

A1000 Variable Speed Drive

A Single Drive for all Your Needs with Outstanding Performance



The A1000 is a full featured drive, providing outstanding quality, performance, flexibility, and environmental friendliness through 1000HP. Enjoy network communications, feedback, and expandable I/O to control anything from simple fans and pumps to complex machines. For new installations or retrofits, the A1000 provides a single robust solution, regardless of your application.

Specifications

| Item | Specification |
|-------------------------------|--|
| Overload Capacity | 150% for 60 sec. (HD), 120% for 60 sec. (ND) |
| Output Frequency | 0 ~ 400 Hz (higher frequencies available with custom software) |
| Control Methods | Open and Closed Loop Current Vector Open and Closed Loop V/f |
| Motor Types | Induction Surface Permanent Magnet (excluding 600V class) Interior Permanent Magnet (excluding 600V class) |
| Protective Design | IP20/NEMA1 |
| Ambient Operating Temperature | -10 to +50°C (Chassis Installation) -10 to +40°C (Chassis with zero side clearance, or Type 1) |
| Braking Transistor | Standard through 50HP (ND), 40HP (HD) |
| Global Certification | UL, CSA, CE, C-Tick, RoHS |
| Standard I/O | (8) multi-function digital inputs (24Vdc) (3) multi-function analog inputs (0 +/- 10 VDC, 4-20 mA) (1) multi-function pulse inputs (1) fault relay output (form C) (3) multi-function relay outputs (form A) (2) multi-function analog output (0 +/- 10 VDC, 4-20mA) (1) multi-function pulse output |
| I/O Expansion | 3 Analog Inputs -10 to +10V, 13 bit plus sign, 4 to 20mA 16 Digital Inputs (+24V for BCD speed reference) 120V converter for 8 standard digital inputs 2 Analog Outputs (-10 to +10V, 11 bit magnitude) 8 Digital Outputs (6 transistor, 2 relay) |
| Feedback | Incremental Absolute (Stegmann, Heidenhain EnDat, Resolver) |
| Network Communication | Built-in: Modbus RTU, RS-422/485, 115 kbps Optional: EtherNet/IP, DeviceNet, Modbus TCP/IP, PROFINET, PROFIBUS-DP, MECHATROLINK-II, CANopen, CC-Link |
| Speed Control Range | 1500:1 Closed Loop Vector (IM and PM Motors) 200:1 Open Loop Vector (IM Motors) 100:1 Open Loop Vector (PM Motors) |
| Speed Control Accuracy | ≤ 0.02%: Closed Loop Vector; ≤ 0.2%: Open Loop Vector |
| Speed Response | ≥ 60 Hz: Closed Loop Vector; ≥ 10 Hz: Open Loop Vector |
| Torque Response | ≥ 300 Hz: Closed Loop Vector |
| Function Block Programming | Up to 100 connections, 1ms program scan time |

Features

- Closed or open loop vector control for outstanding regulation, torque production, and position control capability
- Continuous Auto-tuning optimizes performance by compensating for changes in motor temperature
- High Frequency Injection enables high precision open loop control of Interior Permanent Magnet Motors
- Fast acting current and voltage limiters help achieve continuous drive operation during periods of excessive demand
- High Slip Braking reduces installation cost and the need for dynamic braking resistors
- Communication options for all major industrial networks provides high speed control and monitoring, reducing installation cost
- DriveWizard® computer software and Application Sets for easy configuration
- Auxiliary Control Power Unit maximizes production time and efficiency by maintaining network communication while main power is removed
- Embedded Safe Torque Off minimizes downtime for applications requiring occasional intervention (SIL CL2, PLd, Category 3)
- Embedded function blocks, programmable with DriveWorksEZ®, provide additional application flexibility and the opportunity to eliminate separate controllers
- USB Copy Unit and Keypad configuration storage provide speed and convenience for duplicate configuration of multiple drives
- Removable terminal board with configuration storage provides convenience of configuration backup
- Made with RoHS compliant materials
- Integrated DC Reactor (standard on 30HP and larger) for input harmonic reduction

A1000 Variable Speed Drive

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with Outstanding Performance

200-240V / 3-Phase

| Model Number CIMR-AU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | |
|-------------------------|-----------------------------|-----|-----------------------------|-----|------------------|-------|-------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | H | W | D |
| 2A0004FAA | 3.5 | 3/4 | 3.2 | 3/4 | 11.81 | 5.51 | 5.79 |
| 2A0006FAA | 6.0 | 1 | 5.0 | 1 | | | |
| 2A0008FAA | 8.0 | 2 | 6.9 | 2 | | | |
| 2A0010FAA | 9.6 | 3 | 8.0 | 2 | | | |
| 2A0012FAA | 12.0 | 3 | 11.0 | 3 | | | 6.46 |
| 2A0018FAA | 17.5 | 5 | 14.0 | 3 | | | |
| 2A0021FAA | 21.0 | 7.5 | 17.5 | 5 | | | |
| 2A0030FAA | 30.0 | 10 | 25.0 | 7.5 | | | 6.57 |
| 2A0040FAA | 40.0 | 15 | 33.0 | 10 | | | |
| 2A0056FAA | 56.0 | 20 | 47.0 | 15 | | | 13.39 |
| 2A0069FAA | 69.0 | 25 | 60.0 | 20 | 15.75 | 8.66 | 7.76 |
| 2A0081FAA | 81.0 | 30 | 75.0 | 25 | | | |
| 2A0110FAA | 110 | 40 | 85.0 | 30 | 21.02 | 10.00 | 10.16 |
| 2A0138FAA | 138 | 50 | 115 | 40 | 24.17 | 10.98 | |
| 2A0169FAA | 169 | 60 | 145 | 50 | 28.74 | 12.95 | 11.14 |
| 2A0211FAA | 211 | 75 | 180 | 60 | | | |
| 2A0250AAA | 250 | 100 | 215 | 75 | 27.76 | 17.72 | 12.99 |
| 2A0312AAA | 312 | 125 | 283 | 100 | | | |
| 2A0360AAA | 360 | 150 | 346 | 125 | 31.50 | 19.69 | 13.78 |
| 2A0415AAA | 415 | 175 | 415 | 150 | | | |

