# Product datasheet

Specifications

## soft starter for asynchronous motor, Altistart 22, control 230V, 230 to 440V, 39 to 55kW

ATS22C11Q

## 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** | 39 kW 230 V<br>55 kW 400 V<br>55 kW 440 V |
| **Factory setting current** | 100 A |
| **Power dissipation in W** | 73 W for standard applications |
| **Utilisation category** | AC-53A |
| **Type of start** | Start with torque control (current limited to 3.5 In) |
| **IcL starter rating** | 110 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…484 V |
| **Supply frequency** | 50...60 Hz - 10...10 % |
| **Network frequency** | 45...66 Hz |
| **Device connection** | In the motor supply line<br>To the motor delta terminals |
| **[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** | 356 mm |
| **Width** | 150 mm |
| **Depth** | 229.5 mm |
| **Net weight** | 18 kg |
| **Motor power range AC-3** | 30…50 kW at 200…240 V 3 phases<br>55…100 kW at 380…440 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** | UL<br>CSA<br>GOST<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** | 56 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 Height** | 25.000 cm |
| **Package 1 Width** | 33.000 cm |
| **Package 1 Length** | 41.000 cm |
| **Package 1 Weight** | 12.744 kg |
| **Unit Type of Package 2** | P06 |
| **Number of Units in Package 2** | 4 |
| **Package 2 Height** | 75.000 cm |
| **Package 2 Width** | 60.000 cm |
| **Package 2 Length** | 80.000 cm |
| **Package 2 Weight** | 64.472 kg |

## Offer Sustainability

| | |
|---|---|
| **REACh Regulation** | REACh Declaration |
| **EU RoHS Directive** | Pro-active compliance (Product out of EU RoHS legal scope)<br>EU RoHS Declaration |
| **Mercury free** | Yes |
| **China RoHS Regulation** | China RoHS declaration |
| **RoHS exemption information** | Yes |
| **WEEE** | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

## Contractual warranty

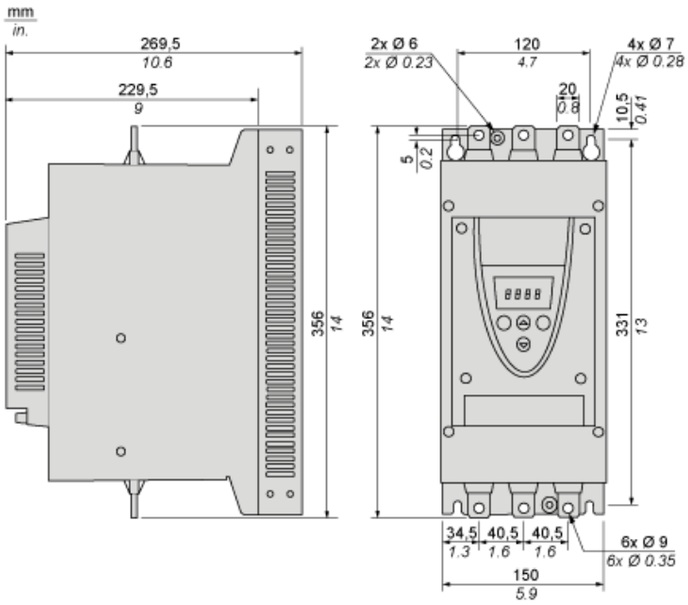
| | |
|---|---|
| **Warranty** | 18 months |

# Product datasheet ATS22C11Q

Dimensions Drawings

## Frame Size C

### 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**

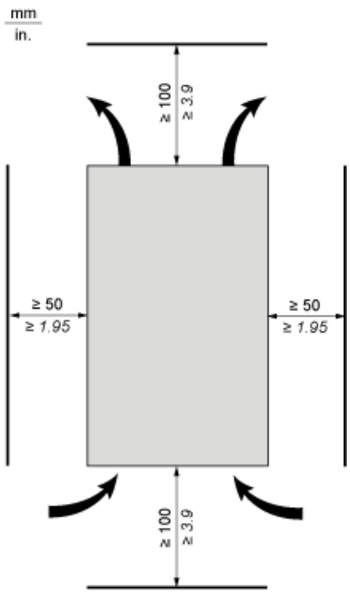
HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

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.



