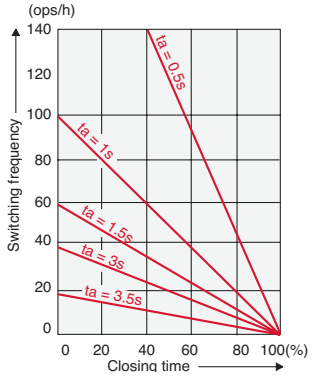
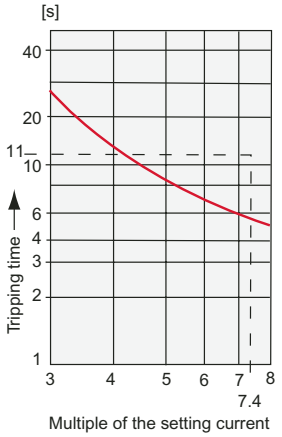
Intermittent duty



Switching frequency
in relation to load factor.
t_a: motor starting time.



TA thermal O/L relay cold-state
tripping characteristics

Switching frequency:

To avoid untimely tripping, TA and T thermal O/L relays have been designed to withstand roughly 15 switching operations per hour with an approximately equal distribution between working and rest cycles.

In these conditions, the motor starting time must not exceed 1 second and the starting current must be lower than or equal to 6 times the motor I_n.

For intermittent operations, the diagram opposite specifies relay operating limits.

Example: Motor starting time: 1 sec.
Load factor: 40 %
Switching frequency: 60 ops./h according to diagram

For a higher number of operations and for load variations (e.g. frequent starting and braking), it is advisable to use CUSTORAPID® protection.

For motors subject to particularly severe operating conditions (e.g. locked rotor) it is advisable to use protection combined with a thermal O/L relay and the CUSTORAPID® system.

Protection of motors with long starting time

See electronic overload relay section, pages 2.21 - 2.32.

Mounting position

On a support at an angle of ± 30° in relation to the vertical plane (standard position).

Other mounting positions possible, except mounting on a horizontal plane (in this case the tripping mechanism would be located above the bimetals).

Special version for EEx e motors

Consult factory.

Tripping limits at ambient temperatures varying by + 20°C

Ambient temperature compensation

Thermal O/L relays are compensated against ambient temperature variations by a compensation bimetal which is sensitive to the ambient temperature.

Thermal O/L relays are designed to operate between –5 °C and +40 °C in compliance with standard IEC 947-4-1. For a wider range of –25° C to +55 °C consult the graph opposite.

Example: tripping at –25 °C. Tripping takes place before 1.5 times the setting current.

Resetting: TA25DU – TA450 DU thermal O/L relays have convertible manual/automatic resetting.

Delivery: in manual resetting mode.