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| Range of product | Altivar 61 |
| Product or component type | Variable speed drive |
| Product specific application | Pumping and ventilation machine |
| Component name | ATV61 |
| Motor power kW | 250 kW 3 phasesat 380...480 V |
| Motor power hp | 400 hp 3 phasesat 380...480 V |
| [Us] rated supply voltage | 380...480 V (- 15...10 %) |
| Phase | 3 phases |
| Line current | 435 Afor 480 V 3 phases 250 kW / 400 hp 444 Afor 380 V 3 phases 250 kW / 400 hp |
| EMC filter | Level 3 EMC filter |
| Variant | Without DC choke |
| Assembly style | With heat sink |
| Apparent power | 292.2 kVAfor 380 V 3 phases 250 kW / 400 hp |
| Prospective line I _{sc} | 50 kA 3 phases |
| Maximum transient current | 577.2 Afor 60 s 3 phases |
| Nominal switching frequency | 2.5 kHz |
| Switching frequency | 2...8 kHz adjustable 2.5...8 kHz with derating factor |
| Asynchronous motor control profile | Voltage/frequency ratio, 2 points Voltage/frequency ratio, 5 points Flux vector control without sensor, standard Voltage/frequency ratio - Energy Saving, quadratic U/f |
| Synchronous motor control profile | Vector control without sensor, standard |
| Communication port protocol | CANopen Modbus |
| Type of polarization | No impedance Modbus |
| Option card | APOGEE FLN communication card BACnet communication card CC-Link communication card Controller inside programmable card DeviceNet communication card Ethernet/IP communication card Fipio communication card I/O extension card Interbus-S communication card LonWorks communication card METASYS N2 communication card Modbus Plus communication card Modbus TCP communication card Modbus/Uni-Telway communication card Multi-pump card Profibus DP communication card Profibus DP V1 communication card |

Complementary

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| Product destination | Asynchronous motors Synchronous motors |
| Supply voltage limits | 323...528 V |
| Supply frequency | 50...60 Hz (- 5...5 %) |
| Network frequency | 47.5...63 Hz |
| Continuous output current | 481 Aat 2.5 kHz, 380 V 3 phases 481 Aat 2.5 kHz, 460 V 3 phases |

The information provided in this documentation contains general descriptions and/or technical characteristics of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

