Specifications



# Variable speed drive, Altivar Machine ATV320, 0.37 kW, 380...500 V, 3 phases, enclosed, IP65

ATV320U04N4WS

#### Main

wain	
Range of product	Altivar Machine ATV320
Product or component type	Variable speed drive
Product specific application	Complex machines
Variant	With disconnect switch
Format of the drive	Enclosed
Mounting mode	Wall mount
Communication port protocol	Modbus serial CANopen
Option card	Communication module, CANopen Communication module, EtherCAT Communication module, Profibus DP V1 Communication module, PROFINET Communication module, Ethernet Powerlink Communication module, EtherNet/IP Communication module, DeviceNet
[Us] rated supply voltage	380500 V - 1510 %
Nominal output current	1.5 A
Motor power kW	0.37 kW for heavy duty
EMC filter	Class C2 EMC filter integrated
IP degree of protection	IP65

### Complementary

Discrete input number	7
Discrete input type	STO safe torque off, 24 V DC, impedance: 1.5 kOhm DI1DI6 logic inputs, 24 V DC (30 V) DI5 programmable as pulse input: 030 kHz, 24 V DC (30 V)
Discrete input logic	Positive logic (source) Negative logic (sink)
Discrete output number	3
Discrete output type	Open collector DQ+ 0…1 kHz 30 V DC 100 mA Open collector DQ- 0…1 kHz 30 V DC 100 mA
Analogue input number	3
Analogue input type	Al1 voltage: 010 V DC, impedance: 30 kOhm, resolution 10 bits Al2 bipolar differential voltage: +/- 10 V DC, impedance: 30 kOhm, resolution 10 bits Al3 current: 020 mA (or 4-20 mA, x-20 mA, 20-x mA or other patterns by configuration), impedance: 250 Ohm, resolution 10 bits
Analogue output number	1



