

# Product datasheet

Specifications



variable speed drive ATV312 -  
0.75kW - 2.4kVA - 41W - 380..500  
V- 3-phase supply

ATV312H075N4412

Price: 12,723.98 ZAR

## Main

Range Of Product	Altivar 312 Solar
Product Or Component Type	Variable speed drive
Product Destination	Asynchronous motors
Product Specific Application	Pumping station with photovoltaic arrays
Assembly Style	With heat sink
Device Short Name	ATV312

## Complementary

Motor Power Kw	0.75 kW
Motor Power Hp	1 hp
[Us] Rated Supply Voltage	380...500 V - 5...5 %
Supply Voltage Limits	323...550 V
Supply Frequency	50...60 Hz - 5...5 %
Network Frequency	47.5...63 Hz
Network Number Of Phases	3 phases
Line Current	2.7 A at 500 V 3.6 A at 380 V, I <sub>sc</sub> = 1 kA
Emc Filter	Integrated
Apparent Power	2.4 kVA
Prospective Line I <sub>sc</sub>	1 kA
Continuous Output Current	2.3 A at 4 kHz
Maximum Transient Current	3.5 A for 60 s
Power Dissipation In W	41 W at nominal load
Speed Drive Output Frequency	0.5...500 Hz
Nominal Switching Frequency	4 kHz
Switching Frequency	2...16 kHz adjustable
Speed Range	1...50
Transient Overtorque	150...170 % of nominal motor torque
Braking Torque	<= 150 % during 60 s with braking resistor 100 % with braking resistor continuously 150 % without braking resistor
Asynchronous Motor Control Profile	Factory set: energy saving mode

Excluding VAT and subject to change. Please check with your local distributor through "Where to buy"

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

<b>Regulation Loop</b>	Frequency PI regulator
<b>Motor Slip Compensation</b>	Adjustable Automatic whatever the load Suppressable
<b>Output Voltage</b>	<= power supply voltage
<b>Electrical Connection</b>	AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 terminal 2.5 mm² AWG 14 L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 2.5 mm² AWG 14
<b>Tightening Torque</b>	AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6: 0.6 N.m L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-: 0.8 N.m
<b>Insulation</b>	Electrical between power and control
<b>Supply</b>	Internal supply for logic inputs at 19...30 V, <100 A, protection type: overload and short-circuit protection Internal supply for reference potentiometer (2.2 to 10 kOhm) at 10...10.8 V, <10 A, protection type: overload and short-circuit protection
<b>Analogue Input Number</b>	3
<b>Analogue Input Type</b>	AI1 configurable voltage 0...10 V, input voltage 30 V max, impedance: 30000 Ohm AI2 configurable voltage +/- 10 V, input voltage 30 V max, impedance: 30000 Ohm AI3 configurable current 0...20 mA, impedance: 250 Ohm
<b>Sampling Duration</b>	AI1, AI2, AI3: 8 ms analog LI1...LI6: 4 ms discrete
<b>Response Time</b>	AOV, AOC 8 ms for analog R1A, R1B, R1C, R2A, R2B 8 ms for discrete
<b>Linearity Error</b>	+/- 0.2 % for output
<b>Analogue Output Number</b>	2
<b>Analogue Output Type</b>	AOC configurable current: 0...20 mA, impedance: 800 Ohm, resolution: 8 bits AOV configurable voltage: 0...10 V, impedance: 470 Ohm, resolution: 8 bits
<b>Discrete Input Logic</b>	Logic input not wired (LI1...LI4), < 13 V (state 1) Negative logic (source) (LI1...LI6), > 19 V (state 0) Positive logic (source) (LI1...LI6), < 5 V (state 0), > 11 V (state 1)
<b>Discrete Output Number</b>	2
<b>Discrete Output Type</b>	Configurable relay logic: (R1A, R1B, R1C) 1 NO + 1 NC - 100000 cycles Configurable relay logic: (R2A, R2B) NC - 100000 cycles
<b>Minimum Switching Current</b>	R1-R2 10 mA at 5 V DC
<b>Maximum Switching Current</b>	2 A at 250 V AC on inductive load - cos phi = 0.4 - L/R = 7 ms (R1-R2) 2 A at 30 V DC on inductive load - cos phi = 0.4 - L/R = 7 ms (R1-R2) 5 A at 250 V AC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2) 5 A at 30 V DC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2)
<b>Discrete Input Number</b>	6
<b>Discrete Input Type</b>	(LI1...LI6) programmable at 24 V, 0...100 mA for PLC, impedance: 3500 Ohm
<b>Acceleration And Deceleration Ramps</b>	Linear adjustable separately from 0.1 to 999.9 s S, U or customized
<b>Braking To Standstill</b>	By DC injection
<b>Protection Type</b>	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
<b>Dielectric Strength</b>	2410 V DC between earth and power terminals 3400 V AC between control and power terminals
<b>Insulation Resistance</b>	>= 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
Communication Port Protocol	Modbus CANopen
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
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
Marking	CE
Height	143 mm
Width	107 mm
Depth	152 mm
Net Weight	1.8 kg
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

## Environment

Ip Degree Of Protection	IP20 without cover plate
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 m with current derating 1 % per 100 m
Operating Position	Vertical +/- 10 degree

## Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	20 cm
Package 1 Width	21.5 cm
Package 1 Length	25.5 cm
Package 1 Weight	2 kg

## Contractual warranty

Warranty	18 months
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# Sustainability

**Green Premium™ label** is Schneider Electric's commitment to delivering products with best-in-class environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO<sub>2</sub> products.

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

[Learn more about Green Premium >](#)

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

## Well-being performance

 Mercury Free	
 Rohs Exemption Information	<a href="#">Yes</a>
Reach Regulation	<a href="#">REACH Declaration</a>
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	<a href="#">China RoHS declaration</a>
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins