

12.5mm analog signal isolators /
Transducers power supply



RoHS



FEATURES

- Isolation test voltage of 2000VAC for signal input to output and to power ports
- Ultra-slim 12.5mm case
- High accuracy (0.1%Full Scale)
- High linearity (0.1%Full Scale)
- Extremely low temperature coefficient (35PPM/°C)
- Low power consumption
- EMI meets CISPR32/EN55032
- EMS meets IEC/EN61000
- Proven reliability with MTBF >500, 000 hours

The current or voltage signal from application field is picked up by this product and transmitted to the control cabinet. One independent power supply is required. Moreover, within the interface of rail power supply, input and output are mutually isolated. A green LED indicates that the device is working. Field devices connected with this product: 2-wire or 3-wire Isolation transducer (Distribution), Industrial standard current source (not to be used in intrinsically safe area).

Selection Guide

Part No.	Channels	Input Signal	Output Signal	Description
TA100W-11	1 input 1 output	4-20mA	4-20mA	Distributor/Isolator
TA100W-15	1 input 1 output	4-20mA	0-10VDC	Distributor/Isolator
TA105W-11	1 input 1 output	4-20mA	4-20mA	Distributor
TA105W-14	1 input 1 output	4-20mA	1-5VDC	Distributor
TA105W-15	1 input 1 output	4-20mA	0-10VDC	Distributor
TA140W-51	1 input 1 output	0-10VDC	4-20mA	Distributor/Isolator
TA140W-52	1 input 1 output	0-10VDC	0-20mA	Distributor/Isolator
TA140W-55	1 input 1 output	0-10VDC	0-10VDC	Distributor/Isolator
TA140W-61	1 input 1 output	0-5VDC	4-20mA	Distributor/Isolator
TA142W-41	1 input 1 output	1-5VDC	4-20mA	Current loop output
TA200W-11	2 input 2 output	4-20mA	4-20mA	Distributor/Isolator
TA200W-15	2 input 2 output	4-20mA	0-10VDC	Distributor/Isolator
TA205W-11	2 input 2 output	4-20mA	4-20mA	Distributor
TA205W-15	2 input 2 output	4-20mA	0-10VDC	Distributor
TA240W-51	2 input 2 output	0-10VDC	4-20mA	Distributor/Isolator
TA240W-52	2 input 2 output	0-10VDC	0-20mA	Distributor/Isolator
TA240W-55	2 input 2 output	0-10VDC	0-10VDC	Distributor/Isolator
TA600W-11	1 input 2 output	4-20mA	4-20mA	Distributor/Isolator
TA600W-15	1 input 2 output	4-20mA	0-10VDC	Distributor/Isolator
TA602W-11	1 input 2 output	4-20mA	4-20mA	Current loop output
TA605W-11	1 input 2 output	4-20mA	4-20mA	Distributor
TA605W-15	1 input 2 output	4-20mA	0-10VDC	Distributor
TA640W-51	1 input 2 output	0-10VDC	4-20mA	Distributor/Isolator
TA640W-55	1 input 2 output	0-10VDC	0-10VDC	Distributor/Isolator

Note: The customer must define type of input signal, measuring range and form of output signal when placing the order; customizations are available on request

Input Specifications

Item		Operating Conditions	Value
Power Input	Input Voltage		18~30VDC (24VDC typical)
	Input Power	Output current @maximum output current	Dual output distributor $\leq 3W$, Single output distributor $\leq 1.5W$, Dual output isolator $\leq 2W$, Single output isolator $\leq 1.2W$ distributor: Isolators with isolated power output
	Power Supply Protection		Input reverse polarity protection
Distribution (Isolators with isolated power output)	No-load Voltage		24V \pm 10%
	Full-load Voltage	Load 20mA	$\geq 20V$
Field Area	Input Signal		See selection guide
	Input Impedance	current input @20mA	Voltage Drop $\leq 2.5V$
		voltage input	100K Ω (Typ.)