Analogue output type     Estivate configurable current A01 0. 20 mA regedance 000 One, resolution 10 bits       Reiny output type     Configurable may bots PEAL 10. 000 Checks     Configurable may bots PEAL 10. 000 Checks       Reiny output type     Configurable may bots PEAL 10. 000 Checks     Configurable may bots PEAL 10. 000 Checks       Reiny output type     Configurable may bots PEAL 10. 000 Checks     Configurable may bots PEAL 10. 000 Checks       Maximum switching current     Resy output FEAL REIL REIL CAR PEAC 000 Checks     PEAR 200 CHECK       Method of access     Some CoNEpon     FEAR 200 CHECK     PEAR 200 CHECK       4 quadrant operation possible     True     PEAR 200 CHECK     PEAR 200 CHECK     PEAR 200 CHECK       5 profile     Some CoNEpon     True     PEAR 200 CHECK     PEAR 200 CHECK     PEAR 200 CHECK       4 quadrant operation possible     True     PEAR 200 CHECKS     PEAR 200 CHECKS     PEAR 200 CHECKS       5 profile     Some CoNEpon     True     PEAR 200 CHECKS     PEAR 200 CHECKS     PEAR 200 CHECKS       6 profile     Some CoNEpon     True     PEAR 200 CHECKS     PEAR 200 CHECKS       7 profile     Some CoNEpon     PEAR 200 CHECKS     PEAR 200 CHECKS <t< th=""><th></th><th></th></t<>		
Configurate eign gie R10     Configurate eign gie R10       Maximum switching current     Reiz coups R1A, R18, R1C cate industation automatike 100000 cycles       Generation automatic eign plage R20     International automatike industation automatike 100000 cycles       Generation automatic eign plage R20     International automatike industation automatike industatindustatindustation automatike industatindustation automatike ind	Analogue output type	
Maximum switching current Relay output R1A, R1B, R1C on resistive load, cos pH = 1: 3 A at 230 V AC Relay output R1A, R1B, R1C, R1B, R1C, on maketive load, cos pH = 1: 3 A at 230 V AC Relay output R1A, R1B, R1C, R2A, R2C on micketive load, cos pH = 1: 0 A and LR = 7 ms 2 A at 30 V Cost put R1A, R1B, R1C, R2A, R2C on micketive load, cos pH = 1: 6 A and LR = 7 ms 2 A at 30 V Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 A at 20 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 At 30 V AC Relay output R2A, R2C on resistive load, cos pH = 1: 6 At 30 V AC Relay output R2A, R2C on resistive load, R2A, R2C on resistive load, Cos PH = 1: 6 At 30 V AC Relay output R2A, R2C on resistive load R2A output R2A, R2C on resistive R2A output R2A, R2C output R2A, R2	Relay output type	Configurable relay logic R1B 1 NC electrical durability 100000 cycles Configurable relay logic R1C Configurable relay logic R2A 1 NO electrical durability 100000 cycles
AC   AC     Reby output R1A, R1B, R1C, R2A, R2C on inductive load, cos phi = 1.5 A at 230 V AC     Reby output R2A, R2C on resistive load, cos phi = 1.5 A at 230 V AC     Reby output R2A, R2C on resistive load, cos phi = 1.5 A at 230 V AC     Minimum switching current   Reby output R2A, R2C on resistive load, cos phi = 1.5 A at 230 V AC     Method of access   Slave CANopen     4 quadrant operation possible   True     Asynchronous motor control   Voltage#requency ratio. 5 points Flave wedto control without sensor     Synchronous motor control   Vector control without sensor     Profile   Voltage#requency ratio. 2 points     Synchronous motor control   Vector control without sensor     Profile   Vector control without sensor     Maximum output frequency   0.599 Mit2     Transient overtorque   170200 % of nominal motor torque     Acceleration and deceleration   Linear     U   S     Culs   S     Culs   S     Culs   S     Culs   S     Culs   S     Synchronous motor control   Vector control without sensor     B ket aduption   Acceleration and deceleration	Maximum switching current	Relay output R1A, R1B, R1C on resistive load, cos phi = 1: 3 A at 250 V AC Relay output R1A, R1B, R1C on resistive load, cos phi = 1: 3 A at 30 V DC
DC Relay output R2A, R2C on reliative load, cas pH = 1: 5 A at 350 V AC Relay output R2A, R2C on reliative load, cas pH = 1: 5 A at 30 V BC       Minimum switching current     Relay output R2A, R2C on reliative load, cas pH = 1: 5 A at 30 V BC       Minimum switching current     Relay output R2A, R2C on reliative load, cas pH = 1: 5 A at 30 V BC       4 quadrant operation possible     True       Asynchronous motor control profile     Voltage/faguency valo. 5 points Flav vector control without sensor       Synchronous motor control profile     Vector control without sensor       Maximum output frequency     0.589 Hrz       Transient overforque     170. 200 % of nominal motor torque       Acceleration and deceleration ramps     Linear       US     Signal frequency       Acceleration and deceleration dataset in involtage/frequency ratio. 2 points       Switching frequency     0.589 Hrz       Transient overforque     170. 200 % of nominal motor torque       Acceleration and deceleration and deceleration deceleration and pagatation Accelerationideceleration and pagatation Accelerationideceleration and pagatation       Maximum output traquecy     4.18 Hz       Vector control Who frequency     2.14 K to 300 %       Not assiltable in voltage/frequency ato (2 or 5 points)       Switching frequency     4.12 <td></td> <td>AC</td>		AC
Minimum switching current     Ralay output R1A. R1B. R1C. R2A. R2C: 5 mA at 24 V DC       Method of access     Slave CANopon       4 quadrant operation possible     True       Asynchronous motor control profile     Voltaget(requency ratio. 5 points FLov vector control without sensor, standard Voltaget(requency ratio. 2 points       Synchronous motor control profile     Voltaget(requency ratio. 2 points       Synchronous motor control profile     Vector control without sensor. Flow vector control without sensor. Flow vector control without sensor. Profile       Maximum output frequency     0.509 MHz       Transient overforque     170200 % of nominal motor torque       Acceleration and deceleration ramps     Linear U S CLIS Framp swothing Acceleration/deceleration ramp adaptation Acceleration/deceleration ramp ada		DC Relay output R2A, R2C on resistive load, cos phi = 1: 5 A at 250 V AC
4 quadrant operation possible   True     Asynchronous motor control profile   Voltage/requency ratio. 5 points Flux vector control without sensor: standard Votage/requency ratio. Energy Saving Vortage/requency ratio. 2 marks Saving Vortage/requency ratio. 2 marks Synchronous motor control Profile     Maximum output frequency   0.599 kHz     Transient overtorque   170200 % of nominal motor torque     Acceleration and deceleration ramps   Linear U Suts     Vector control   Uses     Structure   170200 % of nominal motor torque     Acceleration and deceleration ramps   Linear U Suts     Vector salip compensation Acceleration/deceleration automatic stop with DC injecton     Motor slip compensation Adjustable in votage/requency ratio (2 or 5 points)     Switching frequency   216 kHz distable     Vector indiction there and Adjustable in votage/requency ratio (2 or 5 points)     Switching frequency   4.16 kHz with derating factor     Nominal switching frequency   4.16 kHz with derating factor     Nominal switching frequency   1.14 kHz adistable     Proke chopper integrated   True     Line current   2.14 Adistable (Prokeny duty)     1.6 A at 300 V (heavy duty)   1.6 At 300 V (heavy duty)     Maximum output voltage   500 V	Minimum switching current	
