

# Control Circuit Protection

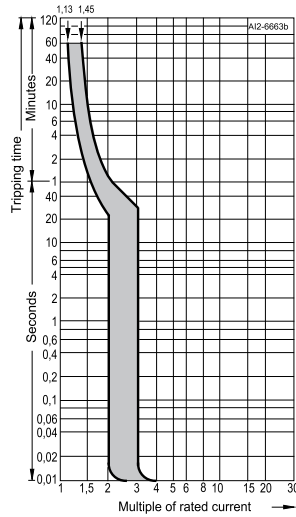
## General Data

### Trip characteristics

#### Tripping characteristics acc. to EN 60 898

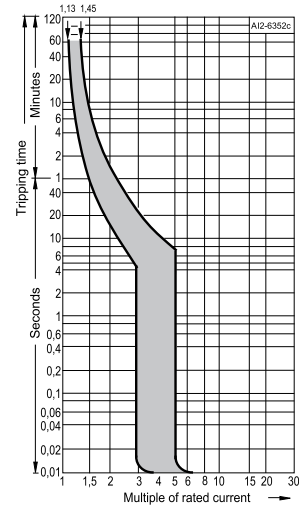
##### Tripping characteristic A, -5

Type A characteristic is designed to protect very sensitive circuits such as semiconductors. Magnetic trip point - 2 to 3 times  $I_n$  rating. Thermal trip point - 1.13 to 1.45 protector rating.



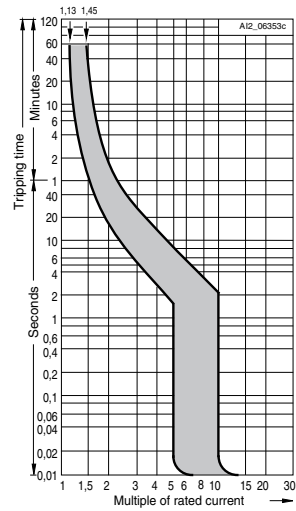
##### Tripping characteristic B, -6

Type B characteristic designed for European residential circuit protection. This characteristic can also be used for protection of computers and electronic equipment. Magnetic trip point - 3 to 5 times  $I_n$  rating. Thermal trip point - 1.13 to 1.45 protector rating.



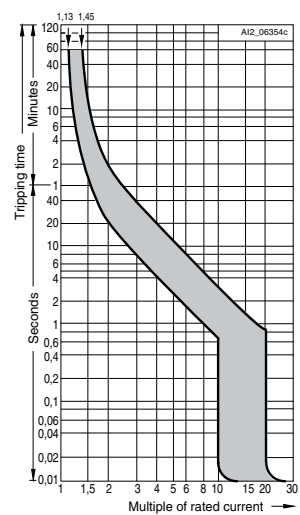
##### Tripping characteristic C, -7

Type C characteristic is for general device protection in control circuits. Magnetic trip point - 5 to 10 times  $I_n$  rating. Thermal trip point - 1.13 to 1.45 protector rating.



##### Tripping characteristic D, -8

Type D characteristic is designed for high inrush loads. Magnetic trip point - 10 to 20 times  $I_n$  rating. Thermal trip point - 1.13 to 1.45 protector rating.



For different ambient temperatures, the current values of the delayed tripping operation change by approximately 5% per 10°K temperature difference. Specifically they increase for temperatures below 25°C (5SJ41), 30°C (5SP, 5SX, 5SY) and decrease for temperatures above 25°C (5SJ41), 30°C (5SP, 5SX, 5SY).

For DC voltages the maximum current values of the instantaneous tripping operation increase by a factor of 1.2.

If more than one electrical circuit is loaded in a series of miniature circuit breakers or supplementary protectors, the resulting increase in ambient temperature affects the characteristic curve. In this case an additional correction factor found in the following table must be used.

| Number              | 1    | 2 - 3 | 4 - 6 | > 7  |
|---------------------|------|-------|-------|------|
| Correction factor K | 1.00 | 0.90  | 0.88  | 0.85 |