Specifications



## Variable speed drive, Altivar Machine ATV320, 0.55 kW, 200...240 V, 1 phase, compact

ATV320U06M2C

#### Main

wam	
Range of product	Altivar Machine ATV320
Product or component type	Variable speed drive
Product specific application	Complex machines
Variant	Standard version
Format of the drive	Compact
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	3.7 A
Motor power kW	0.55 kW for heavy duty
EMC filter	Class C2 EMC filter integrated
IP degree of protection	IP20

#### Complementary

Discrete input number	7
Discrete input type	STO safe torque off, 24 V DC, impedance: 1.5 kOhm DI1Dl6 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+ 01 kHz 30 V DC 100 mA Open collector DQ- 01 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 origination of an analysis and 10. 10. 00 for impacted 200 form, resultation 10 bits       Relay output type     Configuration entry loging 201. 10. 00 for impacted 201.		
Configuate rely space R18   NC meterical durability 100000 cycles     Configuate rely space R12   Configuate rely space R12     Maximum switching current   Rely output R1A, R18, R10 creation durability 100000 cycles     Galay output R1A, R18, R10, R2A, R2C on insider/we load, cop ph = 1.3 A st 250 V AC     Maximum switching current   Rely output R1A, R18, R10, R2A, R2C on insider/we load, cop ph = 0.4 and LR = 7 ms: 2 A st 250 V     Maximum switching current   Rely output R1A, R18, R10, R2A, R2C on insider/we load, cop ph = 0.4 and LR = 7 ms: 2 A st 250 V     Maximum switching current   Rely output R1A, R18, R10, R2A, R2C on insider/we load, cop ph = 0.4 and LR = 7 ms: 2 A st 250 V     Maximum switching current   Rely output R1A, R18, R10, R2A, R2C on insider/we load, cop ph = 1.5 at 30 V DC     Method of access   Slaw CANopen     4 quadrant operation possible   True     Asynchronous motor control   Voltage/frequency interior family standard     Voltage/frequency   0.596 kHz     Transient overtorque   170200 % of normalial motor torque     Acceleration and deceleration   Linear i     Voltage/frequency   0.596 kHz     Transient overtorque   170200 % of normalial motor torque     Acceleration and deceleration   Adormatic whelwore the load     Adjustable   -0	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 without sensor     Voltage/feacurery ratio, 2 points   Social control     Voltage/feacurery ratio, 2 points   Cultor     Acceleration and deceleration rampe   Linear U S CUS     Switching frequency   216 KHz adjutable 10 KHz adjutable     Automatic whatever the total Adjutable Control   Mutoration without sensor     Voltage/feacurery ratio (2 or 5 points)   Social Current     Switching frequency   216 KHz adjutable 10 KHz adjutable     Automatic whatever the total Adjutable Control   Mutoratoticon adjutable adjutab	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 voltage/frequency ratio, 2 points       Synchronous motor control profile     Vector control without sensor voltage/frequency ratio, 2 points       Synchronous motor control profile     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       Wet self     Senso particing Acceleration with D singeton       Motor slip compensation Acceleration/deceleration ramp adaptation Acceleration/deceleration attrop (2 or 5 points)       Switching frequency     216 HHz adjustable 4300 K       Switching frequency     416 HHz adjustable 416 HHz with derating factor       Nominal switching frequency     416 HHz adjustable 6.8. A at 240 V (heavy duty)       Maximum input current     7.8. A at 240 V (heavy duty) <td>Maximum switching current</td> <td>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</td>	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   Voltagefrequency ratio, 5 points Flux vector control without sensor, standard Vottagefrequency ratio, 5 points Synchronous motor control Maximum output frequency   0.599 kHz     Transient overtorque   170200 % of nominal motor torque     Acceleration and deceleration ramps   Linear U % SUS Class Class Class Class Ramp switching Acceleration and deceleration Acceleration automatic stop with DC injection     Motor silp compensation ramps   Linear U % SUS Class Ramp switching Acceleration/deceleration automatic stop with DC injection     Motor silp compensation ramps   Automatic whatever the load Adjustable in voltagefrequency ratio (2 or 5 points)     Switching frequency   216 kHz quistable 416 kHz with derating factor     Nominal switching frequency   4 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   7.8 A 200 (heavy duty)     Maximum output voltage   240 V     Apparent power   1.6 kVA at 240 V (heavy duty)     Net with frequency   5 %     Prospective line lac   1 kA     Base load current at high overfaced   1.5 A overfaced     With safety function Safe brake management (SBC/SBT)   Fiabe	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 Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Entry Saving, quadratic Ulf Flux vector control without sensor : Quadratic Ulf Flux vector : Quadratic Difference : Quadrat	Method of access	Slave CANopen
profile   Fitx vector control without sensor, standard     Votage/frequency raito. Energy Saving, quadratic UI Fitx vector control without sensor   Profile     Synchronous motor control profile   Vector control without sensor     Fransient overtorque   170200 % of nominal motor torque     Acceleration and deceleration ramp solution graduate unit of the sensor sensor sensor sensor sensor   Image of the sensor s	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     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   7.8 A at 200 V (heavy duty)     6.6 A at 240 V (heavy duty)   6.6 A at 240 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network   5 %     Prospective line los   1 kA     Base load current at high overfoad   1.5 A     Overfoad   Self-cooled: 33.0 W at 200 V, switching frequency 4 kHz     With safety function Safe brake management (SBC/SBT)   False		Vector control without sensor
