Specifications



variable speed drive, Altivar Machine ATV320, 0.18kW, 200 to 240V, 1 phase, compact

ATV320U02M2C

Main

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	1.5 A
Motor power kW	0.18 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 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 Software-origination current AUI 020 PM Impedance S00 OPM; resolution 10 bits Reiny output type Configurable endy logits P11 11 OC enducts durability 10000 systes Configurable endy logits P11 11 OC enducts durability 10000 systes Configurable endy logits P11 11 OC enducts durability 10000 systes Maximum switching current Reiny output 11, P11 OC enducts durability 10000 systes Configurable endy logits P11 11 OC enducts durability 10000 systes Maximum switching current Reiny output 11, P11 OC enducts durability 10000 systes Configurable endy logits P11 10 enducts durability 10000 systes Maximum switching current Reiny output 11, P11 OC (200, P11 OC enducts durability 10000 systes Configurability P11 P11 P11 P11 P11 P11 P11 P11 P11 P1		
Configuable reary sign RTB NC deckind durability 100000 cycles Configuable reary logic RCC Configuable reary logic RCC Maximum switching current Relix cocque RTA RTB, RTC con mesidewise load, cos phi = 1.5 A at 250 V AC Selex coduc, RTA RTB, RTC, RZA, RZC on mesidewise load, cos phi = 0.4 and UR = 7 ms 2.4 at 250 V Acc Relix coduc, RTA, RTB, RTC, RZA, RZC on mesidewise load, cos phi = 0.4 and UR = 7 ms 2.4 at 250 V Maximum switching current Relix coduc, RTA, RTB, RTC, RZA, RZC on mesidewise load, cos phi = 1.5 At 30 V DC Minimum switching current Relix coduc, RTA, RTB, RTC, RZA, RZC on mesidewise load, cos phi = 1.5 At 30 V DC Method of access Slave CANopan 4 quadrant operation possible True Asynchronous motor control Voltage/frequency ratio, 5 points Distribution of access Slave CONopan Yudage/frequency 0.559 MFz Acceleration and deceleration Unleaser Transient overtorque 170200 % of nominal motor torque Maximum output frequency 0.559 MFz Acceleration and deceleration Linear V Vulcage/frequency 0.559 MFz Acceleration and deceleration Automatic shale without sensor Proble Current VID Secessor <	Analogue output type	
Reisy output RA, R1B, R1C, R2A, R2C on inductive load, cosph = 0.4 and LR = 7 ms: 2.4 at 280 V Very output RA, R1B, R1C, R2A, R2C on inductive load, cosph = 0.4 and LR = 7 ms: 2.4 at 280 V DC Reisy output R2A, R2C on inductive load, cosph = 0.4 and LR = 7 ms: 2.4 at 280 V DC Reisy output R2A, R2C on inductive load, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2A, R2C on insubscience, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2C is measure add, cosph = 1.5 A at 280 V AC Reisy output R2R R2R R2R R2R R2R R2R R2R R2R R2R 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
Method of access Slave CANopen 4 quadrant operation possible True Asynchronous motor control profile Yoldspoffnouseney rato, 5 points Synchronous motor control profile Yoldspoffnouseney rato, 2 points Synchronous motor control profile Vector control without sensor, - Energy Saving, usadratic U/F Flux vector control without sensor, - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector control without sensor - Energy Saving, usadratic U/F Flux vector - Energy Saving, usad	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 Votagefrequency ratio, 5 points Synchronous motor control profile Vector control without sensor Synchronous motor control profile Vector control without sensor Energy Saving Voltagefrequency Assimum output frequency 0.599 kHz Acceleration and deceleration ramps Linear U Sustaina and the control without sensor Switching frequency 0.599 kHz Acceleration and deceleration ramps Linear U Sustaina and the control without sensor Switching frequency 0.599 kHz Acceleration and deceleration ramps Linear U Sustainable muscligatifican Acceleration/deceleration ramp adaptation Acceleration automatic stop with DC injection Motor silp compensation Automatic whatever the load Adjustable in voltage/frequency ratio (2 or 5 points) Switching frequency 216 kHz adjustable 416 kHz with derating factor Nominal switching frequency 4 kHz Brake chopper integrated True Line current 3.4 A at 200 V (heavy