Generator protection relay

GEN

I> Overload protection

- Tripping current = 1.10 x set current (1.10 x I_B).
- Trip time in cold state, at 6 x I_B, adjustable from 0.2 to 3 s.

Phase imbalance protection

- When the phase imbalance is over 40%.

Phase loss protection

- For current over 0.7 x I_B.
- Tripping time < 3 s.

Relay without external display module

Relay with external display module connected

- Gives excellent protection for LV generators up to 1000 Vac, as the relay provides several tripping curves in order to protect the generator against overloads.
- Broad range of current adjustment up to 2000A or higher (with current transformers).
- Discriminative signalling of the relay tripping cause.
- Memorizes the thermal image of the generator, either heating or cooling.
- Three-year guarantee.

Applications

This relay is specially applicable for protecting low voltage generators up to 1000V, and current up to 2000A or higher, as it offers a suitable protection since you can choose several tripping curves in order to avoid the generator working over the damage curve.

External display module (ODGEN)

This optional display module is mounted externally, i.e. on the panel door. The relay is installed inside the panel and connected to the display module by a flat cable (L = 2 meters). The module has the appropriate LED's to signal the trip cause and a reset push-button.

Code no.: 12545

General characteristics

- Manufactured to IEC-255, IEC-947.
- **UL, cUL** listed. Marked **CE.**
- Mounted on DIN rail EN50022-35.
- Not connected to the generator line (passing through wires).
- Manual reset: press the reset button.
- Remote reset: by interrupting the auxiliary power supply and reconnecting it again after 3 seconds.
- Maximum terminal section : 2.5 mm², No. 22-12 AWG.
- Maximum screw torque: 20 Ncm, 1.8 LB-IN.
- Electromagnetic compatibility: IEC 255-22, IEC 801, EN 50081-2.
- Insulation: 3000V - 50Hz - 1 min/3kV - 1.2/50 µs.
- Degree of protection: IP203.
- Storage temperature: -30°C +70°C.
- Operation temperature / Maximum altitude:
  -15°C +60°C / 1000 m.
  -15°C +50°C / 2000 m.
  -15°C +40°C / 3000 m.

Relay power supply

- A1 - A2 terminals.
- Nominal voltage: 24 Vdc (+15% -10%).
- Operating power consumption: 1.5 W.

Output contacts

- 1 NO (97-98) normally open contact and 1 NC (95-96) normally closed contact (when the relay is deenergized or when it has tripped), with galvanic insulation and in opposition.
- Maximum contacts voltage: 250 Vac.
- Maximum switching power:
  AC15-250V-2A
  DC13-30V-2A
  DC13-115V-0.2A
  C300-125/250V
  Maximum thermal current: 5A

Model

	Relay adjustment range I_B (A)	Code no. Aux. supply 24 Vdc
GEN 10	4 - 10.3	11350

- For currents above 10.3 A, use the GEN10 relay with current transformers …/5.

FANOX

Setup procedure

Before setup of the relay, you have to assure that the generator is in cold condition. Then the cables from the secondary of the current transformers will be passed through the holes of the relay. Once connected, the setup of the relay is very easy, as follows:

1. Set the rated current I_B on the 8 position dip-switch (FULL LOAD CURRENT SETTING).

$$I_B = \frac{I_N}{I_{CT}} \quad \text{x 5 x n}$$

I_B = Rated current to be set at the relay
I_N = Rated current of the generator.
I_{CT} = Rated current of the primary at the CT
5 = CT .../5
n = Number of turns per hole.

When setting the current take into account that the base current (4A) of the relay always remains added to the current selected with the dipswitches in ON position (to the right). The total addition is the SET current I_B.

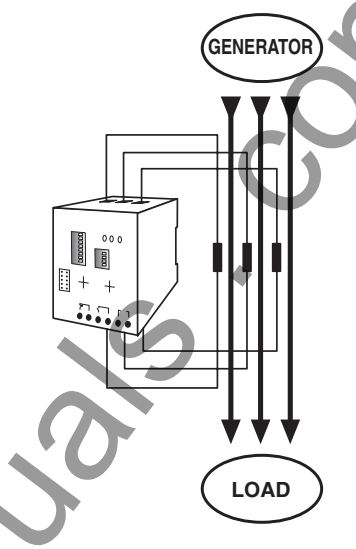
2. Select the tripping curve suitable for the good performance of the generator, on the 4 positions dip-switch (TRIP TIME SETTING)

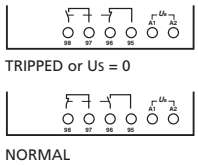
The selected curve will correspond to the result of the addition of the dipswitches in ON position (to the right).

