

### 1. The technical design

Elfa miniature circuit breakers were designed for high-quality electrical installations featuring high capacity, reliability and protection of man and property, pointing the way for the future.

#### Your advantage

Comprehensive assortment of miniature circuit breakers for all practical applications.

### 2. The current ratings

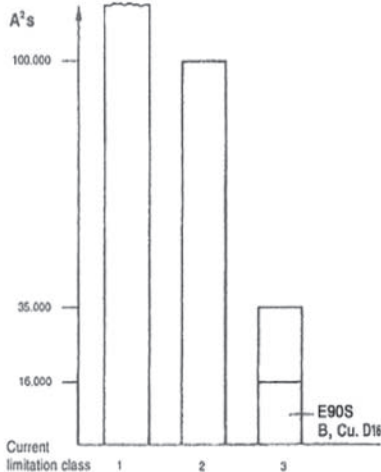
Elfa miniature circuit breakers with current ratings from 0.5 A to 125 A of uniform design protect all unusual circuits in residential and industrial buildings and switchboards.

#### Your advantage

The uniform miniature circuit breaker series is also suitable for copper conductor cross-sections to 35 mm<sup>2</sup>, (#18-2 AWG).

### 3. The switching capacity

Elfa miniature circuit breakers have a switching capacity of 10 kA (E90S) according to DIN VDE0641 or EN 60 898. In accordance with Europa Standard EN 60 898 Elfa miniature circuit breakers have a switching capacity of up to 25kA at some current ratings.

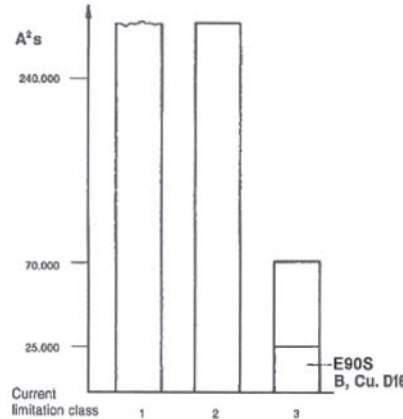


#### Your Advantage

Elfa miniature circuit breakers with international test marks also perform extreme protection duties in installation technology.

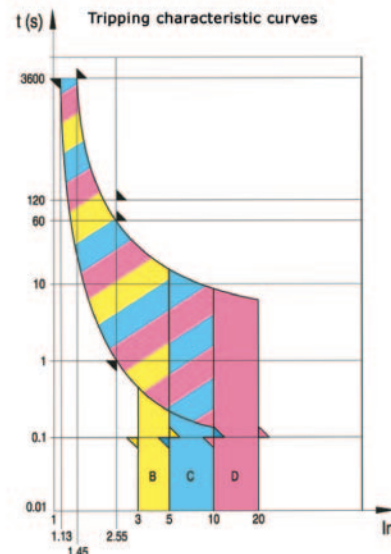
### 4. The current limitation

Elfa miniature circuit breakers in the event of a fault limit the short-circuit power to less than 50% of the values permitted by most international testing stations.



#### Your advantage

Increased protection of electrical equipment allows supplementary thermal fuses to be omitted.



### 5. The tripping characteristics

Elfa miniature circuit breakers are "Europa breakers" with the uniform tripping characteristics B, C and D standardized for the future, and the test marks of all European testing stations. B, C and D are approved per UL 1077, as supplementary protectors. (277/480 Volts max)

### Rated current and characteristic Series E90S

#### B-characteristic

According to DIN VDE 6041 A4/11.8 with rated current ranges from 6 to 63 A, according to EN 60 898 with rated current ranges from 80 to 125 A. Thermal operating limit 1.13 to 1.45 times rated current (reference ambient temperature 30°C) Magnetic operating limit 3 to 5 times rated current.

Miniature circuit breakers with B characteristic are used primarily for wiring protection in lighting, socket outlet and control circuits.

#### C-characteristic

According to DIN VDE 0641 Part 11/08.92 with rated current ranges from 0.5 to 63 A, according to EN 60 898 with rated current ranges from 80 to 125A.

Thermal operating limit 1.13 to 1.45 times rated current. (Reference ambient temperature 30°C) Magnetic operating limit 5 to 10 times rated current.

Miniature circuit breakers with C characteristic are used for overload and short-circuit protection primarily to protect equipment with high making currents (e.g. motors and transformers).

#### D-characteristics

(series E90S)

According to EN 60 898 with rated current ranges from 0.5 to 125 A.

Thermal operating limit 1.13 to 1.45 rated current (reference ambient temperature 30°C). Magnetic operating limit 10 to 20 times rated current.

Miniature circuit breakers with D characteristic ensure that even electrical equipment with very high making current, as heavy-starting motors, transformers, groups of lights, do not lead to undesired early tripping.