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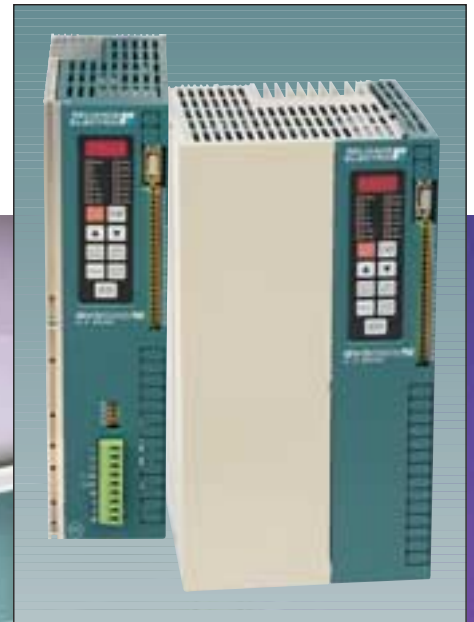
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Reliance Electric GV3000/SE Industrial AC Drive

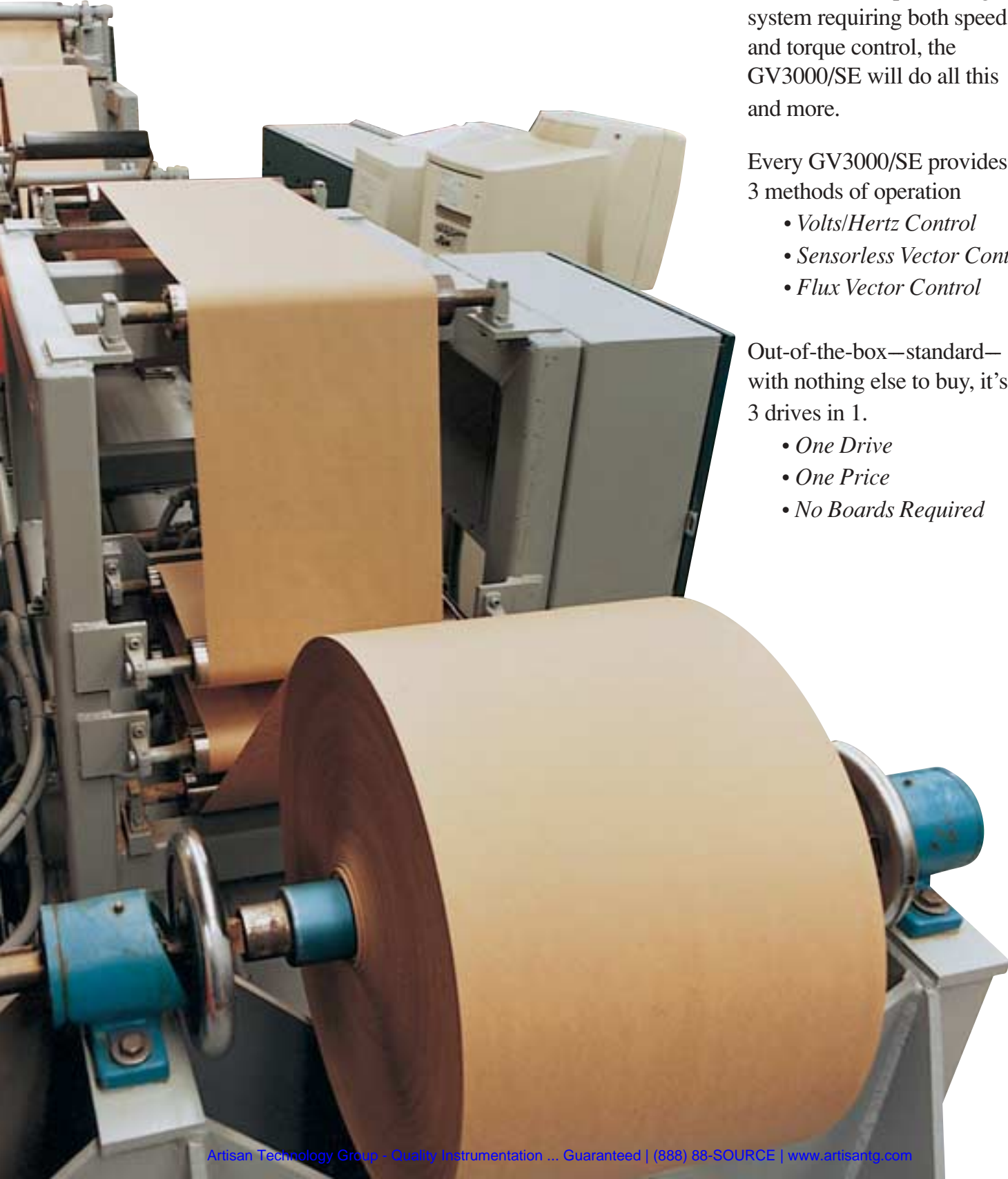
RELIANCE
ELECTRIC 

*Multi-Purpose variable speed control of
0.75-200 kW three-phase motors, with Volts/Hertz or
Vector mode operation as standard*



Rockwell
Automation

FLEXIBLE Control



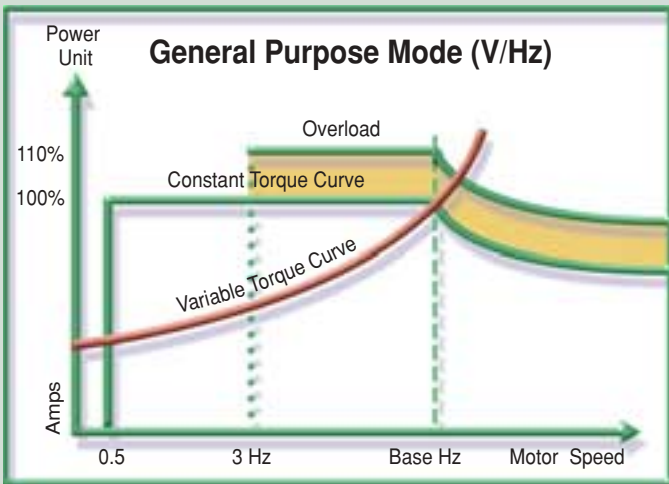
Whether you need a simple drive for operating fans and pumps, or a high performance drive for a web processing system requiring both speed and torque control, the GV3000/SE will do all this and more.

