

# ATS22D88S6

soft starter-ATS22-control 220V-power  
230V(22kW)/400...440V(45kW)/500V(55kW)



## 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                                                                  |
| Phase                        | 3 phase                                                                |
| [Us] rated supply voltage    | 230...600 V - 15...10 %                                                |
| Motor power kW               | 22 KW 230 V<br>45 KW 400 V<br>45 KW 440 V<br>55 kW 500 V               |
| Factory setting current      | 77 A                                                                   |
| Power dissipation in W       | 66 W for standard applications                                         |
| Utilisation category         | AC-53A                                                                 |
| Type of start                | Start with torque control (current limited to 3.5 In)                  |
| ICL starter rating           | 88 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 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 < 5 V <= 2 mA > 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                 | 11.61 in (295 mm)                                                                                   |
| Maximum Width          | 5.71 in (145 mm)                                                                                    |
| Depth                  | 8.15 in (207 mm)                                                                                    |
| Net Weight             | 26.46 lb(US) (12 kg)                                                                                |
| Motor power range AC-3 | 55...100 KW 480...500 V 3 phase<br>15...25 KW 200...240 V 3 phase<br>30...50 kW 380...440 V 3 phase |
| Motor starter type     | Soft starter                                                                                        |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility         | Conducted and radiated emissions level A IEC 60947-4-2<br>Damped oscillating waves level 3 IEC 61000-4-12<br>Electrostatic discharge level 3 IEC 61000-4-2<br>Immunity to electrical transients level 4 IEC 61000-4-4<br>Immunity to radiated radio-electrical interference level 3 IEC 61000-4-3<br>Voltage/current impulse level 3 IEC 61000-4-5 |
| Standards                             | EN/IEC 60947-4-2                                                                                                                                                                                                                                                                                                                                   |
| Product certifications                | CCC<br>GOST<br>C-tick<br>CSA<br>UL                                                                                                                                                                                                                                                                                                                 |
| Vibration resistance                  | 1 gn 13...200 Hz)EN/IEC 60068-2-6<br>1.5 mm 2...13 Hz)EN/IEC 60068-2-6                                                                                                                                                                                                                                                                             |
| Shock resistance                      | 15 gn 11 ms EN/IEC 60068-2-27                                                                                                                                                                                                                                                                                                                      |
| Noise level                           | 45 dB                                                                                                                                                                                                                                                                                                                                              |
| Pollution degree                      | Level 2 IEC 60664-1                                                                                                                                                                                                                                                                                                                                |
| Relative humidity                     | 0...95 % without condensation or dripping water EN/IEC 60068-2-3                                                                                                                                                                                                                                                                                   |
| Ambient air temperature for operation | -10...40 °C (without derating)<br>104...140 °F (40...60 °C) with current derating 2.2 % per °C)                                                                                                                                                                                                                                                    |
| Ambient air temperature for storage   | -13...158 °F (-25...70 °C)                                                                                                                                                                                                                                                                                                                         |
| Operating altitude                    | <= 3280.84 ft (1000 m) without derating<br>> 3280.84...< 6561.68 ft (> 1000...< 2000 m) with current derating of 2.2 % per additional 100 m                                                                                                                                                                                                        |

## Ordering and shipping details

|                       |                         |
|-----------------------|-------------------------|
| Category              | 22576 - ATS22 ALTISTART |
| Discount Schedule     | CP1G                    |
| GTIN                  | 00785901929574          |
| Nbr. of units in pkg. | 1                       |
| Package weight(Lbs)   | 17.82 lb(US) (8.08 kg)  |
| Returnability         | No                      |
| Country of origin     | ID                      |

## Packing Units

|                              |                   |
|------------------------------|-------------------|
| Unit Type of Package 1       | PCE               |
| Package 1 Height             | 9.25 in (23.5 cm) |
| Package 1 width              | 12.20 in (31 cm)  |
| Package 1 Length             | 14.17 in (36 cm)  |
| Unit Type of Package 2       | P06               |
| Number of Units in Package 2 | 6                 |

|                  |                           |
|------------------|---------------------------|
| Package 2 Weight | 141.28 lb(US) (64.084 kg) |
| Package 2 Height | 28.94 in (73.5 cm)        |
| Package 2 width  | 31.50 in (80 cm)          |
| Package 2 Length | 23.62 in (60 cm)          |

