

## The multi-purpose Industrial AC Drive that solves 90% of all stand-alone and system variable speed motor needs.

Whether your applications are simple fans or pumps, or more complex applications such as web processing systems where DC performance or better is required, the GV3000/SE will meet your application needs while providing the convenience of using an AC Induction motor.

This GV3000/SE package provides simplicity and broad application flexibility with the performance features you need with designs in NEMA 1, 12 and 4X enclosures. Ideal for Wall or Machine Mounting as well as free-standing Floor Mounted applications 200 Horsepower & above.



### Standard Features

A NEMA enclosed design that's Horsepower rated with 3 methods of control as standard:

- General Purpose (Scalar V/Hz)
- Sensorless Vector Control (SVC)
- Flux Vector Control (FVC)

Each method provides a cost effective means to address the wide range of applications required by today's demanding drives customers. All methods are standard without the need for expensive or complicated option boards.

A simple, yet powerful keypad built into every GV3000/SE allows the bright 7-segment LED display to provide Output Frequency (Hz), RPM, kW, Motor Volts, Motor Current, and % Motor Torque. All of these functions are easily displayed by using the ENTER Key for scrolling.

LED's also identify the drives status; Running, Remote, Jog, Auto, Forward, Reverse, or Program.

The intuitive nature of the drive's keypad makes GV3000/SE the obvious choice for users and OEMs who demand "operator friendly" products. For added convenience, a remote mounted operator interface (OIM) with text selection in 5 languages is available as well as CS3000 Windows® based software for those who desire a more powerful interface.

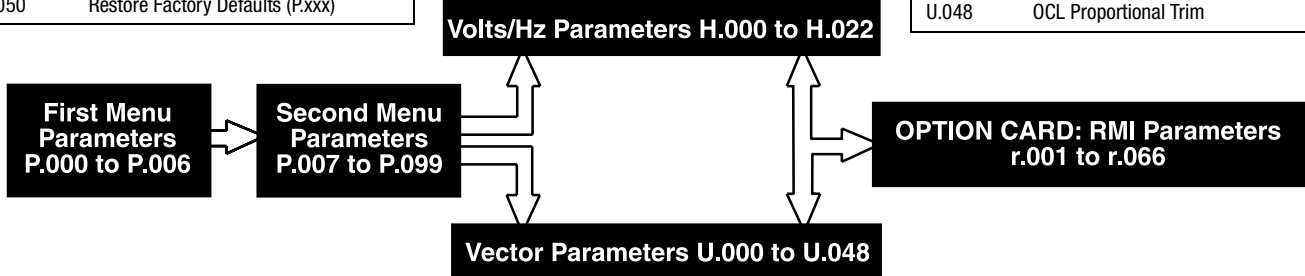
An internal option slot is standard on every GV3000/SE. For I/O interfaces, select the Super RMI card to expand digital and analog I/O connections or the 115VAC Interface card. For communications, select from over a half dozen networks.

- Input Voltages:
  - 200 - 230 VAC, 50/60 Hz
  - 380 - 460 VAC, 50/60 Hz
- HP Ratings:
  - 1 HP to 20 HP, 200 - 230 VAC
  - 1 HP to 400 HP, 380 - 460 VAC

- Enclosures:
  - NEMA 1, 1A, 12 & 4x
- Inverter Type:
  - PWM with IGBT's
- Switching Frequency:
  - Adjustable to 2, 4 or 8 kHz
- Isolated Analog Input (Qty 1):
  - $\pm 10$  or 0 - 10VDC, 0/4 - 20mA
- Analog Output (Qty 1):
  - 0 - 10 VDC or 4 - 20 mA
- Isolated digital inputs (Qty 8 std.):
  - Start, Stop, Reset, Fwd / Rev, Run / Jog, Function Loss, Preset Speeds, MOP operation, Ramp Selection
- Dynamic Response with FVC:
  - 100 Rad/Sec (15 Hz) Speed
  - 1,000 Rad/Sec (150 Hz) Torque
- Operating Speed Range:
  - 20:1V/Hz; 120:1 SVC; 1000:1 FVC
- Steady State Speed Regulation (% Base RPM):
  - V/Hz = 1.0%, 20:1 CT range
  - SVC = 0.5%, 40:1 CT range
  - FVC = 0.01%, 100:1 CT range
- Encoder PPR selection
  - SE, 512, 1024, 2048 & 4096

