

# Product datasheet

Specifications



## Variable Speed drive ATV303 3Ph 400V 0,75 kw

ATV303H075N4E

! Discontinued on: 01 November 2020

! Discontinued

### 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	0.75 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	3.5 A at 380 V, I <sub>sc</sub> = 5 kA 3.1 A at 460 V
Apparent power	2.5 kVA
Maximum transient current	3.5 A for 60 s 4.6 A for 2 s
Power dissipation in W	28.8 W at nominal load
Speed range	1...20
Asynchronous motor control profile	Constant voltage/frequency ratio Vector control with/without speed feedback Quadratic voltage/frequency ratio
Electrical connection	L1...L4 terminal 2.5 mm <sup>2</sup> L1, L2, L3, PA+, PB, U, V, W terminal 2.5 mm <sup>2</sup> LO+, LO- terminal 2.5 mm <sup>2</sup> R1A, R1B, R1C terminal 2.5 mm <sup>2</sup> AO1 terminal 2.5 mm <sup>2</sup>
Supply	Internal supply for logic inputs: 19...30 V 100 mA, protection type: overload and short-circuit protection Internal supply for reference potentiometer (2.2 to 10 kOhm): 10...10.8 V 10 mA, protection type: overload and short-circuit protection
Communication port protocol	Modbus
IP degree of protection	IPx2 body
Option card	Communication card for Modbus TCP

## Complementary

<b>Variant</b>	Reinforced version
<b>Supply voltage limits</b>	323...506 V
<b>Network frequency</b>	47.5...63 Hz
<b>Prospective line Isc</b>	5 kA
<b>Continuous output current</b>	2.3 A at 4 kHz
<b>Output frequency</b>	0.5...400 kHz
<b>Nominal switching frequency</b>	4 kHz
<b>Switching frequency</b>	2...12 kHz adjustable
<b>Transient overtorque</b>	170...200 % of nominal motor torque
<b>Regulation loop</b>	Frequency PI regulator
<b>Motor slip compensation</b>	Adjustable Suppressable Automatic whatever the load
<b>Output voltage</b>	<= power supply voltage
<b>Tightening torque</b>	LI1...LI4: 1 N.m L1, L2, L3, PA+, PB, U, V, W: 1 N.m LO+, LO-: 1 N.m R1A, R1B, R1C: 1 N.m AO1: 1 N.m
<b>Insulation</b>	Electrical between power and control
<b>Analogue input number</b>	1
<b>Analogue input type</b>	AI1 configurable voltage or current 0...10 V, input voltage 30 V max, impedance: 30000 Ohm 20 ms 10 bits
<b>Sampling duration</b>	AI1: 20 ms analog LI1...LI4: 20 ms discrete
<b>Analogue output number</b>	1
<b>Analogue output type</b>	AO1 voltage/current: 0...20 mA, impedance: 800 Ohm, resolution: 8 bits
<b>Discrete input logic</b>	Positive logic (LI1...LI4), < 13 V (state 1)
<b>Discrete output number</b>	2
<b>Discrete output type</b>	Relay: (R1A, R1B, R1C) 1 NO + 1 NC - 100000 cycles
<b>Minimum switching current</b>	R1A, R1B, R1C 5 mA at 24 V DC
<b>Maximum switching current</b>	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
<b>Discrete input number</b>	4
<b>Discrete input type</b>	(LI1...LI4) programmable as logic input at 24 V, 0...100 mA for PLC, impedance: 3500 Ohm
<b>Acceleration and deceleration ramps</b>	Linear adjustable separately from 0.1 to 999.9 s
<b>Braking to standstill</b>	By DC injection
<b>Protection type</b>	Short-circuit between motor phases: drive Overload protection (thermal): drive Overvoltage protection: drive Undervoltage protection: drive Earth fault: drive
<b>Insulation resistance</b>	>= 500 mOhm 500 V DC for 1 minute
<b>Local signalling</b>	1 LED (red) for drive voltage Four 7-segment display units for Modbus plus status
<b>Time constant</b>	5 ms for reference change
<b>Frequency resolution</b>	Analog input: 0.1...100 Hz Display unit: 0.1 Hz

<b>Connector type</b>	1 RJ45 for Modbus
<b>Physical interface</b>	RS485 multidrop serial link
<b>Transmission frame</b>	RTU
<b>Transmission rate</b>	4800, 9600 or 19200 bps for Modbus
<b>Number of addresses</b>	1...247 for Modbus
<b>Number of drive</b>	31 for Modbus
<b>Marking</b>	CE
<b>Operating position</b>	Vertical +/- 10 degree
<b>Height</b>	72 mm
<b>Width</b>	143 mm
<b>Depth</b>	130 mm
<b>Net weight</b>	0.8 kg

## Environment

<b>Dielectric strength</b>	2410 V DC between earth and power terminals 3400 V AC between control and power terminals
<b>Electromagnetic compatibility</b>	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
<b>Standards</b>	IEC 61800-5-1 IEC 61800-3
<b>Product certifications</b>	CSA DNV UL C-Tick GOST NOM
<b>Pollution degree</b>	2
<b>Protective treatment</b>	TC
<b>Vibration resistance</b>	1 gn (f= 13...150 Hz) conforming to EN/IEC 60068-2-6 1.5 mm (f= 3...13 Hz) conforming to EN/IEC 60068-2-6
<b>Shock resistance</b>	15 gn for 11 ms conforming to EN/IEC 60068-2-27
<b>Relative humidity</b>	5...95 % without condensation conforming to IEC 60068-2-3 5...95 % without dripping water conforming to IEC 60068-2-3
<b>Ambient air temperature for storage</b>	-25...70 °C
<b>Ambient air temperature for operation</b>	-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)
<b>Operating altitude</b>	<= 1000 m without derating 1000...3000 m with current derating 1 % per 100 m

## Recommended replacement(s)

ATV303H075N4E is replaced by:

1x



variable speed drive ATV310, 0.75 kW, 1 hp, 380...460 V, 3 phase, without filter  
ATV310H075N4E