

# Product datasheet

Specifications



soft starter-ATS22-  
control 220V-power  
230V(37kW)/400...440V(75kW)/500V(90kW)

TSI Code: 393438790    ATS22C14S6

## 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               | 37 kW 230 V<br>75 kW 400 V<br>75 kW 440 V<br>90 kW 500 V                |
| Factory setting current      | 124 A   |
| Power dissipation in W       | 82 W for standard applications  |
| Utilisation category         | AC-53A  |
| Type of start                | Start with torque control (current limited to 3.5 In)                   |
| IcL starter rating           | 140 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...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)  |

|                                    |   |
|------------------------------------|---|
| <b>Maximum switching current</b>   | 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 |
| <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<br>Thermal protection: motor<br>Thermal protection: starter   |
| <b>Marking</b>                     | CE  |
| <b>Type of cooling</b>             | Forced convection   |
| <b>Operating position</b>          | Vertical +/- 10 degree  |
| <b>Height</b>                      | 356 mm  |
| <b>Width</b>                       | 150 mm  |
| <b>Depth</b>                       | 229.5 mm  |
| <b>Product weight</b>              | 18 kg   |
| <b>Motor power range AC-3</b>      | 30...50 kW at 200...240 V 3 phases<br>55...100 kW at 380...440 V 3 phases<br>55...100 kW at 480...500 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<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 |
| <b>Standards</b>                             | EN/IEC 60947-4-2   |
| <b>Product certifications</b>                | GOST<br>CCC<br>CSA<br>UL<br>C-Tick   |
| <b>Vibration resistance</b>                  | 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   |
| <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   |
| <b>Ambient air temperature for operation</b> | -10...40 °C (without derating)<br>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<br>> 1000...< 2000 m with current derating of 2.2 % per additional 100 m |

## Packing Units

|                                     |          |
|-------------------------------------|----------|
| <b>Unit Type of Package 1</b>       | PCE      |
| <b>Number of Units in Package 1</b> | 1        |
| <b>Package 1 Weight</b>             | 13.32 kg |
| <b>Package 1 Height</b>             | 25 cm    |
| <b>Package 1 width</b>              | 33 cm    |
| <b>Package 1 Length</b>             | 41 cm    |
| <b>Unit Type of Package 2</b>       | P06      |
| <b>Number of Units in Package 2</b> | 4        |
| <b>Package 2 Weight</b>             | 66.28 kg |
| <b>Package 2 Height</b>             | 73.5 cm  |
| <b>Package 2 width</b>              | 80 cm    |
| <b>Package 2 Length</b>             | 60 cm    |

## Offer Sustainability

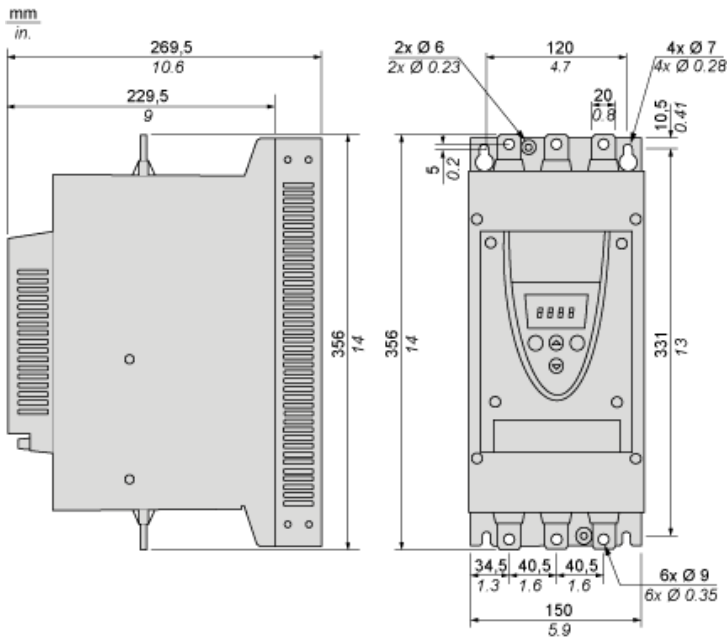
|                                   |   |
|-----------------------------------|---|
| <b>Sustainable offer status</b>   | Green Premium product   |
| <b>REACH Regulation</b>           | <a href="#">REACH Declaration</a>   |
| <b>EU RoHS Directive</b>          | Pro-active compliance (Product out of EU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

