

# Product datasheet

Specifications



soft starter for asynchronous motor,  
Altistart 22, control 230V, 230 to  
440V, 160 to 355kW

ATS22C59Q

## 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...440 V - 15...10 %
Motor Power Kw	160 kW 230 V 315 kW 400 V 355 kW 440 V
Factory Setting Current	560 A
Power Dissipation In W	251 W for standard applications
Utilisation Category	AC-53A
Type Of Start	Start with torque control (current limited to 3.5 In)
Icl Starter Rating	590 A for connection in the motor supply line for standard applications
Ip Degree Of Protection	IP00

## Complementary

Assembly Style	With heat sink
Function Available	Internal bypass
Supply Voltage Limits	195...484 V
Supply Frequency	50...60 Hz - 10...10 %
Network Frequency	45...66 Hz
Device Connection	To the motor delta terminals 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 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)

<b>Maximum Switching Current</b>	5 A 250 V AC resistive 1 relay outputs 5 A 30 V DC resistive 1 relay outputs 2 A 250 V AC inductive 0.4 20 ms relay outputs 2 A 30 V DC inductive 7 ms relay outputs
<b>Discrete Input Number</b>	3
<b>Discrete Input Type</b>	(LI1, LI2, LI3) logic, 5 mA 4.3 kOhm
<b>Discrete Input Voltage</b>	24 V ≤ 30 V
<b>Discrete Input Logic</b>	Positive logic LI1, LI2, LI3 at State 0: < 5 V and ≤ 2 mA at State 1: > 11 V, ≥ 5 mA
<b>Output Current</b>	0.4...1 Icl adjustable
<b>Ptc Probe Input</b>	750 Ohm
<b>Communication Port Protocol</b>	Modbus
<b>Connector Type</b>	1 RJ45
<b>Communication Data Link</b>	Serial
<b>Physical Interface</b>	RS485 multidrop
<b>Transmission Rate</b>	4800, 9600 or 19200 bps
<b>Installed Device</b>	31
<b>Protection Type</b>	Phase failure: line Thermal protection: motor Thermal protection: starter
<b>Marking</b>	CE
<b>Type Of Cooling</b>	Forced convection
<b>Operating Position</b>	Vertical +/- 10 degree
<b>Height</b>	455 mm
<b>Width</b>	304 mm
<b>Depth</b>	339.7 mm
<b>Net Weight</b>	50 kg
<b>Motor Power Range Ac-3</b>	110...220 kW at 200...240 V 3 phases 250...500 kW at 380...440 V 3 phases
<b>Motor Starter Type</b>	Soft starter

## Environment

<b>Electromagnetic Compatibility</b>	Conducted and radiated emissions level A conforming to IEC 60947-4-2 Damped oscillating waves level 3 conforming to IEC 61000-4-12 Electrostatic discharge level 3 conforming to IEC 61000-4-2 Immunity to electrical transients level 4 conforming to IEC 61000-4-4 Immunity to radiated radio-electrical interference level 3 conforming to IEC 61000-4-3 Voltage/current impulse level 3 conforming to IEC 61000-4-5
<b>Standards</b>	EN/IEC 60947-4-2
<b>Product Certifications</b>	UL CCC C-Tick CSA GOST
<b>Vibration Resistance</b>	1 gn (f= 13...200 Hz) conforming to EN/IEC 60068-2-6 1.5 mm (f= 2...13 Hz) conforming to EN/IEC 60068-2-6
<b>Shock Resistance</b>	15 gn for 11 ms conforming to EN/IEC 60068-2-27
<b>Noise Level</b>	56 dB
<b>Pollution Degree</b>	Level 2 conforming to IEC 60664-1
<b>Relative Humidity</b>	0...95 % without condensation or dripping water conforming to EN/IEC 60068-2-3

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<b>Ambient Air Temperature For Operation</b>	-10...40 °C (without derating) 40...60 °C (with current derating 2.2 % per °C)
<b>Ambient Air Temperature For Storage</b>	-25...70 °C
<b>Operating Altitude</b>	<= 1000 m without derating > 1000...< 2000 m with current derating of 2.2 % per additional 100 m

