

Two-channel serial optical Repeater for multimode fiber cable

7XV5461-0Bx00

Two multiplexed optical 820 nm multimode input ports. One optical 1300 nm output port for distances of 4 km / 8 km for multimode fiber. Permissible baud rate at optical 820 nm input ports 300 bit/s – 1,5 Mbit/s for each input-port.

The optical repeater exchange serial optical signals over long distances via multimode FO cables. It converts serial optical 820 nm signals at Port 1 and Port 2 in the range 300 Bit/s – 1,5 MBit/s to 1300 nm for multimode fiber cables. Both synchronous and asynchronous signals can be connected. Two independent, serial 820 nm inputs with ST connectors are available, which are multiplexed to Port 3. Each one transmit (Tx) and receive (Rx) signal is supported (no RTS/CTS handshake signals). Two devices with an optical 820 nm interface, for example the 7SD52 / 7SD610 line differential protection relay or the RS232/820 nm 7XV5652 converter, can be connected to Ports 1 and 2 via multi-mode FO cables for distances of up to 1.5 km. Signal transmission at Port 3 is achieved via the LC-Duplex connector at wavelengths of 1300 nm for connection of multimode FO cable. For Port 3 there are two options for max. 4km (1300 nm) and 8 km (1300 nm) optical fiber lengths. The device can be connected to all battery voltages and AC supply sources. Loops can be activated for Ports 1 / 2 for commissioning purposes, so that the input signals can be mirrored at the port.

Features:

- Two independent multiplexed 820 nm ports with ST connectors for max. 1.5 km via 50/125 μm and 62.5/125 μm multi-mode FO cable.
- Data rate of serial ports 1 / 2 from 300 Bit/s – 1,5 Mbit/s. Automatic baud rate adjustment to synchronous and asynchronous serial signals – No settings necessary.
- Powerful 1300 nm port with LC-Duplex connector for distances up to 4 km / 8 km via 50/125 μm / 62,5/125 μm multi-mode FO cable.
- 24 V to 250V DC and 115/230 V AC widerange power supply with alarm relay.
- Data exchange display by LED



Fig.: Optical repeater with wide-range power supply

Integrated commissioning support with test loop feature.

Technical data:

Connections

Ports 1 / 2: ST connector for 820 nm for 50/125 μ m and 62.5/125 μ m multimode FO cable. Port 3: LC-Duplex connector for 1300 nm for 50/125 μ m / 62,5/125 μ m multimode FO cable. 2-pole screw-type terminals for auxiliary voltage supply. 3-pole make/break contact for alarm relay.

Housing

188x56x120 mm aluminum housing for mounting on 35 mm DIN rail to EN50032 Weight 0.8 kg. Degree of protection to EN 60529: IP 41

Power supply

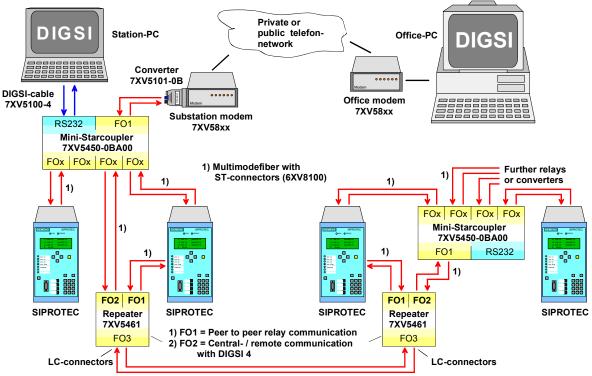
Wide range 24 V to 250 V DC without switch over. or 115 / 230 V AC. Displays

4 LEDs. Green – power supply. Red – alarm relays. 2 yellow – data exchange

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Application

Two protection relays (for example 7SD52 / 7SD610 differential protection or 7SA52 / 7SA6 distance protection) exchange information via Port 1. Interference-free data exchange is made possible by optical multimode FO cable up to a distance of 4/8 km. Protection remote control with DIGSI is connected to Port 2 of the repeater via 7XV5450 mini star coupler. This port provides the serial connection to the other substation with a PC where DIGSI is installed. The protection relays on the remote substation can be interrogated remotely via Port 2. The baud rate is optimally set to 57.6 kbit/s so that no divergence from local operation results. In commissioning and operation, the data of the devices in the other substation can be changed and read out. Alternatively, it is possible to connect a substation control system or additional protection data transmission to Port 2. This makes optimum use of the long-distance optical fiber for two independent serial connections for transmitting data between 300 bit/s and 4.096 Mbit/s.



Wide distance transmission via multimode-fiber cable 50/125 μm / 62,5/125 μm up to 4 km / 8 km

Fig. 1: Transfer of protection data and remote control of a substation via an optical long-distance connection

Selection and Ordering Data

Product Name Two-channel serial, optical repeater Connection of two serial, optical inputs μm multi-mode FO cable up to 1.5 km 24 V-250 V DC, 115/230 V AC wide-ra Fault relay and LED for operational an Optical 1300 nm output with LC-Duple 62,5/125 μm multi-mode FO cable for (permissible path attenuation 13 dB) Optical 1300 nm output with LC-Duple 62,5/125 μm multi-mode FO cable for (permissible path attenuation 29 dB)	with ST connector for 62.5/125 from 300 bit/s – 1,5 Mbit/s nge power supply d fault display x connector for 50/125 μm / distances up to 4 km x connector for 50/125 μm /	Order No.: 7 X V 5 4	61.		0 0
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