

ATV71HD37N4

variable speed drive ATV71 - 37kW-50HP - 480V
- EMC filter-graphic terminal

Product availability : Stock - Normally stocked in distribution facility



Price* : 6175.50 USD



Main

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| Range of product | Altivar 71 |
| Product or component type | Variable speed drive |
| Product specific application | Complex, high-power machines |
| Component name | ATV71 |
| Motor power kW | 37 kW at 380...480 V 3 phases |
| Motor power hp | 50 hp at 380...480 V 3 phases |
| Motor cable length | <= 328.08 ft (100 m) Shielded cable <= 656.17 ft (200 m) Unshielded cable |
| [Us] rated supply voltage | 380...480 V (- 15...10 %) |
| Phase | 3 phases |
| Line current | 69 A for 480 V 3 phases 37 kW / 50 hp 84 A for 380 V 3 phases 37 kW / 50 hp |
| EMC filter | Integrated |
| Assembly style | With heat sink |
| Apparent power | 55.3 kVA at 380 V 3 phases 37 kW / 50 hp |
| Prospective line I _{sc} | <= 22 kA, 3 phases |
| Nominal output current | 65 A at 2.5 kHz 460 V 3 phases 37 kW / 50 hp 79 A at 2.5 kHz 380 V 3 phases 37 kW / 50 hp |
| Maximum transient current | 130 A for 2 s 3 phases 37 kW / 50 hp 118.5 A for 60 s 3 phases 37 kW / 50 hp |
| Output frequency | 0.1...599 Hz |
| Nominal switching frequency | 2.5 kHz |
| Switching frequency | 1...16 kHz adjustable 2.5...16 kHz with derating factor |
| Asynchronous motor control profile | ENA (Energy adaptation) system for unbalanced loads Flux vector control (FVC) with sensor (current vector) Sensorless flux vector control (SFVC) (voltage or current vector) Voltage/Frequency ratio (2 or 5 points) |

Disclaimer: 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

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| Type of polarization | No impedance Modbus |
| Complementary | |
| 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 |
| 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 0.2 Tn to Tn torque variation in closed-loop mode with encoder feedback +/- 10 % of nominal slip 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 | 220 % of nominal motor torque +/- 10 % for 2 s 170 % of nominal motor torque +/- 10 % for 60 s every 10 minutes |
| Braking torque | <= 150 % with braking or hoist resistor 30 % without braking resistor |
| Synchronous motor control profile | Vector control without speed feedback |
| 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 presence of drive voltage |
| Output voltage | <= power supply voltage |
| Insulation | Electrical between power and control |
| Type of cable | With a NEMA Type1 kit: 3-strand UL 508 cableat 104 °F (40 °C), copper 75 °C PVC 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 |
| Electrical connection | A11-/A11+, A12, 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, PC/-, PO, PA/+, PA, PB terminal 50 mm ² / AWG 1/0 |
| Tightening torque | L1/R, L2/S, L3/T, U/T1, V/T2, W/T3, PC/-, PO, PA/+, PA, PB 106.19 lbf.in (12 N.m) / 102.2 lb.in A11-/A11+, A12, 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 mA for overload and short-circuit protection Internal supply, 24 V DC, voltage limits 21...27 V, <= 200 mA for overload and short-circuit protection |
| Analogue input number | 2 |
| Analogue input type | A11-/A11+ bipolar differential voltage +/- 10 V DC, input voltage 24 V max, resolution 11 bits + sign A12 software-configurable current 0...20 mA, impedance 242 Ohm, resolution 11 bits A12 software-configurable voltage 0...10 V DC, input voltage 24 V max, impedance 30000 Ohm, resolution 11 bits |
| Sampling duration | A11-/A11+ 2 ms, +/- 0.5 ms analog input(s) A12 2 ms, +/- 0.5 ms analog input(s) LI1...LI5 2 ms, +/- 0.5 ms discrete input(s) LI6 (if configured as logic input) 2 ms, +/- 0.5 ms discrete input(s) |
| Response time | <= 100 ms in STO (Safe Torque Off) AO1 2 ms, tolerance +/- 0.5 ms analog output(s) R1A, R1B, R1C 7 ms, tolerance +/- 0.5 ms discrete output(s) R2A, R2B 7 ms, tolerance +/- 0.5 ms discrete output(s) |
| Accuracy | A11-/A11+ +/- 0.6 % for a temperature variation 60 °C A12 +/- 0.6 % for a temperature variation 60 °C AO1 +/- 1 % for a temperature variation 60 °C |
| Linearity error | A11-/A11+, A12 +/- 0.15 % of maximum value AO1 +/- 0.2 % |
| Analogue output number | 1 |
| Analogue output type | AO1 software-configurable current 0...20 mA, impedance 500 Ohm, resolution 10 bits AO1 software-configurable logic output 10 V <= 20 mA AO1 software-configurable voltage 0...10 V DC, impedance 470 Ohm, resolution 10 bits |
| Discrete output number | 2 |

