

Product data sheet

Characteristics

ATV212HD22N4

variable speed drive ATV212 - 22kW - 30hp -
480V - 3ph - EMC - IP21

Product availability : Stock - Normally stocked in distribution facility



Price* : 2856.00 USD



Main

Range of product	Altivar 212
Product or component type	Variable speed drive
Device short name	ATV212
Product destination	Asynchronous motors
Product specific application	Pumps and fans in HVAC
Assembly style	With heat sink
Phase	3 phases
Motor power kW	22 kW
Motor power hp	30 hp
[Us] rated supply voltage	380...480 V - 15...10 %
Supply voltage limits	323...528 V
Supply frequency	50...60 Hz - 5...5 %
Network frequency	47.5...63 Hz
EMC filter	Class C2 EMC filter integrated
Line current	33.1 A 480 V 41.6 A 380 V

Complementary

Apparent power	33.2 kVA 380 V
Prospective line I _{sc}	22 kA
Continuous output current	43.5 A 380 V 43.5 A 460 V
Maximum transient current	47.9 A 60 s
Speed drive output frequency	0.5...200 Hz
Nominal switching frequency	8 kHz
Switching frequency	6...16 kHz adjustable 8...16 kHz with derating factor

Speed range	1...10
Speed accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Torque accuracy	+/- 15 %
Transient overtorque	120 % of nominal motor torque +/- 10 % 60 s
Asynchronous motor control profile	Voltage/Frequency ratio, 2 points Voltage/Frequency ratio, 5 points Flux vector control without sensor, standard Voltage/Frequency ratio - Energy Saving, quadratic U/f Voltage/Frequency ratio, automatic IR compensation (U/f + automatic Uo)
Regulation loop	Adjustable PI regulator
Motor slip compensation	Adjustable Automatic whatever the load Not available in voltage/frequency ratio motor control
Local signalling	1 LED red DC bus energized
Output voltage	<= power supply voltage
Isolation	Electrical between power and control
Type of cable	IEC cable without mounting kit 1 113 °F (45 °C) copper 90 °C XLPE/EPR IEC cable without mounting kit 1 45 °C copper 70 °C PVC UL 508 cable with UL Type 1 kit 3 40 °C copper 75 °C PVC
Electrical connection	Terminal 0 in ² (2.5 mm ²) AWG 14 VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES Terminal 50 mm ² AWG 1/0 L1/R, L2/S, L3/T
Tightening torque	212.39 lbf.in (24 N.m) 212 lb.in L1/R, L2/S, L3/T 0.6 N.m VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES
Supply	Internal supply for reference potentiometer (1 to 10 kOhm) 10.5 V DC +/- 5 % <= 10 A overload and short-circuit protection Internal supply 24 V DC 21...27 V <= 200 A overload and short-circuit protection
Analogue input number	2
Analogue input type	Switch-configurable voltage VIA 0...10 V DC 24 V max 30000 Ohm 10 bits Configurable voltage VIB 0...10 V DC 24 V max 30000 Ohm 10 bits Configurable PTC probe VIB 0...6 probes 1500 Ohm Switch-configurable current VIA 0...20 mA 250 Ohm 10 bits
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	2 ms +/- 0.5 ms FM analog 7 ms +/- 0.5 ms FLA, FLC discrete 7 ms +/- 0.5 ms FLB, FLC discrete 7 ms +/- 0.5 ms RY, RC discrete
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	+/- 0.15 % of maximum value input VIA +/- 0.15 % of maximum value input VIB +/- 0.2 % output FM
Analogue output number	1
Analogue output type	Switch-configurable voltage FM 0...10 V DC 7620 Ohm 10 bits Switch-configurable current FM 0...20 mA 970 Ohm 10 bits
Discrete output number	2
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 24 V DC configurable relay logic
Maximum switching current	5 A 250 V AC resistive cos phi = 1 L/R = 0 ms FL, R 5 A 30 V DC resistive cos phi = 1 L/R = 0 ms FL, R 2 A 250 V AC inductive cos phi = 0.4 L/R = 7 ms FL, R 2 A 30 V DC inductive cos phi = 0.4 L/R = 7 ms FL, R
Discrete input type	Programmable F 24 V DC level 1 PLC 4700 Ohm Programmable R 24 V DC level 1 PLC 4700 Ohm Programmable RES 24 V DC level 1 PLC 4700 Ohm
Discrete input logic	Positive logic (source) F, R, RES <= 5 V >= 11 V Negative logic (sink) F, R, RES >= 16 V <= 10 V