## Offer Sustainability

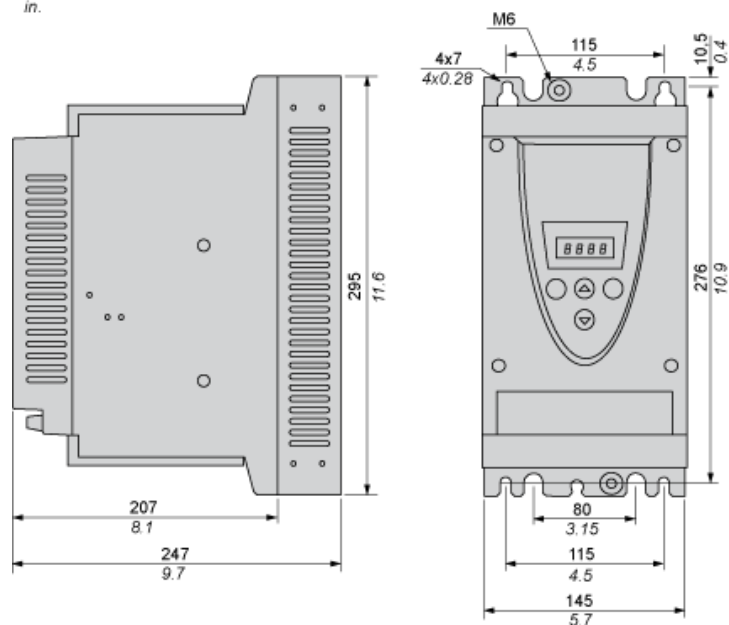
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <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 B

## Dimensions

$$\frac{\text{mm}}{\text{in.}}$$


## 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

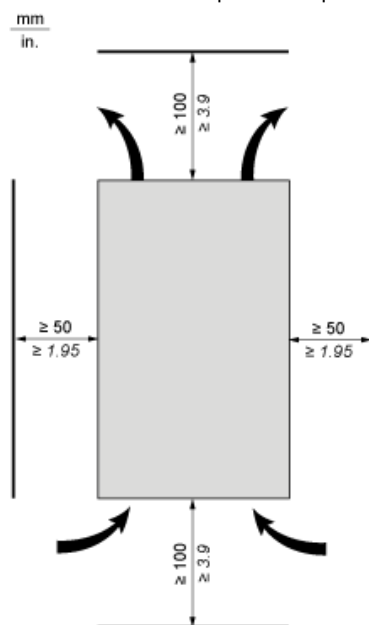
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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.



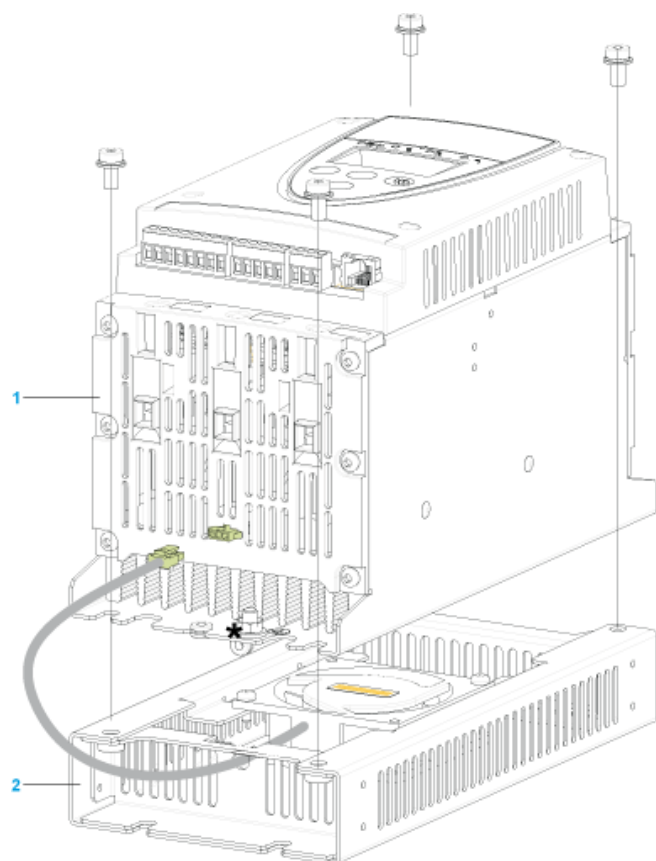
### Overheating

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 soft starter. To help prevent a thermal fault, provide sufficient enclosure cooling and/or ventilation to limit the ambient temperature around the soft starter.
- 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 adversely affect the ambient temperature around the top soft starter.