Acceleration and deceleration ramps   Linear U S CUS CUS Ramp switching Acceleration ramp adaptation 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 0300 % Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   216 kHz adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points)     Switching frequency   4 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   7.8 A at 200 V (heavy duty) 6.8 A at 240 V (heavy duty)     6.8 A at 240 V (heavy duty)   6.8 A at 240 V (heavy duty)     Maximum input current   7.8 A     Maximum output voltage   240 V     Apparent power   1.6 kVA at 240 V (heavy duty)     Network frequency   5060 Hz     Prospective line lsc   1 kA     Base load current at high overload   1.5 A     Overload   True     With safety function Safe brake management (SBC/SBT)   False     With safety function Safe brake management (SBC/SBT)   False	Maximum output frequency	0.599 kHz
ramps   U     S   CUS     Ramp switching   Acceleration/deceleration ramp adaptation     Acceleration/deceleration automatic stop with DC injection   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     416 kHz adjustable   416 kHz     Braking to standstill   By DC injection     Brake chopper integrated   True     Line current   7.8 A at 200 V (heavy duty)     6.6 A at 240 V (heavy duty)   6.6 A at 240 V     Apparent power   1.6 kVA at 240 V (heavy duty)     Network frequency   5060 Hz     Relative symmetric network   5 %     Frequency tolerance   5 %     Prospective line Isc   1 kA     Base load current at high overfoad   1.5 A     Overfoad   Self-cooled: 33.0 W at 200 V, switching frequency 4 kHz     With safety function Safe brake management (SBC/SBT)   False	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   7.8 A at 200 V (heavy duty) 6.6 A at 240 V (heavy duty)     Maximum input current   7.8 A     Maximum output voltage   240 V     Apparent power   1.6 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 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   7.8 A at 200 V (heavy duty) 6.6 A at 240 V (heavy duty)     Maximum input current   7.8 A     Maximum output voltage   240 V     Apparent power   1.6 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 W at 200 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	Adjustable 0300 %
Braking to standstill By DC injection   Brake chopper integrated True   Line current 7.8 A at 200 V (heavy duty) 6.6 A at 240 V (heavy duty)   Maximum input current 7.8 A   Maximum output voltage 240 V   Apparent power 1.6 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 1.5 A   Power dissipation in W Self-cooled: 33.0 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   7.8 A at 200 V (heavy duty) 6.6 A at 240 V (heavy duty)     Maximum input current   7.8 A     Maximum output voltage   240 V     Apparent power   1.6 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 W at 200 V, switching frequency 4 kHz     With safety function Safely Limited Speed (SLS)   True     With safety function Safe   False	Nominal switching frequency	4 kHz
Line current7.8 A at 200 V (heavy duty) 6.6 A at 240 V (heavy duty)Maximum input current7.8 AMaximum output voltage240 VApparent power1.6 kVA at 240 V (heavy duty)Network frequency5060 HzRelative symmetric network frequency tolerance5 %Prospective line lsc1 kABase load current at high overload1.5 APower dissipation in WSelf-cooled: 33.0 W at 200 V, switching frequency 4 kHzWith safety function Safely Limited Speed (SLS)FalseWith safety function Safe management (SBC/SBT)False	Braking to standstill	By DC injection
6.6 A at 240 V (heavy duty)     Maximum input current   7.8 A     Maximum output voltage   240 V     Apparent power   1.6 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 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 power1.6 kVA at 240 V (heavy duty)Network frequency5060 HzRelative symmetric network frequency tolerance5 %Prospective line Isc1 kABase load current at high overload1.5 APower dissipation in WSelf-cooled: 33.0 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   1.6 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 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	7.8 A
Network frequency   5060 Hz     Relative symmetric network frequency tolerance   5 %     Prospective line lsc   1 kA     Base load current at high overload   1.5 A     Power dissipation in W   Self-cooled: 33.0 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 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	1.6 kVA at 240 V (heavy duty)
frequency tolerance     Prospective line lsc   1 kA     Base load current at high overload   1.5 A     Power dissipation in W   Self-cooled: 33.0 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   1.5 A     Power dissipation in W   Self-cooled: 33.0 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: 33.0 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	_	1.5 A
Limited Speed (SLS)     With safety function Safe brake management (SBC/SBT)     With safety function Safe     False	Power dissipation in W	Self-cooled: 33.0 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	72.0 mm
Height	143.0 mm
Depth	138.0 mm
Net weight	1.1 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	III
Regulation loop	Adjustable PID regulator

