

CHAPTER ONE

Introduction

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Gemini Products—Overview

The Gemini Series is a *family* of high performance digital drives. The family contains drives for both stepper and servo motors. With many models and options available, the user can choose the precise level of power and control for the application's motion requirements.

Gemini Product Descriptions

Gemini GT and GV

Gemini GT Stepper Drives and GV Servo Drives are the basic Gemini products. They are controlled with standard command interfaces of step/direction (GT and GV) or $\pm 10V$ (GV only), and can be used with standard indexers or controllers.

The drives are configured over RS232/485 with either Motion Planner on a personal computer (PC), or Pocket Motion Planner on a palm PC. Many advanced features are standard in the drives, such as sensorless stall detect and ABS damping in the GT, and digital tuning and notch filters in the GV.

Gemini GT6 and GV6

The Gemini GT6 and GV6 are controller/drives available with several different programming modes. These drives have basic motion control and sequencing capabilities, and can be used in distributed control applications. By using optional plug-in cards, they can be equipped with interfaces for Profibus or DeviceNet.

The GT6 and GV6 are configured and programmed over RS232/485, either with Motion Planner on a PC, or Pocket Motion Planner on a palm PC.

Gemini GT6K and GV6K

The GT6K and GV6K are single axis packaged controller/drives in the Gemini family that offer full 6K Series controller functionality and programmability for complex distributed control applications. Key features include: complex program capabilities such as math, variables, and logic control; flexible and expandable serial I/O modules; and Ethernet compatibility for PC bus access. The user programs these devices over an RS232/485 communication port or Ethernet; a second port is available for use with a full-time operator interface.

Gemini Product Names

The following table lists the meanings of letters and numbers in Gemini product names. Notice that “T” is associated with step motor products (“sTep”), and “V” is associated with servo motor products (“serV_o”).

Control Level:

| Step Motor Drives and Controller/Drives | | Servo Motor Drives and Controller/Drives | |
|---|----------------------------------|--|-----------------------------|
| GT | Step Motor Drive | GV | Servo Motor Drive |
| GT6 | 6000-based Step Motor Controller | GV6 | 6000-based Servo Controller |
| GT6K | 6K-based Step Motor Controller | GV6K | 6K-based Servo Controller |

Power Level:

Step Motor Drives and Controller Drives

- L5 120VAC, 5A at 170VDC
- L8 120VAC, 8A at 170VDC

Servo Motor Drives and Controller/Drives

- L3 120VAC, 3A continuous, 7.5A peak at 170VDC
- U3 120/240VAC, single phase, 3A continuous, 7.5A peak at 170/340VDC
- U6 120/240VAC, single phase, 6A continuous, 15A peak at 170/340VDC
- U12 120/240VAC, single phase, 12A continuous, 30A peak at 170/340VDC
- H20 208/240VAC, three phase, 20A continuous, 50A peak at 294/340VDC (single phase: 16A continuous, 50A peak at 294/340VDC)
- H40 208/240VAC, three phase, 40A continuous, 100A peak at 294/340VDC

Amperage values represent continuous current, peak of the sine wave.

- “L” = “Low” voltage input (120VAC)
- “U” = “Universal” voltage input (120/240VAC)
- “H” = “High” voltage input (208/240VAC)

Options:

Data Bus (-db) Option (for GT6 and GV6 only):

- DN DeviceNet
- PB Profibus

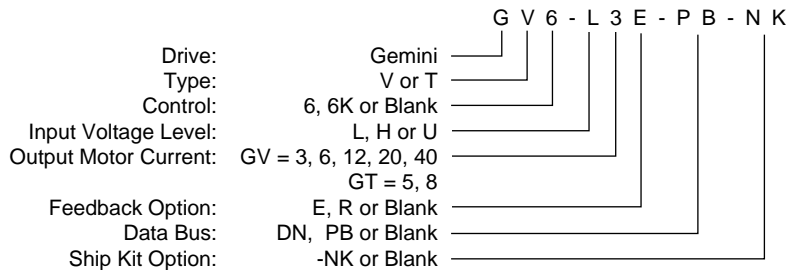
Feedback (-fb) Option (for Servos only):

- E Encoder/Hall
- R Resolver

Ship Kit Options:

- NK No Kit

Format:



Format Example

Compatible Compumotor Products

| | |
|-----------------------|--|
| GT- <i>nn</i> Stepper | 6K or other Compumotor indexer |
| GV- <i>nnn</i> Servo | $\pm 10V$ mode: 6K or other Compumotor controller |
| | Step/Direction mode: 6K or other Compumotor indexer |
| Software | Motion Planner Pocket Motion Planner (version 1.2 or higher) Note: Gemini drives are not compatible with ASCII communication programs such as Motion Architect or X Language software. |
| Cables, Motors, etc.: | See list at beginning of <i>Chapter 2 Installation</i> , in <i>Appendix A Specifications</i> , and in the separate <i>Gemini Motor Reference Manual</i> . |

User Guides

The following items ship with the drive:

- Gemini Quick Start Guide
- Gemini Hardware Installation Guide
- Gemini Programmer's Reference
- Gemini Motor Reference Manual
- Motion Planner CD-ROM

You can also order the drive only, with none of the above items. Specify the *-NK* option ("No Kit").

Motor Information

Information about Compumotor motors is in the separate *Gemini Motor Reference Manual*.