

The following curves show the total fault current breaking time, depending on its amperage. For example: based on the curve on page 3, an iC60 circuit breaker of curve C, 20 A rating, will interrupt a current of 100 A (5 times the rated current I_n) in:

- 0.45 seconds at least
- 6 seconds at most.

The circuit breakers' tripping curves consist of two parts:

- tripping of overload protection (thermal tripping device): the higher the current, the shorter the tripping time
- tripping of short-circuit protection (magnetic tripping device): if the current exceeds the threshold of this protection device, the breaking time is less than 10 milliseconds. For short-circuit currents exceeding 20 times the rated current, the time-current curves do not give a sufficiently precise representation. The breaking of high short-circuit currents is characterized by the current limiting curves, in peak current and in energy. The total breaking time can be estimated at 5 times the value of the ratio $(I^2t)/(\hat{I})^2$.

Verification of the discrimination between two circuit breakers

By superimposing the curve of a circuit breaker on that of the circuit breaker installed upstream, one can check whether this combination will be discriminating in cases of overload (discrimination for all current values, up to the magnetic threshold of the upstream circuit breaker). This verification is useful when one of the two circuit breakers has adjustable thresholds; for fixed-threshold devices, this information is provided directly by the discrimination tables.

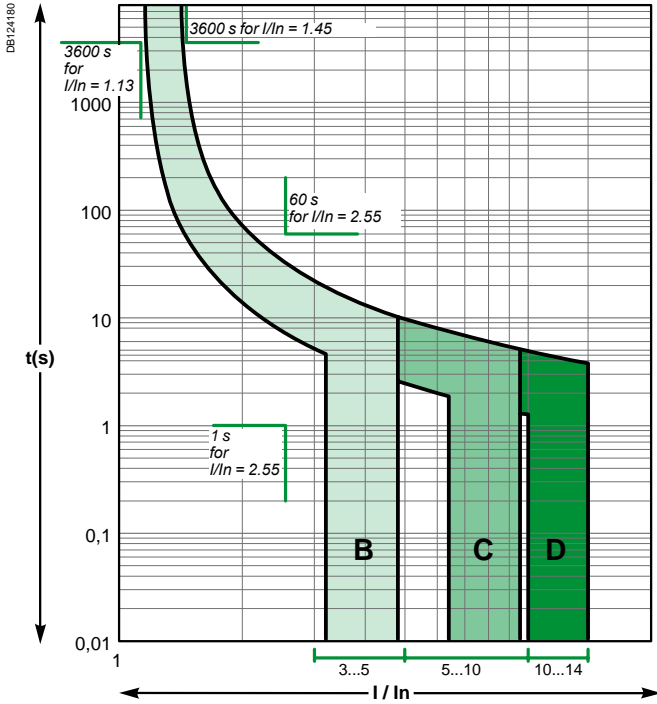
To check discrimination on short circuit, the energy characteristics of the two devices must be compared.

Alternative current 50/60 Hz

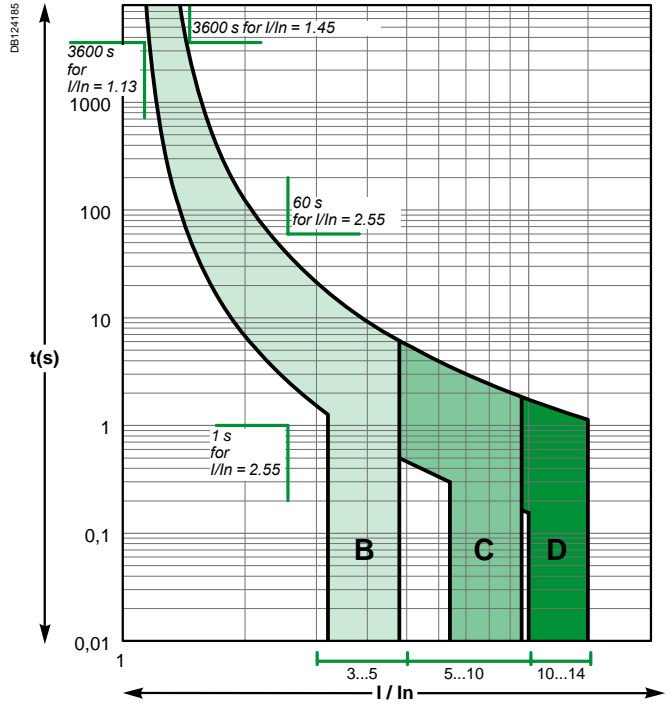
iC60a/N/H/L

According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C, D rating up to 4 A



