

# Product datasheet

Specifications



soft starter-ATS22-  
control 220V-power  
230V(11kW)/400...440V(22kW)/500V(30kW)

ATS22D47S6

## Main

|                              |                                                                        |
|------------------------------|------------------------------------------------------------------------|
| Range of product             | Altistart 22                                                           |
| Product or component type    | Soft starter                                                           |
| Product destination          | Asynchronous motors                                                    |
| Product specific application | Pumps and fans                                                         |
| Component name               | ATS22                                                                  |
| Network number of phases     | 3 phases                                                               |
| [Us] rated supply voltage    | 230...600 V - 15...10 %                                                |
| Motor power kW               | 11 kW 230 V<br>22 kW 400 V<br>22 kW 440 V<br>30 kW 500 V               |
| Factory setting current      | 40 A                                                                   |
| Power dissipation in W       | 48 W for standard applications                                         |
| Utilisation category         | AC-53A                                                                 |
| Type of start                | Start with torque control (current limited to 3.5 In)                  |
| IcL starter rating           | 47 A for connection in the motor supply line for standard applications |
| IP degree of protection      | IP20                                                                   |

## Complementary

|                              |                                                                                                                                                                                  |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assembly style               | With heat sink                                                                                                                                                                   |
| Function available           | Internal bypass                                                                                                                                                                  |
| Supply voltage limits        | 195...660 V                                                                                                                                                                      |
| Supply frequency             | 50...60 Hz - 10...10 %                                                                                                                                                           |
| Network frequency            | 45...66 Hz                                                                                                                                                                       |
| Device connection            | In the motor supply line                                                                                                                                                         |
| [Uc] control circuit voltage | 230 V - 15...10 % 50/60 Hz                                                                                                                                                       |
| Control circuit consumption  | 20 W                                                                                                                                                                             |
| Discrete output number       | 2                                                                                                                                                                                |
| Discrete output type         | Relay outputs R1 230 V running, alarm, trip, stopped, not stopped, starting, ready C/O<br>Relay outputs R2 230 V running, alarm, trip, stopped, not stopped, starting, ready C/O |
| Minimum switching current    | 100 mA at 12 V DC (relay outputs)                                                                                                                                                |

|                             |                                                                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum switching current   | 5 A 250 V AC resistive 1 relay outputs<br>5 A 30 V DC resistive 1 relay outputs<br>2 A 250 V AC inductive 0.4 20 ms relay outputs<br>2 A 30 V DC inductive 7 ms relay outputs |
| Discrete input number       | 3                                                                                                                                                                             |
| Discrete input type         | (LI1, LI2, LI3) logic, 5 mA 4.3 kOhm                                                                                                                                          |
| Discrete input voltage      | 24 V <= 30 V                                                                                                                                                                  |
| Discrete input logic        | Positive logic LI1, LI2, LI3 at State 0: < 5 V and <= 2 mA at State 1: > 11 V, >= 5 mA                                                                                        |
| Output current              | 0.4...1 Icl adjustable                                                                                                                                                        |
| PTC probe input             | 750 Ohm                                                                                                                                                                       |
| Communication port protocol | Modbus                                                                                                                                                                        |
| Connector type              | 1 RJ45                                                                                                                                                                        |
| Communication data link     | Serial                                                                                                                                                                        |
| Physical interface          | RS485 multidrop                                                                                                                                                               |
| Transmission rate           | 4800, 9600 or 19200 bps                                                                                                                                                       |
| Installed device            | 31                                                                                                                                                                            |
| Protection type             | Phase failure: line<br>Thermal protection: motor<br>Thermal protection: starter                                                                                               |
| Marking                     | CE                                                                                                                                                                            |
| Type of cooling             | Forced convection                                                                                                                                                             |
| Operating position          | Vertical +/- 10 degree                                                                                                                                                        |
| Height                      | 265 mm                                                                                                                                                                        |
| Width                       | 130 mm                                                                                                                                                                        |
| Depth                       | 169 mm                                                                                                                                                                        |
| Net weight                  | 7 kg                                                                                                                                                                          |
| Motor power range AC-3      | 7...11 kW at 200...240 V 3 phases<br>15...25 kW at 380...440 V 3 phases<br>30...50 kW at 480...500 V 3 phases                                                                 |
| Motor starter type          | Soft starter                                                                                                                                                                  |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility         | Conducted and radiated emissions level A conforming to IEC 60947-4-2<br>Damped oscillating waves level 3 conforming to IEC 61000-4-12<br>Electrostatic discharge level 3 conforming to IEC 61000-4-2<br>Immunity to electrical transients level 4 conforming to IEC 61000-4-4<br>Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3<br>Voltage/current impulse level 3 conforming to IEC 61000-4-5 |
| Standards                             | EN/IEC 60947-4-2                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Product certifications                | GOST<br>CSA<br>UL<br>C-Tick<br>CCC                                                                                                                                                                                                                                                                                                                                                                                                     |
| Vibration resistance                  | 1 gn (f= 13...200 Hz) conforming to EN/IEC 60068-2-6<br>1.5 mm (f= 2...13 Hz) conforming to EN/IEC 60068-2-6                                                                                                                                                                                                                                                                                                                           |
| Shock resistance                      | 15 gn for 11 ms conforming to EN/IEC 60068-2-27                                                                                                                                                                                                                                                                                                                                                                                        |
| Noise level                           | 45 dB                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pollution degree                      | Level 2 conforming to IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                      |
| Relative humidity                     | 0...95 % without condensation or dripping water conforming to EN/IEC 60068-2-3                                                                                                                                                                                                                                                                                                                                                         |
| Ambient air temperature for operation | -10...40 °C (without derating)<br>40...60 °C (with current derating 2.2 % per °C)                                                                                                                                                                                                                                                                                                                                                      |

