



Price\* : 7,988.00 USD



ATV61HD90N4 has not been replaced. Please contact your customer care center for more information.

ⓘ Discontinued

Main

|  |   |
|--|---|
| 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                           | 90 kW 3 phasesat 380...480 V  |
| Motor power hp                           | 125 hp 3 phasesat 380...480 V   |
| Power supply voltage                     | 380...480 V (- 15...10 %)   |
| Phase                                    | 3 phases  |
| Line current                             | 143 Afor 480 V 3 phases 90 kW / 125 hp<br>166 Afor 380 V 3 phases 90 kW / 125 hp  |
| EMC filter                               | Level 3 EMC filter  |
| Assembly style                           | With heat sink  |
| Apparent power                           | 109.3 kVAfor 380 V 3 phases 90 kW / 125 hp  |
| Maximum prospective line I <sub>sc</sub> | 35 kA 3 phases  |
| Maximum transient current                | 214.8 Afor 60 s 3 phases  |
| Nominal switching frequency              | 4 kHz   |
| Switching frequency                      | 2...8 kHz adjustable<br>4...8 kHz with derating factor  |
| Asynchronous motor control               | Voltage/frequency ratio, 2 points<br>Voltage/frequency ratio, 5 points<br>Flux vector control without sensor, standard<br>Voltage/frequency ratio - Energy Saving, quadratic U/f                  |
| Synchronous motor control profile        | Vector control without sensor, standard   |
| Communication port protocol              | CANopen<br>Modbus   |
| Type of polarization                     | No impedance Modbus   |
| Option card                              | APOGEE FLN communication card<br>BACnet communication card<br>CC-Link communication card<br>Controller inside programmable card<br>DeviceNet communication card<br>Ethernet/IP communication card |

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

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

|  |   |
|--|---|
| Product destination                        | Asynchronous motors<br>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  |
| Continuous output current                  | 179 Aat 4 kHz, 380 V 3 phases<br>179 Aat 4 kHz, 460 V 3 phases  |
| Output frequency                           | 0.1...500 Hz  |
| Speed range                                | 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<br><= 125 % with braking resistor   |
| Regulation loop                            | Frequency PI regulator  |
| Motor slip compensation                    | Adjustable<br>Automatic whatever the load<br>Can be suppressed<br>Not available in voltage/frequency ratio (2 or 5 points)  |
| Diagnostic                                 | 1 LED red presence of drive voltage   |
| Output voltage                             | <= power supply voltage   |
| Electrical isolation                       | Between power and control terminals   |
| Type of cable for mounting in an enclosure | With an IP21 or an IP31 kit: 3-strand IEC cableat 104 °F (40 °C), copper 70 °C PVC<br>Without mounting kit: 1-strand IEC cableat 113 °F (45 °C), copper 70 °C PVC<br>Without mounting kit: 1-strand IEC cableat 113 °F (45 °C), copper 90 °C XLPE/EPR<br>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 <sup>2</sup> / AWG 14<br>L1/R, L2/S, L3/T, U/T1, V/T2, W/T3 terminal 2 x 100 mm <sup>2</sup> / 2 x 250 kcmil<br>PA, PB terminal 60 mm <sup>2</sup> / 250 kcmil<br>PC/-, PO, PA/+ terminal 2 x 100 mm <sup>2</sup> / 2 x 250 kcmil                        |
| Tightening torque                          | L1/R, L2/S, L3/T, U/T1, V/T2, W/T3 212.39 lbf.in (24 N.m) / 212 lb.in<br>PA, PB 106.19 lbf.in (12 N.m) / 106 lb.in<br>PC/-, PO, PA/+ 362.83 lbf.in (41 N.m) / 360 lb.in<br>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<br>Internal supply 24 V DC (21...27 V), <= 200 mAfor overload and short-circuit protection<br>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<br>AI2 software-configurable current 0...20 mA, impedance 242 Ohm, resolution 11 bits<br>AI2 software-configurable voltage 0...10 V DC, input voltage 24 V max, impedance 30000 Ohm, resolution 11 bits                         |
| Sampling time                              | Discrete input LI6 (if configured as logic input) 2 ms, +/- 0.5 ms<br>Analog input AI1-/AI1+ 2 ms, +/- 0.5 ms<br>Analog input AI2 2 ms, +/- 0.5 ms<br>Analog output AO1 2 ms, +/- 0.5 ms<br>Discrete input LI1...LI5 2 ms, +/- 0.5 ms   |
| Absolute accuracy precision                | AI1-/AI1+ +/- 0.6 % for a temperature variation 60 °C<br>AI2 +/- 0.6 % for a temperature variation 60 °C<br>AO1 +/- 1 % for a temperature variation 60 °C   |

