



Fig. 13/41 Mini star-coupler

Function overview

One optical input and up to 4 optical outputs

- Distance spanned: 1.5 km with 62.5/125 μm multi-mode fiber
- Multiple mini star-couplers cascadable
- RS232 interface for local access
- Baud rate via FO: up to 1.5 Mbaud; Baud rate with RS232: Up to 115 kbaud
- Protocol transparency
- Light idle state: Light ON/light OFF selectable
- Wide-range power supply with self-monitoring function and alarm contact
- Optical ST connectors

Description

The mini star-coupler multiplies an optical signal received at an input for up to four outputs. A signal received at one of the outputs is transmitted via the input interface to a central unit or to an upstream mini star-coupler or converter.

As the mini star-coupler does not transmit selectively to individual outputs, the protocols used for data transmission must operate with unique DTE addresses, so all units "hear" the central interrogation, but only the addressed unit answers to the request (e.g. IEC 60870-5-103 or DIGSI).

Data are transmitted in transparent full-duplex mode. An RS232 interface is provided for direct serial communication with DTEs at each mini star-coupler. As long as this interface is in use, the optical input interface to the central unit is blocked.

Cascading mini star-couplers replace the 7XV5300 star coupler.

Application, construction

Application

The mini star-coupler allows SIPROTEC relays to be centrally accessed or remotely interrogated with DIGSI via optical interfaces. The component is cascadable, so that star topologies or ring topologies can be configured. A ring structure ensures that all four outputs are used. The mini star-coupler has a local RS232 interface socket. By connecting a PC to this interface and using the 7XV5100-4 cable, the optical input is disconnected to avoid data collision due to local and remote access concurring at the same time.

Construction

The 7XV5450 mini star-coupler is provided with a snap-on mounting housing for a 35 mm EN 50022 rail. Auxiliary power supplies can be connected via screw-type terminals. The fiber-optic cables are connected by ST connectors. The unit is free of silicone and halogen as well as flame-retardant.

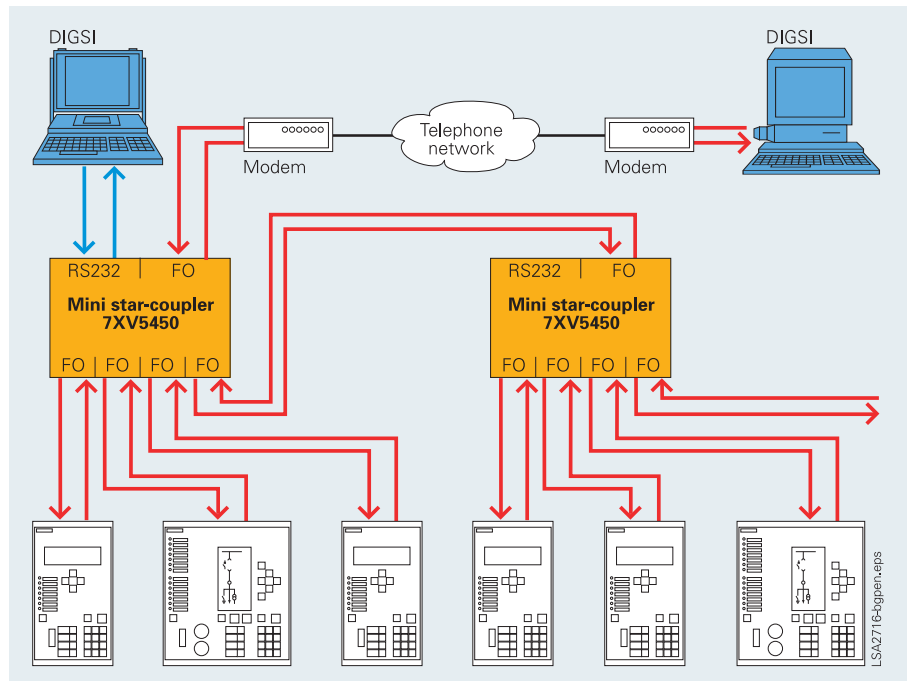


Fig. 13/42 Star topology with mini star-couplers

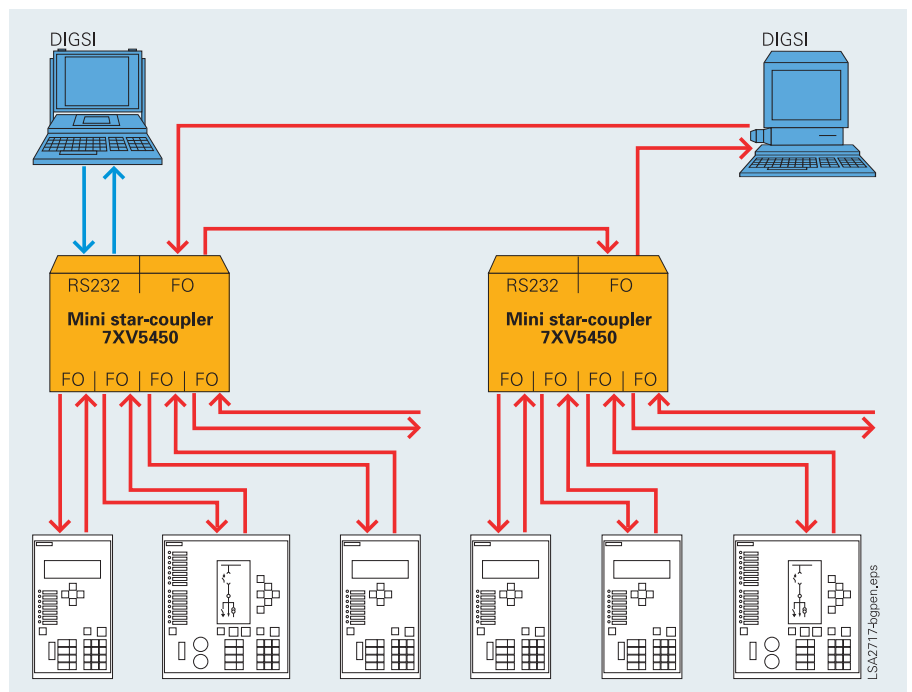


Fig. 13/43 Ring structure with mini star-couplers

Technical data

Rated auxiliary voltage

DC 24 to 250 V and AC 60 to 230 V ± 20 % without switchover

Current consumption

Approx. 0.25 to 0.4 A

LEDs

3 LEDs	Operating voltage o.k. Receiving data Sending data
Green	
Yellow	
Yellow	

Connectors

Power supply	2-pole Phoenix screw-type terminal
FO cables	Multi-mode fiber with ST connectors
RS232	9-pin SUB-D socket
Alarm contact	2-pole Phoenix screw-type terminal

Light idle state

Light ON/OFF selectable By jumpers

Housing

Plastic housing, EG90, charcoal grey; 90 × 75 × 105 mm (W × H × D)
for snap-on mounting on 35 mm EN 50022 rail

Selection and ordering data

Description	Order No.
7XV5450 mini star-coupler Optical mini star-coupler with plastic housing for snap-on mounting onto 35 mm rail. Rated auxiliary voltage DC 24 – 250 V and AC 110 – 220 V with alarm relay. Connection of up to 4 protection units to a star coupler via FO cable for 62.5/125 µm and 850 nm wavelength, max. distance 1.5 km. Connection of PC or modem to a star coupler via FO cable for 62.5/125 µm and 850 nm wavelength, max. distance 1.5 km. Connection also by 9-pin RS232 connector. Cascadable Fiber-optic connectors with ST connector	7XV5450-0BA00