

ROLINE-L

Digital Transmitter for humidity and temperature

Operating Instructions

We congratulate you on the purchase of your new ROLINE-L Transmitter. You have thus acquired a device corresponding to the latest state of the art. Please read these short instructions carefully before you install the device.

General description

The ROLINE-L instruments are universal transmitters for humidity and temperature values. This short operating instruction manual is restricted to the description of the main functions of the device. A complete version of the operating manual may be downloaded from the internet under:

www.rotronic-humidity.com

Factory default programming

The basic settings of the devices are made in the factory according to your order. All instruments are factory-adjusted and calibrated. There is no need to do any adjustment; the instrument can be set to operation directly after installation.

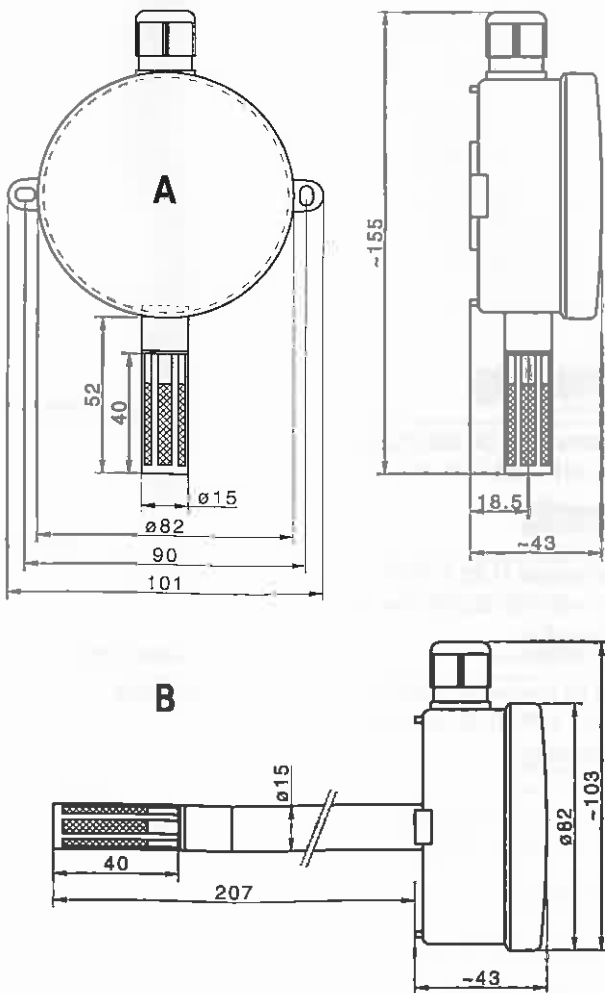
Electrical connections

The instruments are supplied with 10(15)...35 VDC/12...24 VAC or 4...20 mA current loop. For output signal-types of 0...10 V and 0(4)...20 mA, a minimum of 15 VDC is required.

Caution:
Wrong supply tension as well as too big loads may damage the transmitter.

Model versions

The ROLINE-L transmitters are available in 2 basic versions: As wall mount type A or duct mount type B. The most important parameters may be seen on the instrument label which is fixed to every transmitter.



Mounting and setting to work

The instruments consist of a cylindrical housing which contains the electronics and onto which the probe is firmly mounted. Two holes are available for fixing on a duct or on an even surface. The transmitter may also be directly mounted to a duct with an AGRO fitting on the probe tube.

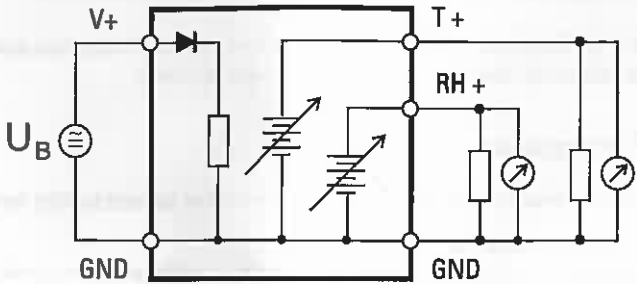
The ROLINE-L series transmitter require -depending on the model- different supply tensions.

3-wire types(L13): 10...35 VDC (minimum 15 VDC for output signal 0...10 V or current signal) If both loops are closed, the maximum power consumption is 50 mA.