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| 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 |
| Minimum switching current | Configurable relay logic 3 mA at 24 V DC |
| Maximum switching current | R1, R2 on resistive load, 5 A at 250 V AC, $\cos \phi = 1$, R1, R2 on resistive load, 5 A at 30 V DC, $\cos \phi = 1$, R1, R2 on inductive load, 2 A at 250 V AC, $\cos \phi = 0.4$, R1, R2 on inductive load, 2 A at 30 V DC, $\cos \phi = 0.4$, |
| Discrete input number | 7 |
| Discrete input type | LI6: switch-configurable 24 V DC with level 1 PLC, impedance: 3500 Ohm PWR: safety input 24 V DC, impedance: 1500 Ohm conforming to ISO 13849-1 level d LI1...LI5: programmable 24 V DC with level 1 PLC, impedance: 3500 Ohm LI6: switch-configurable PTC probe 0...6, impedance: 1500 Ohm |
| Discrete input logic | LI1...LI5 positive logic (source), < 5 V (state 0), > 11 V (state 0) LI1...LI5 negative logic (sink), > 16 V (state 0), < 10 V (state 0) LI6 (if configured as logic input) positive logic (source), < 5 V (state 0), > 11 V (state 0) LI6 (if configured as logic input) negative logic (sink), > 16 V (state 0), < 10 V (state 0) |
| 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 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 |
| Communication port protocol | CANopen Modbus |
| 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 |
| Height | 21.65 in (550 mm) |
| Depth | 10.47 in (266 mm) |
| Width | 9.45 in (240 mm) |
| Product weight | 81.57 lb(US) (37 kg) |
| Functionality | Full |
| Specific application | Other applications |
| Option 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
 Interface card for encoder
 Modbus Plus communication card
 Modbus TCP communication card
 Modbus/Uni-Telway communication card
 Overhead crane card
 Profibus DP communication card
 Profibus DP V1 communication card

Environment

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| Noise level | 64 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 | Conducted radio-frequency immunity test conforming to IEC 61000-4-6 level 3 Electrical fast transient/burst immunity test conforming to IEC 61000-4-4 level 4 Electrostatic discharge immunity test conforming to IEC 61000-4-2 level 3 Radiated radio-frequency electromagnetic field immunity test conforming to IEC 61000-4-3 level 3 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11 1.2/50 µs - 8/20 µs surge immunity test conforming to IEC 61000-4-5 level 3 |
| 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 GOST NOM 117 UL |
| Pollution degree | 2 conforming to EN/IEC 61800-5-1 3 conforming to UL 840 |
| IP degree of protection | IP20 |
| 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 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...122 °F (-10...50 °C) without derating |
| 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 |


Ordering and shipping details

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| Category | 22131 - ATV71 - 7.5 THRU 50HP |
| Discount Schedule | CP4C |
| GTIN | 00785901805038 |
| Nbr. of units in pkg. | 1 |
| Package weight(Lbs) | 74.79999999999997 |
| Returnability | Y |
| Country of origin | IN |

Offer Sustainability

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| Sustainable offer status | Green Premium product |
| RoHS (date code: YYWW) | Compliant - since 0945 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity |
| REACH | Reference contains SVHC above the threshold - Go to CaP for more details |

 [Go to CaP for more details](#)

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| Product environmental profile | Available |
| |  Product Environmental Profile |

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| Product end of life instructions | Available |
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Contractual warranty

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| Warranty period | 18 months |
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