

# Z1000 HVAC Drive

3 HP to 500 HP

Fan and Pump Applications



The Z1000 variable speed drive is designed for building automation applications such as fans, pumps, and cooling towers through 500 HP. The Z1000 features an easy-to-read LCD keypad that provides Hand-Off-Auto interface and a real time clock. These features make the Z1000 perfect for most building automation applications that require reliable motor control.

## Harmonic Mitigation<sup>\*1</sup>

Built-in 5% line impedance for input harmonic reduction.

## Noise Filter<sup>\*1</sup>

On board EMI/RFI filter complies with IEC 61800-3 restricted distribution for first environment.

## Serial Communications

Embedded BACnet communications (BTL Certified), along with Modbus/Memobus.

## Ratings

Plenum Rated (UL 1995). Seismic Rated (IBC 2012)<sup>\*2</sup>. OSHPD (OSP-0293-10)<sup>\*2</sup>. Made with RoHS compliant materials.

## Internal Real-Time Clock

Time and date stamping for events, along with timer controls for starting stopping and speed changes without the need for external controls.

## PI Feature

Maintains a set point for closed loop control of fans and pumps for pressure, flow or temperature regulation and eliminates the need for a closed loop output signal from a BAS. Independent PI to control an external device in the system.

## LCD Operator

5-Line 16 character alpha-numeric, easy to read and understand display, with Hand-Off-Auto functions.

## Carrier Frequency

5 kHz carrier frequency with dynamic noise control for quiet motor operation.

## Application Macros

Choose from pre-configured set up macros to match the application for quick and easy set up.

## Sealed Heatsink<sup>\*1</sup>

Allows for drive to be mounted in a NEMA 12 enclosure with heatsink external.

<sup>\*1</sup>: Optional, 300-500HP and 600V.

<sup>\*2</sup>: Not applicable to 600V Models

## Specifications

Overload Capacity: 110% for 60 seconds,

Output Frequency: 0.01 to 240 Hz

### Control Methods

- V/Hz Control
- Open Loop Vector Control for Permanent Magnet motors

### Motor Types

- Squirrel Cage Induction
- Interior Permanent Magnet (IPM)

### Enclosures

- NEMA Type 1 / IP20 : 3 - 100 HP (208V), 3 - 250 HP (480V), and 2 - 100 HP (600V)
- Open Type / IP00 : 125 - 150 HP (208V), 300 - 500 HP (480V), and 125 - 250 HP (600V)

### Ambient Operating Temperature

- 208/480 V: -10°C to 40°C (14°F to 104°F)
- 600 V: -10°C to 50°C (14°F to 122°F)

### Certification

- UL, CSA, CE, IBC<sup>\*2</sup>, RoHS, OSHPD<sup>\*2</sup>

### Standard I/O

- Seven Multi-Function Programmable Digital Inputs (24Vdc)
- Two Multi-Function Programmable Analog Inputs (0-10VDC or 4-20mA)
- One Fault Relay Output (Form C - 2 Amps at 250Vac max)
- Three Multi-Function Programmable Relay Output (Form A - 2 Amps @ 250Vac max)
- Two Multi-Function Programmable Analog Outputs (0-10Vdc or 4-20mA)
- One 24 Vdc, 150 mA Transducer or Transmitter Power Supply for customer use

### Network Communications

- Built-in Metasys, APOGEE FLN, BACnet, RS485/422 - Programmable up to 76.8 kbps
- Optional: LonWorks, EtherNet/IP



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## 208V Class

Model Number CIMR-ZU2A	Rated Output Current (Amps)	HP	Dimensions (in.)			Enclosure Type
			H	W	D	
0011FAA	10.6	3	14.1	4.9	8.6	IP20 NEMA Type 1
0017FAA	16.7	5	17.6		9.2	
0024FAA	24.2	7.5			20.1	
0031FAA	30.8	10	21.3	10.3		
0046FAA	46.2	15		30.5		
0059FAA	59.4	20	31.5		15.7	
0075FAA	74.8	25			19.7	
0088FAA	88.0	30	IP00 Open-Type			
0114FAA	114	40				
0143FAA	143	50				
0169FAA	169	60				
0211FAA	211	75				
0273FAA	273	100				
0343AAA	343	125				
0396AAA	396	150				

## 600V Class

Model Number CIMR-ZU5A	Rated Output Current (Amps)	HP	Dimensions (in.)			Enclosure Type	
			H	W	D		
0003FAA	2.7	2	11.8	5.5	5.8	IP20 NEMA Type 1	
0004FAA	3.9	3			6.5		
0006FAA	6.1	5			6.6		
0009FAA	9	7.5			13.4		7.1
0011FAA	11	10	15.8	8.7			7.8
0017FAA	17.5	15		20.3			11.0
0022FAA	22	20	28.7		13.0		11.1
0027FAA	27	25		27.8	17.8		13.0
0032FAA	32	30					
0041FAA	41	40					
0052FAA	52	50					
0062FAA	62	60					
0077FAA	77	75					
0099FAA	99	100					
0125AAA	125	125					
0145AAA	145	150					
0192AAA	192	200					
0242AAA	242	250					

## 480V Class

Model Number CIMR-ZU4A	Rated Output Current (Amps)	HP	Dimensions (in.)			Enclosure Type	
			H	W	D		
0005FAA	4.8	3	14.1	4.9	8.6	IP20 NEMA Type 1	
0008FAA	7.6	5			17.6		9.2
0011FAA	11.0	7.5					20.1
0014FAA	14.0	10	21.3	10.3			
0021FAA	21.0	15		27.6	11.8		
0027FAA	27.0	20	30.5		14.2		15.7
0034FAA	34.0	25					
0040FAA	40.0	30	41.1	16.1	18.9		
0052FAA	52.0	40					
0065FAA	65.0	50	44.9	26.4	14.6		IP00 Open-Type
0077FAA	77.0	60					
0096FAA	96.0	75					
0124FAA	124	100					
0156FAA	156	125					
0180FAA	180	150					
0240FAA	240	200					
0302FAA	302	250					
0361AAA	361	300					
0414AAA	414	350					
0480AAA	480	400					
0515AAA	515	450					
0590AAA	590	500					

## FREE Estimating Tools

- Energy Savings Predictor
- Harmonics Estimator
- Carbon Footprint Calculator



## iTunes App

Energy savings app for the iPhone and the iPod touch is available at [iTunes.com](http://iTunes.com) - search for Yaskawa.

