# Product data sheet

Specifications





(!) Discontinued - Service only

# variable speed drive, ATV312, 5 HP, 8.4 kVA, 180 W, 200 to 240 V 3 phase supply

ATV312HU40M3

- Uscontinued on: Feb 17, 2021
- ! To be end-of-service on: Jan 1, 2026

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

#### 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	4 kW
Maximum Horse Power Rating	5 hp
[Us] Rated Supply Voltage	200240 V - 1510 %
Supply Frequency	5060 Hz - 55 %
Phase	3 phase
Line Current	24.2 A 200 V, Isc = 5 kA 21.1 A 240 V
Emc Filter	Without EMC filter
Apparent Power	8.4 kVA
Maximum Transient Current	26.3 A 60 s
Power Dissipation In W	180 W at nominal load
Speed Range	150
Asynchronous Motor Control Profile	Sensorless flux vector control with PWM type motor control signal Factory set : constant torque
Electrical Connection	Al1, Al2, Al3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, Ll1Ll6 terminal 0.00 in² (2.5 mm²) AWG 14 L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 0.01 in² (5 mm²) AWG 10
Supply	Internal supply for logic inputs 1930 V 100 mA overload and short-circuit protection Internal supply for reference potentiometer (2.2 to 10 kOhm) 1010.8 V 10 mA 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

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



Option Card	Communication card CANopen daisy chain
	Communication card DeviceNet
	Communication card Fipio
	Communication card Modbus TCP
	Communication card Profibus DP

### Complementary

Complementary	
Supply Voltage Limits	170264 V
Prospective Line Isc	5 kA
Continuous Output Current	17.5 A 4 kHz
Output Frequency	0500 Hz
Nominal Switching Frequency	4 kHz
Switching Frequency	216 kHz adjustable
Transient Overtorque	170200 % of nominal motor torque
Braking Torque	150 % 60 s with braking resistor 100 % with braking resistor continuously 150 % without braking resistor
Regulation Loop	Frequency PI regulator
Motor Slip Compensation	Suppressable Automatic whatever the load Adjustable
Output Voltage	<= power supply voltage
Tightening Torque	Al1, Al2, Al3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, Ll1Ll6 5.31 lbf.in (0.6 N.m) L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- 10.62 lbf.in (1.2 N.m)
Insulation	Electrical between power and control
Analogue Input Number	3
Analogue Input Type	Al1 configurable voltage 010 V 30 V max 30000 Ohm Al2 configurable voltage +/- 10 V 30 V max 30000 Ohm Al3 configurable current 020 mA 250 Ohm
Sampling Duration	Al1, Al2, Al3 8 ms analog Ll1Ll6 4 ms discrete
Response Time	AOV, AOC 8 ms analog R1A, R1B, R1C, R2A, R2B 8 ms discrete
Linearity Error	+/- 0.2 % output
Analogue Output Number	1
Analogue Output Type	AOC configurable current 020 mA 800 Ohm 8 bits AOV configurable voltage 010 V 470 Ohm 8 bits
Discrete Input Logic	Logic input not wired LI1LI4), < 13 V Negative logic (source) LI1LI6), > 19 V Positive logic (source) LI1LI6), < 5 V, > 11 V
Discrete Output Number	2
Discrete Output Type	Configurable relay logic R1A, R1B, R1C) 1 NO + 1 NC - 100000 cycles Configurable relay logic R2A, R2B) NC - 100000 cycles
Minimum Switching Current	R1-R2 10 mA 5 V DC
Maximum Switching Current	R1-R2 2 A 250 V AC inductive, cos phi = 0.4 7 ms R1-R2 2 A 30 V DC inductive, cos phi = 0.4 7 ms R1-R2 5 A 250 V AC resistive, cos phi = 1 0 ms R1-R2 5 A 30 V DC resistive, cos phi = 1 0 ms
Discrete Input Number	6
Discrete Input Type	LI1LI6) programmable 24 V, 0100 mA PLC 3500 Ohm

Acceleration And Deceleration Ramps	Linear adjustable separately from 0.1 to 999.9 s S, U or customized
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	for drive voltage 1 LED (red) for CANopen bus status four 7-segment display units
Time Constant	5 ms for reference change
Frequency Resolution	Analog input 0.1100 Hz Display unit 0.1 Hz
Connector Type	1 RJ45 Modbus/CANopen
Physical Interface	RS485 multidrop serial link
Transmission Frame	RTU
Transmission Rate	10, 20, 50, 125, 250, 500 kbps or 1 Mbps CANopen 4800, 9600 or 19200 bps Modbus
Number Of Addresses	1127 CANopen 1247 Modbus
Number Of Drive	127 CANopen 31 Modbus
Marking	CE
Operating Position	Vertical +/- 10 degree
Outer Dimension	184 x 140 x 150 mm
Height	7.24 in (184 mm)
Width	5.59 in (142 mm)
Depth	5.98 in (152 mm)
Net Weight	6.39 lb(US) (2.9 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 IEC 61000-4-5 Electrical fast transient/burst immunity test level 4 IEC 61000-4-4

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Standards	IEC 61800-3 IEC 61800-5-1
Product Certifications	UL DNV C-tick CSA GOST NOM
Pollution Degree	2
Protective Treatment	тс
Vibration Resistance	1 gn 13150 Hz)EN/IEC 60068-2-6 1.5 mm 313 Hz)EN/IEC 60068-2-6

Shock Resistance	15 gn 11 ms EN/IEC 60068-2-27
Relative Humidity	595 % without condensation IEC 60068-2-3 595 % without dripping water IEC 60068-2-3
Ambient Air Temperature For Storage	-13158 °F (-2570 °C)
Ambient Air Temperature For Operation	14122 °F (-1050 °C) without derating with protective cover on top of the drive) 14140 °F (-1060 °C) with derating factor without protective cover on top of the drive)
Operating Altitude	<= 3280.84 ft (1000 m) without derating 3280.849842.52 ft (10003000 m) with current derating 1 % per 100 m

### Ordering and shipping details

	• • •
Category	US1CP4B22152
Discount Schedule	CP4B
Gtin	3606480077647
Returnability	No
Country Of Origin	ID

## **Packing Units**

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	9.45 in (24.0 cm)
Package 1 Width	9.65 in (24.5 cm)
Package 1 Length	9.65 in (24.5 cm)
Package 1 Weight	6.40 lb(US) (2.905 kg)
Unit Type Of Package 2	S06
Number Of Units In Package 2	12
Package 2 Height	28.94 in (73.5 cm)
Package 2 Width	23.62 in (60.0 cm)
Package 2 Length	31.50 in (80.0 cm)
Package 2 Weight	104.51 lb(US) (47.404 kg)

### **Contractual warranty**

Warranty 18 months



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RoHS/REACh

#### Well-being performance



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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