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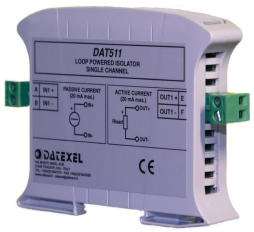
Self-powered current loop isolator single channel

DAT 511

FEATURES

- **0÷20 mA isolated conversion**
- **No external supply required**
- **1500 Vac galvanic isolation**
- **Good accuracy and performance stability**
- **EMC compliant – CE / UKCA mark**
- **Suitable for DIN rail mounting in compliance with EN 50022**



GENERAL DESCRIPTION

The DAT 511 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 is a passive isolator: this means that the device uses the input signal to power itself, so it does not require any external power supply.
The 1500 Vac galvanic isolation on all ways eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.
It is housed in a plastic enclosure of 22.5 mm thickness suitable for DIN rail mounting in compliance with EN-50022 .

USER INSTRUCTIONS

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

Notes of installation:

- the DAT 511 causes a maximum voltage drop of 5 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 @ 25 °C and in nominal conditions)

INPUT

Type of signal	Min	Max
Current	0 mA	20 mA

Input Impedance	~ 50 Ω
Maximum Input Signal	50 mA
Max Voltage Drop	5 Vdc max
Reverse polarity protection	60 Vdc max

OUTPUT

Type of signal	Min	Max
Current	0 mA	20 mA

Load Resistance (Rload)	≤ 700 Ω
Transfer Error	± 0,50 % del f.s.
Linearity Error	± 0,05 % del f.s.
Thermal Drift	± 0,02 % del f.s./°C
Load resistance influence	± 0,09 % del f.s./100 Ω
Response Time (10 ÷ 90%)	< 60 ms

GENERAL SPECIFICATIONS

ISOLATION

Input / Output	1500 Vac, 50 Hz, 1 min

ENVIRONMENTAL CONDITIONS

Operative Temperature	-20°C .. +60°C
Storage Temperature	-40°C.. +85°C
Humidity (not condensed)	0 .. 90 %
Maximum Altitude	2000 m
Installation	Indoor
Category of installation	II
Pollution Degree	2

MECHANICAL SPECIFICATIONS

Material	Self-extinguish plastic
IP Code	IP20
Wiring	wires with diameter 0.8÷2.1 mm² /AWG 14-18
Tightening Torque	0.8 N m
Mounting	in compliance with DIN rail standard EN-50022
Weight	about 100 g

CERTIFICATIONS

EMC (for industrial environments)

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

UKCA (Rif S.I. 2016 N°1091)

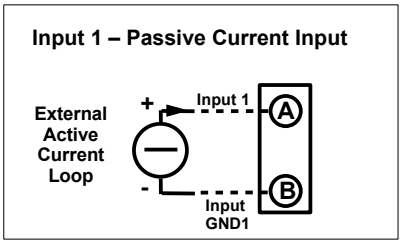
Immunity	BS EN 61000-6-2
Emission	BS EN 61000-6-4

INSTALLATION INSTRUCTIONS

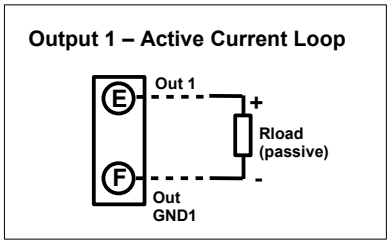
The device is suitable for fitting to DIN rails in the vertical position.
For optimum operation and long life follow these instructions:
when the devices are installed side by side it may be necessary to separate them by at least 5 mm.
Make sure that sufficient air flow is provided for the device avoiding to place raceways or other objects which could obstruct the ventilation slits. Moreover it is suggested to avoid that devices are mounted above appliances generating heat; their ideal place should be in the lower part of the panel.
Install the device in a place without vibrations.

WIRING

INPUT CONNECTIONS

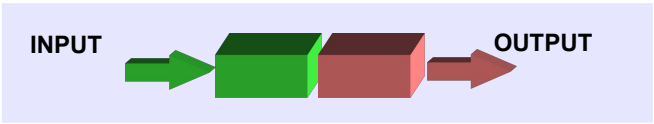


OUTPUT CONNECTIONS (**)

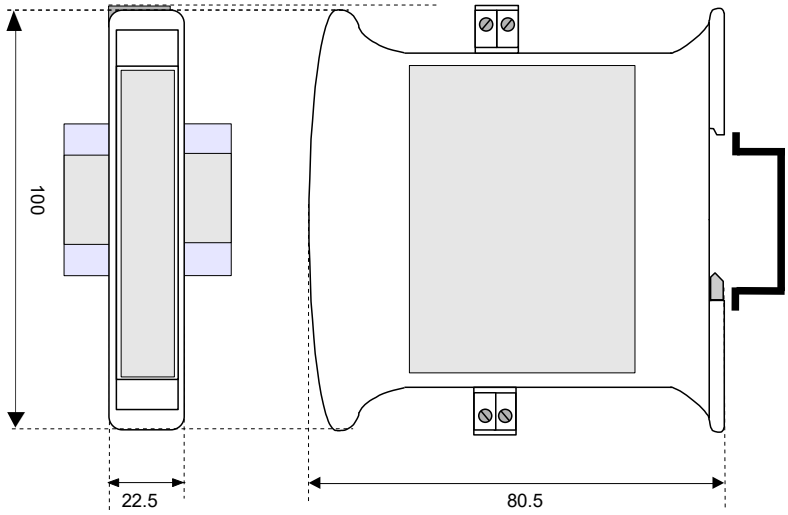


(**) Note: if there is an interruption either in the input or in the output current loop, the output signal will be 0 mA.

ISOLATION STRUCTURE



MECHANICAL DIMENSIONS (mm)



The symbol reported on the product indicates that the product itself must not be considered as a domestic waste.
It must be brought to the authorized recycle plant for the recycling of electrical and electronic waste.
For more information contact the proper office in the user's city , the service for the waste treatment or the supplier from which the product has been purchased.

HOW TO ORDER

ORDER CODE EXAMPLE:

DAT511

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