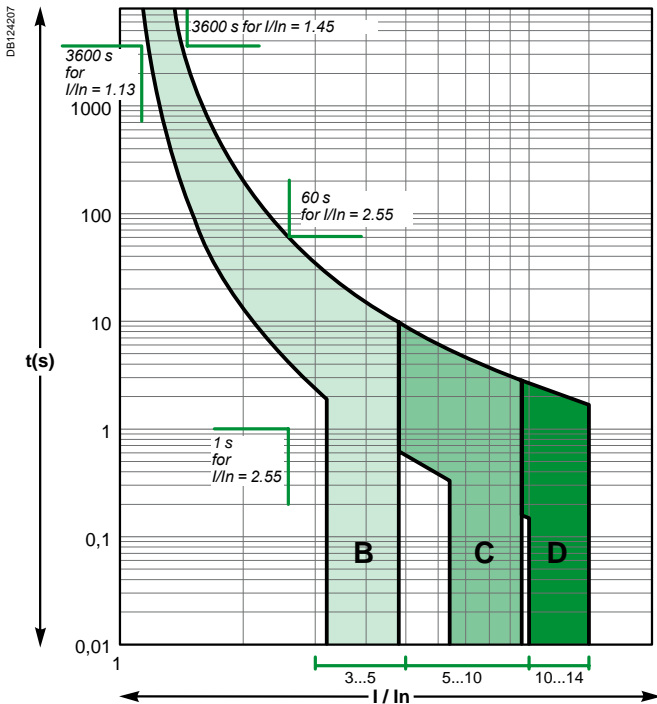
Curves B, C, D rating 6 A to 63 A



C120N/H

According to IEC/EN 60898-1 (reference temperature 30°C)

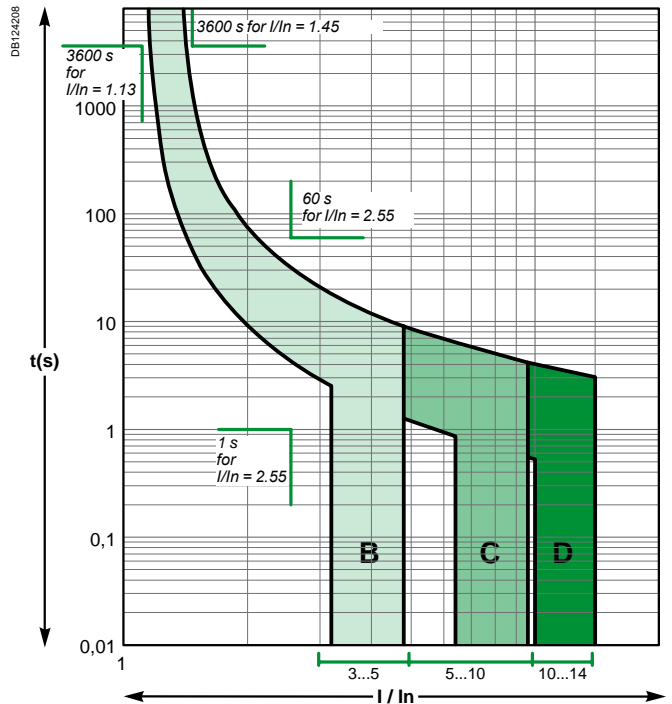
Curves B, C, D



DPN, DPN N (circuit-breaker and residual current device)

According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C, D

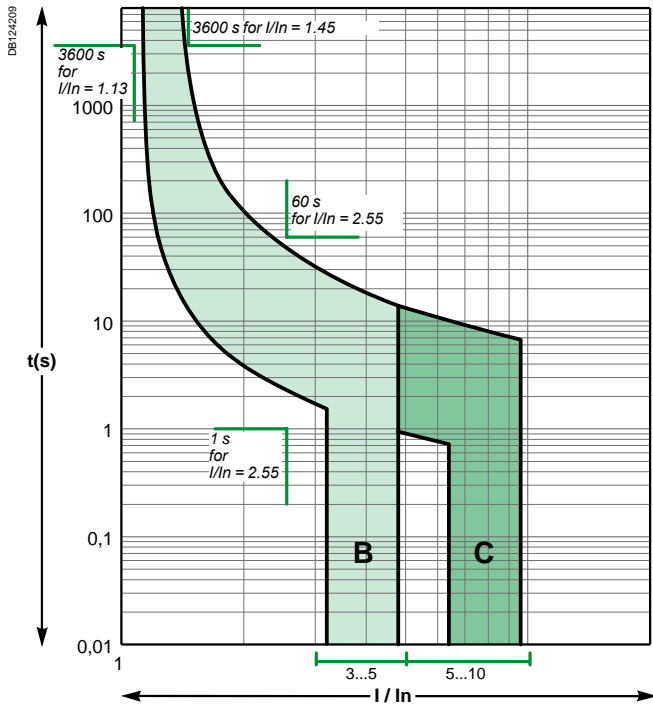


Alternative current 50/60 Hz

iK60

According to IEC/EN 60898-1 (reference temperature 30°C)