Every GV3000/SE provides 3 methods of operation

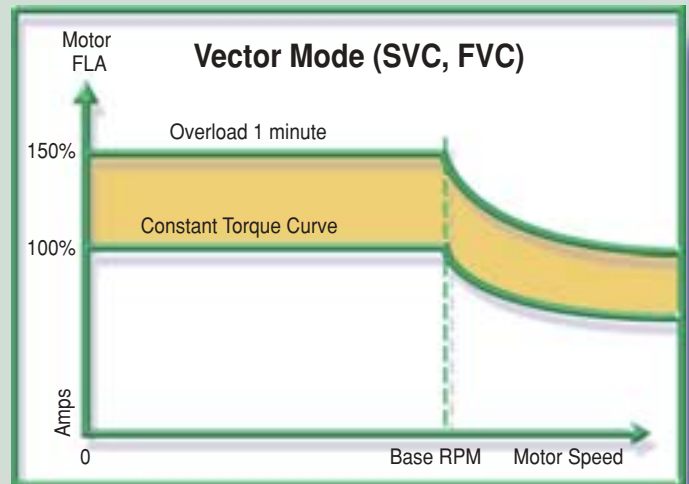
- *Volts/Hertz Control*
- *Sensorless Vector Control*
- *Flux Vector Control*

Out-of-the-box—standard—
with nothing else to buy, it's
3 drives in 1.

- *One Drive*
- *One Price*
- *No Boards Required*



General Purpose Mode **Volts/Hertz** allows classical variable speed control of single or multiple motors from one drive. Operate either squirrel-cage induction or permanent magnet synchronous AC motors in this control mode. It's ideal for applications such as centrifugal fans and pumps, or conveyor applications.



