

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 Bookshelf drive will meet your application needs while providing the convenience of using an AC induction motor.

This GV3000/SE Bookshelf package provides simplicity and broad application flexibility with the performance features you need in a bookshelf style footprint. Ideal for saving panel space with optional internal CE filters and standard internal 7th IGBT braking transistor circuitry.



Standard Features

An IEC design that's amp and carrier frequency 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 drive 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.

LEDs also identify the drive's status: Running, Remote, Jog, Auto, Forward, Reverse, or Program.

The intuitive nature of the drive's keypad makes the GV3000/SE drive 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.

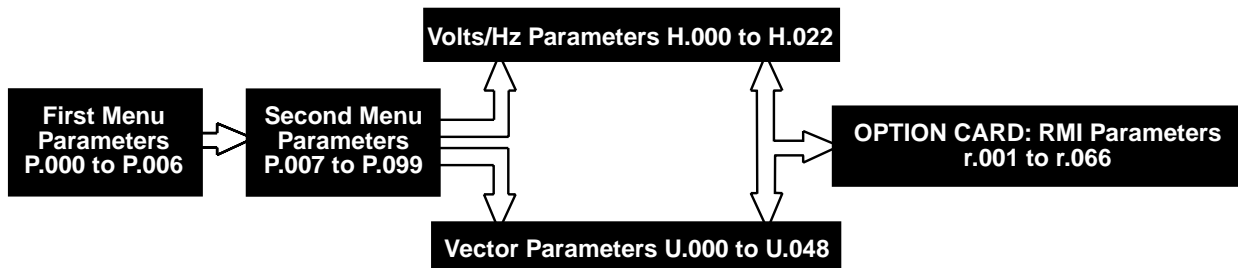
An internal option slot is standard on every GV3000/SE drive. For I/O interfaces, select the Super RMI card to expand digital and analog I/O connections or the 115 VAC interface card. For communications, select from over a half dozen networks.

- Input Voltages:
 - 380 - 460 VAC, 50/60 Hz
- Amp Ratings:
 - 1.1 to 43.0 Amps, V/Hz mode
 - 0.75 to 32.0 Amps, Vector mode
- Enclosure:
 - IP0 Power Module design
- Inverter Type:
 - PWM with IGBTs

