Nemo SX - Modbus RS485 / Modbus TCP-IP Gateway

Cat. N°: SXIIP

Contents   Pages

1. DESCRIPTION - USE

Modbus RS485 / Modbus TCP-IP Gateway.
Performs the Modbus RS485 / Modbus TCP-IP conversion to let the panel board's devices to be connected to an Ethernet network.

2. PRODUCT RANGE
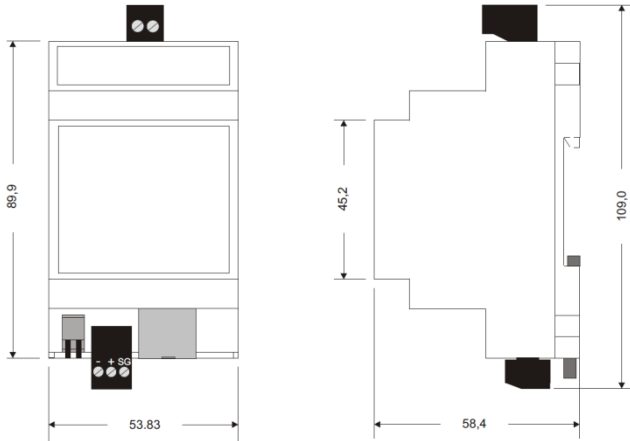
Cat N° SXIIP: Modbus RS485 / Modbus TCP-IP Gateway, 230Va.c.

Width:

. 3 modules. 58,8 mm width.

Auxiliary supply:

. 90 ÷ 260 V~, 50/60 Hz
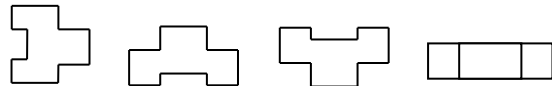
3. OVERALL DIMENSIONS

4. PREPARATION - CONNECTION

Fixing:

. On symmetrical EN/IEC 60715 rail or DIN 35 rail.

Operating positions:

. Vertical,   Horizontal,   Upside down,   On the side

Screw terminals:

Terminal depth: 8 mm.
Stripping length: 8 mm

Screw head:

. Screw slotted.

Recommended tightening torque:

. Power supply connector:
  0,5 Nm

. RS485 connector:
  0,25 Nm

Recommended tools:

. Power supply connector: Flat screwdriver 3,5 mm.
. RS485 connector: flat screwdriver 2,5 mm
. For fixing the device on the DIN rail: flat screwdriver 5.5 mm (from 4 to 6 mm).

4. PREPARATION –CONNECTION *(continued)*

Connectable section:

. Copper cables.

. Power supply connector

	Without ferrule	With ferrule
Rigid cable	Max. 1x4 mm²	-
Flexible cable	Max. 1x2,5 mm²	Max. 1x2,5 mm²

. RS485 connector

	Without ferrule	With ferrule
Rigid cable	Max. 1x2,5 mm²	-
Flexible cable	Max. 1x1,5 mm²	Max. 1x1,5 mm²

RS485 Wiring diagram:
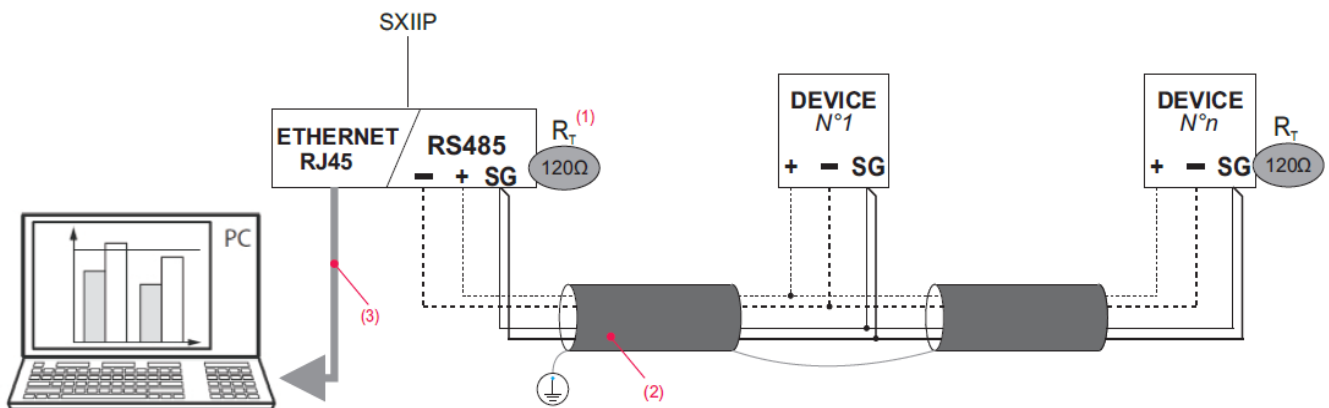
[1] Termination resistance integrated

