

SYSDRIVE JV Series AC Inverters



OMRON[®]
the problem solvers[™]

Get *customized control* with the best value at *optimum size*

The SYSDRIVE JV Series of Micro Inverters delivers precise control without compromising panel space or your budget.



SHOWN AT ACTUAL SIZE - 128 mm (5.04 in.)

Easy to install and maintain

- Optional DIN-rail bracket for quick rail mounting
- Space-saving design ideal for new or retrofit panels
- Easily mounted cooling fan can be adjusted to run only when the JV is running

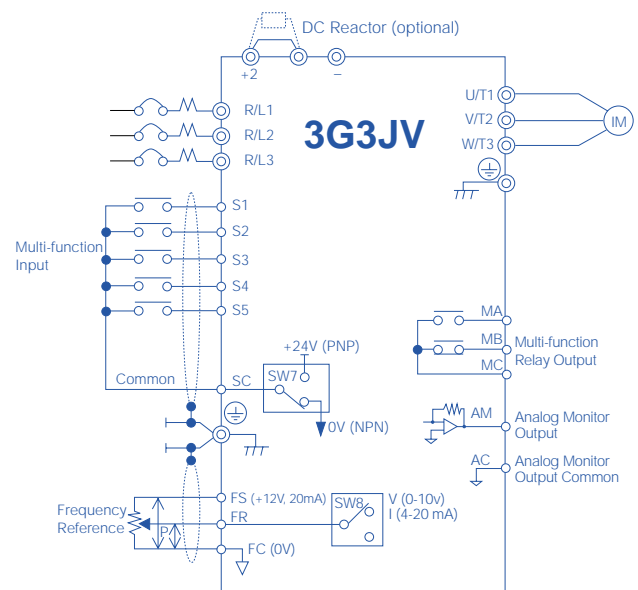
Easy to setup and program

- Integrated, face-mounted speed potentiometer for quick start up after power is applied
- Quick-start LEDs for easy programming
- Communication options include RS-232C/485
- Multi-step speed control for up to nine steps, UP/DOWN operation, and jog operation

Outstanding price/performance relationship

- Ideal for simple, low horsepower speed control applications
- Excellent starting torque of 150% at 3Hz
- Virtually immune to overload
- Consistent performance despite changing conditions
- Full-range automatic torque boost
- Slip compensation

Wiring Diagram



Note: Connect single-phase 230 VAC to terminals R/L1 and S/L2 of the 3G3JV-AB□.

Multi-function I/O support

- Supports analog inputs of 0 to 10V, 4 to 20 mA, or 0 to 20 mA
- Supports an analog monitor output and a digital output
- Accepts both PNP and NPN inputs

Protection for your machinery

- A high-speed current limiting function minimizes over-current trips (above 250% of rated current)
- Quick restarts after momentary power loss
- Stall prevention and fault retry functions
- Overtorque detection
- UL recognized electronic thermal overload
- Inrush current suppression and ground fault protection