Vector Mode allows operation in either open loop **Sensorless Vector** control or closed loop **Flux Vector** control. Selection between the two is done simply by selecting the Encoder PPR value. Choose a numerical PPR for closed loop operation, or choose "SE" for Sensorless Enhanced open loop operation. In most cases, tuning the drive isn't even necessary when switching between Sensorless and Flux Vector control due to the shared parameter set used for both methods of control.

RATINGS and Packaging



IEC-rated design for space optimization. Includes 7th IGBT for braking.



**Bookshelf Packaging
for Panel Mounting**

IP20 Bookshelf Drives	
• 380 to 460 VAC	2.1 to 30 A



**Standard Packaging
for Panel Mounting**

IP20 Drives	
• 380 to 460 VAC	38–360 A



Washdown duty – ideal for food processing environments.

NEMA 4X / IP54 Drives (Washdown)	
• 380 to 460 VAC	1–5 HP



Keep dust and dirt from contaminating the drive without the cost of a separate enclosure.

NEMA 12 / IP52 Drives (Dust Tight)	
• 380 to 460 VAC	1–20 HP

EMBEDDED Solutions

Option boards for various needs mount cleanly inside every GV3000/SE design. Network communications and I/O expansion cards connect directly to the GV3000/SE Regulator through a high-speed dual-port connection. With either of these options installed, you can take advantage of GV3000/SE's inner and outer control loops to adapt to any application.

Communicate to GV3000/SE on AutoMax[®], DeviceNet[™], ControlNet[™], Interbus, Profibus DP or other networks.

OR

Isolated digital & analog I/O expansion with Super RMI

A dual-port connection allows direct access to the 32-bit, Motorola 68332[®] processor for quick acknowledgement and response in networked applications.

I/O expansion allows terminal connections for more advanced drive control:

- PI setpoint control
- Outer loop trim of speed or torque for:
 - Inertia compensation
 - Current compounding
- Frequency input
- Additional preset speeds
- Assign relay outputs for:
 - Speed & torque setpoints
 - On-Delay logic



