal output. These modules are embed with a high efficiency isolated micro-power source, which can provide a electrics-feed for signal input. In the two-wire three-wire and four-wire circuit applications, our products largely predigest customers' design helpfully improve the using room ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep high accuracy and natural extremely low temperature drift. The isolation voltage among the input, output, power supply and isolated power output can up to 2.5KVDC.

### FEATURES

- Four-port isolation ( Among input, output, power supply and Isolation Power output )
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage(2500VDC/60S)
- High frequency response(15KHz)
- Extremely low temperature(35PPM/°C)
- Industry standard(Operating Temperature Range:-25°C to 71°C)
- High reliability(MTBF>500,000 hours)

### MODEL SELECTION



### MORNSUN Science & Technology co.,Ltd.

Address: 2th floor 6th building, Huangzhou Industrial District, Guangzhou, China  
 Tel: 86-20-38601850  
 Fax:86-20-38601272  
[Http://www.mornsun-power.com](http://www.mornsun-power.com)

### PRODUCT PROGRAM

Part Number	Power Supply	Input	Output	Isolation Power Output	Channels
T1133D/S	24V	4-20mA	4-20mA	24V	1
T1130D/S	24V	4-20mA	4-20mA	NONE	1
T1230D/S	24V	4-20mA	0-20mA	NONE	1
T2133D/S	24V	0-20mA	4-20mA	24V	1
T2233D/S	24V	0-20mA	0-20mA	24V	1
T2230D/S	24V	0-20mA	0-20mA	NONE	1

Note: We could also offer customer design for special input and output.

### ELECTRICAL CHARACTERISTICS

Power Supply Data	Power Supply	(Nominal Power Supply) ±5%
	Power consumption	≤2W
	Power Protection	Reverse protection
Isolation Power Output Data	Output Voltage	(Nominal) ±10%
	Output Current	≤25mA
Input Data	Input Signal	See above
	Input Impedance	Voltage Drop≤250mV(At input=20mA)
	Overload	≤300mA
Output Data	Output Signal	See above
	Load	≤500Ω (At output=20mA)

### TRANSMISSION CHARACTERISTICS

Offset	0.1%F.S.
Gain Error	0.1%F.S.
Temperature Drift	0.0035%F.S./°C (-25°C to +71 °C)

### ISOLATION CHARACTERISTICS

Galvanic Isolation	Four-port isolation ( Among input, output, power supply and Isolation Power output )
Isolation Voltage	2.5KVDC (Tested for 1minute and 1mA max, humidity < 70%)
Insulation Resistance	1000MΩ, 500VDC(Among signal input, signal output, power supply and isolation power output)

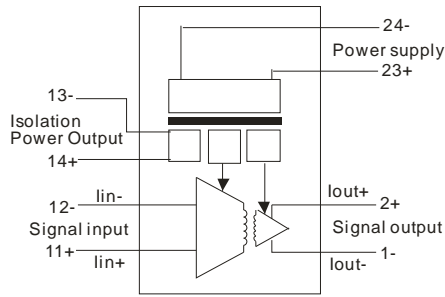
### OTHER CHARACTERISTICS

Ambient temperature	Operation temperature:-25°C to +71°C
	Transport and Storage temperature:-50°C to +105°C
Package	DIP24/SOIC24
Weight	About 10g
The environment in use	No dusts, gases of fiercely vibration, impulsion or gases that may erode to the components surrounded

Note:

1. All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
2. Only typical models listed, specifications of custom product may be different. Please contact our service people directly for certain conditions.

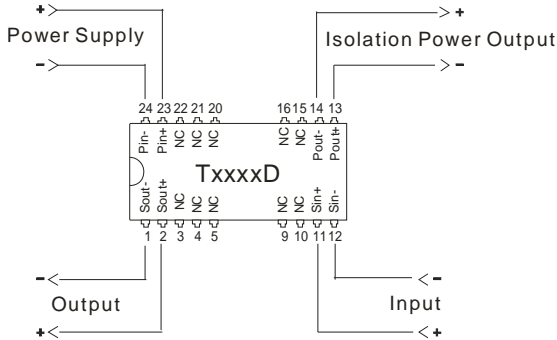
## SCHEMATIC DIAGRAM



## APPLICATION NOTE

1. Please read instruction book carefully before using the product. If you have any question, please contact with our technical support.
2. Please don't install in the dangerous zone.
3. The power supply is direct voltage. 220V alternating current is forbidden.
4. Don't divide the product privately in case the equipments ineffective or go wrong.

## APPLICATION CIRCUIT DIAGRAM



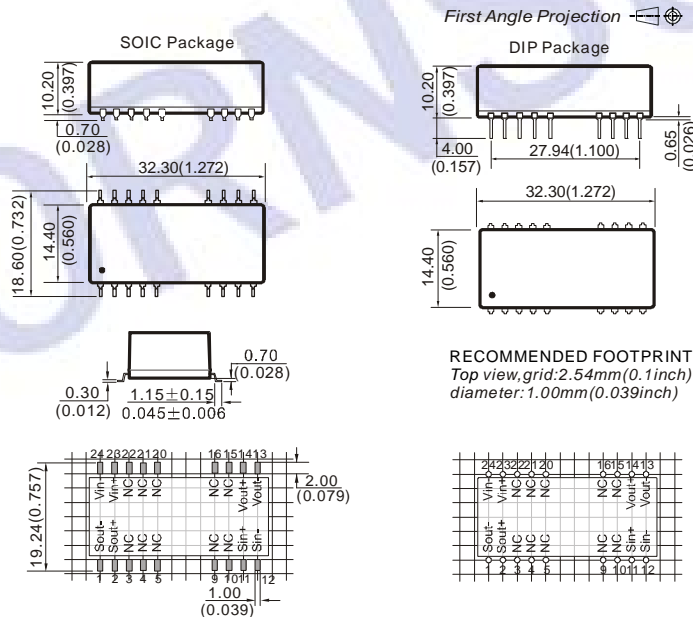
## AFTER SERVICE

1. Products are carefully inspected and controlled before going out from our factory. If they operated abnormally or there were something wrong in the inner parts, please contact with our agents near you or technical support in our company as soon as possible.
2. 3 years warranty since the delivery date. During the period of quality guarantee, our company will repair or change free of charge if product has any quality problem in the process of normally using.

## APPLICATION CIRCUITS

See *A GUIDE TO INSTRUMENTATION ISOLATION AMPLIFIERS* for more detail.

## PACKAGING SIZE AND TERMINAL DESCRIPTION



First Angle Projection

### FOOTPRINT DETAILS

PIN	FUNCTION	PIN	FUNCTION
1(Sout-)	Output-	14(Vout+)	Isolation Power Output+
2(Sout+)	Output+	23(Vin+)	Power Supply+
11(Sin+)	Input+	24(Vin-)	Power Supply-
12(Sin-)	Input-	Others	NC
13(Vout-)	Isolation Power Output-		

NC: No Connection

Note:

Unit: mm (inch)

Pin section: 0.50\*0.30mm (0.020\*0.012inch)

Pin tolerances: ±0.10mm (±0.004inch)

General tolerances: ±0.25mm (±0.010inch)