Specifications

Voltage Class		230 VAC single-/3-phase							460 VAC 3-phase						
Part Numbers	MODEL	3-phase	A2001-A	A2002-A	A2004-A	A2007-A	A2015-A	A2022-A	A2037-A	A4002-A	A4004-A	A4007-A	A4015-A	A4022-A	A4037-A
	3G3JV-	Single-phase	AB001-A	AB002-A	AB004-A	AB007-A	AB015-A	-	-	-	-	-	-	-	-
Max. Applicable Motor Output**1 HP (kW)			0.13 (0.1)	0.25 (0.2)	0.5/0.75 (0.4)	1 (0.75)	2 (1.5)	3 (2.2)	5 (3.7)	0.5 (0.2)	1 (0.4)	1.5/2 (.75)	3 (1.5)	3.5 (2.2)	5 (3.7)
Output Characteristics	Inverter Capacity (kVA)		0.3	0.6	1.1	1.9	3.0	4.2	6.7	0.9	1.4	2.6	3.7	4.2	6.5
	Rated Output Current (A)		0.8	1.6	3	5	8	11	17.5	1.2	1.8	3.4	4.8	5.5	8.6
	Max. Output Voltage (V)		3-phase, 200 to 230 V (proportional to input voltage)							3-phase, 380 to 460 V (proportional to input voltage)					
	Max. Output Frequency (Hz)		400 Hz (Programmable)												
Power Supply	Rated Input Voltage and Frequency		3-phase, 200 to 230 V, 50/60Hz Single-phase, 200 to 240 V, 50/60Hz							3-phase, 380 to 460 V, 50/60Hz					
	Allowable Voltage Fluctuation		-15% to +10%												
	Allowable Frequency Fluctuation		±5%												
Control Characteristics	Control Method		Sine wave PWM (V/f control)												
	Frequency Control Range		0.1 to 400 Hz												
	Frequency Accuracy (Temperature Change)		Digital reference: ±0.01% 14 to 122°F (-10 to +50°C) Analog reference: ±0.5% 59 to 95°F (25±10°C)												
	Frequency Setting Resolution		Digital reference: 0.01 Hz (less than 100 Hz)/1 Hz (100 Hz or more) Analog reference: (0:06/60 Hz) equivalent to 1/1000 of max. output frequency												
	Output Frequency Resolution		0.01 Hz												
	Overload Capacity		150% rated output current for one minute												
	Frequency Reference Signal		0 to 10 VDC (20 kΩ), 4 to 20 mA (250 Ω), 0 to 20 mA (250 Ω) frequency setting volume (selectable)												
	Accel/Decel Time		0.1 to 999 sec. (accel./decel. time are independently programmed)												
	Braking Torque		Short-term average deceleration torque**2 0.13 HP, 0.25 HP: 150%; 0.5 HP, 1 HP: 100%; 2 HP: 50%; 3 HP or more: 20% Continuous regenerative torque: Approx. 20%												
	V/f Characteristics		Possible to program any V/f pattern												
Protective Functions	Motor Overload Protection		Electronic thermal overload relay												
	Instantaneous Overcurrent		Motor coasts to a stop at approximately 250% of inverter rated current												
	Overload		Motor coasts to a stop after 1 minute at 150% of inverter rated output current												
	Overvoltage		Motor coasts to a stop if DC bus voltage exceed 410 V							Motor coasts to a stop if DC bus voltage exceeds 820 V					
	Undervoltage		Stops when DC bus voltage is approximately 200 V or less (approx. 160 V or less for single-phase series)							Stops when DC bus voltage is approximately 400 V or less					
	Momentary Power Loss		Stops if power loss is 15 ms or more. By setting inverter, operation can be continued if power is restored within approximately 0.5 s												
	Cooling Fin Overheat		Protected by electronic circuit												
	Stall Prevention Level		Individual levels during acceleration/running, enable/disable provided during deceleration												
	Cooling Fan Fault		Protected by electronic circuit (fan-stalling detection)												
	Ground Fault		Protected by electronic circuit (rated output current level)												
Power Charge Indication		RUN lamp stays ON or digital operator LED stays ON. (Charge LED is provided for 460 V) ON until the DC bus voltage becomes 50 V or less													
Cooling Method		Cooling fan is provided for: 230 V, 1 HP (3-phase) 460 V, 2 HP (single-phase), other models are self-cooling													
Enclosure		Open chassis IP20													
Environmental Conditions	Ambient Temperature		Open chassis: 14 to 122°F (-10 to +50°C) (not frozen)												
	Humidity		95% RH or less (non-condensing)												
	Storage Temperature**3		-4 to 140°F (-20 to +60°C)												
	Location		Indoor (free from corrosive gases or dust)												
	Elevation		3280 ft (1000 m) or less												
	Vibration		Up to 9.8 m/S ² (1 G) at less than 20 Hz, up to 2 m/S ² (0.2 G) at less than 20 to 50 Hz												
Wiring Distance		328 ft (100 m) or less between Inverter and Motor													
Other Functions	Input Signals	Multi-function Input	Four of the following input signals are selectable: Reverse run (3-wire sequence), fault reset, external fault (NO/NC contact input), multi-step speed operation, Jog command, accel/decel time select, external baseblock (NO/NC contact input), speed search command, accel/decel hold command, LOCAL/REMOTE selection, communication/control circuit terminal selection, emergency stop fault, emergency stop alarm.												
	Output Signals	Multi-function Output	Following output signals are selectable (1 NO/NC contact output): Fault, running, zero speed, at frequency, frequency detection (output frequency ≤ or ≥ set value), during overtorque detection, minor error, during baseblock, operation mode, inverter run ready, during fault retry, during under-voltage, during speed search, data output through communication.												
		Standard Functions	Full-range automatic torque boost, slip compensation, DC injection braking current/time at start/stop frequency reference bias/gain, frequency reference with built-in potentiometer, MEMOBUS communications (RS-485/422, max. 19.2 K bps) capable with optional unit.												

