BUCHHOLZ RELAY

General specifications

The gas and oil actuated (Buchholz) relay is designed to detect faults as well to minimize the propagation of any damage which might occur within oil-filled transformers, capacitors and reactors supplied with oil conservator.

The relay is therefore particularly effective in case of:
- Short-circuited core laminations
- Broken-down core bolt insulation
- Bad contacts
- Overheating of some part of the windings
- Earth faults
- Puncture of bushing insulators inside tank.

Furthermore, the relay can prevent the development of conditions leading to a fault in the transformer, such as the falling of the oil level owing to leaks, or the ingress of air as a result of defects in the oil circulating system.

Construction

**CASING**: non porous weatherproof compact casting of light aluminium alloy painted.

**COVER**: non porous weatherproof compact casting of light aluminium alloy painted. On the cover are located: the terminal box, the valve of pneumatic test, the breather cock, the button for mechanical test of alarm and trip circuits.

**INSPECTION WINDOWS**: special tempered glass with graduated scale in cm³.

**CONTACTS**: they can be mercury switches or magnetic actuated switches (reed contacts). On request it's possible to supply change-over switches.

**INSULATION**: 2000V 50Hz between terminals and earth for a 60 secs. time

**WORKING TEMPERATURE**: oil temperature range: -25/+100°C.

**VIBRATION TEST (in normal operative conditions)**:
- Oscillation amplitude: 2mm
- Time diagram:
  - 0Hz+100Hz: 30 sec.
  - 100Hz: 60 sec.
  - (200 vibrations/sec.)
  - 100Hz+ 0Hz: 30 sec.
SWITCHES CHARACTERISTICS:

- Rated voltage: 24, 250V AC or DC
- Rated current: 0.5A (10000 tests)
- Breaking capacity:
  - 2A AC (\(\cos = 0.4 \pm 25\%\) - 50Hz)
  - 2A DC (\(T=L/R=40\)msec).

MECHANICAL PROTECTION DEGREE: IP 54

CONTACTS CAPACITY TO WITHSTAND VIBRATIONS:

- **Mercury sw.**:
  - 150 horizontal vibrations/sec. (75Hz)
  - 120 vertical vibrations/sec. (75Hz)
- **Reed sw.**:
  - 200 horizontal vibrations/sec. (100Hz)
  - 200 vertical vibrations/sec. (100Hz)

First signals of closing contacts:

- **Mercury sw.**
- **Reed sw.**: no one signal of closing contacts