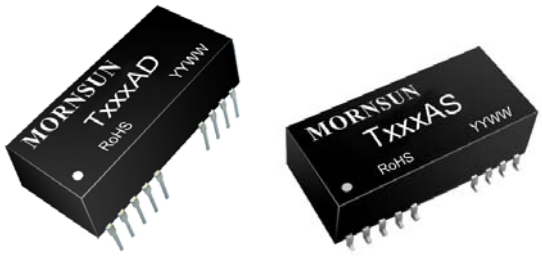
Isolated Transmitter
TxxxxAD Series

MORNSUN®

Active high precision isolated transmitter



FEATURES

- Four-port isolation(Signal input, Signal output, power supply and Isolation power output)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- Isolation voltage(2.5KVDC/60S)
- Extremely low temperature drift (35PPM/℃)
- Industry standard(Operating Temperature Range: -25 ~ 71℃)
- High reliability(MTBF>500,000 hours)

The TxxxAD series is a high integration, high efficiency linear active isolation amplifier module, with current signal input and current signal output. These modules, with a high efficient isolated micro-power source built-in, can provide energy for inner signal processing circuit and a isolation power out for front-end circuit. In the two-wire, three-wire and four-wire applications, our products largely predigest customers' design and helpfully improve the using room ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep higher accuracy and extremely lower temperature drift more than photocoupler isolation. These modules have four-port isolation(input, output, power supply and Isolation power output).

Selection Guide

Part No.	Power Supply input (VDC)	Input Signal	Output Signal	Isolation Power Output (VDC)
TS13AD-2	24	0-2V	4-20mA	±6.8
TS23AD-2	24	0-2V	0-20mA	±6.8
TS53AD-2	24	0-2V	0-10V	±6.8
TS63AD-2	24	0-2V	0-5V	±6.8

Notes: Customization products are available if required.

Input Specifications

Item		Operating Conditions	Value
Input Power Supply	Input voltage		(Nominal value of power supply input) ±5%
	Input power	Signal, power full load	≤2W
	Power supply protection		Reverse polarity protection
Input	Input signal		See selection guide
	Input impedance	In case of max. input of current signal	≥10MΩ
Input	Overload		≤50mA

Output Specifications

Item		Operating Conditions	Value
Output of Isolated Power Supply	Output voltage	Power, current full load	(Nominal value) ±10%
	Output current		≤25mA
Output	Output signal		See selection guide
	Load capacity	Voltage output	≥1KΩ
		Current output @ 20mA	≤500Ω
	Load regulation		0.050%

Transmission Specifications

Item	Operating Conditions	Value
Zero Offset		0.1%F.S.
Precision		0.1%F.S.
Temperature Drift	Operating temperature range of -25 to +71℃	≤35ppm/℃

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General Specifications

Item	Operating Conditions	Value
Electric Isolation		Four-terminal isolation (signal input, signal output, input power supply and output of isolated power supply are mutually isolated)
Degree of Isolation	testing for 1 minute, leakage current <1mA, humidity <70%	2.5KVDC (note: isolated power supply provided; the isolation voltage between the terminal of isolated power supply and the input terminal is 500VDC)
Insulation Resistance		100MΩ, 500VDC (signal input terminal, signal output terminal, power supply terminal and output terminal of isolated power supply)
Operating Temperature		-25~+71℃
Transportation and Storage Temperature		-50~+105℃
Max. Operating Temperature for Casing	Ta=25℃	≤50℃
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	DIP24/SOIC24
Weight	10g(Typ.)
Cooling method	Free air cooling

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.