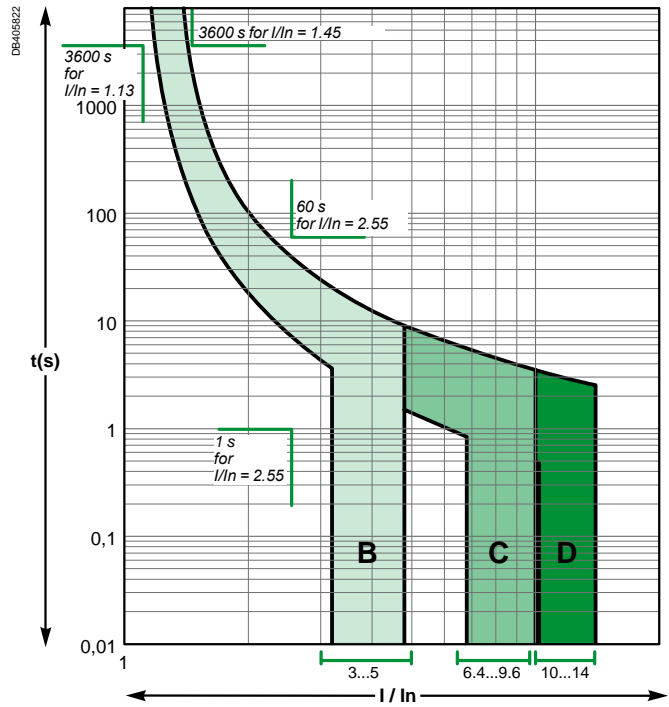
Curves B, C



C60

According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C, D

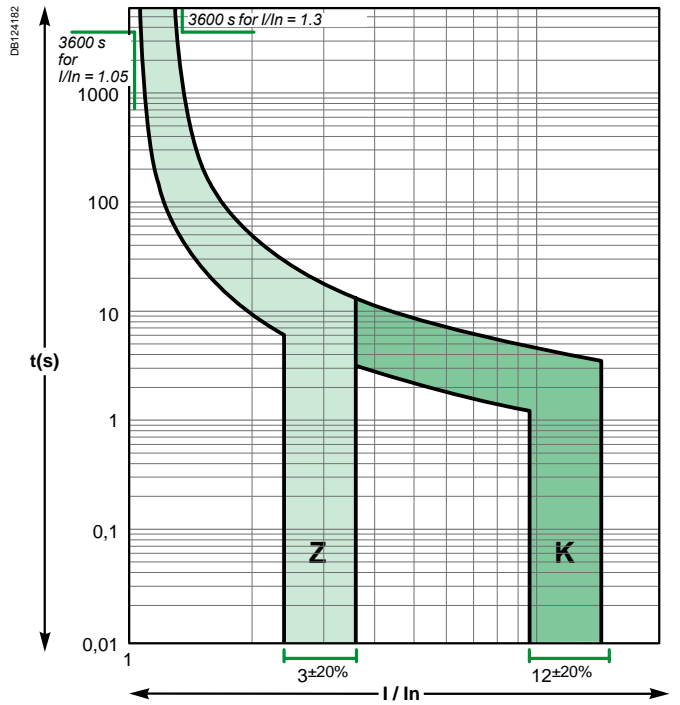
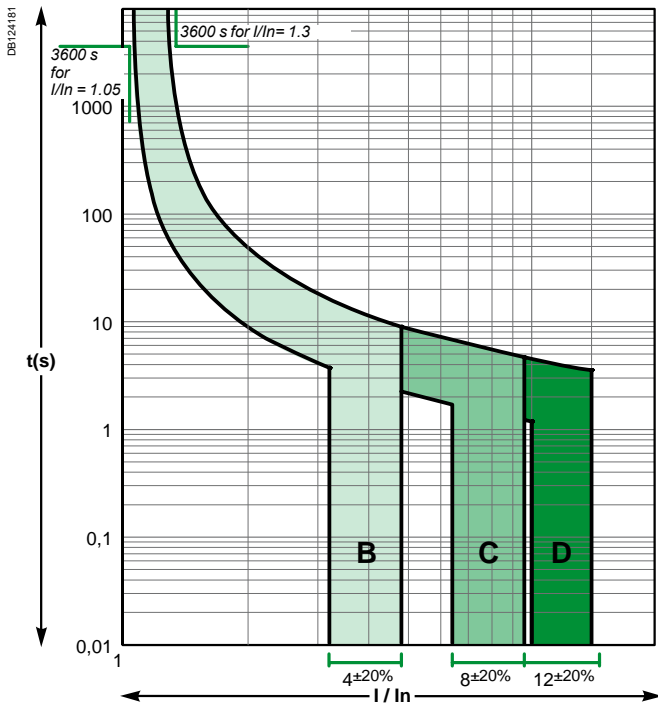


