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## HART PROGRAMMABLE TRANSMITTER

# TRH

for DIN-rail mounting

OPERATION MANUAL



Please read this Operation Manual before mounting and operating!  
Save the Manual for future references!

The intelligent isolated transmitter TRH is a HART programmable 2-wire device with 2000 V input / output isolation level. It allows programming various input and output features like input type and range, output offset and calibration, reaction at sensor failure, fixed output current, digital filter, etc. TRH is easy to program via HART modem over the current loop using free configuration software "HartTemp".

## Mounting and Wiring

### Mounting

TRH for DIN-rail mounting is designed to be easily mounted on every 35 mm rail conforming to EN50022.

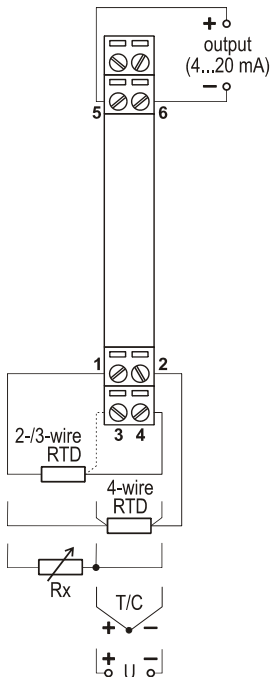
### Wiring

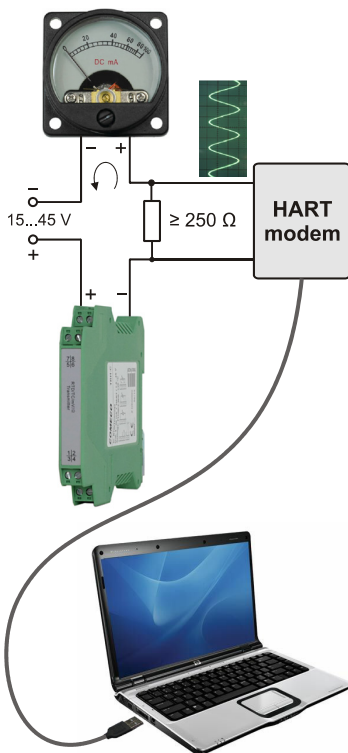
- ◆ Connect sensor or signal to the transmitter input as shown on the wiring diagram.
- ◆ Wire the output current loop through terminals 5(+) and 6(-).
- ◆ In order to minimize measuring errors, make sure the connecting screws are tightened enough.



*The total load in current loop is limited:*

$$R_{LOAD} \leq (U_{SUPPLY} - 7.5) / 0.022 \text{ } [\Omega]$$





- ◆ Download the latest version of "HartTemp" software from [www.comeco.org/downloads](http://www.comeco.org/downloads) and unpack it.
- ◆ Connect a HART modem to the current loop and to your PC as shown on the left schematic.
- ◆ Turn the loop power on (see '**Specifications**').
- ◆ Start "HartTemp" configuration software (version 2.12 or higher).
- ◆ Follow the software menus, help, and hints to configure the unit.
- ◆ For details, consult software help file included in the package.



*Unless you want to monitor or trim the loop current, you do not need to connect the mV-meter into the loop.*

Input:	programmable
RTD, 2-, 3-, 4-wire	Pt100 (w=1.385): -200...850 °C, □ Pt500, □ Pt1000 (w=1.385): -200...250 °C, Cu50, Cu100 (w=1.428): -50...150 °C, Ni100, □ Ni500 (w=1.618): -60...180 °C, □ Ni1000 (w=1.618): -60...150 °C "E": -270...1000 °C, "J": -210...1200 °C, "K", "N": -270...1300 °C, "T": -270...400 °C "B": 0...1820 °C, "R", "S": -50...1768 °C
T/C	-10...75 mV, □ -100...100 mV, □ -500...500 mV, □ -1000...2000 mV
Noble T/C	0...400 Ω (min. 10 Ω), □ 0...2 kΩ (min. 20 Ω)
Linear Voltage	10 °C / 50 °C (500 °C for noble T/Cs)
Linear Resistive, 2-, 3-, 4-wire	2000 VAC for 1 min
RTD / T/C Minimum Range	≤ 3.8 mA or ≥ 20.5 mA, programmable
Input / Output Isolation	4...20 mA, 2-wire HART
Sensor Failure Reaction	0.3 µA
Output	0...100%, programmable
Resolution	7.5...45 VDC / 750 Ω at 24V/20mA
Manual Output Control	0.08% from span, typical
Power Supply / Maximum Line Load	≤ 0.05% from span for 1 year
Measurement Error	-40...85 °C / 0...90% RH
Long-term Stability	IP20
Operating Temperature / Humidity	
Protection Class	

## Warranty and Support

### Warranty

COMECO warrants this product to be free from defects in materials and workmanship for 2 years. If your unit is found to be defective within that time, we will promptly repair or replace it. This warranty does not cover accidental damage, wear or tear, or consequential or incidental loss. This warranty does not cover any defects caused by wrong transportation, storage, installation, or operating (see '**Specifications**').

### Technical support

In the unlikely event that you encounter a problem with your COMECO device, please call your local dealer or contact directly our support team.

.....  
*serial number*

.....  
*manufacturing date*

QC check mark .....(passed)  
(stamp)

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