

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	5.41		
BA0006FAA	6.0	1	5.0	1	4.25	6.02	6.06
BA0010FAA	9.6	3	8.0	2			6.42
BA0012FAA	12.0	3	11.0	3	5.51	6.02	6.42
BA0018FAA	17.5	5	17.5	5	6.69		7.09

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	5.04		
2A0006FAA	6.0	1	5.0	1	4.25	6.02	5.08
2A0010FAA	9.6	3	8.0	2			5.41
2A0012FAA	12.0	3	11.0	3	5.51	10.0	5.41
2A0020FAA	19.6	5	17.5	5			5.63
2A0030FAA	30	10	25	7.5	7.1	11.42	5.5
2A0040FAA	40	10	33	10			6.4
2A0056FAA	56	20	47	15	8.7	14.09	6.4
2A0069FAA	69	25	60	20			7.4

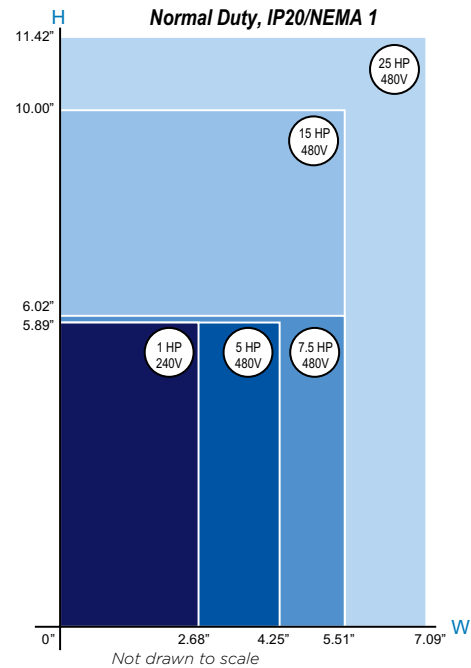
380-480V / Three-Phase

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	5.41		
4A0005FAA	5.4	3	4.8	3	4.25	6.02	6.06
4A0007FAA	6.9	4	5.5	3			5.63
4A0009FAA	8.8	5	7.2	4	5.51	10.00	5.51
4A0011FAA	11.1	7.5	9.2	5			5.63
4A0018FAA	17.5	10	14.8	10	7.09	11.42	5.51
4A0023FAA	23	15	18	10			6.42
4A0031FAA	31	20	24	15	7.09	11.42	5.63
4A0038FAA	38	25	31	20			6.42

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%)