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## Packing Units

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<b>Unit Type Of Package 1</b>	PCE
<b>Number Of Units In Package 1</b>	1
<b>Package 1 Height</b>	54.864 cm
<b>Package 1 Width</b>	57.15 cm
<b>Package 1 Length</b>	40.64 cm
<b>Package 1 Weight</b>	37 kg

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## Contractual warranty

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<b>Warranty</b>	18 months
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## Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

**Guide to assessing product sustainability** is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

[Learn more about Green Premium >](#)

[Guide to assess a product's sustainability >](#)

## Well-being performance

 Mercury Free

 Rohs Exemption Information [Yes](#)

**Reach Regulation** [REACH Declaration](#)

**Eu Rohs Directive** Pro-active compliance (Product out of EU RoHS legal scope)

**China Rohs Regulation** [China RoHS declaration](#)

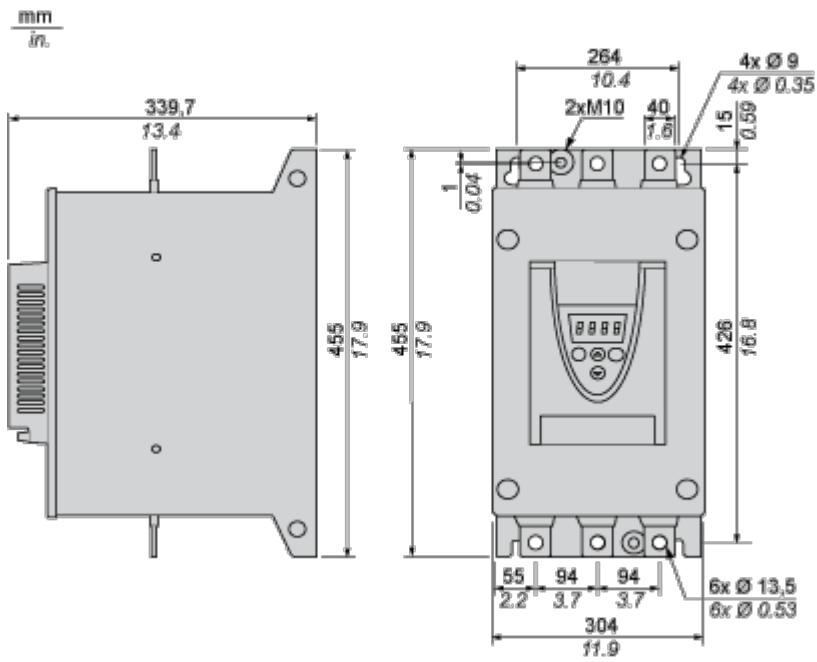
**Weee** The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Dimensions Drawings

Frame Size E

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Dimensions



Mounting and Clearance

Precautions

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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**

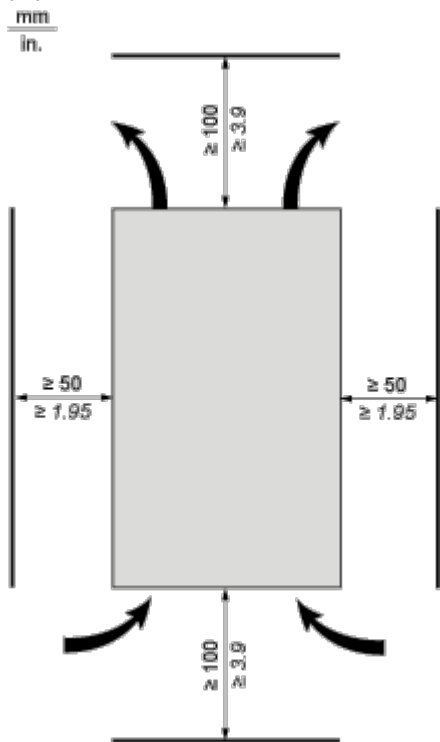
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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:

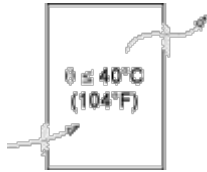
- Mount the Altistart 22 Soft Starter within  $\pm 10^\circ$  of vertical.
- Do not locate the Altistart 22 Soft Starter near heat radiating elements.
- Electrical current through the Altistart 22 Soft Starter will result in heat losses that must be dissipated into the ambient air immediately surrounding 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.

