ISOLATED CURRENT TRANSDUCER
MODEL TH-41
INSTRUCTION MANUAL

Warning Incorrect handling may cause death or injury.

Caution

(1) The application of voltage or current exceeding its maximum allowable value to the input terminals may result in instrument damage.
(2) The supply of power out of its allowable range may cause fire, electric shock or instrument failure.
(3) The content of this manual may subject to change without prior notice for product improvement.
(4) This manual is carefully prepared. However, if any question arises, or any mistake, omission or suggestion is found in the content of this manual, contact your nearest our sales agent.
(5) Make this manual available easily anytime.

■Outline

This is an isolated current transducer which inputs an analog instrumentation signal of 0 to 20 mADC and output an signal of 0 to 20mADC at the one to one ratio without the need of power supply. Its thin case can be engage with the DIN rail in one touch. As no power supply is required, only the wiring of the input and output terminals is needed, thus enabling any system configuration very economically.

■Model No. Configuration

Each code and the standard specifications of this transducer are as follows. First check whether or not your desired specifications are correct by comparing them to the following specifications.

TH－41－□
- Number of channels
  - 1 : 1 channel type
  - 2 : 2 channel type
- Series name
- Model

Example TH－41－2

■Input/output specification(common to all channels)

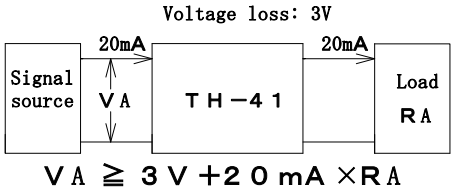
Input	Input signal	0 to 20mADC
	Maximum input current	30mADC
	Maximum input voltage	30V
Output	Output signal	0 to 20mADC
	Maximum output signal	30mADC
	Temperature characteristic	Less than ±0.005%/℃
	Maximum output load	1000Ω
	Accuracy	Within ±0.1%/F.S. (For an input of 20mADC at a temp of 20℃ and a load of 250Ω)
	Output load variations	Less than +0.1%/F.S./100Ω (At a load of less than 250Ω) Less than -0.1%/F.S./100Ω (At a load of more than 250Ω)

■General specifications

Insulation resistance	:	Between the input and output More than 100MΩ(At 500VDC)
Dielectric strength	:	Between the input and output, for 1 min. at 2000VAC. Between the channel 1 and channel 2, for 1 min.at 2000VAC.
Voltage loss	:	Less than 3V
Response time	:	Less than 20ms(0→90%)
Operating ambient temperature	:	-5 to 50℃
Operating ambient humidity	:	Less than 90%RH (No-condensing)
Storage temperature	:	-10 to 70℃
Storage humidity	:	Less than 60%RH (No-condensing)
Case material	:	Black PC resis 94V-2
Weight	:	Approx. 80g
Applicable Standards	:	EN61326-1:2006 EMI:Class A EMS:Industrial locations Only in the case of lines<30m.

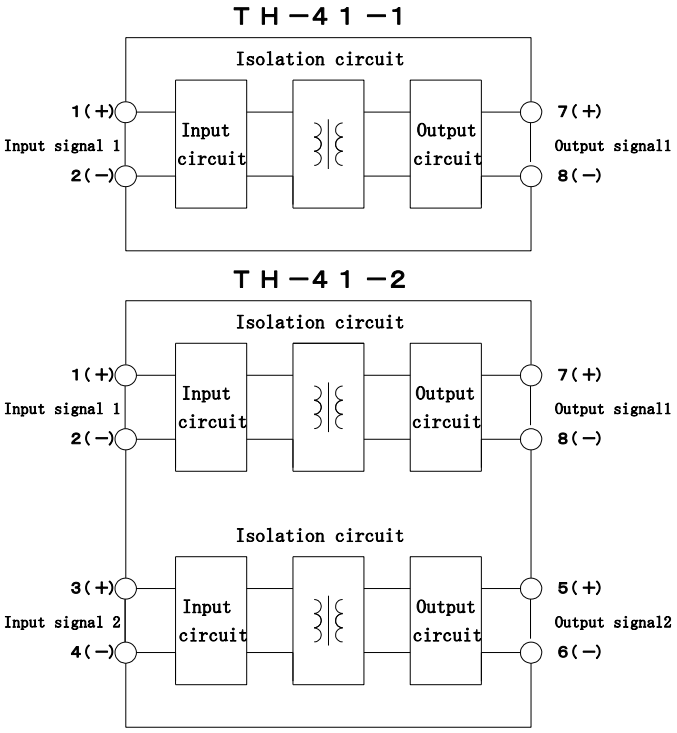
■Operating condition

When using the TH-41, pay attention to the following.
The TH-41 can be used if the sum of voltage calculated by a voltage loss of 3V across the TH-41 and that of RA×20mA across a load connected is smaller than the signal source voltage.

