INSTRUCTION MANUAL

2-WIRE UNIVERSAL TEMPERATURE TRANSMITTER
(HART communication, low temp. drift)

MODEL **B3HU2**

BEFORE USE ....

Thank you for choosing us. Before use, please check contents of the package you received as outlined below.
If you have any problems or questions with the product, please contact our sales office or representatives.

■ PACKAGE INCLUDES:

Signal conditioner .....(1)
I/O range and tag name label sheet .....(1)

■ MODEL NO.

Confirm Model No. marking on the product to be exactly what you ordered.

■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

POINTS OF CAUTION

■ CONFORMITY WITH EU DIRECTIVES

- Functional insulation is maintained between the input and output.
- The equipment must be mounted inside a panel.
- The actual installation environments such as panel configurations, connected devices, connected wires, may affect the protection level of this unit when it is integrated in a panel system. The user may have to review the CE requirements in regard to the whole system and employ additional protective measures to ensure the CE conformity.
- Install lightning surge protectors for those wires connected to remote locations.

■ GENERAL PRECAUTION

- Before you remove the unit or mount it, turn off the power supply and input signal for safety.

■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within -40 to +85°C (-40 to +185°F) with relative humidity within 0 to 95% RH in order to ensure adequate life span and operation.
- Be sure that the ventilation slits are not covered with cables, etc.

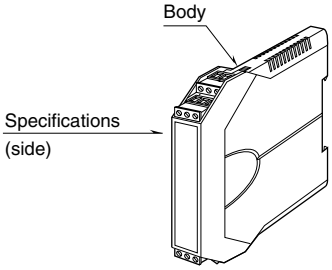
■ WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

■ AND ....

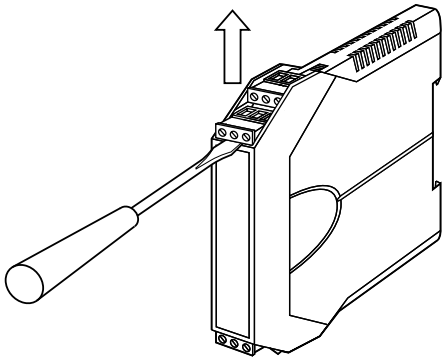
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

COMPONENT IDENTIFICATION



■ HOW TO SEPARATE THE EURO TYPE CONNECTOR TERMINAL BLOCKS

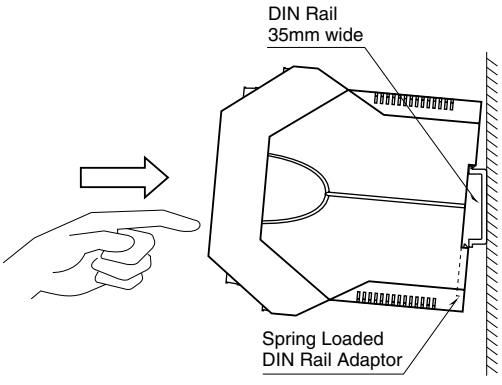
When you need to separate the euro type connector terminal blocks from the transmitter body for wiring, insert a minus driver between the euro type connector terminal block and the housing body, pull up the driver and pull out the euro type connector terminal block.



INSTALLATION

■ DIN RAIL MOUNTING

Set the unit so that its DIN rail adaptor is at the bottom. Position the upper hook at the rear side of the unit on the DIN rail and push in the lower. When removing the unit, push down the DIN rail adaptor utilizing a minus screwdriver and pull.



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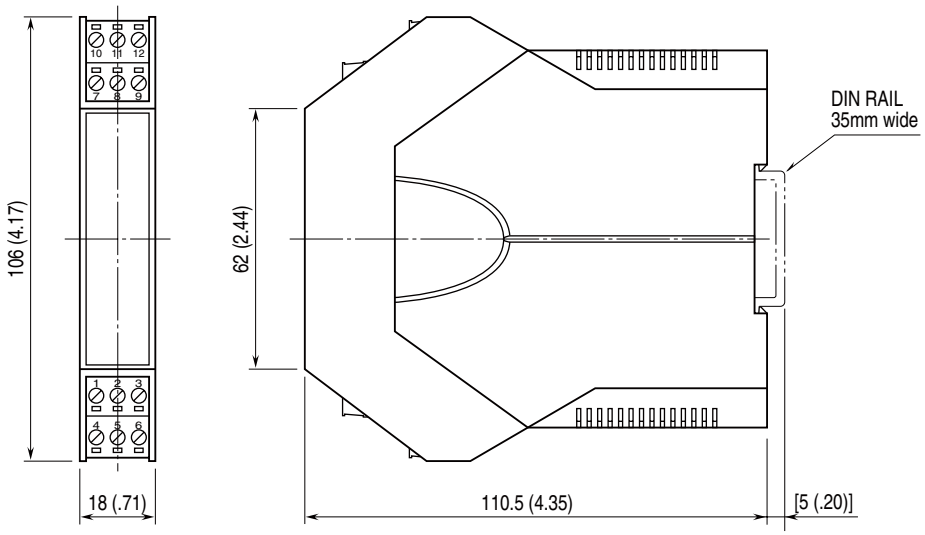
TERMINAL CONNECTIONS