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

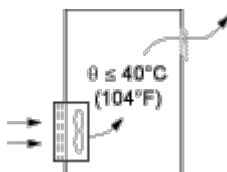
**Introduction**

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

**Ventilation Grilles**



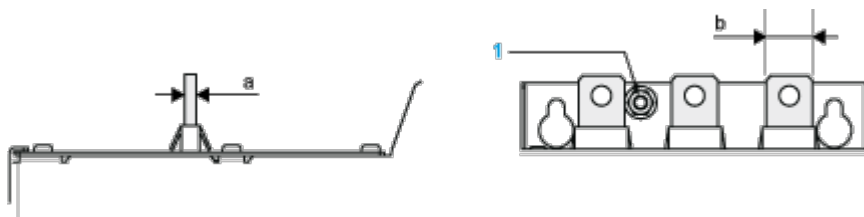
**Forced Ventilation Unit**



Connections and Schema

Power Terminal

Bar Style



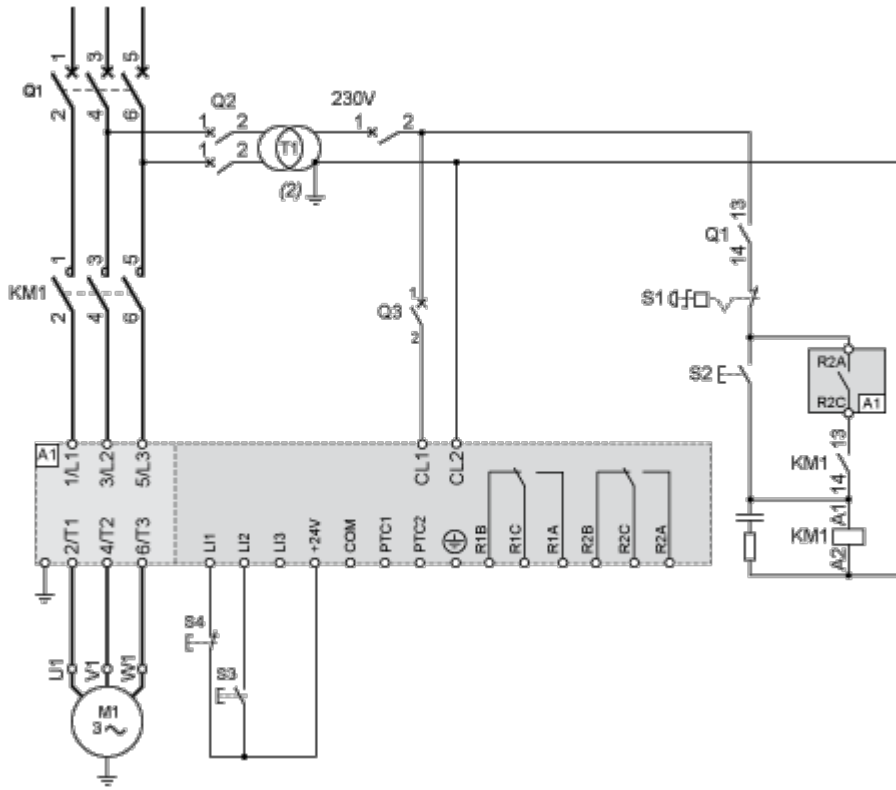
Power supply and output to motor	Bar	b	40 mm (1.18 in)
		a	5 mm (0.2 in)
		Bolt	M12 (0.47 in)
	Cable and protective cover	Size	2X240 mm <sup>2</sup>
		Gauge	2X500 MCM
		Protective cover	LA9F703
		Tightening torque	57 N.m
			498.75 lb.in

