Specifications



# Variable speed drive, Altivar Machine ATV320, 0.37 kW, 200...240 V, 1 phase, enclosed, IP65

ATV320U04M2WS

#### 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	200240 V - 1510 %
Nominal output current	3.3 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         Subtract originate current A01 0. 20 for Ampedateo B00 Chris resolution 10 bits           Reiny output type         Configuentie entry logits P11 10. 10. Christical analolity 10000 cycles           Configuentie entry logits P11 10. Christical analolity 10000 cycles         Configuentie entry logits P11 10. Christical analolity 10000 cycles           Mainum switching current         Reiny output 15, R15 (Christical analolity 10000 cycles         Configuentie entry logits P11 10. Christical analolity 10000 cycles           Mainum switching current         Reiny output 15, R15 (Christical analolity 10000 cycles         Configuentie entry logits P11 10. All 200 VAC           Reiny output 15, R15 (Christical Correlative bad, doi ph = 1: 3. All 200 VAC         Reiny output 18, R15, R15, R25, R25, Correlative bad, doi ph = 1: 3. All 200 VAC           Method of access         Bure ChAbpen         Entry output 128, R25 on relative bad, doi ph = 1: 3. All 200 VAC           Audornt operation possibiti         Ture         Ture           Augorith Carrent         Relay output R1A, R16, R16, R26, R26, Christical R26, Chri		
Configuate rely space R18       NC meterical durability 100000 cycles         Configuate rely space R18       NC meterical durability 100000 cycles         Configuate rely type R2C       Rely output R1A, R18, R10 c R2A, R2C on indicative load, cop ph = 1.3 Ad 250 V AC         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C on indicative load, cop ph = 0.4 and LR = 7 ms: 2 A ad 20 V         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C on indicative load, cop ph = 0.4 and LR = 7 ms: 2 A ad 20 V         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C on indicative load, cop ph = 0.4 and LR = 7 ms: 2 A ad 20 V         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C on indicative load, cop ph = 0.4 and LR = 7 ms: 2 A ad 20 V         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C on indicative load, cop ph = 0.4 and LR = 7 ms: 2 A ad 20 V         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C in matchine load and 0 VDC         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C in matchine load and 0 VDC         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C in matchine load and 0 VDC         Maximum switching current       Rely output R1A, R18, R10, R2A, R2C in matchine load Adjut R1A, R18, R10, R2A, R2C in matchine load Adjut R1A, R18, R10, R2A, R2C in matchine load Adjut R1A, R1B, R10, R2A, R2C in R2C in RRIA, R1B, R10, R2A, R2C in RRIA, R1B, R10, R2A, R2C in RRIA, R1B, R10, R2A, R2C in RRIA, R1B, R1A, R1B, R10, R2A, R2C in RRIA, R1B, R1A	Analogue output type	
Relay couplit RA, RHB, RT, CA, RHB, RT, CA, RAC, Con incluction couplit = 0.4 and LR = 7 ms: 2. A at 260 V         Relay couplit RA, RHB, RT, CA, RAC, Con incluction couplit = 0.4 and LR = 7 ms: 2. A at 260 V         Relay couplit RA, RHB, RT, CA, RAC, Con incluction couplit = 0.4 and LR = 7 ms: 2. A at 260 V         Minimum switching current       Relay couplit RA, RHB, RT, CA, RAC, S mA at 24 V DC         Method of access       Silve CANpen         4 quadrant operation possible       True         Asynchronous motor control       Voltage/feacurery ratio, 5 noints         Prolite       Voltage/feacurery ratio, 5 noints         Maximum output frequency       0.699 MHz         Transient overtorque       70200 % of nominal motor torque         Acceleration and deceleration rampe       Cultor output on the provide control without sensor profile         Maximum output frequency       0.699 MHz         Transient overtorque       70200 % of nominal motor torque         Acceleration and deceleration rampe       Linear U S CUS         Switching frequency       216 KHz adjutable 10 KHz adjutable         Autoratio witable witableser the total - Adjutable company output of the provide ramp adaptation - Acceleration and settered in the total - Adjutable cologies output output of the provide ramp output output output output of the provide ramp output output o	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
Method of access         Slave CANopen           4 quadrant operation possible         True           Asynchronous motor control profile         Yelage/frequency ratio, 5 points How sector control without senser, standard Voltage/frequency ratio, 2 points           Synchronous motor control profile         Vector control without senser, Energy Saving, usdrate: U/F Flux vector control without sensor profile           Maximum output frequency         0.599 kHz           Transient overtorque         170200 % of nominal motor torque           Acceleration and deceleration ramps         Linear U S Cuis           Witch self prompensation Receleration/deceleration ramp adaptation Acceleration/deceleration and/motor torque           Motor slip compensation Acceleration/deceleration and/motor (2 or 5 points)           Switching frequency         216 HHz adjustable 4300 % Hot available in collage/frequency ratio (2 or 5 points)           Switching frequency         416 HHz adjustable 4300 %           Braking to standstill         By DC injection           Braking to standstill         By DC injection           Maximum input current         5.9.A at 200 V (heavy duty)           4.9 at 240 V (heavy duty)           Maximum input current         5.9.A           Maximum output voltage         240 V           Apparent power         1.2 kVA at 240 V (heavy