## Mounting

## Connection Between the Fan and the Altistart 22 Soft Starter



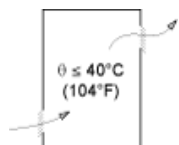
- 1 Altistart 22 Soft Starter
- 2 Fan

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

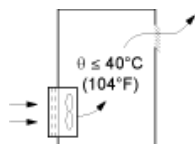
### Introduction

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

### Ventilation Grilles

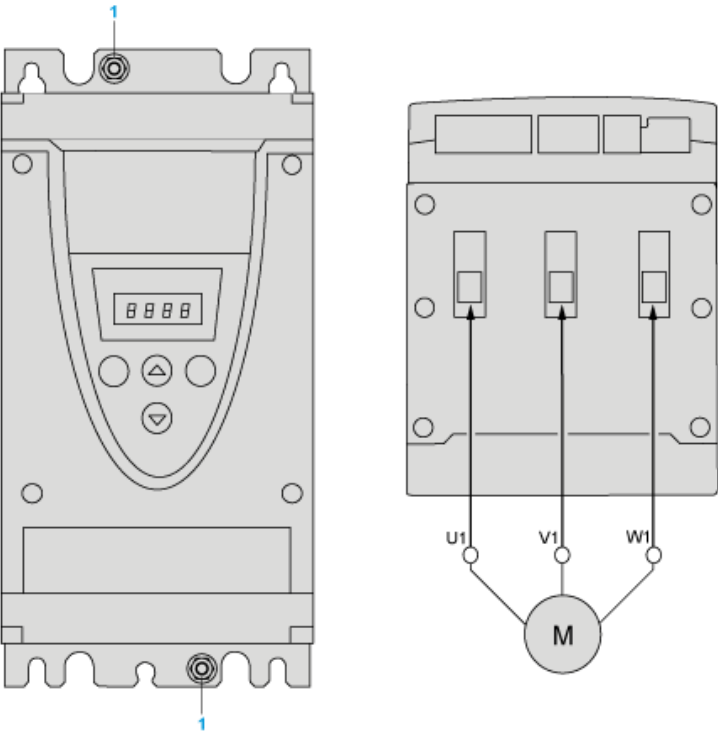


### Forced Ventilation Unit



Power Terminal

Cage Style



1 Ground connection

Power connections, minimum and maximum wiring capabilities, tightening torque

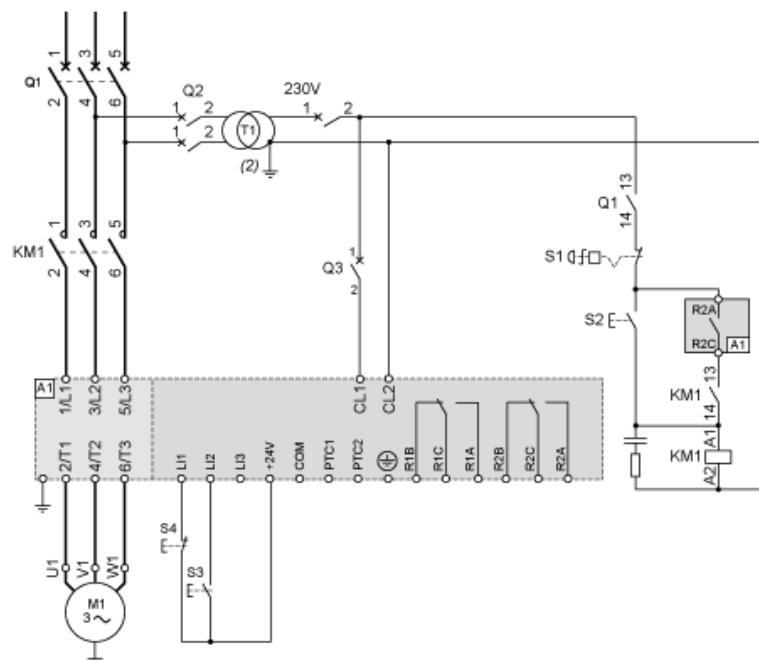
|                                  |            |          | IEC cable | UL cable   |
|----------------------------------|------------|----------|-----------|------------|
| Power supply and output to motor | Size/gauge | min      | 4 mm (a)  | 10 AWG (a) |
| max                              | 50 mm      | 1/0 AWG  |           |            |
| Tightening torque                | min        | 8 N.m    | 70 lb.in  |            |
| max                              | 8 N.m      | 70 lb.in |           |            |
| Strip length                     |            | 15 mm    | 0.6 in.   |            |

