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Ethernet Gateway
Modbus TCP ◄► Modbus RTU

SS 3580-MBTCP

FEATURES

Network interface
   Ethernet 10/100Base-T, Modbus TCP
   Telnet configuration
   RJ45 connection
RS-485 Serial interface
   Modbus RTU Master
   Baud rate up to 115.2 Kbps
   Distance up to 1200 m, up to 32 devices in multipoint
   Removable screw-terminal connection
LED signalling for Link/Act Ethernet, serial RX-TX, power supply
Galvanic Isolation on all ways
EMC compliance – CE mark
Suitable for DIN rail mounting in compliance with EN-50022

GENERAL DESCRIPTION

The gateway SS3580-MBTCP allows to connect the Modbus RTU devices of a RS-485 network to the Ethernet newtork through the Modbus TCP protocol.
By means of the Telnet interface it is possible to configure all the Modbus TCP side options (IP address, subnet mask, etc..) and the Modbus RTU side options (baud rate, etc...).
The device guarantees a full isolation between lines, allowing the use even in the heavy environmental conditions.
SS3000 series devices are designed to be easily mounted on DIN rail, optimizing the space encumbrance. Whereas the thermal dissipation allows it, the devices can be mounted side by side, allowing a relevant reduction of space requiring. The connections are made by means of removable screw terminals, to simiplify the handling of the devices.
LED signalling of Ethernet activity and data rx-tx on the serial line allows a direct monitoring of the system funcionality. The conncetion is made by removable srew-terminals (supply and RS-485) and RJ45 plug (Ethernet).
SS 3580-MBTCP is in compliance with the 89/336/EEC directive on the electromagnetic compatibility.
The device is housed in a rough self-extinguishing plastic container which, thanks to its thin profile of 22.5 mm only, allows a high density mounting on EN-50022 standard DIN rail.

USER INSTRUCTIONS

SS 3580-MBTCP can be connected directly to the SCADA, HMI or OPC-server software, that are implementing the Modbus TCP protocol. It is possible to connect up to 8 clients at the same time; each request sent by a client with the Modbus TCP protocol on the Ethernet newtork will be retransmitted with the Modbus RTU protocol to the slave devices connected on the RS-485 network. Just the response will be received by the device, it will be retransmitted to the client who sent the request. By means of Telnet interface, it is possible to set all the configuration options from any remote terminal.

Default configuration:

IP address: 192 . 168 . 1 . 100
SubNet Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 1 . 1

RS485 setting: 38400 , 8 , n , 1

To configure the device by means of the Telnet interface, send the following command:
" telnet 192.168.1.100 9999 "

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

In compliance with	**Ethernet IEEE 802.3 and RS485**	**Power Supply**	18 ÷ 30 Vdc
		Current consumption	45 mA typ. @ 24Vdc
Network interface	Ethernet 10/100Base-T		
Protocol	Modbus TCP	**Isolations**	
Connection	RJ-45	Power supply / Ethernet	1500 Vac, 50 Hz, 1 min.
		Power supply / RS485-422	2000 Vac, 50 Hz, 1 min.
RS485 Interface		Ethernet / RS485-422	2000 Vac, 50 Hz, 1 min.
Baud-rate	up to 115.2 Kbps		
		EMC	
Max. distance / baud-rate ratio	1,2 Km @ 38400 bps	Immunity	EN 61000-6-2
(recommended) (1)	2 Km @ 19200 bps	Emission	EN 61000-6-4
	3 Km @ 9600 bps		
	4 Km @ 4800 bps	**Temperature & Humidity**	
	5 Km @ 2400 bps	Operative temperature	-20 ÷ +60 °C
	7 Km @ 1200 bps	Storage temperature	-40 ÷ +85 °C
		Relative humidity (not condensed)	0 ÷ 90 %
Number of modules in multipoint	up to 32		
		Connection	
Switching time TX/RX (RS485)	150 us.	Ethernet	RJ-45
		RS-485/422	removable screw terminals
Internal terminator resistance (optional)	120 Ohm		
		Housing	
		Material	Self-extinguishing plastic
		Mounting	DIN rail in compliance with EN-50022
		Dimensions in mm.(W x H x T)	100 x 120 x 22.5
		Weight	about 160 gr.

