



FEATURES

- Interface Ethernet 10/100 Base-T Modbus TCP
- RJ45 Connector
- Configuration via integrated web server
- Serial interface RS-485
- Modbus RTU Master
- Baud rate up to 115.2 Kbps
- Distance up to 1200 m, up to 32 modules connected in multipoint
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, power supply
- Galvanic isolation on all the ways
- EMC compliant – CE mark
- In compliance to EN-50022 DIN rail mounting

GENERAL DESCRIPTION

The device SS8580 allows to connect all the devices with Modbus RTU of a RS-485 serial line to the Ethernet with Modbus TCP protocol. By the integrated web server it is possible to configure the option of Modbus TCP (IP address, subnet mask, etc..) and Modbus RTU (baud rate, etc...) The device realizes a full electrical isolation between the lines, introducing a valid protection against the effects of all ground loops eventually existing in industrial applications. The LEDs of signalling of Ethernet and the serial line communication activity and power supply allow a direct monitoring of the system functionality. The connection is made by removable screw-terminals (inputs and power supply) and RJ45 plug (Ethernet). The device is housed in a rough self-extinguishing plastic enclosure which, thanks to its thin profile of 22.5 mm only, allows a high density mounting on EN-50022 standard DIN rail. .

USER INSTRUCTIONS

The SS8580 can be connected directly to the SCADA, HMI o OPC server on the market that implement the Modbus TCP protocol. It is possible to connect at the same time up to 8 clients; each command sent by a client over the Ethernet with Modbus TCP protocol is processed and re-transmitted over the RS-485 with Modbus RTU protocol to the slave devices connected. As soon as the response from the slave is received, it is processed and re-transmitted to client which sent the query. By the integrated web server it is possible to configure the settings of network and serial line from any remote terminal.

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

In compliance to		Ethernet IEEE 802.3 e RS485	POWER SUPPLY	
Ethernet interface Protocol		Ethernet 10/100Base-T Modbus TCP	DC Power Supply	10 ÷ 30 Vdc
			Current consumption	45 mA typ. @ 24Vdc (standby) 80 mA max.
RS485 Interface			ISOLATION	
Baud rate		configurable up to 115.2 Kbps	Ethernet / RS485	1500 Vac, 50 Hz, 1 min.
			Power supply / RS485	1500 Vac, 50 Hz, 1 min.
Max. Distance / Baud Rate Ratio (recommended) (1)		1.2 Km @ 38400 bps 2 Km @ 19200 bps 3 Km @ 9600 bps 4 Km @ 4800 bps 5 Km @ 2400 bps 7 Km @ 1200 bps	ENVIRONMENTAL CONDITIONS	
			Operative Temperature	-20°C .. +60°C
			Storage Temperature	-40°C .. +85°C
			Humidity (not condensed)	0 .. 90 %
			Maximum Altitude	2000 m
			Installation	Indoor
			Category of installation	II
			Pollution Degree	2
Number of modules in multipoint		32 max.	MECHANICAL SPECIFICATIONS	
Switching time TX/RX (RS485)		150 us.	Material	Self-extinguish plastic
Termination resistance		120 Ohm	Dimensions in mm.(WxHxT)	100 x 120 x 22.5
			IP Code	IP20
			Mounting	DIN rail EN-50022 EN-50035
			Weight	about 160 g
Connections			CERTIFICATIONS	
Ethernet		RJ-45	EMC (for industrial environments)	
RS-485		removable screw terminals pitch 5.08 mm	Immunity	EN 61000-6-2
Power supply		removable screw terminals pitch 5.08 mm	Emission	EN 61000-6-4
(1) – The maximum distance depends of: number of devices connected, type of cabling, noises, etc...				

INSTALLATION INSTRUCTIONS

The device is suitable for fitting to DIN rails in the vertical position. It is always a good thing to space the devices together 5mm. 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. Install the device in a place without vibrations. It is also suggested to avoid routing conductors near power signal cables and to use shielded cables for connecting signals.