Power connections, minimum required wiring section

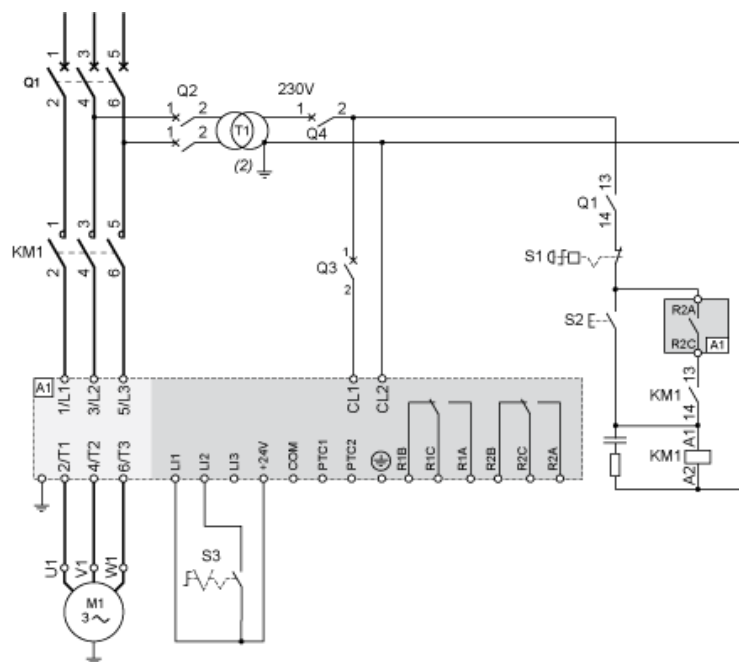
|                                      |                                     |
|--------------------------------------|-------------------------------------|
| IEC cable<br>mm² (Cu 70°C/158°F) (1) | UL cable<br>AWG (Cu 75°C/167°F) (1) |
| 35                                   | 2                                   |

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

### With Line Contactor, Freewheel or Controlled Stop



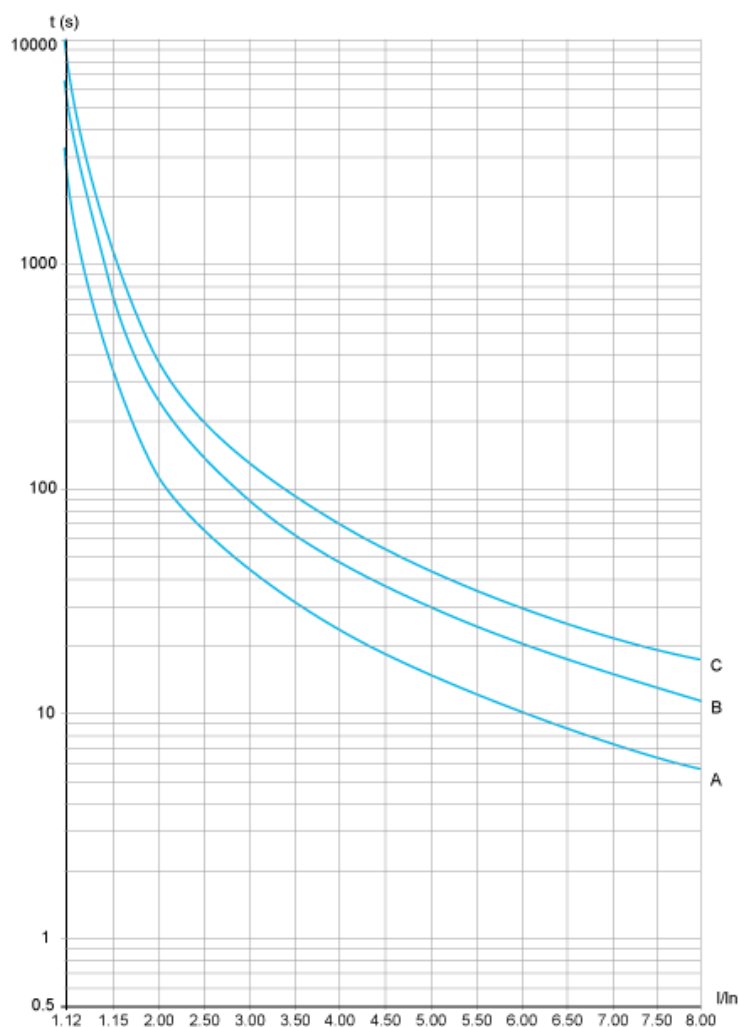
230 Vac control, logic Inputs (LI) 24 Vdc, 2-wire control, freewheel stop