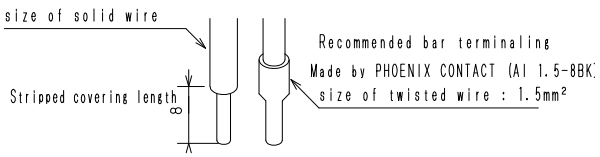


VA ≧ 3V＋20mA×RA

■Block diagram

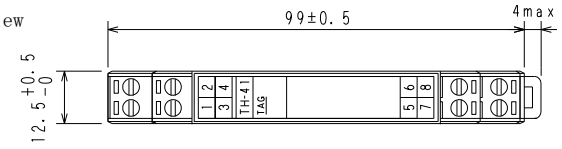


■Recommended treatment of wires connected to connector type terminal board

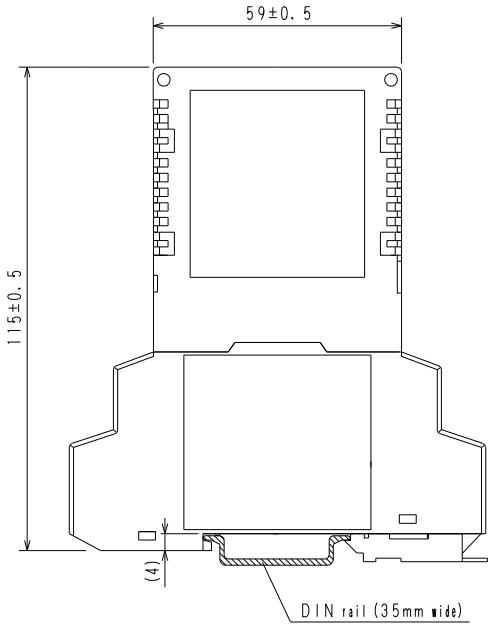


■Dimensions

Front view

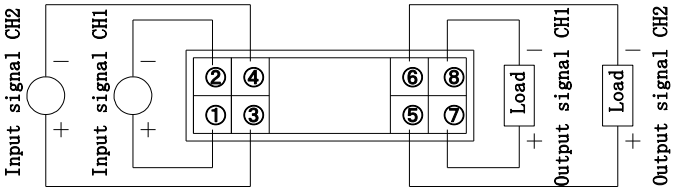


Side view



■Input/output connection diagram

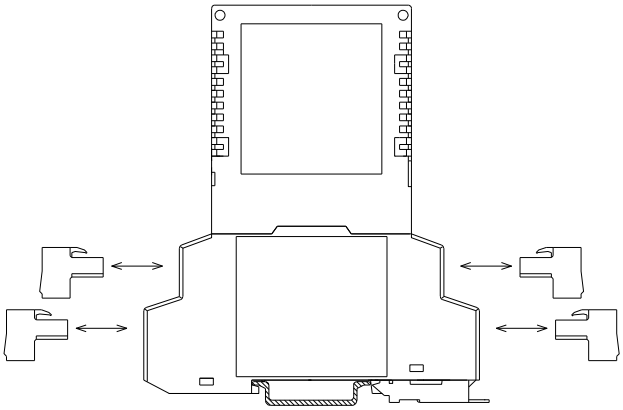
(The bottom figure shows the case of TH-41-2, TH-41-1 is only CH.1)



Note : Pay attention to the connection polarity.

■Connecting or disconnecting connector type terminal boards

This transducer uses detachable connector type terminal board. Connect or disconnect each board in the directions shown in the following diagram.

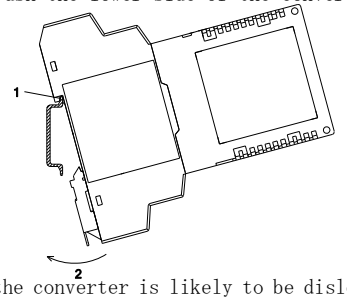


■Mounting/dismounting

Mounting

1)Engage the upper side of the converter with the rail.

2)Push the lower side of the converter into the rail.

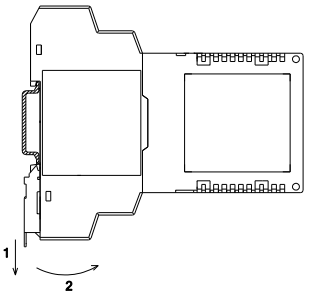


*If the converter is likely to be dislocated after its mounting, it is recommended that a clamp be used.
(For example E/NS35N made by PHOENIX CONTACT)

Dismounting

1)Push down the slider with a screwdriver.
Pull the converter toward you, then disengage the lower side of the converter from the rail.

2)Disengage the upper side of the converter from the rail.



■Caution

- Store the converter at a location having a storage temperature of -10 to +70℃ and a humidity of less than 60% RH.
- Use the converter at a location where there are no chemicals or gases harmful to its electrical parts or there is no dust.
- Do not apply any vibration or impact to the converter.
- In order to lessen the effect of noise, etc., do not bundle the input/output wires with the power supply wires, nor put these wires in the same duct.

■Warranty

This transducer is warranted for a period of one year from date of delivery. Any defect which occurs in this period and is undoubtedly caused by Watanabe Electric Industry faults will be remedied free of charge.

This warranty does not apply to the transducer showing abuse or damage which has been altered or repaired by others except as authorized by Asahi Watanabe Electric Industry.

■After－sale service

This transducer is delivered after being manufactured, tested and inspected under strict quality control.

However, if any problem does occur, contact your nearest Watanabe Electric Industry sales agent or Watanabe Electric Industry directly giving as much information on problem as possible.

■Accesories

Non

TILLQUIST

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