Alternative current 50/60 Hz

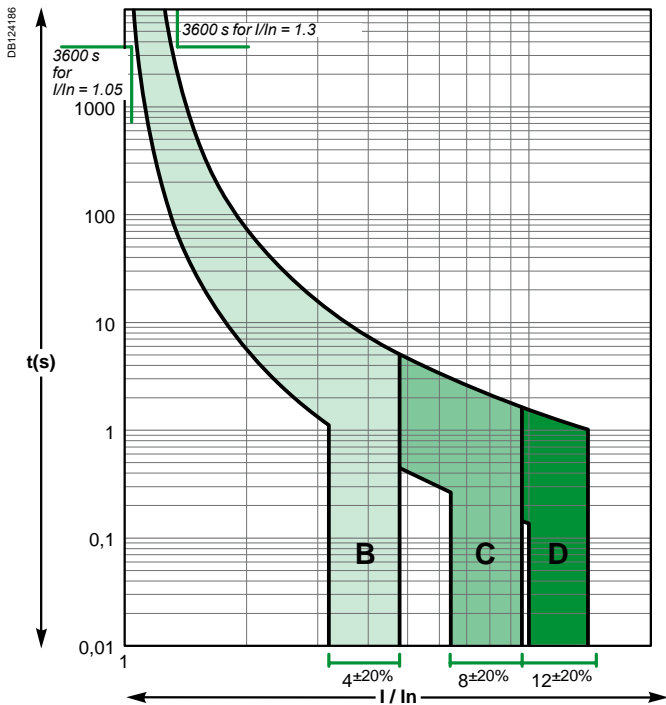
iC60N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

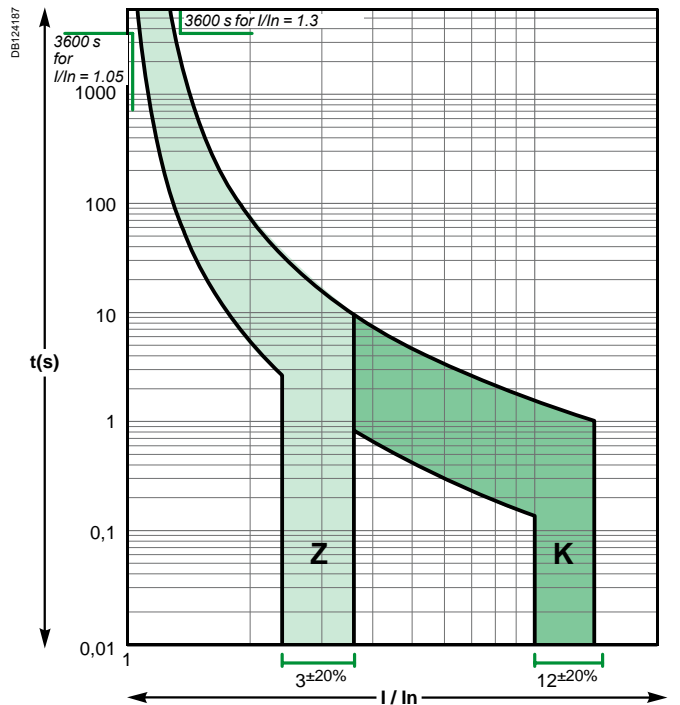
Curves B, C, D rating up to 4 A **Curves Z, K rating up to 4 A**