|                                     |                                                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| Ambient air temperature for storage | -25...70 °C                                                                                         |
| Operating altitude                  | <= 1000 m without derating<br>> 1000...< 2000 m with current derating of 2.2 % per additional 100 m |

### Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Weight             | 5.79 kg |
| Package 1 Height             | 23.5 cm |
| Package 1 width              | 31 cm   |
| Package 1 Length             | 36 cm   |
| Unit Type of Package 2       | P06     |
| Number of Units in Package 2 | 10      |
| Package 2 Weight             | 95.0 kg |
| Package 2 Height             | 73.5 cm |
| Package 2 width              | 80 cm   |
| Package 2 Length             | 60 cm   |

### Offer Sustainability

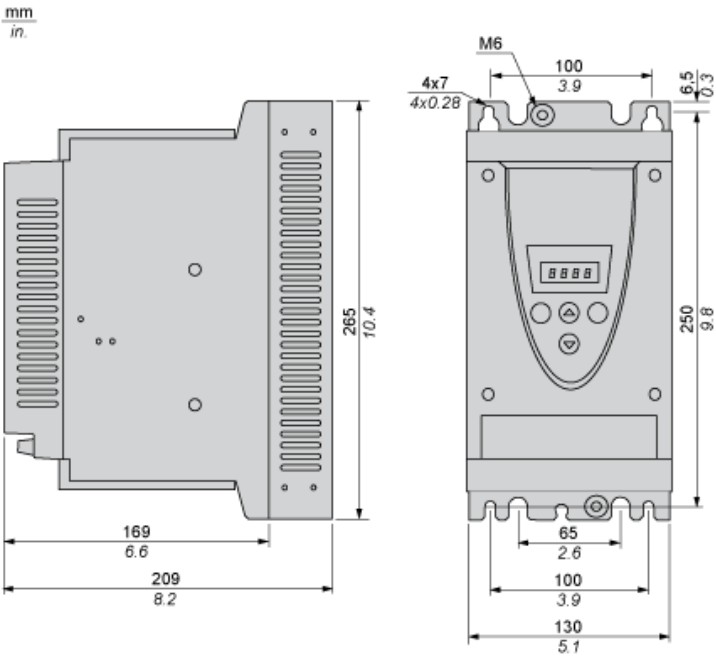
|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a>                           |
| Mercury free               | Yes                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                               |
| Circularity Profile        | <a href="#">End of Life Information</a>                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Frame Size A