Power connections, minimum required wiring section

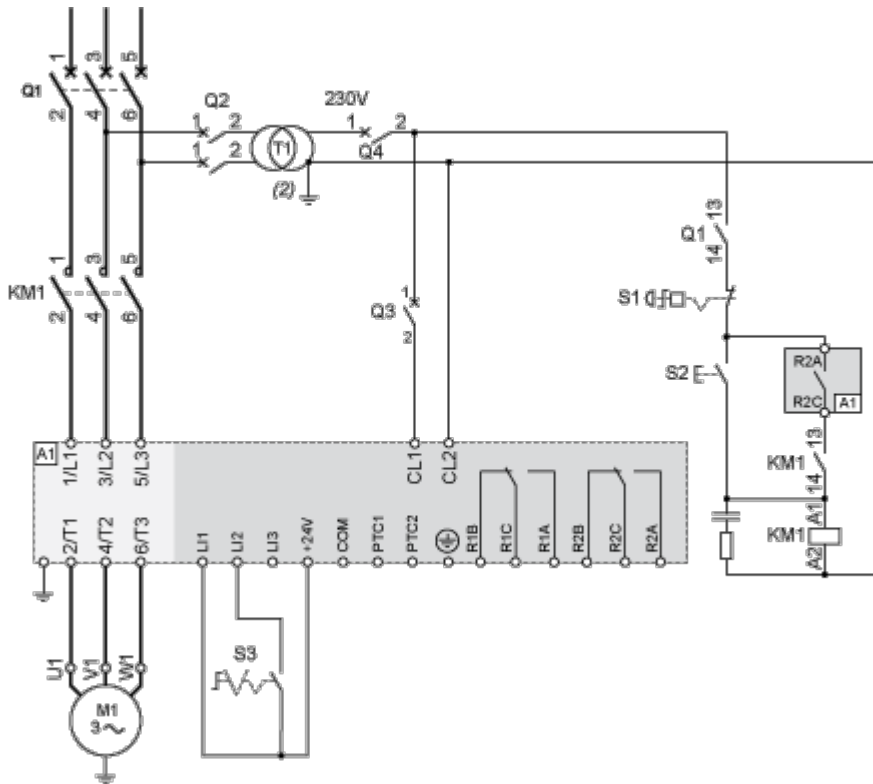
IEC cable mm <sup>2</sup> (Cu 70°C/158°F) (1)	UL cable AWG (Cu 75°C/167°F) (1)
2 X 185	2 X 500 MCM

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

With Line Contactor, Freewheel or Controlled Stop



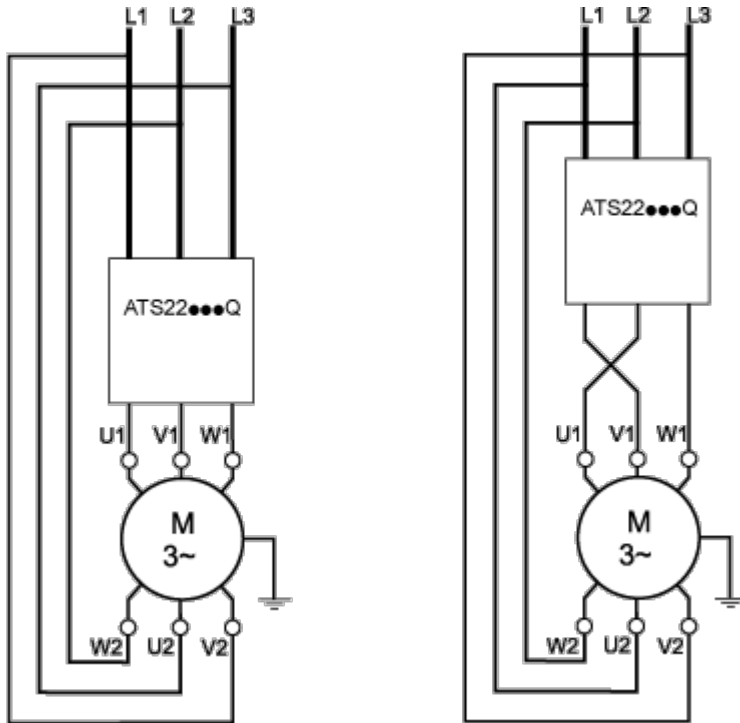
230 Vac control, logic Inputs (LI) 24 Vdc, 2-wire control, freewheel stop



Connection in the motor delta winding in series with each winding

**Wiring**

ATS22 soft starters connected to motors with the delta connections can be inserted in series in the motor windings. The following wiring requires particular attention. It is documented in the Altistart 22 Soft start - soft stop unit user manual. Please contact Schneider Electric commercial organisation for further informations.