***mounted inside
the GV 3000***



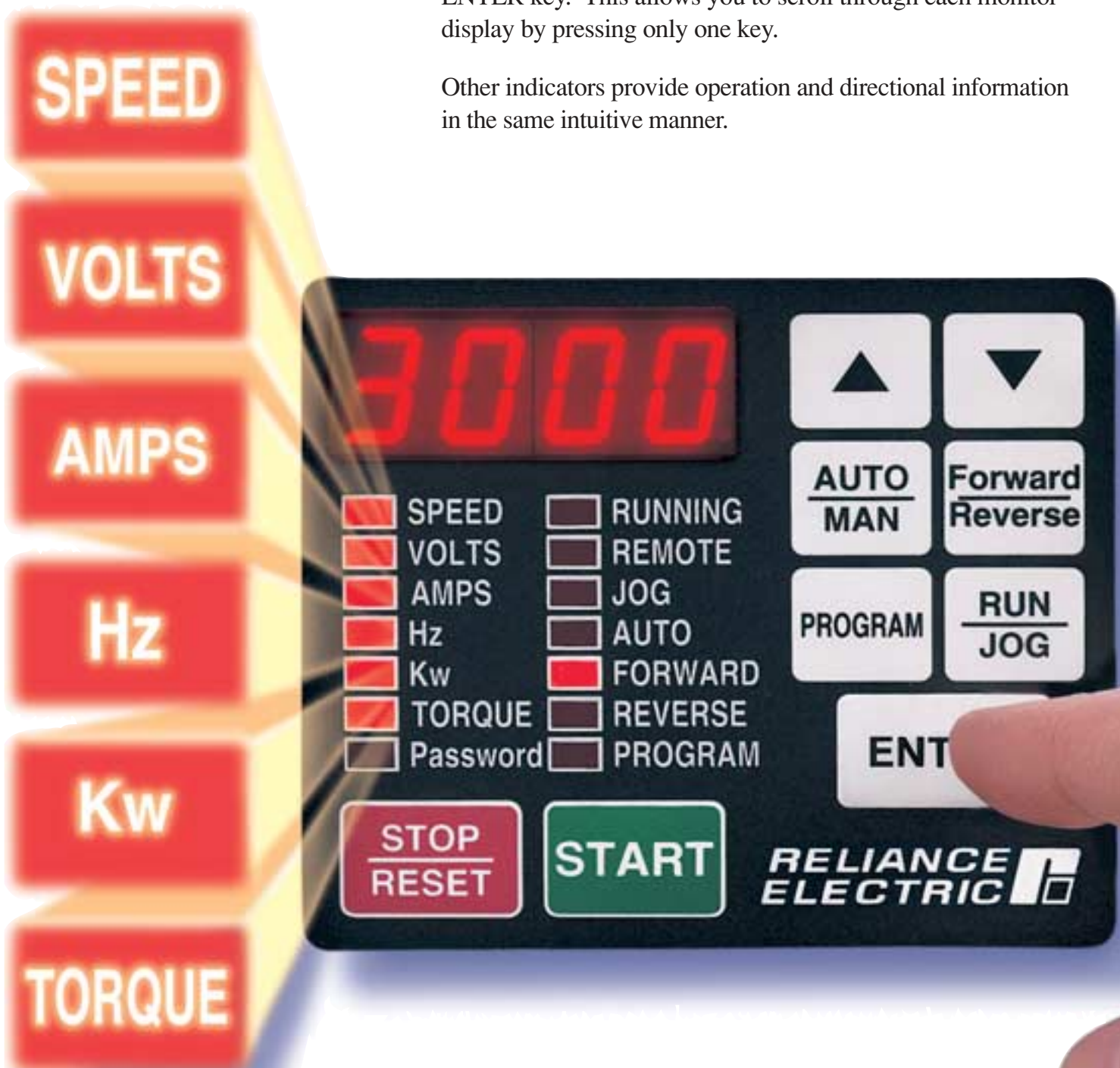
SIMPLE Operation and Setup

Built into every GV3000/SE is this simple to use display and keypad. Bright LEDs provide clear indication of programming, operating, and monitoring values.

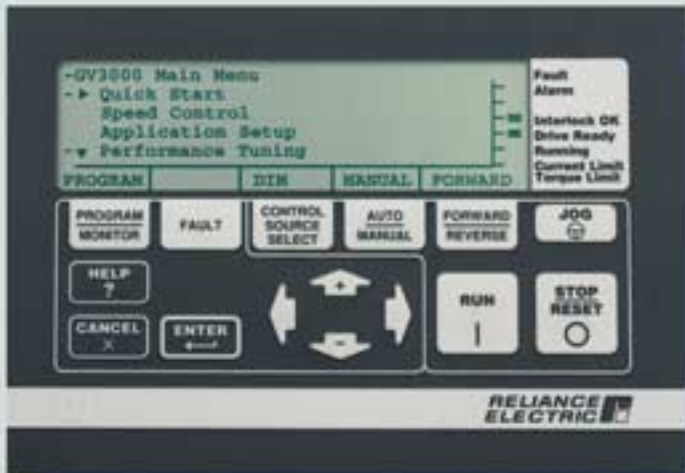
Arrow keys are used to change speed as well as to change data.

Monitoring of motor operation is done easily by pressing the ENTER key. This allows you to scroll through each monitor display by pressing only one key.

Other indicators provide operation and directional information in the same intuitive manner.



Optional Operator Interface Module



The Operator Interface Module (OIM) provides a remote-mounted drive interface.

The large, easy-to-read graphical display and function keys allow simple operator control, monitoring, and diagnostics.

A built-in help menu provides clear descriptions of drive setup and operation.



Help Menu

- Provides text description of parameter operation and use
- Eliminates the need to refer to instruction manuals
- Provides description of OIM operation



Monitor Operation

- Select 2, 4, or 6 lines of motor information
- Adjust text contrast for readability
- View intuitive status messages without selecting menus



Setup is made easy with self-prompting menus and parameter groupings.

Main Menu display allows selection

- Quick Start
- Speed Control
- Application Setup
- Performance Tuning
- Motor Data
- Drive Status
- Regulator Terminal Strip
- Option Port Configuration
- Memory Functions
- Additional Parameters



Displays can be shown in 5 languages.

