

# Product data sheet

## Characteristics

# ATV32HU40N4

variable speed drive ATV32 - 4 kw - 400 V - 3 phase - with heat sink

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

Price\* : 1,078.00 USD



⚠ Discontinued

### Main

|                              |   |
|------------------------------|---|
| Range of product             | Altivar 32                                |
| Product or component type    | Variable speed drive                      |
| Product destination          | Asynchronous motors<br>Synchronous motors |
| Product specific application | Complex machines                          |
| Function available           | -   |
| Assembly style               | With heat sink                            |
| Component name               | ATV32                                     |
| EMC filter                   | Class C2 EMC filter integrated            |
| Phase                        | 3 phase                                   |
| [Us] rated supply voltage    | 380...500 V - 15...10 %                   |
| Supply voltage limits        | 323...550 V                               |
| Supply frequency             | 50...60 Hz - 5...5 %                      |
| Network frequency            | 47.5...63 Hz                              |
| Motor power kW               | 4 kW 380...480 V                          |
| Maximum Horse Power Rating   | 5 hp 380...480 V                          |

### Complementary

|                                  |  |
|----------------------------------|--|
| Line current                     | 10.5 A 500 V 3 phase 4 kW / 5 hp<br>13.7 A 380 V 3 phase 4 kW / 5 hp |
| Apparent power                   | 9.1 kVA 500 V 3 phase 4 kW / 5 hp                                    |
| Prospective line I <sub>sc</sub> | 5 kA 3 phase   |
| Nominal output current           | 9.5 A 4 kHz 500 V 4 kW / 5 hp  |
| Maximum transient current        | 14.3 A 60 s 4 kW / 5 hp  |
| Output frequency                 | 0.0005...0.599 kHz   |
| Nominal switching frequency      | 4 kHz  |
| Switching frequency              | 2...16 kHz adjustable  |
| Speed range                      | 1...100 asynchronous motor in open-loop mode                         |
| Speed accuracy                   | +/- 10 % of nominal slip 0.2 T <sub>n</sub> to T <sub>n</sub>        |
| Torque accuracy                  | +/- 15 %   |

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

|                                    |   |
|------------------------------------|---|
| Transient overtorque               | 170...200 %   |
| Braking torque                     | <= 170 % with braking resistor  |
| Asynchronous motor control profile | Voltage/frequency ratio - Energy Saving, quadratic U/f<br>Flux vector control without sensor, standard<br>Voltage/frequency ratio, 5 points<br>Flux vector control without sensor - Energy Saving, NoLoad law<br>Voltage/frequency ratio, 2 points                |
| Synchronous motor control profile  | Vector control without sensor   |
| Regulation loop                    | Adjustable PID regulator  |
| Motor slip compensation            | Adjustable 0...300 %<br>Automatic whatever the load<br>Not available in voltage/frequency ratio (2 or 5 points)   |
| Local signalling                   | 1 LED red drive voltage<br>1 LED green CANopen run<br>1 LED red CANopen error<br>1 LED red drive fault  |
| Output voltage                     | <= power supply voltage   |
| Noise level                        | 45 dB 86/188/EEC  |
| Insulation                         | Electrical between power and control  |
| Electrical connection              | Screw terminal 0.5...1.5 mm <sup>2</sup> , AWG 18...AWG 14 control)<br>Removable screw terminals 1.5...2.5 mm <sup>2</sup> , AWG 14...AWG 12 motor/braking resistor)<br>Screw terminal 2.5...4 mm <sup>2</sup> , AWG 12...AWG 10 power supply)                    |
| Tightening torque                  | 4.43 lbf.in (0.5 N.m), 4.4 lb/ft control)<br>6.20 lbf.in (0.7 N.m), 7.1 lb/ft motor/braking resistor)<br>5.31 lbf.in (0.6 N.m), 5.3 lb/ft power supply)   |
| Supply                             | Internal supply for reference potentiometer (1 to 10 kOhm) 10.5 V DC +/- 5 %, <10 mA overload and short-circuit protection  |
| Analogue input number              | 3   |
| Analogue input type                | AI1 voltage 0...10 V DC 30000 Ohm 10 bits<br>AI2 bipolar differential voltage +/- 10 V DC 30000 Ohm 10 bits<br>AI3 current 0...20 mA (or 4-20 mA, x-20 mA, 20-x mA or other patterns by configuration) 250 Ohm 10 bits  |
| Sampling duration                  | 2 ms AI1, AI2, AI3) - analog<br>2 ms AO1) - analog  |
| Response time                      | LI1...LI6 8 ms +/- 0.7 ms logic<br>R1A, R1B, R1C 2 ms relay<br>R2A, R2C 2 ms relay  |
| Accuracy                           | +/- 0.2 % AI1, AI2, AI3) for a temperature of -10...60 °C<br>+/- 0.5 % AI1, AI2, AI3) for a temperature of 25 °C<br>+/- 1 % AO1) for a temperature of 25 °C<br>+/- 2 % AO1) for a temperature of -10...60 °C  |
| Linearity error                    | +/- 0.2...0.5 % of maximum value AI1, AI2, AI3)<br>+/- 0.3 % AO1)   |
| Analogue output number             | 1   |
| Analogue output type               | AO1 software-configurable current 0...20 mA 800 Ohm 10 bits<br>AO1 software-configurable voltage 0...10 V 470 Ohm 10 bits   |
| Discrete output number             | 3   |
| Discrete output type               | Configurable relay logic R1A, R1B, R1C) NO/NC - 100000 cycles<br>Configurable relay logic R2A, R2B) NO - 100000 cycles<br>Logic LO)   |
| Minimum switching current          | 5 mA 24 V DC configurable relay logic   |
| Maximum switching current          | R1 3 A 250 V AC resistive, cos phi = 1<br>R1 4 A 30 V DC resistive, cos phi = 1<br>R1, R2 2 A 250 V AC inductive, cos phi = 0.4<br>R1, R2 2 A 30 V DC inductive, cos phi = 0.4<br>R2 5 A 250 V AC resistive, cos phi = 1<br>R2 5 A 30 V DC resistive, cos phi = 1 |
| Discrete input number              | 7   |
| Discrete input type                | Programmable (sink/source) LI1...LI4)24...30 V DC level 1 PLC<br>Programmable as pulse input 20 kpps LI5)24...30 V DC level 1 PLC<br>Switch-configurable PTC probe LI6)24...30 V DC<br>Safe torque off STO)24...30 V DC - 1500 Ohm                                |
| Discrete input logic               | Negative logic (sink) LI1...LI6), > 19 V, < 13 V<br>Positive logic (source) LI1...LI6), < 5 V, > 11 V   |