duty)           Network frequency	Maximum switching current	Relay output R1A, R1B, R1C on resistive load, cos phi = 1: 3 A at 30 V DC Relay output R1A, R1B, R1C, R2A, R2C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 250 V AC Relay output R1A, R1B, R1C, R2A, R2C on inductive load, cos phi = 0.4 and L/R = 7 ms: 2 A at 30 V 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/frequency ratio, 5 points Flux vector control without sensor ; standard Vottage/frequency ratio, Energy Saving voltage/frequency ratio, Energy Saving voltage/frequency ratio, 2 points         Synchronous motor control profile       Vector control without sensor profile         Maximum output frequency       0.999 kHz         Transient overtorque       170200 % of nominal motor torque         Acceleration and deceleration ramps       Linear U S SUS Ramp switching Acceleration/deceleration automatic stop with DC injection         Motor slip compensation ramps       Automatic whatever the load Adjustable on voltage/frequency ratio (2 or 5 points)         Switching frequency       218 kHz quistable 416 kHz with derating factor         Nominal switching frequency       4 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Maximum input current       5.9 A         Maximum output voltage       240 V         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5%         Prospective line lac       1 kA         Base load current at high overload       6.9 A         Vith safety function Safe brake, frequency (SIGS)       5%         Prospective line lac       1 kA </td <td>Minimum switching current</td> <td>Relay output R1A, R1B, R1C, R2A, R2C: 5 mA at 24 V DC</td>	Minimum switching current	Relay output R1A, R1B, R1C, R2A, R2C: 5 mA at 24 V DC
Asynchronous motor control profile       Voltage/frequency ratio. 5 points Flux vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector control without sensor : Entry Saving, quadratic Ulf Flox, vector : entry Saving, quadratic entry Saving, quadratic Ulf Flox, vector : entry Saving, quadratic entry Saving, quadratis entry Saving, quadratic entry Saving, quadra	Method of access	Slave CANopen
profile       Fitx vector control without sensor, standard         Votage/frequency raito. Energy Saving, audiatic Uf         Synchronous motor control       Vector control without sensor         Profile       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         VS       CUS         Rango suitching       Acceleration control without sensor         Acceleration and deceleration       Unear         Synchronous motor control       User         Rango suitching       Acceleration/deceleration ramp adaptation         Acceleration/deceleration automatic stop with DL injection         Motor silp compensation       Adiamatic veloticer the load         Adjustatible in voltage/frequency ratio (2 or 5 points)         Switching frequency       216 kHz adjustable         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 240 V (heavy duty)         4.3 At 240 V (heavy duty)       4.9 A at 240 V (heavy duty)         Apparent power       1.2 kA at 240 V (heavy duty)         Relative symmet	4 quadrant operation possible	True
profile     0.599 kHz       Transient overtorque     170200 % of nominal motor torque       Acceleration and deceleration ramps     Linear U S CUS CUS CUS CUS CUS CUS CUS CUS CUS	-	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       Linear         y       S         CUS       Ramp 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         414 kHz with derating factor         Nominal switching frequency       4 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty)         4.9 A at 240 V (heavy duty)         4.9 A at 240 V (heavy duty)         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network       5 %         Prospective line los       1 kA         Base load current at high overfoad       6.9 A         overfoad       Self-cooled: 30 W at 200 V, switching frequency 4 kHz         With safety function Safe brake management (SBC/SBT)       False         With safety function Safe brake management (SBC/SBT)       False <td></td> <td>Vector control without sensor</td>		Vector control without sensor
Acceleration and deceleration ramps       Linear U S CUS CUS CUS Ramp switching Acceleration ramp adaptation Acceleration/deceleration automatic stop with DC injection         Motor slip compensation       Acceleration/deceleration automatic stop with DC injection         Motor slip compensation       Automatic whatever the load Adjustable 0.300 % Not available in voltage/frequency ratio (2 or 5 points)         Switching frequency       216 kHz adjustable 0.300 % Not available in voltage/frequency ratio (2 or 5 points)         Switching frequency       418 kHz with derating factor         Nominal switching frequency       4 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty)         As at 240 V (heavy duty)       4.9 A at 240 V (heavy duty)         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         overload       5.9 A         Power dissipation in W       Self-cooled: 30 W at 200 V, switching frequency 4 kHz         With safety function Safe brake management (SBC/SBT)       False	Maximum output frequency	0.599 kHz