- Switching Frequency:
 - Adjustable to 2, 4 or 8 kHz
- Isolated Analog Input (Qty 1):
 - ± 10 or 0 - 10 VDC, 0/4 - 20 mA
- 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:
 - 20:1 V/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	Control Source	H.000	Motor Voltage	U.000	Torque Ref. Source
P.001	Accel 1	H.001	Motor Base Frequency	U.001	Encoder PPR
P.002	Decel 1	H.002	Motor Amps	U.002	Motor Poles
P.003	Min. Speed	H.003	Torque Boost	U.003	Motor Base Frequency
P.004	Max. Speed	H.004	Slip Compensation	U.004	Motor Full Load Amps
P.005	Current Limit	H.005	DC Injection Braking	U.005	Motor Base RPM
P.006	2nd Menu Password	H.006	DC Injection Frequency	U.006	Magnetizing Current
P.007	Digital Input Configuration	H.007	DC Injection Current	U.007	Motor Voltage
P.008	Speed Ref. Source Selection	H.008	DC Injection Time	U.008	Self Tune Enable
P.009	Analog In Offset	H.009	Avoidance Freq. Enable	U.009	Self Tune Result
P.010	Analog In Gain	H.010	Avoid Freq. Midpoint 1	U.012	Speed Regulator P Gain
P.011	Analog In Config.	H.011	Avoid Freq. Band 1	U.013	Speed Regulator I Gain
P.012	Analog Out Source	H.012	Avoid Freq. Midpoint 2	U.014	Torque Regulator P Gain
P.013	Output Relay Config.	H.013	Avoid Freq. Band 2	U.015	Torque Regulator I Gain
P.014	Trim Ref. Source	H.014	Avoid Freq. Midpoint 3	U.016	Field Weakening RPM
P.015	Trim Gain %	H.015	Avoid Freq. Band 3	U.017	Motor Top Speed
P.016	Draw Gain %	H.016	Auto Restart Direction	U.018	AC Line Voltage
P.017	Accel 2	H.017	Input/Snubber Config.	U.019	Flux Current P Gain
P.018	Decel 2	H.018	Volts/Hz Curve Select	U.020	Flux Current I Gain
P.019	S-Curve	H.019	Motor ID Result	U.021	Rotor Time Constant
P.020	Jog Speed Ref.	H.020	Motor ID Request	U.022	Motor Nameplate HP
P.021	Jog Accel Time	H.021	AC Line Voltage	U.023	Low DC Bus Avoidance
P.022	Jog Decel Time	H.022	Overfrequency Limit	U.024	High DC Bus Avoidance
P.023	MOP Accel/Decel			U.025	Zero Speed Hold
P.025	Stop Type			U.026	Current Compounding
P.026	Function Loss Response			U.027	Inertia Compensation
P.027	Forward/Reverse Config.			U.028	Losses Compensation
P.028	Speed Display Scaling			U.030	SVC Slip Adjustment
