

Transmitter for potentiometer

DAT 205 2W

FEATURES

- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- 4÷20 mA current loop linearised output
- High accuracy
- EMC compliant – CE mark
- Suitable for DIN rail mounting in compliance with EN 50022 and EN-50035



GENERAL DESCRIPTION

The transmitter DAT 205 2W is designed to provide on output a 4÷20 mA current loop linearised signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer .

The regulation of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

The DAT 205 2W is in compliance with the standard 89/336/EEC 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 transmitter DAT 205 2W must be powered by a direct voltage between 10 to 32 V applied to the terminals G (+V) and H (-V).

The 4÷20 mA output signal is measurable in the power loop as shown in the section "Power supply /Output connections"; Rload is the input impedance of instruments on the current loop; to obtain a correct measure, the value of Rload will be calculated as function of the power supply value (see section " Load characteristic").

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

The ends of the potentiometer must be connected to the terminals B and A, while the central terminal must be connected to the terminal C.

The calibration of the device must be made by the ZERO (calibration of the zero value) and SPAN (calibration of the full-scale value) regulations. Such operation can be made on field referring to the section "DAT 205 2W: CALIBRATION".

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

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

Input	
Sensor type	Potentiometer
Potentiometer's resistance	Minimum nominal value = 1 KΩ; Maximum nominal value = 10 KΩ.
Voltage reference	1Vdc
Output	
Output type	4 ÷ 20 mA on current loop
Maximum output signal	25 mA
Load resistance (Rload)	see section "Load characteristic"
Response time (from 10 to 90 % of f.s.)	500 ms
Warm-up time	3 min.
Performances	
Calibration error	± 0.1 % of f.s.
Linearity error (*)	± 0.1 % of f.s.
Thermal drift	0.02 % of f.s./°C
Power supply voltage (**)	10÷32 Vdc
Electromagnetic Compatibility (EMC) (for industrial environments)	Immunity: EN 61000-6-2; Emission : EN 61000-6-4.
Operating Temperature	-20 ÷ 70 °C
Storage Temperature	-40 ÷ 85 °C
Humidity (not condensed)	0 ÷ 90%
Weight	about 50 g.
(*)inclusive of hysteresis, linearisation error and power supply voltage variation	
(**)internally protected against reverse polarity.	

INSTALLATION INSTRUCTIONS

The device DAT 205 2W 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 .

DAT 205 2W: CALIBRATION

With the ends of the potentiometer connected:

Calibration of the minimum scale value :

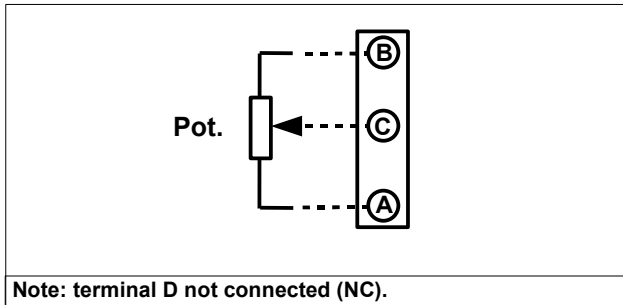
Connect the terminal C to the terminal A and regulate the value of 4 mA by the ZERO potentiometer.

Calibration of the maximum scale value

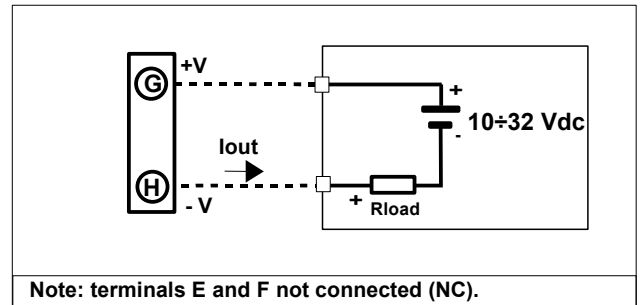
Connect the terminal C to the terminal B and regulate the value of 20 mA by the SPAN potentiometer.

DAT205 2W CONNECTIONS

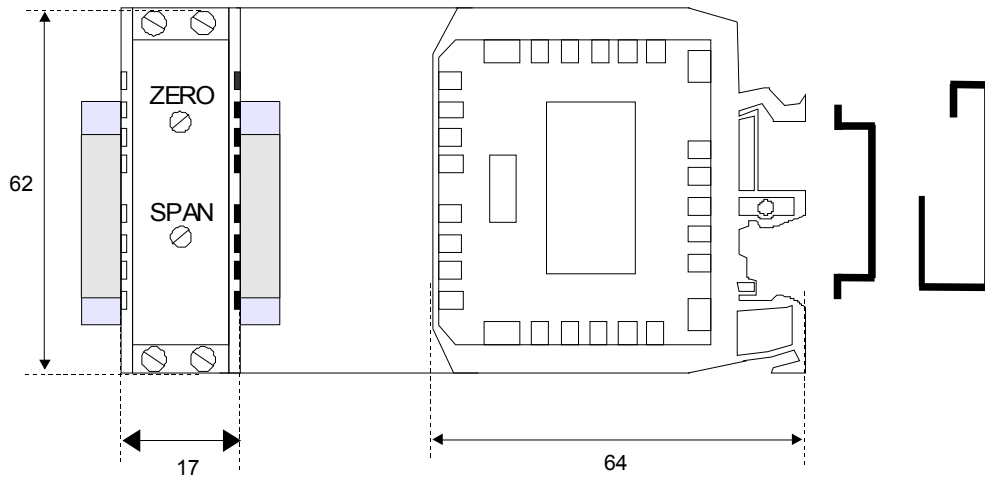
INPUT CONNECTIONS



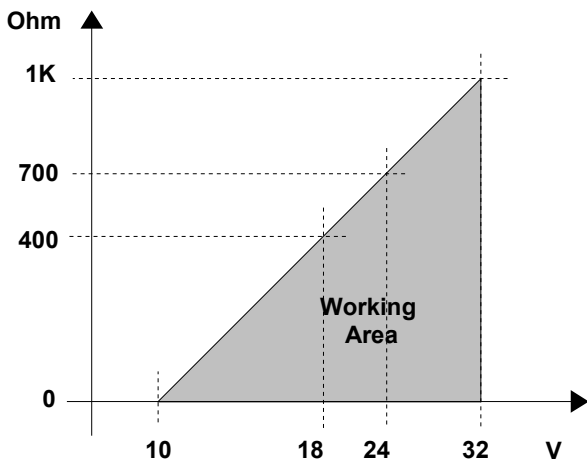
POWER SUPPLY/OUTPUT CONNECTIONS



DIMENSIONS (mm) & REGULATIONS



LOAD CHARACTERISTIC



HOW TO ORDER

The DAT 205 2W is supplied to connect potentiometers with nominal value included between 1 and 10 K Ω .

ORDER CODE: DAT205 2W