duty) 2.8 at 24 V (heavy duty) Advalated enteration Maximum input current 3.4 A Maximum output voltage 240 V <td< td=""><td>Minimum switching current</td><td>Relay output R1A, R1B, R1C, R2A, R2C: 5 mA at 24 V DC</td></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, standard Voltage/frequency ratio. Energy Saving, Quadratic Ulf Profile Synchronous motor control profile Vector control without sensor Synchronous motor control profile Vector control without sensor Transient overtorque 170200 % of nominal motor torque Maximum output frequency 0.999 kHz Acceleration and deceleration ramps Linear U U U Suis Ramp switching Acceleration/deceleration and patientin Acceleration/deceleration and patientin Acceleration/deceleration and patientin Acceleration/deceleration automatic stop with DC injection Motor silp compensation Automatic whatever the load Adjustative Lauge/frequency ratio (2 or 5 points) Switching frequency 216 kHz Braking to standstill By DC injection Brake chopper integrated True Line current 3.4 A # 200 V (heavy duty) 2.8 A ± 200 V (heavy duty) Apparent power 0.7 kW At 240 V (heavy duty) Apparent power 5 % Prospective line isc 1 kM Base load current at high overfoad 6.9 A With safety function Safebrake management (SBC/SBT) False	Method of access	Slave CANopen
profile Flux vector control without sensor. Energy Saving, quadratic Uf Flux vector control without sensor. Energy Saving, quadratic Uf Flux vector control without sensor. Energy Saving, quadratic Uf Flux vector control without sensor. Synchronous motor control Vector control without sensor Acceleration and deceleration 170200 % of nominal motor torque Acceleration and deceleration Unsar U S Culs S Ramp switching Acceleration/deceleration and padpitoin Acceleration/deceleration and motor torque 100200 % Motor silp compensation Aduation/deceleration and padpitoin Acceleration/deceleration and motor torque Switching frequency 216 kHz adjustabile 416 kHz with deraiing factor Nominal switching frequency 416 kHz with deraing factor Nominal switching frequency 4.4.14 Braking to standstill By DC hylecton Brake chopper integrated True Line current 3.4.A Advalue vector 50.014 Apparent power 0.7.K/A at 240 V (heavy duty) Apparent power 0.7.K/A at 240 V (heavy duty) Relative symmetric network 5% Prospective line Isc 1.KA Base load cu	4 quadrant operation possible	True
profile 170200 % of nominal motor torque Maximum output frequency 0.599 kHz Acceleration and deceleration Linear U S CUS CUS Maximum output frequency 0.599 kHz Acceleration/deceleration/deceleration automatic stop with DC Injection Motor slip compensation Acceleration/deceleration automatic stop with DC Injection Motor slip compensation Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points) Switching frequency 216 kHz adjustable Faking to standstill By DC Injection Braking to standstill By DC Injection Brake chopper integrated True Line current 3.4 A at 200 V (heavy duty) 2.8 At 240 V (heavy duty) 2.8 At 240 V (heavy duty) Apparent power 0.7 kVA at 240 V (heavy duty) Network frequency 5060 Hz Relative symmetric network 5 % Prospective line Isc 1 KA Base load current at high over duty 50.40 Hz Vith safety function Safe brake 6142 With safety function Safe brake False Vith safety function Safe brake	-	Flux vector control without sensor, standard Voltage/frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor - Energy Saving
Maximum output frequency 0.599 kHz Acceleration and deceleration Linear y S CUS S 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 3.4 A at 200 V (heavy duty) 2.8 At 240 V (heavy duty) 2.8 At 240 V (heavy duty) Apparent power 0.7 kVA at 240 V (heavy duty) Network frequency 5060 Hz Relative symmetric network 5 % Prospective line lsc 1 kA Base load current at high overfoad 69 A overfoad S.9 A Power dissipation in W Self-cooled: 17.0 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) Fal		Vector control without sensor
