7XV5300
Star Coupler

Fig. 15/17
Star coupler

Description

With this fiber-optic star coupler, the messages of the relay operating software DIGSI or IEC 60870-5-103 protocol are distributed to all relays via a maximum of 30 fiber-optic interfaces. The transmitting FO interface (FO port) of the star coupler's expansion unit is connected to the relay's receiving FO interface. Every message contains an address so that only the corresponding relay will answer. This relay now sends the answer back to the operator PC via the expansion module's receiving FO interface and the main module's transmitting FO interface.

Function overview

- Up to 30 SIPROTEC relays can be remotely operated via fiber-optic cables
- The smallest assembly unit consists of a main module including a power supply unit (PSU) and an expansion module with 3 FO interfaces
- Up to 9 additional expansion modules can be installed later, making communication via 30 FO interfaces possible
- The star-coupler is cascadable
- All fiber-optic interfaces (full duplex) have FSMA connectors and the steady-light indication can be set to ON or OFF individually (manufacturer's presetting: "OFF")
- An RS232 interface with a 9-pin SUB-D miniature connector allows the relays also to be operated locally
- The fiber-optic interface on the main module is inactive when the RS232 interface is being used
- Data is transmitted transparently, i.e. independent of any protocol
- The wavelength of all ports is 850 nm
- The max. distance between star coupler and relay is approx. 1.5 km
- The power supply covers the following voltage ranges without switching: 48 - 250 V DC and 110 - 220 V AC. The power supply has been designed for the maximum configuration
- Every module has 3 LEDs: one for the operating voltage (green), one for the flow of data (yellow) and one in case of disturbance (red)

Hardware

- The star-coupler together with its integrated power supply unit is housed in a 19" subrack

Application

Via the modular star coupler, up to 30 SIPROTEC protection units with an optical interface can be connected optically to a PC for remote operation.

In this way, interference-free connection between local relays and a central operation unit can be established via FO cables. With the use of optical interfaces, any potential transfer within the substation is avoided.

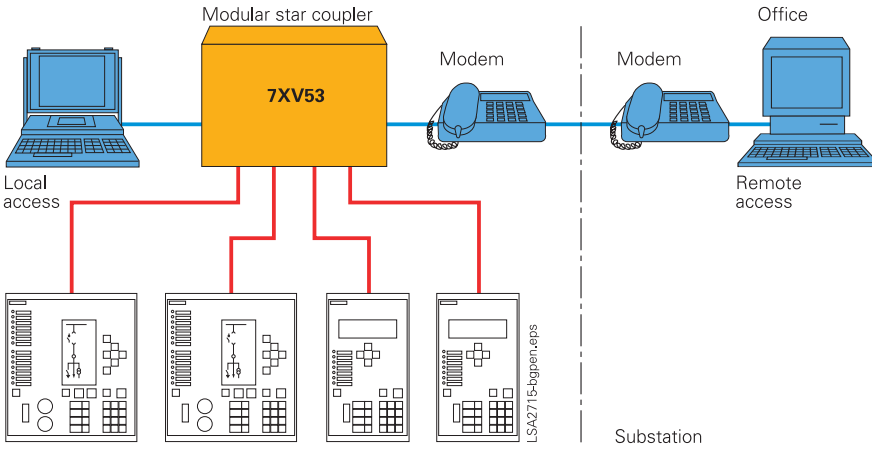


Fig. 15/18
Application configuration

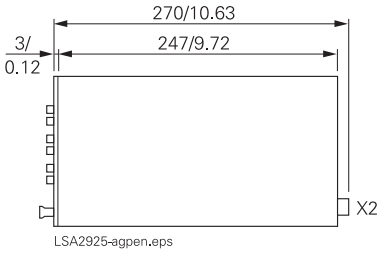
Selection and ordering data

Description	Order No.
7XV5300 modular star coupler	*7XV5300-0☐A00*
Number of relays to be operated	
No expansion module	*A*
With 1 expansion module for 3 relays	*B*
2 expansion modules for 6 relays	*C*
3 expansion modules for 9 relays	*D*
4 expansion modules for 12 relays	*E*
5 expansion modules for 15 relays	*F*
6 expansion modules for 18 relays	*G*
7 expansion modules for 21 relays	*H*
8 expansion modules for 24 relays	*J*
9 expansion modules for 27 relays	*K*
10 expansion modules for 30 relays	*L*

Spare parts

Main module	*7XV5301-0AA00*
Expansion module	*7XV5302-0AA00*

Dimension drawings in mm / inch



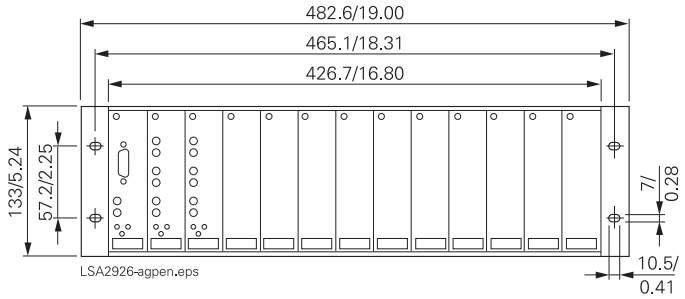


Fig. 17/36
7XV5300 star coupler in 19" subrack