Asynchronous motor control profile   Voltage/frequency ratio. 5 points Flux vector control without sensor - Energy Saving, quadratic Utf Flux, vector control without sensor - Energy Saving, quadratic Utf Flux, vector control without sensor - Energy Saving, quadratic Utf Flux, vector control without sensor     Synchronous motor control profile   Vector control without sensor     Maximum output frequency   0.599 kHz     Transient overtorque   170200 % of nominal motor torque     Acceleration and deceleration ramps   Linear U g Guis Ramp switching Acceleration/deceleration ramp adaptation Acceleration/deceleration automatic stop with DC injection     Motor slip compensation   Automatic whatever the load Adjustable 0300 % Not available 0300 %     Switching frequency   216 kHz adjustable 416 kHz with derating factor     Nominal switching frequency   4 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1.4 at 380 V (heavy duty)     1.6 At 3600 V (heavy duty)   Adjustable     Apparent power   1.4 kVA at 500 V (heavy duty)     Natimum output voltage   5 %     Prospective line lasc   5 kA     Base load current at high overroad   5 %     Prospective line lasc   5 kA     Base load current at high overoad <td>Method of access</td> <td>Slave CANopen</td>	Method of access	Slave CANopen
profile   Fitx vector control without sensor, standard     Synchronous motor control   Vector control without sensor     Synchronous motor control   Vector control without sensor     Profile   170200 % of nominal motor torque     Acceleration and deceleration   Unear     Synchronous motor control   Unear     Votage/feed/energratio.2   2.599 kHz     Cocleration and deceleration   Unear     Synchronous motor control   Unear     Votage/feed/energratio.2   0.599 kHz     Cocleration and deceleration   Unear     Synchronous motor control   Unear     Synchronous motor control   Unear     Synchronous motor control   Unear     Cocleration and deceleration   Unear     Synchronous motor control   Unear     Synchronous motor control   Unear     Ramp synchronic   Culs     Ramp synchronic   Ramp synchronic     Culs   Ramp synchronic     Ration synchronic   Culs     Ramp synchronic   Rational control without sensor     Switching frequency   2.16 kHz adjustabile     Pareant power   1.4 kHz <t< td=""><td>4 quadrant operation possible</td><td>True</td></t<>	4 quadrant operation possible	True
profile 0.599 kHz   Transient overtorque 170200 % of nominal motor torque   Acceleration and deceleration ramps Linear U S CUS Ramp switching Acceleration/deceleration Brake chopper integrated   Switching frequency 4 kHz   Brake chopper integrated True   Line current 2.1 A at 380 V (heavy duty)   Maximum input current 2.1 A kWA at 500 V (heavy duty)   Network frequency 5060 Hz   Relative symmetric network frequency tolerance 5 %   Prospective line Isc 5 KA   Base load current at high over dissipation in W Self-cooled: 23.0 W at 380 V, switching freq	-	Flux vector control without sensor, standard Voltage/frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor - Energy Saving
Transient overtorque   170200 % of nominal motor torque     Acceleration and deceleration ramps   Linear U S CUS Ramp switching Acceleration/deceleration Acceleration/deceleration Acceleration/deceleration acceleration/deceleration Acceleration/deceleration     Motor slip compensation   Automatic whatever the load Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   216 kHz adjustable 416 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5%     Prospective line los   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safeb yrue   True     With safety function Safeb xeta   False     With safety function Safeb xeta   False		Vector control without sensor
Acceleration and deceleration ramps   Linear U     Scuss Ramp switching Acceleration/deceleration Acceleration/deceleration Acceleration/deceleration     Motor slip compensation   Automatic whatever the load Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   216 kHz adjustable 414 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5%     Prospective line los   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safeb yrue   True     With safety function Safe brake management (SBC/SBT)   False	Maximum output frequency	0.599 kHz
ramps   U     S   CUS     Romp switching   Acceleration/deceleration automatic stop with DC injection     Motor slip compensation   Automatic whatever the load     Adjustable 0300 %   Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   216 kHz adjustable     A16 kHz with derating factor   A16 kHz adjustable     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty)     1.6 A at 500 V (heavy duty)   1.6 A at 500 V (heavy duty)     Maximum input current   2.1 A     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     overload   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safe brake management (SBC/SBT)   False	Transient overtorque	170200 % of nominal motor torque
Motor slip compensation   Automatic whatever the load Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   216 kHz adjustable 416 kHz with derating factor     Nominal switching frequency   4 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)     Maximum input current   2.1 A     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safe brake management (SBC/SBT)   False		U S CUS Ramp switching
416 kHz with derating factor     Nominal switching frequency   4 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)     Maximum input current   2.1 A     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   False     With safety function Safe brake management (SBC/SBT)   False	Motor slip compensation	Automatic whatever the load Adjustable 0300 %
Braking to standstill By DC injection   Brake chopper integrated True   Line current 2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)   Maximum input current 2.1 A   Maximum output voltage 500 V   Apparent power 1.4 kVA at 500 V (heavy duty)   Network frequency 5060 Hz   Relative symmetric network frequency tolerance 5 %   Prospective line Isc 5 kA   Base load current at high overload 54.0 A   Power dissipation in W Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz   With safety function Safely Limited Speed (SLS) True   With safety function Safe brake management (SBC/SBT) False	Switching frequency	
Brake chopper integrated   True     Line current   2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)     Maximum input current   2.1 A     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe   False	Nominal switching frequency	4 kHz
Line current2.1 A at 380 V (heavy duty) 1.6 A at 500 V (heavy duty)Maximum input current2.1 AMaximum output voltage500 VApparent power1.4 kVA at 500 V (heavy duty)Network frequency5060 HzRelative symmetric network frequency tolerance5 %Prospective line lsc5 kABase load current at high overload54.0 APower dissipation in WSelF-cooled: 23.0 W at 380 V, switching frequency 4 kHzWith safety function Safely Limited Speed (SLS)TrueWith safety function Safe brake management (SBC/SBT)FalseWith safety function Safe FalseFalse	Braking to standstill	By DC injection
1.6 A at 500 V (heavy duty)     Maximum input current   2.1 A     Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False	Brake chopper integrated	True
Maximum output voltage   500 V     Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Line current	
Apparent power   1.4 kVA at 500 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Maximum input current	2.1 A
Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Maximum output voltage	500 V
Relative symmetric network frequency tolerance   5 %     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Apparent power	1.4 kVA at 500 V (heavy duty)
frequency tolerance     Prospective line lsc   5 kA     Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Network frequency	5060 Hz
Base load current at high overload   54.0 A     Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False		5 %
overload   Power dissipation in W   Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz     With safety function Safely   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe   False	Prospective line Isc	5 kA
With safety function Safely   True     With safety function Safe brake   False     With safety function Safe   False     With safety function Safe   False	_	54.0 A
Limited Speed (SLS)     With safety function Safe brake management (SBC/SBT)     With safety function Safe     False	Power dissipation in W	Self-cooled: 23.0 W at 380 V, switching frequency 4 kHz
management (SBC/SBT)   With safety function Safe False		True
		False
		False