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| Output frequency | 0.1...500 Hz |
| Speed range | 1...100 in open-loop mode, without speed feedback |
| Speed accuracy | +/- 10 % of nominal slip 0.2 Tn to Tn torque variation without speed feedback |
| Torque accuracy | +/- 15 % in open-loop mode, without speed feedback |
| Transient overtorque | 130 % of nominal motor torque, +/- 10 %for 60 s |
| Braking torque | 30 % without braking resistor ≤ 125 % with braking resistor |
| Regulation loop | Frequency PI regulator |
| Motor slip compensation | Adjustable Automatic whatever the load Can be suppressed Not available in voltage/frequency ratio (2 or 5 points) |
| Local signalling | 1 LED red presence of drive voltage |
| Output voltage | ≤ power supply voltage |
| Isolation | Between power and control terminals |
| Type of cable | With an IP21 or an IP31 kit: 3-strand IEC cableat 104 °F (40 °C), copper 70 °C PVC Without mounting kit: 1-strand IEC cableat 113 °F (45 °C), copper 70 °C PVC Without mounting kit: 1-strand IEC cableat 113 °F (45 °C), copper 90 °C XLPE/EPR With UL Type 1 kit: 3-strand UL 508 cableat 104 °F (40 °C), copper 75 °C PVC |
| Electrical connection | AI1-/AI1+, AI2, AO1, R1A, R1B, R1C, R2A, R2B, LI1...LI6, PWR terminal 2.5 mm ² / AWG 14 L1/R, L2/S, L3/T, U/T1, V/T2, W/T3 terminal 4 x 185 mm ² / 3 x 350 kcmil PC-, PO, PA/+ terminal 4 x 185 mm ² / 3 x 350 kcmil |
| Tightening torque | L1/R, L2/S, L3/T, U/T1, V/T2, W/T3 362.83 lbf.in (41 N.m) / 360 lb.in PC-, PO, PA/+ 362.83 lbf.in (41 N.m) / 360 lb.in AI1-/AI1+, AI2, AO1, R1A, R1B, R1C, R2A, R2B, LI1...LI6, PWR 5.31 lbf.in (0.6 N.m) |
| Supply | Internal supply for reference potentiometer (1 to 10 kOhm) 10.5 V DC +/- 5 %, ≤ 10 mAfor overload and short-circuit protection Internal supply 24 V DC (21...27 V), ≤ 200 mAfor overload and short-circuit protection External supply 24 V DC (19...30 V) |
| Analogue input number | 2 |
| Analogue input type | AI1-/AI1+ bipolar differential voltage +/- 10 V DC, input voltage 24 V max, resolution 11 bits + sign AI2 software-configurable current 0...20 mA, impedance 242 Ohm, resolution 11 bits AI2 software-configurable voltage 0...10 V DC, input voltage 24 V max, impedance 30000 Ohm, resolution 11 bits |
| Sampling duration | Analog input AI1-/AI1+ 2 ms, +/- 0.5 ms Analog input AI2 2 ms, +/- 0.5 ms Analog output AO1 2 ms, +/- 0.5 ms Discrete input LI1...LI5 2 ms, +/- 0.5 ms Discrete input LI6 (if configured as logic input) 2 ms, +/- 0.5 ms |
| Accuracy | AI1-/AI1+ +/- 0.6 % for a temperature variation 60 °C AI2 +/- 0.6 % for a temperature variation 60 °C AO1 +/- 1 % for a temperature variation 60 °C |
| Linearity error | AI1-/AI1+ +/- 0.15 % of maximum value AI2 +/- 0.15 % of maximum value AO1 +/- 0.2 % |
| Analogue output number | 1 |
| Analogue output type | AO1 software-configurable current, analogue output range 0...20 mA, impedance 500 Ohm, resolution 10 bits AO1 software-configurable voltage, analogue output range 0...10 V DC, impedance 470 Ohm, resolution 10 bits AO1 software-configurable logic output 10 V, 20 mA |
| Discrete output number | 2 |
| Discrete output type | (R1A, R1B, R1C) configurable relay logic NO/NC, electrical durability 100000 cycles (R2A, R2B) configurable relay logic NO, electrical durability 100000 cycles |
| Response time | ≤ 100 ms in STO (Safe Torque Off) R1A, R1B, R1C ≤ 7 ms, tolerance +/- 0.5 ms R2A, R2B ≤ 7 ms, tolerance +/- 0.5 ms |
| Minimum switching current | Configurable relay logic 3 mAat 24 V DC |
| Maximum switching current | R1, R2 on resistive load, 5 A at 30 V DC, cos phi = 1, 0 ms R1, R2 on inductive load, 2 A at 30 V DC, cos phi = 0.4, 7 ms R1, R2 on resistive load, 5 A at 250 V AC, cos phi = 1, 0 ms R1, R2 on inductive load, 2 A at 250 V AC, cos phi = 0.4, 7 ms |
| Discrete input number | 7 |
| Discrete input type | (LI1...LI5) programmable, 24 V DC, voltage limits ≤ 30 V, with level 1 PLC, impedance 3500 Ohm |

(LI6) switch-configurable, 24 V DC, voltage limits ≤ 30 V, with level 1 PLC, impedance 3500 Ohm
(PWR) safety input, 24 V DC, voltage limits ≤ 30 V, impedance 1500 Ohm
(LI6) switch-configurable PTC probe, , impedance 1500 Ohm

