Product data sheet
Characteristics

ATV31CU22N4
enclosed variable speed drive ATV31 - 2.2kW - 500V - IP55

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



Main

Range of product	Altivar 31
Product or component type	Variable speed drive
Product destination	Asynchronous motors
Product specific application	Simple machine
Assembly style	Enclosed
Component name	ATV31
EMC filter	Integrated
Power supply voltage	380...500 V - 15...10 %
Power supply frequency	50...60 Hz - 5...5 %
Phase	3 phases
Motor power kW	2.2 kW
Motor power hp	3 hp
Line current	6.7 A 500 V 1 kA 8.9 A 380 V 1 kA
Apparent power	5.9 kVA
Maximum prospective line Isc	5 kA
Nominal output current	5.5 A 4 kHz
Maximum transient current	8.3 A 60 s
Power dissipation in W	79 W at nominal load
Speed range	1...50
Transient overtorque	Of nominal motor torque
Asynchronous motor control profile	Sensorless flux vector control with PWM type motor control signal Factory set : constant torque
Analogue input number	3
IP degree of protection	IP55

Complementary

Power supply voltage limit	323...550 V
Power supply frequency limits	47.5...63 Hz
Speed drive output frequency	0.5...500 Hz
Nominal switching frequency	4 kHz
Switching frequency	2...16 kHz adjustable
Braking torque	100 % with braking resistor continuously 30 % without braking resistor <= 150 % with braking resistor 60 s
Regulation loop	Frequency PI regulator
Motor slip compensation	Adjustable Suppressable Automatic whatever the load
Output voltage	<= power supply voltage
Electrical connection	Terminal 0 in² (2.5 mm²) AWG 14 AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 Terminal 0 in² (2.5 mm²) AWG 14 L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-
Tightening torque	5.31 lbf.in (0.6 N.m) AI1, AI2, AI3, AOV, AOC, R1A, R1B, R1C, R2A, R2B, LI1...LI6 7.08 lbf.in (0.8 N.m) L1, L2, L3, U, V, W, PA, PB, PA/+, PC/-

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Insulation	Electrical between power and control
Supply	Internal supply for logic inputs 19...30 V 100 mA overload protection Internal supply for logic inputs 19...30 V 100 mA short-circuit protection Internal supply for reference potentiometer 10...10.8 V 10 mA overload protection Internal supply for reference potentiometer 10...10.8 V 10 mA short-circuit protection
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
Input sampling time	4 ms LI1...LI6 discrete 8 ms AI1, AI2, AI3 analog
Output response time	8 ms analog AOV, AOC 8 ms discrete R1A, R1B, R1C, R2A, R2B
Linearity error	+/- 0.2 % output
Analogue output number	2
Analogue output type	Configurable current AOC 0...20 mA 800 Ohm 8 bits Configurable voltage AOV 0...10 V 470 Ohm 8 bits
Discrete input logic	Logic input not wired LI1...LI4 < 13 V Negative logic (source) LI1...LI6 > 19 V Positive logic (source) LI1...LI6 < 5 V > 11 V
Discrete output number	2
Discrete output type	Configurable relay logic R1A, R1B, R1C 1 NO + 1 NC 100000 cycles Configurable relay logic R2A, R2B NC 100000 cycles
Minimum switching current	10 mA 5 V DC R1-R2
Maximum switching current	2 A 250 V AC inductive cos phi = 0.4 L/R = 7 ms R1-R2 2 A 30 V DC inductive cos phi = 0.4 L/R = 7 ms R1-R2 5 A 250 V AC resistive cos phi = 1 L/R = 0 ms R1-R2 5 A 30 V DC resistive cos phi = 1 L/R = 0 ms R1-R2
Discrete input number	6
Discrete input type	Programmable LI1...LI6 24 V 0...100 mA PLC 3500 Ohm
Acceleration and deceleration ramps	S, U or customized Linear adjustable separately from 0.1 to 999.9 s
Braking to standstill	By DC injection
Protection type	Input phase breaks drive Line supply overvoltage and undervoltage safety circuits drive Line supply phase loss safety function, for three phases supply drive Motor phase breaks drive Overcurrent between output phases and earth (on power up only) drive Overheating protection drive Short-circuit between motor phases drive Thermal protection motor
Insulation resistance	>= 500 mOhm 500 V DC for 1 minute
Local signalling	1 LED red drive voltage Four 7-segment display units CANopen bus status
Time constant	5 ms for reference change
Frequency resolution	0.1 Hz display unit 0.1...100 Hz analog input
Communication port protocol	CANopen Modbus
Connector type	1 RJ45 CANopen via VW3 CANTAP2 adaptor 1 RJ45 Modbus
Physical interface	RS485 multidrop serial link Modbus
Transmission frame	RTU Modbus
Transmission rate	10, 20, 50, 125, 250, 500 kbps or 1 Mbps CANopen via VW3 CANTAP2 adaptor 4800, 9600 or 19200 bps Modbus
Number of addresses	1...127 CANopen via VW3 CANTAP2 adaptor 1...247 Modbus
Number of drive	127 CANopen via VW3 CANTAP2 adaptor 31 Modbus
Marking	CE
Operating position	Vertical +/- 10 degree
Product weight	23.59 lb(US) (10.7 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
Product certifications	C-Tick UL N998 CSA
Pollution degree	2
Protective treatment	TC
Vibration resistance	1 gn 13...150 Hz EN/IEC 60068-2-6 1.5 mm 3...13 Hz EN/IEC 60068-2-6
Shock resistance	15 gn 11 ms EN/IEC 60068-2-27
Relative humidity	5...95 % without condensation IEC 60068-2-3 5...95 % without dripping water IEC 60068-2-3
Ambient air temperature for storage	-13...158 °F (-25...70 °C)
Ambient air temperature for operation	14...122 °F (-10...50 °C) without derating with protective cover on top of the drive 14...140 °F (-10...60 °C) with derating factor without protective cover on top of the drive
Operating altitude	<= 3280.84 ft (1000 m) without derating >= 3280.84 ft (1000 m) with current derating 1 % per 100 m

Ordering and shipping details

Category	22152 - ATV320/ATV312/ATV32 (.25 THRU 7.5HP)
Discount Schedule	CP4B
GTIN	00785901584001
Nbr. of units in pkg.	1
Package weight(Lbs)	20.309999999999999
Returnability	N
Country of origin	ID

Offer Sustainability

California proposition 65	WARNING: This product can expose you to chemicals including:
- - - - - - - Substance 1	Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm.
- - - - - - - Substance 2	Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm.
- - - - - - - More information	For more information go to www.p65warnings.ca.gov

Contractual warranty

Warranty period	18 months