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.

PRODUCT SNAPSHOT

BRAND	**FAMILY**
Schneider Electric	Altivar Machine ATV320
PART	**ORIGIN / HS**
ATV320U75N4B	France / 8537101190

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PRODUCT OVERVIEW

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.

1. Controls the speed and torque of three-phase asynchronous or synchronous machine motors
2. Runs open-loop machine profiles for conveyor, material-handling and packaging motion
3. Exchanges commands, references and diagnostics through built-in Modbus serial or CANopen
4. Integrates STO, SS1 and SLS functions into the machine safety architecture

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

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**

TECHNICAL DATA

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
Max output voltage	500 V
Max output frequency	0...599 Hz

PARAMETER	VALUE
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
DQ outputs	0...1 kHz, 30 V DC, 100 mA
Analogue inputs	3
AI1	0...10 V DC; 30 kOhm; 10-bit
AQ1 voltage mode	0...10 V DC; 470 Ohm; 10-bit
Integrated protocols	Modbus serial; CANopen

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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.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

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

PRODUCT 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.
6. Preserve protective-earth continuity and use the EMC plate, shield termination and cable practice required by the installation category.
7. Validate STO, SS1 and SLS wiring and parameters through the machine safety procedure before torque is enabled.
8. Record the motor nameplate, control source, ramps and network settings, then prove direction and process response at controlled speed.

ENGINEER FAQ

Q1 What supply must be confirmed before installing ATV320U75N4B?

Confirm a three-phase supply within the ATV320U75N4B nameplate range and verify the upstream protective arrangement against the Schneider Electric installation manual before energization.

Q2 Which motor types can ATV320U75N4B control?

ATV320U75N4B supports three-phase asynchronous and synchronous motor control. Enter the connected motor nameplate data and select the applicable control profile before autotuning or rotation checks.

Q3 How should the STO circuit be handled when replacing ATV320U75N4B?

Record both safety-channel connections and the approved safety configuration before removal. Revalidate the complete STO chain and the machine stop response before normal torque production is permitted.

Q4 Can ATV320U75N4B accept both voltage and current analogue references?

Yes. The drive provides separate configurable analogue inputs for unipolar voltage, bipolar voltage and current signals; the terminal used, scaling and common reference must match the control drawing.

Q5 Which built-in networks are available on ATV320U75N4B?

The standard drive includes Modbus serial and CANopen access. Confirm node address, baud rate, control channel and command/reference source before transferring control from the local interface.

Q6 What must be recorded before replacing an operating ATV320U75N4B?

Record the complete catalog and serial identity, motor nameplate, I/O assignments, communication settings, control source, frequency limits, ramp values, safety settings and the most recent diagnostic history.

Q7 How should ATV320U75N4B motor direction be checked during commissioning?

With the driven machine in a controlled state, issue a limited-speed command and verify shaft direction, current, feedback and stop behavior. Correct wiring only after power isolation and DC-bus discharge.

Q8 What should engineers check if ATV320U75N4B trips after installation?

Capture the displayed fault and history first, then check supply quality, motor and cable insulation, terminal torque, motor data, acceleration demand, control-source selection, STO status and installed option configuration.

SOURCE Schneider Electric ATV320U75N4B Product Data Sheet and ATV320 Installation Manual | ATV320U75N4B; NVE41289 Version 09-86 180 3023 5313 | sales13@apterpower.com | www.apterpower.com