

## FEATURES

- **0÷20 mA isolated conversion**
- **Hart compatible**
- **No external supply required**
- **3000 Vac galvanic isolation**
- **Good accuracy and performance stability**
- **EMC compliant – CE mark**
- **Suitable for DIN rail mounting in compliance with EN 50022 and EN-50035**



## GENERAL DESCRIPTION

The transmitter DAT 511/H is a passive 0÷20 mA current loop isolator.

The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit.

The device allows the bidirectional communication of signals HART protocol compatible.

The converter is a passive isolator: this means that the device employs the measurement signal to power itself, so it does not require any external power supply.

The DAT 511/H is in compliance with the Directive 2004/108/EC on the Electromagnetic Compatibility.

It is housed in a plastic enclosure of 17 mm thickness suitable for DIN rail mounting in compliance with EN-50022 and EN-50035 standards.

## USER INSTRUCTIONS

The device DAT 511/H must be connected as follows.

The input connections must be made as shown in the section "Input connections".

The input signal, coming from an active loop must be applied between the terminals E ( IN+) and F ( IN- ).

The output connections must be made as shown in the section "Output connections".

The output signal is provided between the terminals C ( +OUT) and D ( -OUT ).

### Notes of installation:

- the DAT 511/H causes a maximum voltage drop of 3 Vdc on the input current loop;

- if there is an interruption either in the input or in the output current loop, the output signal will be 0 mA.

To install the device refer to section "Installation Instructions".

## TECHNICAL SPECIFICATIONS (Typical at 25 °C and in nominal conditions)

### Input

|                      |                    |
|----------------------|--------------------|
| Signal type(*)       | Current: 0 ÷ 20 mA |
| Maximum input signal | 50 mA              |
| Voltage drop         | 3 Vdc max.         |

### Output

|                         |                      |
|-------------------------|----------------------|
| Signal type             | Current: 0 ÷ 20 mA   |
| Load resistance (Rload) | from 0 up to 700 ohm |
| Bandwidth               | 0.5 ÷ 4 KHz          |

### Performances

|  |  |
|--|--|
| Transmission error   | ± 0.25 % of f.s.                                 |
| Load resistance influence  | ± 0.085 % of f.s./100 Ω                          |
| Thermal drift  | 0.02 % of f.s./°C                                |
| Frequency response   | From 0.5 up to 4 KHz bidirectional within 3 dB   |
| Response time  | 20 ms  |
| Isolation voltage  | 1500 Vac, 50 Hz, 1 min                           |
| Electromagnetic Compatibility (EMC)<br>( for industrial environments ) | Immunity: EN 61000-6-2; Emission : EN 61000-6-4. |
| Operating Temperature  | 0 ÷ 55 °C  |
| Storage Temperature  | -40 ÷ 85 °C                                      |
| Humidity (not condensed)   | 0 ÷ 90%  |
| Weight   | about 60 g.                                      |

(\*) internally protected against reverse polarity.

## INSTALLATION INSTRUCTIONS

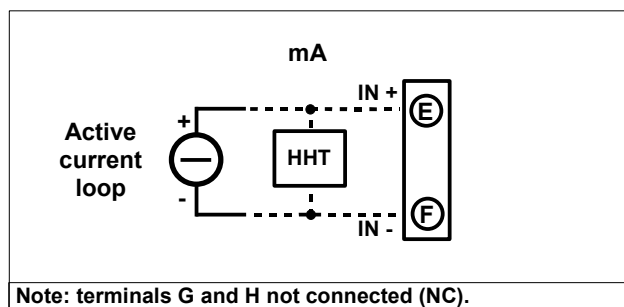
The device DAT 511/H is suitable for DIN rail mounting.

It is necessary to install the device in a place without vibrations; avoid to routing conductors near power signal cables .

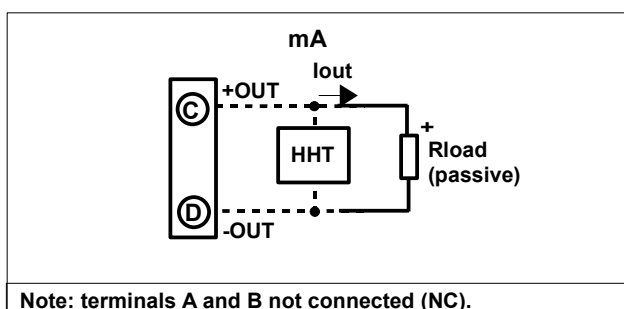
Note: in order to protect the device against eventual electrostatic discharges due to a not correct handling, the DAT 511/H is supplied with a transparent protection plastic cap on the terminals which can be removed during the installation.

## DAT 511/H CONNECTIONS

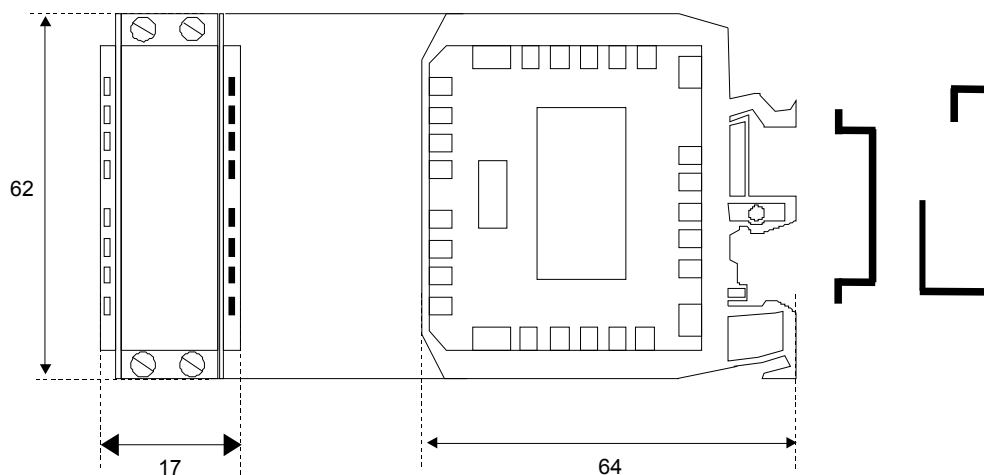
### INPUT CONNECTIONS



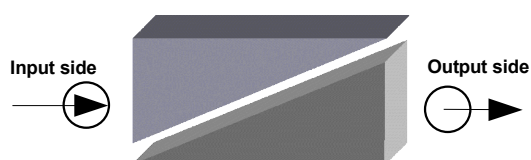
### OUTPUT CONNECTIONS



## DIMENSIONS (mm)



## ISOLATIONS STRUCTURE



### HOW TO ORDER

The DAT 511/H is supplied for the conversion 0÷20 mA 0÷20 mA

**ORDER CODE: DAT 511/H**