|                                     |  |
|-------------------------------------|--|
| Linearity error                     | AI1-/AI1+ +/- 0.15 % of maximum value<br>AI2 +/- 0.15 % of maximum value<br>AO1 +/- 0.2 %  |
| Analogue output number              | 1  |
| Analogue output type                | AO1 software-configurable logic output 10 V, 20 mA<br>AO1 software-configurable current, analogue output range 0...20 mA, impedance 500 Ohm, resolution 10 bits<br>AO1 software-configurable voltage, analogue output range 0...10 V DC, impedance 470 Ohm, resolution 10 bits   |
| Discrete output number              | 2  |
| Discrete output type                | (R1A, R1B, R1C) configurable relay logic NO/NC, electrical durability 100000 cycles<br>(R2A, R2B) configurable relay logic NO, electrical durability 100000 cycles   |
| Maximum response time               | <= 100 ms in STO (Safe Torque Off)<br>R1A, R1B, R1C <= 7 ms, tolerance +/- 0.5 ms<br>R2A, R2B <= 7 ms, tolerance +/- 0.5 ms  |
| Minimum switching current           | Configurable relay logic 3 mA at 24 V DC   |
| Maximum switching current           | R1, R2 on resistive load, 5 A at 30 V DC, cos phi = 1, 0 ms<br>R1, R2 on inductive load, 2 A at 30 V DC, cos phi = 0.4, 7 ms<br>R1, R2 on resistive load, 5 A at 250 V AC, cos phi = 1, 0 ms<br>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<br>(LI6) switch-configurable, 24 V DC, voltage limits <= 30 V, with level 1 PLC, impedance 3500 Ohm<br>(PWR) safety input, 24 V DC, voltage limits <= 30 V, impedance 1500 Ohm<br>(LI6) switch-configurable PTC probe, , impedance 1500 Ohm  |
| Discrete input logic                | LI1...LI5 positive logic (source), < 5 V (state 0), > 11 V (state 1)<br>LI1...LI5 negative logic (sink), > 16 V (state 0), < 10 V (state 1)<br>LI6 (if configured as logic input) negative logic (sink), > 16 V (state 0), < 10 V (state 1)<br>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<br>Linear adjustable separately from 0.01 to 9000 s<br>S, U or customized   |
| Braking to standstill               | By DC injection  |
| Protection type                     | Drive against exceeding limit speed<br>Drive against input phase loss<br>Drive break on the control circuit<br>Drive input phase breaks<br>Drive line supply overvoltage<br>Drive line supply undervoltage<br>Drive overcurrent between output phases and earth<br>Drive overheating protection<br>Drive overvoltages on the DC bus<br>Drive power removal<br>Drive short-circuit between motor phases<br>Drive thermal protection<br>Motor motor phase break<br>Motor power removal<br>Motor thermal protection |
| Insulation resistance               | > 1 mOhm at 500 V DC for 1 minute to earth   |
| Frequency resolution                | Analog input 0.024/50 Hz<br>Display unit 0.1 Hz  |
| Connector type                      | 1 RJ45 Modbus on front face<br>1 RJ45 Modbus on terminal<br>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<br>4800 bps, 9600 bps, 19200 bps, 38.4 Kbps Modbus on terminal<br>9600 bps, 19200 bps Modbus on front face  |
| Data format                         | 8 bits, 1 stop, even parity Modbus on front face<br>8 bits, odd even or no configurable parity Modbus on terminal  |
| Number of addresses                 | CANopen<br>Modbus  |
| Method of access                    | Slave CANopen  |
| Marking                             | CE   |

|                    |                        |
|--------------------|------------------------|
| Operating position | Vertical +/- 10 degree |
| Product weight     | 185.19 lb(US) (84 kg)  |
| Width              | 12.6 in (320 mm)       |
| Height             | 36.22 in (920 mm)      |
| Depth              | 14.84 in (377 mm)      |

