ATV610C16N4Z

Schneider Electric · Easy Altivar 610

Variable speed drive for pumps and fans, rated at 160 kW (250 HP) normal duty, with a 380...460 V three-phase supply, an integrated C3 EMC filter, no plain text display terminal and IP00 protection (IP21 conformity kit optional).

Hardware

Product type: Variable speed drive (AC frequency inverter)
Motor compatibility: Three-phase asynchronous and synchronous motors (open loop)
Protection functions: Not published by manufacturer in catalog DIA2ED2140702EN or installation manual EAV64381 (protection functions detailed in programming manual EAV64387)
Control mode: U/f Vc Standard (STD), U/f Vc 5-point (UF5), U/f Vc Quadratic (UFQ, for variable-torque fan/pump), open-loop synchronous motor control (SYNU, for PMSM), and reluctance motor control (SRVC) (per programming manual EAV64387 p.72–73)
Rated motor power: 160 kW (250 HP) normal duty; 132 kW (200 HP) heavy duty
Frame size: 6
Integrated HMI: None (plain text display terminal not supplied with this version; VW3A1113 keypad can be connected via the RJ45 HMI port as an accessory)
Integrated EMC filter: Category C3 EMC filter
Power terminal tightening torque: 27 N·m (frame 6) (per installation manual EAV64381)
Cooling: fan cooled; fan field-replaceable in under 5 minutes without special tools

I/O Specifications

Analog inputs: 3, software-configurable 0...10 V / 0...20 mA (voltage, current, temperature probe, or water level sensor)
Digital inputs: 6, 24 V DC (2 can be programmed as pulse inputs)
Analog outputs: 2, software-configurable 0...10 V / 0...20 mA
Relay outputs: 3, configurable relay logic
I/O expansion: Slot A accepts Extended I/O module VW3A3203 or Extended relay module VW3A3204

Communication

Built-in ports: 2 RJ45 ports (one Modbus field network, one HMI multidrop)
Protocols: Modbus RTU (Modbus serial link)
Communication expansion: Slot A accepts PROFIBUS DP V1 module VW3A3607 (1 x 9-way female SUB-D, Profidrive and CiA402 profiles)

Electrical

Supply voltage: 380...460 V AC, 50/60 Hz, three-phase
Maximum input current: 284 A maximum at 380 V, 249.5 A maximum at 460 V (normal duty)
Apparent power: 198.8 kVA at 460 V
Prospective short-circuit current (SCCR): 50 kA maximum prospective line Isc (110 kW and above, per official catalog order table by power segment)
Maximum continuous output current: 302 A (normal duty)
Maximum transient current (60 s): 332 A (normal duty)
Heavy duty rating: 132 kW, 250 A continuous, 375 A transient (60 s)
Switching frequency: 1...8 kHz adjustable; 2.5 kHz nominal (derate above nominal per Installation Manual)
Output frequency: 0.1...500 Hz
Maximum motor cable length: 150 m shielded / 200 m unshielded without dv/dt output filter (per catalog DIA2ED2140702EN p.20); output filter recommended above 50 m
Input current harmonics: integrated DC choke reduces harmonic distortion; optional passive filter (VW3A460xx) achieves THDi < 10% (per catalog DIA2ED2140702EN p.8/p.19)

Starting torque: Not published as numerical table in the official catalog DIA2ED2140702EN or installation manual EAV64381
Power dissipation (enclosed cabinet): 3710 W total at nominal current (per installation manual EAV64381 p.62 power-dissipation table)
Braking: external braking-chopper resistor terminals (PA/+, PB) provided for connection of an external braking resistor; no integrated braking-transistor current rating or braking-torque figure is published in the official catalog/installation manual (deferred to programming manual)
ND/HD overload duty: normal duty up to 110% of rated current for 60 s (or 120% for 20 s); heavy duty up to 150% of rated current for 60 s (per order catalog footnotes)

Environmental

Operating temperature: -15...+45 °C without derating; up to +60 °C with power derating
Storage temperature: -40...+70 °C (frame sizes 1-6)
Relative humidity: 5...95% without condensing
Protection rating: IP00 (IP21 conformity kit optional)
Altitude: up to 1000 m without derating; 1000...3000 m with derating
Chemical/mechanical class: 3C3 / 3S3 according to IEC/EN 60721
Mechanical conditions class: 3M3 in addition to chemical/mechanical class 3C3/3S3 (frames 1-6) or 3C2/3S2 (frames 7-8) per IEC/EN 60721
Conformal coating: electronic cards with protective conformal coating
Certifications: CE marking (EMC directive); CSA C22.2 No. 274 (Canada); no UL listing published in the official catalog (per catalog DIA2ED2140702EN / installation manual EAV64381)
Overvoltage category: relay output supply must be Overvoltage Category II (OVC II) per IEC/EN 61800-5-1; otherwise an isolation transformer is required
Mounting: vertical ±10° required for cooling; top/bottom/front clearance ≥250/250/100 mm (frame 6) (per installation manual EAV64381 p.61)

Physical

Dimensions (H×W×D): 850 × 300 × 375 mm (per official catalog DIA2ED2140702EN dimension table, converted to H×W×D)
Weight: 85.445 kg (188.4 lb), without packaging (N4Z version: no integral keypad; lighter than the corresponding N4 with keypad, per official order table)

Lifecycle

Current: Easy Altivar 610 product line, official product pages active as of 2026-10 (Last verified: 2026-10)