Acceleration and deceleration ramps	Automatic based on the load Linear adjustable separately from 0.01 to 3200 s
Braking to standstill	By DC injection
Protection type	Motor phase break motor Break on the control circuit drive Thermal power stage drive Overvoltages on the DC bus drive Against exceeding limit speed drive Against input phase loss drive With PTC probes motor Input phase breaks drive Line supply overvoltage and undervoltage drive Line supply undervoltage drive Overcurrent between output phases and earth drive Overheating protection drive Short-circuit between motor phases drive Thermal protection motor
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	0.024/50 Hz analog input 0.1 Hz display unit
Communication port protocol	APOGEE FLN BACnet LonWorks METASYS N2 Modbus
Connector type	1 RJ45 1 open style
Physical interface	2-wire RS 485
Transmission frame	RTU
Transmission rate	9600 bps or 19200 bps
Data format	8 bits, 1 stop, odd even or no configurable parity
Type of polarization	No impedance
Number of addresses	1...247
Communication service	Monitoring inhibitable Read device identification (43) Read holding registers (03) 2 words maximum Time out setting from 0.1 to 100 s Write multiple registers (16) 2 words maximum Write single register (06)
Option card	Communication card LonWorks
Operating position	Vertical +/- 10 degree
Width	9.45 in (240 mm)
Height	16.54 in (420 mm)
Depth	8.43 in (214 mm)
Product weight	58.2 lb(US) (26.4 kg)
Power dissipation in W	626 W
Air flow	56533.83 Gal/hr(US) (214 m3/h)
Functionality	Mid
Specific application	HVAC
IP degree of protection	IP21
Variable speed drive application selection	Building - HVAC : compressor for scroll Building - HVAC : fan Building - HVAC : pump
Motor power range AC-3	15...25 kW at 380...440 V 3 phases 15...25 kW at 480...500 V 3 phases
Motor starter type	Variable speed drive

Environment

Electromagnetic compatibility	Conducted radio-frequency immunity test level 3 IEC 61000-4-6 Voltage dips and interruptions immunity test IEC 61000-4-11
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1.2/50 μ s - 8/20 μ s surge immunity test level 3 IEC 61000-4-5
Electrical fast transient/burst immunity test level 4 IEC 61000-4-4
Electrostatic discharge immunity test level 3 IEC 61000-4-2
Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3

Pollution degree	3 IEC 61800-5-1
IP degree of protection	IP20 on upper part without blanking plate on cover EN/IEC 61800-5-1 IP20 on upper part without blanking plate on cover EN/IEC 60529 IP21 EN/IEC 61800-5-1 IP21 EN/IEC 60529 IP41 on upper part EN/IEC 61800-5-1 IP41 on upper part EN/IEC 60529
Vibration resistance	1 gn 13...200 Hz EN/IEC 60068-2-8 1.5 mm 3...13 Hz EN/IEC 60068-2-6
Shock resistance	15 gn 11 ms IEC 60068-2-27
Environmental characteristic	Classes 3C1 IEC 60721-3-3 Classes 3S2 IEC 60721-3-3
Noise level	59.9 dB 86/188/EEC
Operating altitude	3280.84...9842.52 ft (1000...3000 m) limited to 2000 m for the Corner Grounded distribution network with current derating 1 % per 100 m <= 3280.84 ft (1000 m) without derating
Relative humidity	5...95 % without condensation IEC 60068-2-3 5...95 % without dripping water IEC 60068-2-3
Ambient air temperature for operation	14...104 °F (-10...40 °C) without derating > 104...122 °F (> 40...50 °C) with derating factor
Ambient air temperature for storage	-13...158 °F (-25...70 °C)
Standards	EN 55011 class A group 1 EN 61800-3 EN 61800-3 category C2 EN 61800-3 category C3 EN 61800-3 environments 1 category C1 EN 61800-3 environments 1 category C2 EN 61800-3 environments 1 category C3 EN 61800-3 environments 2 category C1 EN 61800-3 environments 2 category C2 EN 61800-3 environments 2 category C3 EN 61800-5-1 IEC 61800-3 IEC 61800-3 category C2 IEC 61800-3 category C3 IEC 61800-3 environments 1 category C1 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 1 category C3 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C3 IEC 61800-5-1 UL Type 1
Product certifications	CSA C-Tick NOM 117 UL
Marking	CE

Ordering and shipping details

Category	22158 - ATV212 30 - 100 HP 460 VOLT
Discount Schedule	CP4D
GTIN	00785901921479
Nbr. of units in pkg.	1
Package weight(Lbs)	68.20000000000003
Returnability	Y
Country of origin	CN

Offer Sustainability

Sustainable offer status	Green Premium product
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RoHS (date code: YYWW)	Compliant - since 1050 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity
REACH	Reference not containing SVHC above the threshold Reference not containing SVHC above the threshold
Product environmental profile	Available Product Environmental Profile
Product end of life instructions	Available End of life manual

Contractual warranty

Warranty period	18 months
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