# ATV610C31N4

Schneider Electric · Easy Altivar 610

Variable speed drive for pumps and fans, rated at 315 kW (500 HP) normal duty, with a 380...460 V three-phase supply, an integrated C3 EMC filter, a plain text display terminal VW3A1113 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:** 315 kW (500 HP) normal duty; 250 kW (400 HP) heavy duty
**Frame size:** 8A
**Integrated HMI:** Plain text display terminal VW3A1113 (2 lines, white backlit LCD, RJ45)
**Integrated EMC filter:** Category C3 EMC filter
**Power terminal tightening torque:** 41 N·m (frames 7/8A/8B) (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:** 571 A maximum at 380 V, 480 A maximum at 460 V (normal duty)
**Apparent power:** 382.8 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:** 616 A (normal duty)
**Maximum transient current (60 s):** 678 A (normal duty)
**Heavy duty rating:** 250 kW, 481 A continuous, 722 A transient (60 s)
**Switching frequency:** 2...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): 6285 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:** -10...+40 °C without derating; up to +60 °C with derating
**Storage temperature:** -25...+70 °C (frame sizes 7/8)
**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:** 3C2 / 3S2 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 ≥200/150/10 mm (frames 7/8A/8B) (per installation manual EAV64381 p.61)

## Physical

Dimensions (H×W×D): 1196 × 595 × 379 mm (per official catalog DIA2ED2140702EN dimension table, converted to H×W×D)
**Weight:** 180 kg (397 lb), without packaging

## Lifecycle

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