MA7200

Sensorless Vector AC Inverter

TECO Westinghouse

ANAB ACCREDITED

ISO 9001:2000 SGS

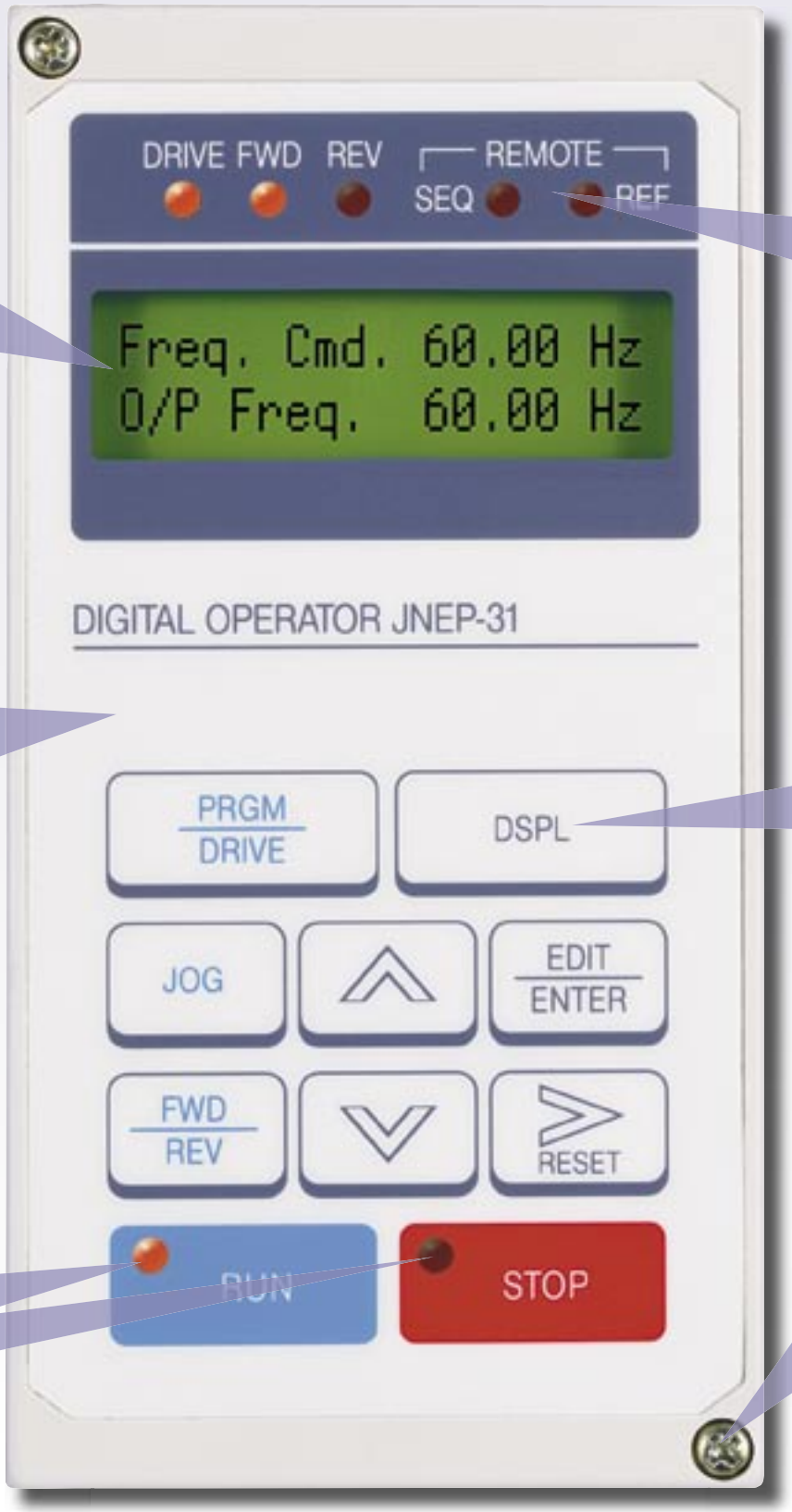
Features and Benefits

- **Sensorless Vector –** The MA7200 has precise speed and torque control for the most demanding system performance and simple set-up through an auto-tuning function. It can be operated in sensorless vector or V/Hz mode to match the user's specific application.
- **Graphical LCD Operator -** The MA7200 offers easily read parameters and status in plain English text on a 2 line by 20 character lighted LCD, eliminating the need to memorize parameters - the user can set up the drive without an instruction manual! Straight forward monitoring of drive status through the operator is also available, which simplifies set-up and troubleshooting.
- **Parameter Copy -** No extra hardware is required on this drive. The copy feature is included as standard in the keypad. Simple cloning of the drive program is available, making it perfect for the OEM.
- **Flexible Input/Output Options -** The MA7200 offers Sink or Source Selectable Digital Inputs - 4 Preset, 4 User Programmable, 16 Preset Speeds, 2 Analog Inputs, 2 Analog Outputs, 3 Multi-Function Output Contacts - 1 Form C Relay, 1 Form A Relay, and 1 Open Collector Output.
- **Built-in PID Control -** The MA7200 has scalable PID feedback for accurate system regulation.
- **Powerful Programming Options -** The MA7200 allows the user to set up basic parameters for simple tasks or take advantage of advanced features for demanding applications.
- **Simple PLC -** The MA7200 can set custom run patterns for multiple machine cycles.
- **Communications -** The MA7200 has Modbus RTU as a standard. The user can control, program and monitor the drive(s) over an Industrial Network. Other protocols are also available.
- **PG Interface Built-in -** The MA7200 has Speed Control Accuracy of 0.1% .
- **User Selectable V/F Curves + S Curve area available.**
- **Motor/Drive Systems -** Pair the MA7200 with a TECO-Westinghouse motor for single source reliability.

Aggregate / Conveyor Application

Oil Pump Application

Digital Operator



Easy to read 20 x 2 line display

LED'S indicate mode sequence

Dual function keypad and parameter copy unit

Extra large keys for entering and editing drive parameters