P.029	Elapsed Time Meter			U.031	SVC Auto Restart Direction
P.031- P.038	Preset Speeds 1 through 8			U.032	SVC Flux Current Gain
P.039	Encoder Loss			U.040	OCL Feedback Source
P.041	Motor Overload Type			U.041	OCL Lead/Lag Select
P.042	Line Dip Ride-Through			U.042	OCL Lead/Lag Freq.
P.043	Auto Restart			U.043	OCL Lead/Lag Ratio
P.045	Output Phase Loss			U.044	OCL Reference Gain
P.047	Carrier Frequency Select			U.045	OCL P Gain
P.048	V/Hz or Vector Mode Select			U.046	OCL I Gain
P.050	Restore Factory Defaults (P.xxx)			U.047	OCL Trim Range %
				U.048	OCL Proportional Trim



460 VAC Ratings and Model Numbers - w/o CE Filters

N. American Model Number	European Stock Number	Unit Type	IEC Enclosure Rating	Continuous Amps by Mode @ Carrier Frequency					
				V/Hz FLA			Vector FLA		
				2 kHz	4 kHz	8 kHz	2 kHz	4 kHz	8 kHz
31ER4060	896.01.11	AC003	IP20	3.1	3.1	2.8	2.1	2.1	2.1
38ER4060	896.02.11	AC004	IP20	3.8	3.8	2.8	3.1	3.1	2.8
55ER4060	896.03.11	AC005	IP20	5.5	5.5	5.5	3.8	3.8	3.8
85ER4060	896.05.11	AC008	IP20	8.5	8.5	5.5	6.7	6.7	5.0
126ER4060	896.06.11	AC012	IP20	12.6	12.0	8.5	9.3	9.3	8.0
150ER4060	896.07.11	AC015	IP20	15.0	12.0	8.5	11.0	11.0	8.0
240ER4060	896.08.11	AC024	IP20	24.0	16.5	12.6	16.5	15.0	11.0
300ER4060	896.09.11	AC030	IP20	30.0	24.0	16.5	22.0	22.0	15.0
430ER4060	896.11.12	AC044	IP20	43.0	31.0	22.0	32.0	22.0	15.0

460 VAC Ratings and Model Numbers - w/ CE Filters Built-in

N. American Model Number	European Stock Number	Unit Type	IEC Enclosure Rating	Continuous Amps by Mode @ Carrier Frequency					
				V/Hz FLA			Vector FLA		
				2 kHz	4 kHz	8 kHz	2 kHz	4 kHz	8 kHz
31ET4060	896.01.31	AC003	IP20	3.1	3.1	2.8	2.1	2.1	2.1
38ET4060	896.02.31	AC004	IP20	3.8	3.8	2.8	3.1	3.1	2.8
55ET4060	896.03.31	AC005	IP20	5.5	5.5	5.5	3.8	3.8	3.8
85ET4060	896.05.31	AC008	IP20	8.5	8.5	5.5	6.7	6.7	5.0
126ET4060	896.06.31	AC012	IP20	12.6	12.0	8.5	9.3	9.3	8.0
150ET4060	896.07.31	AC015	IP20	15.0	12.0	8.5	11.0	11.0	8.0
240ET4060	896.08.31	AC024	IP20	24.0	16.5	12.6	16.5	15.0	11.0
300ET4060	896.09.31	AC030	IP20	30.0	24.0	16.5	22.0	22.0	15.0
430ET4060	896.11.32	AC044	IP20	43.0	31.0	22.0	32.0	22.0	15.0

