Product datasheet
Characteristics

ATV212WU55N4
variable speed drive ATV212 - 5.5kW - 7.5hp - 480V - 3ph - EMC class C2 - IP55



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	5.5 kW
Motor power hp	7.5 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	8.6 A for 480 V 10.9 A for 380 V

Complementary

Apparent power	9.1 kVA for 380 V
Prospective line Isc	22 kA
Continuous output current	12 A at 380 V 12 A at 460 V
Maximum transient current	13.2 A for 60 s
Speed drive output frequency	0.5...200 Hz
Nominal switching frequency	12 kHz
Switching frequency	6...16 kHz adjustable 12...16 kHz with derating factor
Speed range	1...10

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

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, automatic IR compensation (U/f + automatic Uo) Voltage/Frequency ratio, 5 points Voltage/Frequency ratio, 2 points Voltage/Frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor, standard
Regulation loop	Adjustable PI regulator
Motor slip compensation	Automatic whatever the load Adjustable 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	UL 508 cable with UL Type 1 kit : 3 wire(s) - 40 °C, copper 75 °C / PVC IEC cable without mounting kit : 1 wire(s) - 45 °C, copper 90 °C / XLPE/EPR IEC cable without mounting kit : 1 wire(s) - 45 °C, copper 70 °C / PVC
Electrical connection	Terminal 2.5 mm² / AWG 14 (VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES) Terminal 6 mm² / AWG 10 (L1/R, L2/S, L3/T)
Tightening torque	1.3 N.m - 11.5 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 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	Switch-configurable current : (VIA) 0...20 mA - 250 Ohm - resolution: 10 bits Configurable voltage : (VIB) 0...10 V DC - 24 V max - 30000 Ohm - resolution: 10 bits Switch-configurable voltage : (VIA) 0...10 V DC - 24 V max - 30000 Ohm - resolution: 10 bits Configurable PTC probe : (VIB) 0...6 probes - 1500 Ohm
Sampling duration	3.5 ms +/- 0.5 ms (VIA) - analog input(s) 2 ms +/- 0.5 ms (RES) - discrete input(s) 2 ms +/- 0.5 ms (F) - discrete input(s) 2 ms +/- 0.5 ms (R) - discrete input(s) 22 ms +/- 0.5 ms (VIB) - analog input(s)
Response time	7 ms +/- 0.5 ms (FLB, FLC) - discrete output(s) 2 ms +/- 0.5 ms (FM) - analog output(s) 7 ms +/- 0.5 ms (FLA, FLC) - discrete output(s) 7 ms +/- 0.5 ms (RY, RC) - discrete output(s)
Accuracy	+/- 1 % (FM) for a temperature variation 60 °C +/- 0.6 % (VIB) for a temperature variation 60 °C +/- 0.6 % (VIA) for a temperature variation 60 °C
Linearity error	+/- 0.15 % of maximum value for input (VIA) +/- 0.2 % for output (FM) +/- 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 : (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 (configurable relay logic)
Maximum switching current	5 A at 250 V AC on resistive load - cos phi = 1 - L/R = 0 ms (FL, R) 2 A at 30 V DC on inductive load - cos phi = 0.4 - L/R = 7 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)
Discrete input type	Programmable (RES) 24 V DC, with level 1 PLC - 4700 Ohm Programmable (R) 24 V DC, with level 1 PLC - 4700 Ohm Programmable (F) 24 V DC, with level 1 PLC - 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)
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	Motor phase break for motor With PTC probes for motor Overheating protection for drive Line supply undervoltage for drive Thermal protection for motor Input phase breaks for drive Overcurrent between output phases and earth for drive Against input phase loss for drive Short-circuit between motor phases for drive Overvoltages on the DC bus for drive Against exceeding limit speed for drive Line supply overvoltage and undervoltage for drive Break on the control circuit for drive Thermal power stage for drive
Dielectric strength	5092 V DC between control and power terminals 3535 V DC between earth 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	LonWorks Modbus METASYS N2 APOGEE FLN BACnet
Connector type	1 open style 1 RJ45
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	Read holding registers (03) 2 words maximum Monitoring inhibitable Read device identification (43) Write multiple registers (16) 2 words maximum Write single register (06) Time out setting from 0.1 to 100 s
Option card	Communication card for LonWorks
Operating position	Vertical +/- 10 degree
Width	230 mm
Height	340 mm
Depth	208 mm
Product weight	9.65 kg
Functionality	Mid
Specific application	Centrifugal pumps and fans

Environment

Electromagnetic compatibility	Voltage dips and interruptions immunity test conforming to IEC 61000-4-11 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 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6 Radiated radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-3 1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5
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 gn (f = 13...200 Hz) conforming to EN/IEC 60068-2-8 1.5 mm (f = 3...13 Hz) conforming to EN/IEC 60068-2-6
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	55 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 dripping water conforming to IEC 60068-2-3 5...95 % without condensation conforming to IEC 60068-2-3
Ambient air temperature for operation	> 40...50 °C with derating factor -10...40 °C without derating
Ambient air temperature for storage	-25...70 °C
Standards	IEC 61800-3 category C3 EN 61800-3 EN 61800-3 environments 1 category C2 IEC 61800-3 category C2 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 1 category C1 IEC 61800-5-1 EN 61800-3 environments 2 category C1 EN 61800-3 environments 1 category C1 EN 61800-3 category C3 EN 61800-3 environments 1 category C3 IEC 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C3 EN 61800-5-1 EN 61800-3 category C2 IEC 61800-3 environments 1 category C3 EN 55011 class A group 1 EN 61800-3 environments 2 category C2 IEC 61800-3 environments 2 category C1 EN 61800-3 environments 2 category C3 IEC 61800-3
Product certifications	NOM 117 C-Tick CSA UL
Marking	CE

Offer Sustainability

Sustainable offer status	Green Premium product
RoHS (date code: YYWW)	Compliant - since 1113 - Schneider Electric declaration of conformity Schneider Electric declaration of conformity
REACh	Reference contains SVHC above the threshold - Go to CaP for more details Go to CaP for more details
Product environmental profile	Available Product environmental
Product end of life instructions	Available End of life manual

Contractual warranty

Warranty period	18 months