



### Main

Range of product	Altivar 303
Product or component type	Variable speed drive
Product destination	Asynchronous motors
Product specific application	Simple machine
Assembly style	Enclosed With heat sink
Component name	ATV303
Motor power kW	4 kW
[Us] rated supply voltage	380...460 V (- 15...10 %)
Supply frequency	50...60 Hz (- 5...5 %)
Network number of phases	3 phases
Line current	11.4 A at 460 V 13.7 A at 380 V, 5 kA
Apparent power	9.1 kVA
Maximum transient current	19 A for 2 s 14.3 A for 60 s
Power dissipation in W	102.7 W at nominal load
Speed range	1...20
Asynchronous motor control profile	Quadratic voltage/frequency ratio Vector control with/without speed feedback Constant voltage/frequency ratio
Electrical connection	Terminal - cable cross section: 4 mm <sup>2</sup> - LI1...LI4 Terminal - cable cross section: 4 mm <sup>2</sup> - L1, L2, L3, PA/+, PB, U, V, W Terminal - cable cross section: 4 mm <sup>2</sup> - LO+, LO- Terminal - cable cross section: 4 mm <sup>2</sup> - R1A, R1B, R1C Terminal - cable cross section: 4 mm <sup>2</sup> - AO1
Supply	Internal supply for logic inputs at 19...30 V ≤ 100 mA overload and short-circuit-protection Internal supply for reference potentiometer (2.2 to 10 kOhm) at 10...10.8 V ≤ 10 mA overload and short-circuit protection
Communication port protocol	Modbus
IP degree of protection	IPx2 on body
Option card	Communication card for Modbus TCP

### Complementary

Variant	Reinforced version
Supply voltage limits	323...506 V
Network frequency	47.5...63 Hz
Prospective line I <sub>sc</sub>	5 kA
Continuous output current	9.5 A at 4 kHz
Output frequency	0.5...400 kHz
Nominal switching frequency	4 kHz

Switching frequency	2...12 kHz (adjustable)
Transient overtorque	170...200 % of nominal motor torque
Regulation loop	Frequency PI regulator
Motor slip compensation	Automatic whatever the load Adjustable Suppressable
Output voltage	<= power supply voltage
Tightening torque	LI1...LI4 : 1.4 N.m L1, L2, L3, PA+, PB, U, V, W : 1.4 N.m LO+, LO- : 1.4 N.m R1A, R1B, R1C : 1.4 N.m AO1 : 1.4 N.m
Insulation	Electrical between power and control
Analogue input number	1
Analogue input type	AI1 : configurable voltage or current 0...10 V 30 V max 30000 Ohm 20 ms 10 bits
Sampling duration	AI1 : 20 ms analog LI1...LI4 : 20 ms discrete
Analogue output number	1
Analogue output type	AO1 : 0...20 mA voltage/current 800 Ohm 8 bits
Discrete input logic	LI1...LI4, positive logic : < 13 V (state 1)
Discrete output number	2
Discrete output type	Relay R1A, R1B, R1C, 1 NO + 1 NC, electrical service life: 100000 cycles
Minimum switching current	R1A, R1B, R1C : 5 mA at 24 V DC
Maximum switching current	R/L1, S/L2, T/L3 : 2 A at 250 V AC inductive load (cos phi = 0.4 and L/R = 7 ms R/L1, S/L2, T/L3 : 2 A at 30 V DC inductive load (cos phi = 0.4 and L/R = 7 ms R/L1, S/L2, T/L3 : 5 A at 250 V AC resistive load (cos phi = 1 and L/R = 0 ms R/L1, S/L2, T/L3 : 5 A at 30 V DC resistive load (cos phi = 1 and L/R = 0 ms
Discrete input number	4
Discrete input type	LI1...LI4 programmable as logic input at 24 V, 0...100 mA for PLC, impedance: 3500 Ohm
Acceleration and deceleration ramps	Linear adjustable separately from 0.1 to 999.9 s
Braking to standstill	By DC injection
Protection type	Overload protection (thermal) for drive Overvoltage protection for drive Undervoltage protection for drive Earth fault for drive Short-circuit between motor phases for drive
Insulation resistance	>= 500 mOhm 500 V DC for 1 minute
Local signalling	Four 7-segment display units for Modbus plus status 1 LED red for drive voltage
Time constant	5 ms for reference change
Frequency resolution	0.1...100 Hz for analog input 0.1 Hz for display unit
Connector type	1 RJ45 for Modbus
Physical interface	RS485 multidrop serial link
Transmission frame	RTU
Transmission rate	4800, 9600 or 19200 bps for Modbus
Number of addresses	1...247 for Modbus
Number of drive	31 for Modbus
Marking	CE
Operating position	Vertical +/- 10 degree
Height	184 mm
Width	140 mm
Depth	151 mm
Product weight	1.8 kg

## Environment

Dielectric strength	2410 V DC (between earth and power terminals) 3400 V AC (between control and power terminals)
Electromagnetic compatibility	1.2/50 $\mu$ s - 8/20 $\mu$ s 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 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
Standards	IEC 61800-3 IEC 61800-5-1
Product certifications	NOM DNV UL CSA C-Tick GOST
Pollution degree	2
Protective treatment	TC
Vibration resistance	1.5 mm (f = 3...13 Hz) conforming to EN/IEC 60068-2-6 1 gn (f = 13...150 Hz) conforming to EN/IEC 60068-2-6
Shock resistance	15 gn (duration = 11 ms) conforming to EN/IEC 60068-2-27
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 storage	-25...70 °C
Ambient air temperature for operation	-10...55 °C without derating with protective cover on top of the drive -10...65 °C with current derating 1.5 % per °C without protective cover on top of the drive
Operating altitude	$\leq$ 1000 m without derating 1000...3000 m with current derating 1 % per 100 m

## Offer Sustainability

RoHS (date code: YYWW)	Compliant - since 0844 - Schneider Electric declaration of conformity <a href="#">Schneider Electric declaration of conformity</a>
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Product Life Status : **Commercialised**