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UNI EN ISO 9001:2008

Remote Graphic Display on RS-485 with Modbus RTU protocol

DAT 9550

FEATURES

Graphic display 132x32 pixels
RS-485/RS-232 Modbus-RTU Slave Interface
Remotely programmable
Connection by removable screw-terminals (power supply & RS-485) and RJ45 (RS-232)
Compact enclosure dimensions (DIN 48 x 96 mm)
Galvanic Isolation on all the ways
EMC compliance – CE mark
Suitable for panel mounting in compliance with DIN 43700

GENERAL DESCRIPTION

The device DAT 9550 is a graphic display designed for panel mounting and communicating with Modbus RTU protocol on RS-485 and RS-232 serial Slave port. It can be used as Slave peripheral for the visualization of the data coming from the Intelligent Units of the DAT9000 series or from a PC, PLC or panel operator.
Between the serial ports it is possible to configure, by software Dev9K, the graphic pages.
The device is equipped with 4 buttons on the right side of the front panel by which it is possible to:
- set the communication parameters of the device such as baud-rate and Modbus address;
- set the levels of brightness and contrast of the display;
- set the values of the local variables selected from the user;
- scroll between the graphic pages.

Moreover 4 function buttons are available on the left side of the front panel by which it is possible to read remotely the status for their free use in the application.
The implementation of the device is easy and immediate: it must be fixed to the panel by screw terminals; for the connection on the rear side are used removable screw terminals to connect the RS-485 serial port and the power supply; to connect the RS-232 port it is available a RJ45 connector.
The DAT 9550 is in compliance with the directive 2004/108/EC on the Electromagnetic Compatibility.
It is housed into a robust plastic enclosure of 96 x 48 x 74 mm in compliance with the DIN43700 standard.

USER INSTRUCTIONS

The DAT 9550 must be connected as shown in the section "Wiring".
To configure the graphic pages refer to the section "Configuration via software" and to the software Dev9K User Guide.
To install the device refer to the section "Installation instructions".

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

In compliance with IEEE 802.3 EIA RS485 and RS232		**Power supply**	10 ÷ 30 Vdc
		Current consumption	45 mA typ. @ 24Vdc (standby,max. brightness) 80 mA max
RS485 Interface			
Baud-rate	up to 38.4 Kbps	**Isolations**	
Max. distance (recommended) (1)	1.2 Km @ 38.4 Kbps	Power supply / RS485	1500 Vac, 50 Hz, 1 min.
		EMC (for industrial environments)	
Internal termination resistance (optional)	120 Ohm	Immunity	EN 61000-6-2
		Emission	EN 61000-6-4
Display			
Graphic Area	132x32 pixels 13.2 * 48.1 mm	**Temperature & Humidity**	
		Operative temperature	-20 ÷ +60 °C
		Storage temperature	-30 ÷ +80 °C
		Relative humidity (not cond.)	0 ÷ 90 %
		Connections	
		RS-232D	RJ-45
		RS-485 / Supply	Removable screw terminals
		Housing	
		Materiale	NORYL self-extinguishing plastic
		Mounting	Panel mounting
		Dimensions in mm.(W x H x T)	96 x 48 x 74
		Weight	about 160 gr.

(1) – The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

FUNCTIONAL MENUS DAT9550

At any time it is possible to access to the following menus:
- "Config" menu: wherein it is possible to set the communication parameters of the device such as the Modbus address and the Baud-rate and the adjustments of brightness and contrast of the display.
- "Preset" menu: wherein it is possible to set the values of the local variables selected from the user.

CONFIGURATION VIA SOFTWARE

The graphic pages must be set by the software Dev9K.
To program the device proceed as follows :
-Connect the serial cable coming from the PC to the RS-232D or RS-485.
-Power-on the device.
-Execute the software.
-Set the parameters and program the device (refer to the software User Guide).

BUTTON'S FUNCTIONS.

In "Visualization of the graphic pages" modality.

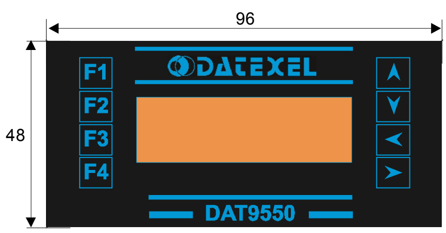
- Buttons "**PageUp**" (▲) and **"PageDown"** (▼):scrolling between the graphic pages.
- Button **"Left"** (◄): access to the "Config" menu.
- Button **"Right"** (►): access to the "Preset" menu.
- Buttons "**F1", "F2","F3", "F4"**: buttons available for the user: it is possible to read remotely the status for their free use in the application.