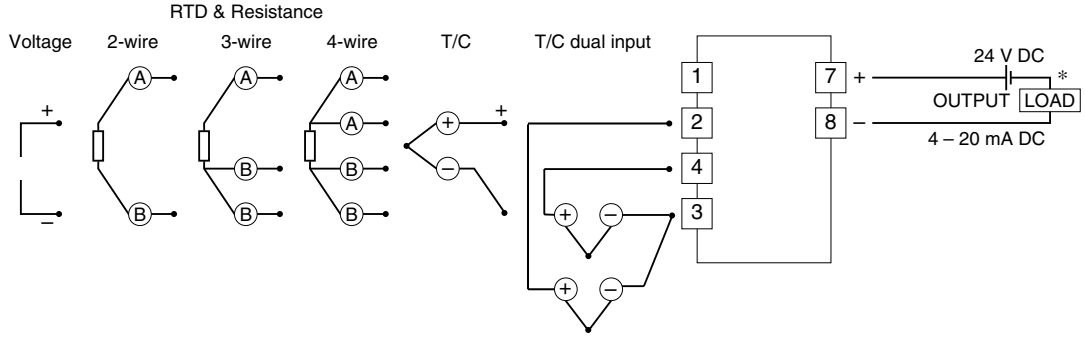
Connect the unit as in the diagram below or refer to the connection diagram on the side of the unit.

■ EXTERNAL DIMENSIONS unit: mm (inch)



• When mounting, no extra space is needed between units.

■ CONNECTION DIAGRAM



* Limited to 250 – 1100 Ω for HART communication.

■ WIRING INSTRUCTIONS

• Applicable wire size

Solid: 0.2 to 2.5 mm² (0.55 to 1.75 dia.)

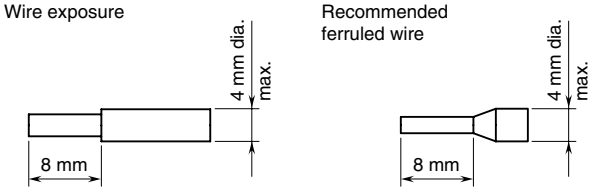
Stranded: 0.2 to 2.5 mm² (Tinning wire ends may cause contact failure and therefore is not recommended.)

Ferruled: 0.2 to 1.5 mm² (0.55 to 1.35 dia.)

The following Phoenix Contact terminals are recommended:

AI 0,25-8YE	0.2 to 0.25 mm²
AI 0,34-8TQ	0.25 to 0.34 mm²
AI 0,5-8WH	0.34 to 0.5 mm²
AI 0,75-8GY	0.5 to 0.75 mm²
AI 1,0-8RD	0.75 to 1.0 mm²
AI 1,5-8BK	1.0 to 1.5 mm²

• Expose wire conductors by 8 mm (0.31").



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CHECKING

1) Terminal wiring: Check that all cables are correctly connected according to the connection diagram.
2) Input: Check that the input voltage is within 0 – 100% of full-scale.

   If the thermocouple/RTD or its extension wires are broken, the output goes over 100% (below 0% with downscale) due to the burnout function. Check leadwires in such a case.
3) Output: Check that the load is within the permissible limit including wiring resistance.

$$\text{Load Resistance } (\Omega) = \frac{\text{Supply Voltage (V)} - 9\text{ (V)}}{0.023\text{ (A)}}$$

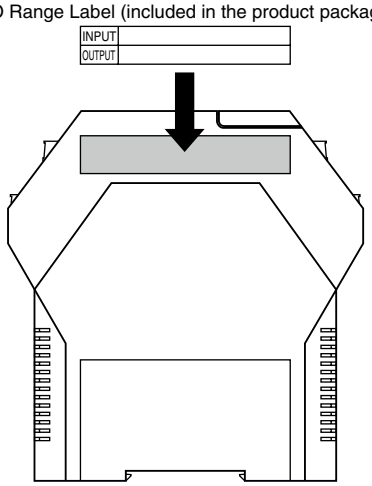
(including leadwire resistance)

ADJUSTMENT PROCEDURE

■ INPUT RANGE LABEL

Blank I/O range labels are included in the product package. Write in the configured ranges and put the label on the side as shown below.

I/O Range Label (included in the product package)



■ PC CONFIGURATOR SOFTWARE

To calibrate the signal to match with a receiving instrument or to change the factory-set configurations, use the PC Configurator software installed on a Windows PC via a HART modem connected to the PC.
The PC Configurator software is downloadable at our web site.

■ USING THE HART COMMUNICATION

Refer to the HART Setup Manual (EM-7501-B) for setting up the unit using the HHC. For operating an HHC (Hand-Held Communicator), refer to its instruction manual.

LIGHTNING SURGE PROTECTION

We offer a series of lightning surge protector for protection against induced lightning surges. Please contact us to choose appropriate models.

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