OPG-6
Optical fiber star coupler

GENERAL CHARACTERISTICS

The devices installed at power substation are usually equipped with two communication channels:

- telecontrol channel – used for transmission telecontrol data (control commands, events)
- diagnostic purpose channel – enabling access to data like: disturbance recorders data, measurment and diagnostic data, events recorder, settings

In most cases the substation is unmanned. The substation devices are connected to the star point, and the star point is joined to computer network, which enables continuous monitoring of substation. The connection of a few star couplers OPG-6 serves as communication equipment which allows to configure both telecontrol ans diagnostic purpose communication channels. OPG-6 enables connecting many different devices of different types and transfer data through one communication channel.

MAIN FEATURES

The device is equipped with:

- 6 optic-fibre communication ports (ST, 820 nm – multimode fibre)
- port 1 ST – MASTER/SLAVE (customizable operation mode: MASTER, SLAVE, ECHO ON/OFF)
- ports: 2,3,4,5,6 ST - SLAVE
- port RS-485 – MASTER
- port RS-232 – MASTER
- auxilliary voltage: 220-250 V AC/DC. Other voltage levels also available on request: ex. 24 V AC/DC

TECHNICAL DATA

Rated supply voltage	110-230V DC/AC or other value on request
Burden in supply voltage	PZ<2W
Communication ports	MASTER(1) / SLAVE(5)
Dimensions	75x100x110
Weight	0,3kg
Ingress Protection	IP40
Ambient temperature	-5÷40°C
Mounting	TS35 rail

PRINCIPLE OF OPERATION

Comminication star coupler is equipped with six SLAVE ports. SLAVE ports can be connected to substation devices by fiber optic cable of type ST. MASTER port is used to connect the device to telecontrol channel or diagnostic system. There is also possibility to use RS-485HD (half-duplex) and RS-232 ports. Several OPG-6 devices can be connected by parralely by RS-485HD ports. If SCADA system is connected by RS-485HD port, the number of SLAVE devices can be extended by switching fiber-optic port to SLAVE mode. Switching is made by jumper located on front panel terminal (MASTER/SLAVE pins). Operation at any baudrate is possible and by any configuration. SLAVE ports serves as communication channels with up to 5 different devices. SLAVE devices should operate at the same communication mode and have different addresses. Fiber-optic port 1 is able to operate in ECHO mode (pins marked as ECHO must be jumped.