User manual

version 1.1

SERInet ST
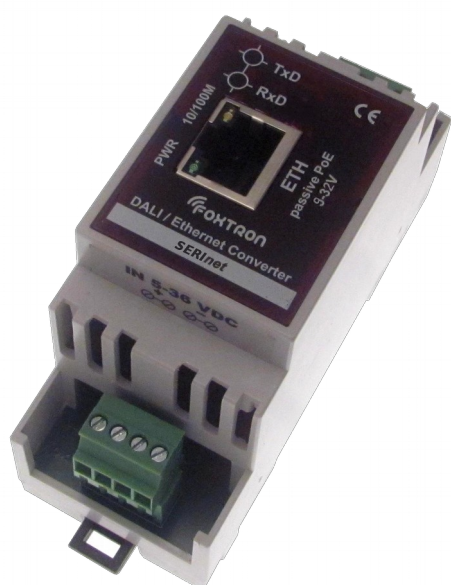
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converter RS485 / Ethernet
power supply passive PoE or 9-32V
communication indication on the serial line
galvanic separation RS485 / ETH
installation on the DIN rail (2 modules)
Screw terminals RS485

SERInet is a converter from RS485 to Ethernet (TCP/IP). Converter is possible to be supplied passive PoE thanks to the Ethernet data cable or by power supply on the terminals.

Technical specification		
bus	RS485, Ethernet	
speed (ETH)	10/100M	
protocol (ETH)	TCP/IP	
supply voltage	9-32	V
consumption	1,5	W
	50-150 (supply 32-9V)	mA
consumption (RS485)	5	mA
wires cross section	0,08 – 1,5	mm^2
ingress protection degree	IP20	
galvanic separation RS485 / ETH	5	kV
ambient working temperature	-25 ÷ 60	°C
storage temperature	-25 ÷ 60	°C
weight	80	g

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Signalization		
ETH	Connection to the Ethernet network	
100M	Ethernet speed	
	it is off	10Mbit
	it is on	100Mbit
Tx	Sending of the data on RS485	
	blinking signalizes outgoing data on the serial line	
Rx	incoming communication on RS485 bus	
	blinking signalizes incoming data to the serial line	

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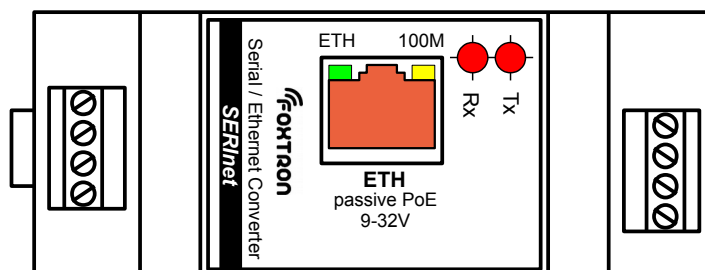
Basically the SERInet unit has a six pin screw connector on the serial line side which is shown in the following picture.

Without the inserted reduction the serial line is routed to the screw terminals.
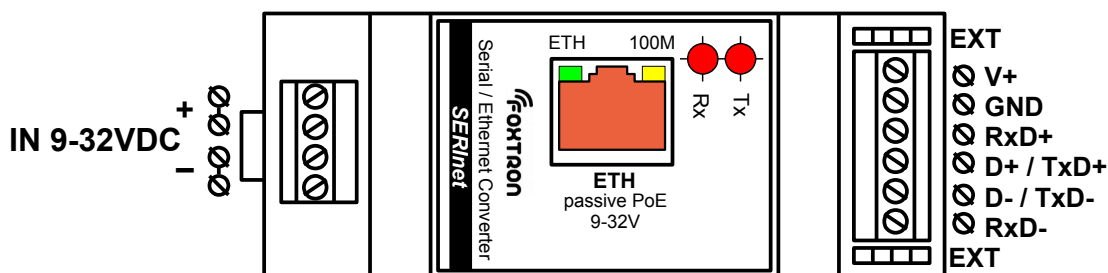

Alternatively (for use in the PowerExpress system) can be inserted into the terminals EXT reduction for PEXbus connectors (RJ15) which is shown in the following picture.
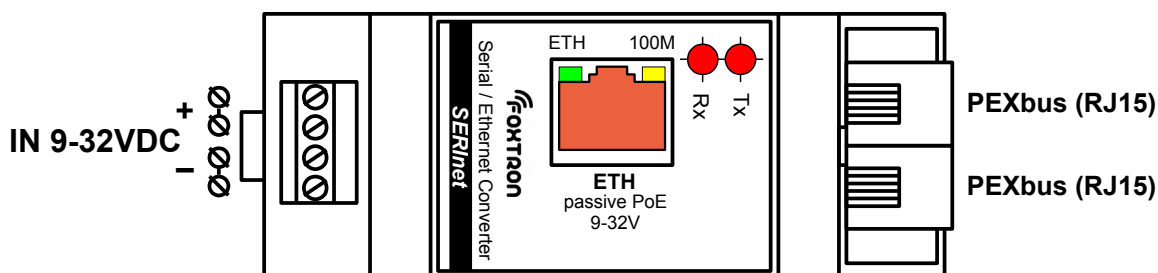
designation	description	
ETH	Ethernet, passive PoE power supply	
V+	power supply of the bus RS485, 9-32V	
GND	ground for power supply of the bus RS485	
	RS485 Half Duplex	RS485 Full Duplex
RxD+	-	receive D+
D+ / TxD+	D+	broadcast D+
D- / TxD-	D -	broadcast D -
RxD-	-	receive D -
PEXbus	connector PowerExpress bus (type RJ15)	
IN 9-32VDC	external DC 9-32V (alternative to PoE)	

wires preparation:

