

BALDOR • RELIANCE®

H2 Vector Drive



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

Applications: Constant 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%. Automatic tuning to motor and full rated torque down to zero speed.

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, encoder loss.					
	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	LCD graphical 128 x 64 pixel					
	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, One-step tuning					
	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 Method	Microprocessor controlled PWM output; selectable closed loop vector, encoderless vector or V/Hz inverter					
Control Spec	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	0-3600 seconds					
	Brake Torque	20% standard on Sizes AA and B, 1% standard on Size C, D					
	Motor Matching	Automatic tuning to motor with manual override					
	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					
	Maximum Output Frequency	500 Hz					
	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					
	Motor Feedback	Feedback Type	Incremental encoder coupled to motor shaft; optional resolver feedback				
		Pulses/Rev	60-20,000 selectable, 1024 standard				
Voltage Output		2 channel in quadrature, 5 VDC, differential					
Marker Pulse		Required for position orientation					
Power Input		5 VDC, 12 VDC, 300 mA maximum					
Max. Frequency		4 MHz					
Analog Inputs	Positioning	Buffered encoder pulse train output for position loop controller					
	One Differential	±5VDC, ±10VDC, 4-20 mA and 0-20 mA, 11-bit + sign					
	One Single Ended	0 - 10 VDC, 11-bit					
Analog Outputs	Input Impedance	80 kOhms (Volt mode); 500 Ohms (Current mode)					
	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)					
Digital Inputs	Resolution	9 bits + sign					
	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					