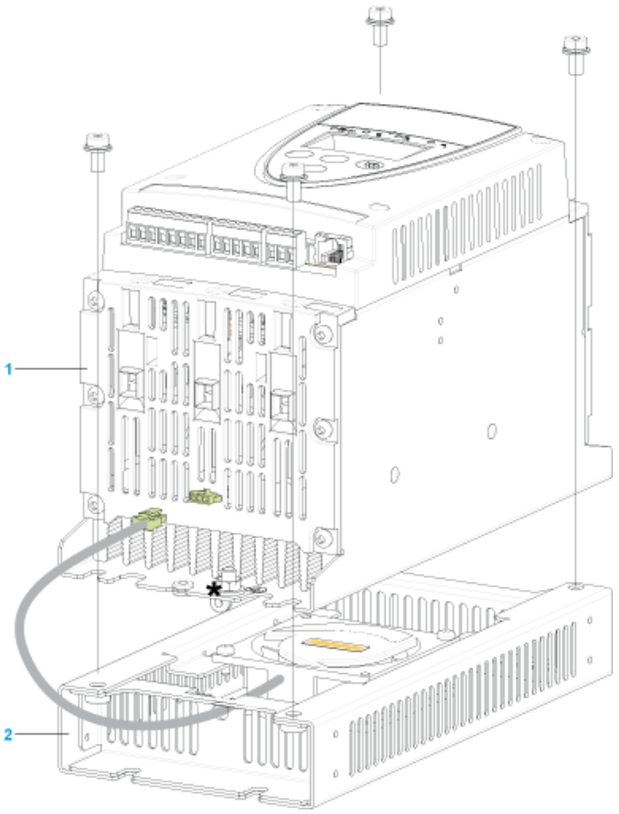

### Overheating

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

- Mount the Altistart 22 Soft Starter within ± 10° 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
- 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 ca

## Mounting

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



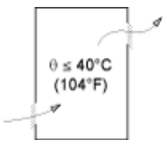

**1** Altistart 22 Soft Starter
**2** Fan

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

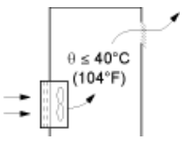
### Introduction

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

### Ventilation Grilles

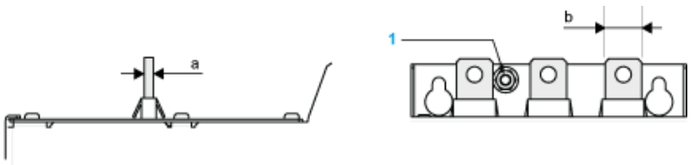



### Forced Ventilation Unit



## Power Terminal

### Bar Style



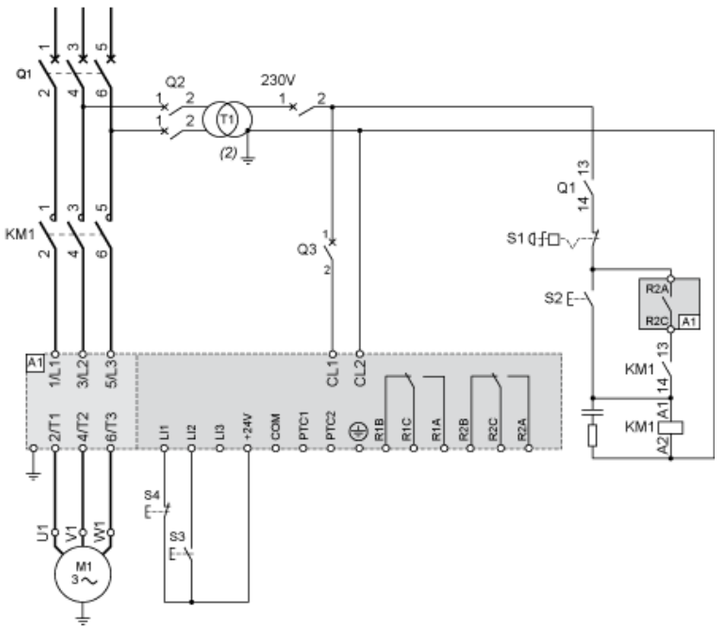

| | | | |
|---|---|---|---|
| Power supply and output to motor | Bar | b | 20 mm (0.79 in) |
| | | a | 5 mm (0.2 in) |
| | | Bolt | M8 (0.31 in) |
| | Cable and protective cover | Size | 95 mm² |
| | | Gauge | 250 MCM |
| | | Protective cover | LA9F702 |
| | | Tightening torque | 18 N.m |
| | | | 157.5 lb.in |