  Insertion of the 120 Ω termination resistance (in the case in which the gateway is inserted at the ends of the RS485 bus):
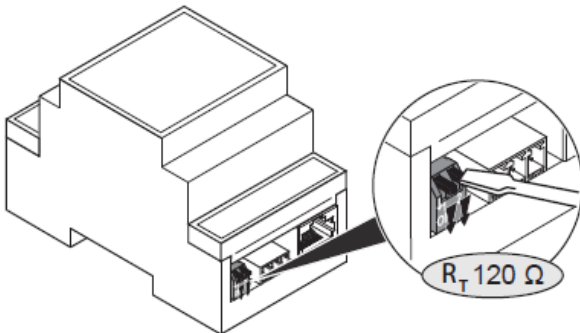
[2] BELDEN 9842, BELDEN 3106A (or equivalent) max. 1000 m
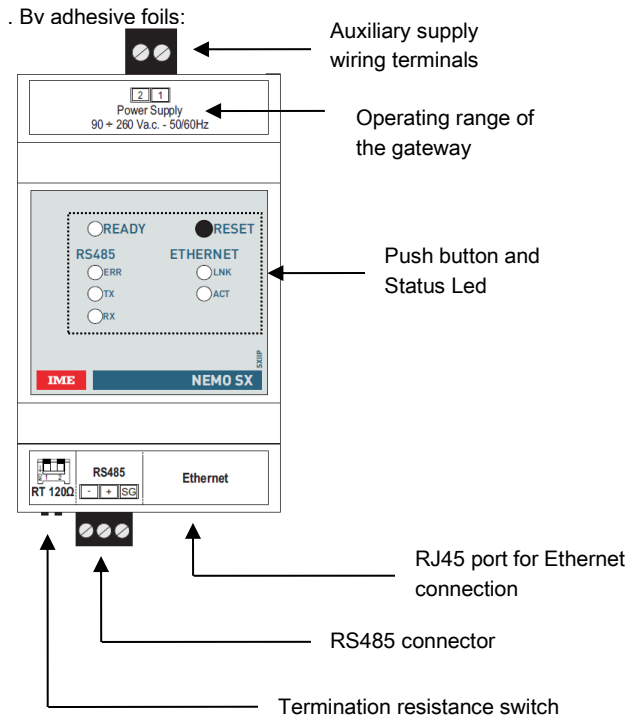   Cat. 6 (FTP/UTP) max. 50 m

[3] Ethernet: Cat. 6 (FTP/UTP)

Technical data sheet: IDP000171EN_04	Updated: 30/09/2020	Created: 04/09/2017	IME

Nemo SX - Modbus RS485 / Modbus TCP-IP Gateway

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5. GENERAL CHARACTERISTICS

Front face marking:
. Bv adhesive foils:

Auxiliary supply wiring terminals

Operating range of the gateway

Push button and Status Led

RJ45 port for Ethernet connection

RS485 connector

Termination resistance switch

RS485 communication port's characteristics:
. Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
. Parity bit: none, even, odd
. Stop bit: 1 or 2
. Galvanically isolated respect to auxiliary supply
. Standard RS485 3 wires (+, - and Signal ground), half-duplex
. Protocol Modbus RTU or ASCII
. **Modbus default configuration:**
　protocol Modbus: RTU
　baud rate: 19200 bps
　parity bit: even
　stop bit: 1
　RS485 timeout: 1000 ms

Modbus connectable devices:
. Max. 32 Modbus devices

Ethernet specification compliance:
. Ethernet specification compliance: IEEE 802.3, EIA RS485
. Interface Ethernet: RJ45; 10/100Mb

Number of Sockets available:
. Max. 8 sockets

Ethernet default configuration:
. IP Address: 192.168.1.100
. Subnet Mask: 255.255.255.0
. Gateway: 198.168.1.1

