



Main

Range of product	Altivar Machine ATV320
Product or component type	Variable speed drive
Product specific application	Complex machines
Device short name	ATV320
Product destination	Asynchronous motors Synchronous motors
Format of the control block	Compact
EMC filter	Class C2 EMC filter integrated
Type of cooling	Fan
Network number of phases	1 phase
Prospective line I _{sc}	1 kA
Asynchronous motor control profile	Voltage/frequency ratio, 2 points Voltage/frequency ratio, 5 points Flux vector control without sensor - Energy Saving Voltage/frequency ratio - Energy Saving, quadratic U/f Flux vector control without sensor, standard
Synchronous motor control profile	Vector control without sensor
Speed drive output frequency	0.1...599 Hz
Nominal switching frequency	4 kHz
Communication port protocol	CANopen Modbus
Optional communication modules	Communication module, Ethernet/IP Communication module, Profibus DP V1 Communication module, Profinet Communication module, Ethernet Powerlink

Complementary







Variant	Standard version
Output voltage	<= power supply voltage
Regulation loop	Adjustable PID regulator

Motor slip compensation	Automatic whatever the load Adjustable 0...300 % Not available in voltage/frequency ratio (2 or 5 points)
Acceleration and deceleration ramps	Deceleration ramp adaptation Linear Ramp switching S U CUS Deceleration ramp automatic stop DC injection
Braking to standstill	By DC injection
Width	105 mm
Depth	158 mm
Net weight	1.6 kg
Analogue input number	3
Discrete input number	7
Analogue output number	1
Discrete output number	3
Maximum switching current	Relay output R2 on resistive load, cos phi = 1: 5 A at 30 V DC
Specific application	Machinery
Motor starter type	Variable speed drive

Environment

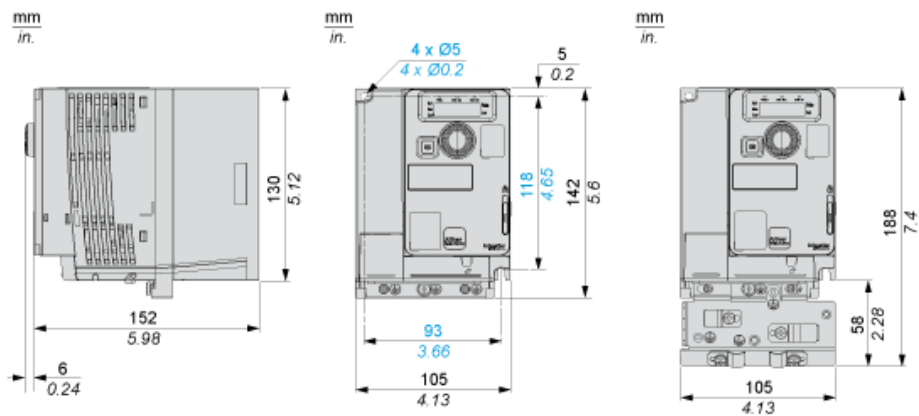
Isolation	Between power and control terminals
Volume of cooling air	16 m ³ /h
Operating position	Vertical +/- 10 degree
Electromagnetic compatibility	Voltage dips and interruptions immunity test conforming to IEC 61000-4-11
Ambient air temperature for storage	-25...70 °C
Standards	IEC 13849-1
Product certifications	UL EAC CSA RCM NOM 117
Marking	CE

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
RoHS exemption information	 Yes
China RoHS Regulation	 Download RoHS China Declaration
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

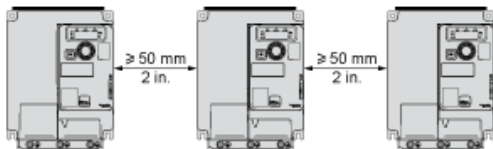
Dimensions

Right View, Front View and Front View with EMC Plate



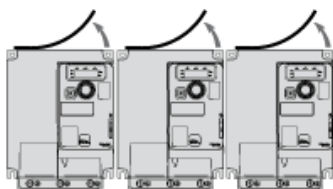
Mounting Types

Mounting Type A: Individual with Ventilation Cover

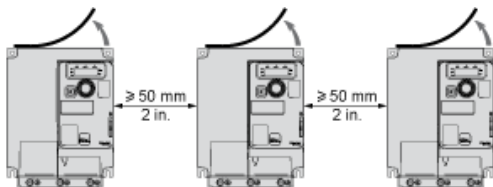


Only Possible at Ambient Temperature Less or Equal to 50 °C (122 °F)

Mounting Type B: Side by Side, Ventilation Cover Removed



Mounting Type C: Individual, Ventilation Cover Removed

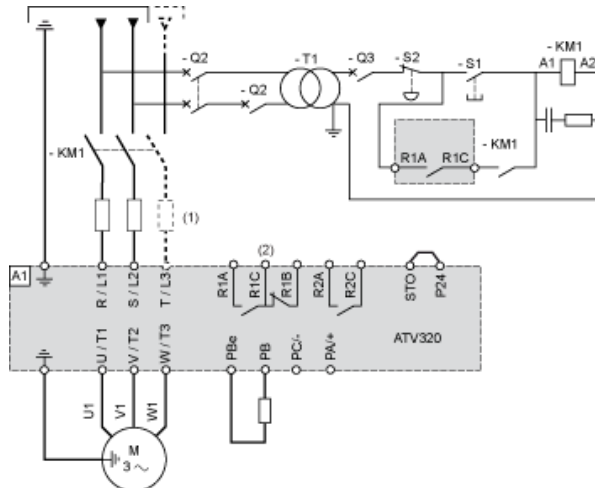


For Operation at Ambient Temperature Above 50 °C (122 °F)