In "Visualization of the menus" modality.

- Buttons "**PageUp**" (▲) and **"PageDown"** (▼): scrolling between the parameters.
- Button **"Left"** (◄) and **"Right"** (►) : scrolling between the characters of a parameter.
- Button **"F1"**: Function "Enter" (refer to the User Guide).
- Button **"F2"**: Function "Esc" (refer to the User Guide).

DIMENSIONS (mm) & BUTTONS POSITION

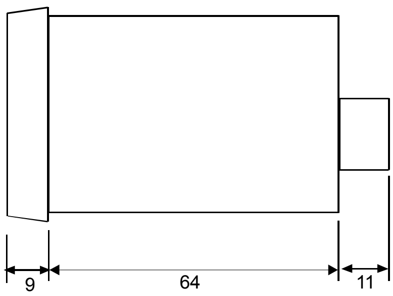
FRONT VIEW



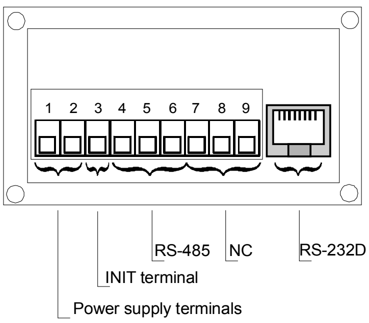
F1,F2,F3,F4 :function buttons

▲,▼,◄,► : scroll buttons

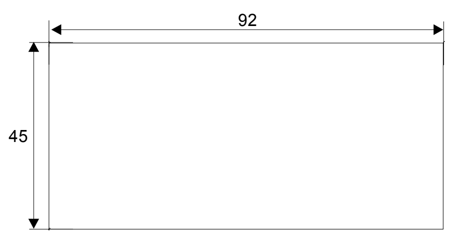
SIDE VIEW



REAR VIEW



PANEL CUT-OUT



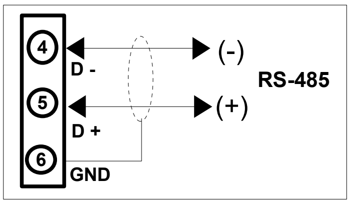
INSTALLATION INSTRUCTIONS

The device DAT9550 is suitable for panel mounting to 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 .

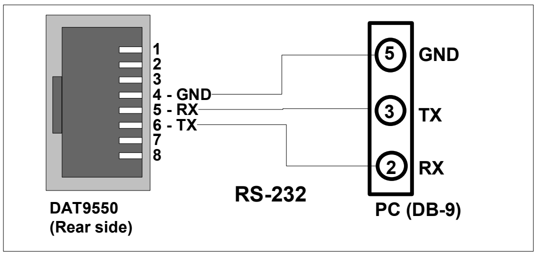
WIRING

SERIAL PORTS

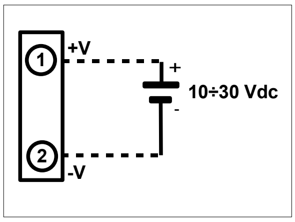
RS-485



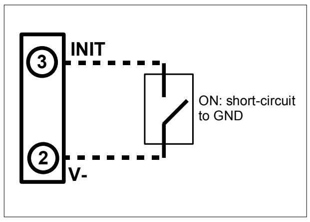
RS-232D



POWER SUPPLY



INIT



MODBUS REGISTERS MAPPING

Register	Description	Access
%S0	--Reserved--	-
%S1	Firmware [0]	R
%S2	Firmware [1]	R
%S3	Name [0]	R/W
%S4	Name [1]	R/W
%S5	--Reserved--	-
%S6	Node ID	R/W
%S7	--Reserved--	-
%S8	Function Keys	R
%S9	View Page	R/W
%S10	System Flags	R/W
%S11	Display Options	R/W
%S12	--Reserved--	-
%S13	--Reserved--	-
%S14	Status [0]	R
%S15	Status [1]	R
%S16	--Reserved--	-
%S17	--Reserved--	-
%S18	Port 0 [Settings]	R/W
%S19	Port 0 [Settings]	R/W
%S20	--Reserved--	-
%S21	--Reserved--	-
%R22	--Reserved--	-
%R23	--Reserved--	-
%R24	--Reserved--	-
%R25	--Reserved--	-
%R26 %R959	General Purpose Registers	R/W
%R960 %R1023	Memory Registers	R/W

HOW TO ORDER

The DAT 9550 is supplied as requested in phase of order.

ORDER CODE: DAT 9550