## Environment

|                                       |  |
|---------------------------------------|--|
| Noise level                           | 60.5 dB conforming to 86/188/EEC   |
| Dielectric strength                   | 3535 V DC between earth and power terminals<br>5092 V DC between control and power terminals   |
| Electromagnetic compatibility         | Conforming to IEC 61000-4-2 level 3<br>Conforming to IEC 61000-4-11<br>Conforming to IEC 61000-4-6 level 3<br>Conforming to IEC 61000-4-3 level 3<br>Conforming to IEC 61000-4-4 level 4   |
| Standards                             | EN 55011 class A group 2<br>EN 61800-3 environments 1 category C3<br>EN 61800-3 environments 2 category C3<br>EN/IEC 61800-3<br>EN/IEC 61800-5-1<br>IEC 60721-3-3 class 3C2<br>UL Type 1   |
| Product certifications                | CSA<br>C-Tick<br>DNV<br>GOST<br>NOM 117<br>UL  |
| Pollution degree                      | 3 conforming to EN/IEC 61800-5-1<br>3 conforming to UL 840   |
| Degree of protection                  | IP00 conforming to EN/IEC 60529<br>IP00 conforming to EN/IEC 61800-5-1<br>IP30 on side parts conforming to EN/IEC 60529<br>IP30 on side parts conforming to EN/IEC 61800-5-1<br>IP30 on the front panel conforming to EN/IEC 60529<br>IP30 on the front panel conforming to EN/IEC 61800-5-1<br>IP41 on upper part conforming to EN/IEC 60529<br>IP41 on upper part conforming to EN/IEC 61800-5-1<br>IP54 on lower part conforming to EN/IEC 60529<br>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<br>0.6 gn (f = 10...200 Hz) conforming to EN/IEC 60068-2-6  |
| Shock resistance                      | 7 gn 11 ms conforming to EN/IEC 60068-2-27   |
| Relative humidity                     | 5...95 % without condensation conforming to IEC 60068-2-3<br>5...95 % without dripping water conforming to IEC 60068-2-3   |
| Ambient air temperature for operation | 14...113 °F (-10...45 °C) without derating<br>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<br>3280.84...9842.52 ft (1000...3000 m) with current derating 1 % per 100 m  |

## Ordering and shipping details

|                       |                                     |
|-----------------------|-------------------------------------|
| Category              | 22138 - ATV61 60 THRU 150 HP DRIVES |
| Discount Schedule     | CP4C                                |
| GTIN                  | 00785901639640                      |
| Nbr. of units in pkg. | 1                                   |
| Package weight(Lbs)   | 234                                 |
| Returnability         | N                                   |
| Country of origin     | IN                                  |

## Offer Sustainability

|                                  |   |
|----------------------------------|---|
| Sustainable offer status         | Green Premium product   |
| RoHS (date code: YYWW)           | Compliant - since 1002 - Schneider Electric declaration of conformity<br><a href="#">Schneider Electric declaration of conformity</a> |
| REACH                            | Reference not containing SVHC above the threshold<br><a href="#">Reference not containing SVHC above the threshold</a>                |
| Product environmental profile    | Available<br><a href="#">Product Environmental Profile</a>  |
| Product end of life instructions | Need no specific recycling operations<br><a href="#">End of Life Information</a>  |
| California proposition 65        | WARNING: This product can expose you to chemicals including:  |
| ----- Substance 1                | Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm.      |
| ----- Substance 2                | Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm.                       |
| ----- More information           | For more information go to <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>   |

## Contractual warranty

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