Test function: to proceed with the test the current flowing through the relay has to be higher than 0.7 x I_B.

In this condition, press the TEST button during 3 seconds. The relay will trip due to phase loss and its corresponding LED will glow.

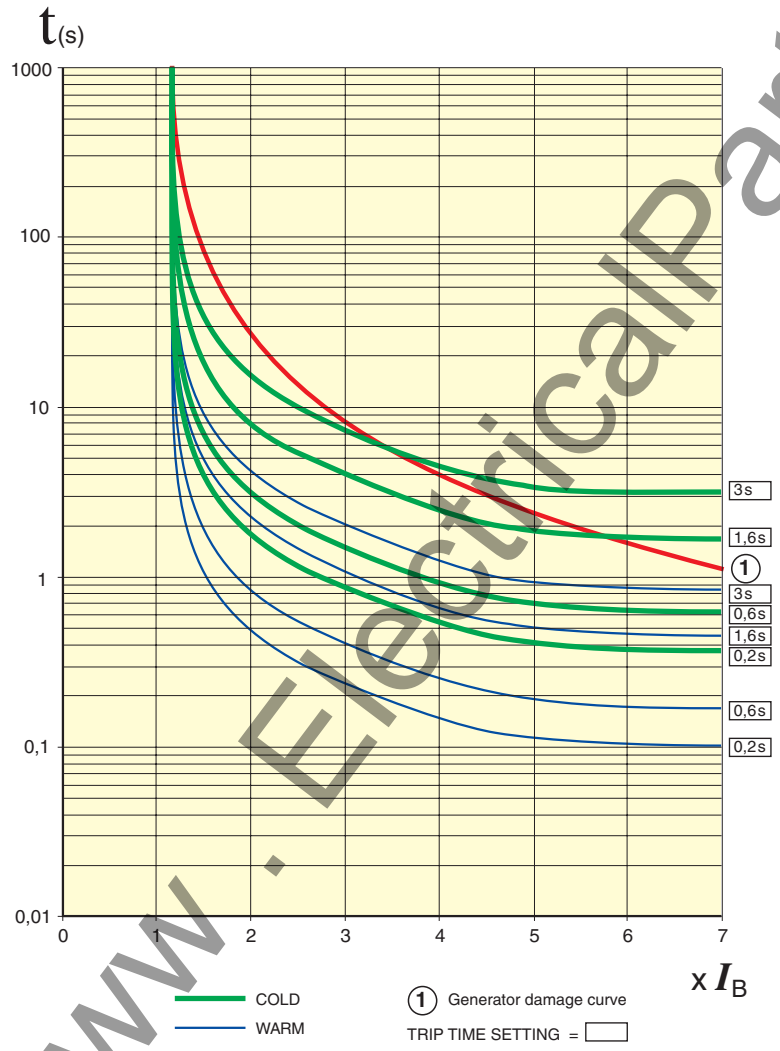
Wiring diagram



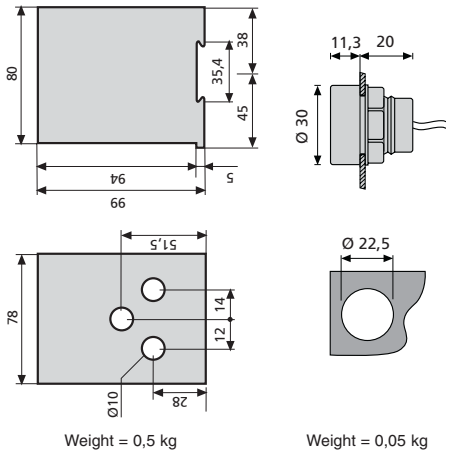


C300-125/250V
AC15-250V-2A
DC13- 30V-2A
DC13-115V-0,2A
I_{th} = 5A

Average tripping curves



Dimensions



Weight = 0,5 kg

Weight = 0,05 kg

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