Specifications





(!) Discontinued

variable speed drive, Altivar 212, 37kW, 50hp, 480V, 3 phases, with EMC class C1, IP55

ATV212WD37N4C

- ! Discontinued on: Sep 15, 2023
- ! To be end-of-service on: Dec 31, 2024

Product availability: Non-Stock - Not normally stocked in distribution facility

Main

Device short name	ATV212
product destination	Asynchronous motors
Phase	3 phase
Motor power kW	37 kW
Maximum Horse Power Rating	50 hp
Supply voltage limits	323528 V
Supply frequency	5060 Hz - 55 %
Line current	68.9 A 380 V 54.4 A 480 V
Range of Product	Altivar 212
Product or Component Type	Variable speed drive
Product Specific Application	Pumps and fans in HVAC
Communication Port Protocol	METASYS N2 LonWorks Modbus APOGEE FLN BACnet
[Us] rated supply voltage	380480 V - 1510 %
EMC filter	Class C1 EMC filter integrated
IP degree of protection	IP55

Complementary

Apparent power	52 kVA 380 V
Continuous output current	79 A 380 V 79 A 460 V
Maximum transient current	86.9 A 60 s
Speed drive output frequency	0.5200 Hz
Speed range	110
Speed accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Local signalling	for DC bus energized 1 LED (red)
Output voltage	<= power supply voltage

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Isolation	Electrical between power and control					
Type of cable	Without mounting kit 1 IEC cable 113.0000000000 °F (45 °C), copper 90 °C / XLPE/ EPR Without mounting kit 1 IEC cable 113.0000000000 °E (45 °C), copper 70 °C / PVC					
	Without mounting kit 1 IEC cable 113.0000000000 °F (45 °C), copper 70 °C / PVC With UL Type 1 kit 3 UL 508 cable 104.0000000000 °F (40 °C), copper 75 °C / PVC					
Electrical connection	VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES terminal 0.004 in² (2.5 mm²) /					
	AWG 14 L1/R, L2/S, L3/T terminal 0.08 in² (50 mm²) / AWG 1/0					
	U/T1, V/T2, W/T3 terminal 0.08 in² (50 mm²) / AWG 1/0					
Tightening torque	5.3 lbf.in (0.6 N.m) VIA, VIB, FM, FLA, FLB, FLC, RY, RC, F, R, RES)					
	212.4 lbf.in (24 N.m), 212 lb.in U/T1, V/T2, W/T3)					
	62.0 lbf.in (7 N.m), 62 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					
	overload and short-circuit protection Internal supply 24 V DC 2127 V), <200 A overload and short-circuit protection					
Sampling duration	2 ms +/- 0.5 ms F discrete					
- and an	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 +/- 0.5 ms analog					
	FLA, FLC 7 ms +/- 0.5 ms discrete FLB, FLC 7 ms +/- 0.5 ms discrete					
	RY, RC 7 ms +/- 0.5 ms discrete					
Accuracy						
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 input					
	VIB +/- 0.15 % of maximum value input					
	FM +/- 0.2 % output					
Analogue output type	FM switch-configurable voltage 010 V DC 7620 Ohm 10 bits					
	FM switch-configurable current 020 mA 970 Ohm 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 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 = 1.2/(= 0 ms rL, rt)					
	2 A 30 V DC inductive cos phi = 0.4 L/R = 7 ms FL, R)					
Discrete input type	F programmable 24 V DC level 1 PLC 4700 Ohm					
	R programmable 24 V DC level 1 PLC 4700 Ohm					
	RES programmable 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					
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	Read holding registers (03) 2 words maximum Read device identification (43)					
	Write multiple registers (16) 2 words maximum					
	Write single register (06)					
	Time out setting from 0.1 to 100 s					
	Monitoring inhibitable					
Option card	Communication card LonWorks					
Specific application	HVAC					
Discrete output number	2					
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Analogue input number	2					
Analogue input type	VIA switch-configurable voltage 010 V DC 24 V max 30000 Ohm 10 bits VIB configurable voltage 010 V DC 24 V max 30000 Ohm 10 bits VIB configurable PTC probe 06 probes 1500 Ohm VIA switch-configurable current 020 mA 250 Ohm 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	1247					
Data format	8 bits, 1 stop, odd even or no configurable parity					
Type of polarization	No impedance					
Asynchronous motor control profile	Flux vector control without sensor, standard Voltage/frequency ratio - Energy Saving, quadratic U/f Voltage/frequency ratio, automatic IR compensation (U/f + automatic Uo) Voltage/frequency ratio, 5 points Voltage/frequency ratio, 2 points					
Torque accuracy	+/- 15 %					
Transient overtorque	120 % of nominal motor torque +/- 10 % 60 s					
Acceleration and deceleration ramps	Automatic based on the load Linear adjustable separately from 0.01 to 3200 s					
Motor slip compensation	Automatic whatever the load Adjustable Not available in voltage/frequency ratio motor control					
Switching frequency	616 kHz adjustable 816 kHz with derating factor					
Nominal switching frequency	8 kHz					
Braking to standstill	By DC injection					
Network Frequency	47.563 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	11.2 in (284 mm)					
Height	34.6 in (880 mm)					
Depth	13.5 in (343 mm)					

