


Product data sheet

Specifications



ATV31 1.5 kW 240V enclosure - 1 ph - IP 55

ATV31CU15M2319

 **Discontinued on:** Jan 5, 2021

 **Discontinued**

Main

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| Range Of Product | Altivar 31 |
| Product Or Component Type | Variable speed drive |
| Product Destination | Asynchronous motors |
| Product Specific Application | Simple machine |
| Assembly Style | Enclosed |
| Component Name | ATV31 |
| Emc Filter | Integrated |
| Power Supply Voltage | 200...240 V - 15...10 % |
| Power Supply Frequency | 50...60 Hz - 5...5 % |
| Network Number Of Phases | Single phase |
| Motor Power Kw | 1.5 kW |
| Motor Power Hp | 2 hp |
| Line Current | 13.3 A 240 V 1 kA 15.8 A 200 V 1 kA |
| Apparent Power | 3.2 kVA |
| Maximum Prospective Line Isc | 1 kA |
| Nominal Output Current | 8 A 4 kHz |
| Maximum Transient Current | 12 A for 60 s |
| Power Dissipation In W | 90 W at nominal load |
| Speed Range | 1...50 |
| Transient Overtorque | 150...170 % of nominal motor torque |
| Asynchronous Motor Control Profile | Sensorless flux vector control with PWM type motor control signal Factory set : constant torque |
| Analogue Input Number | 3 |
| Ip Degree Of Protection | IP55 |

Complementary

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| Power Supply Voltage Limit | 170...264 V |
| Power Supply Frequency Limits | 47.5...63 Hz |
| Speed Drive Output Frequency | 0.5...500 Hz |
| Nominal Switching Frequency | 4 kHz |

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

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| Switching Frequency | 2...16 kHz adjustable |
| Braking Torque | <= 150 % during 60 s with braking resistor 100 % with braking resistor continuously 50 % without braking resistor |
| Regulation Loop | Frequency PI regulator |
| Motor Slip Compensation | Adjustable Automatic whatever the load Suppressable |
| Output Voltage | <= power supply voltage |
| Electrical Connection | AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 terminal 2.5 mm ² AWG 14 L1, L2, L3, U, V, W, PA, PB, PA/+, PC/- terminal 2.5 mm ² AWG 14 |
| Tightening Torque | 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 |
| Insulation | Electrical between power and control |
| Supply | Internal supply for logic inputs 19...30 V, <100 mA overload protection Internal supply for logic inputs 19...30 V, <100 mA short-circuit protection Internal supply for reference potentiometer 10...10.8 V, <10 mA overload protection Internal supply for reference potentiometer 10...10.8 V, <10 mA short-circuit protection |
| Analogue Input Type | AI3 configurable current 0...20 mA, impedance: 250 Ohm 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 |
| Input Sampling Time | LI1...LI6: 4 ms discrete AI1, AI2, AI3: 8 ms analog |
| Output Response Time | AOV, AOC 8 ms for analog R1A, R1B, R1C, R2A, R2B 8 ms for discrete |
| Linearity Error | +/- 0.2 % for output |
| Analogue Output Number | 2 |
| Analogue Output Type | AOC configurable current: 0...20 mA, impedance: 800 Ohm, resolution: 8 bits AOV configurable voltage: 0...10 V, impedance: 470 Ohm, resolution: 8 bits |
| Discrete Input Logic | Positive logic (source) (LI1...LI6), < 5 V (state 0), > 11 V (state 1) Logic input not wired (LI1...LI4), < 13 V (state 1) Negative logic (source) (LI1...LI6), > 19 V (state 0) |
| 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 | 10 mA 5 V DC R1-R2 |
| Maximum Switching Current | 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) |
| Discrete Input Number | 6 |
| Discrete Input Type | (LI1...LI6) programmable at 24 V, 0...100 mA for PLC, impedance: 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 |

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| 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 | Display unit: 0.1 Hz Analog input: 0.1...100 Hz |
| Communication Port Protocol | Modbus CANopen |
| Connector Type | 1 RJ45 for CANopen via VW3 CANTAP2 adaptor 1 RJ45 for Modbus |
| Physical Interface | RS485 multidrop serial link for Modbus |
| Transmission Frame | RTU for Modbus |
| Transmission Rate | 10, 20, 50, 125, 250, 500 kbps or 1 Mbps for CANopen via VW3 CANTAP2 adaptor 4800, 9600 or 19200 bps for Modbus |
| Number Of Addresses | 1...127 for CANopen via VW3 CANTAP2 adaptor 1...247 for Modbus |
| Number Of Drive | 127 for CANopen via VW3 CANTAP2 adaptor 31 for Modbus |
| Marking | CE |
| Operating Position | Vertical +/- 10 degree |
| Net Weight | 8.8 kg |

Environment

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| 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 | EN 50178 |
| Product Certifications | CSA C-Tick N998 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 m with current derating 1 % per 100 m |

Packing Units

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| Unit Type Of Package 1 | PCE |
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| Number Of Units In Package 1 | 1 |
| Package 1 Height | 37.6 cm |
| Package 1 Width | 29.5 cm |
| Package 1 Length | 26.6 cm |
| Package 1 Weight | 8.8 kg |

Sustainability




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

Well-being performance

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|  Reach Free Of Svhc | |
|  Mercury Free | |
|  Rohs Exemption Information | Yes |
| 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 |
| 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 |