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

INSTALLATION INSTRUCTIONS

The SS 3580-MBTCP device is suitable for fitting to DIN rails in the vertical position.
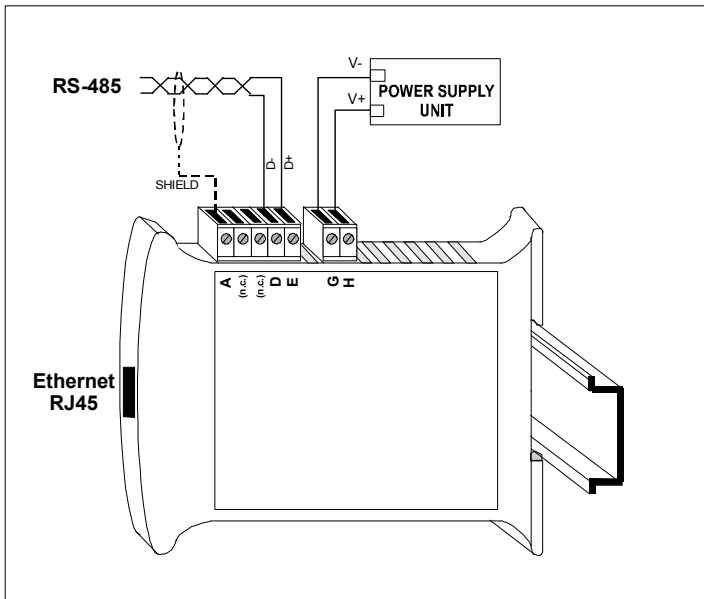For optimum operation and long life follow these instructions:

When the devices are installed side by side it may be necessary to separate them by at least 5 mm in the following case:
- If panel temperature exceeds 45°C and high power supply value(> 27Vdc).
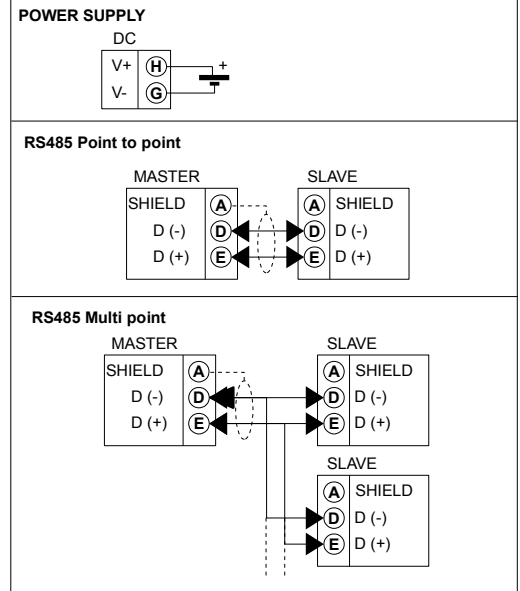
Make sure that sufficient air flow is provided for the device avoiding to place raceways or other objects which could obstruct the ventilation slits. Moreover it is suggested to avoid that devices are mounted above appliances generating heat; their ideal place should be in the lower part of the panel.
Install the device in a place without vibrations.

Moreover it is suggested to avoid routing conductors near power signal cables (motors, induction ovens, inverters, etc...) and to use shielded cable for connecting signals.
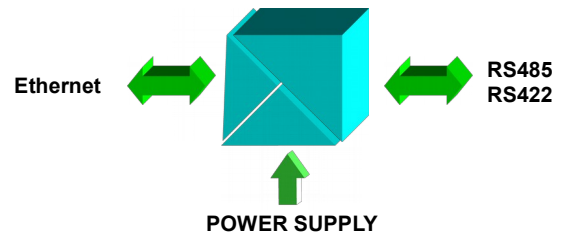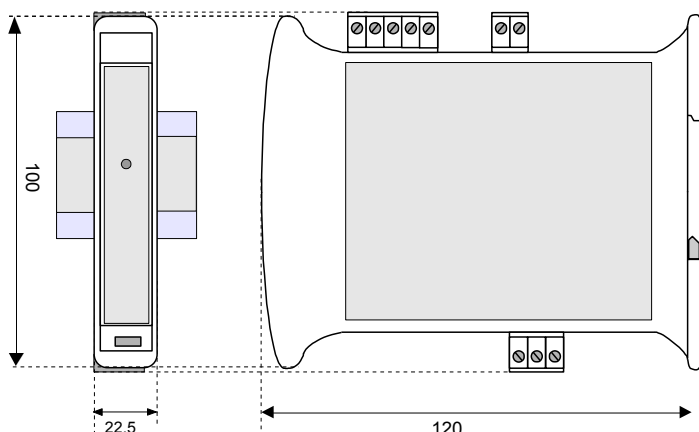
CABLING

WIRING

ISOLATION STRUCTURE

LIGHT SIGNALLING

LED	COLOUR	STATE	DESCRIPTION
PWR	GREEN	ON	Device powered
		OFF	Device not powered
RX	RED	BLINK	Data received on the RS485 port (blink frequency depends to baud-rate)
		OFF	No data reception
TX	RED	BLINK	Data transmitted on the RS485 port (blink frequency depends to baud-rate)
		OFF	No data transmission

DIMENSIONS (mm)

100

22.5   120

HOW TO ORDER

" SS 3580-MBTCP "

Configuration:

IP address:
SubNet Mask:
Gateway:
RS485 setting: BaudRate,bit, parity, stop

■ = Requested
□ = Optional

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