# **Product data sheet**

Specifications





(!) Discontinued

variable speed drive ATV312 - 5.5kW - 12.8kVA - 292W - 200..240V- 3-phase supply

ATV312HU55M3

- Discontinued 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                        | 5.5 kW   |  |
| Maximum Horse Power Rating            | 7.5 hp   |  |
| [Us] Rated Supply Voltage             | 200240 V - 1510 %  |  |
| Supply Frequency                      | 5060 Hz - 55 %   |  |
| Phase                                 | 3 phase  |  |
| Line Current                          | 36.8 A 200 V, Isc = 22 kA<br>32 A 240 V  |  |
| Emc Filter                            | Without EMC filter   |  |
| Apparent Power                        | 12.8 kVA   |  |
| Maximum Transient Current             | 41.3 A 60 s  |  |
| Power Dissipation In W                | 292 W at nominal load  |  |
| Speed Range                           | 150  |  |
| Asynchronous Motor Control<br>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<br>L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 0.02 in² (16 mm²) AWG 6                                |  |
| 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           | CANopen<br>Modbus  |  |
| 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        | 22 kA   |
| Continuous Output Current   | 27.5 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     | Adjustable Suppressable Automatic whatever the load   |
| 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/- 22.13 lbf.in (2.5 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<br>Ll1Ll6 4 ms discrete   |
| Response Time               | AOV, AOC 8 ms analog<br>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<br>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<br>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 | 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<br>Motor phase breaks drive<br>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  |
| . <del>-</del>                      | 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<br>4800, 9600 or 19200 bps Modbus  |
| Number Of Addresses                 | 1127 CANopen<br>1247 Modbus   |
| Number Of Drive                     | 127 CANopen<br>31 Modbus  |
|                                     | CE  |
| Operating Position                  | Vertical +/- 10 degree  |
| Outer Dimension                     | 232 x 180 x 170 mm  |
| Height                              | 9.13 in (232 mm)  |
| Width                               | 7.09 in (180 mm)  |
| Depth                               | 6.77 in (172 mm)  |
| Net Weight                          | 14.11 lb(US) (6.4 kg)   |
| Environment                         |   |
| Dielectric Strength                 | 2040 V DC between earth and nower terminals   |

| Dielectric Strength           | 2040 V DC between earth and power terminals<br>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 Electrostatic discharge immunity test level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3 |
| Standards                     | IEC 61800-3<br>IEC 61800-5-1   |
| Product Certifications        | C-tick<br>NOM<br>CSA<br>GOST<br>UL<br>DNV  |
| Pollution Degree              | 2  |
| Protective Treatment          | TC   |
| Vibration Resistance          | 1 gn 13150 Hz)EN/IEC 60068-2-6<br>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<br>595 % without dripping water IEC 60068-2-3   |  |
| Ambient Air Temperature For Storage      | -13158 °F (-2570 °C)   |  |
| Ambient Air Temperature For<br>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<br>3280.849842.52 ft (10003000 m) with current derating 1 % per 100 m  |  |

# Ordering and shipping details

| Category          | US1CP4B22152  |
|-------------------|---------------|
| Discount Schedule | CP4B          |
| Gtin              | 3606480077661 |
| Returnability     | No            |
| Country Of Origin | ID            |

# **Packing Units**

| Unit Type Of Package 1       | PCE                      |
|------------------------------|--------------------------|
| Number Of Units In Package 1 | 1                        |
| Package 1 Height             | 10.43 in (26.5 cm)       |
| Package 1 Width              | 9.25 in (23.5 cm)        |
| Package 1 Length             | 12.01 in (30.5 cm)       |
| Package 1 Weight             | 13.21 lb(US) (5.992 kg)  |
| Unit Type Of Package 2       | S06                      |
| Number Of Units In Package 2 | 10                       |
| 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             | 160.76 lb(US) (72.92 kg) |

# **Contractual warranty**

Warranty 18 months



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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 |