Output Specifications

Item		Operating Conditions	Value
Control Area	Output Signal		See selection guide
	Load Capacity	Output current @maximum output current	$\leq 500 \Omega$
		Output voltage @maximum output voltage	$\geq 1000 \Omega$

Transmission Specifications

Item	Operating Conditions	Value
Precision	Ta=25℃	0.1%Full Scale
Gain Error	Ta=25℃	0.1%Full Scale
Zero Offset	Ta=25℃	0.1%Full Scale
Temperature Coefficient	Operating temperature range of -25℃ to +71℃	35PPM/℃

General Specifications

Item	Operating Conditions	Value
Electric Isolation	Electric strength test for 1 minute with a leakage current of $\leq 1mA$	Site area and control area: 2.0kVAC
		Output and power supply: 2.0kVAC
		between channels (multi-channel products): 2.0kVAC
Insulation Resistance	Signal input port, signal output port	100M Ω at 500VDC
Operating Temperature		-25℃ to +71℃
Transportation and Storage Temperature		-40℃ to +85℃

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS A	
	RE	CISPR32/EN55032	CLASS A	
Immunity	ESD	IEC/EN61000-4-2	Contact $\pm 4kV$ /Air $\pm 8kV$	perf. Criteria B
	CS	IEC/EN61000-4-6	3 Vr.m.s	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	Power supply port $\pm 2kV$	perf. Criteria A
		IEC/EN61000-4-4	Signal ports $\pm 1kV$	perf. Criteria A
	Surge	IEC/EN61000-4-5	Power supply port $\pm 1kV$	perf. Criteria B

IEC/EN61000-4-5

Signal ports $\pm 1\text{kV}$ (line-to-ground)

perf. Criteria B

Mechanical Specifications

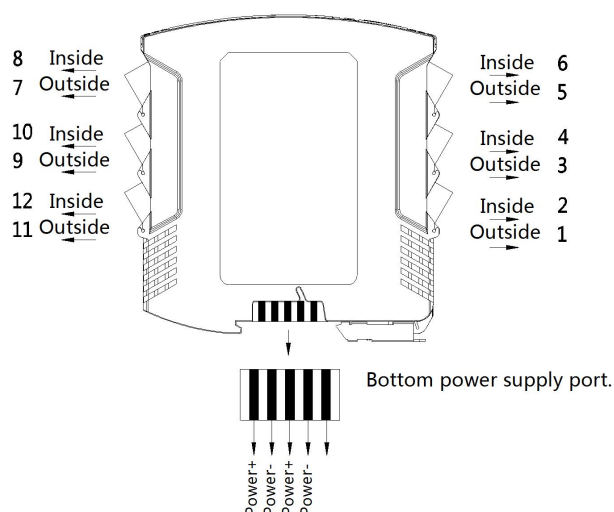
Case Material	Flame retardant material UL94 V-0
Safety Class	IP20(IEC60529 / EN60529)
Package Dimensions	35mm DIN-rail package: T-rail card package (DIN50022), pluggable connection pin, thickness 12.50mm
Weight	Single input/single output about 80g Single input/double output & double input/double output About 100g
Cooling Method	Free air convection

Application Precautions

1. Carefully read and follow the instructions before use; contact our technical support if you have any question;
2. Do not use the product in hazardous areas;
3. Use only DC power supply source for this product and 220V AC power supply is prohibited;
4. It is strictly forbidden to disassemble the product privately in order to avoid product failure or malfunction.

Design Reference

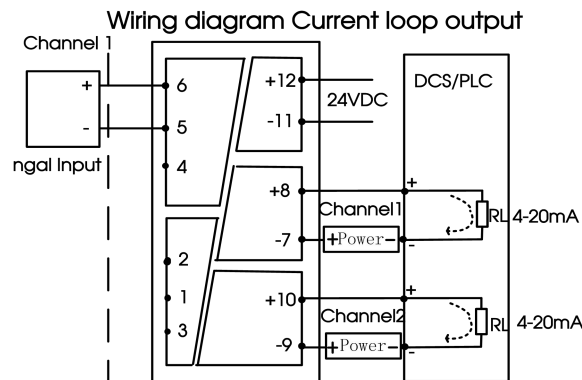
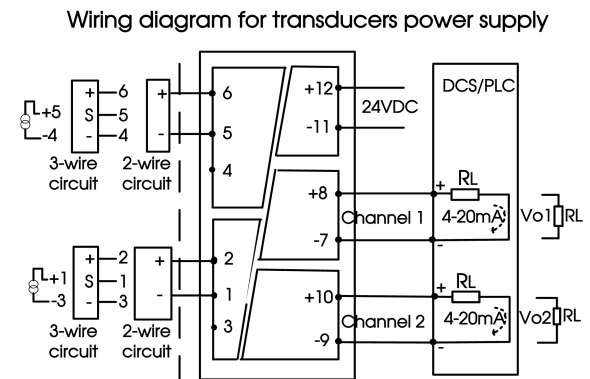
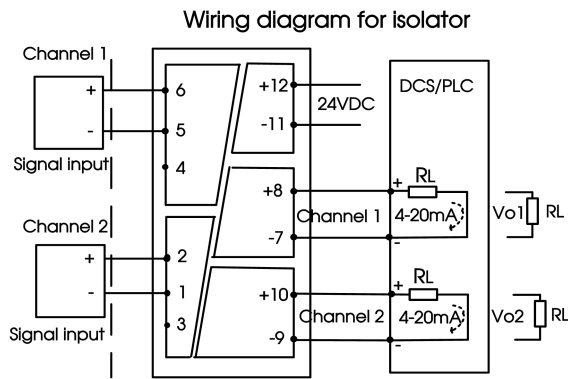
1. Wiring diagram and connection



