

Two channel serial communication converter with 2 MBit/s (E1) or 1,544 MBit/s (T1) network interface – CC 2M

Two optical 820 nm inputs with ST-plug connectors for up to 1,5 km via multi mode optical fiber. Optional configuration as either synchronous or asynchronous interface. An asynchronous serial electrical interface. A network interface G703.6 configurable for 2 MBit/s (E1) or 1,544 MBit/s (T1).

The CC-2M provides for serial data transmission over large distances via a communication network. It converts synchronous or asynchronous serial 820 nm optical input signals at FO1 and FO2 to a network interface and again returns these signals at the remote terminal via its interfaces. FO1 and FO2 may be configured independently for either synchronous or asynchronous operation, must however be set to the same operating mode at both ends. In synchronous mode the interface should only be used for the protection data exchange of the differential protection 7SD5/7SD6 or distance protection 7SA52/7SA6 and is preconfigured for 512 kBit/s. In asynchronous mode the interface can be used for connection of devices with baud rates between 1.2 – 115.2 kBit/s. A further asynchronous electrical RS232 interface is provided for max. 115,2 kBit/s. It provides for the connection of a serial PC interface with DIGSI and thereby the operations interface to SIPROTEC – devices at the remote end. The G703.6 network interface is provided in the form of 4 pole screw terminals and can be configured as 2 MBit/s interface with European E1 format or as 1,544 MBit/s interface in the American T1 format. All settings of the device are done with jumpers, so that no special PC – software is required.

Features:

- Interference free protection data transfer of 2 independent serial data signals, selectable either in synchronous or asynchronous mode.
- PC – interface for operation of devices at the remote line end.
- Network interface as E1 or T1 format for connection to multiplexer.
- Wide range power supply from 24 V – 250V DC and 115/230 V AC with fail save relay.
- Indication of the data exchange via LED
- Integrated commissioning aid

Technical data:

Connections

FO 1 / 2:	ST-plug / 820 nm for 50/125 µm or 62,5/125 µm multi mode fibre (max.1,5 km)
RS 232:	9 pole SUB-D socket
Aux. supply voltage:	2-pole screw terminal
Fault alarm relay:	3-pole screw terminal for open/close contact
Network E1/T1 :	4 pole screw terminal

Housing

Aluminium housing 188x56x120 mm for mounting on 35 mm rail mounting according to EN50032 weight 0,8 kg. protection class according to EN 60529: IP 41

Voltage supply

Wide range 24 V – 250 V DC and 115 / 230 V AC 50 / 60 Hz without switch-over.

Displays

4 LED: 1 Green – power supply. 1 Red – Fault alarm. 2 yellow – data traffic



Figure 1: Communication converter

Example of application

Two protection devices e.g. differential protection 7SD52 / 7SD610 or distance protection 7SA52 / 7SA6 exchange protection data via FO1. Interference-free data exchange takes place via the communication network, whereby the devices are connected synchronously with 512 kBit/s (connection 1). Protection remote control with DIGSI is connected to FO2 of the converter via a mini star-coupler 7XV5450. This port provides the serial connection to the other substation with a PC on which DIGSI is installed. The remote protection devices may in this way be remotely interrogated via FO2 (connection 2). The baud rate is optimally set to 57,6 kBit/s for SIPROTEC 4 devices, so that there is no difference to local operation. During commissioning and operation the data of the devices on the other substation may be changed and read-out. Alternatively, it is possible to connect a substation control system or additional protection data transmission to FO2. The 1,544 / 2MBit/s transmission channel is in this way ideally used for two separate serial connections. In addition, an asynchronous serial connection is available via the RS232 interface, which may be used to temporarily operate devices of the other substation with DIGSI.

