MORNSUN

DC input detection type analog signal isolation barrier

——TAxxx-xx Series

DESCRIPTION

The current signal from application field is picked up by this product, converted to the standard current or voltage signal and transmitted to the control cabinet.

One independent power supply is required. Moreover, within the product power supply, input and output are mutually isolated. A green LED indicates that the device is powered.

Field devices connected with this product:

2-wire or 3-wire isolation transducer, industrial standard current source (not to be used in intrinsically safe area).

FEATURES

- Three-port isolation (input, output and power supply)
- High accuracy (0.1% F.S.)
- High linearity (0.1% F.S.)
- High isolation voltage (between signal input and output: 2500VDC/60S)
- Low temperature drift(35PPM/°C)
- High reliability(MTBF>500,000 hours)

MODEL SELECTION

TAxxx-xx

- Signal output
- Signal input
- Serial number
- Channel configuration
- Analog signal
- Transducer type

PRODUCT OVERVIEW

TA	x	xx	-	x	x	Description
Channels	1					1 input 1 output
	2					2 input 2 output
	6					1 input 2 output
Serial Number		00				current signal input, current source or voltage source output
		02				current signal input, 2-wire current source output
		40				voltage signal input, current source or voltage source output
		42				voltage signal input, 2-wire current source output
Explosion mark						default: isolation barrier
Input signal				1		4~20mA
				2		0~20mA
				3		2~10V
				4		1~5V
				5		0~10V
				6		0~5V
Output signal					1	4~20mA
					2	0~20mA
					3	2~10V
					4	1~5V
					5	0~10V
					6	0~5V

Note: The input & output signal type should be given when purchasing. Of course full-custom products can be obtained here.

ELECTRICAL CHARACTERISTICS

Power Supply	Power Supply	18~30VDC (Typ. : 24VDC)
	Power Dissipation	1 input 1 output: about 2.0W 2 input 2 output & 1 input 2 output: about 4.0W
	Power Protection	Reverse protection, Over current protection
Application Field	Input Signal	Refer to product overview
	Input Impedance	≥ 10MΩ (voltage input)
		≤ 2V (current input)
Control Cabinet	Output Signal	Refer to product overview
	Load	≤ 500Ω (@maximum output current)
		≥ 10kΩ (@maximum output voltage)

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

TRANSMISSION CHARACTERISTICS

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

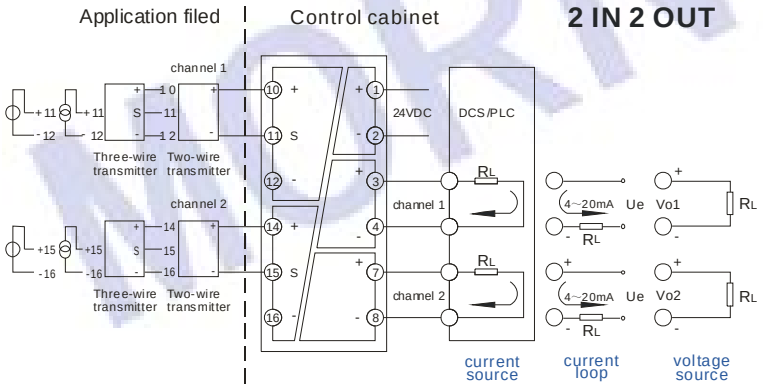
ISOLATION CHARACTERISTICS

Galvanic Isolation	Three-port isolation (input, output and power supply)
Isolation Voltage	2.5KVDC between application field and control cabinet
	2.5KVDC between signal input or output and power supply
	2.5KVDC between channels (multi-channel products)
Test conditions: testing for 1minute @ 1mA max, humidity < 70%, leakage current < 1mA	

OTHER CHARACTERISTICS

Ambient temperature	Operation temperature: -25°C ~ +71°C
	Transport and storage temperature: -50°C ~ +105°C
Package	35mm DIN-rail package: T-rail card package (DIN50022), pluggable connection pin, thickness 22.5mm,Plastic UL94-V0
Safety Class	IP20(IEC60529 / EN60529)
Weight	1 input 1 output: about 100g
	1 input 2 output, 1 input 2 output : about 128g

APPLICATION CIRCUIT DIAGRAM



Note:

This diagram is for 2 input 2 output models only; Just channel 1 within inputs should be connected for 1 input 2 output models; Just channel 1 within inputs and outputs should be connected for 1 input 1 output models.

