

ActionMaster



AC DRIVES VARIABLE FREQUENCY

SERIES G5

0.5 to 5 HP
230v/460v

Performance Benefits

Cleveland Motion Controls ActionMaster Series G5 AC Drives are designed to meet worldwide drive performance requirements and conform to global standards.

ActionMaster Series G5 Drives are variable frequency AC drives utilizing new Space Vector PWM (pulse-width-modulation) technology, providing a higher level of performance, including low total harmonic distortion, low current ripple, low torque ripple, low motor temperature rise, and better voltage utilization. Customer results include better efficiency (low iron loss in motor), low motor heat (for extended motor life), stable and smooth operation, and high and stable torque.

CMC® ActionMaster Series G5 Drives are compact in size and ideal for a variety of cost-effective applications. Each drive includes a built-in PI Controller for better process control of flow, temperature, pressure, etc. Series G5 Drives provide optimum acceleration and deceleration and easily complement outside controllers or PLCs.

Applications

- Food processing machinery
- Electric shutter
- Running machinery
- Tooling machinery
- Textile machinery
- Material handling machinery
- Elevator door
- Converting machinery
- Fan
- Grinder
- Dryer
- Centrifuge
- Pump

Standard Design Features

CMC ActionMaster Series G5 AC Drives are readily available with numerous standard features:

- kW / Voltage Ratings (VAC):
 - 0.37-1.5(0.5-2HP)/200-230, 1 phase
 - 0.37-3.7(0.5-5HP)/200-230, 3 phase
 - 0.37-3.7(0.5-5HP)/380-460, 3 phase
- Enclosure: IP00 ~ IP20
- Inverter Type: PWM with IGBT
- Control Method: Volts / Hertz with Space Vector Technology
- Built-in RS-485 Built-in ModBus-RTU Built-in PID control
- Removable keypad (Able to read & write parameter)
- 150% torque at 0.5Hz
- Trip-free operation algorithm
- 8 preset speeds
- 3 jump(skip) frequencies
- 3 Multi-fuctional inputs
- 1 Multi-fuctional output
- Analog output (0~12V)
- PNP and NPN dual directional signals
- Speed search
- 3 wire operation
- 1 to 10 kHz carrier frequency
- Built-in Braking transistor
- Manual/Auto torque boost


Options

- Cable for Remote Keypad Operations(2, 3 and 5 meters)
- DIN-Rail base for easy installation

- New Space Vector PWM Technology delivers:
 - Better efficiency
 - Low motor heat
 - Higher voltage utilization
 - Stable & smooth operation
 - High & stable torque
- Accommodates numerous industrial applications. Ideal for small & cost-effective configurations.
- Built-In PI Controller provides valuable process control–flow, temperature, pressure, etc.
- Flexible Windows-based monitoring software with built-in RS485 and ModBus-RTU interfaces.
- “Trip Free” functionality provides maximum torque with optimum acceleration and deceleration.
- Delivers 150% torque at 0.5 Hz.
- Complements PLCs or outside controllers with both PNP and NPN switchable dual signals.
- Conformance to Global Standards:
 - UL and cUL listed for North America
 - CE for Europe
 - ISO9001 and ISO14000Quality Process Controlled

AC DRIVES

VARIABLE FREQUENCY

SERIES G5 
0.5 to 5 HP
230v/460v

ActionMaster

COMMON SPECIFICATIONS

Control	Control Method	V/F Control	
	Frequency Setting Method	Digital reference: 0.01 Hz (below 100 Hz), 0.1 Hz (over 100 Hz) Analog reference: 0.03 Hz / 50 Hz	
	Frequency Accuracy	Digital: 0.01% of max. output frequency Analog: 0.1% of max. output frequency	
	V/F Ratio	Linear, Square pattern, User V/F	
	Overload Capacity	150% of rated current for 1 minute, 200% of rated current for 0.5 second (characteristic is inversely proportional to time)	
	Torque Boost	Manual torque boost (0 ~ 15%), Auto torque boost	
Operation	Input Signal	Operation Method	Keypad / terminal / communication operation
		Frequency Setting	Analog: 0 ~ 10V / 4 ~ 20mA Digital: Keypad
		Start Signal	Forward / Reverse
		Multi-step	Up to 8 speeds can be set (use multi-function terminal)
		Multi-step accel / decel time	0 ~ 6,000 sec, up to 8 types can be set and selected for each setting (use the multi-function terminal)
		Accel / Decel pattern: linear pattern, U pattern, S pattern, Optimum, Minimum	
	Output Signal	Emergency stop	Interrupts the output of the drive
		Jog	Jog Operation
		Fault Reset	Resets fault when protective function is active
		Operation Status	Frequency level detection, Overload alarm, stalling, over voltage, under voltage, drive overheating, running, stop, constant speed, speed searching
		Fault Output Indicator	Contact output (30 A, 30 C, 30 B) - AC 250V 1A, DC 30V 1A Choose 1 from output frequency, output current, output voltage, DC voltage (Output pulse: 500 Hz, Output voltage: 0 ~ 10V)
Operation Function		DC braking, frequency limit, frequency jump, second function, slip compensation, reverse rotation prevention, auto restart, PID control	
Protective Function	Drive Trip	Over voltage, under voltage, overcurrent, drive overheating, motor overheating, input / output phase loss, input / output mis-wiring, overload protection, communication error, loss of speed command, hardware fault	
	Inverter Alarm	Stall prevention, overload alarm	
	Momentary Power Loss	Less than 15 msec: continuous operation, more than 15 msec: auto restart possible	
Display Keypad	Operation Information	Output frequency, output current, output voltage, frequency value setting, operating speed, DC voltage	
	Trip Information	Indicates the fault when the protection function activates, memorizes up to 5 faults	
Environment	Ambient Temperature	-10°C ~ 40°C	
	Storage Temperature	-20°C ~ 65°C	
	Ambient Humidity	90% RH max. (Non-condensing)	
	Altitude - Vibration	Below 1,000 m- below 5.9 m/sec ² (=0.6g)	
	Application site	No corrosive gas, combustible gas, oil mist, or dust	

DRIVE RATING SELECTION GUIDE

Application Motor		200 ~ 230V	Application Motor		380 ~ 460V
kW	HP	3 Phase	kW	HP	3 Phase
0.37	0.5	ACM-00.4G5-2*	0.37	0.5	ACM-00.4G5-4
0.75	1	ACM-00.8G5-2*	0.75	1	ACM-00.8G5-4
1.5	2	ACM-01.5G5-2*	1.5	2	ACM-01.5G5-4
2.2	3	ACM-02.2G5-2	2.2	3	ACM-02.2G5-4
3.7	5	ACM-03.7G5-2	3.7	5	ACM-03.7G5-4

* can be connected with 1 phase input

INDUSTRIAL PRODUCTS & SYSTEMS

7550 Hub Parkway
 Cleveland, Oh 44125-5794
 Tel: 216-524-8800 or (800) 321-8072
 Fax: 216-642-2100
 Visit Us: www.CMCcontrols.com

