SIEMENS

SIPROTEC

Catalogue leaflet 7XV585x-0AA00

Ethernet - Modems 7XV585x-0AA00

A control PC and protection devices can exchange serial data via an Ethernet network using two Ethernet modems 7XV585x. Connection to the Ethernet modem is in each case made via the asynchronous serial interface of the terminal devices. In the modem the serial data is packed into the secure TCP/IP protocol as information data, and is transferred between the modems using the Ethernet connection. Conformity with the standard and gap free transmission of serial DIGSI or IEC 60870-5-103/101 telegrams via the network is ensured by the modem which receives the serial telegram communication and packs the serial IEC telegrams into blocks for communication via the Ethernet. The data is transmitted in full duplex mode and serial control wires are not supported. The connection is made between the IP address of the dialling modem in the office and the IP address of the pick up modem in the plant and is configured prior to dial up with DIGSI by means of AT commands via the RS232 interface. The substation modem may be configured to have password protection, and allows for the additional security feature, whereby access is only permitted from defined IP addresses e.g. only that of the office modem. The modem is accessed with DIGSI remote like a normal telephone modem with the exception that instead of telephone numbers, IP addresses are assigned by the network administrator for each modem.

Features:

- DIGSI 4 supports the administration and the building of connections via the Ethernet network.
- RS232-interfaces for data transfer and configuration of the modems.
- Serial baud rate and data format (RS232) for the terminal devices is selectable from 2400 Bd up to 57,6 kBd with data format 8N1, 8E1.
- An Ethernet-interface (LAN) to the 10/100 MBit network.
- Increased security with password protection and IP address selection is possible.

Figure 1: Wide range power supply and Ethernet-modem

Technical specification:

Terminations

RS232-interface 9-pol. Sub-D
Ethernet 10BaseT, 10/100 Mbit, RJ45
Power Supply (see below)

Desktop device for office use 7XV5850-0AA00:

Housing:	Desktop housing: Plastic anthracite 46 x 109 x 74 (W x H x D in mm)
Supply:	Wide range plug-in power supply auxiliary voltage 100-240 V AC.
Scope of supply:	With RS232-cable for Notebook/PC. With Ethernet - cable (cross-over) 2 m.

Modem for rail mounting 7XV5851-0AA00:

Housing:	Rail mounting plastic anthracite 46 x 109 x 74 (W x H x D in mm)
Supply:	Auxiliary voltage 24 V DC (screw terminal), expandable with 7XV5810-0BA00
Scope of supply:	With RS232-cable to SIPROTEC 4, 7XV5300, 7XV5450, 7XV5550, 7XV5652. With Ethernet -cable (cross-over) 2 m for configuration.

Indication (8 x LED)

Power	Operating voltage ok	*System*	RS232-connection established
RS232 TXD	Transmitting data to RS232	*RS232 RXD*	Receiving data from RS232
LAN TX	Transmitting data to LAN	*LAN RX*	Receiving data from LAN
Error	Error on RS232	*Link LAN*	LAN connection established

Application example for the remote control of 2 plants

Using the office computer and DIGSI 4, both plant 1 and 2 may be dialled up via the Ethernet modems. A TCP/IP point to point data connection is established between the office and corresponding plant modem when dialled up via the network. This is maintained until the office modem terminates the connection. The serial data exchange takes place via this data connection whereby the modem converts the data from serial to Ethernet with full duplex mode. Between the office modem and the office PC the highest Baudrate e.g. 57,6 kB for SIPROTEC 4 devices is always used. The serial Baudrate of the substation modem is adapted to the Baudrate required by the protection devices e.g. substation modem 1 with 57,6 kB for SIPROTEC 4 and substation modem 2 with 9,6 kB for SIPROTEC 3 devices. These settings are only pre-set once in the modem.
The Ethernet-modems are integrated similar to telephone modems in DIGSI 4. Instead of the telephone number, the IP address which was assigned to the modem via pre-setting is selected. If in future an Ethernet connection will be available in the plant, the existing modem can be exchanged for an Ethernet modem. The entire serial bus-structure and cabling may remain unchanged.