CONNECTION

1. Removable terminal;
2. Cross section area of wiring: 0.5mm^2 ~2.5 mm^2;
3. The length of bare wire is about 8mm, locked up by the M3 bolt.

Application in industry

In so many occasions, isolation barrier should not be installed intrinsically safe area.

Selection guidelines for isolation barrier

1. Take in consideration of non-hazardous end output resistance and loop resistance make sure the barrier output voltage meets the minimum operation voltage requirement of field device.
2. Select suitable isolation barrier which matches the field device according to its power polarity, signal type and transmission mode.
3. Much more protection is required, which can avoid the influence of the leakage current generated by isolation barrier on field device.

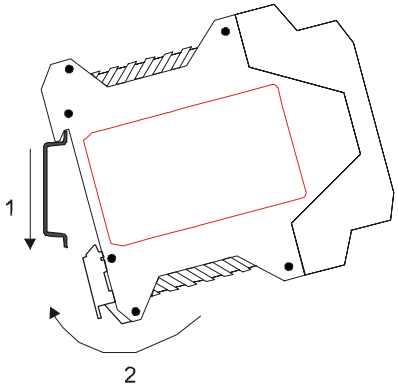
Operation notes

1. Please read the user manual carefully before using. If any question please contact our technical support department.
2. Please do not use this product in hazardous area.
3. The power supply of this product should be 24VDC power source. It is forbidden to use 220VAC power supply.
4. To avoid invalid explosion protection function, or any failure, users disassemble this product is forbidden.

INSTALLATION

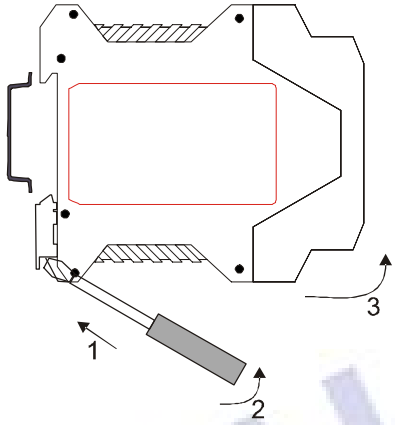
DIN35mm standard rail installation:

1. Upside of the instrument card in the rail;
2. Push underside of the instrument into the rail.

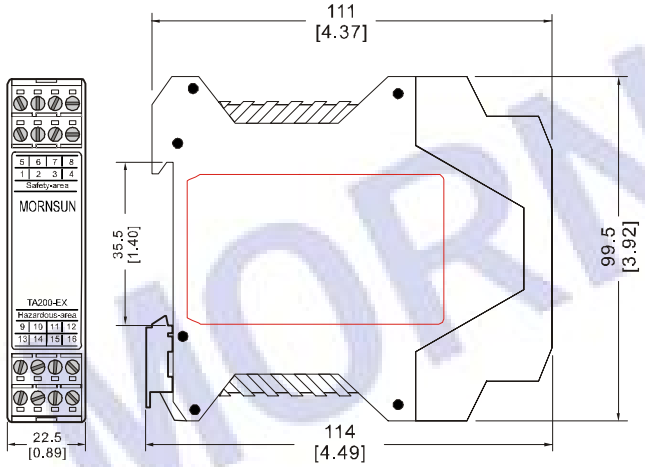


DISASSEMBLY

1. Use a screwdriver (Width of edge ≤ 6mm), cut in the metal card lock from the underside;
2. Boost up the screwdriver and prize the metal card lock downwards;
3. Pull the instrument out of the rail.

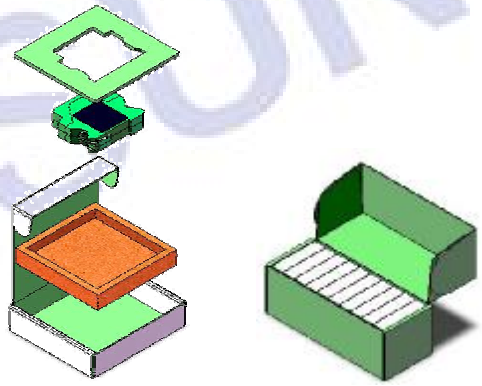


PACKAGING DIMENSION



Unit: mm[inch]
Tolerance: ±0.5mm

PACKAGING DIAGRAM



Inside box: L*W*H=165*155*40mm
Packaging Quantity: 1pcs

Outside box: L*W*H=425*175*160mm
Packaging Quantity: 10 pcs