Connection Diagrams

Diagram with Line Contactor

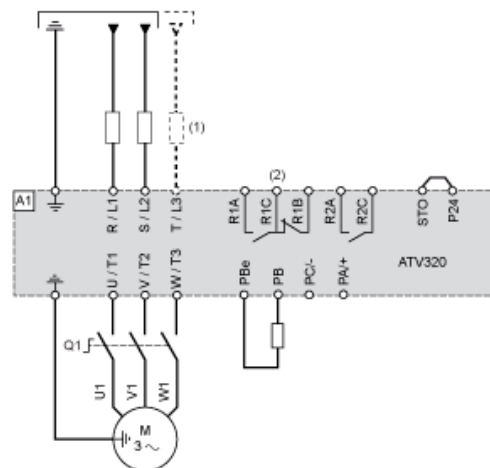
Connection diagrams conforming to standards ISO13849 category 1 and IEC/EN 61508 capacity SIL1, stopping category 0 in accordance with standard IEC/EN 60204-1.



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

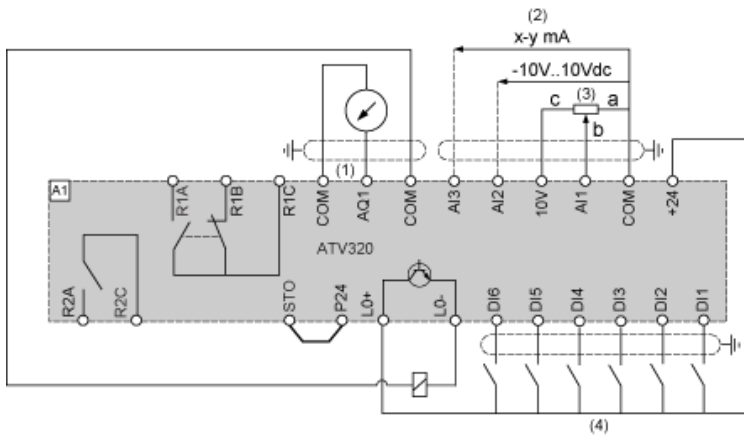
Diagram with Switch Disconnect

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

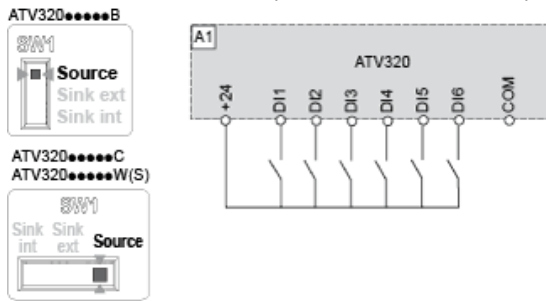
Control Connection Diagram in Source Mode



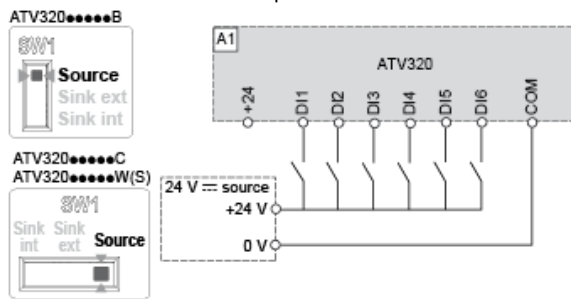
- (1) Analog output
- (2) Analog inputs
- (3) Reference potentiometer (10 kOhm maxi)
- (4) Digital inputs

Digital Inputs Wiring

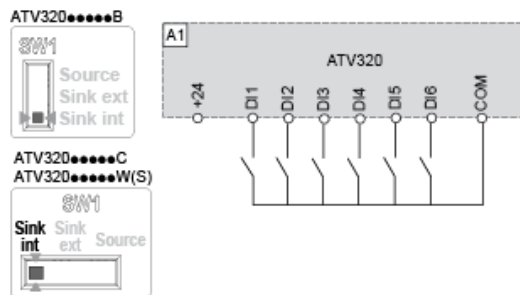
The logic input switch (SW1) is used to adapt the operation of the logic inputs to the technology of the programmable controller outputs. Switch SW1 set to "Source" position and use of the output power supply for the DIs.



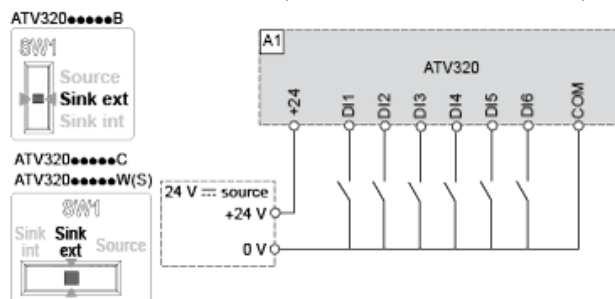
Switch SW1 set to "Source" position and use of an external power supply for the DIs.



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.



Derating Curves

