

variable speed drive, ATV320, 0.55 kW, 380...500 V, 3 phases, compact

ATV320U06N4C

Main

Altivar Machine ATV320
Variable speed drive
Complex machines
Standard version
Compact
Wall mount
Modbus serial CANopen
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
380500 V - 1510 %
1.9 A
0.55 kW for heavy duty
0.75 hp
Class C2 EMC filter integrated
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	1

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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 profile	Voltage/frequency ratio, 5 points 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 profile	Vector control without sensor	
Maximum output frequency	0.599 kHz	
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 with derating factor	
Nominal switching frequency	4 kHz	
Braking to standstill	By DC injection	
Brake chopper integrated	True	
Line current	2.8 A at 380 V (heavy duty) 2.2 A at 500 V (heavy duty)	
Maximum input current	2.8 A	
Maximum output voltage	500 V	
Apparent power	1.9 kVA at 500 V (heavy duty)	
Network frequency	5060 Hz	
Relative symmetric network requency tolerance	5 %	
Prospective line Isc	5 kA	
Base load current at high overload	7.1 A	
Power dissipation in W	Fan: 27.0 W at 380 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 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
	Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: drive
Direction (SDI)	Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive
Direction (SDI) 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
Direction (SDI) Protection type Width	Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: drive
Direction (SDI) Protection type Width Height	Input phase breaks: drive Overcurrent between output phases and earth: drive Overheating protection: drive Short-circuit between motor phases: drive Thermal protection: drive 105.0 mm

Environment

Operating position	Vertical +/- 10 degree
Product certifications	CE ATEX NOM GOST EAC RCM KC
Marking	CE ATEX UL CSA EAC RCM
Standards	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

Volume of cooling air	18.0 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	18.000 cm
Package 1 Width	18.500 cm
Package 1 Length	18.700 cm
Package 1 Weight	1.672 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	63.340 kg

Contractual warranty

Warranty (in months)



Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing "Use Better, Use Longer, Use Again" campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability >

☑ Environmental footprint		
Total lifecycle Carbon footprint	795	

Use Better

Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
SCIP Number	C0283eca-aee5-4ec9-9f8c-c7e056d0a8d7
REACh Regulation	REACh Declaration
[⋯] Energy efficiency	
Product contributes to saved and avoided emissions	Yes

Use Again

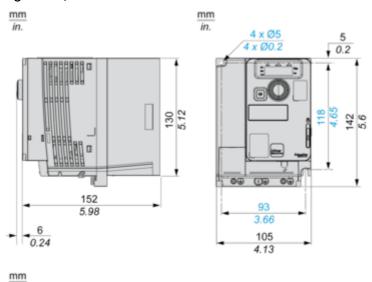
○ Repack and remanufacture	
End of life manual availability	End of Life Information
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

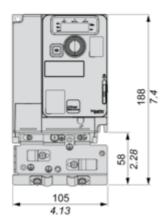
Dimensions Drawings

Dimensions

in.

Right View, Front View and Front View with EMC Plate

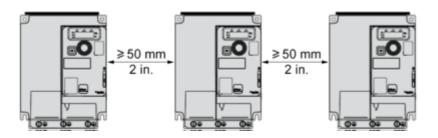




Mounting and Clearance

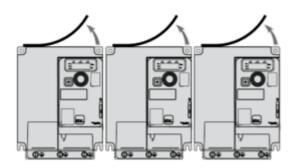
Mounting Types

Mounting Type A: Individual with Ventilation Cover

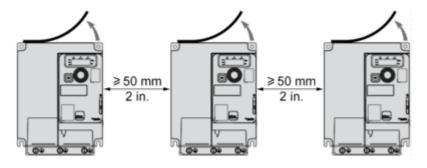


Only Possible at Ambient Temperature Less or Equal to 50 °C (122 °F)

Mounting Type B: Side by Side, Ventilation Cover Removed



Mounting Type C: Individual, Ventilation Cover Removed

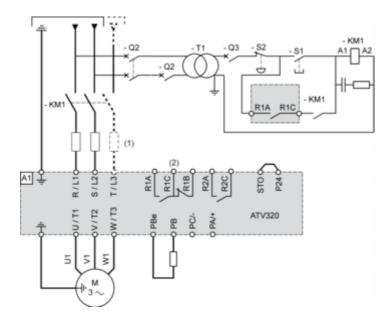


For Operation at Ambient Temperature Above 50 °C (122 °F)