Dimensions



Precautions

Standards

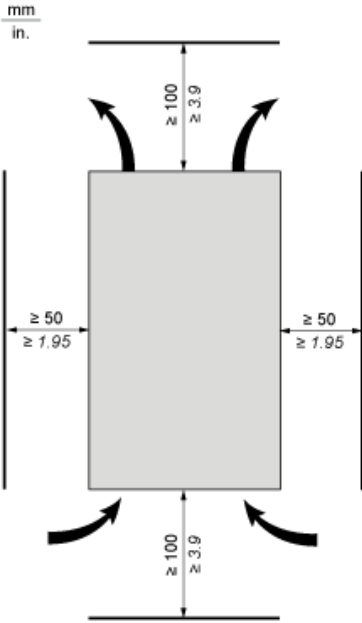
The Altistart 22 soft starter is compliant with pollution Degree 2 as defined in NEMA ICS1-1 or IEC 60664-1.  
For environment pollution degree 3, install the Altistart 22 soft starter inside a cabinet type 12 or IP54.

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH  
ATS22 soft starters are open devices and must be mounted in a suitable enclosure.  
Failure to follow these instructions will result in death or serious injury.

Air Circulation

Leave sufficient free space to help the air required for cooling purposes to circulate from the bottom to the top of the unit.



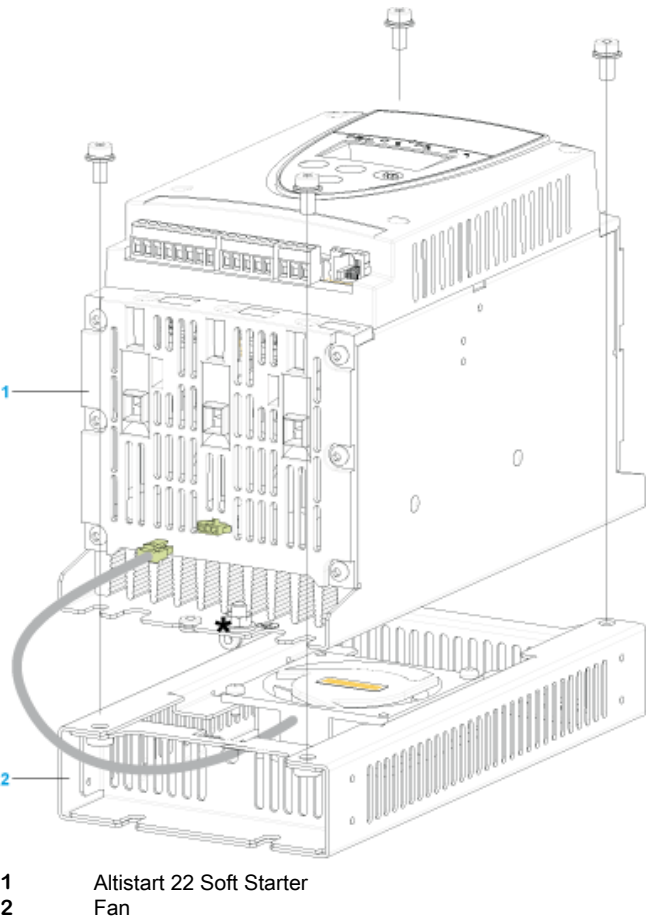
Overheating

To avoid the soft starter to overheat, respect the following recommendations:

- Mount the Altistart 22 Soft Starter within  $\pm 10^\circ$  of vertical.
- Do not locate the Altistart 22 Soft Starter near heat radiating elements.
- Electrical current through the Altistart 22 Soft Starter will result in heat losses that must be dissipated into the ambient air immediately surrounding the unit.
- If several soft starters are installed in a control panel, arrange them in a row. Do not stack soft starters. Heat generated from the bottom soft starter can affect the top ones.

Mounting

Connection Between the Fan and the Altistart 22 Soft Starter



Wall mounted or Floor-standing Enclosure with IP 23 Degree of protection

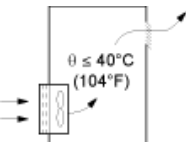
Introduction

To help proper air circulation in the soft starter, grilles and forced ventilation can be installed.