Language Menu

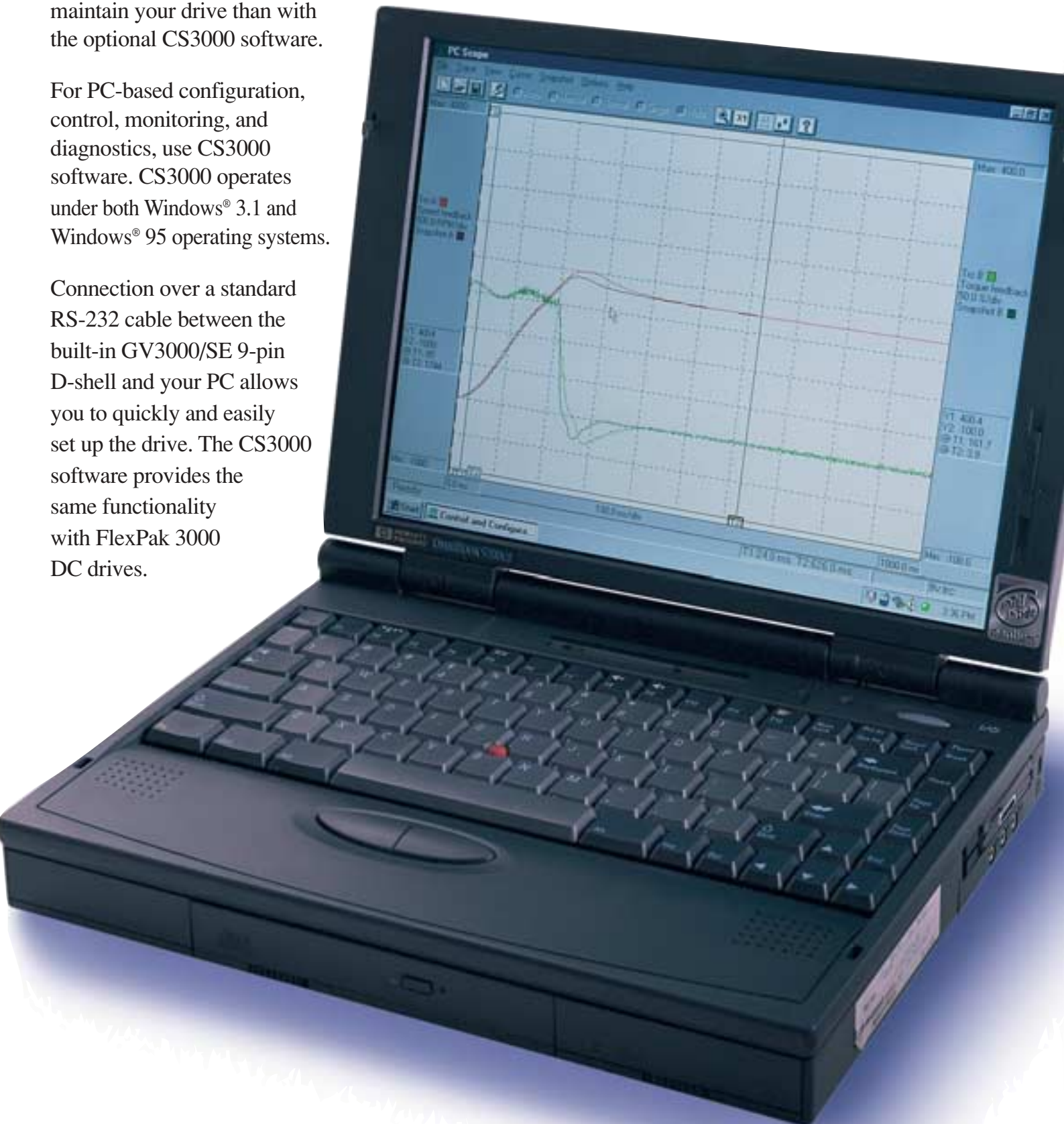
- English
- Deutsch
- Français
- Español
- Italiano

INTUITIVE Software

There's no easier way to configure, document, and maintain your drive than with the optional CS3000 software.

