

# Product data sheet

Specifications



## Variable speed drive, ATV312, 0.37kW, 0.5hp, 200..240V, 1 phase supply, 3.3A, CANopen, Modbus

ATV312H037M2

⚠ Discontinued on: Jan 26, 2021

⚠ To be end-of-service on: Jan 1, 2026

⚠ Discontinued - Service only

### 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	0.37 kW
Motor Power Hp	0.5 hp
[Us] Rated Supply Voltage	200...240 V - 15...10 %
Supply Frequency	50...60 Hz - 5...5 %
Network Number Of Phases	Single phase
Line Current	5.3 A at 200 V, I <sub>sc</sub> = 1 kA 4.4 A at 240 V
Emc Filter	Integrated
Apparent Power	1 kVA
Maximum Transient Current	5 A for 60 s
Power Dissipation In W	41 W at nominal load
Speed Range	1...50
Asynchronous Motor Control Profile	Factory set : constant torque Sensorless flux vector control with PWM type motor control signal
Electrical Connection	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
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	Modbus CANopen
Ip Degree Of Protection	IP20 on upper part without cover plate IP21 on connection terminals IP31 on upper part IP41 on upper part

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>Option Card</b>	Communication card for CANopen daisy chain Communication card for DeviceNet Communication card for Fipio Communication card for Modbus TCP Communication card for Profibus DP
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## Complementary

<b>Supply Voltage Limits</b>	170...264 V
<b>Prospective Line Isc</b>	1 kA
<b>Continuous Output Current</b>	3.3 A at 4 kHz
<b>Output Frequency</b>	0...500 Hz
<b>Nominal Switching Frequency</b>	4 kHz
<b>Switching Frequency</b>	2...16 kHz adjustable
<b>Transient Overtorque</b>	170...200 % of nominal motor torque
<b>Braking Torque</b>	150 % during 60 s with braking resistor 100 % with braking resistor continuously 150 % without braking resistor
<b>Regulation Loop</b>	Frequency PI regulator
<b>Motor Slip Compensation</b>	Automatic whatever the load Suppressable Adjustable
<b>Output Voltage</b>	<= power supply voltage
<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>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>	1
<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>	R1-R2: 2 A at 250 V AC inductive load, cos phi = 0.4 and L/R = 7 ms R1-R2: 2 A at 30 V DC inductive load, cos phi = 0.4 and L/R = 7 ms R1-R2: 5 A at 250 V AC resistive load, cos phi = 1 and L/R = 0 ms R1-R2: 5 A at 30 V DC resistive load, cos phi = 1 and L/R = 0 ms
<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

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	145 mm
Width	72 mm
Depth	132 mm
Net Weight	1.5 kg

## Environment

Dielectric Strength	2040 V DC between earth and power terminals 2880 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	UL C-Tick NOM CSA DNV GOST
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...2000 m with current derating 1 % per 100 m

## Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	13.109 cm
Package 1 Width	17.256 cm
Package 1 Length	18.316 cm
Package 1 Weight	1.38 kg
Unit Type Of Package 2	S06
Number Of Units In Package 2	48
Package 2 Height	73.5 cm
Package 2 Width	60 cm
Package 2 Length	80 cm
Package 2 Weight	76 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 >](#)



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) <a href="#">EU RoHS Declaration</a>
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
Circularity Profile	<a href="#">End of Life Information</a>
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>