## Contractual warranty

|                 |           |
|-----------------|-----------|
| <b>Warranty</b> | 18 months |
|-----------------|-----------|

Frame Size C

Dimensions



**Precautions**

**Standards**

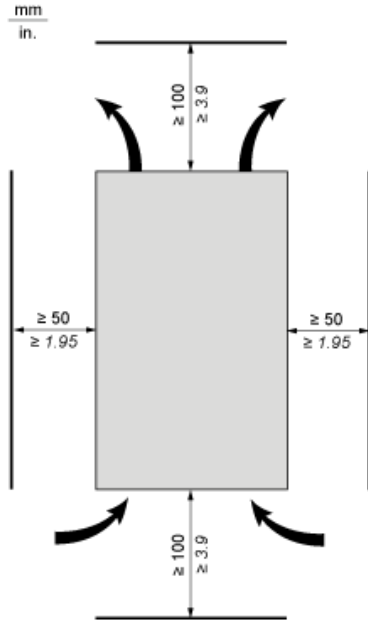
The Altistart 22 soft starter is compliant with pollution Degree 2 as defined in NEMA ICS1-1 or IEC 60664-1.  
For environment pollution degree 3, install the Altistart 22 soft starter inside a cabinet type 12 or IP54.

**⚠ 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**

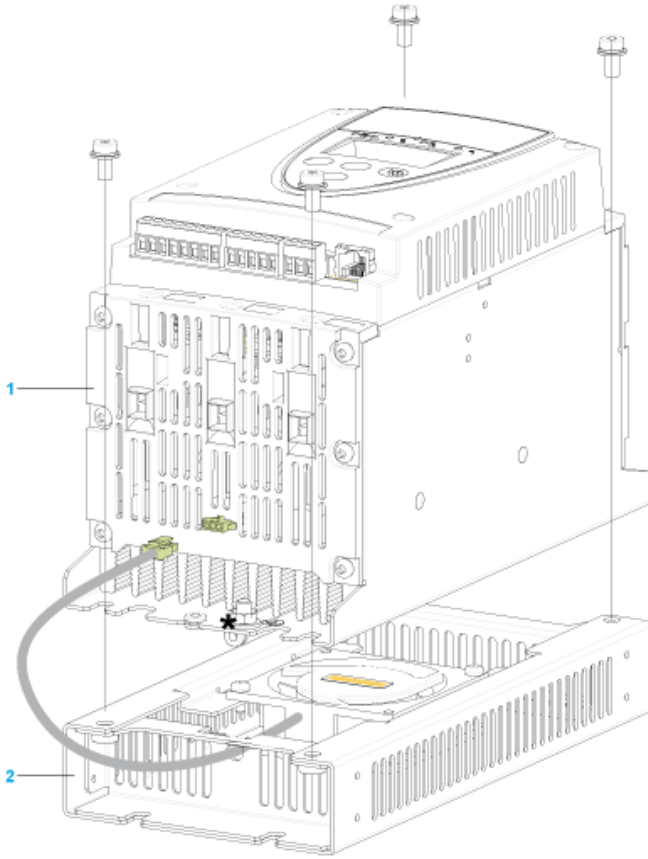
To avoid the soft starter to overheat, respect the following recommendations:

- Mount the Altistart 22 Soft Starter within  $\pm 10^\circ$  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 soft starter.

