

**FEATURES**

- Voltage or current inputs
- Programmable decimal point and Attenuation ratio
- High accuracy and linearity
- Auto-zero
- Measuring freeze by command
- Single power supply voltage (5 Vdc or 9 Vdc)
- EMC compliant – CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard



**GENERAL DESCRIPTION**

The DAT 702 is a 3.5 digit LCD digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input . In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 702 V - A: measure of voltage signal with amplitude from  $\pm 200$  mV up to  $\pm 20$  V ;
- DAT 702 V - B: measure of voltage signal with amplitude from  $\pm 2$  V up to  $\pm 200$  V;
- DAT 702 I - A: measure of current signal with amplitude from  $\pm 200$   $\mu$ A up to  $\pm 2$  mA;
- DAT 702 I - B: measure of current signal with amplitude from  $\pm 2$  mA up to  $\pm 200$  mA.

It is not necessary to recalibrate the Zero value.

Two versions of the device are available in function of the power supply voltage value :

- Version 5: device with powered at 5 Vdc;
- Version 9: device with powered at 9 Vdc.

The DAT 702 is designed for the mounting on panel in according to the DIN 43700 standard .

It is possible to set, by jumper, the input attenuation ratio ( x 10 and x 100) and the decimal point position.

Moreover are available the functions of measuring freeze (HOLD) and testing display (TEST).

The DAT 702 is in compliance with the Directive 2004/108/EC on the Electromagnetic Compatibility.

**USER INSTRUCTIONS**

The digital indicator DAT 702 must be powered by a direct 5 V  $\pm$  5% (Version 5) or 9 V  $\pm$  10 % (Version 9) voltage applied between the terminals 7 (+V) and 8 (GND).

In case of Version 5, to avoid the damage of device it is important that the power supply value doesn't exceed the limit of 5.5 V.

In case of Version 9, on the display there is an indicator (arrow switched on) to indicate the condition of battery exhausted.

The input connections must be made as shown in the section "Input connections". The input signal in voltage or current, must be applied between the terminals 2 (IN HI) and 3 (IN LO) for the basic full-scale measure, between the terminals 1 (IN ATT) and 3 (IN LO) for the attenuated full-scale measure.

The following complementary functions are available:

- function TEST : use it to control the display, it switches on all the segments independently from the input signal. To use this function connect the terminal 6 (TEST) to the terminal 7 (+V); in order to avoid damage for the device, it is recommended to active this function for a maximum time of 2 minutes.
- function HOLD: use it to freeze the measure at the last value detected. To use this function connect the terminal 5 (HOLD) to the terminal 8 (GND); in order to avoid damage for the device, it is recommended to active this function for a maximum time of 2 minutes.

If the power supply and the input signals are isolated, connect the terminal 3 (IN LO) to the terminal 4 (COM).

To configure, calibrate and install the device refer to sections "Configuration and calibration DAT 702" and "Installation Instructions".

<b>TECHNICAL SPECIFICATIONS (Typical at 25 °C and in nominal conditions)</b>	
<b>Input</b> Configuration Signal type	Bipolar, true differential Voltage: from 200 mV up to 2 V ( Version A ), basic full scale: 200 mV from 2 V up to 200 V ( Version B ) , basic full scale: 2 V Current: from 200 $\mu$ A up to 2 mA ( Version A ), basic full scale: 200 $\mu$ A from 2 mA up to 200 mA ( Version B ) basic full scale: 2 mA
Input impedance	Voltage: basic full scale: 10 M $\Omega$ attenuated full scale: 1 M $\Omega$ Current: from 1 $\Omega$ up to 1K $\Omega$
Maximum input signal Common mode voltage Common mode rejection ratio Normal mode rejection ratio Decimal point programming	full scale * 2.5 $\pm 2$ V referred to supply ground 86 dB 50 dB @ 50 Hz From rear side, on three decades
<b>Visualisation</b> Scale of visualisation Out of range visualisation Type of visualisation Digit height	2000 points (from 0 up to 1999 or from -1999 up to 0) High = 1; Low = -1 Static polarised Liquid Cristal Display for wide angle of visualization 0.35 "
<b>Performances</b> Reading accuracy Thermal drift Reading rate Power supply voltage Current consumption Electromagnetic Compatibility ( EMC ) ( for industrial environments ) Operative temperature Storage temperature Relative Humidity (not condensing) Weight	$\pm 0.1$ % of f.s. 0.005 % of f.s./ $^{\circ}$ C 3 read/second Version 5: 5 Vdc $\pm$ 5 %; version 9: 9 Vdc $\pm$ 10 % Version 5: 3 mA; version 9: 0,5 mA Immunity: EN 61000-6-2 Emission: EN 61000-6-4 -10 $\div$ 60 $^{\circ}$ C -40 $\div$ 85 $^{\circ}$ C 0 $\div$ 90% about 50 g

## CONFIGURATION & CALIBRATION DAT 702

### - CONFIGURATION

#### Attenuation ratio setting

Refer to sections "Programming tables", "Input connections" and "Dimensions", set the input attenuation ratio by the proper jumper connector and connect the input as indicated.

#### Decimal point setting

Refer to sections "Programming tables" and "Regulations", set the position of the decimal point by the proper jumper connector.

### - CALIBRATION CONTROL

Refer to section "Regulations".