380-480V / 3-Phase

| Model Number CIMR-AU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | | | |
|-------------------------|-----------------------------|-----------|-----------------------------|-----------|------------------|-------|-------|-------|-------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | H | W | D | | |
| 4A0002FAA | 2.1 | 1 | 1.8 | 3/4 | 11.81 | 5.51 | 5.79 | | |
| 4A0004FAA | 4.1 | 2 | 3.4 | 1 - 2 | | | | | |
| 4A0005FAA | 5.4 | 3 | 4.8 | 3 | | | | | |
| 4A0007FAA | 6.9 | 4 | 5.5 | 3 | | | | | |
| 4A0009FAA | 8.8 | 5 | 7.2 | 4 | | | 6.46 | | |
| 4A0011FAA | 11.1 | 7.5 | 9.2 | 5 | | | | | |
| 4A0018FAA | 17.5 | 10 | 14.8 | 7.5 - 10 | | | | | |
| 4A0023FAA | 23.0 | 15 | 18.0 | 10 | | | 6.57 | | |
| 4A0031FAA | 31.0 | 20 | 24.0 | 15 | | | | | |
| 4A0038FAA | 38.0 | 25 | 31.0 | 20 | | | 13.39 | 7.09 | 7.36 |
| 4A0044FAA | 44.0 | 30 | 39.0 | 25 - 30 | 15.75 | 8.66 | 7.76 | | |
| 4A0058FAA | 58.0 | 40 | 45.0 | 30 | 18.31 | 10.00 | 10.16 | | |
| 4A0072FAA | 72.0 | 50 | 60.0 | 40 | 20.28 | 10.98 | | | |
| 4A0088FAA | 88.0 | 60 | 75.0 | 50 - 60 | 24.80 | 12.95 | | 11.14 | |
| 4A0103FAA | 103 | 75 | 91.0 | 60 | | | | | |
| 4A0139FAA | 139 | 100 | 112 | 75 | 28.74 | 11.14 | | | |
| 4A0165FAA | 165 | 125 | 150 | 100 | | | | | |
| 4A0208AAA | 208 | 150 | 180 | 125 - 150 | 27.76 | 17.95 | 12.99 | | |
| 4A0250AAA | 250 | 200 | 216 | 150 | 31.50 | 19.84 | 13.78 | | |
| 4A0296AAA | 296 | 250 | 260 | 200 | | | | | |
| 4A0362AAA | 362 | 300 | 304 | 250 | 37.40 | 19.69 | 14.57 | | |
| 4A0414AAA | 414 | 350 | 370 | 300 | | | | | |
| 4A0515AAA | 515 | 400 - 450 | 450 | 350 | | | | 44.88 | 26.38 |
| 4A0675AAA | 675 | 500 - 550 | 605 | 400 - 500 | | | | | |
| 4A0930AAA | 930 | 600 - 800 | 810 | 600 - 700 | 54.33 | 49.21 | 13.78 | | |
| 4A1200AAA | 1200 | 1000 | 1090 | 800 - 900 | | | | | |

500-600V / 3-Phase

| Model Number CIMR-AU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | |
|-------------------------|-----------------------------|-------|-----------------------------|-----|------------------|-------|-------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | H | W | D |
| 5A0003FAA | 2.7 | 1 - 2 | 1.7 | 1 | 11.81 | 5.51 | 5.79 |
| 5A0004FAA | 3.9 | 3 | 3.5 | 2 | | | |
| 5A0006FAA | 6.1 | 5 | 4.1 | 3 | | | |
| 5A0009FAA | 9.0 | 7.5 | 6.3 | 5 | | | |
| 5A0011FAA | 11.0 | 10 | 9.8 | 7.5 | | | 6.46 |
| 5A0017FAA | 17.5 | 15 | 12.5 | 10 | | | |
| 5A0022FAA | 22.0 | 20 | 17.0 | 15 | | | |
| 5A0027FAA | 27.0 | 25 | 22.0 | 20 | | | 7.36 |
| 5A0032FAA | 32.0 | 30 | 27.0 | 25 | | | |
| 5A0041FAA | 41.0 | 40 | 32.0 | 30 | | | 15.75 |
| 5A0052FAA | 52.0 | 50 | 41.0 | 40 | | | |
| 5A0062FAA | 62.0 | 60 | 52.0 | 50 | 20.28 | 10.98 | 10.16 |
| 5A0077FAA | 77.0 | 75 | 62.0 | 60 | | | |
| 5A0099FAA | 99.0 | 100 | 77.0 | 75 | | | |
| 5A0125AAA | 125 | 125 | 99.0 | 100 | | | |
| 5A0144AAA | 144 | 150 | 130 | 125 | 28.74 | 12.95 | 11.14 |
| 5A0192AAA | 192 | 200 | 172 | 150 | | | |
| 5A0242AAA | 242 | 250 | 200 | 200 | 37.8 | 17.95 | 12.99 |
| | | | | | 45.98 | 19.84 | 13.78 |
| | | | | | | | |