Product data sheet
Characteristics

ATV32HU55N4
Variable speed drive ATV32, Altivar 32, 5.5 kw, 400 V, 3 phase, with heat sink

Main

Range of product	Altivar 32
Product or component type	Variable speed drive
Product destination	Synchronous motors Asynchronous motors
Product specific application	Complex machines
Function available	-
Assembly style	With heat sink
Component name	ATV32
EMC filter	Class C2 EMC filter integrated
Network number of phases	3 phases
[Us] rated supply voltage	380...500 V - 15...10 %
Supply voltage limits	323…550 V
Supply frequency	50...60 Hz - 5...5 %
Network frequency	47.5...63 Hz
Motor power kW	5.5 kW at 380...480 V
Motor power hp	7.5 hp at 380...480 V

Complementary

Line current	14.5 A for 500 V 3 phases 5.5 kW / 7.5 hp 20.7 A for 380 V 3 phases 5.5 kW / 7.5 hp
Apparent power	17.9 kVA at 500 V 3 phases 5.5 kW / 7.5 hp
Prospective line Isc	22 kA for 3 phases
Nominal output current	14.3 A at 4 kHz 500 V 5.5 kW / 7.5 hp
Maximum transient current	21.5 A for 60 s 5.5 kW / 7.5 hp
Output frequency	0.0005…0.599 kHz
Nominal switching frequency	4 kHz
Switching frequency	2...16 kHz adjustable
Speed range	1…100 for asynchronous motor in open-loop mode
Speed accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Torque accuracy	+/- 15 %
Transient overtorque	170…200 %
Braking torque	<= 170 % with braking resistor
Asynchronous motor control profile	Flux vector control without sensor, standard Flux vector control without sensor - Energy Saving, NoLoad law Voltage/Frequency ratio, 5 points Voltage/Frequency ratio - Energy Saving, quadratic U/f Voltage/frequency ratio, 2 points
Synchronous motor control profile	Vector control without sensor
Regulation loop	Adjustable PID regulator
Motor slip compensation	Automatic whatever the load Adjustable 0...300 % Not available in voltage/frequency ratio (2 or 5 points)

Local signalling	1 LED red for drive voltage 1 LED green for CANopen run 1 LED red for CANopen error 1 LED red for drive fault
Output voltage	<= power supply voltage
Noise level	43 dB conforming to 86/188/EEC
Insulation	Electrical between power and control
Electrical connection	Screw terminal, clamping capacity: 0.5...1.5 mm², AWG 18...AWG 14 (control) Removable screw terminals, clamping capacity: 2.5...16 mm², AWG 12...AWG 6 (motor/braking resistor) Screw terminal, clamping capacity: 4...16 mm², AWG 10...AWG 6 (power supply)
Tightening torque	0.5 N.M, 4.4 lb/ft (control) 1.2 N.M, 10.6 lb/ft (motor/braking resistor) 1.2 N.m, 10.6 lb/ft (power supply)
Supply	Internal supply for reference potentiometer (1 to 10 kOhm): 10.5 V DC +/- 5 %, <10 mA, protection type: overload and short-circuit protection
Analogue input number	3
Analogue input type	AI1 voltage: 0...10 V DC, impedance: 30000 Ohm, resolution 10 bits AI2 bipolar differential voltage: +/- 10 V DC, impedance: 30000 Ohm, resolution 10 bits AI3 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
Sampling duration	2 Ms (AI1, AI2, AI3) - analog input(s) 2 ms (AO1) - analog input(s)
Response time	LI1...LI6 8 ms, tolerance +/- 0.7 ms for logic output(s) R1A, R1B, R1C 2 ms for relay output(s) R2A, R2C 2 ms for relay output(s)
Accuracy	+/- 0.2 % (AI1, AI2, AI3) for a temperature of -10...60 °C +/- 0.5 % (AI1, AI2, AI3) for a temperature of 25 °C +/- 1 % (AO1) for a temperature of 25 °C +/- 2 % (AO1) for a temperature of -10...60 °C
Linearity error	+/- 0.2...0.5 % of maximum value (AI1, AI2, AI3) +/- 0.3 % (AO1)
Analogue output number	1
Analogue output type	AO1 software-configurable current 0...20 mA, impedance: 800 Ohm, resolution 10 bits AO1 software-configurable voltage 0...10 V, impedance: 470 Ohm, resolution 10 bits
Discrete output number	3
Discrete output type	Configurable relay logic: (R1A, R1B, R1C) NO/NC - 100000 cycles Configurable relay logic: (R2A, R2B) NO - 100000 cycles Logic: (LO)
Minimum switching current	5 mA at 24 V DC for configurable relay logic
Maximum switching current	R1: 3 A at 250 V AC resistive load, cos phi = 1 R1: 4 A at 30 V DC resistive load, cos phi = 1 R1, R2: 2 A at 250 V AC inductive load, cos phi = 0.4 R1, R2: 2 A at 30 V DC inductive load, cos phi = 0.4 R2: 5 A at 250 V AC resistive load, cos phi = 1 R2: 5 A at 30 V DC resistive load, cos phi = 1
Discrete input number	7
Discrete input type	Programmable (sink/source) (LI1...LI4)24...30 V DC, with level 1 PLC Programmable as pulse input 20 kpps (LI5)24...30 V DC, with level 1 PLC Switch-configurable PTC probe (LI6)24...30 V DC Safe torque off (STO)24...30 V DC - 1500 Ohm
Discrete input logic	Negative logic (sink) (LI1...LI6), > 19 V (state 0), < 13 V (state 1) Positive logic (source) (LI1...LI6), < 5 V (state 0), > 11 V (state 1)
Acceleration and deceleration ramps	Linear Ramp switching Deceleration ramp automatic stop DC injection CUS S U Deceleration ramp adaptation
Braking to standstill	By DC injection
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

Communication port protocol	CANopen Modbus
Connector type	1 RJ45 (on front face) for Modbus/CANopen
Physical interface	2-wire RS 485 for Modbus
Transmission frame	RTU for Modbus
Type of polarization	No impedance for Modbus
Number of addresses	1…127 for CANopen 1…247 for Modbus
Method of access	Slave CANopen
Electromagnetic compatibility	1.2/50 µs - 8/20 µs surge immunity test, level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test, level 3 conforming to IEC 61000-4-6 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 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11
Width	150 mm
Height	308 mm
Depth	232 mm
Product weight	7.5 kg
Option card	Communication card for CANopen daisy chain Communication card for CANopen open style Communication card for DeviceNet Communication card for EtherNet/IP Communication card for Profibus DP V1
Functionality	Mid
Specific application	Other applications

Environment

Standards	EN/IEC 61800-5-1 EN 61800-3 environments 2 category C2 EN/IEC 61800-3 EN 55011 class A group 1 EN 61800-3 environments 1 category C2
Product certifications	CSA[RETURN]UL[RETURN]GOST[RETURN]C-Tick[RETURN]NOM 117
Marking	CE
Pollution degree	2 conforming to EN/IEC 61800-5-1
IP degree of protection	IP20 conforming to EN/IEC 61800-5-1
Vibration resistance	1 gn (f = 13…200 Hz) conforming to EN/IEC 60068-2-6 1.5 mm peak to peak (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 operation	-10…50 °C without derating 50…60 °C with derating factor
Ambient air temperature for storage	-25…70 °C
Operating altitude	<= 1000 m without derating 1000...3000 m with current derating 1 % per 100 m
Operating position	Vertical +/- 10 degree

Contractual warranty

Warranty	18 months