For PC-based configuration, control, monitoring, and diagnostics, use CS3000 software. CS3000 operates under both Windows® 3.1 and Windows® 95 operating systems.

Connection over a standard RS-232 cable between the built-in GV3000/SE 9-pin D-shell and your PC allows you to quickly and easily set up the drive. The CS3000 software provides the same functionality with FlexPak 3000 DC drives.



CS3000 Version 6.0 with PC Scope

Now, with the power of an oscilloscope on your PC, use the PC Scope™ feature to tune, diagnose, and analyze the performance of your application. Data can be saved as scope trace files or converted to ASCII for use in a spreadsheet. Overlay new scope traces over old with the Snapshot function to tune machine performance.

Configuration Editor

Assign OK Cancel Help

- P.000 = Local Control source
- P.001 = 0.1 Sec Accel time 1 (RAMP 1)
- P.002 = 0.3 Sec Decel time 1 (RAMP 1)
- P.003 = 0 RPM Minimum speed
- P.004 = 1736 RPM Maximum speed
- P.005 = 150 % Current limit
- P.007 = 0 TS digital inputs config
- P.008 = Analog TS speed ref source

* Do not change parameters marked with * before reading understanding the Dangers, Warnings and Cautions in Instruction Manual.

The Configuration Editor allows you to select and configure drive parameters at the drive or at your desk. Upload and download parameter settings from drive to PC. Save parameters as files for future reference and for ease of printing. Upload and compare parameter file settings to identify possible parameter changes.

Parameter Monitor

Parameter List

Parameter	Value	Unit	Description
P.001:0.1	0.1	Sec	Accel time 1 (RAMP 1)
P.002:0.3	0.3	Sec	Decel time 1 (RAMP 1)
P.003:0	0	RPM	Minimum speed
P.004:1736	1736	RPM	Maximum speed
P.025:RAMP			Stop type
		Sec	Line dip ride thru time
		V/Hz or Vector reg	V/Hz or Vector reg
		Encoder FPR	Encoder FPR
		Motor poles	Motor poles
Hz		Motor nameplate freq	Motor nameplate freq
U.004:1.6	1.6	Amps	Motor nameplate amps
U.005:1717	1717	RPM	Motor nameplate RPM
U.006:55.0	55.0	%	Magnetizing current
U.007:230	230	Volts	Motor nameplate volts
U.008:0ff	0ff		Torque self-tune enable
U.012:6.00	6.00		Speed reg proport gain
U.013:8.00	8.00	rad/s	Speed reg integral gain
U.014:0.45	0.45		Torque reg proport gain
U.024:0n	0n		Hi bus fault avoid enable
U.025:5.0	5.0	Sec	Zero speed braking time

Connected - Vector

Create a custom list of 20 tuning parameters to aid in application setup. Changes are downloaded immediately for you to observe in your application.

Drive Control

Manual reference

Min 0 Max 1736

1675 RPM Set

Drive metering

Parameter	Value	Unit
Reference	1675	RPM
Motor Speed	1676	RPM
Motor Current	1.2	Amps
Motor Voltage	217	Volts
Motor Torque	63	%
Output Power	0.24	KW

Drive control

Manual mode Auto/Man

Forward Ewd/Rev

Running Run

Jog reference 150 RPM Jog

Jog Set

Stop/Reset

Control source

Keypad Terminal block Network Serial (CS3000)

Close Help

From your PC you can operate the drive and monitor motor performance, including speed, current, voltage, torque, and kW.