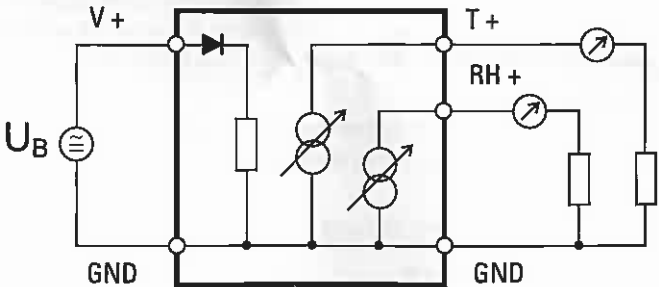
Terminal	Signal/Term
V+	Supply 10...28 VDC(+)
GND	Signal and common ground
RH	Humidity output
T	Temperature output

Schematics

Voltage outputs

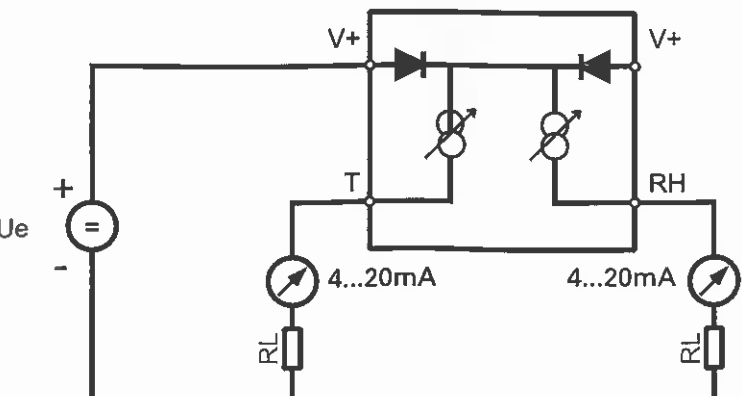


Current outputs



2-wire type (L12): 10...28 VDC (depending on the connected load). The minimum supply tension may be calculated as follows: $V_{min} = 10V + (load \times 0.02)$
For the maximum load of 250 Ohms, the minimal supply tension is therefore:
 $10 + (0.02 \times 250) = 15 \text{ VDC}$.
If both loops are closed, the maximum power consumption is 40 mA

Terminal	Signal/Term
V+	Supply 10...28 VDC(+)
RH	Humidity output
V+	Supply 10...28 VDC(+)
T	Temperature output



Configuration of the desired output signal: (Standard types)
The transmitters are delivered with the following default configuration:
Output signal = 0...100 %rh / 0...50 °C.

Periodic probe calibration

The Pt 100 RTD temperature sensor as well as the electronics are very stable and normally do not have to be adjusted after the factory-calibration.

The long-term stability of the ROTRONIC Hygromer humidity sensors is typically better than 1 %rh per year. For maximum accuracy, we recommend to calibrate the probes once or twice a year. In applications where the sensor is exposed to pollutants, it may be necessary to calibrate / adjust more often. The calibration may be done by the user on-site or in the laboratory/workshop.

For routine- calibrations, one or two points should be checked.

Note:

The electronics of the ROLINE-L Transmitter usually does not require any field calibration. The electronics may not be repaired on site and should be returned to the factory or a ROTRONIC distributor for repair. For details of calibration, see users manual (full version). It may be downloaded from the internet.

Sources of errors

Measuring values may be affected by :

- **Temperature faults**
Too short adaptation time, cold walls, heating elements, sun radiation etc.
- **Humidity faults**
Humidity errors due to sprayed vapour or water, dripping water or condensation. The reproducibility and long-term stability are, however, not influenced even if the sensor was exposed to high humidity or saturation with watervapour (condensation.)
- **Pollution**
By dust in the air. The filter of the probe has to be cleaned or replaced periodically, depending on the degree of dirtyness.

Technical data ROLINE-L12:

Operating range electronics
Humidity / Temperature: 0...100 %rh non condensing / -40...60 °C

Measuring range humidity: 0...100 %rh
Measuring range temperature: 0...50 °C
Outputsignal types: 4...20 mA
Power supply: 10(15)...28 VDC (loop power)

Technical data ROLINE-L13:

Operating range electronics
Humidity / Temperature: 0...100 %rh non condensing / -40...60 °C

Measuring range humidity: 0...100 %rh
Measuring range temperature: 0...50 °C
Outputsignal types: 0...20 mA, 4...20 mA, 0...10V, 0...5V, 0...1 V
Power supply: 10(15)...35 VDC or 12...24 VAC