|                                     |  |
|-------------------------------------|--|
| Acceleration and deceleration ramps | U<br>CUS<br>Deceleration ramp adaptation<br>Linear<br>S<br>Ramp switching<br>Deceleration ramp automatic stop DC injection   |
| Braking to standstill               | By DC injection  |
| Protection type                     | Input phase breaks drive<br>Overcurrent between output phases and earth drive<br>Overheating protection drive<br>Short-circuit between motor phases drive<br>Thermal protection drive  |
| Communication port protocol         | Modbus<br>CANopen  |
| Connector type                      | 1 RJ45 on front face)Modbus/CANopen  |
| Physical interface                  | 2-wire RS 485 Modbus   |
| Transmission frame                  | RTU Modbus   |
| Type of polarization                | No impedance Modbus  |
| Number of addresses                 | 1...127 CANopen<br>1...247 Modbus  |
| Method of access                    | Slave CANopen  |
| Electromagnetic compatibility       | 1.2/50 $\mu$ s - 8/20 $\mu$ s surge immunity test, level 3 IEC 61000-4-5<br>Conducted radio-frequency immunity test, level 3 IEC 61000-4-6<br>Electrical fast transient/burst immunity test, level 4 IEC 61000-4-4<br>Electrostatic discharge immunity test, level 3 IEC 61000-4-2<br>Radiated radio-frequency electromagnetic field immunity test, level 3 IEC 61000-4-3<br>Voltage dips and interruptions immunity test IEC 61000-4-11 |
| Width                               | 2.36 in (60 mm)  |
| Height                              | 12.80 in (325 mm)  |
| Depth                               | 9.65 in (245 mm)   |
| Net Weight                          | 6.61 lb(US) (3 kg)   |
| Option card                         | Communication card CANopen daisy chain<br>Communication card CANopen open style<br>Communication card DeviceNet<br>Communication card Ethernet/IP<br>Communication card Profibus DP V1   |
| Functionality                       | Mid  |
| Specific application                | Other applications   |

## Environment

|                                       |  |
|---------------------------------------|--|
| Standards                             | EN/IEC 61800-3<br>EN 61800-3 environments 2 category C2<br>EN 61800-3 environments 1 category C2<br>EN 55011 class A group 1<br>EN/IEC 61800-5-1 |
| Product certifications                | NOM 117<br>C-tick<br>GOST<br>UL<br>CSA   |
| Marking                               | CE   |
| Pollution degree                      | 2 EN/IEC 61800-5-1   |
| IP degree of protection               | IP20 EN/IEC 61800-5-1  |
| Vibration resistance                  | 1 gn 13...200 Hz) EN/IEC 60068-2-6<br>1.5 mm peak to peak 3...13 Hz) EN/IEC 60068-2-6  |
| Shock resistance                      | 15 gn 11 msEN/IEC 60068-2-27   |
| Relative humidity                     | 5...95 % without condensation IEC 60068-2-3<br>5...95 % without dripping water IEC 60068-2-3   |
| Ambient air temperature for operation | 14...122 °F (-10...50 °C) without derating<br>122...140 °F (50...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<br>3280.84...9842.52 ft (1000...3000 m) with current derating 1 % per 100 m |
| Operating position | Vertical +/- 10 degree  |

### Ordering and shipping details

|                       |  |
|-----------------------|--|
| Category              | 22152 - ATV320/ATV312/ATV32 (.25 THRU 7.5HP) |
| Discount Schedule     | CP4B   |
| GTIN                  | 00785901648123                               |
| Nbr. of units in pkg. | 1  |
| Package weight(Lbs)   | 6.41 lb(US) (2.91 kg)                        |
| Returnability         | No   |
| Country of origin     | ID   |

### Packing Units

|                  |          |
|------------------|----------|
| Package 1 Height | 1.000 dm |
| Package 1 width  | 2.750 dm |
| Package 1 Length | 3.250 dm |

### Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

### ATV32HU40N4 is replaced by:



#### Variable speed drives ATV320U40N4B

variable speed drive, ATV320, 4 kW, 380...500 V, 3 phases, book

Qty 1

Reason for Substitution: End of life | Substitution date: 03 May 2016