ramps       U         S       CUS         Ramp switching       Acceleration/deceleration automatic stop with DC injection         Motor slip compensation       Automatic whatever the load         Adjustable 0300 %       Not available in voltage/frquency ratio (2 or 5 points)         Switching frequency       216 kHz adjustable         A16 kHz adjustable       416 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty)         4.9 at 240 V (heavy duty)       4.9 at 240 V (heavy duty)         Asymmetric network       5.9 A         Maximum input current       5.9 A         Shear (1 a Current)       5.9 A         V       9.0 at 240 V (heavy duty)         Asymmetric network       5.%         Frequency       5060 Hz         Relative symmetric network       5 %         Prospective line lsc       1 kA         Base load current at high overfoad       6.9 A         Overfoad       Self-ccoled: 30 W at 200 V, switching frequency 4 kHz         With safety function Safe by and the contegrated in t	Transient overtorque	170200 % of nominal motor torque
Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points)         Switching frequency       216 kHz adjustable 410 kHz with derating factor         Nominal switching frequency       4 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty) 4.9 A at 240 V (heavy duty)         Maximum input current       5.9 A         S.9 A at 240 V (heavy duty)         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Ower dissipation in W       Self-cooled: 30 W at 200 V, switching frequency 4 kHz         With safety function Safe brake management (SBC/SBT)       False		U S CUS Ramp switching Acceleration/deceleration ramp adaptation
416 kHz with derating factor         Nominal switching frequency       4 kHz         Braking to standstill       By DC injection         Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty) 4.9 A at 240 V (heavy duty)         Maximum input current       5.9 A         Maximum output voltage       240 V         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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	Motor slip compensation	Adjustable 0300 %
Braking to standstill     By DC injection       Brake chopper integrated     True       Line current     5.9 A at 200 V (heavy duty) 4.9 A at 240 V (heavy duty)       Maximum input current     5.9 A       Maximum output voltage     240 V       Apparent power     1.2 kVA at 240 V (heavy duty)       Network frequency     5060 Hz       Relative symmetric network frequency tolerance     5 %       Prospective line lsc     1 kA       Base load current at high overload     6.9 A       Power dissipation in W     Self-cooled: 30 W at 200 V, switching frequency 4 kHz       With safety function Safe brake management (SBC/SBT)     False       With safety function Safe     False	Switching frequency	
Brake chopper integrated       True         Line current       5.9 A at 200 V (heavy duty) 4.9 A at 240 V (heavy duty)         Maximum input current       5.9 A         Maximum output voltage       240 V         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 V, switching frequency 4 kHz         With safety function Safely Limited Speed (SLS)       True         With safety function Safe       False         With safety function Safe       False	Nominal switching frequency	4 kHz
Line current5.9 A at 200 V (heavy duty) 4.9 A at 240 V (heavy duty)Maximum input current5.9 AMaximum output voltage240 VApparent power1.2 kVA at 240 V (heavy duty)Network frequency5060 HzRelative symmetric network frequency tolerance5 %Prospective line lsc1 kABase load current at high overload6.9 APower dissipation in WSelf-cooled: 30 W at 200 V, switching frequency 4 kHzWith safety function Safely Limited Speed (SLS)TrueWith safety function Safe management (SBC/SBT)False	Braking to standstill	By DC injection
4.9 A at 240 V (heavý duťy)         Maximum input current       5.9 A         Maximum output voltage       240 V         Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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	Brake chopper integrated	True
Maximum output voltage240 VApparent power1.2 kVA at 240 V (heavy duty)Network frequency5060 HzRelative symmetric network frequency tolerance5 %Prospective line Isc1 kABase load current at high overload6.9 APower dissipation in WSelf-cooled: 30 W at 200 V, switching frequency 4 kHzWith safety function Safely umanagement (SBC/SBT)TrueWith safety function Safe management (SBC/SBT)False	Line current	
Apparent power       1.2 kVA at 240 V (heavy duty)         Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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	5.9 A
Network frequency       5060 Hz         Relative symmetric network frequency tolerance       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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	240 V
Relative symmetric network       5 %         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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	1.2 kVA at 240 V (heavy duty)
frequency tolerance         Prospective line lsc       1 kA         Base load current at high overload       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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       6.9 A         Power dissipation in W       Self-cooled: 30 W at 200 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: 30 W at 200 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	1 kA
With safety function Safely       True         With safety function Safe brake       False         With safety function Safe       False	-	6.9 A
Limited Speed (SLS)         With safety function Safe brake management (SBC/SBT)         With safety function Safe         False	Power dissipation in W	Self-cooled: 30 W at 200 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	182.0 mm
Net weight	5.5 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 $\mu$ s - 8/20 $\mu$ s 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	23.5 cm
Package 1 Width	31 cm
Package 1 Length	45 cm
Package 1 Weight	7.451 kg
Unit Type of Package 2	S06
Number of Units in Package 2	4
Package 2 Height	75 cm
Package 2 Width	60 cm
Package 2 Length	80 cm
Package 2 Weight	39.804 kg

