



V1000

1/8 to 25 HP

NEMA 1 Current Vector Microdrive



A World of Power in the Palm of your Hand!

The V1000 is a world-class compact current vector drive that defines a new world standard. Demands for efficient production and better maintainability are on the rise, spurred by global competition. Yaskawa drives have earned a reputation for high performance, high functionality, and high quality.

In our pursuit to create drives optimized for the market, Yaskawa has created the first compact current vector microdrive equipped with the standard features shown on the right.

Specifications

| Item | Specification |
|-----------------------|--|
| Overload Capacity | 150% Overload for 60 sec. (Heavy Duty) |
| | 120% Overload for 60 sec. (Normal Duty) |
| Output Frequency | 0~400 Hz (higher frequencies available with custom software) |
| Control Methods | Open Loop Current Vector Control, V/f Control, PM Open Loop Vector Control Simple closed loop speed control available |
| Protective Design | IP20/NEMA1 |
| Braking Transistor | Standard in all models |
| Braking Torque | 20 - 40% increase with intelligent high-slip braking function |
| KEB Function | Uses mechanical energy to continue operation during momentary power failure, standard |
| Overvoltage Function | Prevention function for die-cushion in a hydraulic mechanical press and other applications |
| Maintenance | Elapsed timer assists in preventative maintenance for cooling fan, capacitors, and transistors |
| | Easily replaceable cooling fan |
| Global Certification | CE, UL, cUL, RoHS, TUV |
| Available I/O | (7) multi-function digital inputs |
| | (1) hardwire baseblock |
| | (2) multi-function analog inputs |
| | (1) multi-function pulse input |
| | (1) multi-function relay output |
| | (2) multi-function photo-coupler outputs |
| | (1) multi-function 0-10 Vdc analog output |
| | (1) multi-function pulse output |
| Network Communication | Standard: RS-422/485 MODBUS 115 kbps |
| | Optional: DeviceNet, EtherCAT, EtherNet/IP, MECHATROLINK-II, MECHATROLINK-III, Modbus TCP/IP, PROFIBUS-DP, PROFINET |
| Keypad Operator | Standard LED 5 digit display |
| | Optional multi-lingual, full-text remote LCD |

Features

- Up to 30% smaller than the competition
- Current vector control, open loop
- RoHS compliance
- On-line tuning
- Induction motor (IM) or permanent magnet motor (PM) operation
- Function Block Diagram (FBD) programming via DriveWorksEZ™
- Starting torque of 200% at 0.5 Hz
- Side-by-side installation due to patented hybrid heatsink
- Removable terminal block with parameter backup function*
- “One-touch” copy function with verify
- Super-fast 2 ms scan cycle with dual CPU
- EN954-1 Safety Cat. 3, Stop Cat. 0
- Increased vibration resistance, from 20 Hz to 50 Hz (0.65G)
- 1 in 10,000 failure rate
- Swing PWM function to decrease noise at low carrier frequencies
- Pre-maintenance function
- Modbus communication
- Cooling fan replacement without tools
- MTBF: 28 years
- Short Circuit Current Rating (SCCR): 30kA rms symmetrical
- Common programming with all other Yaskawa drives
- DriveWizard software available at no extra cost



V1000

1/8 to 25 HP

200-240V / Single-Phase

| Model Number CIMR-VU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | |
|----------------------|-----------------------------|-----|-----------------------------|-----|------------------|------|------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | W | H | D |
| BA0001FAA | 1.2 | 1/4 | 0.8 | 1/8 | 2.68 | 5.89 | 2.99 |
| BA0002FAA | 1.9 | 1/4 | 1.6 | 1/4 | | | 4.65 |
| BA0003FAA | 3.3 | 3/4 | 3.0 | 1/2 | 4.25 | 6.02 | 5.41 |
| BA0006FAA | 6.0 | 1 | 5.0 | 1 | | | 6.06 |
| BA0010FAA | 9.6 | 3 | 8.0 | 2 | 5.51 | 6.02 | 6.42 |
| BA0012FAA | 12.0 | 3 | 11.0 | 3 | | | 7.09 |
| BA0018FAA | 17.5 | 5 | 17.5 | 5 | 6.69 | | |

