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| Range of product | Altivar Lift |
| Product or component type | Variable speed drive |
| Device short name | ATV71 |
| Product destination | Asynchronous motors Synchronous motors |
| Product specific application | Lift |
| Assembly style | With heat sink |
| Variant | With integrated 7-segment display terminal |
| EMC filter | Integrated |
| Network number of phases | 3 phases |
| [Us] rated supply voltage | 380...480 V (- 15...10 %) |
| Supply voltage limits | 323...528 V |
| Supply frequency | 50...60 Hz (- 5...5 %) |
| Network frequency | 47.5...63 Hz |
| Motor power kW | 3 phases |
| Motor power hp | 3 phases |
| Line current | 50 A for 380 V, 3 phases / 22 kW / 30 hp 42 A for 480 V, 3 phases / 22 kW / 30 hp |

Complementary

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| Apparent power | 32.9 kVA for 380 V, 3 phases / 22 kW / 30 hp |
| Prospective line I _{sc} | <= 22 kA, 3 phases |
| Nominal output current | 48 A at 4 kHz, 380 V 3 phases / 22 kW / 30 hp 40 A at 4 kHz, 460 V 3 phases / 22 kW / 30 hp |
| Maximum transient current | 65.3 A for 2 s 3 phases / 22 kW / 30 hp |
| Speed drive output frequency | 0...599 Hz |
| Braking resistance | >= 13.3 Ohm |
| Nominal switching frequency | 8 kHz |

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| Switching frequency | 1...16 kHz adjustable |
| Speed range | 1...100 asynchronous motor in open-loop mode, without speed feedback 1...50 synchronous motor in open-loop mode, without speed feedback 1...1000 asynchronous motor in closed-loop mode with encoder feedback |
| Speed accuracy | +/- 0.01 % of nominal speed for 0.2 Tn to Tn torque variation, in closed-loop mode with encoder feedback +/- 10 % of nominal slip for 0.2 Tn to Tn torque variation, without speed feedback |
| Torque accuracy | +/- 15 % in open-loop mode, without speed feedback +/- 5 % in closed-loop mode with encoder feedback |
| Transient overtorque | 170 %, +/- 10 % for 60 s 220 %, +/- 10 % for 2 s |
| Braking torque | <= 150 % with braking or hoist resistor 30 % without braking resistor |
| 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 Flux vector control without sensor, ENA (energy Adaptation) system Flux vector control without sensor, 2 points Flux vector control with sensor, standard |
| Synchronous motor control profile | Vector control without sensor, standard Vector control with sensor, standard |
| Regulation loop | Adjustable PI regulator |
| Motor slip compensation | Adjustable Automatic whatever the load Not available in voltage/frequency ratio (2 or 5 points) Suppressable |
| Local signalling | 1 LED - red - drive voltage |
| Output voltage | <= power supply voltage |
| Insulation | Electrical between power and control |
| Type of cable for external connection | IEC cable without mounting kit : 1 wire(s) - 45 °C, copper 90 °C / XLPE/EPR IEC cable without mounting kit : 1 wire(s) - 45 °C, copper 70 °C / PVC IEC cable with an IP21 or an IP31 kit : 3 wire(s) - 40 °C, copper 70 °C / PVC UL 508 cable with a NEMA Type1 kit : 3 wire(s) - 40 °C, copper 75 °C / PVC |
| Electrical connection | Terminal 2.5 mm ² / AWG 14 (AI1-/AI1+, AI2, AO1, R1A, R1B, R1C, R2A, R2B, LI1...LI6, PWR) Terminal 50 mm ² / AWG 1/0 (L1/R, L2/S, L3/T, U/T1, V/T2, W/T3, PC/-, PO, PA/+, PA, PB) |
| Tightening torque | 0.6 N.m (AI1-/AI1+, AI2, AO1, R1A, R1B, R1C, R2A, R2B, LI1...LI6, PWR) 12 N.m - 102.2 lb.in (L1/R, L2/S, L3/T, U/T1, V/T2, W/T3, PC/-, PO, PA/+, PA, PB) |
| Supply | Internal supply for reference potentiometer (1 to 10 kOhm) at 10.5 V DC +/- 5 % - <= 10 A with overload and short-circuit protection Internal supply at 24 V DC (21...27 V) - <= 200 A with overload and short-circuit protection |
| Analogue input number | 2 |
| Analogue input type | Software-configurable current : (AI2) 0...20 mA - 242 Ohm - resolution: 11 bits Software-configurable voltage : (AI2) 0...10 V DC - 24 V max - 30000 Ohm - resolution: 11 bits Bipolar differential voltage : (AI1-/AI1+) +/- 10 V DC - 24 V max - resolution: 11 bits + sign |
| Sampling duration | 2 ms +/- 0.5 ms (LI6) if configured as logic input - discrete input(s) 2 ms +/- 0.5 ms (LI1...LI5) - discrete input(s) 2 ms +/- 0.5 ms (AI1-/AI1+) - analog input(s) 2 ms +/- 0.5 ms (AI2) - analog input(s) |
| Response time | <= 100 ms in STO (Safe Torque Off) 7 ms +/- 0.5 ms (R1A, R1B, R1C) - discrete output(s) 7 ms +/- 0.5 ms (R2A, R2B) - discrete output(s) 2 ms +/- 0.5 ms (AO1) - analog output(s) |
| Accuracy | +/- 1 % (AO1) for a temperature variation 60 °C +/- 0.6 % (AI1-/AI1+) for a temperature variation 60 °C +/- 0.6 % (AI2) for a temperature variation 60 °C |
| Linearity error | +/- 0.15 % of maximum value (AI1-/AI1+, AI2) +/- 0.2 % (AO1) |
| Analogue output number | 1 |
| Analogue output type | Software-configurable current : (AO1) 0...20 mA - 500 Ohm - resolution: 10 bits Software-configurable voltage : (AO1) 0...10 V DC - 470 Ohm - resolution: 10 bits Software-configurable logic output : (AO1) 10 V - <= 20 A |
| Discrete output number | 2 |
| Discrete output type | Configurable relay logic : (R1A, R1B, R1C) NO/NC - 100000 cycles |