Snubber Brake Resistor Capacity and Sizing*

Unit Type	Braking Power Transistor Max.		Maximum Braking Current	Maximum Drive Input Voltage	Transistor Turn-on Voltage	Transistor Turn-off Voltage	Minimum Resistor Ohmage
	Peak	Continuous					
AC003	4.5 kW	4.5 kW	6.0 amps	460 VAC	750 VDC	720 VDC	125
AC004	4.5 kW	4.5 kW	6.0 amps	460 VAC	750 VDC	720 VDC	125
AC005	4.5 kW	4.5 kW	6.0 amps	460 VAC	750 VDC	720 VDC	125
AC008	4.5 kW	4.5 kW	6.0 amps	460 VAC	750 VDC	720 VDC	125
AC012	7.5 kW	7.5 kW	10.0 amps	460 VAC	750 VDC	720 VDC	75
AC015	7.5 kW	7.5 kW	10.0 amps	460 VAC	750 VDC	720 VDC	75
AC024	11.0 kW	11.0 kW	15.0 amps	460 VAC	750 VDC	720 VDC	50
AC030	15.0 kW	15.0 kW	20.0 amps	460 VAC	750 VDC	720 VDC	37.5
AC044	22.0 kW	22.0 kW	30.0 amps	460 VAC	750 VDC	720 VDC	25.0

***NOTES**

Braking power is limited by the selected resistor wattage and ohmage.

Resistors are not included with the drives as standard, and must be purchased separately.

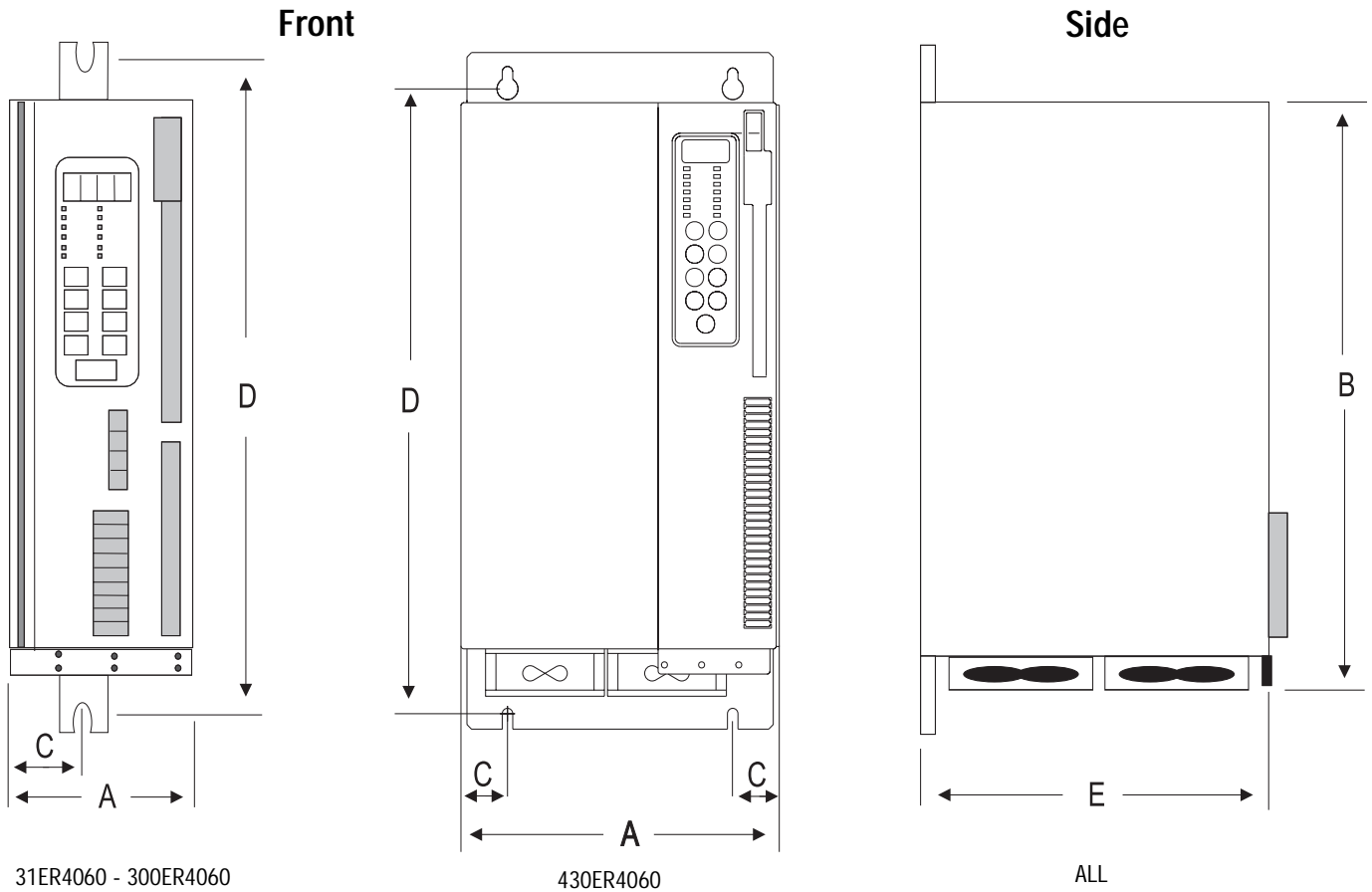
Under no circumstances may the braking resistor ohms be less than the stated values to avoid damage to the braking transistor.