## Motor Thermal Protection - Cold Curves

### Curves



- A Class 10
- B Class 20
- C Class 30

### Trip time for a Standard Application (Class 10)

|           |
|-----------|
| 3.5 $I_n$ |
| 32 s      |

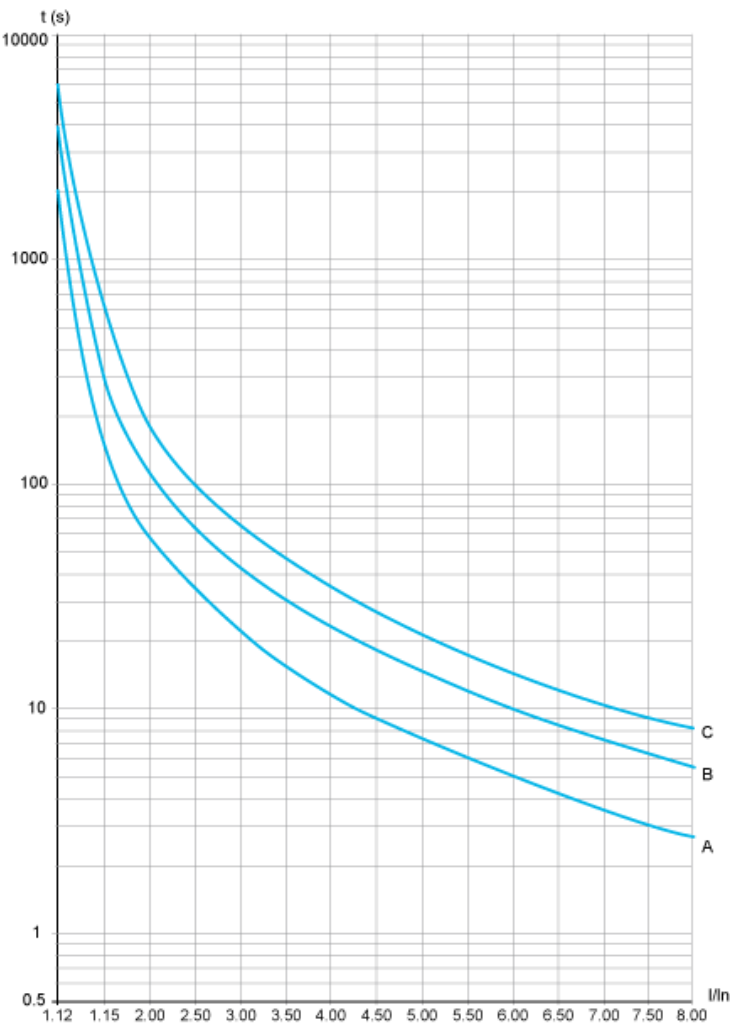
### Trip time for a Severe Application (Class 20)

|           |
|-----------|
| 3.5 $I_n$ |
| 63 s      |

### Trip time for a Severe Application (Class 30)

|           |
|-----------|
| 3.5 $I_n$ |
| 95 s      |

Curves



- A Class 10
- B Class 20
- C Class 30

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   |