

Loop powered 4 digit LED programmable digital indicator

DAT8050

FEATURES

4÷20 mA loop powered
Voltage Drop-out < 5V
High accuracy and linearity
0.52" LED display
Visualization configurable on the front side
Connections on removable screw terminals
Compact case size (DIN 48 x 96 mm)
In compliance with EMC standards - CE mark
Suitable for panel mounting in compliance with DIN 43700



GENERAL DESCRIPTION

The digital panel indicator DAT 8050 accept on the input a 4 - 20 mA current loop signal.
 The input current signal is used to supply the device introducing a 5 Vdc voltage drop-out on the current loop, so is not required any external supply source.
 The user can program the visualization of the measure in the range from -1999 up to 9999 points in order to set the values of the physical or electrical parameter transmitted on the current loop in the desired format. The programming of the visualization is made by the buttons "SET" and "ENTER" located on the front side of the instrument. By use of them, it is possible to program the values to be visualized correspondent to 4 mA and 20 mA and the position of the decimal point.
 It is possible to program the device on field. When the measured current is lower than 3.8 mA, the display will show the message " Lo "; in the same way, when the current measured is higher than 20.2 mA, the display will show the message " Hi ".
 Nearby the display it is possible to apply the desired engineering unit using the adhesive labels supplied with the device.
 The instrument set-up is particularly simple and cheap: the fixing system on panel (screw terminal type) and the program (by buttons), allow a quickly and economic installation.
 The device is housed into a strong plastic enclosure of 48 x 96 x 74 mm in according to the standard DIN43700.

USER INSTRUCTIONS

The device must be connected as shown in the section: "Connections".
 The input signal on terminal T1 is measured and converted in function of the scale of measure previously programmed ; such measure is visualized on the display. The same signal, on output , is supplied on the terminal T4 (DIAGRAM A). Between the terminals T1 and T4 there is a voltage drop lower than 5 V, necessary to supply the device. The terminals T2 and T3 are internally connected, and can be used to connect the ends of the return cable of the current loop eventually interrupted (DIAGRAM B).
 To program the visualization of the device refer to the section "Configuration and calibration".
 To install the device refer to the section "Installation Instructions".

INSTALLATION INSTRUCTIONS

The device DAT 8050 is suitable for mounting on panel which must be fixed by the proper kit. The device needs a panel cut-out of 92 * 45 mm (W * H) .
 It is necessary to install the device in a place without vibrations; avoid to routing conductors near power signal cables .