Environment

Pollution degree	3 IEC 61800-5-1
IP degree of protection	IP55 IEC 61800-5-1 IP55 IEC 60529

Vibration resistance	1.5 mm 313 Hz)IEC 60068-2-6 1 gn 13200 Hz)EN/IEC 60068-2-8					
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	64 dB 86/188/EEC					
Operating altitude	3280.849842.52 ft (10003000 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	595 % without condensation IEC 60068-2-3 595 % without dripping water IEC 60068-2-3					
Ambient air temperature for operation	14.0000000000104.0000000000 °F (-1040 °C) without derating) 104.0000000000122.0000000000 °F (4050 °C) with derating factor)					
Operating position	Vertical +/- 10 degree					
Product Certifications	CSA UL NOM 117 C-tick					
Marking	CE					
Standards	IEC 61800-5-1 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 1 category C3 IEC 61800-3 environments 2 category C3 EN 55011 group 1 class B IEC 61800-3 category C1 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 1 category C3 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 2 category C2 IEC 61800-3 environments 1 category C2 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 1 category C1 IEC 61800-3 environments 2 category C1 IEC 61800-3 environments 1 category C1 IEC 61800-3 environments 2 category C3					
Assembly style	With heat sink					
Electromagnetic compatibility	Electrostatic discharge immunity test level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3 Electrical fast transient/burst immunity test level 4 IEC 61000-4-4 1.2/50 µs - 8/20 µs surge immunity test level 3 IEC 61000-4-5 Conducted radio-frequency immunity test level 3 IEC 61000-4-6 Voltage dips and interruptions immunity test IEC 61000-4-11					
Regulation loop	Adjustable PI regulator					
Ambient Air Temperature for Storage	-13.0000000000158.0000000000 °F (-2570 °C)					

Ordering and shipping details

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Category	US1CP4D22158
Discount Schedule	CP4D
GTIN	3606480322778
Returnability	No
Country of origin	FR

Packing Units

Jnit Type of Package 1	PCE		
Jilit Type of Lackage I	FUE		

Number of Units in Package 1	1			
Package 1 Height	18.1 in (46.0 cm)			
Package 1 Width	17.3 in (44.0 cm)			
Package 1 Length	43.9 in (111.4 cm)			
Package 1 Weight	108.03 lb(US) (49.0 kg)			

Contractual warranty

Warranty 18 months

Sustainability Green Premium™

Green PremiumTM **label** is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >





Transparency RoHS/REACh

Well-being performance



Mercury Free



Rohs Exemption Information

Yes

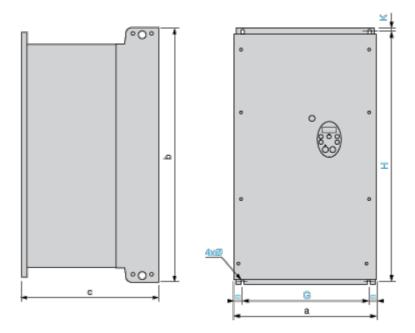
Certifications & Standards

Reach Regulation	REACh Declaration					
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)					
China Rohs Regulation	China RoHS declaration					
Environmental Disclosure	Product Environmental Profile					
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.					
Weee Circularity Profile	· · · · · · · · · · · · · · · · · · ·					

Jul 22, 2024

Dimensions Drawings

Dimensions



Dimensions in mm

ATV212W	а	b	С	G	Н	K	Ø
D11N4, D15N4 D11N4C, D15N4C	290	560	315	250	544	8	6
D18N4 D18N4C	310	665	315	270	650	10	6
D22N4, D30N4 D22N4C, D30N4C	284	720	315	245	700	10	7
D37N4, D45N4 D37N4C, D45N4C	284	880	343	245	860	10	7
D55N4, D75N4 D55N4C, D75N4C	362	1000	364	300	975	10	9

Dimensions in in.