LED pilot lighted drive start and stop function

Removable for remote mounting

Specifications

Output Characteristics	MA7200 NEMA 1	208 - 230V 1 - 40 HP Constant Torque 380 - 460V 1 - 75 HP Constant Torque
	Maximum Voltage	230 Volt 3-Phase, 208 - 230V 460 Volt 3-Phase, 380 - 460V
	Rated Output Frequency	0 - 400Hz
	Output Frequency Resolution	0.01Hz
Power Supply	Rated Input Voltage & Frequency	230 Volt 1 - 3 HP 1/3-Phase, 208 - 230V, 50/60Hz 5 - 40 HP 3-Phase, 208 - 230V, 50/60Hz 460 Volt 1 - 75 HP 3-Phase, 380 - 460V, 50/60Hz
	Voltage Fluctuation	10%, -15%
	Frequency Fluctuation	+/-5%
Control Characteristics	Control Mode	Selectable Sensorless Vector, V/Hz, V/Hz with PG Feedback
	Operation Mode	English LCD Display
	Carrier Frequency	Programmable: 2.5 - 15kHz
	Frequency Control Range	0.5 - 400Hz
	Frequency Accuracy	Digital Command: +/-0.01% (+14°F - 104°F) Analog Command: +/-1% (77°F+/-14°F)
	Speed Control Accuracy	+/-0.5% (Sensorless Vector) +/-0.1% (V/Hz with PG Feedback)
	Frequency Command Resolution	Digital Command: 0.01Hz Analog Command: 0.06/60Hz
	Overload Capacity	Constant Torque: 150% Rated Output Current for 60 Sec. Variable Torque: 110% Rated Output Current for 60 Sec.
	Frequency Setting Signal	0 - 10VDC, 4 - 20mA
	Accel/Decel Time	0.0 - 6000 Sec. (Independent Accel/Decel Time Settings)
	Number of V/F Patterns	15 Preset V/F Patterns, 1 Custom V/F Pattern
	Braking Torque	Approximately 20%
Protective Functions	Stall Prevention	Stall Prevention at Acceleration/Deceleration and Constant Speed Operation
	Instantaneous Overcurrent	200% of Rated Output Current
	Motor Overload Protection	Electronic Overload Protection
	Overvoltage (230V Series) (460V Series)	Motor Coasts to a Stop if Inverter Bus Voltage exceeds 410VDC Motor Coasts to a Stop if Inverter Bus Voltage exceeds 820VDC
	Undervoltage (230V Series) (460V Series)	Motor Coasts to a Stop if Inverter Bus Voltage drops to 200VDC or below Motor Coasts to a Stop if Inverter Bus Voltage drops to 400VDC or below
	Momentary Power Loss	Motor Coasts to a Stop after Momentary Power Loss lasting over 15ms
	Overheat Protection	Protected by Thermistor
	Ground Fault	Protected by DC Current Sensor
	Power Charge Indication (LED)	Charge Lamp stays ON until Bus Voltage drops below 50VDC

