

Inverters

3G3JV

Quick Link
A031

Compact AC Inverter for Simple Motor Control

- Easy-to-use digital operator controls all parameter selections and settings
- Quick Start LEDs for quick setup and troubleshooting
- Fine-tune speed using the potentiometer on the digital operator
- Ideal for simple, small motor control applications — uses V/Hz control method
- Programmable output frequency, 400 Hz maximum
- Modbus serial communications
- Compact size: 5.04 H x 5.04 W x 6.34 D inches max. (230 VAC)
 - 5.04 H x 5.51 W x 6.34 D inches max. (460 VAC)



Specifications

Power supply		
Rated input voltage & frequency	3-phase, 200 to 230 V, 50/60 Hz Single-phase, 200 to 240 V, 50/60 Hz	3-phase, 380 to 460 V, 50/60 Hz
Allowable voltage fluctuation	-15% to +10%	
Allowable frequency fluctuation	±5%	
Control characteristics		
Control method	Sine Wave PWM (V/f control), possible to program any V/f pattern	
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: 0.1 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 setting 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	0.1 to 999 sec. (accel./decel. time are independently programmed)	
Braking torque	Short-term average deceleration torque 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%	
Protective functions		
Motor overload protection	UL-recognized electronic thermal overload relay	
Instantaneous overcurrent	Motor coasts to a stop at approximately 250% rated output current	
Overload	Motor coasts to a stop after one minute at 150% rated output current Motor coasts to a stop at approximately 200% 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 method	Cooling fan is provided for: 230 V, 1 HP or larger inverters (3-phase); 460 V, 2 HP or larger inverters (single-phase); other models are self-cooling	
Cooling fin overheat	Protected by electronic circuit	

Specifications (Continued)

Cooling fan fault	Protected by electronic circuit (fan-stalling detection)
Stall prevention	Individual levels during acceleration/running, enable/disable provided during deceleration
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
Environmental conditions	
Enclosure rating	Open chassis: IP20
Location	Indoor (free from corrosive gases and dust)
Ambient temperature	Open chassis: 14 to 122°F (-10 to +50°C), not frozen
Storage temperature	-4 to 140°F (-20 to 60°C)
Humidity	95% RH (Non-condensing)
Elevation	1,000 m (3,281 feet) or below
Wiring distance	328 ft (100 m) or less between inverter and motor
Vibration	9.8 m/s ² (1G) less than 20 Hz, up to 1.96 m/s ² (0.2G) at 20 to 50 Hz
Other functions	
Multi-function inputs	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.
Multi-function outputs	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.

3G3JV Inverter Ordering Information

Description	Enclosure	Rating			Model
		HP	Voltage	Phase	
Compact inverter with V/Hz control	NEMA 1	1/8	240	1	3G3JV-AB001-A
		1/4	240	1	3G3JV-AB002-A
		3/4	240	1	3G3JV-AB004-A
		1	240	1	3G3JV-AB007-A
		2	240	1	3G3JV-AB015-A
		1/8	230	3	3G3JV-A2001-A
		1/4	230	3	3G3JV-A2002-A
		3/4	230	3	3G3JV-A2004-A
		1	230	3	3G3JV-A2007-A
		2	230	3	3G3JV-A2015-A
	3	230	3	3G3JV-A2022-A	
	5	230	3	3G3JV-A2037-A	
	Open chassis	1/2	460	3	3G3JV-A4002-A
		1	460	3	3G3JV-A4004-A
		2	460	3	3G3JV-A4007-A
		3	460	3	3G3JV-A4015-A
		3	460	3	3G3JV-A4022-A
		5	460	3	3G3JV-A4037-A

Manuals

Item	Description	Model
User's manual	3G3JV User's manual	I528-E3-1

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.



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