### Power connections, minimum required wiring section

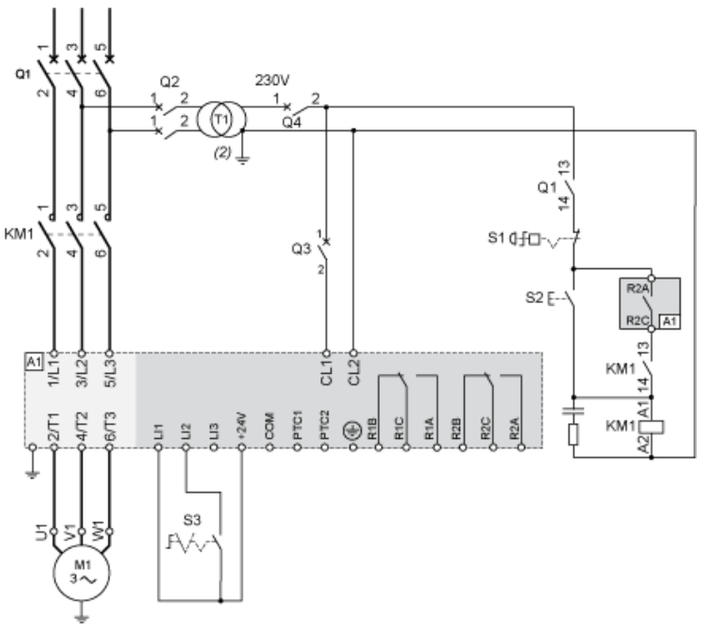
| IEC cable<br>mm² (Cu 70°C/158°F) (1) | UL cable<br>AWG (Cu 75°C/167°F) (1) |
|---|---|
| 35 | 1/0 |

## 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

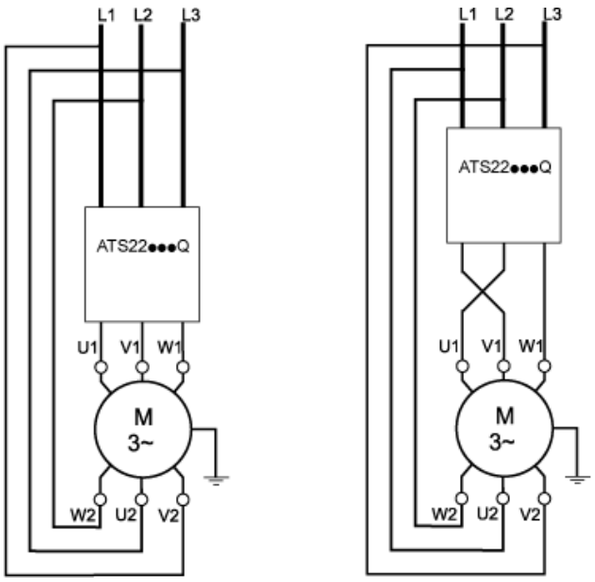


## Connection in the motor delta winding in series with each winding

### Wiring

ATS22 soft starters connected to motors with the delta connections can be inserted in series in the motor windings.

The following wiring requieres 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.