Curves B, C, D rating 6 A to 63 A



Curves Z, K rating 6 A to 63 A



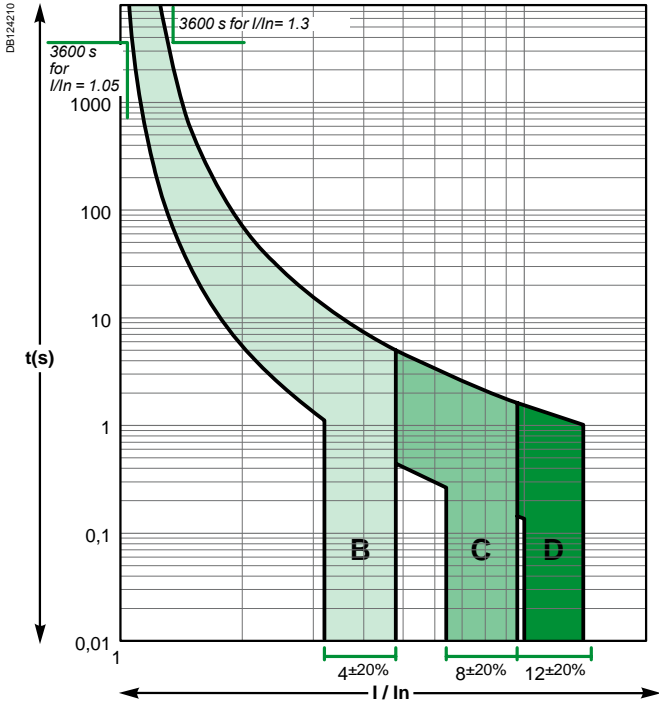
Tripping curves

According to IEC/EN 60947-2 standards

Alternative current 50/60 Hz

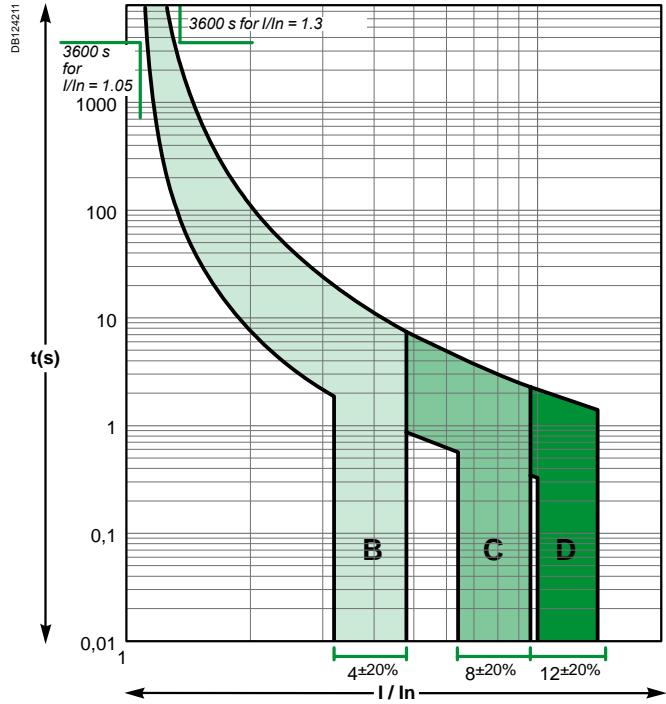
Reflex iC60N/H
According to IEC/EN 60947-2 (reference temperature 50°C)

Curves B, C, D



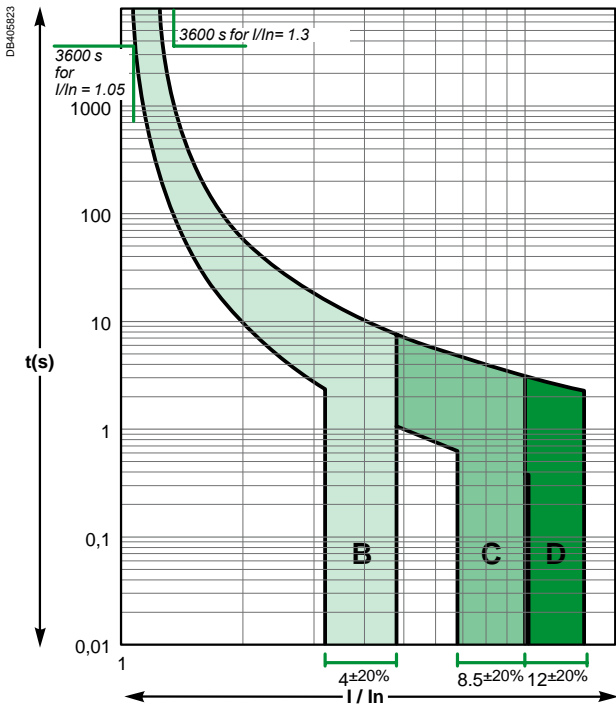
NG125a/N/H/L
According to IEC/EN 60947-2 (reference temperature 40°C)