Ventilation Grilles

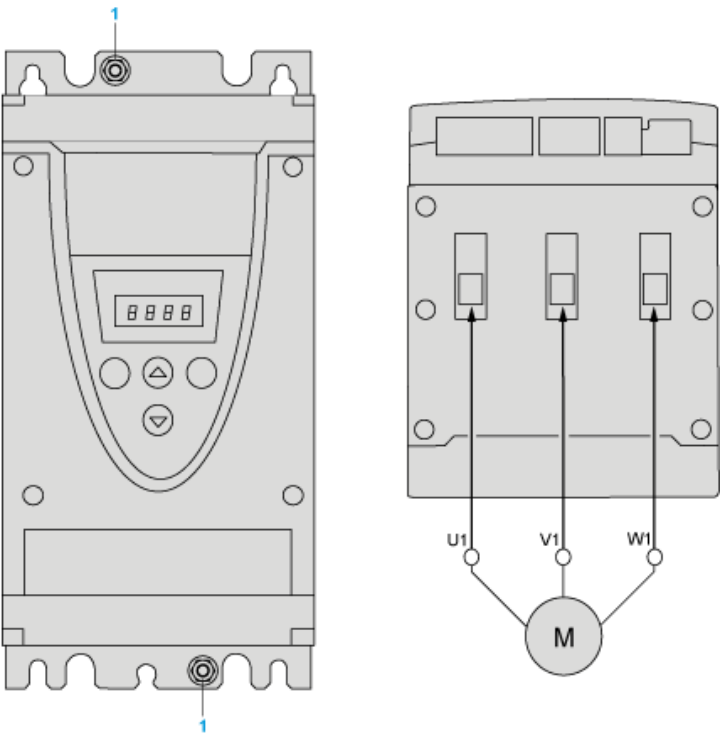


Forced Ventilation Unit



Power Terminal

Cage Style



1 Ground connection

Power connections, minimum and maximum wiring capabilities, tightening torque

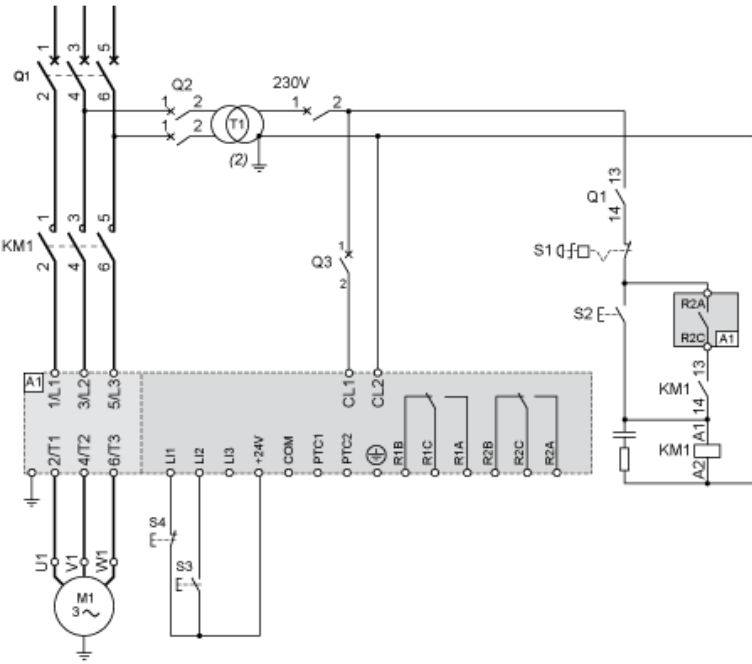
|                                  |                   |     | IEC cable | UL cable    |
|----------------------------------|-------------------|-----|-----------|-------------|
| Power supply and output to motor | Size/gauge        | min | 2.5 mm    | 12 AWG      |
|                                  |                   | max | 16 mm     | 4 AWG       |
|                                  | Tightening torque | min | 3 N.m     | 26.25 lb.in |
|                                  |                   | max | 3 N.m     | 26.25 lb.in |
|                                  | Strip length      |     | 10 mm     | 0.4 in.     |

