



**Series 22H Line
Regenerative Vector
Drive**



**10 thru 50 Hp
10 thru 50 Hp**

**230 VAC
460 VAC**

**3 Phase - 50/60 Hz
3 Phase - 50/60 Hz**

Applications: Variable torque, 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

- Process follower
±5VDC 0-5 VDC,
±10VDC, 0-10 VDC ,
4-20mA, digital via keypad
or optional RS232/485
- Linear or S-curve deceleration
- Controlled reversing
- 15 preset speeds
- 2 assignable analog outputs
- 2 assignable logic outputs
- 2 assignable relay outputs
- 2 assignable analog inputs
- Motor shaft orient to marker

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
Three phase 200-240 VAC ±10%
Three phase 378-480 VAC ±10%
- Input frequency
50 or 60Hz ±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 ±5%
	Voltage	180 - 264 VAC; 340 - 528 VAC
	Phase	Three phase
	Impedance	3.0% minimum required
Control Spec	Control Method	Microprocessor controlled PWM output
	PWM Frequency	Adjustable 1-5kHz STD, 1-16 kHz quiet
	Speed Setting	±5 VDC, 0-5 VDC ±10 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	Optional 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.

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



Inverter/Vector Motors & Controls

BALDOR • RELIANCE

Series 22H Line Regenerative Vector Drive Output Ratings

Catalog Number	Size	Heavy Duty			Normal Duty			List Price	Mult. Sym.
		Hp	Continuous	Peak	Hp	Continuous	Peak		
230 Volts - Three Phase									
ZD22H210-EL	C+	10	28	56	10	28	32	10019	E1
ZD22H215-EL	C+	15	42	72	15	42	48	11133	E1
ZD22H220-EL	C+	20	55	110	20	55	62	13034	E1
ZD22H225-EL	C+	25	68	116	25	68	78	15226	E1
ZD22H230-EL	D+	30	80	136	30	80	92	16557	E1
ZD22H240-EL	D+	40	105	200	40	105	120	20617	E1
ZD22H250-EL	D+	50	130	225	50	130	150	25308	E1
460 Volts - Three Phase									
ZD22H410-EL	C+	10	15	30	10	15	17	10431	E1
ZD22H415-EL	C+	15	21	36	15	21	24	11345	E1
ZD22H420-EL	C+	20	27	50	20	27	31	13212	E1
ZD22H425-EL	C+	25	34	58	25	34	39	14888	E1
ZD22H430-EL	D+	30	40	70	30	40	46	16806	E1
ZD22H440-EL	D+	40	55	100	40	55	63	20730	E1
ZD22H450-EL	D+	50	65	115	50	65	75	25015	E1

NOTE: See notes on inside back flap and pages 5-6.

OPTIONS: See pages 275-276 for optional Expansion Boards.

Dimensions in/(mm)

Size	Outside			Mounting		Ap'x Shpg. Wgt.
	Height	Width	Depth	Height	Width	
C+	30/(762)	11.5/(292)	12.2/(310)	29.25/(743)	10.5/(267)	160
D+	36/(914)	14.5/(368)	12.2/(310)	35.25/(895)	13.50/(343)	280

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