Points heater
Profinet-RS485 Gateway SMPN1

SMPN1

Description

The ESN Gateway SMPN1 allows the connection of point heating switching modules to the industrial Ethernet.
The SMPN1-gateway is as an PROFINET IO device in the decentralized periphery available. So the point heating modules are accessible for almost every Profinet suitable PLC (for example S7-1200, S7-300 / 400).

Function

The gateway works as a protocol converter.
The entire communication with the points heating modules running on the embedded 32-bit microprocessor of SMPN1.
Via 768 byte input- / output data points heating modules can be controlled.
At the same time all the measured values and operating data are made available.
Thus, it is e.g. possible to detect actually measured current values and to visualize on a connected display.
The SMPN1 has two RJ45 connectors with integrated switch on the PROFINET side.
On the RS485 side, the device has a switchable bus termination.
Is this SMPN1 the end of the serial bus, the termination must be activated.
This is done with the two switches located laterally on the device.
For the termination the TX422 switch to »ON« and the RX422-switch in »OFF« must be set.
The factory setting is from termination that means both switches to »OFF«.

The two rotary switches S4 and S5 can assign an address. In the bus together with point heating modules both switches must to turn to “0”.

10 LEDs indicate the status of the module (see page 2).
To initialize the RS485 bus during the boot process, it is necessary that at least one point heating module exists with an address between »1« and »99«.
An electronic device data sheet (GSD file) is available upon request.
For a description of the input and output data of the gateway see special instructions »Profinet connection ESN WhBusmaster«.

Technical data

Dimensions	W/H/D 22.5/110/110 mm
Housing material	
Installation	Top hat rail in accordance with DIN EN 50022
IP type of protection	Housing: IP 40; connections IP: 10
Ambient temperature	-20°C to +40°C (rel. humidity 5-95%)
Connections	
Supply voltage	DC 24 V +/-10%, 100mA, Restwelligkeit <100mVss X2: 1 +UB; X2:2 GND
inputs / outputs	X1:4/6 +RS485; X1:5/7 -RS485 X3:P1/X3:P2 Netzwerk
Address range	2 rotary switches to assign an address
Indicators	10 LEDs (s. Table)
Electric strength	2 $kV_{eff.}$

Ordering information

Type	Part No.
Gateway SMPN1	640105

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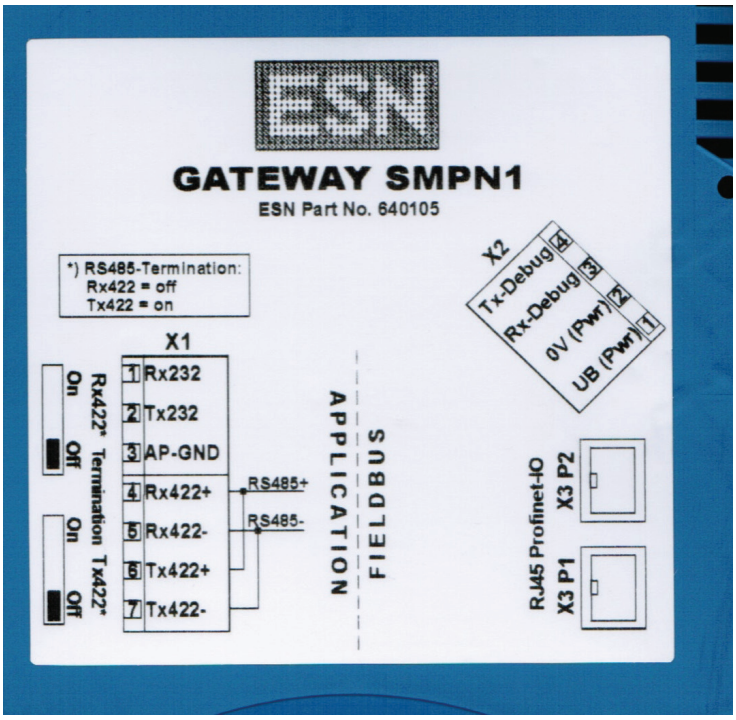
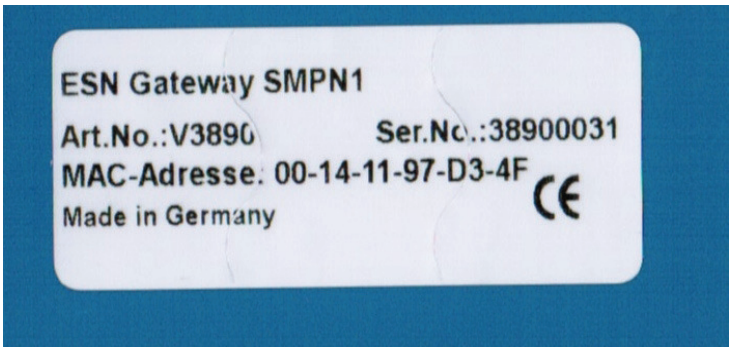
Sided printing with pin assignment:



Sided printing with MAC address:



Sided printing with MAC address:

Front elements (LED, address switches):

LEDs	color / flashing	Meaning
Profinet Power	green	supply voltage
Link / Act. P1	green	Ethernet link pulses found / traffic on port 1
Link / Act. P2	green	found Ethernet Link pulses / data traffic on port 2
Profinet State	green	connection with IO controller available
	green	flashing: Profinet initialized. Waiting for connection to the IO controller
	red	flashing Error initializing Profinet
	red	error in Profinet Hardware
Power	green	supply voltage serial interface
State	red	general Gateway error (s. DTC)
1/2/4/8	green / red	error code output when State = red, binary coded