Variable speed drive, Altivar Machine ATV320, 1.5 kW, 200...240 V, 1 phase, compact

ATV320U15M2C

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	8.0 A
Motor power kW	1.5 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+ 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

Analogue output type	Software-configurable current AQ1: 020 mA impedance 800 Ohm, resolution 10 bits Software-configurable voltage AQ1: 010 V DC impedance 470 Ohm, resolution 10 bits
Relay output type	Configurable relay logic R1A 1 NO electrical durability 100000 cycles Configurable relay logic R1B 1 NC electrical durability 100000 cycles
	Configurable relay logic R1C Configurable relay logic R2A 1 NO electrical durability 100000 cycles Configurable relay logic R2C
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 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 Relay output R2A, R2C on resistive load, cos phi = 1: 5 A at 30 V DC
Minimum switching current	Relay output R1A, R1B, R1C, R2A, R2C: 5 mA at 24 V DC
Method of access	Slave CANopen
4 quadrant operation possible	True
Asynchronous motor control	Voltage/frequency ratio, 5 points
profile	Flux vector control without sensor, standard Voltage/frequency ratio - Energy Saving, quadratic U/f
	Flux vector control without sensor - Energy Saving Voltage/frequency ratio, 2 points
Synchronous motor control	Vector control without sensor
profile	Vocation Control With Control
Maximum output frequency	0.599 kHz
Transient overtorque	170200 % of nominal motor torque
Acceleration and deceleration	Linear U
ramps	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 with derating factor
Nominal switching frequency	4 kHz
Braking to standstill	By DC injection
Brake chopper integrated	True
Line current	17.8 A at 200 V (heavy duty) 14.9 A at 240 V (heavy duty)
Maximum input current	17.8 A
Maximum output voltage	240 V
Apparent power	3.6 kVA at 240 V (heavy duty)
Network frequency	5060 Hz
Relative symmetric network frequency tolerance	5 %
Prospective line Isc	1 kA
Base load current at high overload	4.8 A
Power dissipation in W	Fan: 76.0 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 Operating Stop (SOS)	False