## Mounting

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



- 1 Altistart 22 Soft Starter
- 2 Fan

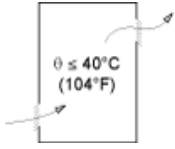
**Wall mounted or Floor-standing Enclosure with IP 23 Degree of protection**

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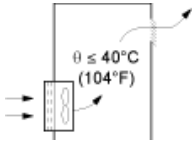
**Introduction**

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

**Ventilation Grilles**

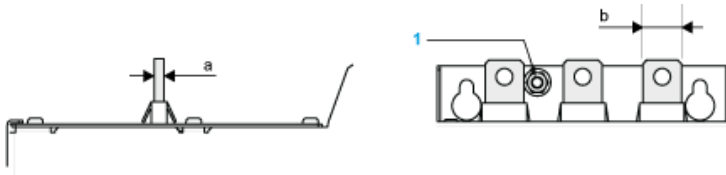


**Forced Ventilation Unit**



**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 mm <sup>2</sup> |
|                                  |                            | Gauge             | 250 MCM            |
|                                  |                            | Protective cover  | LA9F702            |
|                                  |                            | Tightening torque | 18 N.m             |
|                                  | 157.5 lb.in                |                   |                    |

**Power connections, minimum required wiring section**

|  |                                     |
|--|-------------------------------------|
| IEC cable<br>mm <sup>2</sup> (Cu 70°C/158°F) (1) | UL cable<br>AWG (Cu 75°C/167°F) (1) |
| 50   | 2/0                                 |

