



Inverter/Vector Motors & Controls

BALDOR • RELIANCE

Series 18H Vector Drive

3/4 thru 50 Hp	230 VAC	3 Phase - 50/60 Hz
3/4 thru 450 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 0-500Hz with peak overload capability of 170-200%. Automatic tuning to motor and full rated torque down to zero speed. Digital speed or torque control. Built in two and three input PID process control loop.

Design Specifications

- Motor shaft orient to marker
- Process follow $\pm 5\text{VDC}$ 0-5 VDC, $\pm 10\text{VDC}$ 0-10 VDC, 4-20mA, digital via keypad or optional RS232/485
- Linear or S-curve deceleration
- 15 preset speeds
- 2 assignable analog outputs
- 2 assignable opto outputs
- 2 assignable relay outputs
- 2 assignable analog inputs
- Through wall and panel mount size C2, E and F

Operator Keypad

- Forward/Reverse command
- Motor RUN and JOG
- Local/Remote key
- Stop command
- 32 character display
- Remote mount to 100 feet (60m) from control
- NEMA 4X enclosure when mounted on panel

Environmental and Operating Conditions

- Input voltage
 - 3 phase 200-240 VAC $\pm 10\%$
 - 3 phase 378-480 VAC $\pm 10\%$
 - 3 phase 573-600 VAC $\pm 10\%$
- Input frequency
 - 50 or 60Hz $\pm 5\%$
- Service factor - 1.0
- Duty - continuous
- Humidity - 90% max RH non-condensing
- Altitude - 3300 feet (1000m) max without derate

Protective Features

- Adjustable current limit
- Isolated control circuitry
- Digital display for fault conditions
- Selectable automatic restart at momentary power loss
- DC bus charge indicator
- Cause of last 31 trips retained in memory

Output Ratings	Overload Capacity	150% for 60 seconds, 170-200% for 3 seconds for constant torque 115% for 60 seconds for variable torque
	Frequency	0-500 Hz
	Voltage	0-maximum input voltage (RMS)
Input Ratings	Frequency	50 or 60 Hz $\pm 5\%$
	Voltage	180 - 264 VAC; 340 - 528 VAC; 515 - 660 VAC
	Phase	Three phase (or single phase with derate)
	Impedance	1% minimum for size C2, F, G, and G2 (3% minimum required for Size A, B, D and E)
Control Spec	Control Method	Microprocessor controlled PWM output
	PWM Frequency	Adjustable 1-5kHz STD, 1-16 kHz quiet
	Speed Setting	$\pm 5\text{VDC}$, 0-5 VDC $\pm 10\text{VDC}$, 0-10 VDC, 4-20 mA; digital via keypad, RS232/485
	Accel/Decel	0-3600 sec.
	Motor Matching	Automatic tuning to motor with manual override
Motor Feedback	Feedback Type	Incremental encoder coupled to motor shaft
	Pulses/Rev	60 -15,000 selectable, 1024 standard
	Voltage Output	2 channel in quadrature, 5 VDC, differential
	Marker Pulse	Required for position orientation
	Power Input	5 VDC, 300 mA maximum
	Max. Frequency	1 MHz
	Positioning	Buffered encoder pulse train output for position loop controller
Protective Functions	Vector Trip	Missing control power, over current, over voltage, under voltage, motor over speed Over temperature (motor or control), output shorted or grounded, motor overload
	External Output	LED indicator for trip conditions, 4 assignable logic outputs, 2 assignable analog outputs 0-5 VDC
	Short Circuit	Phase to phase, phase to ground
LCD Display	Running	Output frequency, motor RPM; output current, voltage (selectable)
	Setting	Parameter values for setup and review
	Trip	Separate message for each trip, last 31 trips retained in memory
Ambient Conditions	Temperature	-10 to 40°C for UL listing
	Cooling	Forced air included when required

OPTIONS: See pages 275-276 for optional Expansion Boards including RS-232, RS-485. See page 264 for enclosure Dimensions See pages 273-274 for optional Dynamic Braking Assemblies.