With safety function Safe Speed Falso True	With safety function Safe Position (SP)	False
With safety function Safe Stop 1 True (SSS) With safety function Safe Stop 2 (SS2) False With safety function Safe torque of (STO) With safety function Safe torque of (STO) With safety function Safe (SSO) With safety funct	With safety function Safe programmable logic	False
With safety function Safe torque off (STO) With safety function Safety Limited Position (SLP) With safety function Safety Limited Position (SLP) With safety function Safety Limited Position (SLP) With safety function Safe Direction (SDI) Protection type Input phase breaks dive Overcurrent between output phases and earth dive Overclaring protection dive Short-facini between notion phases: dive Thermal protection dive Width 405.0 mm Height 412.0 mm Depth 158.0 mm Net weight 1.8 kg Environment Operating position Vertical +½-10 degree Environmental Confidence of the C	With safety function Safe Speed Monitor (SSM)	False
With safety function Safe torque off (STO) With safety function Safe United Position (SLP) With safety function Safe United Position (SLP) Protection type Input phase breaks: drive Overcurrent between output phases and earth drive Overcurrent between output phases drive Thermial protection: drive Width 105.0 mm Height 142.0 mm Depth 158.0 mm Net weight 1.6 kg Environment Operating position Product certifications CR ATEX NOM COST EAC RCM STOR RCM STOR S	With safety function Safe Stop 1 (SS1)	True
With safety function Safely Limited Position (SLP) With safety function Safe Direction (SDI) Protection (SDI) Protection type	With sft fct Safe Stop 2 (SS2)	False
Limited Position (SLP) With safety function Safe Direction (SpB) Protection type Impulsive breaks, drive Overloading protection, drive Short-circuit between output phases and earth; drive Overloading protection, drive Short-circuit between motor phases; drive Thermal protection; drive Width 105.0 mm Height 105.0 mm Net weight 1.6 kg Environment Operating position Vertical +/- 10 degree Environment Operating position Vertical +/- 10 degree Environment Operating position Vertical +/- 10 degree ATEX OGST EAC RCM KC RCM KC Barking CE ATEX UL CSA EAC RCM KC Standards Environmentic compatibility Electroading in munity less level 3 conforming to IEC 61000-4-2 Rediated radio-frequency electronagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transienthust immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency electronagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency electronagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency electronagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency electronagnetic field immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Electroadiated radio-frequency immunity test level 4 conforming to IEC 61000-4-3 Electroadiated radio-frequency immunity test level 4 conforming to IEC 61000-4-3 Electroadiated radio-frequency electronagnetic field immunity test level 4 Electroadiated radio-frequency electronagnetic field imm	With safety function Safe torque off (STO)	True
Protection (\$DI) Protection type	With safety function Safely Limited Position (SLP)	False
Overcurrent between output phases and earth dive Overfaceting protection: drive Short-circuit between motor phases: drive Thermal protection: drive Short-circuit between motor phases: drive Thermal protection: drive Thermal position Operating position Vertical +/- 10 degree Environment Operating position Operating positi	With safety function Safe Direction (SDI)	False
Height 142.0 mm Depth 158.0 mm Net weight 1.6 kg Environment Operating position Vertical +/- 10 degree Product certifications CE ATEX NOM GOST EAC RCM KC Marking CE ATEX UL US STATE ATEX UL US STATE ATEX ROM KC Standards Environmental Case (Marking CE RCM	Protection type	Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive
Depth 158.0 mm Net weight 1.6 kg Environment Operating position Vertical +/- 10 degree Product certifications CE ATEX NOM GOST EAC RCM RCM RCM RCM RCM RCM RCM RCM RCM RC	Width	105.0 mm
Environment Operating position Vertical +/- 10 degree Product certifications CE ATEX NOM RCM GOT GOT GOT RCM KCM KCM KCM KCM KCM KCM KCM KCM KCM K	Height	142.0 mm
Environment Operating position Vertical +/- 10 degree Product certifications CE ATEX NOM GOST EAC RCM KC Marking CE ATEX UL CSA EAC RCM EAC RCM EAC RCM Standards EnvireC 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 Relectrical fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Relectrical fast transient/burst immunity test level 3 conforming to IEC 61000-4-4 Relacited radio-frequency electromagnetic field immunity test level 3 conforming to IEC 61000-4-4 Relacited radio-frequency immunity test level 3 conforming to IEC 61000-4-4 Relacited radio-frequency immunity test level 3 conforming to IEC 61000-4-4 Relacited radio-frequency immunity test level 3 conforming to IEC 61000-4-4 Relacited rel	Depth	158.0 mm
Operating position Vertical +/- 10 degree Product certifications CE ATEX NOM GOST EAC RCM KC Marking CE ATEX UL CSA EAC RCM KC 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 set level 4 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 61000-4-4 Voltage dips and interruptions immunity test level 3 conforming to IEC 61000-4-4 Voltage dips and interruptions immunity test level 3 conforming to IEC 61000-4-4 Voltage dips and interruptions immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-2 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electroid fast transient/burst immunity test level 3 conforming to IEC 61000-4	Net weight	1.6 kg
