

V1000-4X

1/8 to 25 HP

NEMA 4X Current Vector Microdrive



Washdown - Dust Tight!

The V1000-4X is a version of the standard V1000 in an integral enclosure that meets NEMA type 4X/12 indoor use requirements, UL type 4X/12 standards, and the IP66 rating of IEC 60529. This enclosure provides the protection required in tough washdown or dust-tight environments, common in Food and Beverage Processing, Packaging, Metal Machining, Woodworking, Pumping, Refrigeration, and Printing. The enclosure is epoxy-coated to protect against the harmful effects of sanitizing chemicals commonly used in food industries.

200-240VAC Single Phase 50/60 Hz

| Model Number CIMR-VU <input type="checkbox"/> GAA | BA0001 | BA0002 | BA0003 | BA0006 | BA0010 | BA0012 |
|--|--------|--------|--------|--------|--------|--------|
| Motor Capacity ND | 1/4 | 1/4 | 3/4 | 1 | 3 | 3 |
| (HP) HD | 1/8 | 1/4 | 1/2 | 1 | 2 | 3 |
| Output Current A ND | 1.2 | 1.9 | 3.3 | 6.0 | 9.6 | 12.0 |
| (rms) HD | 0.8 | 1.6 | 3.0 | 5.0 | 8.0 | 11.0 |

200-240VAC Three Phase 50/60 Hz

| Model Number CIMR-VU <input type="checkbox"/> GAA | 2A0001 | 2A0002 | 2A0004 | 2A0006 | 2A0010 | 2A0012 | 2A0020 | 2A0030 | 2A0040 | 2A0056 | 2A0069 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Motor Capacity ND | 1/4 | 1/4 | 3/4 | 1 | 3 | 3 | 5 | 10 | 10 | 20 | 25 |
| (HP) HD | 1/8 | 1/4 | 1/2 | 1 | 2 | 3 | 5 | 7.5 | 10 | 15 | 20 |
| Output Current A ND | 1.2 | 1.9 | 3.5 | 6.0 | 9.6 | 12.0 | 19.6 | 30 | 40 | 56 | 69 |
| (rms) HD | 0.8 | 1.6 | 3.0 | 5.0 | 8.0 | 11.0 | 17.5 | 25 | 33 | 47 | 60 |

380-480VAC Three Phase 50/60 Hz

| Model Number CIMR-VU <input type="checkbox"/> GAA | 4A0001 | 4A0002 | 4A0004 | 4A0005 | 4A0007 | 4A0009 | 4A0011 | 4A0018 | 4A0023 | 4A0031 | 4A0038 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Motor Capacity ND | 1/2 | 1 | 2 | 3 | 4 | 5 | 7.5 | 10 | 15 | 20 | 25 |
| (HP) HD | 1/2 | 3/4 | 2 | 3 | 3 | 4 | 5 | 10 | 10 | 15 | 20 |
| Output Current A ND | 1.2 | 2.1 | 4.1 | 5.4 | 6.9 | 8.8 | 11.1 | 17.5 | 23 | 31 | 38 |
| (rms) HD | 1.2 | 1.8 | 3.4 | 4.8 | 5.5 | 7.2 | 9.2 | 14.8 | 18 | 24 | 31 |

Options*

- 120 VAC Interface
- Network Communications: Profibus-DP, DeviceNet, EtherNet/IP, Modbus TCP/IP

* Although the V1000-4X is compatible with most V1000 options, those options may not be waterproof. These options require special consideration regarding proper wiring techniques, including cable glands.

Features

- NEMA Type 4X/IP66 enclosure
- Corrosion-resistant
- Current vector control, open loop
- RoHS compliance
- On-line tuning
- Induction motor (IM) or permanent magnet synchronous motor (PM) operation
- Function Block Diagram (FBD) programming via DriveWorksEZ™
- Starting torque of 200% at 0.5 Hz
- 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
- MTBF: 28 years
- Short Circuit Current Rating (SCCR): 30kA rms symmetrical
- Common programming with all other Yaskawa drives



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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 | NEMA Type 4X/IP66 (dust/water-proof) |
| 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, EtherNet/IP, Profibus-DP, Modbus TCP/IP |
| Keypad Operator | Standard LED 5 digit display |
| | Optional multi-lingual, full-text remote LCD |

Major Applications



Food & Beverage



Packaging



Pump



Conveyor



Industrial Washer



Refrigeration

Size Comparison