ATV212W	а	b	С	G	Н	K	ø
D11N4, D15N4 D11N4C, D15N4C	11.42	22.05	12.40	9.84	21.42	0.31	0.24
D18N4 D18N4C	12.20	26.18	12.40	10.63	25.59	0.39	0.24
D22N4, D30N4 D22N4C, D30N4C	11.18	28.35	12.40	9.65	27.56	0.39	0.27
D37N4, D45N4 D37N4C, D45N4C	11.18	34.65	13.50	9.65	33.86	0.39	0.27
D55N4, D75N4 D55N4C, D75N4C	14.25	39.37	14.33	11.81	38.39	0.39	0.35

Product data sheet ATV212WD37N4C

ATV212WD37N4C

Mounting and Clearance

Mounting Recommendations

Clearance

Depending on the conditions in which the drive is to be used, its installation will require certain precautions and the use of appropriate accessories.

Install the unit vertically:

- Do not place it close to heating elements.
- Leave sufficient free space to ensure that the air required for cooling purposes can circulate from bottom to the top of the unit.

Type A Mounting

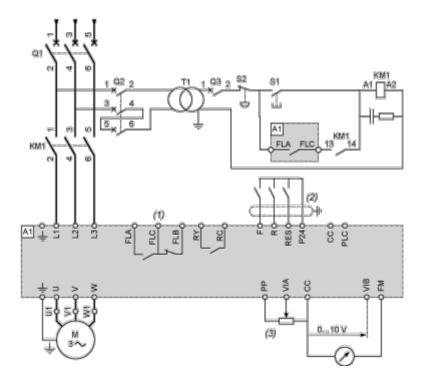




Connections and Schema

Recommended Wiring Diagram

3-Phase Power Supply



A1: ATV 212 drive

KM1: Contactor

Q1: Circuit breaker

Q2: GV2 L rated at twice the nominal primary current of T1

Q3: GB2CB05

S1, S2: XB4 B or XB5 A pushbuttons

T1: 100 VA transformer 220 V secondary

- (1) Fault relay contacts for remote signalling of the drive status
- (2) Connection of the common for the logic inputs depends on the positioning of the switch (Source, PLC, Sink)
- (3) Reference potentiometer SZ1RV1202

NOTE: All terminals are located at the bottom of the drive. Install interference suppressors on all inductive circuits near the drive or connected on the same circuit, such as relays, contactors, solenoid valves, fluorescent lighting, etc.

Switches (Factory Settings)

Voltage/current selection for analog I/O (VIA and VIB)

VIA U I PTC

Voltage/current selection for analog I/O (FM)

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ATV212WD37N4C

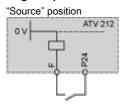
Selection of logic type PLC

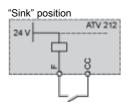
Sink Source (2)

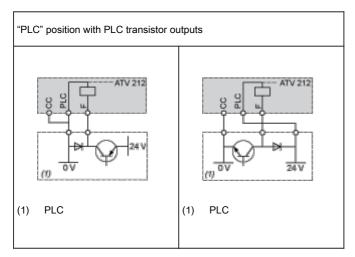
- (1) negative logic
- (2) positive logic

Other Possible Wiring Diagrams

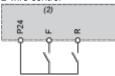
Logic Inputs According to the Position of the Logic Type Switch





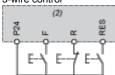


2-wire control



- F: Forward
- R: Preset speed
- (2) ATV 212 control terminals

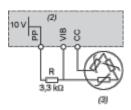
3-wire control



- F: Forward
- R: Stop
- RES: Reverse
- (2) ATV 212 control terminals

PTC probe

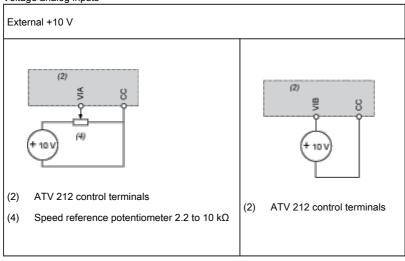
ATV212WD37N4C



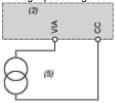
- (2) ATV 212 control terminals
- (3) Motor

Analog Inputs

Voltage analog inputs

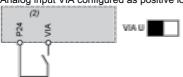


Analog input configured for current: 0-20 mA, 4-20 mA, X-Y mA



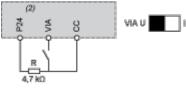
- (2) ATV 212 control terminals
- (5) Source 0-20 mA, 4-20 mA, X-Y mA

Analog input VIA configured as positive logic input ("Source" position)



(2) ATV 212 control terminals

Analog input VIA configured as negative logic input ("Sink" position)



(2) ATV 212 control terminals

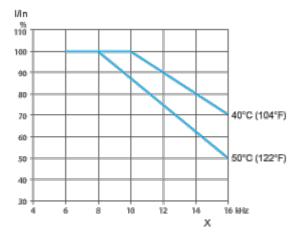
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Performance Curves

Derating Curves

The derating curves for the drive nominal current (In) depend on the temperature and the switching frequency. For intermediate temperatures (45°C for example), interpolate between 2 curves.



X Switching frequency

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