

Product data sheet

Specifications



variable speed drive ATV312 - 1.1kW - 3.2kVA - 48W - 380..500 V- 3-phase supply

ATV312HU11N4B

⚠ End-of-service on: Nov 24, 2021

⚠ Discontinued

Main

Range Of Product	Altivar 312
Product Or Component Type	Variable speed drive
Product Destination	Asynchronous motors
Product Specific Application	Simple machine
Assembly Style	With heat sink
Component Name	ATV312
Motor Power Kw	1.1 kW
Motor Power Hp	1.5 hp
[Us] Rated Supply Voltage	380...500 V - 15...10 %
Supply Frequency	50...60 Hz - 5...5 %
Network Number Of Phases	3 phases
Line Current	4.9 A at 380 V, I _{sc} = 5 kA 3.7 A at 500 V
Emc Filter	Integrated
Apparent Power	3.2 kVA
Maximum Transient Current	4.5 A for 60 s
Power Dissipation In W	48 W at nominal load
Speed Range	1...50
Asynchronous Motor Control Profile	Sensorless flux vector control with PWM type motor control signal Factory set : constant torque
Electrical Connection	L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 5 mm² AWG 10
Supply	Internal supply for logic inputs: 19...30 V 100 mA, protection type: overload and short-circuit protection Internal supply for reference potentiometer (2.2 to 10 kOhm): 10...10.8 V 10 mA, protection type: overload and short-circuit protection
Communication Port Protocol	CANopen Modbus
Ip Degree Of Protection	IP20 on upper part without cover plate IP21 on connection terminals IP31 on upper part IP41 on upper part
Option Card	Communication card for CANopen daisy chain Communication card for DeviceNet Communication card for Fipio Communication card for Modbus TCP Communication card for Profibus DP

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

Complementary

Supply Voltage Limits	323...550 V
Prospective Line Isc	5 kA
Continuous Output Current	3 A at 4 kHz
Output Frequency	0...500 Hz
Nominal Switching Frequency	4 kHz
Switching Frequency	2...16 kHz adjustable
Transient Overtorque	170...200 % of nominal motor torque
Braking Torque	150 % during 60 s with braking resistor 100 % with braking resistor continuously 150 % without braking resistor
Regulation Loop	Frequency PI regulator
Motor Slip Compensation	Suppressable Adjustable Automatic whatever the load
Output Voltage	<= power supply voltage
Tightening Torque	L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-: 1.2 N.m
Insulation	Electrical between power and control
Acceleration And Deceleration Ramps	S, U or customized Linear adjustable separately from 0.1 to 999.9 s
Braking To Standstill	By DC injection
Protection Type	Input phase breaks: drive Line supply overvoltage and undervoltage safety circuits: drive Line supply phase loss safety function, for three phases supply: drive Motor phase breaks: drive Overcurrent between output phases and earth (on power up only): drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: motor
Insulation Resistance	>= 500 mOhm 500 V DC for 1 minute
Local Signalling	1 LED (red) for drive voltage Four 7-segment display units for CANopen bus status
Time Constant	5 ms for reference change
Frequency Resolution	Analog input: 0.1...100 Hz Display unit: 0.1 Hz
Connector Type	1 RJ45 for Modbus/CANopen
Physical Interface	RS485 multidrop serial link
Transmission Frame	RTU
Transmission Rate	10, 20, 50, 125, 250, 500 kbps or 1 Mbps for CANopen 4800, 9600 or 19200 bps for Modbus
Number Of Addresses	1...127 for CANopen 1...247 for Modbus
Number Of Drive	127 for CANopen 31 for Modbus
Marking	CE
Operating Position	Vertical +/- 10 degree
Height	143 mm
Width	107 mm
Depth	152 mm

Net Weight	1.8 kg
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Environment

Dielectric Strength	2410 V DC between earth and power terminals 3400 V AC between control and power terminals
Electromagnetic Compatibility	1.2/50 µs - 8/20 µs 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
Standards	IEC 61800-5-1 IEC 61800-3
Product Certifications	DNV GOST NOM C-Tick CSA UL
Pollution Degree	2
Protective Treatment	TC
Vibration Resistance	1 gn (f= 13...150 Hz) conforming to EN/IEC 60068-2-6 1.5 mm (f= 3...13 Hz) conforming to EN/IEC 60068-2-6
Shock Resistance	15 gn for 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 Storage	-25...70 °C
Ambient Air Temperature For Operation	-10...50 °C without derating (with protective cover on top of the drive) -10...60 °C with derating factor (without protective cover on top of the drive)
Operating Altitude	<= 1000 m without derating 1000...3000 m with current derating 1 % per 100 m

Contractual warranty

Warranty	18 months
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Sustainability

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Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

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[Guide to assess a product's sustainability >](#)



RoHS/REACH

Well-being performance

✓ Mercury Free

✓ Rohs Exemption Information [Yes](#)

Certifications & Standards

Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
China Rohs Regulation	China RoHS declaration
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	End of Life Information
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