GV3000/SE Bookshelf

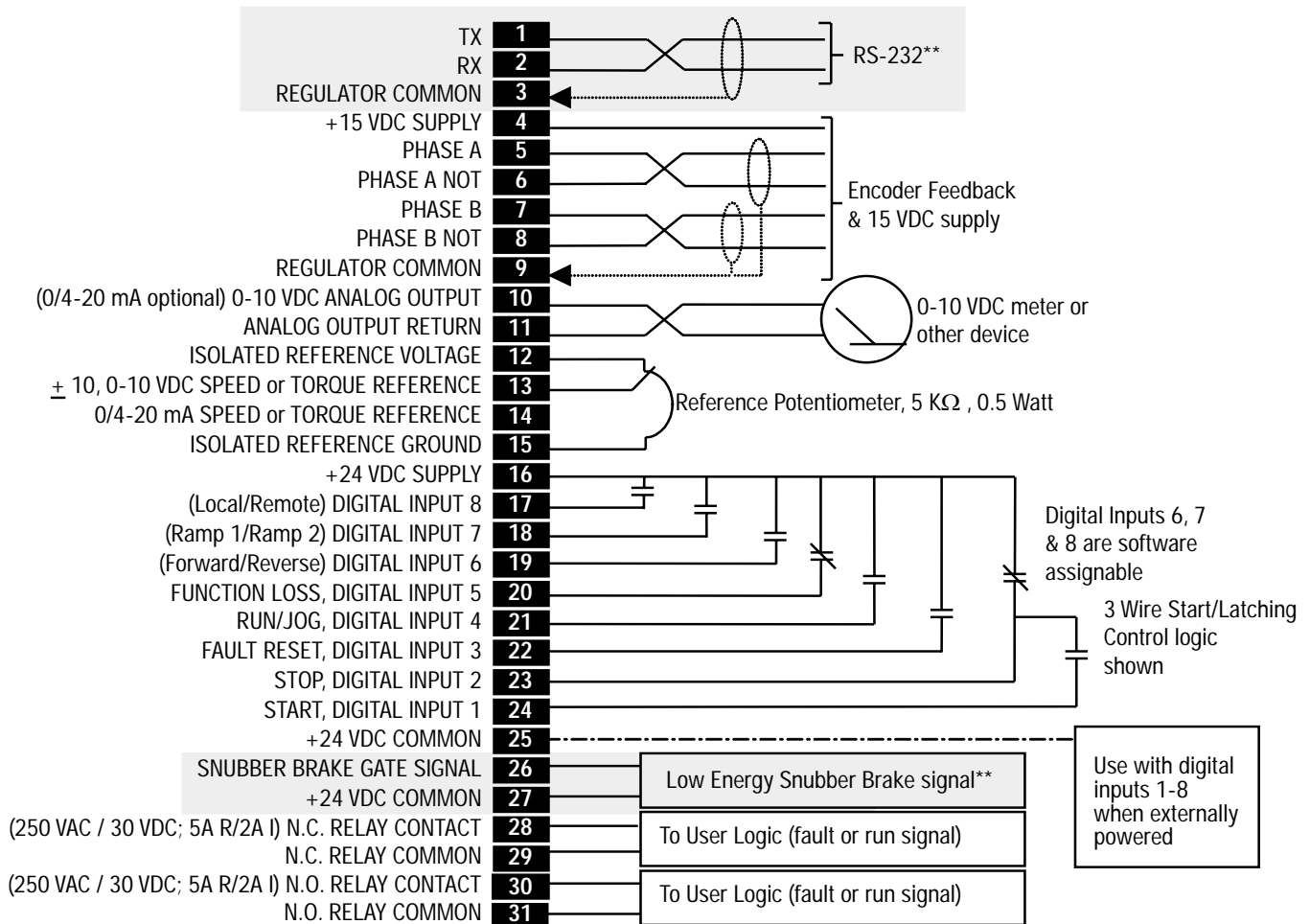
Dimensions by Model Number

N. American Model No.	European Stock Number	Unit Type	IEC Enclosure Rating	Physical Dimensions in mm					
				Width Dim. A	Height Dim. B	Mounting Dim. C	Mounting Dim. D	Depth Dim. E	Weight kg
31ER4060	896.01.11	AC003	IP20	95	378	38	422	200	5.5
38ER4060	896.02.11	AC004	IP20	95	378 ⁽¹⁾	38	422	200	5.5
55ER4060	896.03.11	AC005	IP20	95	385	38	422	200	5.5
85ER4060	896.05.11	AC008	IP20	95	385	38	422	200	5.5
126ER4060	896.06.11	AC012	IP20	95	385	38	422	200	5.5
150ER4060	896.07.11	AC015	IP20	95	385	38	422	200	5.5
240ER4060	896.08.11	AC024	IP20	195	385	61	422	200	10
300ER4060	896.09.11	AC030	IP20	195	385	61	422	200	10
430ER4060	896.11.12	AC044	IP20	214	398	32	422	200	10

NOTE: Dimensions are the identical on models both with and without internal CE filters for EMC.
 (1) 38ET4060 (with internal CE filter), B dimension is 385 mm.



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) 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 Start-Up and Reference: D2-3426

Hardware Reference, Installation, and Troubleshooting: D2-3427

This document located at:
<http://www.reliance.com/drives>

NOTE: This material is not intended to provide operational instructions. Appropriate Reliance Electric Drives instruction manuals precautions should be studied prior to installation, operation, or maintenance of equipment.

Reach us now at www.rockwellautomation.com

Wherever you need us, Rockwell Automation brings together leading brands in industrial automation including Allen-Bradley controls, Reliance Electric power transmission products, Dodge mechanical power transmission components, and Rockwell Software. Rockwell Automation's unique, flexible approach to helping customers achieve a competitive advantage is supported by thousands of authorized partners, distributors and system integrators around the world.

Americas Headquarters, 1201 South Second Street, Milwaukee, WI 53204, USA, Tel: (1) 414 382-2000, Fax: (1) 414 382 4444
European Headquarters SA/NV, avenue Herrmann Debroux, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40
Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846
Reliance Electric Standard Drives Business, 24800 Tungsten Road, Cleveland, OH 44117, USA, Tel: (1) 888 374 8370, Fax: (216) 266 7095