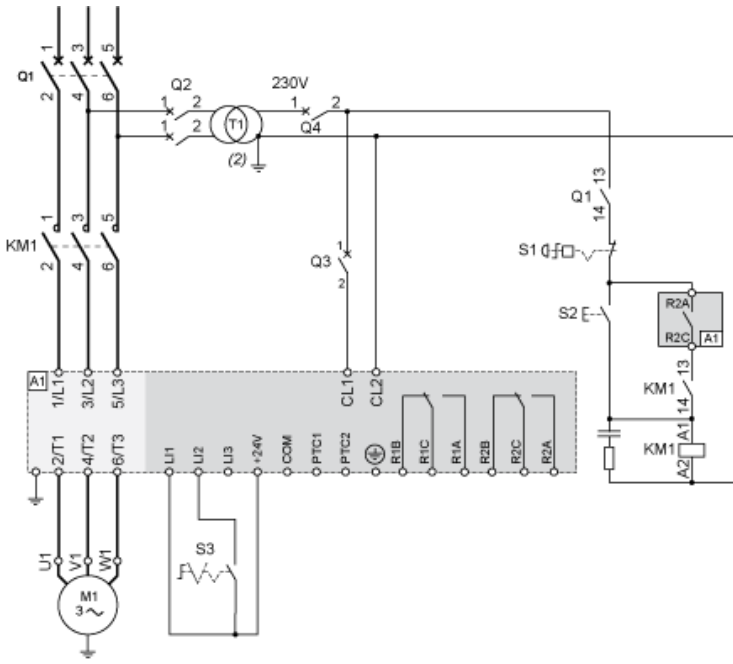


**230 Vac control, logic Inputs (LI) 24 Vdc, 3-wire control**

**With Line Contactor, Freewheel or Controlled Stop**

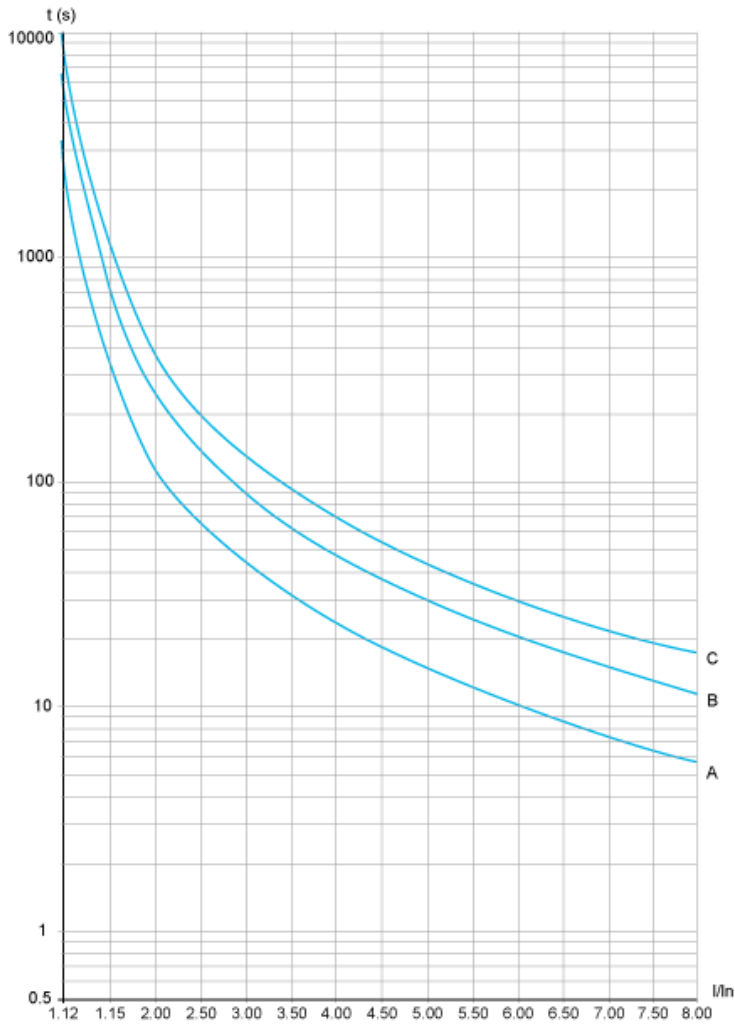


230 Vac control, logic Inputs (LI) 24 Vdc, 2-wire control, freewheel stop



**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)**

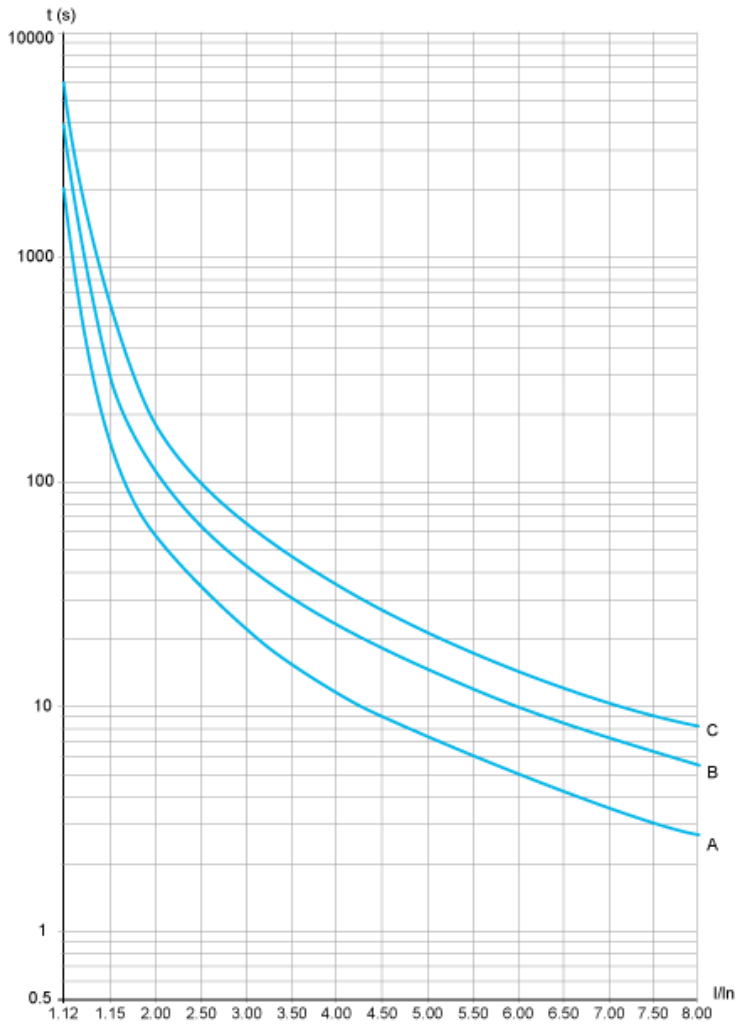
|        |
|--------|
| 3.5 In |
| 63 s   |

**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   |