

CONSERVATOR PROTECTION RELAY

(CPR-3)



1. General Features

1.1 Characteristics

Power transformer usually prevent contact of transformer oil with air (that contains water due to humidity) using a rubber bag fitted inside conservator tank. If there is an intrusion of air inside the conservator (due i.e. to a microscopic accident inside rubber bag) this must be detected.

The CPR has been specially developed in order to detect this kind of failure. The relay is designed in a way that it is able to collect the gas inside himself and give an electric signal as soon as the gas accumulated reaches a predetermined value.

1.2 Field of Use

The CPR may be used with the following characteristic values:

- Fluid - Transformer oil
- Pressure in the conservator - max 1.5 bars
- Working temperature- from - 20° to + 100° C

2. Construction Features, Finish and Accessories

2.1 Construction Features

With reference to drawing and its nomenclature, which also indicates the materials, the device is constructed as follows:

- A body made in aluminum alloy equipped with a connecting flange pos. 1 that permit mounting on Conservator by using a flat gasket and 4 screws M10
- A cover pos. 2 equipped with a push bottom pos. 4 and a gas release cock pos. 3 that allow checking the contact and draining air from the body.
- A terminal box pos. 7, including the trip terminals, the earth screw and a cable entry of M25 x 1.5 for connecting to the external circuits

2.2 Finish

In standard execution, all cast parts are protected by white primer from inner side and final colour RAL 7030 at outer side and hardware is of stainless steel.

The device is suitable for outdoor installation in tropical climate and with industrial pollution.

The device is under test for IP 67 (Ingress Protection) at IDEMI Mumbai.

3. Wiring Diagrams

The relay is equipped with one magnetic contact, reed type, that operate when gas inside relay reaches

the preset value. Available wiring diagrams are:

- Wiring diagram ME: 1 normally open contact
- Wiring diagram MT: 1 change-over open contact

4. Operation

When the atmospheric air is intruded inside the transformer due to rubber bag failure (break or gasket failure) or to microscopic accident it will be collected inside the relay and will cause lifting of float inside the relay (movement of float and quantity of gas can be detected from inspection window); a permanent magnet rigidly connected to the float, operates the reed contact.

5. Mounting and Maintenance

5.1 Mounting

The protective relay CPR has to be mounted on the top of conservator using 4 screws and nuts M10.

Tightening is obtained using a flat gasket made in NBR.

After mounting and before setting to work, air inside body have to be removed by opening gas release cock.

Circuit can now be tested by pressing push bottom.

5.2 Maintenance

The protective relay CPR does not need periodic maintenance; however it is advisable to check regularly the electric contact and the freely movement of float; this test can be made easily by pressing the push button.

6. How To Order

Select the suitable model from our Customer Drawing No- CS-CPR-3 and place the order.