## Parameter Highlights

1st and 2nd Menu Parameters	General Purpose Mode - Volts / Hz	Vector Mode - SVC & FVC
P.000	H.000	U.000
P.001	H.001	U.001
P.002	H.002	U.002
P.003	H.003	U.003
P.004	H.004	U.004
P.005	H.005	U.005
P.006	H.006	U.006
P.007	H.007	U.007
P.008	H.008	U.008
P.009	H.009	U.009
P.010	H.010	U.012
P.011	H.011	U.013
P.012	H.012	U.014
P.013	H.013	U.015
P.014	H.014	U.016
P.015	H.015	U.017
P.016	H.016	U.018
P.017	H.017	U.019
P.018	H.018	U.020
P.019	H.019	U.021
P.020	H.020	U.022
P.021	H.021	U.023
P.022	H.022	U.024
P.023		U.025
P.025		U.026
P.026		U.027
P.027		U.028
P.028		U.030
P.029		U.031
P.031-		U.032
P.038		U.040
P.039		U.041
P.041		U.042
P.042		U.043
P.043		U.044
P.045		U.045
P.047		U.046
P.048		U.047
P.050		U.048



### 230 VAC Ratings and Model Numbers

V/Hz HP Rating	Vector HP Rating	200 V kw Rating	NEMA Enclosure Rating	Continuous Amps by Mode @ Carrier Frequency						Model* Number
				V/Hz FLA			Vector FLA			
				2 kHz	4 kHz	8 kHz	2 kHz	4 kHz	8 kHz	
1	1	1.3	1, 4X, 12	5	5	5	5	5	5	1V2_60
2	2	2.2	1, 4X, 12	8	8	8	8	8	8	2V2_60
3	3	3.3	1, 4X, 12	12	12	12	12	12	12	3V2_60
5	5	6.1	1, 4X, 12	22	22	22	22	22	22	5V2_60
7.5	7.5	8.0	1, 12	29	29	29	29	29	29	7V2_60
10	10	9.7	1, 12	35	35	35	35	35	35	10V2_60
15	15	13.0	1, 12	47	47	47	47	47	47	15V2_60
20	20	19.4	1, 12	70	70	70	70	70	70	20V2_60