Note: When use bottom power supply, anyone group or both is OK.

PIN	TAx00W/TAx02W/TAx40W (Isolators)	
1	Si2-	Signal 2 input-
2	Si2+	Signal 2 input+
3	/	
4	/	
5	Si1-	Signal 1 input-
6	Si1+	Signal 1 input+
7	So1-	Signal 1 output-
8	So1+	Signal 1 output+
9	So2-	Signal 2 output-
10	So2+	Signal 2 output+
11	Power-	Power Input-
12	Power+	Power Input+

PIN	TAx05W (Isolator With Isolated Power Output Circuit Diagram)	TAx05W (Isolator Circuit Diagram)
1	Signal 2 isolated input-	Signal 2 input +
2	Signal 2 isolated input+	/
3	/	Signal 2 input -
4	/	Signal 1 input -
5	Signal 1 isolated input-	Signal 1 input +
6	Signal 1 isolated input+	/
7	Signal 1 output-	Signal 1 output-
8	Signal 1 output+	Signal 1 output+
9	Signal 2 output-	Signal 2 output-
10	Signal 2 output+	Signal 2 output+
11	Power input-	Power input-
12	Power input+	Power input+

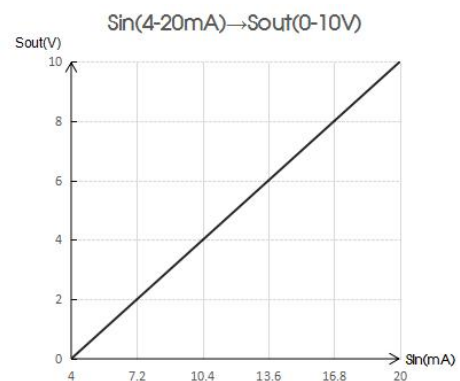
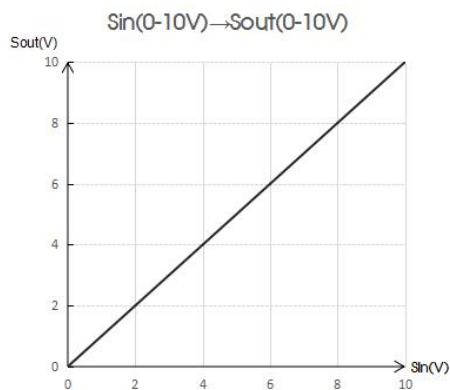


The current loop output needs an external power supply to achieve the output.

The difference between isolators and power distributors is that they are applied in different ways, but they are the same product. Isolators are used in various current source signal input circuits. The instrument converts input signals into isolated signal outputs. Power supply, and at the same time convert the signal from the transmitter into an isolated signal output.

- 1) The instrument wiring using direct plug wiring terminal, easy to use;
- 2) Recommended the sectional area of conductor is 0.5mm² - 2.5 mm²;
- 3) Recommended the length of conductor exposed is 8mm and is fastened by M3 bolts.

2. Signal input and output correspondence diagram(Ideal state)



3. Application in industry

In the field application, isolator should not be installed in intrinsically safe area.

- 1) Take care of output independence of isolator or isolator with isolation power output and loop resistance to make sure the its output voltage meets the minimum operation voltage requirement of field device.
- 2) Select suitable isolator which matches the field device according to its power polarity, signal type and transmission mode.

