ATV930C22N4

Schneider Electric · Altivar Process ATV930

Three-phase variable speed drive for 380...480 V supply, dual ND/HD rating, with built-in braking unit (dynamic brake transistor).

Hardware

Motor power (ND Normal Duty): 220 kW (350 HP), overload up to 120% for 60 s
Motor power (HD Heavy Duty): 160 kW (250 HP), overload up to 150% for 60 s
Drive rating: Dual-rated ND/HD per official catalog table (catalog p.2/5)
Switching frequency: 4 kHz nominal for U07N4...D45N4; 2.5 kHz for D55N4...C22N4 (automatic derating above nominal frequency)
Output frequency: 0.1...599 Hz
Motor control: Asynchronous motor — standard constant torque, variable standard torque, optimized torque mode (open-loop sensorless flux vector and closed-loop with encoder); Synchronous PM motor and synchronous reluctance motor — open-loop and closed-loop vector control per catalog p.10-12
Integrated safety: 1 STO (Safe Torque Off) function, SIL3 / Cat. PL e per IEC 61508 and ISO 13849-1
Braking: Built-in dynamic brake transistor (chopper) per catalog; external braking resistor required
Minimum external brake resistor: 1.4 Ω minimum per installation manual NHA80932 p.90-91

I/O Specifications

Analog inputs (integrated): 3 inputs: 2 configurable as 0...10 V or 0/4-20 mA (with PTC/PT100/PT1000/KTY84 probe input); 1 configurable as 0...±10 V
Digital inputs (integrated): 8 inputs, 24 V DC, positive or negative logic
Digital output (integrated): 1 assignable, configurable as Pulse Train Output (PTO)
Analog outputs (integrated): 2 outputs configurable as 0...10 V or 0/4-20 mA
Relay outputs (integrated): 3 outputs: 1 NO/NC + 2 NO
Safety function inputs: 2 inputs for STO function
I/O expansion (optional): Up to 3 additional I/O modules (analog in, digital in, relay out) per catalog

Communication

Built-in ports: 1 Ethernet dual-port switch (RJ45); 1 Modbus serial port (RJ45)
Protocols: EtherNet/IP and Modbus TCP (dual-port, built-in); Modbus RTU/TCP serial
Communication expansion: 1 option slot for fieldbus modules (PROFINET, PROFIBUS DP V1, CANopen, DeviceNet, EtherCAT, POWERLINK)
Cybersecurity: Achilles Level 2 certified

Electrical

Supply voltage: 380...480 V three-phase (-15%/+10%), 50/60 Hz
ND Normal Duty — maximum input current: 397 A at 380 V; 324 A at 480 V
ND Normal Duty — apparent power: 247 kVA at 380 V
ND Normal Duty — maximum continuous output current In: 427 A maximum at nominal switching frequency
ND Normal Duty — maximum transient output current for 60 s: 512 A (120% of In)
HD Heavy Duty — maximum input current: 296 A at 380 V; 246 A at 480 V
HD Heavy Duty — apparent power: 187 kVA at 380 V
HD Heavy Duty — maximum continuous output current In: 302 A maximum at nominal switching frequency
HD Heavy Duty — maximum transient output current for 60 s: 453 A (150% of In)
SCCR (prospective line short-circuit current): 50 kA maximum per catalog table
EMC filter: Category C2 EMC filter for U07N4...D45N4; category C3 EMC filter above D45N4 per catalog footnote (6)

Environmental

Environmental class: IEC 60721-3-3 class 3C3 / 3S3 / 3M3 (except frame size 7) per installation manual NHA80932 p.44
Certifications: UL 508C, UL61800-5-1, EN/IEC 61800-3 (category C2/C3), EN/IEC 61800-5-1, IEC 61508, IEC 13849-1, Achilles Level 2, REACH, SEMI F47-0706 per catalog p.9
Altitude derating: up to 1000 m no derating; 1000-3000 m, derate nominal current by 1% per additional 100 m per installation manual NHA80932
Operating temperature: 0 to +40 °C standard, derating from 40 to 50 °C per catalog p.17 (IP00 cabinet version)
Storage temperature: -40 to +70 °C per catalog p.17
Relative humidity: 5 to 95% non-condensing per IEC 60068-2-3, catalog p.17
Protection rating: IP00 (for mounting in enclosure; IP21/UL Type 1 requires separate conformity kit, per catalog footnote 8)

Physical

Power dissipation: 5214 W total (ND Normal Duty) / 3735 W total (HD Heavy Duty) at nominal load per installation manual NHA80932 p.125-127
Required minimum air flow: 860 m3/h per installation manual NHA80932 p.125-127
Dimensions (H×W×D): 1195 x 440 x 380 mm (per official catalog p.84/85/86 dimension table, converted from W×H×D)
Weight: 172.000 kg (379.195 lb) per catalog table
Terminal tightening torque: 41 N·m (360 lbf·in) M10 supply/output/DC busbar per installation manual NHA80932 p.190 (Frame 7A/7B)
Installation clearance: 200 mm above, 150 mm below, 10 mm front per installation manual NHA80932 p.122 (Frame 7)

Lifecycle

Current: Altivar Process ATV930 wall-mounting drive; official Schneider Electric catalog active (catalog Nov 2019).
(Last verified: 2026-10)