



GENERAL CHARACTERISTICS

MPW-1 device serves as the monitoring system of CB positions of 400 V auxiliary switchgear in topology of two feeders and coupler. Measuring inputs allow to:

- measuring of three phase voltage of TP1 and TP2 transformers
- measuring of three phase currents of TP1 and TP2 incoming feeders

The device monitors also 230 V AC switchgear. The values of statuses monitored on each section are:

- breakers position
- busbars voltage
- section demand

The DC switchgears of 220 V DC, 110 V DC and 24/48V DC statuses are also monitored. It concerns both sections of each switchgear. The controlled values and statuses are as listed below:

- position of the breakers
- voltage value on each section
- battery charging current
- demand on each section

Indication of failures provides the crucial information in quick and precise way. The device provides also the event recorder functionality. Data stored in the event recorder can be transferred to the supervision system by fiber-optic link, RS485 or Ethernet connection. Available communication protocols are: ZEG, IEC60870-5-103 and optionally MODBUS, DNP-3 or IEC61850.

MAIN FEATURES

- cassette enclosure of dimensions 19"/4U/160
- programmable touch screen 7" which allows to control and change the settings
- 32 programmable RGB LED diodes
- detachable front panel allowing to be installed in any place
- insulated measuring inputs: voltage and current
- two independent fully redundant power supplies
- possibility to upgrade by extra functionalities

TECHNICAL DATA

Rated auxiliary voltage	110-230V DC/AC or other value on request
Burden in power supply	<30VA
Number of binary inputs	70
Number of 4U cassettes	1
Insulation	optical
Input control voltage	Uw=220V DC/AC or other value on request
Burden in binary inputs	0,3W
Time resolution	1ms
Number of communication channels	8
	<ul style="list-style-type: none"> • fiber-optic ST / IEC 870-5-103 • RS485 • Ethernet • USB
Weight	5kg
Ambient temperature	-5 ÷ +40 °C

PRINCIPLE OF OPERATION

MPW-1 is freely programmable device which by: light indicators on front panel, LCD display and set of relay outputs monitors the status of auxiliary voltage switchgear. For controlled voltage and current values the alarm threshold values of both types: up alarm or down alarm can be set. voltages and currents are presented in their primary values. The device controls also the position of each breaker by using isolated binary inputs. All the measured values and breakers statuses are constantly sent to the supervision system. There is also set of logical nodes to which any pair of contacts can be assigned. Example of assigned signals are:

400/230V AC switchgear: ATS blocked, ATS operation, unsuccessful ATS, lack of voltage on TR1, lack of voltage on section 1, lack of voltage on TR1, lack of voltage on section 2

220 V DC switchgear: U<Un, U>Un, Battery AL1, Battery AL2, earthing module failure, earth fault, Rectifier 1 Alarm, Rectifier 2 Alarm

230V AC switchgear: U<Un, U>Un, Invertor operation on battery, Invertor Alarm

24 V DC switchgear: U<Un, U>Un, Rectifier 1 Alarm, Rectifier 2 Alarm

All signals can be grouped as ALARM or Failure signals. 7 inch touch screen allows to monitor the operation of the auxiliary switchgears, preview of inputs and outputs, change the language, preview of real time, preview the event recorder data, preview the analog values.