Speed accuracy	+/- 10 % of nominal slip 0.2 Tn to Tn
Pollution degree	2
Ambient air transport temperature	-2570 °C
Ambient air temperature for operation	-1050 °C without derating 5060 °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	11.500 cm
Package 1 Width	18.700 cm
Package 1 Length	19.000 cm
Package 1 Weight	1.339 kg
Unit Type of Package 2	P06
Number of Units in Package 2	45
Package 2 Height	75.000 cm
Package 2 Width	60.000 cm
Package 2 Length	80.000 cm
Package 2 Weight	72.895 kg

### **Offer Sustainability**

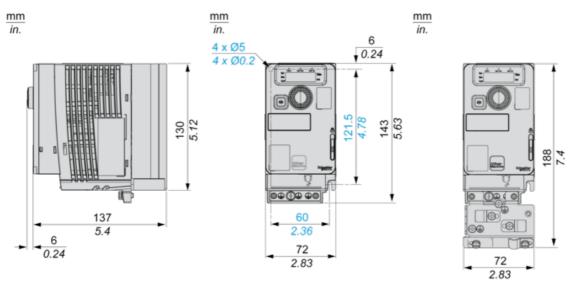
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
Environmental Disclosure	Product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

### ATV320U06M2C

#### Dimensions

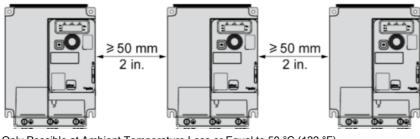
#### Right View, Front View and Front View with EMC Plate