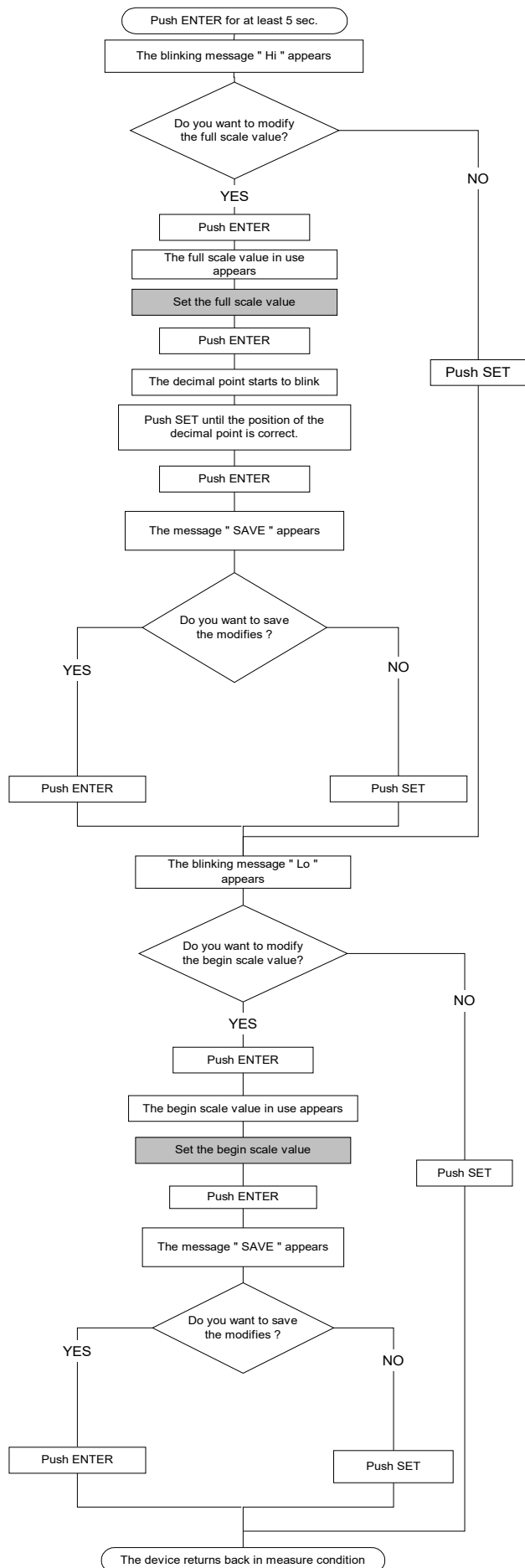
CONFIGURATION & CALIBRATION

In the flow-chart on the next page it has been described the procedure of configuration of the device.
 The programming of the scale values and the decimal point is made by the buttons "ENTER" and "SET" located on the front side of the device.
 It is possible to do this operation in any moment providing to the device a value of current included in the range 4 ÷ 20 mA.
 The setting of the range is made in three steps:
 - setting of full scale value
 - setting of decimal point
 - setting of begin scale value.
 The value of the single digit can be set between "0" and "9"; to set a negative number, the value of the more significant digit (on the left) can also be set to "-" and "-1".
 To set a number shorter of 4 digits (lower than 1000), set the more significant digits as "0". The position of decimal point can be set nearby to each one of four digits. Set the decimal point on the right to visualize integer numbers. If the more significant digit (from left to right) is as "0" an empty space will be displayed until the first valid digit, or the unit digit (e.g. the value -00.3 will be visualized as " - 0.3").
 The use of buttons depends on the operation in progress.
 The button **ENTER** activates the procedure of configuration and confirms the modifies introduced from the user in each step of configuration and allows to move to the next step.
 The button **SET** during the setting of the full and begin scale values increases the digit value; during the setting of decimal point, it moves its position to the left.
 Moreover it cancels the modifies introduced from the user for each configuration step, moving to the next step .
 NOTE: During the programming, if any button isn't pushed for at least 10 seconds, the device will automatically return to the measure condition, without saving.

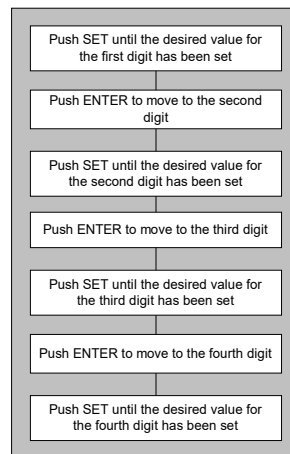
TECHNICAL SPECIFICATIONS (Typical at 25 °C and in nominal conditions)

