

DRIVE FWD REV

REMOTE

TECO  **Westinghouse**

SENSORLESS VECTOR AC INVERTER

TECO
MA7200

DRIVE FWD REV
SEQ REF

Freq. Cmd. 60.00 Hz
D/P Freq. 60.00 Hz

DIGITAL OPERATOR JNEP-31

PRGM
DRIVE

DSPL

JOG

EDIT
ENTER

FWD
REV

RESET

RUN

STOP

FEATURES &

MA7200 Features

Sensorless Vector – Precise speed and torque control for the most demanding system performance. Simple set-up through auto-tuning function. The MA7200 can be operated in sensorless vector or V/Hz mode to match your specific application.

Easy To Use

Graphical LCD Operator – Easily read parameters and status in plain English text on a 2 line by 20 character lighted LCD. No need to memorize parameters – set up the drive without an instruction manual! Straight forward monitoring of drive status through the operator – simplifies set-up and troubleshooting.

*OEMS
Take Note*

Parameter Copy – No extra hardware required. Copy feature is included as standard in the keypad. Simple cloning of drive program, perfect for the OEM.

Flexible Input/Output Options – 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, 1 Open Collector Output.

Process Controls

Built-in PID Control – Scalable PID feedback for accurate system regulation.

Powerful Programming Options – Set up basic parameters for simple tasks or take advantage of advanced features for demanding applications.

Automation

Simple PLC – Set custom run patterns for multiple machine cycles.

Communications – Modbus RTU Standard. Control, program and monitor the drive(s) over an Industrial Network. Other protocols available.

PG Interface Built-in – Speed Control Accuracy of 0.1% .

User Selectable V/F Curves + S Curve.

Systems

Motor/Drive Systems – Pair the MA7200 with a TECO-Westinghouse motor for single source responsibility.

