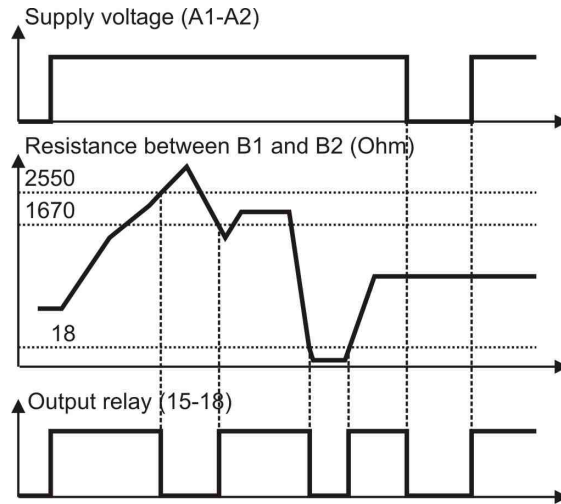


Motor thermal overload protection relay, type Re06

Examples of application

Protection of motors against thermal overload caused by: insufficient cooling, heavy load starting conditions, undersized motors, one phase failure, high ambient temperature, intermittent operation, high switching frequency(speed controller), braking etc.



Motor temperature control via PTC probes

Operating principle

Protection relay is used in combination with PTC (positive temperature coefficient) probes (not supplied) for thermal protection of motors, alternators, transformers. The probes are placed at critical points on the equipment to be protected (normally inserted into the stator windings of motors). As soon as the nominal trip temperature of one probe is exceeded, the resistance of the probe increases rapidly. Protection relay detects this and opens the power supply circuit of the protected equipment and the red fault indicator LED lights up.

Protection relay also detect line breaks or short-circuiting of the probes.

Green LED(OK) indicates relay energization, red LED(Avarie) indicates that nominal trip temperature of at least one probe is exceeded or the relay detects line breaks or short-circuiting of the probes.

Temperature control

The Re06 relay can take up to 6 PTC(positive temperature coefficient) probes wired in series between B1 and B2. A fault is declared when the resistance of the temperature sensing circuit exceeds 2550 Ω .

Return to normal status is detected when the resistance is once again below 1670 Ω (and above 18 Ω).

Opening of the thermal sensing circuit, which has the same effect as a high temperature (resistance exceeds 2550 Ω) is treated as a fault.

Short-circuiting of the temperature probes, detected when resistance is less than 18 Ω , is treated as a fault.

Contact 15-18(N/O) open in the event of a fault.

Supply characteristics

Supply voltage (A1 - A2): 230V/50(60)Hz, maximum power consumption: 0,5VA, galvanic isolation (transformer).

Supply voltage (A1 - A2): 24V/50(60)Hz or 24Vdc, maximum power consumption: 0,5VA, no galvanic isolation.

Output characteristics

Contacts: 1 changeover contact, maximum rated voltage: 250 Vac, maximum rated current: 5 A

Time delay on crossing the threshold: < 500ms

Temperature control characteristics

Maximum voltage of temperature control circuit: 10Vdc (B1-B2 open)

Temperature sensing circuit short-circuit current: 3mA (B1-B2 short-circuited)

Maximum resistance of PTC probes at 25°C: 1500 Ω

Tripping threshold: 2550 Ω \pm 10%, reset threshold: 1650 Ω \pm 10%, short-circuit threshold: 18 Ω \pm 5%

General characteristics

Marking: CE (73/23/EEC). It can be mounted in electric enclosure beside Multi9 devices

Ambient conditions: storage and transport: [-25 - +70] $^{\circ}$ C, operation: [-25 - +70] $^{\circ}$ C.

Degree of protection: casing IP 30, terminal block IP 20. Material housing: self-extinguishing.

Dimensions: 86(height) X 36(width) X 58(depth) mm. Mounting on symmetrical or asymmetrical rail.