

ATV312H075M2412

variable speed drive ATV312 - 0.75kW -
1.8kVA - 60W - 200..240 V- 1-phase supply



Main

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| 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

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| Motor power kW | 0.75 kW |
| Motor power hp | 1 hp |
| [Us] rated supply voltage | 200...240 V (- 5...5 %) |
| Supply voltage limits | 170...264 V |
| Supply frequency | 50...60 Hz (- 5...5 %) |
| Network frequency | 47.5...63 Hz |
| Network number of phases | Single phase |
| Line current | 8.9 A at 200 V, I _{sc} = 1 kA 7.5 A at 240 V |
| EMC filter | Integrated |
| Apparent power | 1.8 kVA |
| Prospective line I _{sc} | 1 kA |
| Continuous output current | 4.8 A at 4 kHz |
| Maximum transient current | 7.2 A for 60 s |
| Power dissipation in W | 60 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 % without braking resistor 100 % with braking resistor continuously 150 % with braking resistor for 60 s |
| Braking torque | 150 % without braking resistor 100 % with braking resistor continuously ≤ 150 % with braking resistor for 60 s |
| Asynchronous motor control profile | Factory set: energy saving mode |
| Regulation loop | Frequency PI regulator |
| Motor slip compensation | Adjustable Automatic whatever the load Suppressable |
| Output voltage | ≤ power supply voltage |
| Electrical connection | Terminal - cable cross section: 2.5 mm ² , AWG 14 (terminal(s) L1, L2, L3, U, V, W, PA, PB, PA+, PC/-) Terminal - cable cross section: 2.5 mm ² , AWG 14 (terminal(s) AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6) |

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| Tightening torque | 0.8 N.m (terminal(s) L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-) 0.6 N.m (terminal(s) AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6) |
| Insulation | Electrical between power and control |
| Supply | Internal supply for reference potentiometer (2.2 to 10 kOhm) at 10...10.8 V, <= 10 A, protection type: overload and short-circuit protection Internal supply for logic inputs at 19...30 V, <= 100 A, protection type: overload and short-circuit protection |
| Analogue input number | 3 |
| Analogue input type | AI3 configurable current 0...20 mA, impedance: 250 Ohm AI2 configurable voltage +/- 10 V, 30 V max, impedance: 30000 Ohm AI1 configurable voltage 0...10 V, 30 V max, impedance: 30000 Ohm |
| Sampling duration | 4 ms (terminal(s) LI1...LI6), input: discrete 8 ms (terminal(s) AI1, AI2, AI3), input: analog |
| Response time | 8 ms, output: discrete (terminal(s) R1A, R1B, R1C, R2A, R2B) 8 ms, output: analog (terminal(s) AOV, AOC) |
| Linearity error | +/- 0.2 % output |
| Analogue output number | 2 |
| Analogue output type | AOV configurable voltage 0...10 V, impedance: 470 Ohm, resolution: 8 bits AOC configurable current 0...20 mA, impedance: 800 Ohm, resolution: 8 bits |
| Discrete input logic | LI1...LI6 positive logic (source), < 5 V (state 0), > 11 V (state 1) LI1...LI6 negative logic (source), > 19 V (state 0) LI1...LI4 logic input not wired, < 13 V (state 1) |
| Discrete output number | 2 |
| Discrete output type | R2A, R2B configurable relay logic, NC, electrical service life: 100000 cycles R1A, R1B, R1C configurable relay logic, 1 NO + 1 NC, electrical service life: 100000 cycles |
| Minimum switching current | 10 mA at 5 V DC (terminal(s) R1-R2) |
| Maximum switching current | 5 A at 30 V DC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2) 5 A at 250 V AC on resistive load - cos phi = 1 - L/R = 0 ms (R1-R2) 2 A at 30 V DC on inductive load - cos phi = 0.4 - L/R = 7 ms (R1-R2) 2 A at 250 V AC on inductive load - cos phi = 0.4 - L/R = 7 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 | Thermal protection for motor Short-circuit between motor phases for drive Overheating protection for drive Overcurrent between output phases and earth (on power up only) for drive Motor phase breaks for drive Line supply phase loss safety function, for three phases supply for drive Line supply overvoltage and undervoltage safety circuits for drive Input phase breaks for drive |
| Dielectric strength | 2880 V AC between control and power terminals 2040 V DC between earth and power terminals |
| Insulation resistance | >= 500 mOhm at 500 V DC for 1 minute |
| Local signalling | Four 7-segment display units signal for CANopen bus status 1 LED (red) signal for drive voltage |
| Time constant | 5 ms for reference change |
| Frequency resolution | 0.1 Hz for display unit 0.1...100 Hz for analog input |
| Communication port protocol | CANopen Modbus |
| Type of connector | 1 RJ45 for Modbus/CANopen |
| Physical interface | RS485 multidrop serial link |
| Transmission frame | RTU |
| Transmission rate | 4800, 9600 or 19200 bps for Modbus 10, 20, 50, 125, 250, 500 kbps or 1 Mbps for CANopen |
| Number of addresses | 1...247 for Modbus 1...127 for CANopen |
| Number of drive | 31 for Modbus 127 for CANopen |

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| Electromagnetic compatibility | Radiated radio-frequency electromagnetic field immunity test - test level 3 conforming to IEC 61000-4-3 Electrostatic discharge immunity test - test level 3 conforming to IEC 61000-4-2 Electrical fast transient/burst immunity test - test level 4 conforming to IEC 61000-4-4 1.2/50 μ s - 8/20 μ s surge immunity test - test level 3 conforming to IEC 61000-4-5 |
| Standards | IEC 61800-5-1 |
| Marking | CE |
| Height | 145 mm |
| Width | 72 mm |
| Depth | 142 mm |
| Product weight | 1.5 kg |
| Option card | Communication card for Profibus DP Communication card for Modbus TCP Communication card for Fipio Communication card for DeviceNet Communication card for CANopen daisy chain |

Environment

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| IP degree of protection | IP20 without cover plate |
| Pollution degree | 2 |
| Protective treatment | TC |
| Vibration resistance | 1.5 mm (f = 3...13 Hz) conforming to EN/IEC 60068-2-6 1 gn (f = 13...150 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 dripping water conforming to IEC 60068-2-3 5...95 % without condensation conforming to IEC 60068-2-3 |
| Ambient air temperature for storage | -25...70 °C |
| Ambient air temperature for operation | -10...60 °C with derating factor without protective cover on top of the drive -10...50 °C without derating with protective cover on top of the drive |
| Operating altitude | \geq 1000 m with current derating 1 % per 100 m \leq 1000 m without derating |
| Operating position | Vertical +/- 10 degree |

Offer Sustainability

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| Sustainable offer status | Not Green Premium product |
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