BENEFITS

1. Easy to read
20 x 2 line
display

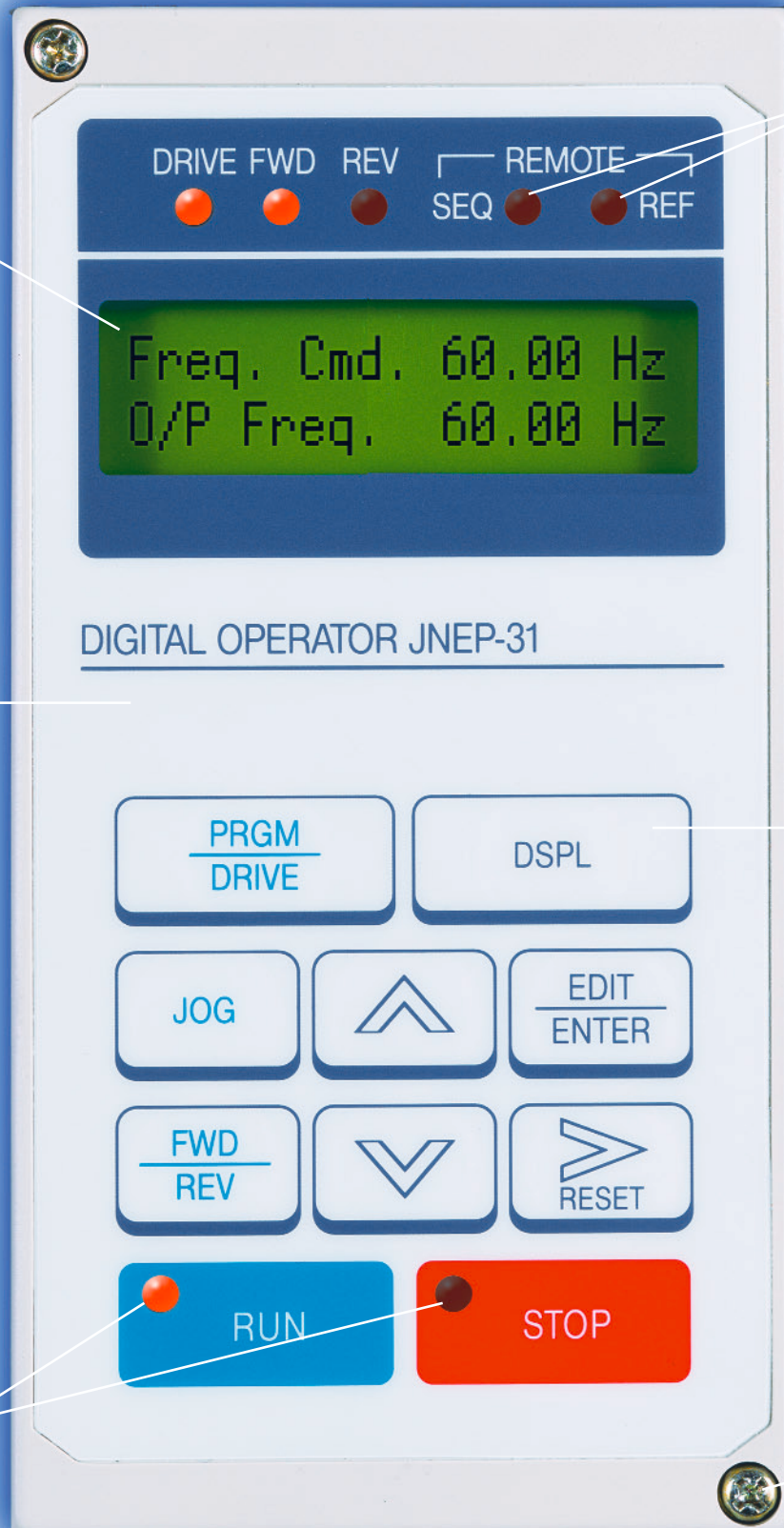
2. LED'S
indicate mode
sequence

3. Dual function
keypad and
parameter
copy unit

4. Extra large
keys for
entering and
editing drive
parameters

5. LED pilot
lighted drive
start and stop
function

6. Removable for
remote
mounting



SPECIF

IEP-31

DSPL

Output Characteristics

MA7200 NEMA 1	208 - 230V	1 - 40HP Constant Torque
	380 - 460V	1 - 75HP 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 - 3HP	1/3-Phase, 208 - 230V, 50/60Hz
		5 - 40HP	3-Phase, 208 - 230V, 50/60Hz
	460 Volt	1 - 75HP	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 Seconds
	Variable Torque: 110% Rated Output Current for 60 Seconds
Frequency Setting Signal	0 - 10VDC, 4 - 20mA
Accel/Decel Time	0.0 - 6000 Seconds (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)	Motor Coasts to a Stop if Inverter Bus Voltage exceeds 410VDC
(460V Series)	Motor Coasts to a Stop if Inverter Bus Voltage exceeds 820VDC
Undervoltage (230V Series)	Motor Coasts to a Stop if Inverter Bus Voltage drops to 200VDC or below
(460V Series)	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

ICATIONS

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/s ² (0.6G)

Certifications / Compliance	UL, cUL, CE	
	EN50081-2 (Requires external EMI/RFI Filter)	
	EN50082-2	