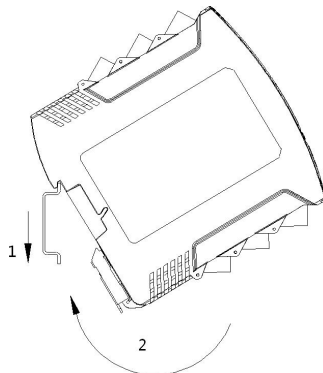
4. For additional information please refer to application notes on www.mornsun-power.com

Installation & disassembly

Installation

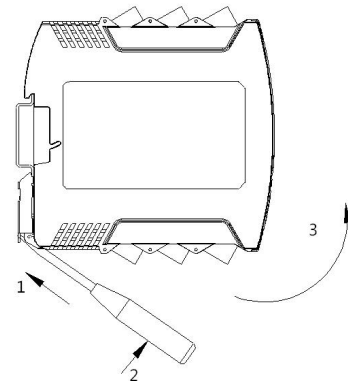
Standard 35mm DIN rail installation:

1. Insert top of Module into DIN rail;
2. Push bottom of Module into rail until it snaps in.
- 3.

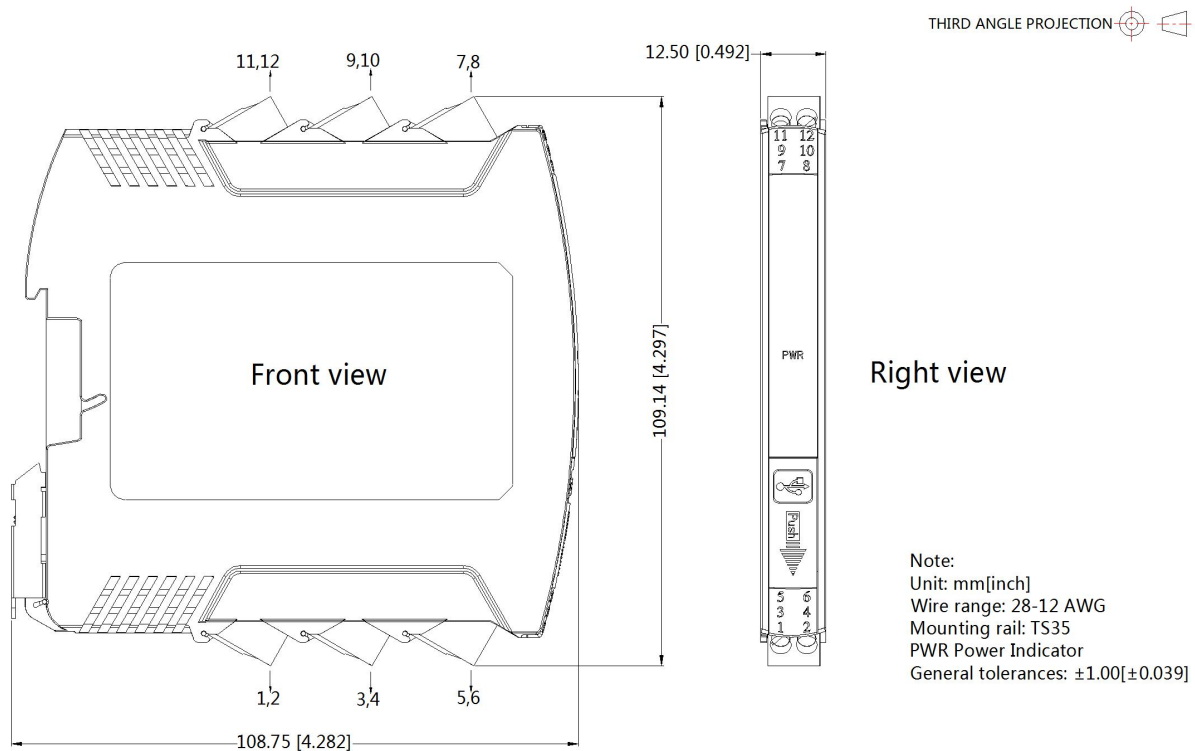


Removal

1. Insert screw driver on the lower end of Module to release clamp (tool edge width $\leq 6\text{mm}$);
2. Push screw driver up towards Module to slide clamp out;
3. Pull Module up and out of guide rail.



Dimensions



Notes:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. The Packaging bag number: 58040010;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^\circ\text{C}$, humidity $<75\%\text{RH}$ with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on company corporate standards;
4. The above are the performance indicators of the product models listed in this datasheet. Some indicators of non-standard models will exceed the above requirements. For details, please contact our technical staff;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";

7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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