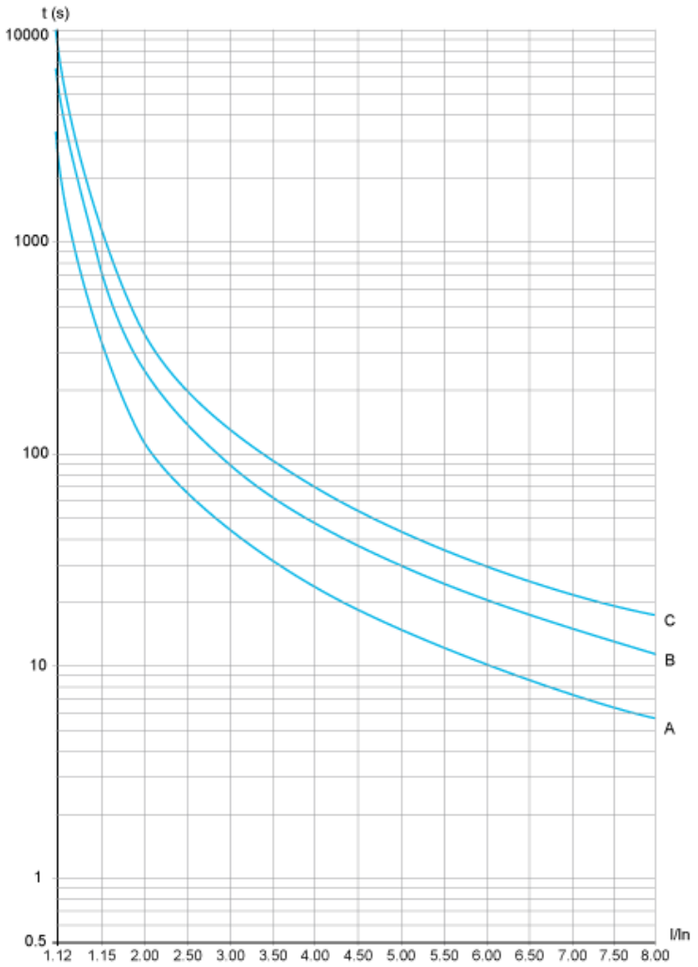



### Example

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.

## 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)

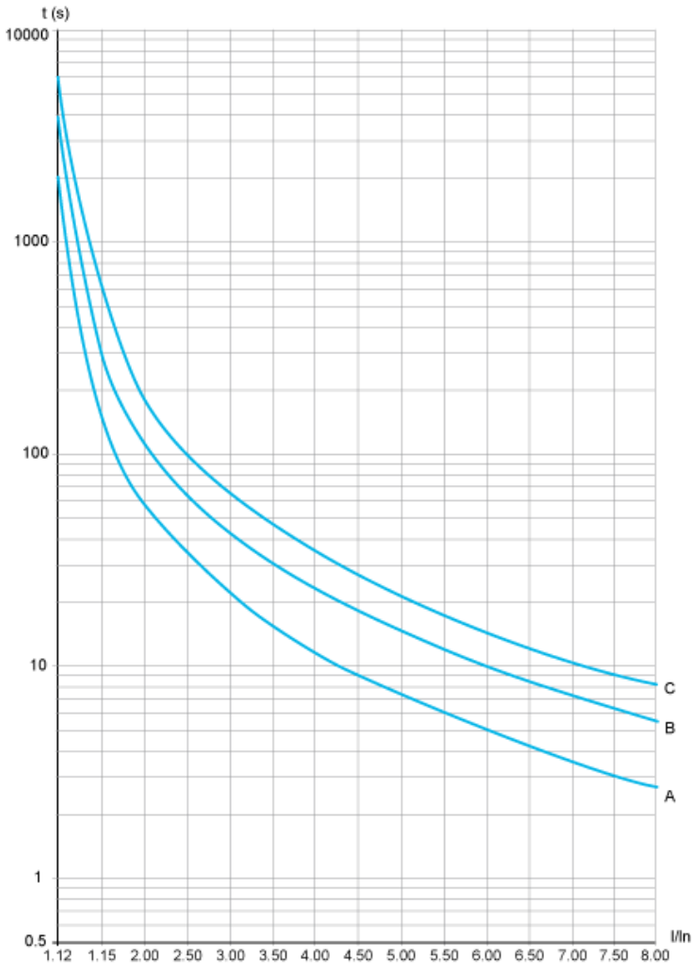
| |
|---|
| 3.5 In |
| 63 s |

### 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 |
| 32 s |

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

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

### Recommended replacement(s)