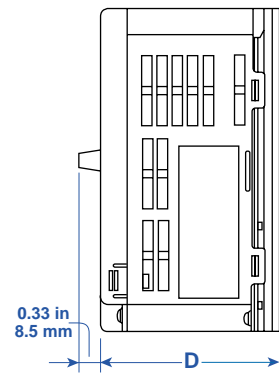
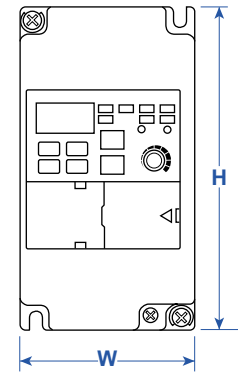
*1: Based on a standard 4-pole motor for max. applicable motor output. Select the inverter model within the allowable motor rated current

*2: Shows deceleration torque for uncoupled motor decelerating from 60 Hz with the shortest possible deceleration time

*3: Temperature during shipping (for short period)

Dimensions

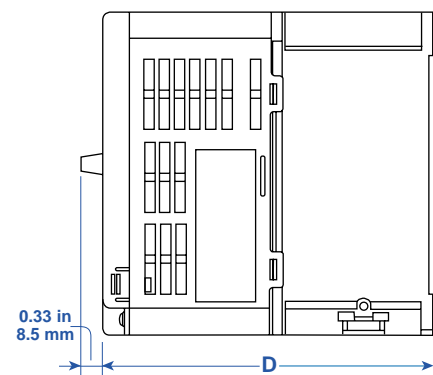
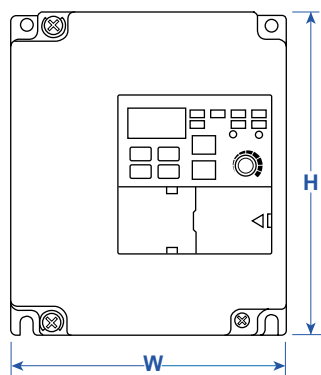
Rated Voltage	Rated Output Current (A)	Nominal HP *	Part Number	Overall Dimensions (HXWXD) inches (mm)	Approx. Weight lb (kg)
230 VAC Single-Phase	0.8	0.13	3G3JV-AB001-A	5.04x2.68x2.76 (128x68x70)	1.1 (0.5)
	1.6	0.25	3G3JV-AB002-A	5.04x2.68x2.76 (128x68x70)	1.1 (0.5)
	3	0.75	3G3JV-AB004-A	5.04x2.68x4.41 (128x68x112)	1.98 (0.9)
	5	1	3G3JV-AB007-A	5.04x4.25x5.08 (128x108x129)	3.31 (1.5)
	8	2	3G3JV-AB015-A	5.04x4.25x6.06 (128x108x154)	3.31 (1.5)
230 VAC 3-Phase	0.8	0.13	3G3JV-A2001-A	5.04x2.68x2.76 (128x68x70)	1.1 (0.5)
	1.6	0.25	3G3JV-A2002-A	5.04x2.68x2.76 (128x68x70)	1.1 (0.5)
	3	0.75	3G3JV-A2004-A	5.04x2.68x4.16 (128x68x102)	1.76 (0.8)
	5	1	3G3JV-A2007-A	5.04x2.68x4.8 (128x68x122)	1.98 (0.9)
	8	2	3G3JV-A2015-A	5.04x4.25x5.08 (128x108x129)	2.83 (1.3)
	11	3	3G3JV-A2022-A	5.04x4.25x6.06 (128x108x154)	3.31 (1.5)
	17.5	5	3G3JV-A2037-A	5.04x5.04x6.34 (128x128x161)	4.63 (2.1)
460 VAC 3-Phase	1.2	0.5	3G3JV-A4002-A	5.04x2.68x3.19 (128x108x81)	2.20 (1.0)
	1.8	1	3G3JV-A4004-A	5.04x4.25x3.90 (128x108x99)	2.42 (1.1)
	3.4	2	3G3JV-A4007-A	5.04x4.25x5.08 (128x108x129)	3.31 (1.5)
	4.8	3	3G3JV-A4015-A	5.04x4.25x6.06 (128x108x154)	3.31 (1.5)
	5.5	3.5	3G3JV-A4022-A	5.04x4.25x6.06 (128x108x154)	3.31 (1.5)
	8.6	5	3G3JV-A4037-A	5.04x5.51x6.34 (128x140x161)	6.62 (2.1)



*Nominal HP ratings based on standard 1800 RPM motor amperage.

Select the inverter model within the allowable motor rated current.

Use of high efficiency motors and motors of different base speeds may increase/decrease the applicable motor HP.



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