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| | Configurable relay logic : (R2A, R2B) NO - 100000 cycles |
| Minimum switching current | 3 mA at 24 V DC (configurable relay logic) |
| Maximum switching current | 5 A at 250 V AC on resistive load - $\cos \phi = 1$ - L/R = 0 ms (R1, R2) 5 A at 30 V DC on resistive load - $\cos \phi = 1$ - L/R = 0 ms (R1, R2) 2 A at 250 V AC on inductive load - $\cos \phi = 0.4$ - L/R = 7 ms (R1, R2) 2 A at 30 V DC on inductive load - $\cos \phi = 0.4$ - L/R = 7 ms (R1, R2) |
| Discrete input number | 7 |
| Discrete input type | Switch-configurable PTC probe (LI6) - 0...6 probes - 1500 Ohm Programmable (LI1...LI5) 24 V DC, with level 1 PLC - 3500 Ohm Switch-configurable (LI6) 24 V DC, with level 1 PLC - 3500 Ohm Safety input (PWR) 24 V DC - 1500 Ohm |
| Discrete input logic | Negative logic (LI6) if configured as logic input, > 16 V (state 0), < 10 V (state 1) Positive logic (LI6) if configured as logic input, < 5 V (state 0), > 11 V (state 1) Positive logic (LI1...LI5), < 5 V (state 0), > 11 V (state 1) Negative logic (LI1...LI5), > 16 V (state 0), < 10 V (state 1) Positive logic (PWR), < 2 V (state 0), > 17 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 |
| Protection type | Overheating protection for drive Thermal protection for drive Short-circuit between motor phases for drive Overcurrent between output phases and earth for drive Overvoltages on the DC bus for drive Break on the control circuit for drive Against exceeding limit speed for drive Line supply undervoltage for drive Line supply overvoltage for drive Against input phase loss for drive Thermal protection for motor Motor phase break for motor Input phase breaks for drive Power removal for motor |
| Dielectric strength | 3535 V DC between earth and power terminals 5092 V DC between control and power terminals |
| Insulation resistance | > 1 mOhm at 500 V DC for 1 minute to earth |
| Frequency resolution | 0.1 Hz for display unit 0.024/50 Hz for analog input |
| Communication port protocol | CANopen Modbus |
| Connector type | 1 RJ45 for Modbus on front face 1 RJ45 for Modbus on terminal Male SUB-D 9 on RJ45 for CANopen |
| Physical interface | 2-wire RS 485 for Modbus |
| Transmission frame | RTU for Modbus |
| Transmission rate | 20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps, 1 Mbps for CANopen 4800 bps, 9600 bps, 19200 bps, 38.4 Kbps for Modbus on terminal 9600 bps, 19200 bps for Modbus on front face |
| Data format | 8 bits, 1 stop, even parity for Modbus on front face 8 bits, odd even or no configurable parity for Modbus on terminal |
| Type of polarization | No impedance for Modbus |
| Number of addresses | 1...247 addresses for Modbus 1...127 addresses for CANopen |
| Method of access | Slave for CANopen |
| Control options | Controller inside programmable card I/O extension card Interface card for encoder Overhead crane card Communication card for Profibus DP Communication card for Modbus TCP Communication card for Fipio Communication card for Modbus/Uni-Telway Communication card for Modbus Plus Communication card for Ethernet/IP Communication card for DeviceNet Communication card for Profibus DP V1 Communication card for Interbus-S |

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| Operating position | Vertical +/- 10 degree |
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Environment

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| Electromagnetic compatibility | 1.2/50 μ s - 8/20 μ s surge immunity test level 3 conforming to IEC 61000-4-5 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6 |
| Pollution degree | 2 conforming to EN/IEC 61800-5-1 3 conforming to UL 840 |
| IP degree of protection | IP20 on upper part without blanking plate on cover conforming to EN/IEC 60529 IP20 on upper part without blanking plate on cover conforming to EN/IEC 61800-5-1 IP21 conforming to EN/IEC 60529 IP21 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...13 Hz) conforming to EN/IEC 60068-2-6 1 gn (f = 13...200 Hz) conforming to EN/IEC 60068-2-6 |
| Shock resistance | 15 gn for 11 ms conforming to EN/IEC 60068-2-27 |
| Noise level | 59.9 dB conforming to 86/188/EEC |
| 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 | -10...50 °C without derating |
| Ambient air temperature for storage | -25...70 °C |
| Operating altitude | <= 1000 m without derating 1000...3000 m with current derating 1 % per 100 m |
| 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 3C1 IEC 60721-3-3 class 3S2 UL Type 1 |
| Product certifications | CSA C-Tick NOM 117 UL |
| Marking | CE |

Offer Sustainability

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| Sustainable offer status | Green Premium product |
| RoHS (date code: YYWW) | Compliant - since 1038 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity |
| REACH | Reference not containing SVHC above the threshold Reference not containing SVHC above the threshold |
| Product environmental profile | Available |
| Product end of life instructions | Available |

Contractual warranty

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| Warranty period | 18 months |
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