

ATV31KD11N4

variable speed drive ATV31 - 11 kW - 380..500 V - 3 phases supply

Main

Range of product	Altivar
Product or component type	Variable speed drive
Product specific application	Simple machine
Component name	ATV31
Assembly style	Kit
EMC filter	Integrated
Network number of phases	3 phases
Motor power kW	11 kW ≤ 4 kHz
Motor power hp	15 hp ≤ 4 kHz
Line current	28.4 A 500 V 37.2 A 380 V
Apparent power	25 kVA
Prospective line I _{sc}	0...22 kA
Nominal output current	27.7 A 4 kHz
Maximum transient current	41.6 A 60 s
Power dissipation in W	397 W at nominal load
Asynchronous motor control profile	Sensorless flux vector control with PWM type motor control signal

Complementary

Product destination	Asynchronous motors
Supply voltage limits	323...550 V
Network frequency limits	47.5...63 Hz
Speed drive output frequency	0.5...500 Hz
Switching frequency	2...16 kHz adjustable
Speed range	1...50
Braking torque	30 % without braking resistor 100 % with braking resistor 150 % with braking resistor 60 s
Motor slip compensation	Adjustable Automatic whatever the load Suppressable
Output voltage	≤ supply voltage
Electrical connection	Terminal 2.5 mm ² 14 0.6 N.m AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 Terminal 25 mm ² 3 4.5 N.m L1, L2, L3 Terminal 25 mm ² 3 4.5 N.m U, V, W Terminal 25 mm ² 3 4.5 N.m PA, PB Terminal 25 mm ² 3 4.5 N.m PA/+, PC/-
Insulation	Electrical between power and control
Supply	Internal supply for logic inputs 24 V 19...30 V DC > 0...0.1 A short-circuit protection Internal supply for logic inputs 24 V 19...30 V DC > 0...0.1 A overload protection Internal supply for reference potentiometer 10 V 10...10.8 V DC > 0...0.01 A short-circuit protection Internal supply for reference potentiometer 10 V 10...10.8 V DC > 0...0.01 A overload protection
Analogue input number	3

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Analogue input type	Configurable current AI3 0...20 mA 250 Ohm Configurable voltage AI1 0...10 V 30 V max 30000 Ohm Configurable voltage AI2 +/- 10 V 30 V max 30000 Ohm
Analogue output number	2
Analogue output type	Configurable current AOC 0...20 mA 800 Ohm 8 ms 8 bits +/- 1 % +/- 0.2 % Configurable voltage AOV 0...10 V DC 470 Ohm 8 bits +/- 1 % +/- 0.2 %
Discrete output number	2
Discrete output type	Configurable relay logic R1A, R1B, R1C 1 NO + 1 NC > 0...8 ms 100000 cycles Configurable relay logic R2A, R2B NC > 0...8 ms 100000 cycles
Minimum switching current	10 mA 5 V DC configurable relay logic
Maximum switching current	2000 mA 250 V AC inductive 0.4 7 ms configurable relay logic 2000 mA 30 V DC inductive 0.4 7 ms configurable relay logic 5000 mA 250 V AC resistive 1 configurable relay logic 5000 mA 30 V DC resistive 1 configurable relay logic
Discrete input number	6
Discrete input type	Programmable LI1...LI6 24 V <= 30 V 0...100 mA PLC 3500 Ohm 4 ms positive 0...5 V 11...30 V Programmable LI1...LI6 24 V <= 30 V 0...100 mA PLC 3500 Ohm 4 ms negative 19...30 V 0...13 V
Acceleration and deceleration ramps	S, U or customized Linear adjustable separately from 0.01 to 3200 s
Protection type	Input phase breaks drive Line supply overvoltage and undervoltage drive Line supply phase loss drive Line supply undervoltage drive Motor phase breaks drive Overcurrent between output phases and earth drive Short-circuit between motor phases drive Thermal protection motor Undervoltage protection
Insulation resistance	≥ 500 MOhm 500 V DC for 1 minute
Display type	1 LED red drive voltage Four 7-segment display units CANopen bus status
Frequency resolution	0.1...100 Hz analog input 0.1 Hz display unit
Marking	CE
Operating position	Vertical +/- 10 degree
Product weight	23 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 µs - 8/20 µs surge immunity test level 3 IEC 61000-4-5 Electrical fast transient/burst immunity test level 4 IEC 61000-4-4 Electrostatic discharge immunity test level 3 IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3
Standards	EN 50178 EN 55011 class A group 2 EN 61800-3 category C3 EN 61800-3 environments 1 EN 61800-3 environments 2 IEC 61800-3 environments 1 IEC 61800-3 environments 2
Product certifications	C-Tick CSA N998 UL
Pollution degree	2
Protective treatment	TC
Vibration resistance	1 gn IEC 60068-2-6 13...150 Hz 1 gn EN 60068-2-6 13...150 Hz 1.5 mm IEC 60068-2-6 3...13 Hz 1.5 mm EN 60068-2-6 3...13 Hz
Shock resistance	15 gn IEC 60068-2-27 11 ms 16 gn EN 60068-2-28 11 ms
Relative humidity	5...95 % without condensation IEC 60068-2-3 5...95 % without dripping water IEC 60068-2-3

Ambient air temperature for storage	-25...70 °C
Ambient air temperature for operation	-10...40 °C without
Operating altitude	1000...3000 m 1 % per 100 m ≤ 1000 m without
RoHS EUR status	Will not be compliant