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. Typical application

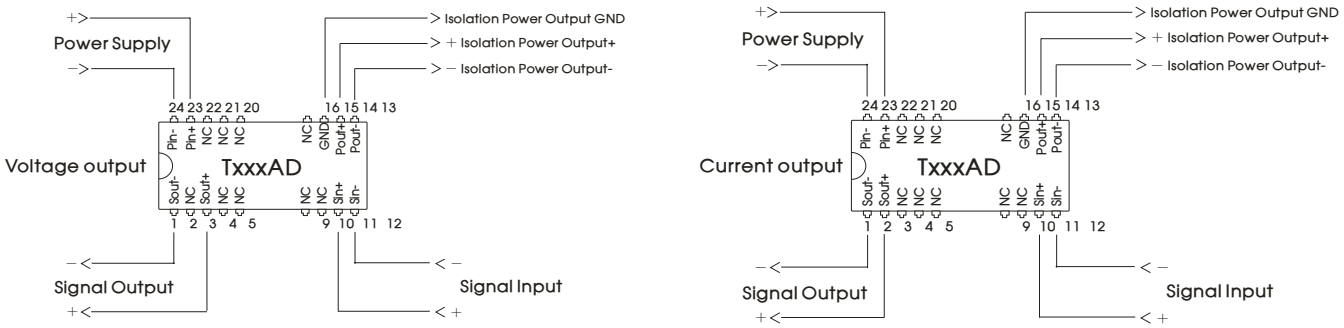


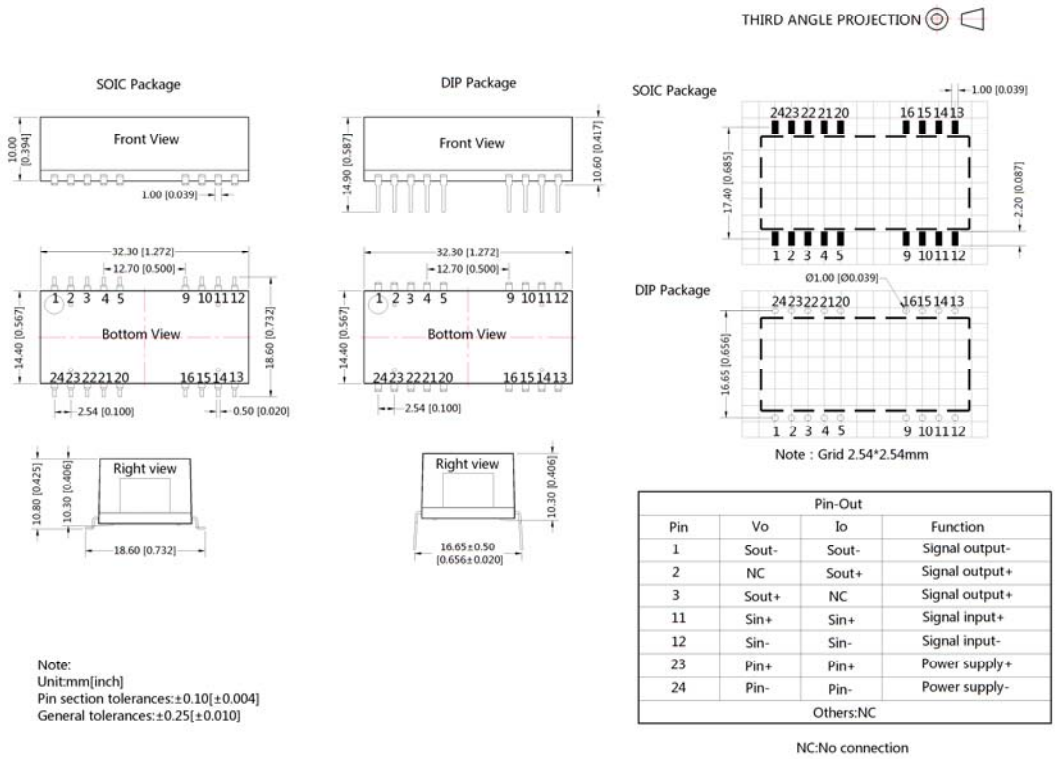
Fig. 1

Notes:① Pins 13, 14 and 15 are NC pins in case of no power output.
② In case of positive and negative power output, Pin 13 is power output negative, Pin 14 power output positive, Pin 15 reference ground.
③ In case of single power output, Pin 13 is power output negative, Pin 14 power output positive, Pin 15 NC.

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

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Dimensions and Recommended Layout



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

Note : Grid 2.54*2.54mm

Pin-Out			
Pin	Vo	Io	Function
1	Sout-	Sout-	Signal output-
2	NC	Sout+	Signal output+
3	Sout+	NC	Signal output+
11	Sin+	Sin+	Signal input+
12	Sin-	Sin-	Signal input-
23	Pin+	Pin+	Power supply+
24	Pin-	Pin-	Power supply-
Others:NC			

NC:No connection

Note:

1. Packing Information please refer to 'Product Packing Information'. Packing bag number:58200017;
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 manual 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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