

Specifications

Input Signal	4...20 mA (nominal); 3.5...21 mA (operating)
Maximum Input Current	50 mA
Input Loop Power Supply	24 VDC ± 10%, from within
Output Signal	4...20 mA, 3-wire
Total Measurement Error	0.35% from span
Output Loop Power Supply	24 VDC ± 10%
Output Signal at Input Failure	< 2 mA
Input / Output Isolation	3750 VAC for 1 min
Maximum Line Load	620 Ω at 20 mA
Operating Temperature / Humidity	-25...70 °C / 0...95% RH
Protection Class	IP20

v5-05.10



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LOOP-POWERED ACTIVE SIGNAL ISOLATOR

TRIL1

for DIN-rail mounting

OPERATION MANUAL



Warranty

COMEKO 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

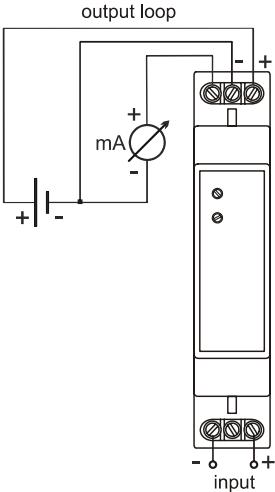
In the unlikely event that you encounter a problem with your COMEKO device, please call your local dealer or contact directly our support team.

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Overview

The active signal isolator TRIL1 is a compact and reliable analog current-to-current transmitter, providing optical isolation between the input and the output current loops of up to 3750 VAC, and allowing direct 4...20 / 4...20 mA conversion. TRIL1 uses the energy of the output loop power supply to generate an isolated supply voltage for the input loop. This isolator also provides an increased input over-voltage and over-current protection.

Mounting and Wiring



Mounting

TRIL1 for DIN-rail mounting is designed to be easily mounted on every 35 mm rail conforming to EN50022.

Wiring

- ◆ Connect the input and the output current loops according to the left diagram.
- ◆ In order to minimize measuring errors, make sure the connecting screws are tightened enough.

Adjusting and Calibrating



Important note:

To protect the device from damages as a result of ESD, always ground yourself and the tools and instruments you are working with!

Default adjustment

The device is factory calibrated and does not require initial user calibration.

Calibration kit

- ◆ variable resistor 1...10 kΩ;
- ◆ two milliammeters with an accuracy of at least $\pm 0.02\%$;
- ◆ 24 VDC power supply.

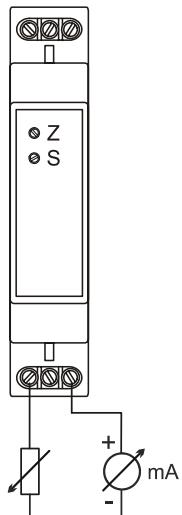
Calibration

It is recommended that the calibration be checked at least once a year as well as after any malfunction and/or repair.



We recommend calibration at COMECO CALIBRATING LABORATORY.

Nevertheless, if you intend to do calibrations on your own, you can do so via the ZERO ('Z') and SPAN ('S') adjustment potentiometers, accessible through the device front panel, by following the procedure below:



- ◆ Connect resistor and milliammeter to the input as illustrated on the left.
- ◆ Wire TRIL1's output loop as shown on the wiring diagram (see 'Mounting and Wiring').
- ◆ Apply an input signal of 12 mA and leave the unit for 15 minutes, if possible at the ambient temperature it is intended to work at.
- ◆ Apply an input current of 4 mA and adjust the 'Z' potentiometer to get $I_{out} = 4.00$ mA.
- ◆ Apply an input current of 20 mA and adjust the 'S' potentiometer to get $I_{out} = 20.00$ mA.
- ◆ Repeat the previous two steps until readings converge.
- ◆ Secure the potentiometers with lacquer.