

ATV71HD22N4

variable speed drive ATV71 - 22kW-30HP - 480V
- EMC filter-graphic terminal

Product availability : Non-Stock - Not normally stocked in distribution facility



Price* : 4,266.50 USD



! Discontinued

Commercial status

Discontinued on: 02 December 2020

End-of-service soon on: 31 March 2028

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 | 22 kW, 3 phases at 380...480 V |
| Maximum Horse Power Rating | 30 hp, 3 phase 380...480 V |
| Maximum motor cable length | 328.08 ft (100 m) shielded cable 656.17 ft (200 m) unshielded cable |
| Power supply voltage | 380...480 V - 15...10 % |
| Phase | 3 phase |
| Line current | 42 A 480 V 3 phase 22 kW / 30 hp 50 A for 380 V 3 phases 22 kW / 30 hp |
| EMC filter | Integrated |
| Assembly style | With heat sink |
| Apparent power | 32.9 kVA 380 V 3 phase 22 kW / 30 hp |
| Prospective line Isc | 22 kA 3 phase |
| Nominal output current | 40 A at 4 kHz 460 V 3 phases 22 kW / 30 hp 48 A at 4 kHz 380 V 3 phases 22 kW / 30 hp |
| Maximum transient current | 72 A 60 s 3 phase 22 kW / 30 hp 79.2 A 2 s 3 phase 22 kW / 30 hp |
| Output frequency | 0.1...599 Hz |
| Nominal switching frequency | 4 kHz |
| Switching frequency | 1...16 kHz adjustable 4...16 kHz with derating factor |
| Asynchronous motor control profile | ENA (Energy adaptation) system for unbalanced loads Flux vector control (FVC) with sensor (current vector) Voltage/frequency ratio (2 or 5 points) Sensorless flux vector control (SFVC) (voltage or current vector) |

* Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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| Type of polarization | No impedance Modbus |
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Complementary

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| Product destination | Asynchronous motors Synchronous motors |
| Power supply voltage limits | 323...528 V |
| Power supply frequency | 50...60 Hz - 5...5 % |
| Power supply frequency limits | 47.5...63 Hz |
| Speed range | 1...100 asynchronous motor in open-loop mode, without speed feedback 1...1000 asynchronous motor in closed-loop mode with encoder feedback 1...50 synchronous motor in open-loop mode, without speed feedback |
| Speed accuracy | +/- 0.01 % of nominal speed in closed-loop mode with encoder feedback 0.2 Tn to Tn +/- 10 % of nominal slip without speed feedback 0.2 Tn to Tn |
| Torque accuracy | +/- 15 % in open-loop mode, without speed feedback +/- 5 % in closed-loop mode with encoder feedback |
| Transient overtorque | 170 % +/- 10 % 60 s every 10 minutes 220 % +/- 10 % 2 s |
| 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 | Not available in voltage/frequency ratio (2 or 5 points) Automatic whatever the load Suppressable Adjustable |
| Diagnostic | Drive voltage 1 LED red) |
| Output voltage | <= power supply voltage |
| Insulation | Electrical between power and control |
| Type of cable for mounting in an enclosure | With a NEMA Type1 kit 3 UL 508 cable 104 °F (40 °C), copper 75 °C / PVC With an IP21 or an IP31 kit 3 IEC cable 104 °F (40 °C), copper 70 °C / PVC Without mounting kit 1 IEC cable 113 °F (45 °C), copper 70 °C / PVC Without mounting kit 1 IEC cable 113 °F (45 °C), copper 90 °C / XLPE/EPR |
| 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 | 5.31 lbf.in (0.6 N.m) AI1-/AI1+, AI2, AO1, R1A, R1B, R1C, R2A, R2B, LI1...LI6, PWR) 106.21 lbf.in (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) 10.5 V DC +/- 5 %, <10 mA overload and short-circuit protection Internal supply 24 V DC 21...27 V), <200 mA overload and short-circuit protection |
| Analogue input number | 2 |
| Analogue input type | AI1-/AI1+ bipolar differential voltage +/- 10 V DC 24 V max 11 bits + sign AI2 software-configurable current 0...20 mA 242 Ohm 11 bits AI2 software-configurable voltage 0...10 V DC 24 V max 30000 Ohm 11 bits |
| Input sampling time | 2 ms +/- 0.5 ms AI1-/AI1+) - analog 2 ms +/- 0.5 ms AI2) - analog 2 ms +/- 0.5 ms LI1...LI5) - discrete 2 ms +/- 0.5 ms LI6)if configured as logic input - discrete |
| Response time | <= 100 ms in STO (Safe Torque Off) AO1 2 ms +/- 0.5 ms analog R1A, R1B, R1C 7 ms +/- 0.5 ms discrete R2A, R2B 7 ms +/- 0.5 ms discrete |
| Absolute accuracy precision | +/- 0.6 % AI1-/AI1+) for a temperature variation 60 °C +/- 0.6 % AI2) for a temperature variation 60 °C +/- 1 % AO1) 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 | AO1 software-configurable logic output 10 V 20 mA AO1 software-configurable current 0...20 mA 500 Ohm 10 bits AO1 software-configurable voltage 0...10 V DC 470 Ohm 10 bits |
| 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 24 V DC configurable relay logic |
| Maximum switching current | R1, R2 2 A 250 V AC inductive, cos phi = 0.4 R1, R2 2 A 30 V DC inductive, cos phi = 0.4 R1, R2 5 A 250 V AC resistive, cos phi = 1 R1, R2 5 A 30 V DC resistive, cos phi = 1 |
| Discrete input number | 7 |
| Discrete input type | LI1...LI5 programmable 24 V DC level 1 PLC 3500 Ohm LI6 switch-configurable 24 V DC level 1 PLC 3500 Ohm LI6 switch-configurable PTC probe 0..6 1500 Ohm PWR safety input 24 V DC 1500 Ohm ISO 13849-1 level d |
| Discrete input logic | Negative logic (sink) LI1...LI5), > 16 V, < 10 V Positive logic (source) LI1...LI5), < 5 V, > 11 V Negative logic (sink) LI6)if configured as logic input, > 16 V, < 10 V Positive logic (source) LI6)if configured as logic input, < 5 V, > 11 V |
| 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 | 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 drive Motor phase break motor Power removal motor Thermal protection motor |
| Insulation resistance | > 1 mOhm 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 on front face)Modbus 1 RJ45 on terminal)Modbus Male SUB-D 9 on RJ45CANopen |
| Physical interface | 2-wire RS 485 Modbus |
| Transmission frame | RTU Modbus |
| Transmission rate | 4800 bps, 9600 bps, 19200 bps, 38.4 Kbps Modbus on terminal 9600 bps, 19200 bps Modbus on front face 20 kbps, 50 kbps, 125 kbps, 250 kbps, 500 kbps, 1 Mbps CANopen |
| 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...127 CANopen 1...247 Modbus |
| Method of access | Slave CANopen |
| Marking | CE |
| Operating position | Vertical +/- 10 degree |
| Height | 16.54 in (420 mm) |
| Depth | 9.29 in (236 mm) |
| Width | 9.06 in (230 mm) |
| Net Weight | 46.30 lb(US) (21 kg) |
| Functionality | Full |
| Specific application | Other applications |
| Option card | Communication card CC-Link Controller inside programmable card Communication card DeviceNet Communication card Ethernet/IP Communication card Fipio |

