

Active high precision isolated transmitter
mV-level positive and negative signal input & positive signal output



RoHS

FEATURES

- | Three-terminal isolation (signal input, signal output, power supply)
- | High precision grade (0.1% F.S.)
- | High linearity (0.1% F.S.)
- | High isolation voltage (2.5kVDC/60s)
- | Extremely low temperature drift (50PPM/°C)
- | Industrial grade (range of operating temperature: -25 to +71°C)
- | High reliability (MTBF >500,000 hours)

The TMxxxxAP series isolation amplifier modules have a mV-level positive and negative signal input and positive signal output. These modules, with a high efficiency micro-power source built-in, can provide power for signal processing circuit. In the three-wire and four-wire transmitter applications, our products make customers' design simple and helpfully improve the room-using ratio of PCB. Adopting electromagnetism isolation technology, it is available to keep higher accuracy and extremely lower temperature drift than photocoupler isolation. These modules have three-port isolation (input, output and power supply), and the isolation voltage between them is up to 2.5kVDC.

Selection Guide

Part No.	Power Supply input (VDC)	Input Signal	Output Signal	Isolation Power Output (VDC)
TM2130AP	24V	±20mV	4~20mA	None
TM4130AP	24V	±50mV	4~20mA	None
TM1630AP	24V	±10mV	0~5V	None
TM5630AP	24V	±75mV	0~5V	None
TM6660AP	5V	±100mV	0~5V	None
TM6S6AP-3	5V	±100mV	0~3V	None
TM7530AP	24V	±200mV	0~10V	None
TM6650AP	12V	±100mV	0~5V	None
TM6S50AP-3.3	12V	±100mV	0~3.3V	None

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	≤1W
	Power supply protection	Reverse polarity protection
Input	Input signal	See selection guide
	Input impedance	@max. input signal ≥10MΩ
	Overload	10V

Output Specifications

Item	Operating Conditions	Value	
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°C	0.005%F.S./°C

General Specifications

Item	Operating Conditions	Value
Electric Isolation		Three-terminal isolation (signal input, signal output, input power supply)
Degree of Isolation	testing for 1 minute, leakage current <1mA, humidity <70%	2.5KVDC
Insulation Resistance		100MΩ, 500VDC (signal input terminal, signal output terminal, power supply terminal)
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	Natural 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

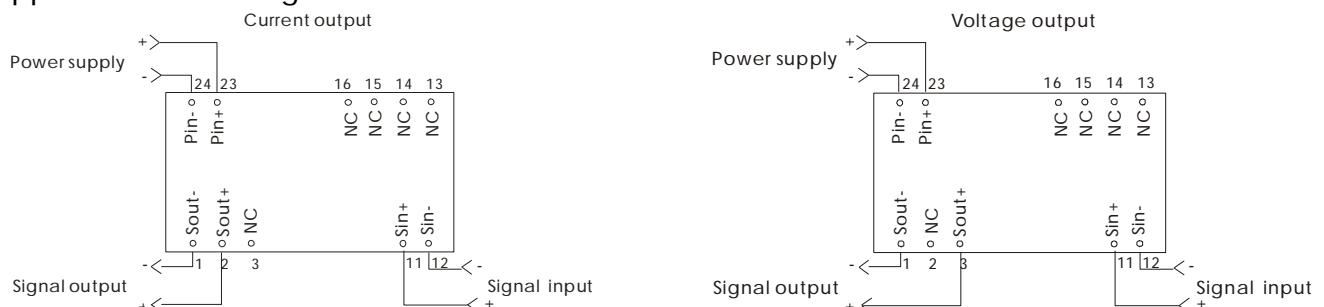
See *Application Notes for Isolated Transmitter* for details.

Design Reference

1. Schematic diagram

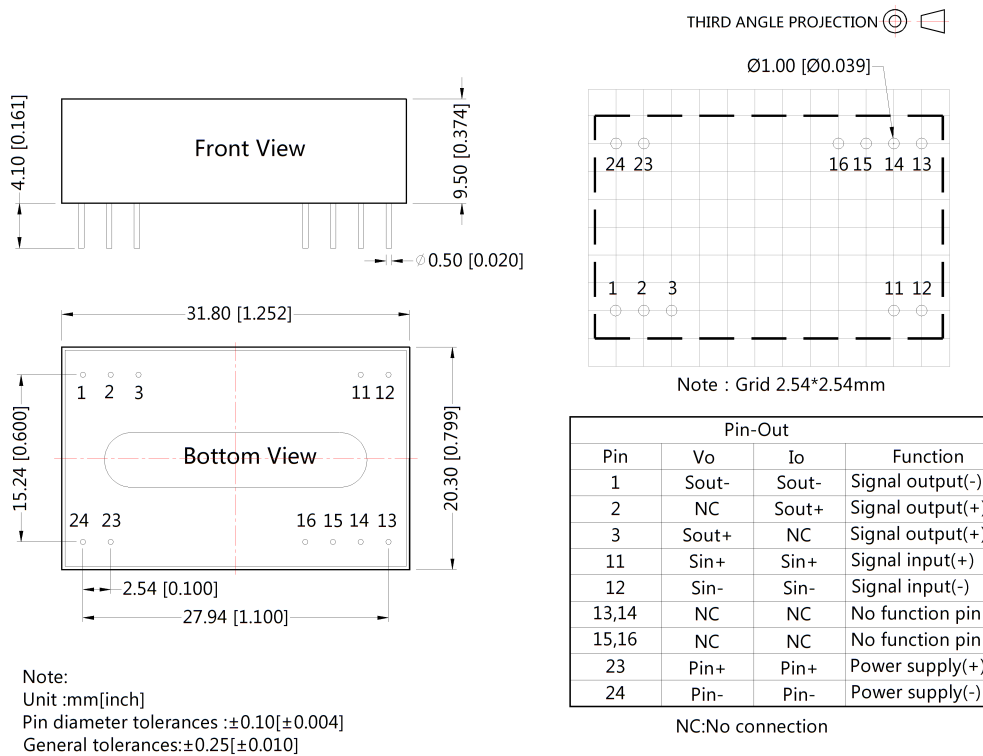


2. Application circuit diagram



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

Dimensions and Recommended Layout



Notes:

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 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;
5. We can provide product customization service;
6. Specifications of this product are subject to changes without prior notice.

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