Specifications

Control Connections	Control Power	24VDC
	Speed Reference Supply	12VDC, 20mA
	Analog Input	0 - 10VDC, Input Impedance 20k Ohms 4 - 20mA, Input Impedance 250 Ohms External Speed Potentiometer, 0 - 10VDC, 2k Ohms Minimum, .5 Watt
	Auxiliary Analog Input	1 Programmable, 0 - 10VDC, Input Impedance 20k Ohms
	Analog Outputs	2 Programmable, 0 - 10VDC
	Digital Inputs	8 Digital Inputs (4 Programmable): Positive or Negative Control Logic
	Digital Outputs	2 Programmable Form C Relays, 250VAC, 1 Amp or 30VDC, 1 Amp Programmable Open Collector, 48VDC, 50mA
	Serial Communications	RS-485 Port, MODBUS Protocol
Environmental Conditions	Location	Indoor (Protected from Dust and Corrosive Gases)
	Ambient Temperature	+14 to 104°F (Not Frozen)
	Storage Temperature	-4 to 140°F
	Humidity	<90% RH (Non-Condensing)
	Vibration	<1000m, 5.9m/s2 (0.6G)
Certifications/ Compliance	UL, cUL, CE	
	EN50081-2 (Requires external EMI/RFI Filter)	
	EN50082-2	

A Complete Line of Accessories for the MA700.
Noise filter, AC Reactor, PROFIBUS Board, Breaking Resistor, Analog Operator, Keypad Extension Cable.

Dimensions

230V 1/3-Phase

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)
			HEIGHT	WIDTH	DEPTH	
MA7200-2001-N1	1	4.8	8.54	5.20	5.65	6
MA7200-2002-N1	2	6.4	8.54	5.20	5.65	6
MA7200-2003-N1	3	9.6	11.00	5.51	6.95	9