6mm

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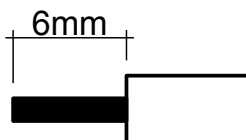
Power supply

This unit has two power supply options, passive PoE or external supply on the terminals IN 9-32VDC. Consumption in both cases is 1,5W (supply current is in both cases dependent on the connected voltage).

Passive PoE	Power supply is distributed together with the Ethernet to the ETH connector. Power supply is inserted in the data cable using the common passive PoE injector. Supply voltage can be in range 9-32V.
IN 9-32VDC	DC power supply 9-32V to the terminal „IN 9-32VDC"

Serial line is galvanically separated from Ethernet network and has its power supply on the terminals V+ and GND. Supply voltage can be in range 9-32V.

Protocol

Data are sent to the Ethernet network through the TCP/IP protocol.

Setup

Setup of the SERInet converter is done by web browser. To the address line input the IP address of the converter. In the factory settings the address is **192.168.1.241**
If the address is unknown the converter can be found using DALIconfig program which is downloadable for free on the www.foxtron.eu

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Default Ethernet settings in show in the following picture

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General TCP settings	
Device Name (for DHCP)	SERInet name for DHCP server
Addressing Mode	Static –manual setup of the IP address
	DHCP – automatic setup of the IP address using DHCP
Device IP Address	IP address of DALInet converter (for Addressing Mode = Static)
Device Subnet Mask	network mask
Device Gateway	Default gateway
DNS Server	Domain server address
Ethernet Link	Normal – automatic speed choice
	100BT Half duplex – Ethernet speed 100Mbps
	10BT Half duplex – Ethernet speed 10Mbps
TCP setup for incoming connection	
Listen for incoming network connections	turn on the possibility to connect to the SERInet converter
Listening network port	number of port on which the SERInet waits on connection
Timeout and disconnect after this many seconds of inactivity	The inactive time after which the SERInet terminates the connection. Setting the parameter to 0 is this function switched off.
Allow new connection if the existing connection has been idle for this many seconds	The inactive time after which is allowed to start new connection. Setting the parameter to 0 is this function switched off.
TCP setup for outgoing connection	
Make outgoing connections	Never – SERInet converter does not create connections
	On power-up – SERInet converter creates connection after connecting power supply.
	If serial data received – SERInet converter creates connection if it receives data on the serial line
Connect on network port	port number on which the SERInet creates connection
Connect/Send to this address	IP address on which the SERInet creates the connection
Timeout and disconnect after this many seconds of inactivity	The inactive time after which the SERInet terminates connection it created. Setting the parameter to 0 is this function switched off.
Retry failed outgoing connections	The time after which the SERInet repeats the

after this many seconds	attempt to create connection
Dividing packets	
Enable custom packetization logic	packet dividing turn on
Use UDP instead of TCP	using UDP instead TCP
Number of characters to accumulate before sending TCP/UDP packet (128Max)	number of characters which will be send in one message (maximum 128) – data will be also send if the set time passed or the set character come
Number msec to wait for accumulated characters: 0 waits forever	the time after which the received characters are sent. 0 signs that the data will not be sent dependently on the time.
Flush TCP/UDP frame when this character is received (Enter NA to disable)	Decimal character value (ASCII) after which reception will be sent. If the „NA" is input no character is selected. For example CR (carriage return) is 13.

By pressing the button „Submit New Settings" the selected settings are saved.

Serial line basic setup is shown in the following picture.

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Data Port Settings	RS-485 Half Duplex – half duplex two wires RS485
	RS-485 Full Duplex – full duplex four wires RS485
Data Baud Rate	Communication speed choice. Selection is possible from commonly used speeds. Choice „Custom" sets the speed defined by user.
Custom Baud Rate	Communication speed chosen by user. Used in the case that in „Data Baud Rate" is set „Custom"
Data Bits	number of data bits
Data Parity	None – no parity used
	Odd – used odd parity
	Even – used even parity
Stop Bits	number of stop bits

Password setup is shown in the following picture. Password into the web configuration is not required by default.

For change of password fill the User Name and twice new password. In the case that you do not want to use password leave the password fields blank. By pressing the button „Submit New Settings" you save new password.

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Power Express (PEX)

In the case of using with Power Express system (PEX) it is suitable to insert the reduction on the RJ15 connector which is by default used for PEX bus.

Recommended setup „CUSTOM PACKETIZATION" for PEX bus.

Enable custom packetization logic	☑
Use UDP instead of TCP	☐
Number of characters to accumulate before sending TCP/UDP packet(128Max):	128
Number msec to wait for accumulated characters: 0 waits forever.	0
Flush TCP/UDP frame when this character is received (Enter NA to disable):	3

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