With safety function Safe Position (SP)	False
With safety function Safe programmable logic	False
With safety function Safe Speed Monitor (SSM)	False
With safety function Safe Stop 1 (SS1)	True
With sft fct Safe Stop 2 (SS2)	False
With safety function Safe torque off (STO)	True
With safety function Safely Limited Position (SLP)	False
With safety function Safe Direction (SDI)	False
Protection type	Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: drive
Width	250 mm
Height	340 mm
Depth	200 mm
Net weight	6.3 kg
Environment	
Operating position	Vertical +/- 10 degree
Product certifications	CE ATEX NOM GOST EAC RCM KC
Marking	CE ATEX UL CSA EAC RCM
Standards	EN/IEC 61800-5-1
Electromagnetic compatibility	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 Electrical fast transient/burst immunity test level 4 conforming to IEC 61000-4-4 1.2/50 µs - 8/20 µs surge immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-6 Voltage dips and interruptions immunity test conforming to IEC 61000-4-11
Environmental class (during operation)	Class 3C3 according to IEC 60721-3-3 Class 3S2 according to IEC 60721-3-3
Maximum acceleration under shock impact (during operation)	150 m/s² at 11 ms
Maximum acceleration under vibrational stress (during operation)	10 m/s² at 13200 Hz
Maximum deflection under vibratory load (during operation)	1.5 mm at 213 Hz
Permitted relative humidity (during operation)	Class 3K5 according to EN 60721-3
Overvoltage category	111
Regulation loop	Adjustable PID regulator