Curves B, C, D



C60
According to IEC/EN 60947-2 (reference temperature 50°C)

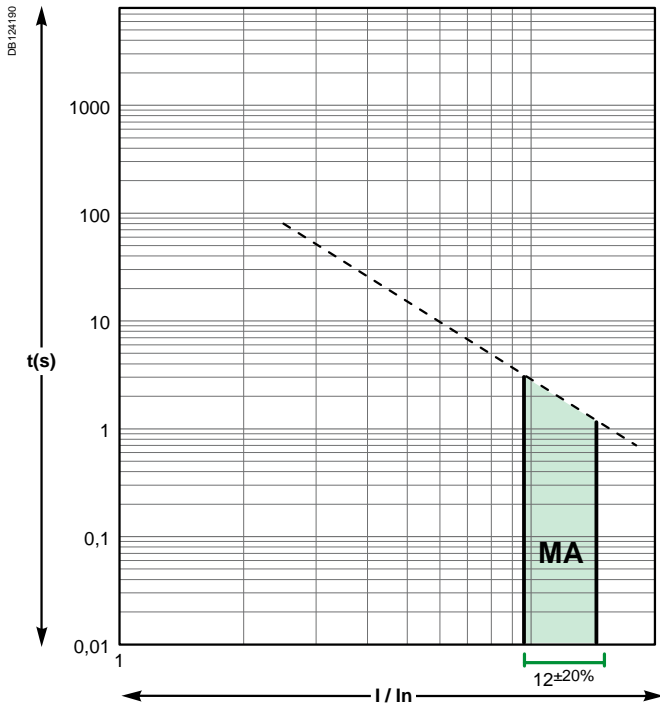
Curves B, C, D



Motor curve

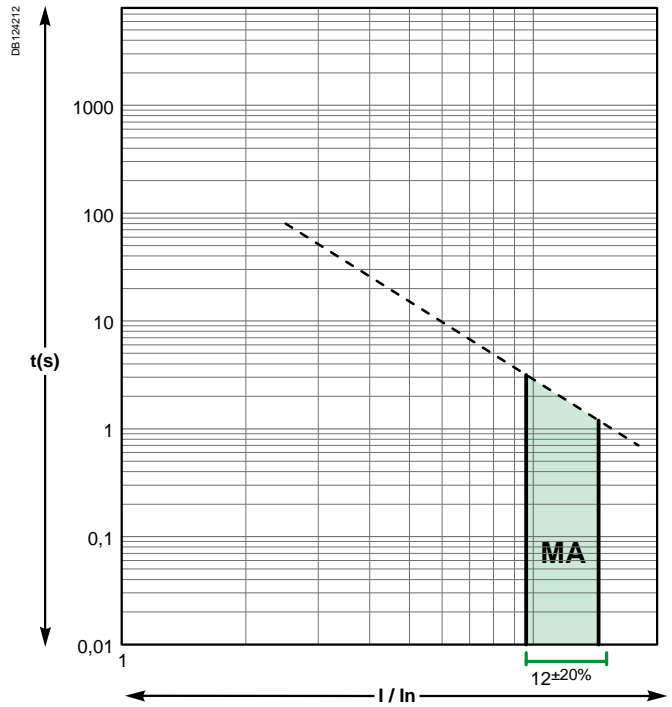
iC60L-MA
According to IEC/EN 60947-2

Curve MA



NG125L-MA
According to IEC/EN 60947-2

Curve MA



Tripping curves

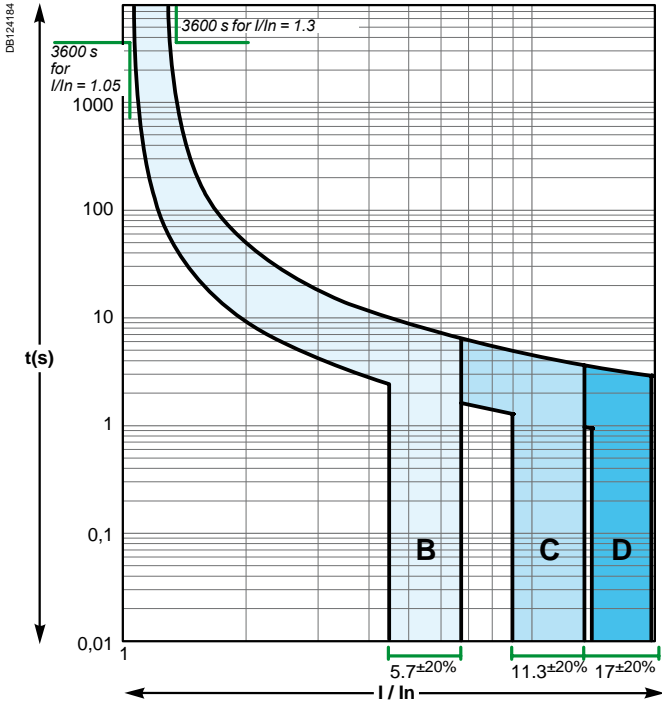
According to IEC/EN 60947-2 standards

Direct current

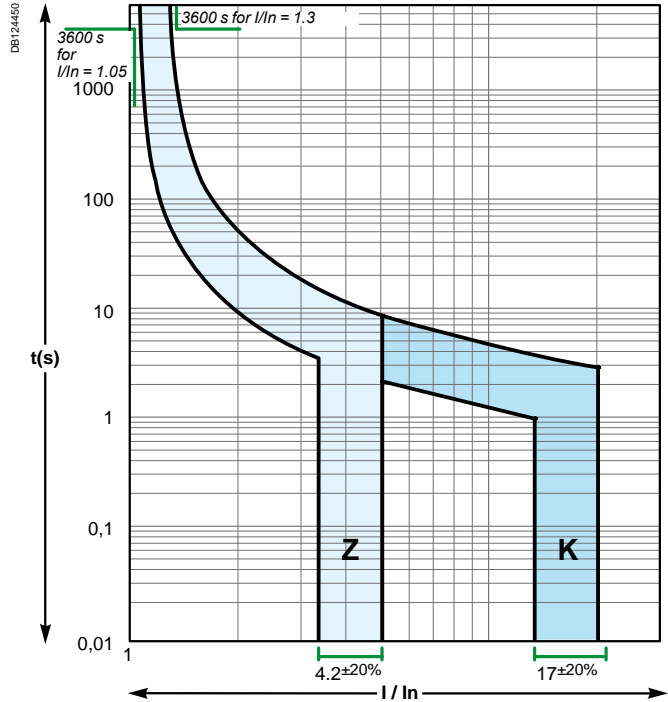
iC60N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