MODULE CONFIGURATION

To configure the SS8000 series devices, it is necessary to enable the **INIT** mode. This mode allows you to access the device with the following default parameters :

IP Address: 192.168.1.174 (DHCP disabled), or IP provided by DHCP (if enabled)
Modbus Address: 245

To enter the INIT mode follow these steps:

- Turn off the device;
- Connect the INIT terminal to the -V terminal as shown in figure.
- Turn on the device and connect with an internet browser to the device using the default parameters listed above and using the default login credentials:

Username: admin
Password: admin

To exit INIT mode follow these steps:

- Turn off the device;
- Remove the INIT connection;
- Turn on the device and connect with the new parameters.

RESET FUNCTION- "P" BUTTON

If it is necessary to restore the default device parameters, with device powered and not in INIT condition, push the front located "P" button for at least 5 seconds. The green led PWR will switch-off, the yellow led STS will become orange and the reset of the device will occur. When the reset procedure will be finished, both the leds will set back to the default condition and the following parameters will be loaded :

Ethernet:
 - IP Address: 192.168.1.100
 - Subnet Mask : 255.255.255.0
 - Gateway Mask: 192.168.1.1

Username: admin
Password: admin

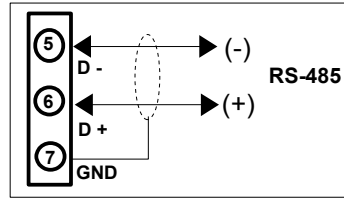
Modbus Address: 245
Baud Rate: 38400 bps
Timeout: 50 m

LIGHT SIGNALLING

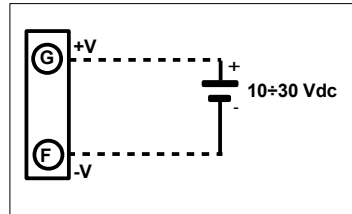
LED	COLOR	STATE	DESCRIPTION
PWR	GREEN	ON	Device powered
		OFF	Device not powered / Wrong RS-485 connection
STS	YELLOW	BLINK	INIT Mode
		OFF	RUN Mode
RX2	RED	BLINK	PORT 1 – Data received (the blink frequency depends on Baud-rate)
		OFF	No reception in progress
TX2	RED	BLINK	PORT 1 – Data transmitted (the blink frequency depends on Baud-rate)
		OFF	No reception in progress

WIRING

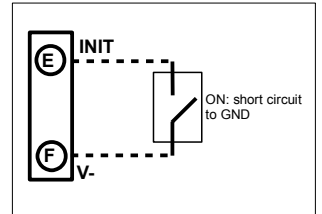
RS-485 Master (Port 1)



POWER SUPPLY



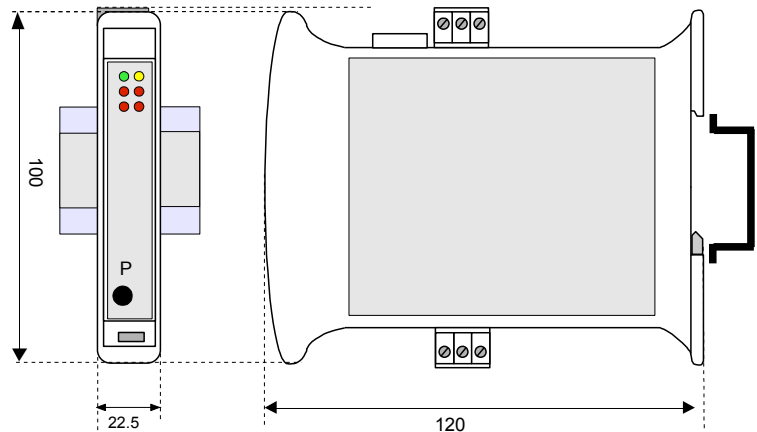
INIT



ISOLATIONS STRUCTURE



MECHANICAL DIMENSIONS (mm)



HOW TO ORDER

" SS 8580 "

■ = Requested
 □ = Optional