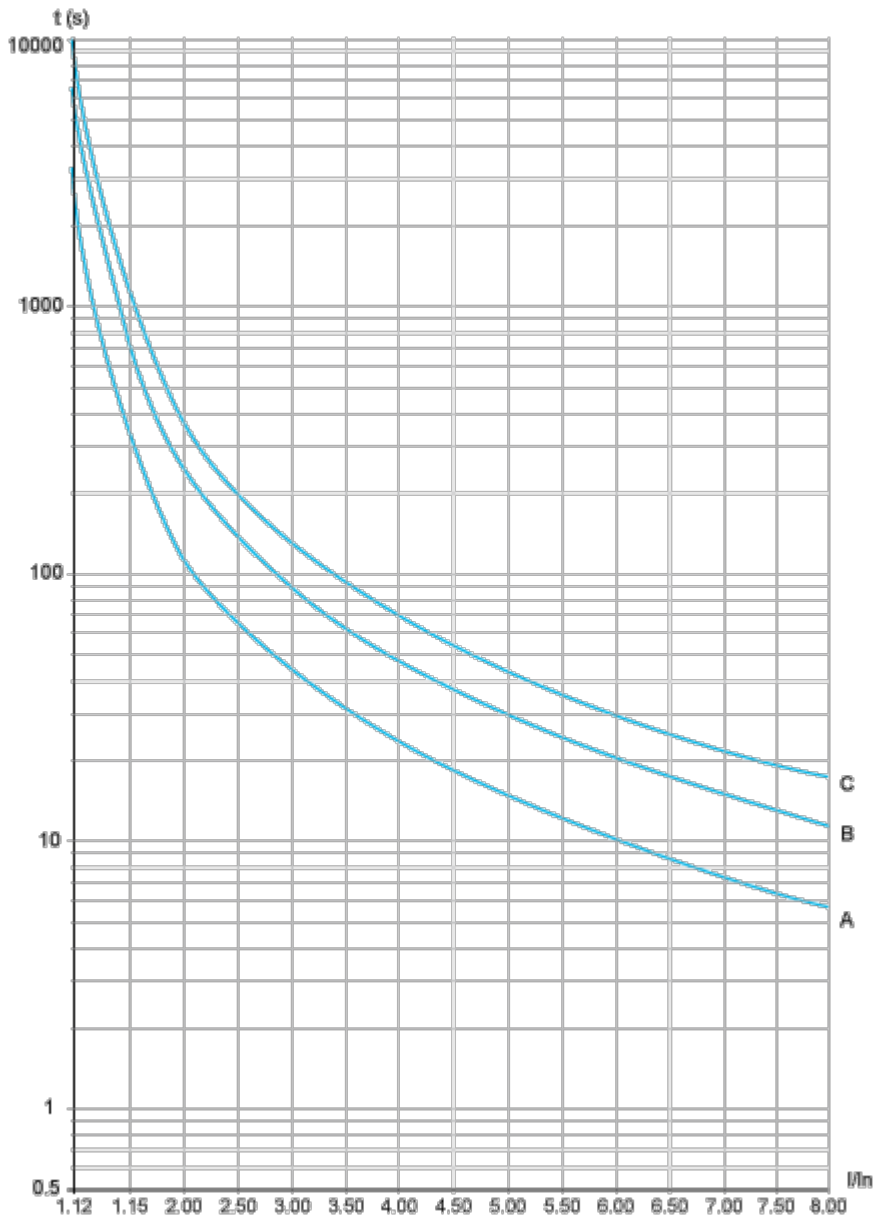
**Example**

A 400 V - 110 kW motor with a line current of 195 A (nominal current for the delta connection). The current in each winding is equal to  $195/1.5$  or 130 A. The rating is determined by selecting the soft starter with a permanent nominal current (ICL) just above this current.