INPUT			DISPLAY	GENERAL SPECIFICATIONS	
Input Type	Min	Max	Type of visualization	ENVIRONMENTAL CONDITIONS	
Current mA	4	20	4 digits LED Digit height 0.52 "	Operative temperature	-20°C .. +60°C
Input Accuracy (1) mA the better of ± 0.05 % f.s. or ± 1 digit.			Range of Visualization (*) From "-1999" up to "9999" points with selection of the decimal point position	Storage temperature	-30°C .. +80°C
Resolution 4 uA			Minimum measurable current 3.8 mA (visualization " Lo " in case of di lower measure)	Humidity (not condensing)	0 .. 90 %
Response Time < 0.5 seconds			Maximum measurable current 20.2 mA (visualization " Hi " in case of di higher measure)	Maximum Altitude	2000 m slm
Voltage Drop Typical < 5 Vcc				Installation	Indoor
Current Limitation < 50 mA				Category of Installation	II
Thermal Drift ± 0.01 % of f.s./°C				Pollution Degree	2
				MECHANICAL SPECIFICATIONS	
				Material	NORYL Self-extinguish plastic
				IP Code	IP20
				Wiring	wires with diameter 0.8÷2.1 mm ² AWG 14-18
				Tightening Torque	0.5 N m
				Mounting	on Panel
				Dimensions in mm.	(W x H x T) 96 x 48 x 74
				Weight	about 150 g.
				CERTIFICATIONS	
				EMC (for the Industrial Environments)	
				Immunity	EN 61000-6-2
				Emission	EN 61000-6-4
				UKCA (ref S.I. 2016 N°1091)	
				Immunity	BS EN 61000-6-2
				Emission	BS EN 61000-6-4
			(*): - configurable by buttons - default visualization : 4.00 ÷ 20.00		

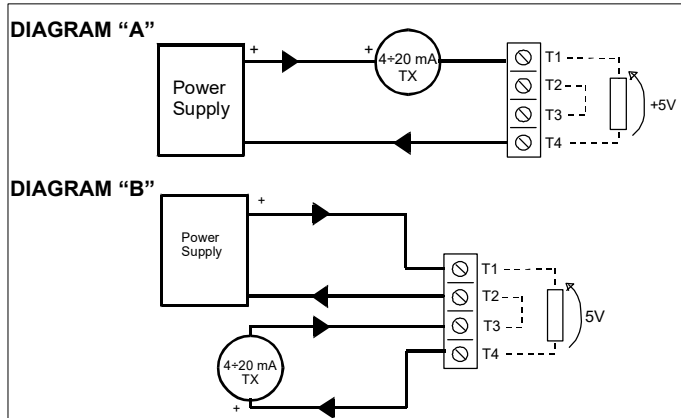
PROCEDURE OF CONFIGURATION



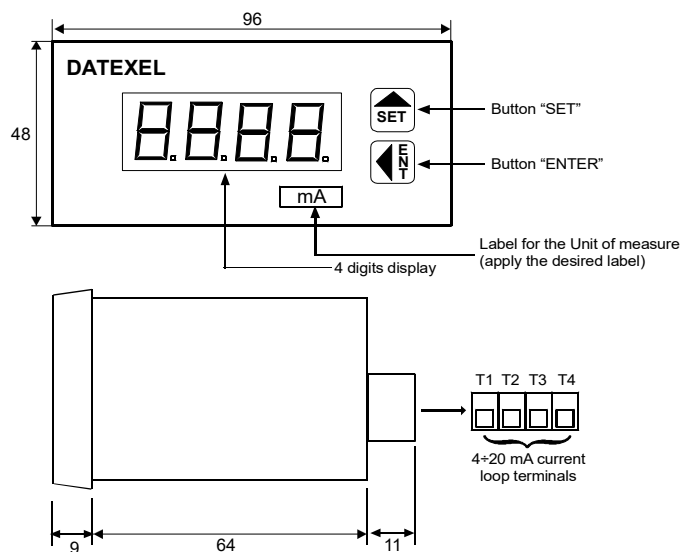
SETTING OF VALUES OF SCALE



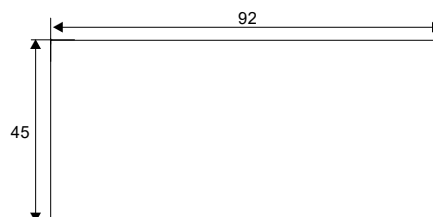
WIRING



DIMENSIONS (mm) & SETTINGS



PANEL CUT-OUT



HOW TO ORDER

The device is supplied as request from the Customer in phase of order.

DAT 8050 - 0÷500

Range of visualization



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.