### **Offer Sustainability**

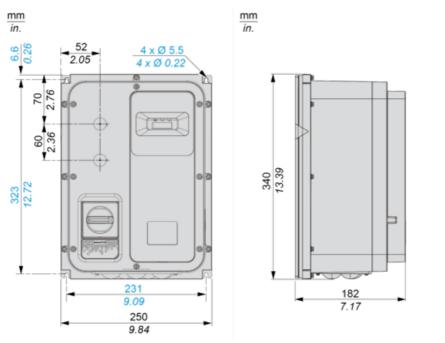
ener edetamasmey	
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
Environmental 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

# ATV320U04M2WS

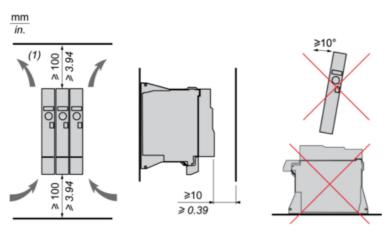
#### Dimensions

#### Front and Left View



Mounting and Clearance

#### Mounting and Clearance



(1) Minimum value corresponding to thermal constraints.

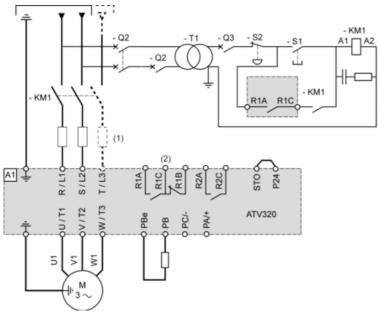
# ATV320U04M2WS

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.

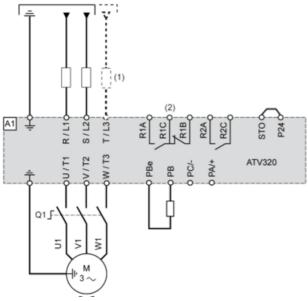


(1) Line choke (if used)

(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.

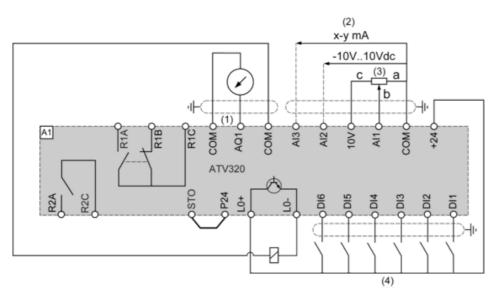


(1) Line choke (if used)

(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)

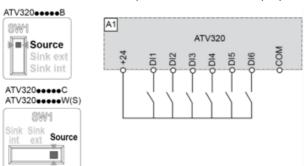
(4) Digital inputs

# ATV320U04M2WS

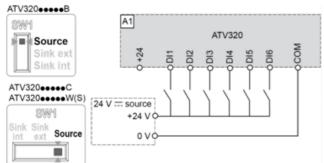
**Connections and Schema** 

### **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.

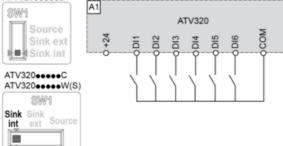


Switch SW1 set to "Source" position and use of an external power supply for the DIs.

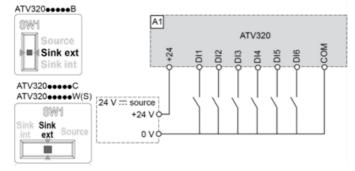


Switch SW1 set to "Sink Int" position and use of the output power supply for the DIs.

### 



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



Recommended replacement(s)