### 460 VAC Ratings and Model Numbers

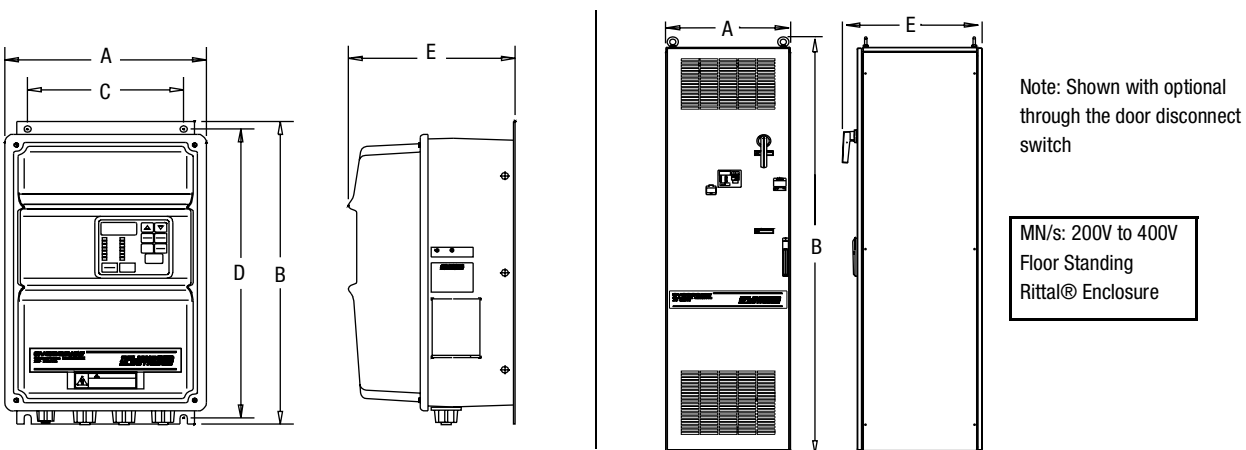
V/Hz HP Rating	Vector HP Rating	400 V kw Rating	NEMA Enclosure Rating	Continuous Amps by Mode @ Carrier Frequency						Model* Number
				V/Hz FLA			Vector FLA			
				2 kHz	4 kHz	8 kHz	2 kHz	4 kHz	8 kHz	
1	1	1.1	1, 4X, 12	2.1	2.1	2.1	2.1	2.1	2.1	1V4_60
2	2	1.8	1, 4X, 12	3.4	3.4	3.4	3.4	3.4	3.4	2V4_60
3	3	2.9	1, 4X, 12	5.3	5.3	5.3	5.3	5.3	5.3	3V4_60
5	5	4.5	1, 4X, 12	8.2	8.2	8.2	8.2	8.2	8.2	5V4_60
7.5	7.5	6.1	1, 12	11.1	11.1	11.1	11.1	11.1	11.1	7V4_60
10	10	7.8	1, 12	14.2	14.2	14.2	14.2	14.2	14.2	10V4_60
15	15	11.6	1, 12	21	21	21	21	21	21	15V4_60
20	20	14.9	1, 12	27	27	27	27	27	27	20V4_60
25	20	16.8	1, 12	30.4	30.4	30.4	27	27	27	25G4_60
25	25	19.1	1, 12	34.5	34.5	34.5	34.5	34.5	34.5	25V4_60
30	30	22.1	1, 12	40	40	40	40	40	40	30V4_60
40	40	29.9	1, 12	54	54	54	54	54	54	40V4_60
50	50	37.1	1, 12	67	67	67	67	67	67	50V4_60
60	60	43.2	1, 12	78	78	78	67	67	67	60G4_60
75	50	53.0	1	90	72	54	70	56	41	50R4160
100	75	68.3	1	116	93	70	89	71	53	75R4160
100	75	68.3	1	116	93	70	89	71	53	75T4160
150	125	131.0	1	210	168	126	152	122	91	125R4160
200	200	150.0	1A	240	240	-	240	240	-	200V4160
250	250	188.0	1A	302	302	-	302	302	-	250V4160
300	300	225.0	1A	361	361	-	361	361	-	300V4160
350	350	258.0	1A	414	414	-	414	414	-	350V4160
400	400	297.0	1A	477	477	-	477	477	-	400V4160

\*Fourth digit determines enclosure type: 1=NEMA 1, 2=NEMA 12, 4=NEMA 4x/12.