Speed accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Pollution degree	3
Ambient air transport temperature	-2570 °C
Ambient air temperature for operation	-1040 °C without derating 4060 °C with derating factor
Ambient air temperature for storage	-2570 °C

### **Packing Units**

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	25.8 cm
Package 1 Width	30.5 cm
Package 1 Length	45.0 cm
Package 1 Weight	8.3 kg

# Offer Sustainability

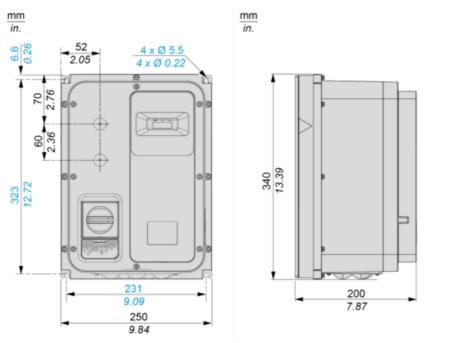
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
Upgradeability	Upgraded components available

Dimensions Drawings

# ATV320U04N4WS

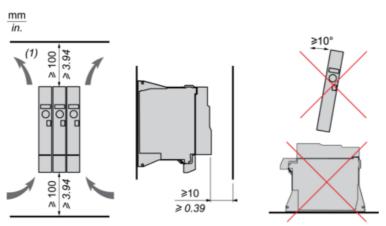
### Dimensions

### Front and Left View



Mounting and Clearance

### Mounting and Clearance



(1) Minimum value corresponding to thermal constraints.

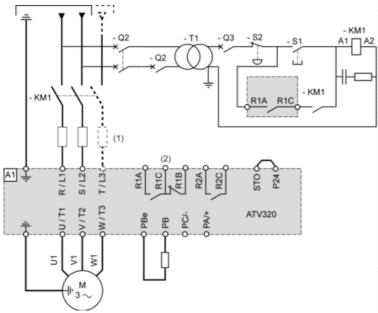
# ATV320U04N4WS

Connections and Schema

### **Connection Diagrams**

#### **Diagram with Line Contactor**

Connection diagrams conforming to standards ISO13849 category 1 and IEC/EN 61508 capacity SIL1, stopping category 0 in accordance with standard IEC/EN 60204-1.

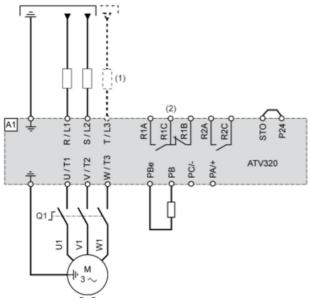


(1) Line choke (if used)

(2) Fault relay contacts, for remote signaling of drive status

#### **Diagram with Switch Disconnect**

Connection diagrams conforming to standards EN 954-1 category 1 and IEC/EN 61508 capacity SIL1, stopping category 0 in accordance with standard IEC/EN 60204-1.

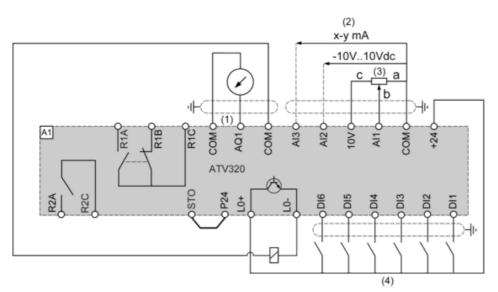


(1) Line choke (if used)

(2) Fault relay contacts, for remote signaling of drive status

Connections and Schema

### Control Connection Diagram in Source Mode



(1) Analog output

(2) Analog inputs

(3) Reference potentiometer (10 kOhm maxi)

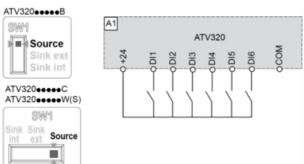
(4) Digital inputs

# ATV320U04N4WS

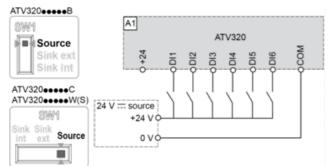
Connections and Schema

### **Digital Inputs Wiring**

The logic input switch (SW1) is used to adapt the operation of the logic inputs to the technology of the programmable controller outputs. Switch SW1 set to "Source" position and use of the output power supply for the DIs.

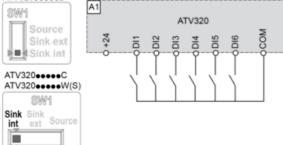


Switch SW1 set to "Source" position and use of an external power supply for the DIs.

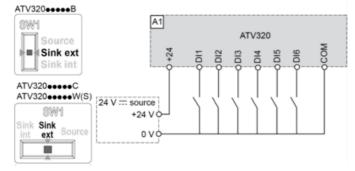


Switch SW1 set to "Sink Int" position and use of the output power supply for the DIs.

### ATV320



Switch SW1 set to "Sink Ext" position and use of an external power supply for the DIs.



Recommended replacement(s)