200-240V / Three-Phase

| Model Number CIMR-VU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | |
|----------------------|-----------------------------|-----|-----------------------------|-----|------------------|-------|------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | W | H | D |
| 2A0001FAA | 1.2 | 1/4 | 0.8 | 1/8 | 2.68 | 5.89 | 2.99 |
| 2A0002FAA | 1.9 | 1/4 | 1.6 | 1/4 | | | 4.65 |
| 2A0004FAA | 3.5 | 3/4 | 3.0 | 1/2 | 4.25 | 6.02 | 5.04 |
| 2A0006FAA | 6.0 | 1 | 5.0 | 1 | | | 5.08 |
| 2A0010FAA | 9.6 | 3 | 8.0 | 2 | 5.51 | 10.0 | 5.41 |
| 2A0012FAA | 12.0 | 3 | 11.0 | 3 | | | 5.63 |
| 2A0020FAA | 19.6 | 5 | 17.5 | 5 | 7.1 | 11.42 | 5.5 |
| 2A0030FAA | 30 | 10 | 25 | 7.5 | | | 6.4 |
| 2A0040FAA | 40 | 10 | 33 | 10 | 8.7 | 14.09 | 7.4 |
| 2A0056FAA | 56 | 20 | 47 | 15 | | | |
| 2A0069FAA | 69 | 25 | 60 | 20 | | | |

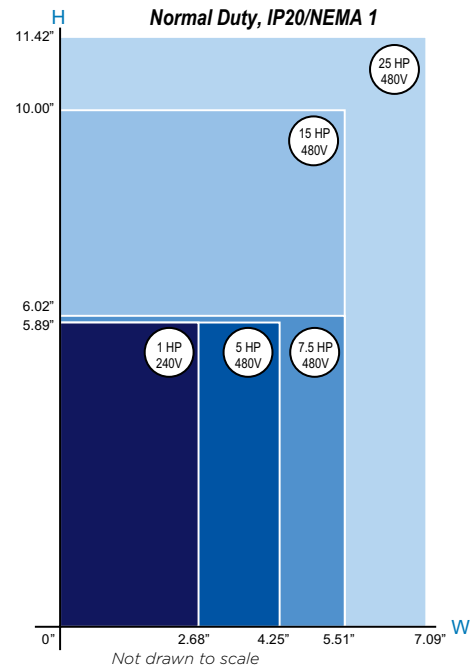
380-480V / Three-Phase

| Model Number CIMR-VU | Normal Duty | | Heavy Duty | | Dimensions (in.) | | |
|----------------------|-----------------------------|-----|-----------------------------|-----|------------------|-------|------|
| | Rated Output Current (Amps) | HP | Rated Output Current (Amps) | HP | W | H | D |
| 4A0001FAA | 1.2 | 1/2 | 1.2 | 1/2 | 4.25 | 5.89 | 3.19 |
| 4A0002FAA | 2.1 | 1 | 1.8 | 3/4 | | | 3.90 |
| 4A0004FAA | 4.1 | 2 | 3.4 | 2 | 5.51 | 10.00 | 5.41 |
| 4A0005FAA | 5.4 | 3 | 4.8 | 3 | | | 6.06 |
| 4A0007FAA | 6.9 | 4 | 5.5 | 3 | 7.09 | 11.42 | 5.63 |
| 4A0009FAA | 8.8 | 5 | 7.2 | 4 | | | 5.51 |
| 4A0011FAA | 11.1 | 7.5 | 9.2 | 5 | 7.09 | 11.42 | 5.63 |
| 4A0018FAA | 17.5 | 10 | 14.8 | 10 | | | 6.42 |
| 4A0023FAA | 23 | 15 | 18 | 10 | | | |
| 4A0031FAA | 31 | 20 | 24 | 15 | | | |
| 4A0038FAA | 38 | 25 | 31 | 20 | | | |

Major Applications



Size Comparison



Available Options

- Screwless Terminals
- Integral EMC Filter (C1, C2, C3)
- 24 VDC Control Power Unit
- 120 VAC Interface
- Network Communications: DeviceNet, EtherCAT, EtherNet/IP, MECHATROLINK-II, MECHATROLINK-III, Modbus TCP/IP, PROFIBUS-DP, PROFINET
- Operator Kits: NEMA 1 (LED or LCD) and NEMA 3R/4X (LED or LCD)
- USB Copy Unit
- DIN Rail Kit
- Input CE Filter
- Dynamic Braking Resistor (3% or 10%)
- Input Reactor (3% or 5%)