Mounting and Clearance

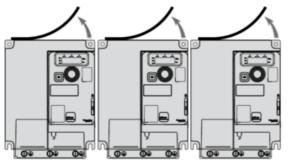
### Mounting Types

### Mounting Type A: Individual with Ventilation Cover

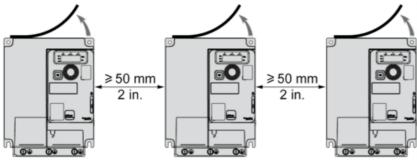


Only Possible at Ambient Temperature Less or Equal to 50  $^\circ\text{C}$  (122  $^\circ\text{F})$ 

### Mounting Type B: Side by Side, Ventilation Cover Removed



Mounting Type C: Individual, Ventilation Cover Removed



For Operation at Ambient Temperature Above 50  $^\circ\text{C}$  (122  $^\circ\text{F})$ 

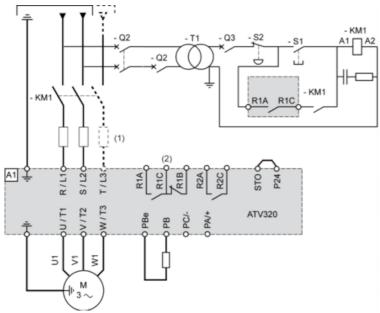
### ATV320U06M2C

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.

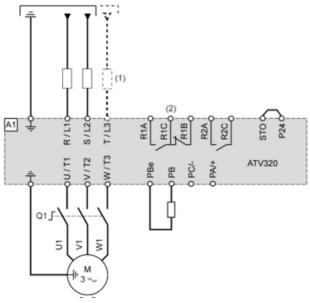


(1) Line choke (if used)

(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.



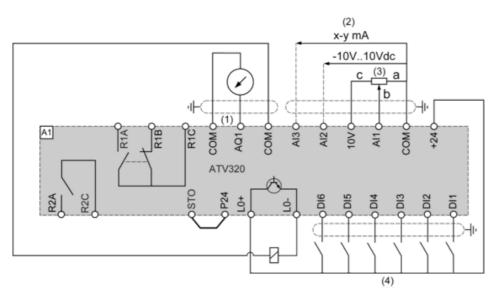
(1) Line choke (if used)

(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)

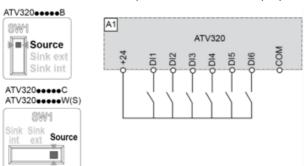
(4) Digital inputs

## ATV320U06M2C

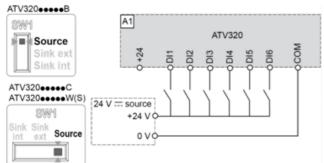
**Connections and Schema** 

### **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.

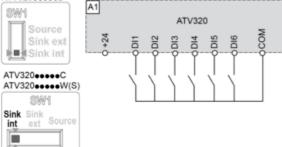


Switch SW1 set to "Source" position and use of an external power supply for the DIs.



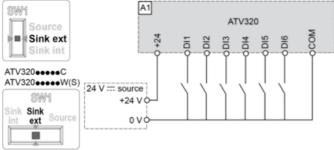
Switch SW1 set to "Sink Int" position and use of the output power supply for the DIs.

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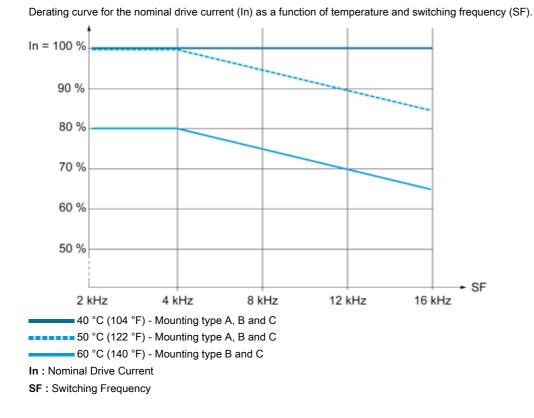
Switch SW1 set to "Sink Ext" position and use of an external power supply for the DIs.

#### ATV320



**Derating Curves** 

**Performance Curves** 



Recommended replacement(s)