5. GENERAL CHARACTERISTICS *(continued)*
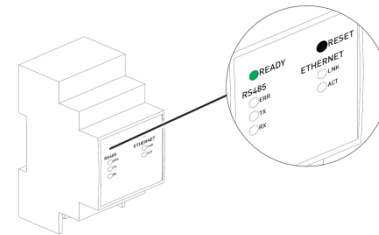
Web pages access:
. Access to the web pages "Settings" and "Update" is secured by "Username" and "Password".
. **Default configuration:**
　Username: customer.
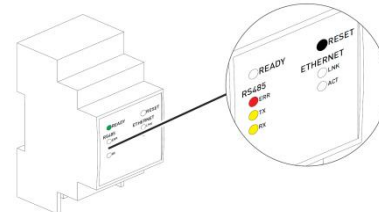　Password: 0000

Signalling LEDs:
. Gateway is equipped with several signalling LEDs:
. Led "READY":

. Possible states & colours:

Led	State	Meaning
READY	"green" Steady on	Device supplied
	"red" Steady on	Reset in progress (pressing RESET button longer than 10 sec.)

. Led "ER", "TX", "RX":

. Possible states & colours:

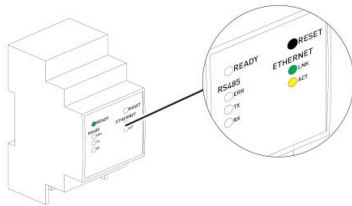| Led	State	Meaning
"ERR" (red)	Blinking	Error on the RS485 communicating bus
"TX" (yellow)	Blinking	Transmission data RS485 side
"RX" (yellow)	Blinking	Receive data RS485 side

5. GENERAL CHARACTERISTICS *(continued)*

Signalling LEDs *(continued)*:

. Led "LNK", "ACT":

. Possible states & colours:

Led	State	Meaning
"Link" (green)	Steady on	Device connected to the Ethernet network
"Act" (yellow)	Blinking	Data Receive / Transmission Ethernet side

Push-button "RESET" feature:
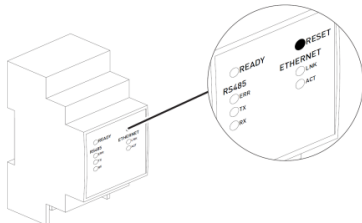
. Push for at least 10s:
  Reset the device with restoration of all default parameters

Ambient operating temperature:

. Min. = -20°C. Max. = +60°C

Ambient storage temperature:

. Min. = -40°C. Max. = +85°C

Enclosure material:

. Self-extinguishing polycarbonate.
. Heat and fire resistant according to IEC/EN 60695-2-12, glow-wire test at 960°C.
. Classification UL 94 / IECEN 60695-11-10: V0

Protection Index:

. Protection index of terminals against direct contacts: IP2X (IEC/EN 60529).
. Protection index of terminals against solid and liquid bodies (wired device): IP 20 (IEC/EN 60529).
. Protection index of the front face against solid and liquid bodies: IP 40 (IEC/EN 60529).
. Class II, front panel with faceplate.

Consumption:

. 2,94 VA (12,8 mA at 230 VAC)

Average weight per device:

. 0,11 kg.

Volume when packed:

. 0,6 dm^3.

6. COMPLIANCE AND APPROVALS

Compliance to standards:

. Compliance with Directive on electromagnetic compatibility (EMC) n° 2014/30/EU
. Compliance with low voltage directive n° 2014/35/EU.
. Electromagnetic Compatibility:
  emission tests according to EN 61000-6-1 / EN 61000-6-2
  immunity tests according to EN 61000-6-3 / EN 61000-6-4
. Electrical safety: EN50428 (HBES)

Environment respect - Compliance with EU directives:

. Compliance with Directive 2011/65/EU as amended by Directive 2015/863 (RoHS 2) on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
. Compliance with REACH regulation (1907/2006): at the date of the publication of this document no element of the SVHC substance list (updated on 27/06/2018) is present in these products.
. WEEE directive (2012/19/EU): the sale of this product is subject to a contribution to eco-organisations in each country responsible for managing end-of-life products in the field of application of the European Waste Electronic and Electrical Equipment Directive.

Plastic materials:

. Halogens-free plastic materials.
. Marking of parts according to ISO 11469 and ISO 1043.

Packaging:

. Design and manufacture of packaging compliant to decree 98-638 of the 20/07/98 and also to directive 94/62/CE.