

INDUSTRIAL AUTOMATION PRODUCT

ATV320U75N4B

Altivar Machine ATV320 Variable Speed Drive

Schneider Electric ATV320U75N4B is a book-format Altivar Machine ATV320 variable speed drive for three-phase machine motors. It regulates motor speed and torque while coordinating hardwired control, serial communication and machine safety functions.

IDENTITY	VERIFIED VALUE
Manufacturer	Schneider Electric
System family	Altivar Machine ATV320
Part number	ATV320U75N4B
Country	France
HS code	8537101190

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Technical Specifications

Technical values below are limited to the named Schneider Electric product record.

PARAMETER	VALUE
Product range	Altivar Machine ATV320
Product type	Variable speed drive
Product application	Complex machines
Variant	Standard version
Mounting mode	Wall mount
Rated supply voltage	380...500 VAC (-15...+10%)
Supply phases	3 phases
Network frequency	50...60 Hz, +/-5%
Motor power	7.5 kW, heavy duty
Rated output current	17.0 A
Line current	26.5 A/380 V; 18.7 A/500 V
Max input current	26.5 A
Apparent power	16.2 kVA at 500 V
Prospective line Isc	22 kA
Max output voltage	500 V
Max output frequency	0...599 Hz
Switching frequency	2...16 kHz adjustable
Nominal switch freq.	4 kHz
Discrete inputs	7
DI1...DI6	24 V DC, 30 V maximum
DI5 pulse input	0...30 kHz, 24 V DC
Discrete input logic	Positive/source; negative/sink
Discrete outputs	3

PARAMETER	VALUE
DQ outputs	0...1 kHz, 30 V DC, 100 mA
Analogue inputs	3
AI1	0...10 V DC; 30 kOhm; 10-bit
AI2	+/-10 V DC; 30 kOhm; 10-bit
AI3	0...20 mA configurable; 250 Ohm; 10-bit
Analogue outputs	1
AQ1 current mode	0...20 mA; 800 Ohm; 10-bit
AQ1 voltage mode	0...10 V DC; 470 Ohm; 10-bit
Integrated protocols	Modbus serial; CANopen
EMC filter	Integrated Class C2
Ingress protection	IP20
Safe functions	STO; SS1; SLS
Transient overtorque	170...200% Tn
Brake chopper	Integrated
Operating position	Vertical, +/-10 degrees
Operating temp.	-10...50 degC; no derating
Extended operation	50...60 degC; derating
Storage temp.	-25...70 degC
Transport temp.	-25...70 degC
Cooling airflow	60 m3/h
Pollution degree	2
Overvoltage category	III

VERIFIED PRODUCT RECORD

DATA GROUP	VERIFIED VALUE
Installed host / carrier	Three-phase 380...500 V AC supply and upstream protection
Companion hardware	Three-phase asynchronous or synchronous motor
Field connection	Machine controller using hardwired I/O, Modbus serial or CANopen

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System Role and Architecture

Schneider Electric ATV320U75N4B is a book-format Altivar Machine ATV320 variable speed drive for three-phase machine motors. It regulates motor speed and torque while coordinating hardwired control, serial communication and machine safety functions.

FUNCTION 1

Controls the speed and torque of three-phase asynchronous or synchronous machine motors

FUNCTION 2

Runs open-loop machine profiles for conveyor, material-handling and packaging motion

FUNCTION 3

Exchanges commands, references and diagnostics through built-in Modbus serial or CANopen

FUNCTION 4

Integrates STO, SS1 and SLS functions into the machine safety architecture

Matched system components

- Three-phase 380...500 V AC supply and upstream protection
- Three-phase asynchronous or synchronous motor
- Machine controller using hardwired I/O, Modbus serial or CANopen
- STO safety circuit, EMC-compliant motor cable and protective earth

DRIVE CONTROL AND SAFETY INTERFACES

INTERFACE	DOCUMENTED FUNCTION
Power input	Three-phase mains through documented disconnect and protection
Motor output	Shielded three-phase cable to the connected machine motor
Analogue reference	AI1 voltage, AI2 bipolar voltage or AI3 current input
Discrete control	DI1...DI6 source/sink logic with DI5 pulse capability
Serial communication	Built-in Modbus serial or CANopen network
Functional safety	STO circuit with configured SS1 and SLS functions

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Applications and Engineering Context

Conveyor and material handling

Controls the speed and torque of three-phase asynchronous or synchronous machine motors

Packaging-machine motion

Runs open-loop machine profiles for conveyor, material-handling and packaging motion

Industrial fan and pump skids

Exchanges commands, references and diagnostics through built-in Modbus serial or CANopen

OEM process-machine drives

Integrates STO, SS1 and SLS functions into the machine safety architecture

TECHNICAL NOTE

Before wiring, isolate mains and external control power, wait 15 minutes, and verify the DC bus is de-energized. After restoring the recorded motor, I/O, network and safety configuration, prove rotation and stop functions at controlled speed.

COMMISSIONING ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Catalog identity	ATV320U75N4B matches the panel and project record
Supply check	Phase sequence and measured supply are acceptable
Motor record	Nameplate data and control profile are entered
I/O proving	Each command, reference and status point is exercised
Network proving	Address, control word and reference source are confirmed
Safety proving	STO, SS1 and SLS response passes the machine procedure
Rotation test	Direction and limited-speed process response are correct

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Engineering Precautions

1

Confirm the complete ATV320U75N4B catalog number and the 380...500 V three-phase supply before mounting.

2

Disconnect mains and external control power, lock out all sources and wait 15 minutes for the DC bus to discharge.

3

Verify absence of voltage at the specified power terminals before touching the drive, motor cable or braking circuit.

4

Mount ATV320U75N4B vertically and maintain the clearance and derating conditions defined for the book-format frame.

5

Route motor, braking and mains conductors separately from analogue, digital, safety and communication wiring.

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
ATV61HD15N4	Altivar 61 variable speed drive	View ATV61HD15N4 page
ATV61HD37N4	Altivar 61 variable speed drive	View ATV61HD37N4 page
ATV930C16N4C	Altivar Process variable speed drive	View ATV930C16N4C page
ATV16U29N4	Altivar 16 drive	View ATV16U29N4 page

MANUFACTURER SOURCE RECORD

Schneider Electric ATV320U75N4B Product Data Sheet and ATV320 Installation Manual

ATV320U75N4B; NVE41289 Version 09

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