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 transitional tyset level 4 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 conforming to IEC 61000-4-3 Electrical fast transitional tyset level 3 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 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transitional stere level 6 e1000-4-1 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 61000-4-2 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transitional transitional IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transitional transitional IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 61000-4-2 Electrical fast transitional test level 3 conforming to IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 61000-4-2 Electrostational IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 3 conforming to IEC 6000-4-4 1.2/50 µs -8/20 µs surge immunity test level 4 conforming to IEC 6000-4-	Environment	
ATEX NOM GOST EAC RCM KC Marking CE ATEX UL CSA EAC RCM KC Standards 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 61000-4-3 1.2/50 ps - 8/12 ps surge immunity test level 3 conforming to IEC 61000-4-4 1.2/50 ps - 8/12 ps surge immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Voltage dips and interruptions immunity test conforming to IEC 61000-4-6 Voltage dips and interruptions immunity test conforming to IEC 61000-4-1 1 Immunity test conforming to IEC 61000-4-1 Immunity test conforming to IEC 61000-4-3 Immunity te	Operating position	Vertical +/- 10 degree
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 61000-4-3 Electrical fast transient/burst immunity test level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test level 3 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 61000-4-5 Voltage dips and interruptions immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-3 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-2 Radio-frequency informing to IEC 61000-4-2 Radio-frequency informing to IEC 61000-4-2 Conforming to IEC 61000-4-2 Radio-frequency informing to IEC 61000-4-2 Radio-frequency informing to IEC 61000-4-2 Radio-frequency informity to IEC 61000-4-2 Radio-frequency information infor	Product certifications	ATEX NOM GOST EAC RCM
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 3 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 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency immunity test level 3 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 61000-4-5 Conducted radio-frequency immunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-5 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-2 Conducted radio-frequency inmunity test level 3 conforming to IEC 61000-4-2 Class 3S2 according to IEC 60721-3-3 150 m/s² at 11 ms 10 m/s² at 11 ms 10 m/s² at 11 ms 1.5 mm at 213 Hz Volume of cooling air 1.5 mm at 213 Hz Volume of cooling air 1.5 mm at 213 Hz	Marking	ATEX UL CSA EAC
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 Class 3S2 according to IEC 60721-3-3 150 m/s² at 11 ms 10 m/s² at 13200 Hz wibrational stress (during operation) Maximum acceleration under vibratory load (during operation) 1.5 mm at 213 Hz Class 3K5 according to EN 60721-3 Class 3K5 according to EN 60721-3 Class 3K5 according to EN 60721-3	Standards	EN/IEC 61800-5-1
Maximum acceleration under shock impact (during operation) Maximum acceleration under vibrational stress (during operation) Maximum deflection under vibratory load (during operation) Maximum deflection under vibratory load (during operation) Permitted relative humidity (during operation) Class 3K5 according to EN 60721-3 Class 3K5 according to EN 60721-3 Volume of cooling air Class 3K5 according to EN 60721-3	Electromagnetic compatibility	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
Maximum acceleration under vibrational stress (during operation) Maximum deflection under vibratory load (during operation) Permitted relative humidity (during operation) Class 3K5 according to EN 60721-3 Volume of cooling air 10 m/s² at 13200 Hz 1.5 mm at 213 Hz Class 3K5 according to EN 60721-3	Environmental class (during operation)	Class 3C3 according to IEC 60721-3-3 Class 3S2 according to IEC 60721-3-3
vibrational stress (during operation) Maximum deflection under vibratory load (during operation) Permitted relative humidity (during operation) Class 3K5 according to EN 60721-3 Volume of cooling air 1.5 mm at 213 Hz Class 3K5 according to EN 60721-3	Maximum acceleration under shock impact (during operation)	150 m/s² at 11 ms
vibratory load (during operation) Permitted relative humidity (during operation) Volume of cooling air Class 3K5 according to EN 60721-3 16.0 m3/h	Maximum acceleration under vibrational stress (during operation)	10 m/s² at 13200 Hz
(during operation) Volume of cooling air 16.0 m3/h	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	Volume of cooling air	16.0 m3/h
	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	18.100 cm
Package 1 Width	18.700 cm
Package 1 Length	18.700 cm
Package 1 Weight	1.852 kg
Unit Type of Package 2	P06
Number of Units in Package 2	30
Package 2 Height	75.000 cm
Package 2 Width	60.000 cm
Package 2 Length	80.000 cm
Package 2 Weight	69.400 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

