# Product data sheet
## Characteristics

# ATS480D88Y
Soft starter, Altistart 480, 88A, 208 to 690V AC, control supply 110 to 230V AC



## Main

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|---|---|
| Range of product | Altivar Soft Starter ATS480 |
| Product or component type | Soft starter |
| Product destination | Asynchronous motors |
| Product specific application | Process and infrastructures |
| Device short name | ATS480 |
| Network number of phases | 3 phases |
| Utilisation category | AC-3A<br>AC-53A |
| [Us] rated supply voltage | 208...690 V - 15...10 % |
| Supply frequency | 50...60 Hz - 20...20 % |
| [Ie] rated operational current | Normal duty: 88.0 A (at <40 °C) |
| Maximum permanent current | 75.0 A at 40 °C for heavy duty |
| Torque control | True |
| IP degree of protection | IP20 |
| Motor power kW | 22.0 KW at 230 V in the motor supply line normal duty<br>18.5 KW at 230 V in the motor supply line heavy duty<br>45.0 KW at 400 V in the motor supply line normal duty<br>37.0 KW at 400 V in the motor supply line heavy duty<br>45.0 KW at 440 V in the motor supply line normal duty<br>37.0 KW at 440 V in the motor supply line heavy duty<br>55.0 KW at 500 V in the motor supply line normal duty<br>45.0 KW at 500 V in the motor supply line heavy duty<br>55.0 KW at 525 V in the motor supply line normal duty<br>45.0 KW at 525 V in the motor supply line heavy duty<br>75.0 KW at 660 V in the motor supply line normal duty<br>55.0 KW at 660 V in the motor supply line heavy duty<br>75.0 KW at 690 V in the motor supply line normal duty<br>55.0 KW at 690 V in the motor supply line heavy duty<br>45.0 KW at 230 V to the motor delta terminals normal duty<br>37.0 KW at 230 V to the motor delta terminals heavy duty<br>75.0 KW at 400 V to the motor delta terminals normal duty<br>55.0 KW at 400 V to the motor delta terminals heavy duty |
| Motor power hp | 25.0 Hp at 208 V normal duty<br>20.0 Hp at 208 V heavy duty<br>30.0 Hp at 230 V normal duty<br>25.0 Hp at 230 V heavy duty<br>60.0 Hp at 460 V normal duty<br>50.0 Hp at 460 V heavy duty<br>75.0 Hp at 575 V normal duty<br>60.0 Hp at 575 V heavy duty |
| Option card | Communication module for Profibus DP V1<br>Communication module for Modbus TCP/EtherNet/IP<br>Communication module for CANopen daisy chain<br>Communication module for CANopen Sub-D<br>Communication module for CANopen open style<br>Communication module for PROFINET |

## Complementary

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| Device connection | In the motor supply line<br>To the motor delta terminals |
| [Uc] control circuit voltage | 110...230 V AC 50/60 Hz - 15...10 % |
| Apparent power | 0.09 KVA |
| Integrated motor overload protection | True |
| Accuracy class | Class 10E |
| Protection type | Phase failure: line<br>Integrated thermal protection: motor<br>Thermal protection: starter<br>Current overload: motor<br>Underload: motor<br>Excessive starting time, locked rotor: motor<br>Motor phase loss: motor<br>Line supply phase loss: line<br>Line supply phase loss: motor<br>Thermal protection: motor |
| Output current drift | 150…700 % |
| Rated current pwr loss specification | 88.0 A |
| Power loss static current independent | 25.0 W |
| Power loss per device current dependent | 270.0 W |
| Standards | IEC 60947-4-2<br>UL 60947-4-2<br>IEC 60664-1 |
| Product certifications | CE[RETURN]cULus[RETURN]CCC[RETURN]UKCA[RETURN]RCM[RETURN]EAC[RETURN]DN |
| Marking | CE<br>CCC<br>UKCA<br>EAC<br>RCM<br>CULus |
| [Uc] control circuit voltage | 24 V DC |
| Discrete input number | 4 |
| Discrete input type | (STOP) logic inputs, 3500 Ohm<br>(RUN) logic inputs, 3500 Ohm<br>(DI3) programmable as logic input, 3500 Ohm<br>(DI4) programmable as logic input, 3500 Ohm |
| Input compatibility | STOP: discrete input level 1 PLC conforming to IEC 61131-2<br>RUN: discrete input level 1 PLC conforming to IEC 61131-2<br>DI3: discrete input level 1 PLC conforming to IEC 61131-2<br>DI4: discrete input level 1 PLC conforming to IEC 61131-2 |
| Discrete input logic | Programmable digital input at State 0: < 5 V |
| Relay output number | 3 |
| Relay output type | Relay outputs R1A 1 NO<br>Relay outputs R1B 1 NO<br>Relay outputs RIC NO/NC programmable |
| Minimum switching current | 100 MA at 12 V DC for relay outputs |
| Maximum switching current | Relay outputs 2 A at 250 V AC<br>Relay outputs 2 A at 30 V DC<br>Relay outputs |
| Discrete output number | 2 |
| Discrete output type | (DQ1) programmable digital output <= 30 V<br>(DQ2) programmable digital output <= 30 V |
| Output compatibility | Open collector level 1 PLC conforming to IEC 65A-68 |
| Analogue input number | 1 |
| Analogue input type | AI1/PTC PTC/Pt 100 temperature probe<br>PTC2 PTC/Pt 100 temperature probe<br>PTC3 PTC/Pt 100 temperature probe |
| Analogue output number | 1 |
| Analogue output type | Current output AQ1: 0...20 mA or 0...10 V, impedance <500 Ohm |
| Communication port protocol | Modbus serial |
| Connector type | 1 RJ45 |
| Communication data link | Serial |
| Physical interface | 2-wire RS 485 |

