Isolated Transmitter
TxxxxAP Series

MORNSUN®

Active high precision isolated transmitter

RoHS

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 TxxxxAP series are a high integration and efficiency active isolation amplifier module, with positive and negative signal input & positive signal output. These modules, with a high efficient isolated micro-power source built-in, can provide energy for inner signal processing circuit and an isolation power out for front-end circuit. The product greatly simplifies the design of the user in the applications of three-wire and four-wire, also it improves the using room ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep higher accuracy and extremely lower temperature drift more than opticalcoupler 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)
T5130AP	24V	±10V	4~20mA	None
T5530AP	24V	±10V	0~10V	None
T5533AP	24V	±10V	0~10V	24V
T5650AP	12V	±10V	0~5V	None
T6130AP	24V	±5V	4~20mA	None
T6630AP	24V	±5V	0~5V	None
T6633AP	24V	±5V	0~5V	24V
T6634AP	24V	±5V	0~5V	15V

Notes: We could also offer customer design for special input and output as follow:
Power supply:24/15/12VDC
Input signal: 0～±5V/±10V
Output signal: 0～5V/10V
Isolation power output: 24/15/12/5VDC.

Input Specifications

Item		Operating Conditions	Value
Input Power Supply	Input voltage		(Nominal Power Supply) ±5%
	Input power	Signal, power full load	≤2W
	Power supply protection		Reverse polarity protection
Input	Input signal		See selection guide
	Input impedance		≥10MΩ
	Overload	in case of input of voltage signal	-15V<Vin<15V

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	≥2KΩ
		Current output @ 20mA	≤500Ω

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℃	0.0035%F.S./ ℃

General Specifications

Item	Operating Conditions	Value
Electric Isolation		Four-port isolation (signal input, signal output, power supply and Power distribution)
Degree of Isolation	testing for 1 minute, leakage current <1mA, humidity <70%	2.5KVDC (Note: It is 500VDC between input and isolation power out when there is isolation power out)
Insulation Resistance		100MΩ, 500VDC (Between signal input, signal output, power supply and isolation power output)
Operating Temperature		-25 ~ +71℃
Transportation and Storage Temperature		-50 ~ +105℃
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
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

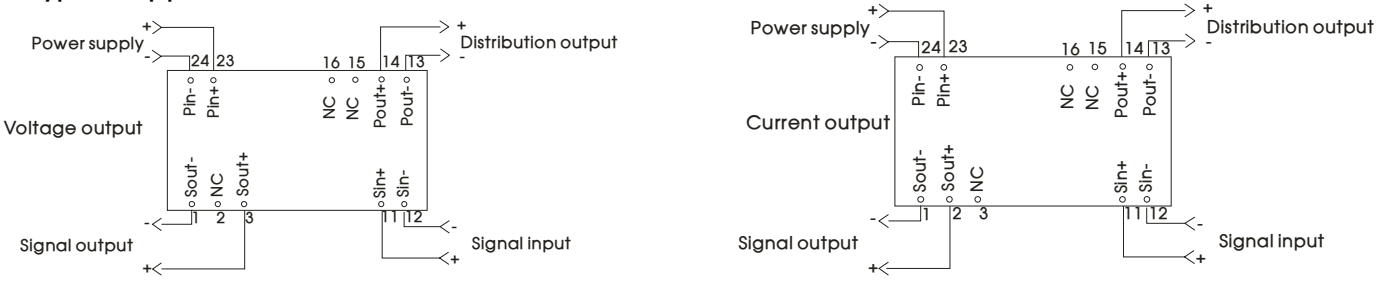
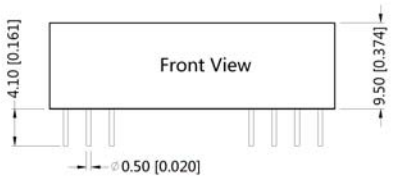
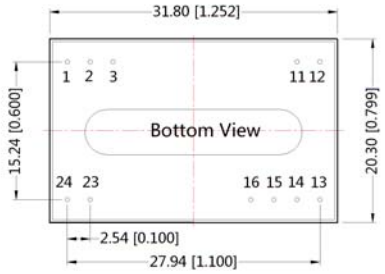


Fig. 1

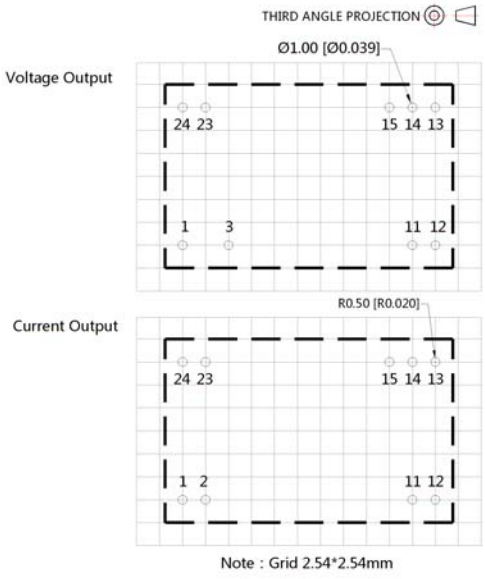
2. For more information please find the application notes on www.mornsun-power.com

Dimensions and Recommended Layout





Note:
Unit :mm[inch]
Pin diameter 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(-)
13	Pout-	Pout-	Power distribution output-
14	Pout+	Pout+	Power distribution output+
15,16	NC	NC	No function pin
23	Pin+	Pin+	Power supply(+)
24	Pin-	Pin-	Power supply(-)

NC:No connection
T_P Series without Pin 16.

Note:

1. Packing Information please refer to 'Product Packing Information'. Packing bag number:58210008;
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.

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