## Dimensions by Model Number

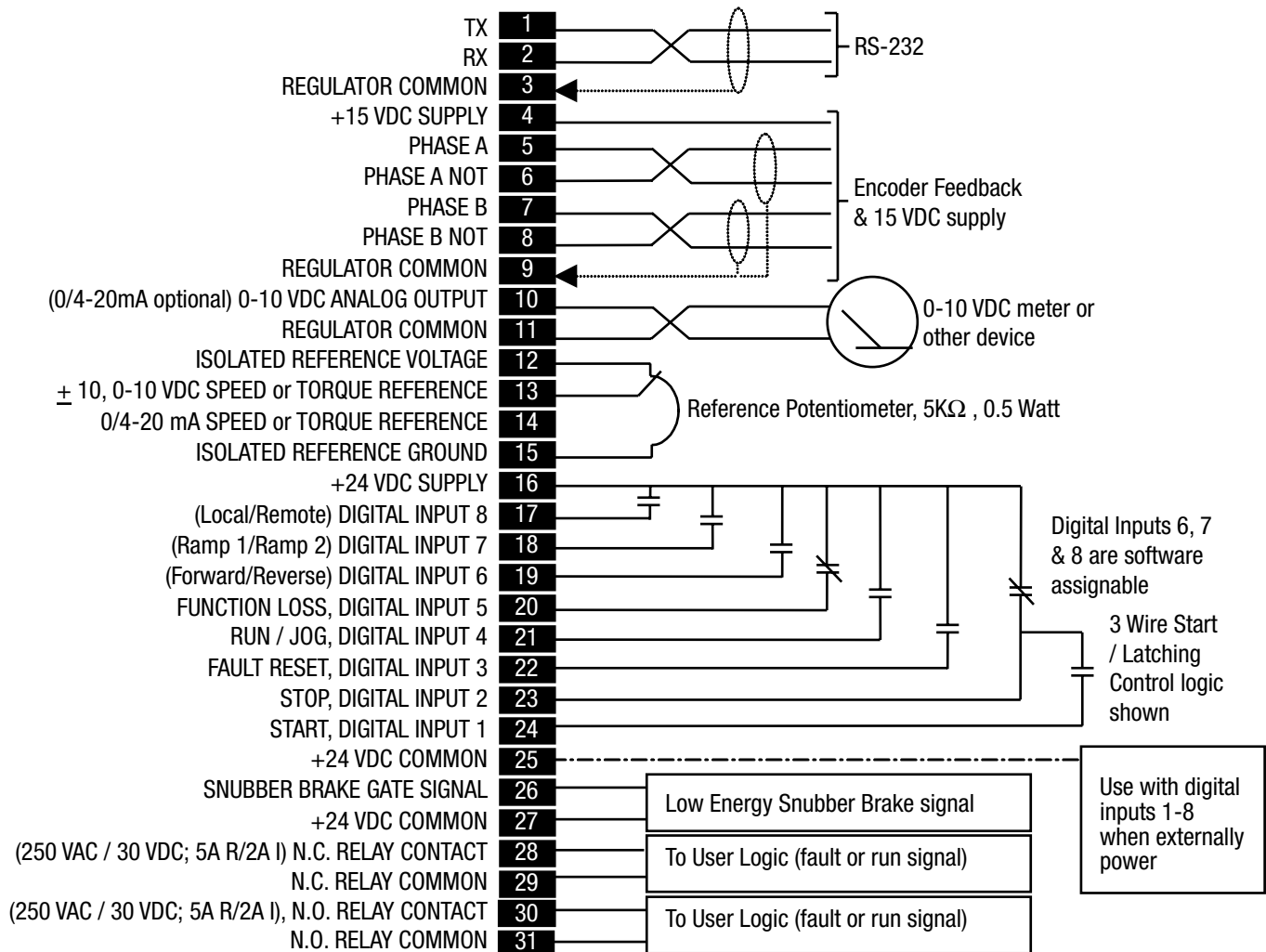
230 VAC Model Number	Enclosure Rating	Physical Dimensions					Weight
		Width Dim. A	Height Dim. B	CC Width Dim. C	CC Height Dim. D	Depth Dim. E	
1V to 5V	NEMA 1, 4X/12	222.3 mm	280.7 mm	198.1 mm	254.3 mm	199.9 mm	6.4 kg
		8.75 in	11.05 in	7.80 in	10.01 in	7.87 in	14 lbs
7V to 10V	NEMA 1, 12	280.7 mm	338.7 mm	247.9 mm	309.1 mm	199.9 mm	9.1 kg
		11.05 in	13.32 in	9.76 in	12.17 in	7.87 in	20 lbs
15V to 20V	NEMA 1, 12	388.0 mm	463.0 mm	223.0 mm	442.0 mm	238.0 mm	15.9 kg
		11.34 in	18.23 in	8.78 in	17.4 in	9.37 in	35 lbs