Acceleration and deceleration ramps Linear U S CUS Ramp switching Acceleration/deceleration 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 416 kHz dijustable 416 kHz Braking to standstill By DC injection Braking to standstill By DC injection Brake chopper integrated True Line current 3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty) Apparent power 0.7 kVA at 240 V (heavy duty) Apparent power 0.7 kVA at 240 V (heavy duty) Network frequency 5060 Hz Prospective line lsc 1 kA Base load current at high overload 5 % Prospective line lsc 1 kA Base load current at high overload 5 else Power dissipation in W Self-cooled: 17.0 W at 200 V, switching frequency 4 kHz With safety function Safe brake management (SBC/SBT) False	Transient overtorque	170200 % of nominal motor torque
ramps U SCUS Ramp switching 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 with derating factor Nominal switching frequency Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated True Line current 3.4 A at 200 V (heavy duty) 2.8 At 240 V (heavy duty) 2.8 At 240 V (heavy duty) Aximum output voltage 240 V Apparent power 0.7 kVA at 240 V (heavy duty) Network frequency 5060 Hz Relative symmetric network 5 % Prospective line Isc 1 kA Base load current at high oxelf-cooled: 17.0 W at 200 V, switching frequency 4 kHz With safety function Safe brake management (SBC/SBT) Frue With safety function Safe brake management (SBC/SBT) False	Maximum output frequency	0.599 kHz
Adjustable 0300 % Not available in voltage/frequency ratio (2 or 5 points) Switching frequency 216 kHz adjustable 416 kHz vith derating factor Nominal switching frequency 4 kHz Braking to standstill By DC injection Brake chopper integrated True Line current 3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty) Aximum input current 3.4 A Maximum output voltage 240 V Apparent power 0.7 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: 17.0 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 3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty) 2.8 A at 240 V (heavy duty) Maximum input current 3.4 A Maximum output voltage 240 V Apparent power 0.7 kVA at 240 V (heavy duty) Network frequency 5060 Hz Relative symmetric network frequence 5 % Prospective line lsc 1 kA Base load current at high overload 6.9 A overload True 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 3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty) Maximum input current 3.4 A Maximum output voltage 240 V Apparent power 0.7 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: 17.0 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 3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty) Maximum input current 3.4 A Maximum output voltage 240 V Apparent power 0.7 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: 17.0 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 current3.4 A at 200 V (heavy duty) 2.8 A at 240 V (heavy duty)Maximum input current3.4 AMaximum output voltage240 VApparent power0.7 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: 17.0 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
2.8 A at 240 V (heavý duťý) Maximum input current 3.4 A Maximum output voltage 240 V Apparent power 0.7 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: 17.0 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 power0.7 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: 17.0 W at 200 V, switching frequency 4 kHzWith safety function Safe brake management (SBC/SBT)FalseWith safety function SafeFalse	Line current	
Apparent power 0.7 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: 17.0 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	3.4 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: 17.0 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 6.9 A Power dissipation in W Self-cooled: 17.0 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	0.7 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: 17.0 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 6.9 A Power dissipation in W Self-cooled: 17.0 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: 17.0 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 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: 17.0 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	109.0 mm
Net weight	0.8 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	18.800 cm
Package 1 Length	19.000 cm
Package 1 Weight	1.073 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	59.530 kg

