Circuit breakers are not suitable for protecting motors, transformers and low voltage lines against overloads. Circuit breakers with a thermally delayed trip curve are ideal for protecting motors, transformers and low voltage lines in the event of an overload. In contrast, fuses are only suitable for short circuit protection due to their high overload limit and very fast trip curve.

Fuses tolerate high inrush current peaks, but only to a very limited extent. Circuit breakers with a delayed bimetal operated trip mechanism are unaffected by inrush peaks. Benefits: The circuit breaker’s current rating can be specified directly to the load requirements.

Fuses, however, can only handle inrush current peaks by selecting high (oversized) current ratings.

Consistent equipment uptime
Circuit breakers can quickly and easily be reset after overcurrent trip.

High reliability of your equipment
In the event of a failure, multipole circuit breakers always interrupt the circuit across all poles, i.e. completely. They protect the user against electrocution.

Low operational costs of your equipment
Lower procurement, inventory management, disposal, and service expenses.

Cost reduction
E-T-A circuit breaker/switch combinations and appliance inlet modules help reduce components and lower mounting and wiring time as well as material planning and inventory costs.

The edge of circuit breakers over fuses

Four aces to win the game

Fuses are defective after their first use.

Holding all the aces
Circuit breakers instead of fuses

Fusing
Consistent Uptime

- Circuit breakers can quickly and easily be reset after overcurrent trip. Time-consuming fuse replacement is eliminated.
- Circuit breakers provide a clear status indication.
- Circuit breakers have a stable trip characteristic. Machine downtimes due to nuisance tripping are minimised.

What satisfied customers offer:

- Repeat purchases (brand loyalty)
- High recommendation rate
- Positive reviews
- Very good published test results (by non-profit consumer organisations)

Enhancing reliability

- In the event of a failure, multi-pole circuit breakers always interrupt the circuit across all poles. The live phase conductor is reliably disconnected.
- Circuit breakers ensure consistently reliable overcurrent protection. The wrong replacement fuses, however, can have fatal consequences.
- Unlike fuses, circuit breakers can safely be reset.

Cutting costs

- No procurement and inventory costs for replacement fuses.
- No service costs for replacing fuses.
- No waste disposal costs - fuses are electronic waste. They must be disposed of properly.

Reducing components

E-T-A circuit breaker/switch combinations and appliance inlet modules help reduce components and limit mounting and wiring time as well as material planning and inventory costs.

Circuit breaker/switch combination:

- Two functions in one component
  - ON/OFF switch
  - Overcurrent protection

Example:
E-T-A circuit breaker/switch combination 8345-F

Circuit breaker/switch combination with add-on modules:

- Three functions in one component
  - ON/OFF switch
  - Overcurrent protection
  - Undervoltage release and remote trip

Example:
E-T-A circuit breaker/switch combination 3120-N with undervoltage release module

Appliance inlet modules

- Up to five functions in a single component
  - ON/OFF switch
  - Overcurrent protection
  - Undervoltage release and remote trip
  - IEC appliance inlet
  - Line filter

Example:
E-T-A appliance inlet module X3120-A

Ten-in-one

Reducing parts when specifying 2-pole protection

And not to forget:
Less single parts also means fewer possible failures leading to less testing time in production.