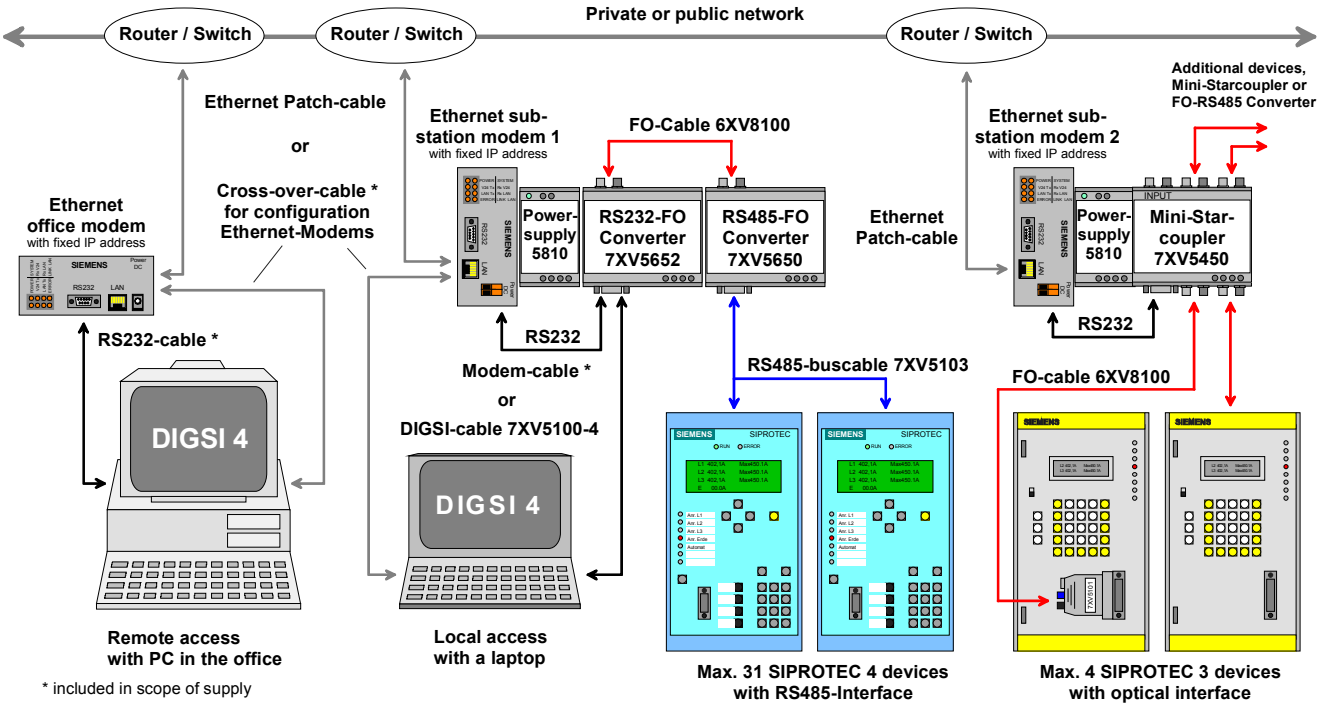

Figure 2: Operation of various SIPTOTEC – protection device generations via Ethernet-modems

Selection and Ordering data

Description	Ordering code.: 7XV585 - 0AA00
Ethernet-Modem Ethernet modem for serial, asynchronous transmission of data up to 57,6 kbit/s via the 10/100 Mbit Ethernet and configuration software	
Desktop device (office version) Connection to Ethernet RJ45, serial connection Sub-D 9-pol. socket including wide range power supply 100/240 V AC. With cross-over Ethernet – patch cable 2m for configuration. With serial connection cable to PC 2m.	0
T-rail device (preferred as substation modem) Connection Ethernet RJ45, serial connection Sub-D 9-pol. socket Auxiliary supply 18-24 V DC (other voltages with 7XV5810-0BA00) including cross-over Ethernet-patch cable 2m and serial connection cable to SIPROTEC 4, 7XV5300, 7XV5450, 7XV5550, 7XV5620 2m	1

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