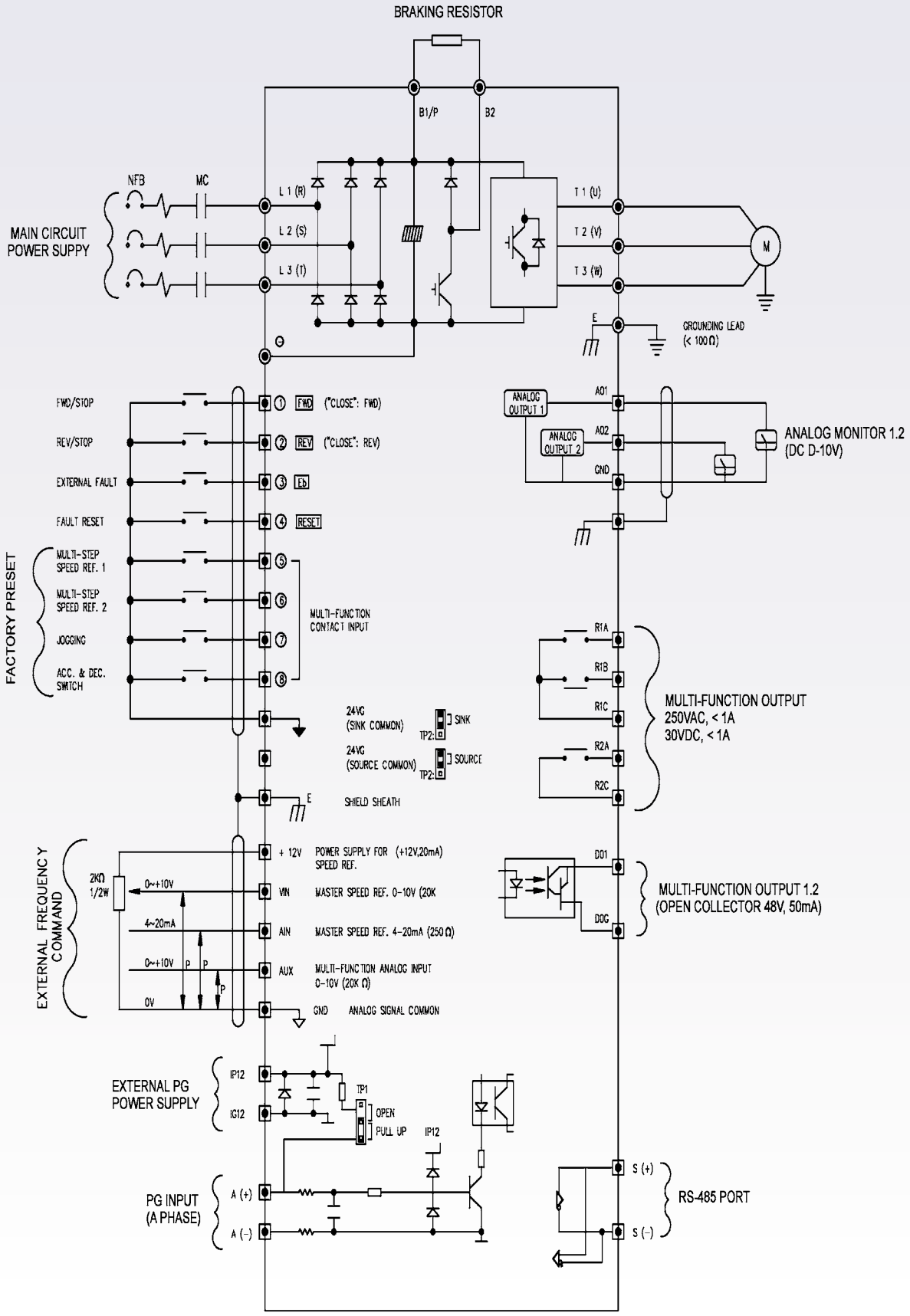
230V 3-Phase

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)
			HEIGHT	WIDTH	DEPTH	
MA7200-2005-N1	5	17.5	11.00	5.51	6.95	9
MA7200-2007-N1	7.5	24	11.81	8.32	8.46	13
MA7200-2010-N1	10	32	11.81	8.32	8.46	13
MA7200-2015-N1	15	48	14.17	10.43	8.86	27
MA7200-2020-N1	20	64	14.17	10.43	8.86	27
MA7200-2025-N1	25	80	14.17	10.43	8.86	29
MA7200-2030-N1	30	96	25.45	10.60	10.91	67
MA7200-2040-N1	40	130	25.45	10.60	10.91	67

460V 3-Phase

MODEL NO.	HP CONSTANT TORQUE	DRIVE AMPS CONSTANT TORQUE	DIMENSIONS (Inches)			APPROX. WT. (lbs.)
			HEIGHT	WIDTH	DEPTH	
MA7200-4001-N1	1	2.6	8.54	5.20	5.65	6
MA7200-4002-N1	2	4	8.54	5.20	5.65	6
MA7200-4003-N1	3	4.8	11.00	5.51	6.95	9
MA7200-4005-N1	5	8.7	11.00	5.51	6.95	9
MA7200-4007-N1	7.5	12	11.81	8.32	8.46	13
MA7200-4010-N1	10	15	11.81	8.32	8.46	13
MA7200-4015-N1	15	24	14.17	8.32	8.86	27
MA7200-4020-N1	20	32	14.17	10.43	8.86	27
MA7200-4025-N1	25	40	14.17	10.43	8.86	29
MA7200-4030-N1	30	48	14.17	10.43	8.86	29
MA7200-4040-N1	40	64	25.45	10.60	10.91	67
MA7200-4050-N1	50	80	25.45	10.60	10.91	67
MA7200-4060-N1	60	96	29.39	12.13	11.11	102
MA7200-4075-N1	75	128	29.39	12.13	11.11	102

Standard Connection Diagram



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