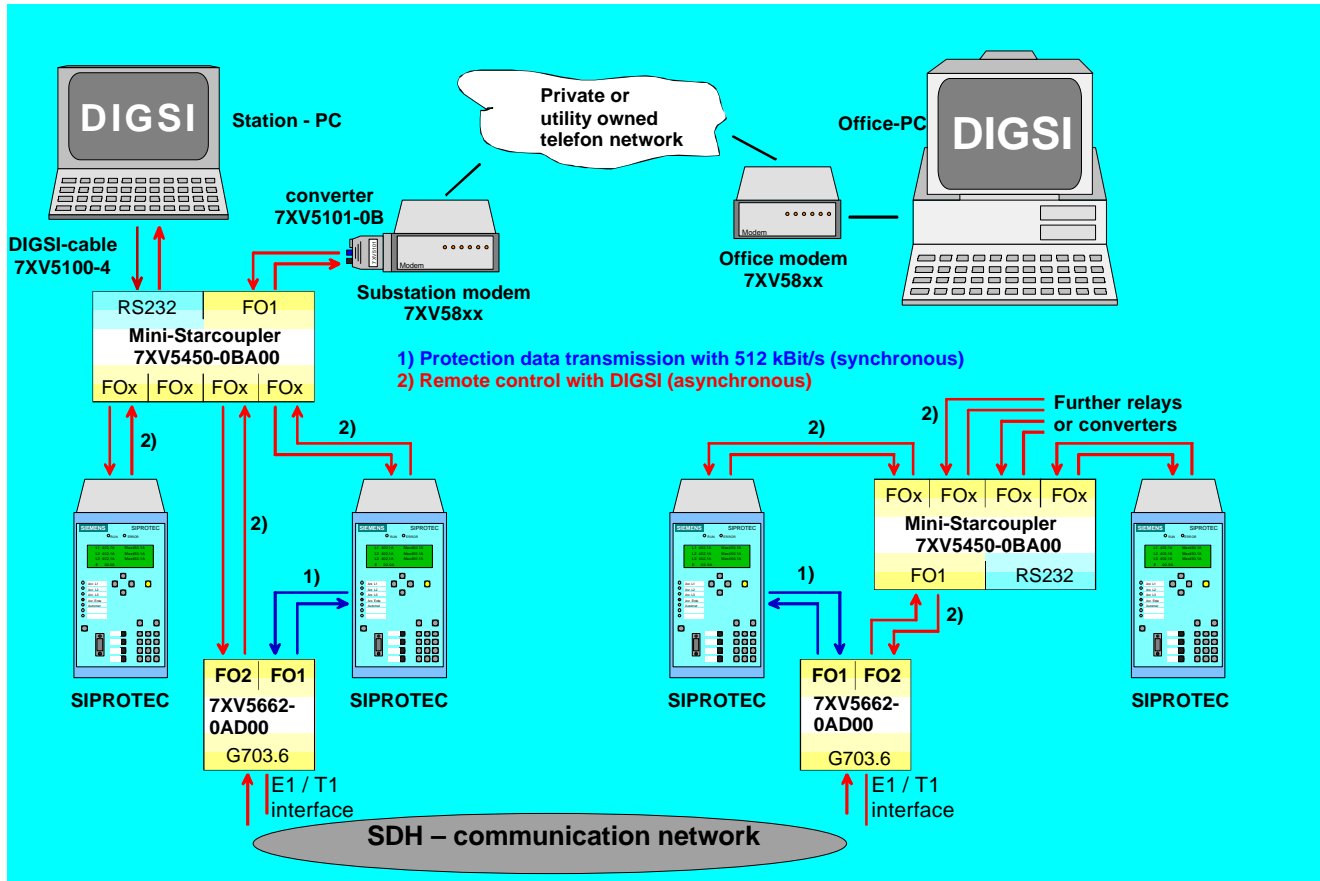


Figure 1: Protection data transmission and remote control of a substation via a communication network

Selection and ordering data

Description

Two-channel 1,544 / 2 MBit/s communication converter

Conversion of 2 independent serial FO – interfaces with synchronous or asynchronous data to a E1-network interface with 2 MBit/s (G703.6) or T1-network interface (1,544 MBit/s). Two independent serial optical input channels with ST-plug connectors and 820 nm for multi-mode fibre for a max. of 512 kBit/s / 115,2 kBit/s for synchronous/asynchronous data. An electrical serial RS232 interface with a max. 115,2 kBit/s constructed as a 9-pole SUB-D socket for connection with DIGSI - cable 7XV5104. Connection from multiplexer to the E1 / T1 network interface via 4 pole screw terminal. Wide-range power supply of 24 V-250 V / DC and 115/230 V / AC. A make / break fail safe contact for power supply faults or interruption of the data connection. All settings are done via jumper in the device (Presetting for E1 and synchronous serial data input).

Order Nr.:

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