460 VAC Model Number	Enclosure Rating	Physical Dimensions					Weight
		Width Dim. A	Height Dim. B	CC Width Dim. C	CC Height Dim. D	Depth Dim. E	
1V to 5V	NEMA 1, 4X/12	222.3 mm	280.7 mm	198.1 mm	254.3 mm	199.9 mm	6.4 kg
		8.75 in	11.05 in	7.80 in	10.01 in	7.87 in	14 lbs
7V to 10V	NEMA 1, 12	280.7 mm	338.7 mm	247.9 mm	309.1 mm	199.9 mm	9.1 kg
		11.05 in	13.32 in	9.76 in	12.17 in	7.87 in	20 lbs
15V to 25G	NEMA 1, 12	288.0 mm	463.0 mm	223.0 mm	442.0 mm	238.0 mm	15.9 kg
		11.34 in	18.23 in	8.78 in	17.4 in	9.37 in	35 lbs
25V to 40V	NEMA 1, 12	376.0 mm	605.0 mm	308.0 mm	565.2 mm	350.0 mm	23.6 kg
		14.8 in	23.82 in	12.13 in	22.5 in	13.78 in	52 lbs
50R & 50T	NEMA 1	421.0 mm	880.0 mm	360.0 mm	850.0 mm	322.0 mm	70.0 kg
		16.6 in	34.65 in	14.17 in	33.46 in	12.68 in	154 lbs
50V & 60G	NEMA 1, 12	376.0 mm	605.0 mm	308.0 mm	565.2 mm	350.0 mm	23.6 kg
		14.8 in	23.82 in	12.13 in	22.5 in	13.78 in	52 lbs
75R & 75T	NEMA 1	421.0 mm	880.0 mm	360.0 mm	850.0 mm	322.0 mm	70.0 kg
		16.6 in	34.65 in	14.17 in	33.46 in	12.68 in	154 lbs
125R	NEMA 1	465.0 mm	1,457.0 mm	330.0 mm	1,414.0 mm	355.0 mm	96.0 kg
		18.3 in	57.36 in	12.99 in	55.56 in	13.97 in	221.0 lbs
200V	NEMA 1A	600.0 mm	2,200.0 mm	-	-	600.0 mm	350.0 kg
		23.6 in	86.6 in	-	-	23.6 in	800 lbs
250V to 400V	NEMA 1A	600.0 mm	2,200.0 mm	-	-	600.0 mm	382.5 kg
		23.6 in	86.6 in	-	-	23.6 in	850 lbs



MN/s: 1V-125V Wall Mounted Enclosure

**Typical Control Wiring**



**Service Conditions**

Elevation: to 3,300 feet above sea level (1,000 meters)

Ambient Temperature:  
0° C to 40° C (32° F to 104° F) - wall mounted  
0° C to 50° C (32° F to 122° F) - panel mounted

Atmosphere: Non-condensing relative humidity, 5% to 95%

AC Line Voltage: ± 10% of rated input voltage

AC Line Frequency: 48 Hz to 62 Hz

**Instruction Manuals**

Software Startup and Reference Manuals: D2-3387-2 (230 V)  
D2-3359-2 (460 V)

Hardware Reference, Installation, and Troubleshooting: D2-3388-2 (230 V)  
D2-3360-2 (460 V)

This document located at:

<http://www.reliance.com/prodserv/standriv/d2941.htm>

NOTE: THIS MATERIAL IS NOT INTENDED TO PROVIDE OPERATIONAL INSTRUCTIONS. APPROPRIATE RELIANCE ELECTRIC INDUSTRIAL COMPANY INSTRUCTION MANUALS PRECAUTIONS SHOULD BE STUDIED PRIOR TO INSTALLATION, OPERATION, OR MAINTENANCE OF EQUIPMENT.

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