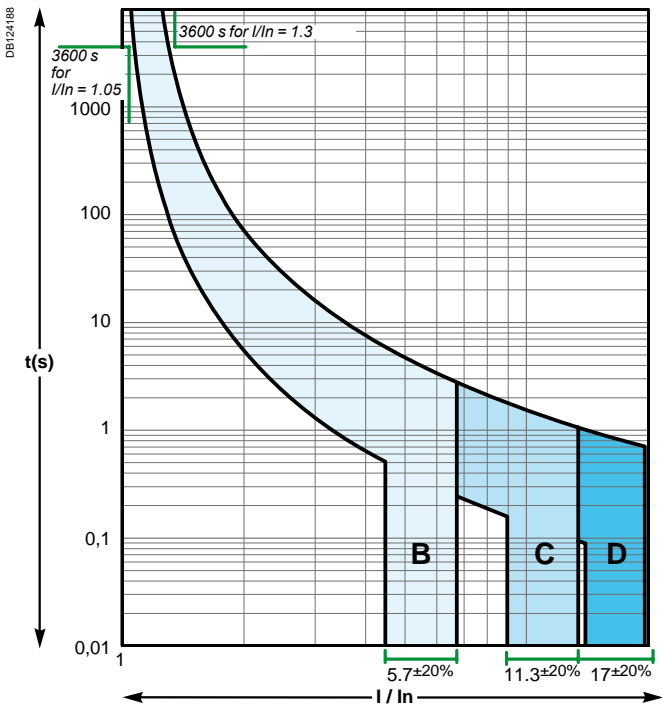
Curves B, C, D rating up to 4 A



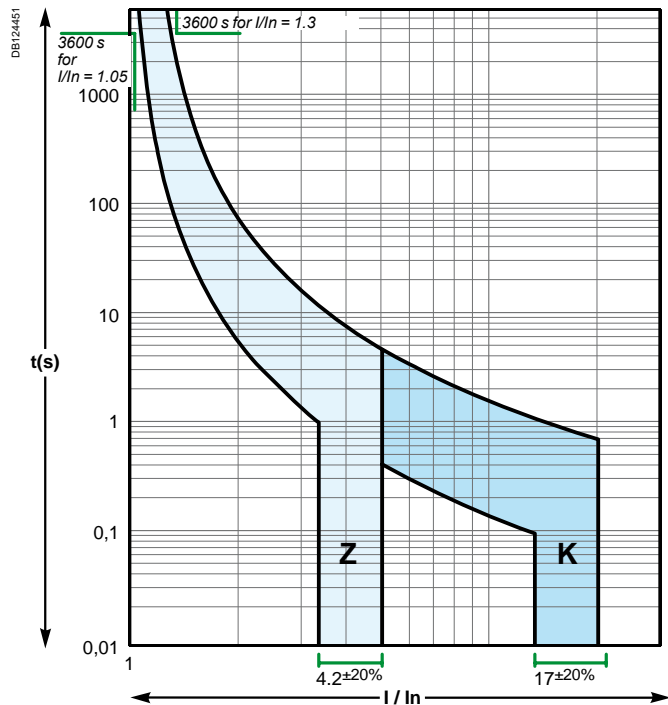
Curves Z, K rating up to 4 A



Curves B, C, D rating 6 A to 63 A



Curves Z, K rating 6 A to 63 A

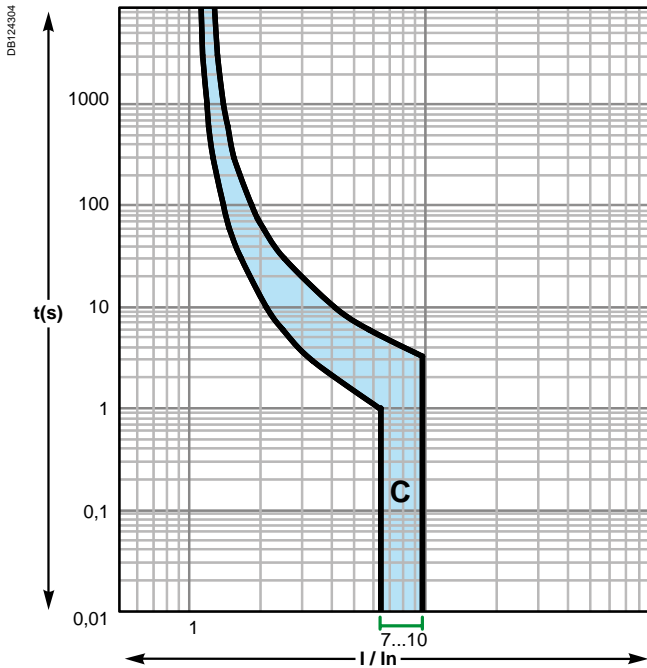


Direct current

C60H-DC