- 1) By screwdriver, remove the external frame.
- 2) By screwdriver, unlock the hookups indicated as A, B, C and D in the figure and remove the front panel.
- 3) Set, by a voltage or current simulator the maximum value of the input scale.
- 4) By potentiometer regulate the value to visualize.
- 5) It's not necessary to calibrate the Zero value.

## PROGRAMMING TABLES

### ATTENUATION RATIO PROGRAMMING

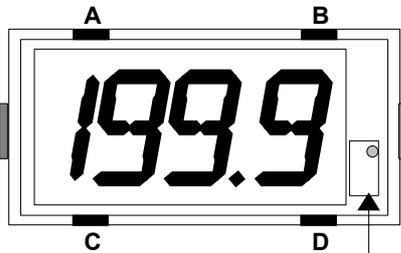
ATTENUATION (*)	CONNECTION
ATT. x 10	Terminal 15 to 16
ATT. x 100	Terminal 15 to 14

(\*) Attenuation ratio: x 1 = Basic full scale .

### DECIMAL POINT PROGRAMMING

POSITION	CONNECTION
DIP 1 ( .1999 )	Terminal 9 to 10
DIP 2 ( .19.99 )	Terminal 10 to 11
DIP 3 ( .199.9 )	Terminal 12 to 13

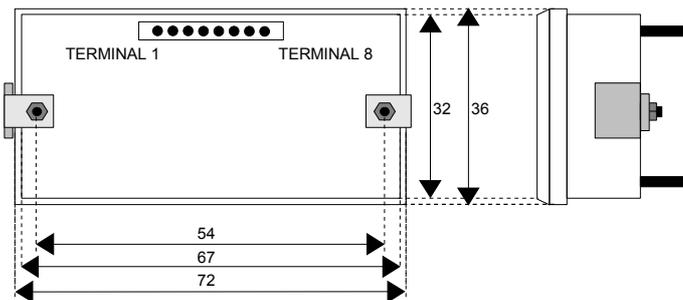
### REGULATIONS



Full scale value regulation potentiometer.

A = B = C = D: hookups to remove the front panel

### DIMENSIONS (mm)



### INSTALLATION INSTRUCTIONS

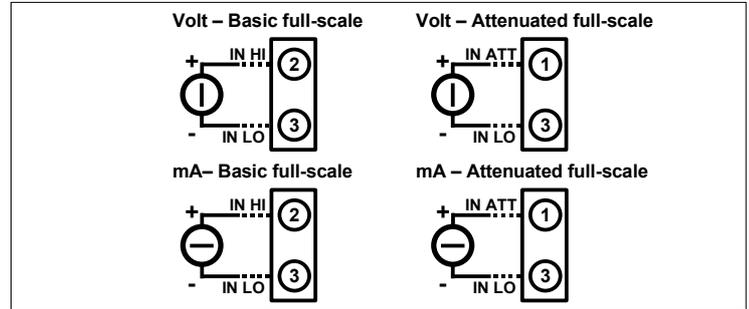
The device DAT 702 is suitable for mounting on panel (DIN 43700); the device needs a panel cut out of 68 \* 33 mm (W\*H).

The mounting kit (inclusive of connector and jumpers for setting ) is supplied with the device.

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

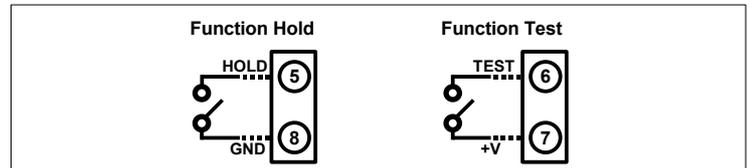
## DAT 702 CONNECTIONS

### INPUT CONNECTIONS (\*\*)

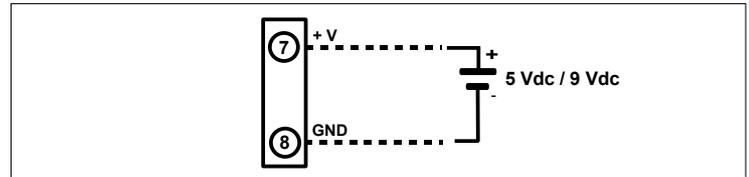


(\*\*) Note: if the input signal is isolated from the power supply the terminal 3 (IN LO) must be connected to the terminal 4 (COM).

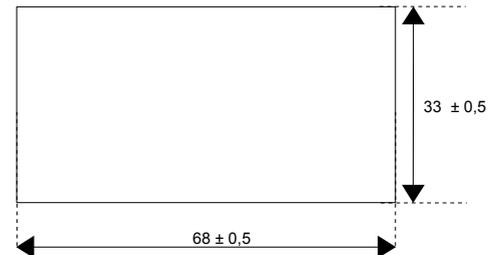
### COMPLEMENTARY FUNCTIONS CONNECTIONS



### POWER SUPPLY CONNECTIONS



### PANEL CUT-OUT (mm)



### HOW TO ORDER

The DAT 702 is provided as requested on the Customer's order.

#### ORDER CODE:

DAT 702 / V / A / 5

Power supply version :  
5 = 5 Vdc  
9 = 9 Vdc

Input scale version :  
A = basic full scale: ± 200 mV or ± 200 µA  
B = basic full scale: ± 2 V or ± 2 mA

Input type version:  
V = voltage input  
I = current input