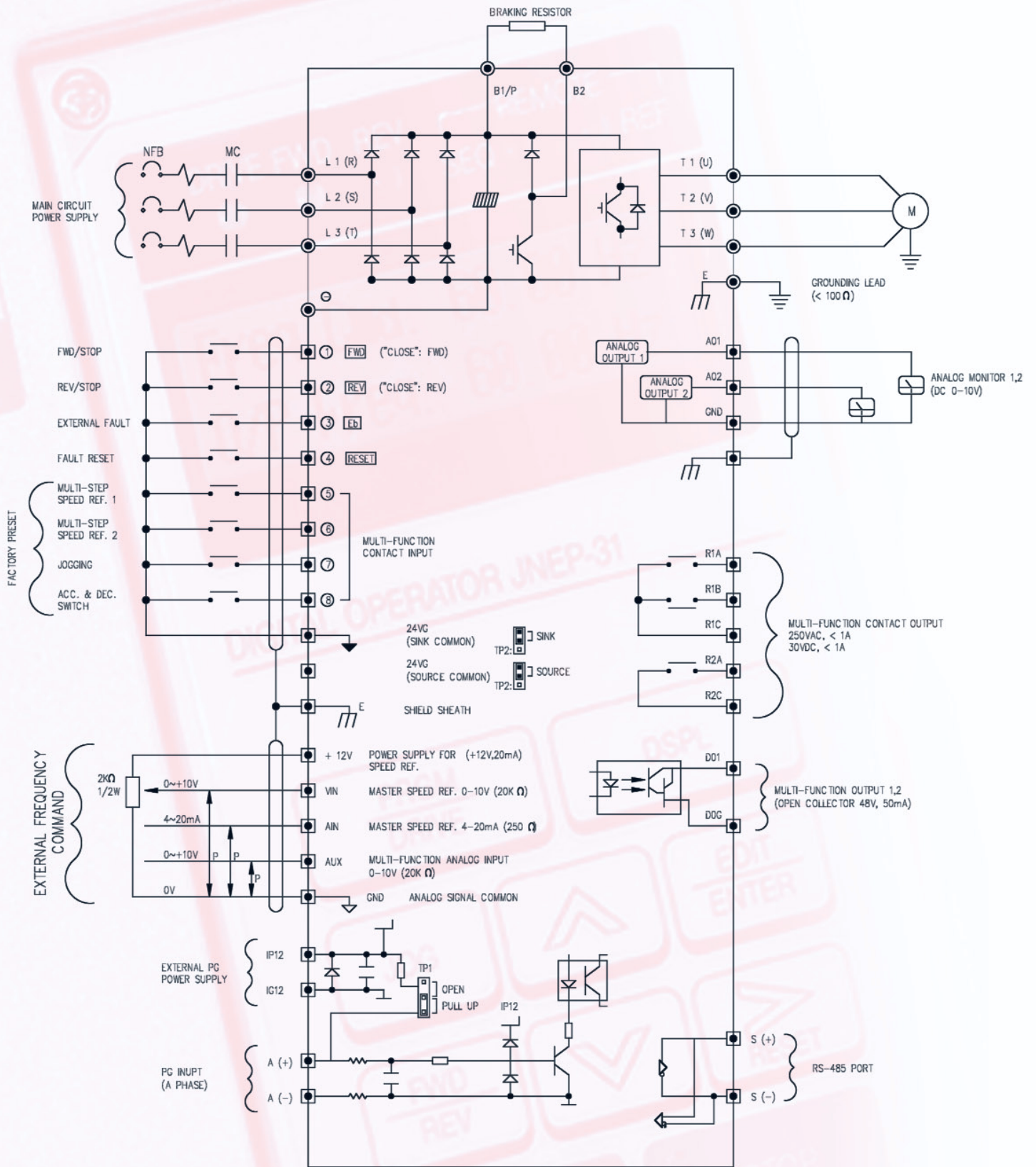
A Complete Line of Accessories for the MA7200

Noise Filter, AC Reactor, PROFIBUS Board, Braking Resistor, Analog Operator, Keypad Extension Cable.

DIMENSIONS

Voltage	Model Number	HP		Drive Amps		Dimensions (Inches)			Weight (lbs.)
		Constant Torque	Constant Torque	Constant Torque	Constant Torque	Height	Width	Depth	
230V 1 / 3-Phase	MA7200-2001-N1	1	4.8			8.54	5.20	5.65	6
	MA7200-2002-N1	2	6.4						
	MA7200-2003-N1	3	9.6			11.00	5.51	6.95	9
	MA7200-2005-N1	5	17.5						
230V 3-Phase	MA7200-2007-N1	7.5	24			11.81	8.32	8.46	13
	MA7200-2010-N1	10	32						
	MA7200-2015-N1	15	48						27
	MA7200-2020-N1	20	64			14.17	10.43	8.86	
	MA7200-2025-N1	25	80						29
	MA7200-2030-N1	30	96			25.45	10.60	10.91	67
	MA7200-2040-N1	40	130						
	MA7200-4001-N1	1	2.6			8.54	5.20	5.65	6
	MA7200-4002-N1	2	4						
	MA7200-4003-N1	3	4.8			11.00	5.51	6.95	9
460V 3-Phase	MA7200-4005-N1	5	8.7						
	MA7200-4007-N1	7.5	12			11.81	8.32	8.46	13
	MA7200-4010-N1	10	15						
	MA7200-4015-N1	15	24						27
	MA7200-4020-N1	20	32			14.17	10.43	8.86	
	MA7200-4025-N1	25	40						29
	MA7200-4030-N1	30	48			25.45	10.60	10.91	67
	MA7200-4040-N1	40	64						
	MA7200-4050-N1	50	80			29.39	12.13	11.11	102
	MA7200-4060-N1	60	96						
	MA7200-4075-N1	75	128						

MA7200 VFD CONNECTION DIAGRAM



CONNECTION DIAGRAM

DRIVE FWD REV REMOTE

TECO-WESTINGHOUSE MOTOR COMPANY

YOUR SOURCE FOR AC INVERTERS FROM 1/4 HP TO 500 HP



TECO  **Westinghouse**

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