I/O extension card
 Communication card Interbus-S
 Interface card for encoder
 Communication card Modbus Plus
 Communication card Modbus TCP
 Communication card Modbus/Uni-Telway
 Overhead crane card
 Communication card Profibus DP
 Communication card Profibus DP V1

Environment

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|---------------------------------------|---|
| Noise level | 59.9 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 | 1.2/50 μ s - 8/20 μ s surge immunity test level 3 IEC 61000-4-5 Conducted radio-frequency immunity test level 3 IEC 61000-4-6 Electrical fast transient/burst immunity test level 4 IEC 61000-4-4 Electrostatic discharge immunity test level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3 Voltage dips and interruptions immunity test IEC 61000-4-11 |
| Standards | EN/IEC 61800-5-1 EN 61800-3 environments 1 category C3 EN 61800-3 environments 2 category C3 UL Type 1 IEC 60721-3-3 class 3C1 EN 55011 class A group 2 EN/IEC 61800-3 IEC 60721-3-3 class 3S2 |
| Product certifications | UL NOM 117 CSA GOST C-tick |
| Pollution degree | 2 EN/IEC 61800-5-1 3 UL 840 |
| IP degree of protection | IP20 |
| Vibration resistance | 1 gn 13...200 Hz)EN/IEC 60068-2-6 1.5 mm peak to peak 3...13 Hz)EN/IEC 60068-2-6 |
| Shock resistance | 15 gn 11 ms EN/IEC 60068-2-27 |
| Relative humidity | 5...95 % without condensation IEC 60068-2-3 5...95 % without dripping water 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 | 00785901605256 |
| Nbr. of units in pkg. | 1 |
| Package weight(Lbs) | 63.98 lb(US) (29.02 kg) |
| Returnability | No |
| Country of origin | IN |

Packing Units

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|------------------------|------------------|
| Unit Type of Package 1 | PCE |
| Package 1 Height | 14.96 in (38 cm) |
| Package 1 width | 15.75 in (40 cm) |
| Package 1 Length | 21.26 in (54 cm) |



Offer Sustainability

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| Sustainable offer status | Green Premium product |
| California proposition 65 | 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. For more information go to www.P65Warnings.ca.gov |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS declaration |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins. |

Contractual warranty


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| Warranty | 18 months |
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ATV71HD22N4 is replaced by the following group of products:

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|  | <p>Variable speed drives ATV340D22N4 variable speed drive - 22kW- 400V - 3 phases - ATV340 Qty 1</p> |
|  | <p>Drive Products ATV930D22N4 variable speed drive, ATV930, 22kW, 400/480V, with braking unit, IP21 Qty 1</p> |

Reason for Substitution: End of life | Substitution date: 03 June 2020

Or ATV71HD22N4 may be replaced by any of the following products:

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|  | <p>Drive Products ATV930D30N4 variable speed drive, ATV930, 30kW, 400/480V, with braking unit, IP21 Qty 1 Reason for Substitution: End of life Substitution date: 03 June 2020</p> |
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Variable speed drives ATV340D22N4E

variable speed drive - 22kW- 400V - 3 phases - ATV340 Ethernet

Qty 1

Reason for Substitution: End of life | Substitution date: 03 June 2020