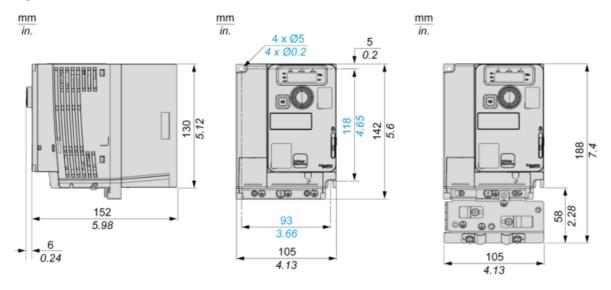
Product data sheet

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Dimensions Drawings

Dimensions

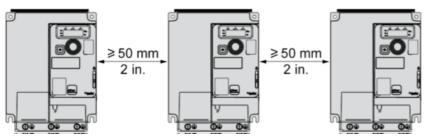
Right View, Front View and Front View with EMC Plate



Mounting and Clearance

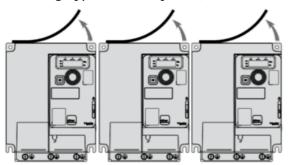
Mounting Types

Mounting Type A: Individual with Ventilation Cover

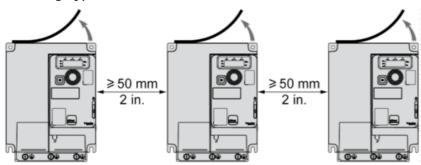


Only Possible at Ambient Temperature Less or Equal to 50 $^{\circ}$ C (122 $^{\circ}$ F)

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 $^{\circ}\text{F})$

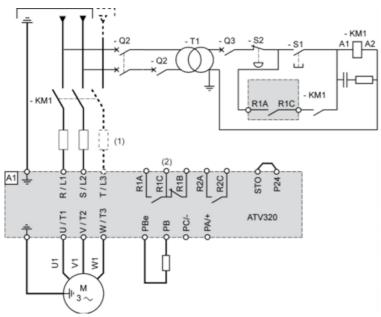
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Connections and Schema

Connection Diagrams

Diagram with Line Contactor

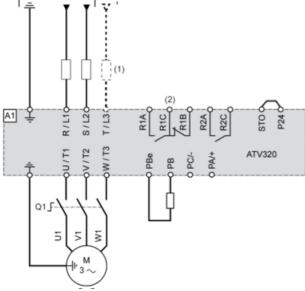
Connection diagrams conforming to standards ISO13849 category 1 and IEC/EN 61508 capacity SIL1, stopping category 0 in accordance with standard IEC/EN 60204-1.



- (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.

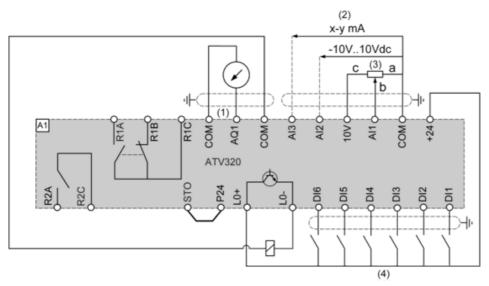


- (1) Line choke (if used)
- (2) Fault relay contacts, for remote signaling of drive status

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Connections and Schema

Control Connection Diagram in Source Mode



- (1) Analog output
- (2) Analog inputs
- (3) Reference potentiometer (10 kOhm maxi)
- (4) Digital inputs

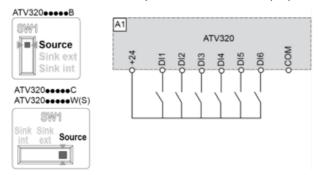
Product data sheet

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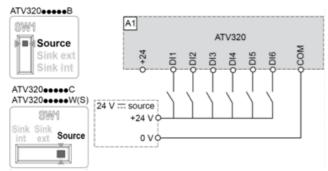
Connections and Schema

Digital Inputs Wiring

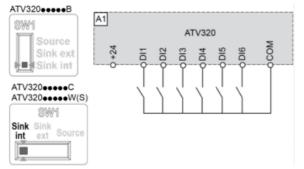
The logic input switch (SW1) is used to adapt the operation of the logic inputs to the technology of the programmable controller outputs. Switch SW1 set to "Source" position and use of the output power supply for the DIs.



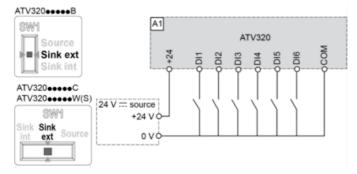
Switch SW1 set to "Source" position and use of an external power supply for the DIs.



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



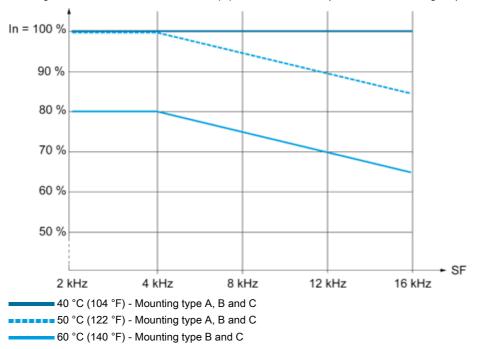
Switch SW1 set to "Sink Ext" position and use of an external power supply for the DIs.



Performance Curves

Derating Curves

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



In: Nominal Drive Current SF: Switching Frequency

Recommended replacement(s)