

# 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)
Feedback	8 Digital Outputs (6 transistor, 2 relay)
	Incremental
Network Communication	Absolute (Stegmann, Heidenhain EnDat, Resolver)
	Built-in: Modbus RTU, RS-422/485, 115 kbps
Speed Control Range	Optional: EtherNet/IP, DeviceNet, Modbus TCP/IP, PROFINET, PROFIBUS-DP, MECHATROLINK-II, CANopen, CC-Link
	1500:1 Closed Loop Vector (IM and PM Motors)
	200:1 Open Loop Vector (IM Motors)
Speed Control Accuracy	100:1 Open Loop Vector (PM Motors)
	≤ 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			
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			
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