Power connections, minimum required wiring section

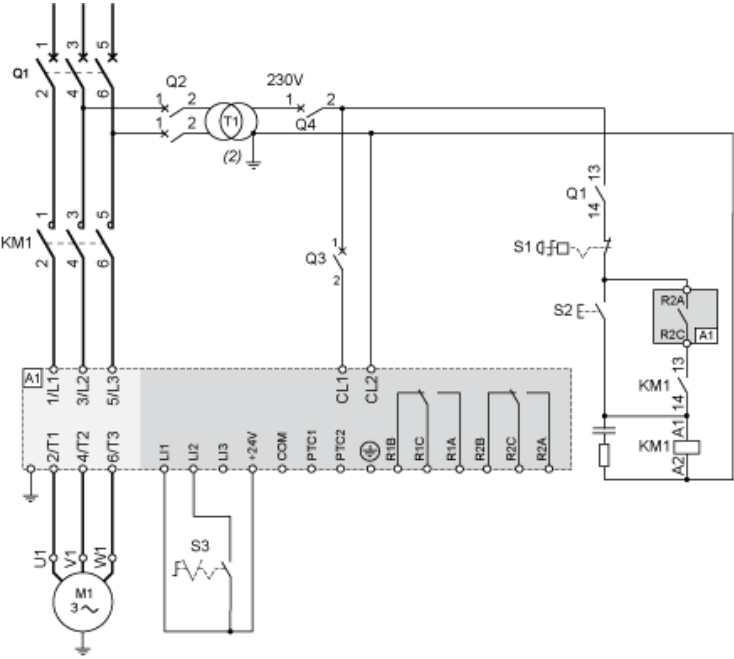
| IEC cable<br>mm² (Cu 70°C/158°F) (1) | UL cable<br>AWG (Cu 75°C/167°F) (1) |
|--------------------------------------|-------------------------------------|
| 10                                   | 6                                   |