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|---|---|
| Transmission rate | 1200...256000 bit/s |
| Transmission frame | RTU |
| Data format | 8 bits, configurable odd, even or no parity |
| Type of polarization | No impedance for Modbus serial |
| Number of addresses | 0…227 for Modbus serial |
| Method of access | Slave Modbus serial |
| Function available | External bypass control<br>Pre-heating<br>Smoke extraction<br>Multi-motor cascade<br>Second motor set<br>User management<br>Ports and services hardening<br>Security event logging<br>Cybersecure firmware update<br>Single direction |
| Display screen available | True |
| Operating position | Vertical +/- 10 degree |
| Height | 290.0 Mm |
| Width | 190.0 Mm |
| Depth | 247.0 Mm |
| Net weight | 8.3 Kg |

## Environment

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|---|---|
| Electromagnetic compatibility | Conducted and radiated emissions level A conforming to IEC 60947-4-2<br>Conducted and radiated emissions with bypass level B 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 61000-4-11<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 |
| Pollution degree | Level 3 |
| [Uimp] rated impulse withstand voltage | 6 KV |
| [Ui] rated insulation voltage | 690 V |
| Environmental class (during operation) | Class 3C3 according to IEC 60721-3-3<br>Class 3S2 according to IEC 60721-3-3 |
| Relative humidity | 0…95 % without condensation or dripping water conforming to IEC 60068-2-3 |
| Ambient air temperature for operation | 40…60 °C (with current derating of 2 % per °C)<br>-15…40 °C (without derating) |
| Ambient air temperature for storage | -25…70 °C |
| Operating altitude | <= 1000 m without derating<br>> 1000...4000 m with current derating 1 % per 100 m |
| Maximum deflection under vibratory load (during operation) | 1.5 mm at 2...13 Hz |
| Maximum deflection under vibratory load (during storage) | 1.75 mm at 2...9 Hz |
| Maximum deflection under vibratory load (during transport) | 1.75 mm at 2...9 Hz |
| Maximum acceleration under vibrational stress (during operation) | 10 m/s² at 13...200 Hz |
| Maximum acceleration under vibratory load (during storage) | 15 m/s² at 200...500 Hz<br>10 m/s² at 9...200 Hz |
| Maximum acceleration under vibratory load (during transport) | 15 m/s² at 200...500 Hz<br>10 m/s² at 9...200 Hz |
| Maximum acceleration under shock impact (during operation) | 150 m/s² at 11 ms |
| Maximum acceleration under shock load (during storage) | 100 m/s² at 11 ms |
| Maximum acceleration under shock load (during transport) | 100 m/s² at 11 ms |

## Packing Units

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|---|---|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 37.000 Cm |
| Package 1 Width | 31.000 Cm |
| Package 1 Length | 39.000 Cm |
| Package 1 Weight | 9.785 Kg |
| Unit Type of Package 2 | P06 |

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|---|---|
| Number of Units in Package 2 | 8 |
| Package 2 Height | 86.000 Cm |
| Package 2 Width | 60.000 Cm |
| Package 2 Length | 80.000 Cm |
| Package 2 Weight | 86.500 Kg |

## Offer Sustainability

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|---|---|
| Recyclability potential, in % | 87 |
| Total lifecycle Carbon footprint | 6 749 kg CO2 eq. |
| Carbon footprint of the manufacturing phase [A1 to A3] | 156.9230159494628 |
| Carbon footprint of the manufacturing phase [A1 to A3] | 157 kg CO2 eq. |
| Carbon footprint of the distribution phase [A4] | 1.811504567539797 |
| Carbon footprint of the distribution phase [A4] | 2 kg CO2 eq. |
| Carbon footprint of the installation phase [A5] | 2.210943911208598 |
| Carbon footprint of the installation phase [A5] | 2 kg CO2 eq. |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 6575.886610146474 |
| Carbon footprint of the use phase [B2, B3, B4, B6] | 6 576 kg CO2 eq. |
| Mercury free | Yes |
| Sustainable packaging | No |
| Carbon footprint of the end-of-life phase [C1 to C4] | 12.37768879117959 |
| Carbon footprint of the end-of-life phase [C1 to C4] | 12 kg CO2 eq. |
| Environmental Disclosure | Product Environmental Profile |
| Total lifecycle Carbon footprint | 6749 |
| Packaging made with recycled cardboard | Yes |
| Packaging without single use plastic | No |
| SCIP Number | 5e2e4c7a-0593-47ad-92ac-80085d9dd549 |
| REACh Regulation | Reference contains Substances of Very High Concern above the threshold |
| EU RoHS Directive | Compliant By Exemption |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which |
| End of life manual availability | End Of Life Information |
| Removable battery | Yes |
| Take-back | No |
| WEEE Label | The product must be disposed on European Union markets following specific waste collection and |

## Contractual warranty

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|---|---|
| Warranty (in months) | 18 |

Product Life Status : Commercialised