



Inverter/Vector Motors & Controls

BALDOR • RELIANCE®

H2 Inverter/ Encoderless Vector



3/4 thru 3 Hp	115/230 VAC	1 Phase - 50/60 Hz
1 thru 75 Hp	230 VAC	3 Phase - 50/60 Hz
1 thru 150 Hp	460 VAC	3 Phase - 50/60 Hz
1 thru 150 Hp	575 VAC	3 Phase - 60 Hz

Applications: Constant torque, variable torque or constant horsepower applications. New installations, replacements and original equipment manufacturers (OEM).

Features: NEMA 1 enclosure as standard. Output frequency 0 to 500 Hz with peak overload capacity of 175%. Separate accel/decel rates and controlled reversing. Built in two and three input PID process control loop.

Input Ratings	Voltage	115	230	230	460	575
Voltage (VAC)		95-130	180-264	180-264	340-528	515-660
Phase		Single Phase		Three phase (or single phase with derate)		
Frequency		50 or 60 Hz ±5%				
Impedance		1% minimum from mains connection				
Output Ratings	Horsepower	1-3 HP @ 115/230VAC, 1PH; 1-75 HP @ 230VAC, 3PH; 1-125 HP @ 460VAC, 3PH; 1-125 HP @ 575VAC, 3PH				
	Overload Capacity	Heavy Duty (Constant Torque) = 150% for 60 sec, 175% for 3 sec; Normal Duty (Variable Torque) = 115% for 60 sec				
	Frequency	0-500 Hz standard				
	Voltage	0-Maximum input voltage (RMS) (Note: 0 to 230 V for 115 V Single Phase Units)				
Protective Features	Trip	Missing control power, over current, over voltage, under voltage, over temperature (motor or control), output shorted or grounded, motor overload				
	Stall Prevention	Over voltage suppression, overcurrent suppression				
	External Output	LED indicator for trip conditions, 4 assignable logic outputs, 2 assignable analog outputs				
	Short Circuit	Phase to phase, phase to ground				
	Electronic Motor Overload	Meets UL508C (I ² T)				
Environmental Conditions	Temperature	-10 to + 45°C, derate 3% per degree C above 45°C to maximum ambient temperature of 55°C				
	Cooling	Forced air				
	Enclosure	NEMA 1; NEMA 4X				
	Altitude	Sea level 3300 feet (1000m), derate 2% per 1000 ft (303m) above 3300 ft				
	Humidity	NEMA 1 – 90% maximum RH non-condensing; NEMA 4X – 100% condensing				
	Shock/ Vibration	1G/ 0.5G at 10 Hz to 60 Hz				
	Storage Temperature	-10 to +65°C				
Keypad Display	Display	Backlit LCD 128 x 64 graphical display				
	Keys	14 key membrane with tactile feedback				
	Functions	Output status monitoring, Digital speed control, Parameter setting and display, Diagnostic and Fault log display, Motor run and jog, Local/Remote toggle				
	LED Indicators	Forward run command, Reverse run command, Stop command, Jog active				
	Remote Mount	200 feet (60.6m) maximum from control, NEMA 4 Rated				
	Trip	Separate message and trace log for each trip, last 10 trips retained in memory				
Control Spec	Control Method	Microprocessor controlled PWM output; selectable encoderless vector or V/Hz inverter				
	PWM Frequency	Adjustable 1-5 kHz standard, 5-16 kHz quiet				
	Frequency Setting	±5 VDC, 0-5 VDC ± 10 VDC, 0-10 VDC, 4-20 mA, 0-20 mA, digital (keypad), Serial Comms/USB 2.0 and ModBus RTU standard				
	Accel/Decel	Separate accel/decel rates, 0-3600 sec to maximum frequency, linear, S-curve				
	V/Hz Ratio	Linear to squared reduced, base frequency, output voltage, minimum frequency limit, maximum frequency limit				
	Torque Boost	0-30% of input voltage; automatic with manual override				
	Brake Torque	20% standard on Sizes AA and B, 1% standard on Size C				
	Skip Frequency	Three zones 0-Max frequency				
	PC Setup Software	MINT® WorkBench Software available via connection to USB 2.0 port for commissioning wizard, firmware download, parameter viewer, scope capture, and cloning				
	Selectable Operating Modes	Keypad, Standard Run, 2-Wire, Standard Run 3-Wire, 15 Preset Speeds, Fan Pump 2-Wire, Fan Pump 3-Wire, Process Control, 3-SPD ANA 2-Wire, 3-SPD ANA 3-Wire, Electronic Pot 2-Wire, Electronic Pot 3-Wire, Network Profile Run, Bipolar				
Analog Inputs	One Differential	±5VDC, ±10VDC, 4-20 mA and 0-20 mA, 11-bit + sign				
	One Single Ended	0 - 10 VDC, 11-bit				
	Input Impedance	80 kOhms (Volt mode); 500 Ohms (Current mode)				
Analog Outputs	Analog Outputs	2 Assignable				
	Full Scale Range	AOUT1 (0-5V, 0-10V, 0-20mA or 4-20mA), AOUT2 (+5V, +10V)				
	Source Current	1 mA maximum (volt mode), 20mA (current mode)				
	Resolution	9 bits				
Digital Inputs	Opto-isolated Inputs	8 Assignable, 1 dedicated input (Drive Enable)				
	Rated Voltage	10 - 30 VDC (closed contacts std)				
Digital Outputs	Rated Voltage	5 to 30VDC (2 Opto Outputs); 5 to 30VDC or 240VAC (2 Relay Outputs)				
	Maximum Current	60 mA Maximum (2 Opto Outputs); 5A Maximum non-inductive (2 Relay Outputs)				
	Output Conditions	25 Conditions				

OPTIONS: See page 256 for optional Expansion Boards including Ethernet, Isolated Input etc. See page 255 for optional Dynamic Braking Assemblies.

Farm Duty
Motors

Definite Purpose
Motors

Unit Handling

Brake Motors

200 & 575 Volt
Motors

IEC Frame
Motors

50 Hertz
Motors

Inverter/Vector
Motors & Controls

DC Motors
and Controls

Soft Starters &
Dynamic Brakes