

Specifications



Local distributor code:

400939069

ATV212WD30N4CZH28

ⓘ Discontinued on: 11 Nov 2022

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Device Short Name	ATV212
Product Destination	Asynchronous motors
Network Number Of Phases	3 phases
Motor Power Kw	30 kW
Motor Power Hp	40 hp
Supply Voltage Limits	323...528 V
Supply Frequency	50...60 Hz - 5...5 %
Line Current	44.4 A at 480 V 58.2 A at 380 V
Range Of Product	Altivar 212
Product Or Component Type	Variable speed drive
Product Specific Application	Pumps and fans in HVAC
Communication Port Protocol	LonWorks APOGEE FLN Modbus BACnet METASYS N2
[Us] Rated Supply Voltage	380...480 V - 15...10 %
Emc Filter	Class C1 EMC filter integrated

Apparent Power	44.6 kVA at 380 V
Continuous Output Current	58.5 A at 380 V 58.5 A at 460 V
Maximum Transient Current	64.4 A for 60 s
Speed Drive Output Frequency	0.5...200 Hz
Speed Range	1...10
Speed Accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Local Signalling	1 LED (red) for DC bus energized
Output Voltage	<= power supply voltage
Isolation	Electrical between power and control
Type Of Cable	Without mounting kit: 1 wire(s)IEC cable at 45 °C, copper 90 °C / XLPE/EPR Without mounting kit: 1 wire(s)IEC cable at 45 °C, copper 70 °C / PVC With UL Type 1 kit: 3 wire(s)UL 508 cable at 40 °C, copper 75 °C / PVC

Electrical Connection	VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES: terminal 2.5 mm² / AWG 14 L1/R, L2/S, L3/T: terminal 25 mm² / AWG 3 U/T1, V/T2, W/T3: terminal 50 mm² / AWG 1/0
Tightening Torque	0.6 N.m (VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES) 4.3 N.m, 38 lb.in (L1/R, L2/S, L3/T) 24 N.m, 212 lb.in (U/T1, V/T2, W/T3)
Supply	Internal supply for reference potentiometer (1 to 10 kOhm): 10.5 V DC +/- 5 %, <10 A, protection type: overload and short-circuit protection Internal supply: 24 V DC (21...27 V), <200 A, protection type: overload and short-circuit protection
Sampling Duration	2 ms +/- 0.5 ms F discrete 2 ms +/- 0.5 ms R discrete 2 ms +/- 0.5 ms RES discrete 3.5 ms +/- 0.5 ms VIA analog 22 ms +/- 0.5 ms VIB analog
Response Time	FM 2 ms, tolerance +/- 0.5 ms for analog output(s) FLA, FLC 7 ms, tolerance +/- 0.5 ms for discrete output(s) FLB, FLC 7 ms, tolerance +/- 0.5 ms for discrete output(s) RY, RC 7 ms, tolerance +/- 0.5 ms for discrete output(s)
Accuracy	+/- 0.6 % (VIA) for a temperature variation 60 °C +/- 0.6 % (VIB) for a temperature variation 60 °C +/- 1 % (FM) for a temperature variation 60 °C
Linearity Error	VIA: +/- 0.15 % of maximum value for input VIB: +/- 0.15 % of maximum value for input FM: +/- 0.2 % for output
Analogue Output Type	FM switch-configurable voltage 0...10 V DC, impedance: 7620 Ohm, resolution 10 bits FM switch-configurable current 0...20 mA, impedance: 970 Ohm, resolution 10 bits
Discrete Output Type	Configurable relay logic: (FLA, FLC) NO - 100000 cycles Configurable relay logic: (FLB, FLC) NC - 100000 cycles Configurable relay logic: (RY, RC) NO - 100000 cycles
Minimum Switching Current	3 mA at 24 V DC for configurable relay logic
Maximum Switching Current	5 A at 250 V AC on resistive load - cos phi = 1 - L/R = 0 ms (FL, R) 5 A at 30 V DC on resistive load - cos phi = 1 - L/R = 0 ms (FL, R) 2 A at 250 V AC on inductive load - cos phi = 0.4 - L/R = 7 ms (FL, R) 2 A at 30 V DC on inductive load - cos phi = 0.4 - L/R = 7 ms (FL, R)
Discrete Input Type	F programmable 24 V DC, with level 1 PLC, impedance: 4700 Ohm R programmable 24 V DC, with level 1 PLC, impedance: 4700 Ohm RES programmable 24 V DC, with level 1 PLC, impedance: 4700 Ohm
Discrete Input Logic	Positive logic (source) (F, R, RES), <= 5 V (state 0), >= 11 V (state 1) Negative logic (sink) (F, R, RES), >= 16 V (state 0), <= 10 V (state 1)
Dielectric Strength	3535 V DC between earth and power terminals 5092 V DC between control and power terminals
Insulation Resistance	>= 1 mOhm 500 V DC for 1 minute
Frequency Resolution	Display unit: 0.1 Hz Analog input: 0.024/50 Hz
Communication Service	Write single register (06) Write multiple registers (16) 2 words maximum Time out setting from 0.1 to 100 s Monitoring inhabitable Read device identification (43) Read holding registers (03) 2 words maximum
Option Card	Communication card for LonWorks
Discrete Output Number	2
Analogue Input Number	2