According to IEC/EN 60947-2 (reference temperature 25°C)

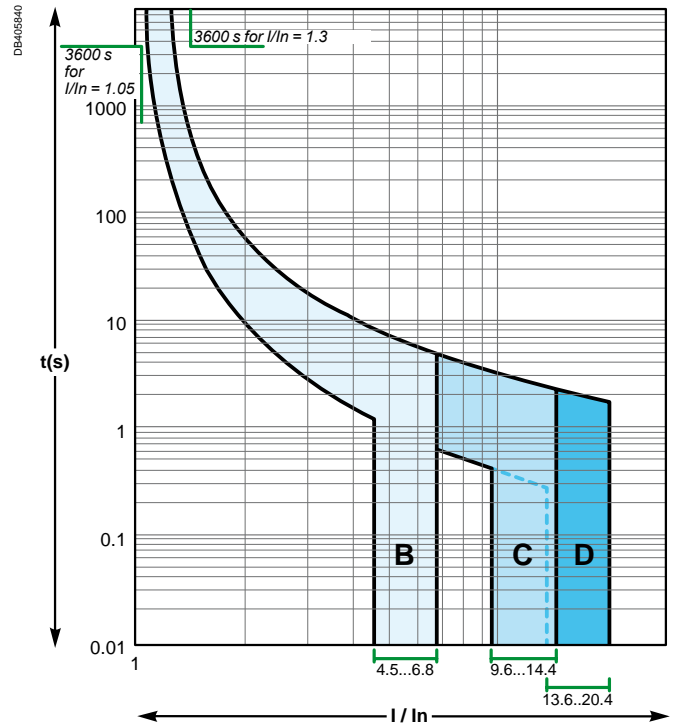
Curve C



C60

According to IEC/EN 60947-2 (reference temperature 50°C)

Curves B, C, D



NG125a/N/H/L

According to IEC/EN 60947-2 (reference temperature 40°C)

Curves B, C, D