Performance Curves

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 In
32 s

Trip time for a Severe Application (Class 20)

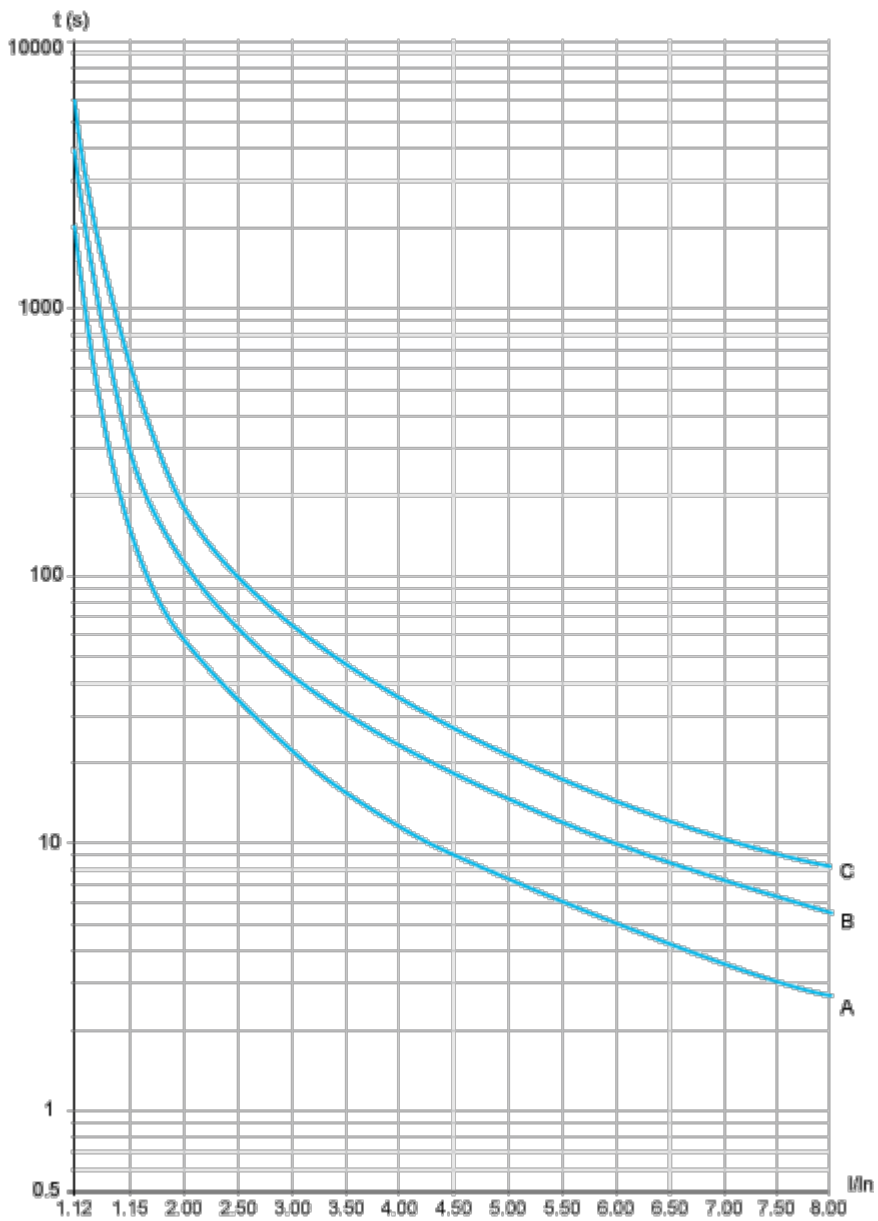
3.5 In
63 s

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

3.5 In
95 s

Motor Thermal Protection - Warm Curves

Curves



- 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
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32 s

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

3.5 In

48 s