Analogue Input Type	VIA switch-configurable voltage: 0...10 V DC 24 V max, impedance: 30000 Ohm, resolution 10 bits VIB configurable voltage: 0...10 V DC 24 V max, impedance: 30000 Ohm, resolution 10 bits VIB configurable PTC probe: 0...6 probes, impedance: 1500 Ohm VIA switch-configurable current: 0...20 mA, impedance: 250 Ohm, resolution 10 bits
Analogue Output Number	1
Physical Interface	2-wire RS 485
Connector Type	1 RJ45 1 open style
Transmission Rate	9600 bps or 19200 bps
Transmission Frame	RTU
Number Of Addresses	1...247
Data Format	8 bits, 1 stop, odd even or no configurable parity
Type Of Polarization	No impedance
Asynchronous Motor Control Profile	Voltage/frequency ratio - Energy Saving, quadratic U/f Voltage/frequency ratio, 2 points Voltage/frequency ratio, automatic IR compensation (U/f + automatic Uo) Voltage/frequency ratio, 5 points Flux vector control without sensor, standard
Torque Accuracy	+/- 15 %
Transient Overtorque	120 % of nominal motor torque +/- 10 % for 60 s
Acceleration And Deceleration Ramps	Automatic based on the load Linear adjustable separately from 0.01 to 3200 s
Motor Slip Compensation	Not available in voltage/frequency ratio motor control Adjustable Automatic whatever the load
Switching Frequency	6...16 kHz adjustable 8...16 kHz with derating factor
Nominal Switching Frequency	8 kHz
Braking To Standstill	By DC injection
Network Frequency	47.5...63 Hz
Prospective Line Isc	22 kA
Protection Type	Overheating protection: drive Thermal power stage: drive Short-circuit between motor phases: drive Input phase breaks: drive Overcurrent between output phases and earth: drive Overvoltages on the DC bus: drive Break on the control circuit: drive Against exceeding limit speed: drive Line supply overvoltage and undervoltage: drive Line supply undervoltage: drive Against input phase loss: drive Thermal protection: motor Motor phase break: motor With PTC probes: motor
Width	284 mm
Height	720 mm
Depth	315 mm
Net Weight	58.5 kg

Environment

Pollution Degree	3 conforming to IEC 61800-5-1
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Ip Degree Of Protection	IP54 conforming to EN/IEC 61800-5-1 IP54 conforming to EN/IEC 60529
Vibration Resistance	1.5 mm (f= 3...13 Hz) conforming to EN/IEC 60068-2-6 1 gn (f= 13...200 Hz) conforming to EN/IEC 60068-2-8
Shock Resistance	15 gn for 11 ms conforming to IEC 60068-2-27
Environmental Characteristic	Classes 3C1 conforming to IEC 60721-3-3 Classes 3S2 conforming to IEC 60721-3-3
Noise Level	59.9 dB conforming to 86/188/EEC
Operating Altitude	1000...3000 m limited to 2000 m for the Corner Grounded distribution network with current derating 1 % per 100 m <= 1000 m without derating
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...40 °C (without derating) 40...50 °C (with derating factor)
Operating Position	Vertical +/- 10 degree
Product Certifications	CSA NOM 117 UL C-Tick
Marking	CE
Standards	IEC 61800-3 environments 1 category C3 EN 61800-3 environments 1 category C2 EN 61800-3 environments 2 category C1 IEC 61800-5-1 IEC 61800-3 category C1 IEC 61800-3 EN 61800-5-1 EN 61800-3 environments 1 category C1 IEC 61800-3 environments 1 category C1 EN 61800-3 environments 2 category C3 EN 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C2 EN 61800-3 category C1 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 2 category C3 EN 61800-3 environments 1 category C3 EN 61800-3 EN 55011 group 1 class B IEC 61800-3 environments 2 category C1
Assembly Style	With heat sink
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 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 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11
Regulation Loop	Adjustable PI regulator
Ambient Air Temperature For Storage	-25...70 °C

Contractual warranty

Warranty	18 months
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