

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^{*1}

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

Noise Filter^{*1}

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

Seismic Rated (IBC 2012)^{*2}. OSHPD (OSP-0293-10)^{*2}. Plenum Rated (UL 1995). 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^{*1}

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

^{*1}: *Optional, 300-500HP and 600V.*

^{*2}: *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^{*2}, RoHS, OSHPD^{*2}

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 | | 9.4 |
| 0031FAA | 30.8 | 10 | 21.3 | | | | 10.3 |
| 0046FAA | 46.2 | 15 | | 30.5 | | | 13.4 |
| 0059FAA | 59.4 | 20 | | | | | |
| 0075FAA | 74.8 | 25 | | | | | |
| 0088FAA | 88.0 | 30 | | | | | |
| 0114FAA | 114 | 40 | 31.5 | 19.7 | 13.8 | | IP00 Open-Type |
| 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 | |
| 0011FAA | 11 | 10 | | | | |
| 0017FAA | 17.5 | 15 | 15.8 | 8.7 | 7.8 | |
| 0022FAA | 22 | 20 | | | | |
| 0027FAA | 27 | 25 | 20.3 | 11.0 | 10.2 | |
| 0032FAA | 32 | 30 | | | | |
| 0041FAA | 41 | 40 | 28.7 | 13.0 | 11.1 | |
| 0052FAA | 52 | 50 | | | | |
| 0062FAA | 62 | 60 | 27.8 | 17.8 | 13.0 | |
| 0077FAA | 77 | 75 | | | | |
| 0099FAA | 99 | 100 | 31.5 | 19.7 | 13.8 | IP00 Open-Type |
| 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 | | | | |
| 0011FAA | 11.0 | 7.5 | | | | |
| 0014FAA | 14.0 | 10 | 17.6 | 7.9 | 9.4 | |
| 0021FAA | 21.0 | 15 | | | | |
| 0027FAA | 27.0 | 20 | 20.1 | 10 | 10.3 | |
| 0034FAA | 34.0 | 25 | | | | |
| 0040FAA | 40.0 | 30 | 21.3 | 10 | 10.3 | |
| 0052FAA | 52.0 | 40 | | | | |
| 0065FAA | 65.0 | 50 | | | | |
| 0077FAA | 77.0 | 60 | | | | |
| 0096FAA | 96.0 | 75 | 27.6 | 11.8 | 11.4 | |
| 0124FAA | 124 | 100 | | | | |
| 0156FAA | 156 | 125 | 30.5 | 14.2 | 15.7 | |
| 0180FAA | 180 | 150 | | | | |
| 0240FAA | 240 | 200 | 41.1 | 16.1 | 18.9 | |
| 0302FAA | 302 | 250 | | | | |
| 0361AAA | 361 | 300 | 37.4 | 19.7 | 14.6 | IP00 Open-Type |
| 0414AAA | 414 | 350 | 44.9 | 26.4 | | |
| 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 - search for Yaskawa.

