



Main

| | |
|------------------------------|---|
| Range of product | Altivar Machine ATV320 |
| Product or component type | Variable speed drive |
| Product specific application | Complex machines |
| Variant | Standard version |
| Mounting mode | Wall mount |
| Communication port protocol | Modbus serial CANopen |
| Option card | Communication module, CANopen Communication module, EtherCAT Communication module, Profibus DP V1 Communication module, Profinet Communication module, Ethernet Powerlink Communication module, Ethernet/IP Communication module, DeviceNet |
| [Us] rated supply voltage | 525...600 V - 15...10 % |
| Nominal output current | 22.0 A |
| Motor power kW | 15.0 KW for heavy duty |
| EMC filter | Without EMC filter |
| IP degree of protection | IP20 |

Complementary

| | |
|------------------------|---|
| Discrete input number | 7 |
| Discrete input type | STO safe torque off, 24 V DC, impedance: 1.5 kOhm DI1...DI6 logic inputs, 24 V DC (30 V) DI5 programmable as pulse input: 0...30 kHz, 24 V DC (30 V) |
| Discrete input logic | Positive logic (source) Negative logic (sink) |
| Discrete output number | 3 |
| Discrete output type | Open collector DQ+ 0...1 kHz 30 V DC 100 mA Open collector DQ- 0...1 kHz 30 V DC 100 mA |
| Analogue input number | 3 |
| Analogue input type | A11 voltage: 0...10 V DC, impedance: 30 kOhm, resolution 10 bits A12 bipolar differential voltage: +/- 10 V DC, impedance: 30 kOhm, resolution 10 bits A13 current: 0...20 mA (or 4-20 mA, x-20 mA, 20-x mA or other patterns by configuration), impedance: 250 Ohm, resolution 10 bits |
| Analogue output number | 1 |
| Analogue output type | Software-configurable current AQ1: 0...20 mA impedance 800 Ohm, resolution 10 bits Software-configurable voltage AQ1: 0...10 V DC impedance 470 Ohm, resolution 10 bits |

| | |
|--|---|
| Relay output type | Configurable relay logic R1A 1 NO electrical durability 100000 cycles Configurable relay logic R1B 1 NC electrical durability 100000 cycles Configurable relay logic R1C Configurable relay logic R2A 1 NO electrical durability 100000 cycles Configurable relay logic R2C |
| Maximum switching current | Relay output R1A, R1B, R1C on resistive load, $\cos \phi = 1$: 3 A at 250 V AC Relay output R1A, R1B, R1C on resistive load, $\cos \phi = 1$: 3 A at 30 V DC Relay output R1A, R1B, R1C, R2A, R2C on inductive load, $\cos \phi = 0.4$ and L/R = 7 ms: 2 A at 250 V AC Relay output R1A, R1B, R1C, R2A, R2C on inductive load, $\cos \phi = 0.4$ and L/R = 7 ms: 2 A at 30 V DC Relay output R2A, R2C on resistive load, $\cos \phi = 1$: 5 A at 250 V AC Relay output R2A, R2C on resistive load, $\cos \phi = 1$: 5 A at 30 V DC |
| Minimum switching current | Relay output R1A, R1B, R1C, R2A, R2C: 5 mA at 24 V DC |
| Method of access | Slave CANopen |
| 4 quadrant operation possible | True |
| Asynchronous motor control profile | Voltage/Frequency ratio, 5 points Flux vector control without sensor, standard Voltage/Frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor - Energy Saving Voltage/Frequency ratio, 2 points |
| Synchronous motor control profile | Vector control without sensor |
| Maximum output frequency | 0.599 KHz |
| Transient overtorque | 170...200 % of nominal motor torque |
| Acceleration and deceleration ramps | Linear U S CUS Ramp switching Acceleration/Deceleration ramp adaptation Acceleration/Deceleration automatic stop with DC injection |
| Motor slip compensation | Automatic whatever the load Adjustable 0...300 % Not available in voltage/frequency ratio (2 or 5 points) |
| Switching frequency | 2...16 kHz adjustable 4...16 kHz with derating factor |
| Nominal switching frequency | 4 kHz |
| Braking to standstill | By DC injection |
| Brake chopper integrated | True |
| Line current | 22.1 A at 525 V (heavy duty) 20.1 A at 600 V (heavy duty) |
| Maximum input current | 22.1 A |
| Maximum output voltage | 600 V |
| Apparent power | 20.9 KVA at 600 V (heavy duty) |
| Network frequency | 50...60 Hz |
| Relative symmetric network frequency tolerance | 5 % |
| Prospective line I _{sc} | 22 KA |
| Base load current at high overload | 3.7 A |
| Power dissipation in W | Fan: 317.0 W at 525 V, switching frequency 4 kHz |
| With safety function Safely Limited Speed (SLS) | True |
| With safety function Safe brake management (SBC/SBT) | False |
| With safety function Safe Operating Stop (SOS) | False |
| With safety function Safe Position (SP) | False |
| With safety function Safe programmable logic | False |
| With safety function Safe Speed Monitor (SSM) | False |
| With safety function Safe Stop 1 (SS1) | True |
| With sft fct Safe Stop 2 (SS2) | False |
| With safety function Safe torque off (STO) | True |
| With safety function Safely Limited Position (SLP) | False |
| With safety function Safe Direction (SDI) | False |

| | |
|-----------------|--|
| Protection type | Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: drive |
| Width | 180 Mm |
| Height | 330 Mm |
| Depth | 198.0 Mm |
| Net weight | 6.5 Kg |

Environment

| | |
|--|---|
| Operating position | Vertical +/- 10 degree |
| Product certifications | CE ATEX NOM GOST EAC RCM KC REACH |
| Marking | CE ATEX UL CSA EAC RCM |
| Electromagnetic compatibility | 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 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 1.2/50 μ s - 8/20 μ s surge immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11 |
| Environmental class (during operation) | Class 3C3 according to IEC 60721-3-3 Class 3S2 according to IEC 60721-3-3 |
| Maximum acceleration under shock impact (during operation) | 150 m/s ² at 11 ms |
| Maximum acceleration under vibrational-stress (during operation) | 10 m/s ² at 13...200 Hz |
| Maximum deflection under vibratory load (during operation) | 1.5 mm at 2...13 Hz |
| Permitted relative humidity (during operation) | Class 3K5 according to EN 60721-3 |
| Volume of cooling air | 156.0 M3/H |
| Overvoltage category | III |
| Regulation loop | Adjustable PID regulator |
| Speed accuracy | +/- 10 % of nominal slip 0.2 Tn to Tn |
| Pollution degree | 2 |
| Ambient air transport temperature | -25...70 °C |
| Ambient air temperature for operation | -10...50 °C without derating 50...60 °C with derating factor |
| Ambient air temperature for storage | -25...70 °C |

Packing Units

| | |
|------------------------------|---------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Weight | 1.69 Kg |
| Package 1 Height | 17.4 Cm |
| Package 1 width | 18.1 Cm |
| Package 1 Length | 18.4 Cm |
| Package 2 Weight | 7.9 Kg |
| Package 3 Weight | 60.4 Kg |

Offer Sustainability

| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS Declaration |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End Of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |
| Upgradeability | Upgraded Components Available |

Product Life Status : **Commercialised**