



### 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
Network number of phases	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 for 480 V 41.6 A for 380 V

### Complementary

Apparent power	33.2 kVA for 380 V
Prospective line I <sub>sc</sub>	22 kA
Continuous output current	43.5 A at 460 V 43.5 A at 380 V
Maximum transient current	47.9 A for 60 s
Speed drive output frequency	0.5...200 Hz
Nominal switching frequency	8 kHz
Switching frequency	8...16 kHz with derating factor 6...16 kHz adjustable
Speed range	1...10

Speed accuracy	+/- 10 % of nominal slip for 0.2 Tn to Tn torque variation
Torque accuracy	+/- 15 %
Transient overtorque	120 % of nominal motor torque, +/- 10 % for 60 s
Asynchronous motor control profile	Voltage/Frequency ratio, 5 points Voltage/Frequency ratio, 2 points Voltage/Frequency ratio, automatic IR compensation (U/f + automatic Uo) Voltage/Frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor, standard
Regulation loop	Adjustable PI regulator
Motor slip compensation	Adjustable Not available in voltage/frequency ratio motor control Automatic whatever the load
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 wire(s) - 45 °C, copper 70 °C / PVC IEC cable without mounting kit : 1 wire(s) - 45 °C, copper 90 °C / XLPE/EPR UL 508 cable with UL Type 1 kit : 3 wire(s) - 40 °C, copper 75 °C / PVC
Electrical connection	Terminal 2.5 mm <sup>2</sup> / AWG 14 (VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES) Terminal 50 mm <sup>2</sup> / AWG 1/0 (L1/R, L2/S, L3/T)
Tightening torque	0.6 N.m (VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES) 24 N.m - 212 lb.in (L1/R, L2/S, L3/T)
Supply	Internal supply at 24 V DC (21...27 V) - <= 200 A with overload and short-circuit protection Internal supply for reference potentiometer (1 to 10 kOhm) at 10.5 V DC +/- 5 % - <= 10 A with overload and short-circuit protection
Analogue input number	2
Analogue input type	Configurable PTC probe : (VIB) 0...6 probes - 1500 Ohm Switch-configurable current : (VIA) 0...20 mA - 250 Ohm - resolution: 10 bits Switch-configurable voltage : (VIA) 0...10 V DC - 24 V max - 30000 Ohm - resolution: 10 bits Configurable voltage : (VIB) 0...10 V DC - 24 V max - 30000 Ohm - resolution: 10 bits
Sampling duration	2 ms +/- 0.5 ms (R) - discrete input(s) 2 ms +/- 0.5 ms (F) - discrete input(s) 3.5 ms +/- 0.5 ms (VIA) - analog input(s) 22 ms +/- 0.5 ms (VIB) - analog input(s) 2 ms +/- 0.5 ms (RES) - discrete input(s)
Response time	7 ms +/- 0.5 ms (FLA, FLC) - discrete output(s) 7 ms +/- 0.5 ms (FLB, FLC) - discrete output(s) 7 ms +/- 0.5 ms (RY, RC) - discrete output(s) 2 ms +/- 0.5 ms (FM) - analog output(s)
Accuracy	+/- 0.6 % (VIB) for a temperature variation 60 °C +/- 0.6 % (VIA) for a temperature variation 60 °C +/- 1 % (FM) for a temperature variation 60 °C
Linearity error	+/- 0.2 % for output (FM) +/- 0.15 % of maximum value for input (VIA) +/- 0.15 % of maximum value for input (VIB)
Analogue output number	1
Analogue output type	Switch-configurable current : (FM) 0...20 mA - 970 Ohm - resolution: 10 bits Switch-configurable voltage : (FM) 0...10 V DC - 7620 Ohm - resolution: 10 bits
Discrete output number	2
Discrete output type	Configurable relay logic : (FLB, FLC) NC - 100000 cycles Configurable relay logic : (RY, RC) NO - 100000 cycles Configurable relay logic : (FLA, FLC) NO - 100000 cycles
Minimum switching current	3 mA at 24 V DC (configurable relay logic)
Maximum switching current	5 A at 30 V DC on resistive load - cos phi = 1 - L/R = 0 ms (FL, R) 5 A at 250 V AC 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	Programmable (F) 24 V DC, with level 1 PLC - 4700 Ohm Programmable (RES) 24 V DC, with level 1 PLC - 4700 Ohm Programmable (R) 24 V DC, with level 1 PLC - 4700 Ohm
Discrete input logic	Negative logic (sink) (F, R, RES), >= 16 V (state 0), <= 10 V (state 1) Positive logic (source) (F, R, RES), <= 5 V (state 0), >= 11 V (state 1)
Acceleration and deceleration ramps	Linear adjustable separately from 0.01 to 3200 s Automatic based on the load

Braking to standstill	By DC injection
Protection type	Overheating protection for drive Against input phase loss for drive With PTC probes for motor Line supply overvoltage and undervoltage for drive Break on the control circuit for drive Thermal power stage for drive Overvoltages on the DC bus for drive Motor phase break for motor Overcurrent between output phases and earth for drive Line supply undervoltage for drive Input phase breaks for drive Thermal protection for motor Short-circuit between motor phases for drive Against exceeding limit speed for drive
Dielectric strength	3535 V DC between earth and power terminals 5092 V DC between control and power terminals
Insulation resistance	>= 1 MOhm at 500 V DC for 1 minute
Frequency resolution	0.1 Hz for display unit 0.024/50 Hz for analog input
Communication port protocol	APOGEE FLN METASYS N2 Modbus BACnet LonWorks
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	Write single register (06) Read device identification (43) Time out setting from 0.1 to 100 s Write multiple registers (16) 2 words maximum Monitoring inhibitible Read holding registers (03) 2 words maximum
Option card	Communication card for LonWorks
Operating position	Vertical +/- 10 degree
Width	284 mm
Height	720 mm
Depth	315 mm
Product weight	49.5 kg
Functionality	Mid
Specific application	Centrifugal pumps and fans

## Environment

Electromagnetic compatibility	Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electrostatic discharge immunity test level 3 conforming to IEC 61000-4-2 1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 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
Pollution degree	IEC 61800-5-1
IP degree of protection	IP55 conforming to EN/IEC 61800-5-1 IP55 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 m without derating 1000...3000 m (limited to 2000 m for the Corner Grounded distribution network) with current derating 1 % per 100 m
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
Ambient air temperature for storage	-25...70 °C
Standards	EN 61800-5-1 EN 61800-3 environments 1 category C2 IEC 61800-3 environments 1 category C1 IEC 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C1 IEC 61800-3 category C2 IEC 61800-5-1 EN 61800-3 environments 1 category C3 EN 61800-3 environments 2 category C2 EN 61800-3 environments 2 category C1 IEC 61800-3 environments 1 category C3 EN 61800-3 environments 1 category C1 EN 61800-3 category C2 EN 61800-3 category C3 IEC 61800-3 EN 55011 class A group 1 EN 61800-3 environments 2 category C3 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 2 category C3 EN 61800-3 IEC 61800-3 category C3
Product certifications	NOM 117 UL CSA C-Tick
Marking	CE

### Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 1112 - Schneider Electric declaration of conformity <a href="#">Schneider Electric declaration of conformity</a>
REACH	Reference not containing SVHC above the threshold <a href="#">Reference not containing SVHC above the threshold</a>
Product environmental profile	Available <a href="#">Product environmental</a>
Product end of life instructions	Available <a href="#">End of life manual</a>

### Contractual warranty

Warranty period	18 months
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