OPT-OP

SELF POWERED SUPPLY UNIT FOR *OmegaProt* DEVICES

Field of application

The **OPT-OP** type power supply unit is supplied by CT's and VT's, and converts energy sufficient to operate other **ΩProt** devices. In this case no external auxiliary supply is needed.

Main features

- Power supply unit fed by current and voltage transformers.
- Possibility to make a clamp joint to a standard **Ω** rail.
- Small place requirement.
- Practical application in all electrical plants.
- Self powered operation.
- Self powered power supply for **ΩProt** relays.
- Self powered trip energy storage for CB.
- Voltage check to store sufficient trip energy.
- Independent capacitor banks with separate terminals for **ΩProt** relays and for trip energy.

Working principles

Two phase currents of the main CT are connected through an input CT to a rectifier. Another rectifier is supplied by the line voltage of the main VT. Both separated DC voltages are connected parallel and two capacitor banks are charged by them. One of them serves the DC power supply to an **ΩProt** protective relay, the second one stores energy to trip the CB. The negative pins of them are common. A voltage supervision relay is applied to the voltage of the capacitor bank of CB trip to check whether the stored trip energy is sufficient. If the voltage exceeds about 1.2 times of the minimal required energy level, then the relay contact connects the charged energy to the trip contact of the supplied **ΩProt** device. If the **ΩProt** device operates, then the stored energy of the capacitor bank is discharged to the CB trip coil.

Arrangement

The **OPT-OP** type power supply unit is built into a closed dustproof steel case of type **ΩProt**. A clamp joint fixes the device to a standard **Ω** rail. The width in the rail is 120 mm. 9 terminals are placed on the front plate of case, to provide external connections.

Technical Data

General technical specification see in **OmegaProt system information sheet**
Type tests see in **OmegaProt system information sheet**
Design and sizes see in **OmegaProt system information sheet**

Rated secondary current, I_n	0,5 A, 1 A, 5 A or others
Rated secondary line voltage, U_n	100 V~, 110 V= or 200 V≅
Overload capacity, voltage circuits, continuous	$1{,}2xU_n$
Overload capacity, current circuits, continuous	$2xI_n$
Overload capacity, 1 s	$100xI_n$ (if I_n = 1 A), $50xI_n$ (if I_n = 5 A)
Dynamic current limit	$100xI_n$
Output supply voltage	110 V DC, 220 V DC
Trip energy store capacitor bank	50 μF
Number of output contacts	1 print relay
Output contacts, electrical data: rated switching voltage continuous load current making current DC breaking capability at 220 V, at pure conductive load at load of L/R = 40 ms	 250 V 8 A 16 A 0,3 A 0,2 A

Size

Widht	Height	Depth
120 mm	90 mm	80 mm

Ordering information

- Type of the power supply unit [OPT-OP]
- Rated secondary current [0,5 A, 1 A, 5 A or special]
- Rated secondary line voltage [100 V, 200 V or special]