230 Vac control, logic Inputs (LI) 24 Vdc, 3-wire control

With Line Contactor, Freewheel or Controlled Stop

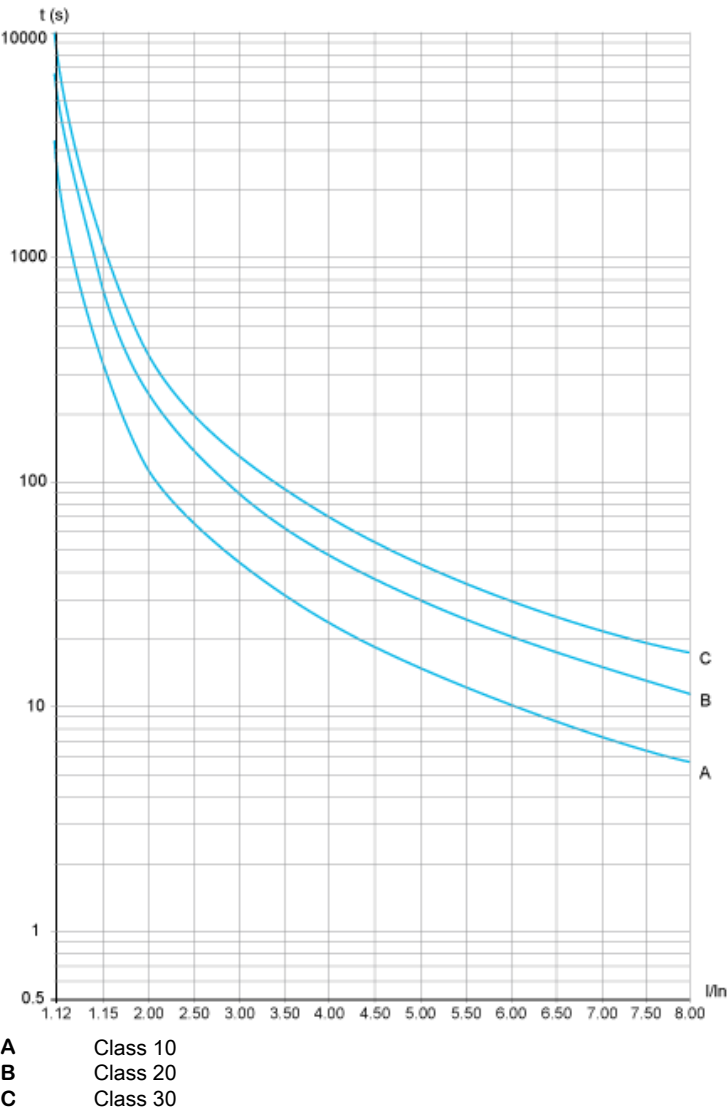


230 Vac control, logic Inputs (LI) 24 Vdc, 2-wire control, freewheel stop



Motor Thermal Protection - Cold Curves

Curves



Trip time for a Standard Application (Class 10)

|        |
|--------|
| 3.5 In |
| 32 s   |

Trip time for a Severe Application (Class 20)

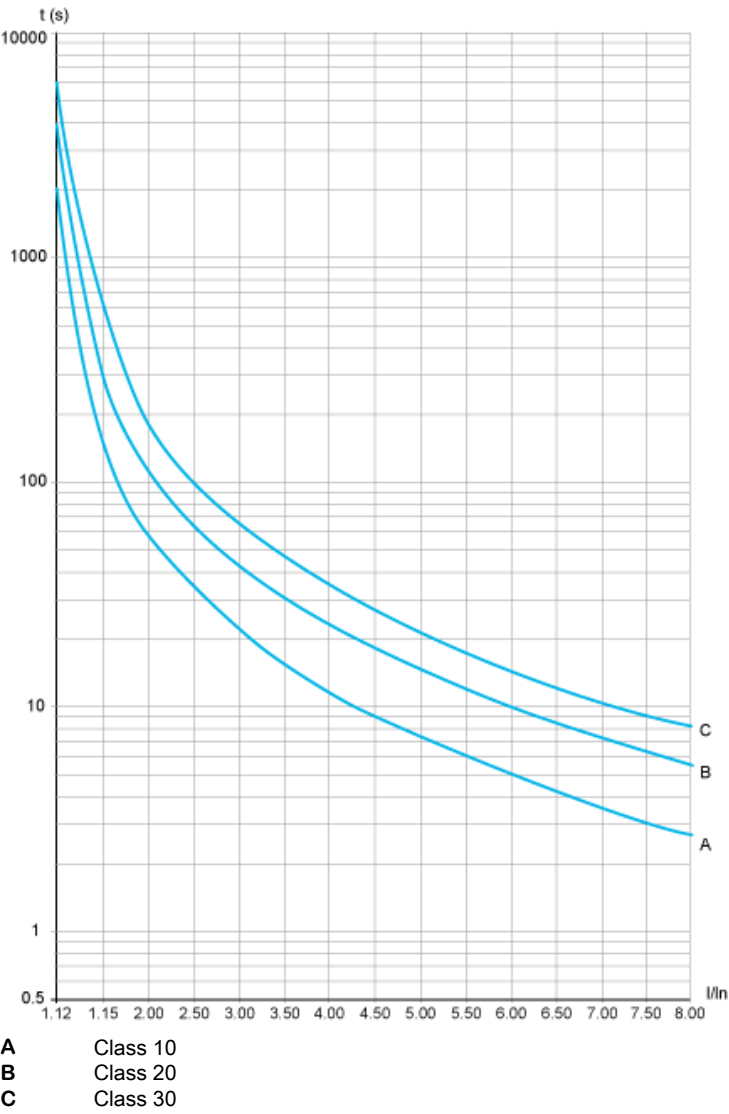
|        |
|--------|
| 3.5 In |
| 63 s   |

Trip time for a Severe Application (Class 30)

|        |
|--------|
| 3.5 In |
| 95 s   |

Motor Thermal Protection - Warm Curves

Curves



Trip time for a Standard Application (Class 10)

|        |
|--------|
| 3.5 In |
| 16 s   |

Trip time for a Severe Application (Class 20)

|        |
|--------|
| 3.5 In |
| 32 s   |

Trip time for a Severe Application (Class 30)

|        |
|--------|
| 3.5 In |
| 48 s   |