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| Discrete input logic | LI1...LI5 positive logic (source), < 5 V (state 0), > 11 V (state 1) LI1...LI5 negative logic (sink), > 16 V (state 0), < 10 V (state 1) LI6 (if configured as logic input) negative logic (sink), > 16 V (state 0), < 10 V (state 1) LI6 (if configured as logic input) positive logic (source), < 5 V (state 0), > 11 V (state 1) |
| Acceleration and deceleration ramps | Automatic adaptation of ramp if braking capacity exceeded, by using resistor Linear adjustable separately from 0.01 to 9000 s S, U or customized |
| Braking to standstill | By DC injection |
| Protection type | Drive against exceeding limit speed Drive against input phase loss Drive break on the control circuit Drive input phase breaks Drive line supply overvoltage Drive line supply undervoltage Drive overcurrent between output phases and earth Drive overheating protection Drive overvoltages on the DC bus Drive power removal Drive short-circuit between motor phases Drive thermal protection Motor motor phase break Motor power removal Motor thermal protection |
| Insulation resistance | > 1 mOhm at 500 V DC for 1 minute to earth |
| Frequency resolution | Analog input 0.024/50 Hz Display unit 0.1 Hz |
| Connector type | 1 RJ45 Modbus on front face 1 RJ45 Modbus on terminal Male SUB-D 9 on RJ45 CANopen |
| Physical interface | 2-wire RS 485 Modbus |
| Transmission frame | RTU Modbus |
| Transmission rate | 20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps, 1 Mbps CANopen 4800 bps, 9600 bps, 19200 bps, 38.4 Kbps Modbus on terminal 9600 bps, 19200 bps Modbus on front face |
| Data format | 8 bits, 1 stop, even parity Modbus on front face 8 bits, odd even or no configurable parity Modbus on terminal |
| Number of addresses | 1...247 Modbus 1...127 CANopen |
| Method of access | Slave CANopen |
| Marking | CE |
| Operating position | Vertical ± 10 degree |
| Product weight | 308.65 lb(US) (140 kg) |
| Width | 23.43 in (595 mm) |
| Height | 37.4 in (950 mm) |
| Depth | 14.84 in (377 mm) |

Environment

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| noise level | 68 dB conforming to 86/188/EEC |
| dielectric strength | 3535 V DC between earth and power terminals 5092 V DC between control and power terminals |
| electromagnetic compatibility | Conforming to IEC 61000-4-2 level 3 Conforming to IEC 61000-4-11 Conforming to IEC 61000-4-6 level 3 Conforming to IEC 61000-4-3 level 3 Conforming to IEC 61000-4-4 level 4 |
| standards | EN 55011 class A group 2 EN 61800-3 environments 1 category C3 EN 61800-3 environments 2 category C3 EN/IEC 61800-3 EN/IEC 61800-5-1 IEC 60721-3-3 class 3C2 UL Type 1 |
| product certifications | CSA C-Tick |

DNV
GOST
NOM 117
UL

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| pollution degree | 3 conforming to EN/IEC 61800-5-1 3 conforming to UL 840 |
| IP degree of protection | IP00 conforming to EN/IEC 60529 IP00 conforming to EN/IEC 61800-5-1 IP30 on side parts conforming to EN/IEC 60529 IP30 on side parts conforming to EN/IEC 61800-5-1 IP30 on the front panel conforming to EN/IEC 60529 IP30 on the front panel conforming to EN/IEC 61800-5-1 IP41 on upper part conforming to EN/IEC 60529 IP41 on upper part conforming to EN/IEC 61800-5-1 IP54 on lower part conforming to EN/IEC 60529 IP54 on lower part conforming to EN/IEC 61800-5-1 |
| vibration resistance | 1.5 mm peak to peak (f = 3...10 Hz) conforming to EN/IEC 60068-2-6 0.6 gn (f = 10...200 Hz) conforming to EN/IEC 60068-2-6 |
| shock resistance | 4 gn 11 ms conforming to EN/IEC 60068-2-27 |
| relative humidity | 5...95 % without condensation conforming to IEC 60068-2-3 5...95 % without dripping water conforming to IEC 60068-2-3 |
| ambient air temperature for operation | 14...113 °F (-10...45 °C) without derating 113...140 °F (45...60 °C) with derating factor |
| ambient air temperature for storage | -13...158 °F (-25...70 °C) |
| operating altitude | <= 3280.84 ft (1000 m) without derating 3280.84...9842.52 ft (1000...3000 m) with current derating 1 % per 100 m |

Offer Sustainability

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| Green Premium product | Green Premium product |
| Compliant - since 1002 - Schneider Electric declaration of conformity | Compliant - since 1002 - Schneider Electric declaration of conformity |
| Reference contains SVHC above the threshold - go to CaP for more details | Reference contains SVHC above the threshold |
| Available | Available |
| Need no specific recycling operations | Need no specific recycling operations |
| WARNING: This product can expose you to chemicals including: | 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. | Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. |
| Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. | Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. |
| For more information go to www.p65warnings.ca.gov | For more information go to www.p65warnings.ca.gov |

Contractual warranty

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| Warranty period | 18 months |
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