Offer Sustainability

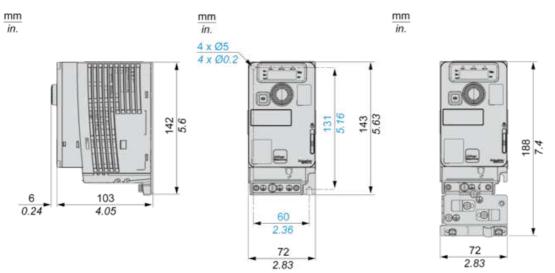
Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Mercury free	Yes
China RoHS Regulation	China RoHS declaration
RoHS exemption information	Yes
Environmental Disclosure	Product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

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Dimensions

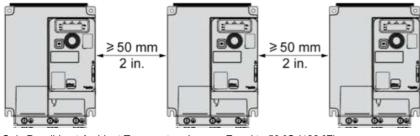
Right View, Front View and Front View with EMC Plate



Mounting and Clearance

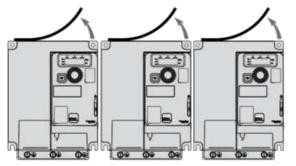
Mounting Types

Mounting Type A: Individual with Ventilation Cover

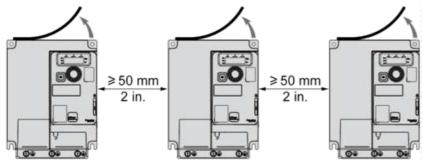


Only Possible at Ambient Temperature Less or Equal to 50 °C (122 °F)

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 $^\circ\text{F})$

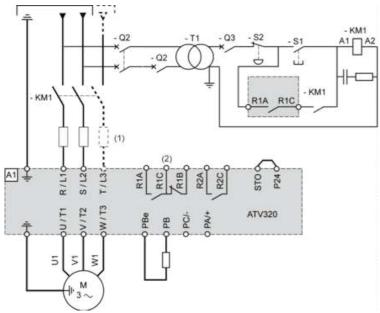
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Connections and Schema

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.

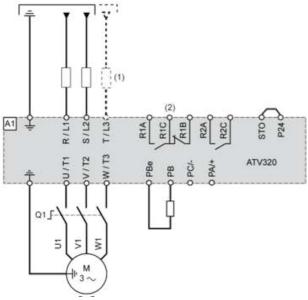


(1) Line choke (if used)

(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.

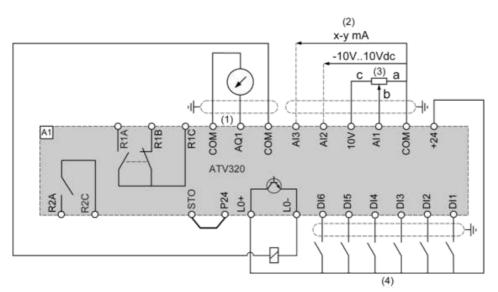


(1) Line choke (if used)

(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)

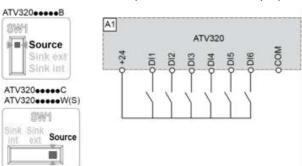
(4) Digital inputs

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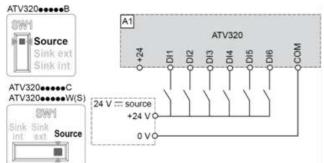
Connections and Schema

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.

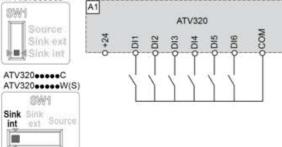


Switch SW1 set to "Source" position and use of an external power supply for the DIs.



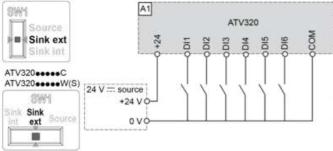
Switch SW1 set to "Sink Int" position and use of the output power supply for the DIs.

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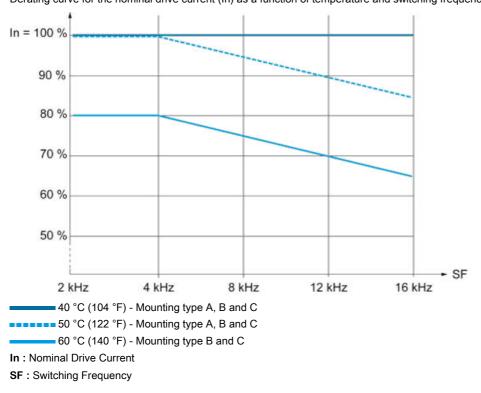
Switch SW1 set to "Sink Ext" position and use of an external power supply for the DIs.

ATV320



Derating Curves

Performance Curves



Recommended replacement(s)

Derating curve for the nominal drive current (In) as a function of temperature and switching frequency (SF).