Connections and Schema

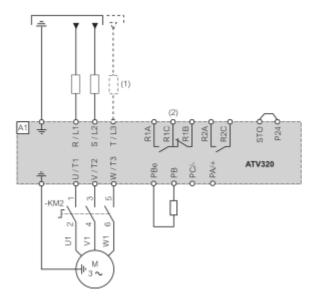
Connection Diagrams

Single or Three-phase Power Supply - Diagram With Line Contactor



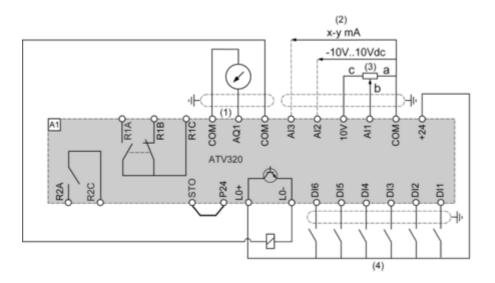
- (1) Line choke (if used)
- (2) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.

Single or Three-phase Power Supply - Diagram With Downstream Contactor



- (1) Line choke (if used)
- (2) Use relay output R1 set to operating state Fault to switch Off the product once an error is detected.

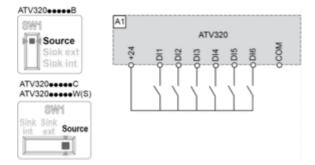
Control Block Wiring Diagram



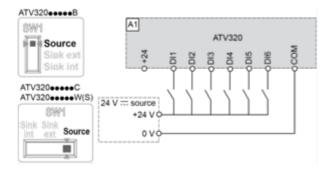
- (1) Analog output
- (2) Analog inputs
- (3) Potentiometer SZ1RV1202 (2.2 k Ω) or similar (10 k Ω maximum)
- (4) Digital Inputs Shielding instructions are given in the Electromagnetic Compatibility section

Digital Inputs Wiring

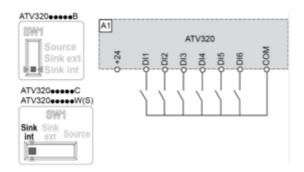
Switch Set to SRC (Source) Position Using the Output Power Supply for the Digital Inputs



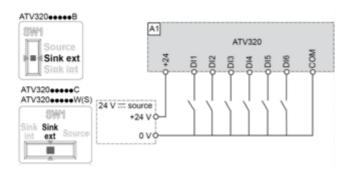
Switch Set to SRC (Source) Position and Use of an External Power Supply for the Digital Inputs



Switch Set to SK (Sink) Position Using the Output Power Supply for the Digital Inputs



Switch Set to EXT Position Using an External Power Supply for the Digital Inputs



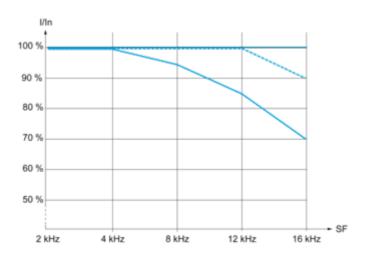
NOTE:

- STO input is also connected by default on a 24 Vdc terminal. If the external power supply is switched off, the function STO will be triggered.
- To avoid triggering the STO function when switching-on the product, the external power supply must be previously switched on.

Product datasheet ATV320U06N4C

Performance Curves

Derating Curves



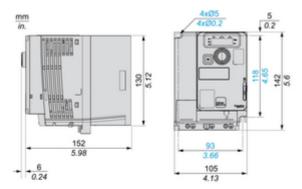
40 °C (104 °F) - Mounting type A, B and C 50 °C (122 °F) - Mounting type A, B and C 60 °C (140 °F) - Mounting type B and C

In: Nominal Drive Current SF: Switching Frequency

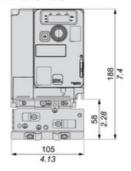
ATV320U06N4C

Technical Illustration

Dimensions



With EMC Plate



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Image of product / Alternate images

Alternative









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Dec 1, 2025