ADAPTABLE in Application

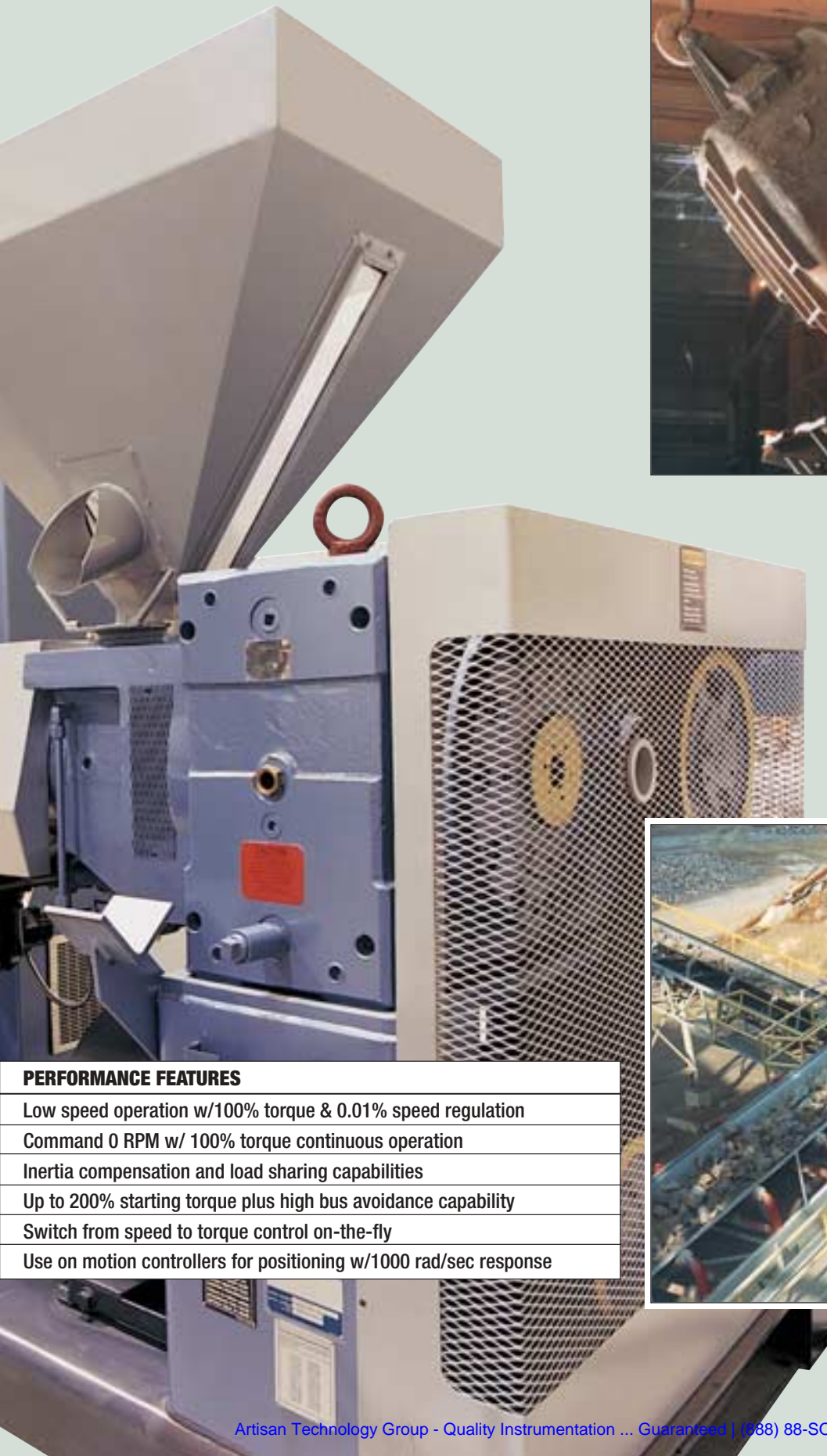


For demanding applications that were once dominated by DC drives and other control technologies, look to the GV3000/SE in Vector Mode for high performance along with reduced operating and maintenance costs.



APPLICATIONS

- Extruders
- Material Handling
- Web Processing
- Punch Presses
- Test Stands
- Metering Pumps



PERFORMANCE FEATURES

Low speed operation w/100% torque & 0.01% speed regulation

Command 0 RPM w/ 100% torque continuous operation

Inertia compensation and load sharing capabilities

Up to 200% starting torque plus high bus avoidance capability

Switch from speed to torque control on-the-fly

Use on motion controllers for positioning w/1000 rad/sec response

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