

## Soft Start and Star Delta Trip Class by Application Chart.

Default – Light to Medium Load Start	10
Medium to Heavy Load Start	20
Heavy Load Start	30
Application	Trip Class
Agitator	10
Air Compressor – Equalised (low start load)	10
Air Compressor – Loaded during start	20
Air Compressor – Reciprocal (piston type)	20
Air Compressor – Centrifugal	20
Air Compressor – Rotary screw	10
Air Compressor – Rotary vane	10
Air Compressor – Scroll	10
Auger - Screw	10
Ball Mill	20
Bow thrusters – zero pitch	10
Bow thrusters – loaded start	20
Centrifuge (Contact supplier - very heavy start)	>30
Centrifuge - Separator (Contact supplier - very heavy start)	>30
Centrifuge - Decanterbowl (Contact supplier - very heavy start)	>30
Chillers	10
Conveyor - unloaded or lightly loaded start	10
Conveyor – heavily loaded start	20
Crusher	30
Escalator	10
Extruder	10
Fan – Low inertia < 50Amps FLC	10
Fan – Medium inertia between 51A FLC & 75A FLC	20
Fan – High inertia >76Amps FLC	30
Feeder - Screw	10
Granulator – Unloaded start	10
Granulator – loaded start	20
Grinder	20
Hammer Mill	20
Lathe	10
Mill – Flour etc.	20
Mixer – unloaded start	10
Mixer – loaded start	20
Moulding machines	10
Pelletisers	20
Plastic machines	10
Press with Flywheel	20
Pump - rotodynamic	10
Pump - centrifugal	10
Pump – positive displacement unloaded start	10
Pump – positive displacement rotary	20
Pump – positive displacement reciprocating	20
Pump Jack	20
Rolling Mill	20
Roots Blower	20
Saw - Band	10

Saw - Circular	20
Screen - Vibrating	20
Shredders	30
Textile machines	10
Transformer, voltage regulators	10
Travelators and walkways	10
Tumblers	10
Wood chipper	30



Rows shaded grey (trip class 30) require special consideration

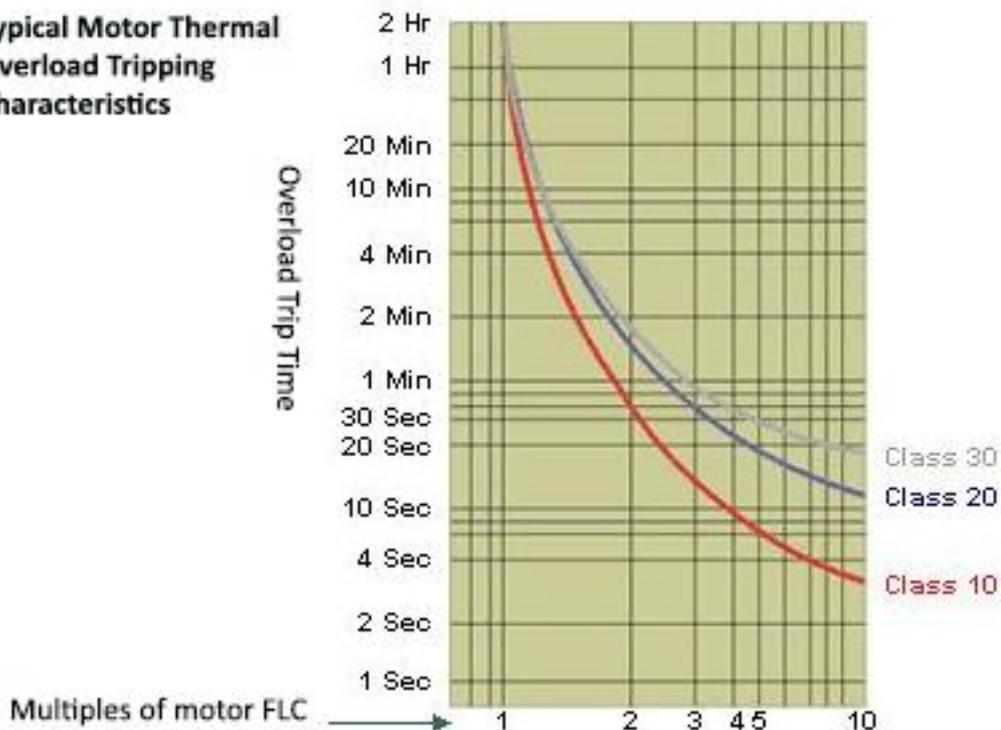
### Trip Class Explained

At between 500% & 600% of the maximum current rating of the motor during application starting, the **Trip Class 10** motor thermal overload will trip in 10 seconds or less, **Trip Class 20** motor thermal overload will trip in 20 seconds or less, and **Trip Class 30** motor thermal overload will trip in 30 seconds or less. So the trip class rating of a motor thermal overload relates to the load the motor is under and the time it takes the motor to start the application.

If a **trip class 10** Star Delta Starter or Softstarter is applied to a **trip class 20** application the product will likely trip its motor overload during the starting phase, so it may not be capable of starting the application.

It is always advisable to match the trip class of the application to the trip class of the Star Delta Starter or Softstarter.

**Typical Motor Thermal Overload Tripping Characteristics**



These characteristics are an indication of the overload trip time versus motor current with the thermal overload in a cold state, they will change if the motor thermal overload is in a hot condition during motor start.

Starting the star delta starter or softstarter more than once every 10 minutes will alter the thermal overload tripping characteristics, making the overload trip more quickly for a given thermal overload current setting.