Product data sheet
Characteristics

ATV212HD18N4
variable speed drive, Altivar 212, 18.5kW, 25hp, 480V, 3 phases, with EMC, IP21



Main

Device short name	ATV212
Product destination	Asynchronous motors
Network number of phases	3 phases
Motor power kW	18.5 KW
Motor power hp	25 Hp
Supply voltage limits	323…528 V
Supply frequency	50...60 Hz - 5...5 %
Line current	27.8 A at 480 V 34.8 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	APOGEE FLN BACnet LonWorks Modbus METASYS N2
[Us] rated supply voltage	380...480 V - 15...10 %
EMC filter	Class C2 EMC filter integrated
IP degree of protection	IP21

Complementary

Apparent power	28.2 KVA at 380 V
Continuous output current	37 A at 380 V 37 A at 460 V
Maximum transient current	40.7 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 / 14 AWG L1/R, L2/S, L3/T: terminal 25 mm² / 3 AWG
Tightening torque	0.6 N.M (VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES) 4.5 N.M, 40 lb.in (L1/R, L2/S, L3/T)

Supply	Internal supply for reference potentiometer (1 to 10 kOhm): 10.5 V DC +/- 5 %, <10 A, protection ty 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	Time out setting from 0.1 to 100 s Read device identification (43) Monitoring inhibitable Read holding registers (03) 2 words maximum Write multiple registers (16) 2 words maximum Write single register (06)
Option card	Communication card for LonWorks
Power dissipation in W	603 W
Air flow	214 M3/H
Functionality	Mid
Specific application	HVAC
Discrete and process manufacturing	Building - HVAC compressor for scroll Building - HVAC fan Building - HVAC pump
Power range	15…25 KW at 380…440 V 3 phases 15…25 KW at 480…500 V 3 phases
Motor starter type	Variable speed drive
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 open style 1 RJ45
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, 5 points Voltage/Frequency ratio - Energy Saving, quadratic U/f Voltage/Frequency ratio, 2 points Voltage/Frequency ratio, automatic IR compensation (U/f + automatic Uo) Flux vector control without sensor, standard
Torque accuracy	+/- 15 %
Transient overtorque	120 % of nominal motor torque +/- 10 % for 60 s
Acceleration and deceleration ramps	Linear adjustable separately from 0.01 to 3200 s Automatic based on the load
Motor slip compensation	Not available in voltage/frequency ratio motor control Automatic whatever the load Adjustable
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	245 Mm
Height	330 Mm
Depth	190 Mm
Net weight	11.50 Kg

Environment

Pollution degree	2 conforming to IEC 61800-5-1
IP degree of protection	IP20 on upper part without blanking plate on cover conforming to IEC 61800-5-1 IP20 on upper part without blanking plate on cover conforming to IEC 60529 IP21 conforming to IEC 61800-5-1 IP21 conforming to IEC 60529 IP41 on upper part conforming to IEC 61800-5-1 IP41 on upper part conforming to IEC 60529
Vibration resistance	1.5 mm (f= 3…13 Hz) conforming to 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	54 DB conforming to 86/188/EEC
Operating altitude	1000...3000 m limited to 2000 m for the Corner Grounded distribution network with current dera <= 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[RETURN]UL[RETURN]C-Tick[RETURN]NOM 117
Marking	CE

Standards	IEC 61800-3 environments 1 category C1 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 1 category C3 EN 55011 class A group 1 IEC 61800-3 IEC 61800-3 category C3 EN 61800-3 category C3 IEC 61800-3 category C2 IEC 61800-5-1 UL Type 1 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C3
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

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	28.000 Cm
Package 1 Width	40.000 Cm
Package 1 Length	30.000 Cm
Package 1 Weight	11.586 Kg
Unit Type of Package 2	S06
Number of Units in Package 2	4
Package 2 Height	75.000 Cm
Package 2 Width	60.000 Cm
Package 2 Length	80.000 Cm
Package 2 Weight	59.344 Kg

Offer Sustainability

Mercury free	Yes
Sustainable packaging	No
Packaging made with recycled cardboard	No
Packaging without single use plastic	Yes
SCIP Number	24716270-af8f-43e3-a74f-c5731a95523a
REACh Regulation	Reference contains Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant By Exemption
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which
Product contributes to saved and avoided emissions	Yes
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and

Contractual warranty

Warranty (in months)	18

Product Life Status : End of commerc. announced

ATV212HD18N4 is replaced by the following product range:



363587046

Variable speed drives up to 250kW (400HP) for reliable performance of HVAC machines, sustainable efficiency of co

Substitution date: |