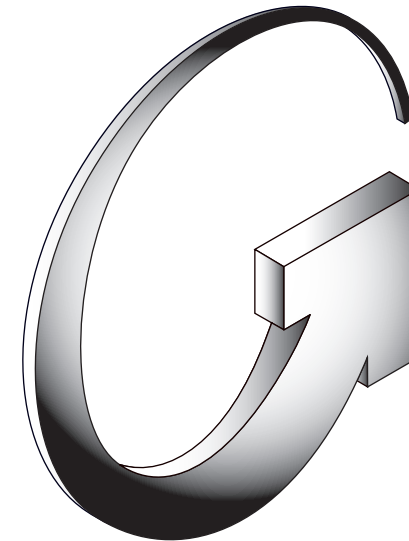


# Quick Reference Guide



### Protective Circuits

- Short Circuit Protection
- Inrush Current Protection
- Drive Overtemperature Protection
- Motor Overtemperature Protection
- Undervoltage Protection
- Overvoltage Protection
- Current Foldback
- Regeneration Protection

### Environmental Specifications

- Operating Temperature: Still Air: 45°C (113°F)  
 Moving Air: 50°C (122°F)
- Storage Temperature: -40°C – 85°C (-40°F – 185°F)
- Humidity: 0 – 95%, non-condensing
- Shock: 15g, 11 msec half sine
- Vibration: 10 – 2000 Hz at 2g

### Troubleshooting

Commonly used status commands (binary status bits are numbered 1 to n, from left to right):

- TERRLG Error log reports the last 10 error conditions (cleared with CERRLG).
- TASF General report, including fault conditions.
- TASXF Additional report of conditions not covered with TAS.
- TCS If TASX bit #7 or bit #28 is set, you can identify the cause with TCS.
- TINOF Bit 6 shows status of Enable input; 1 = OK for motion.
- TIN Status of digital inputs.
- TLIM Status of home and end-of-travel limits.
- TIO Status of expansion I/O.
- TOUT Status of digital outputs.
- TSSF Report of system status bits.
- TSTAT Report of system statistics.

You must configure all motor parameters. Be sure to follow the drive configuration procedure (see *Hardware Installation Guide*).  
 The drive can not be enabled (DRIVE1) unless the Enable input is grounded and the Reset input is not grounded.

- Use one of these methods to reset the drive/controller:
- RESET command (resets drive & internal controller).
  - DRESET command (resets drive, but not controller).
  - Momentarily close the Reset input.
  - Cycle power to the drive.

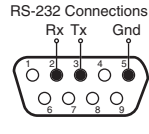
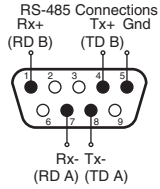
# Gemini GV6K Series Digital Servo Controller/Drives

Compumotor Division  
 Parker Hannifin Corporation  
 p/n 88-019930-01 A (effective October 15, 2001)



**RS-232/485 Connector – COM1 – Port 1**

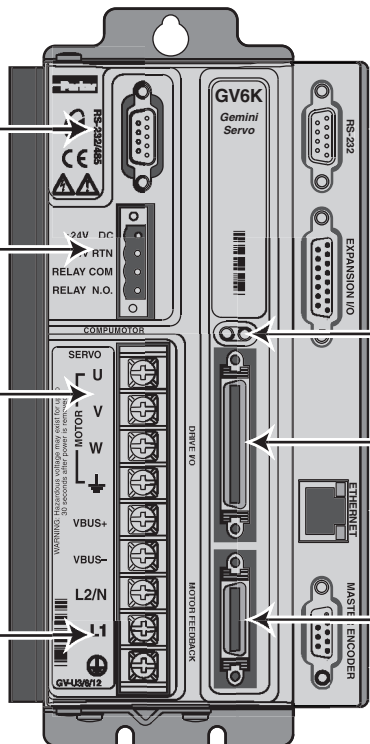
To configure drive parameters, connect a PC to this port. Use Motion Planner for drive configuration. Enabling Ethernet will disable the COM1 port.



**Quick Reference Guide**

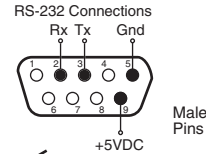


**GV6K Servo**



**RS-232 Connector – COM2 – Port 2**

Connect an RP240, or use this port for RS-232. Download Operating System through this port only. Ethernet and COM2 can both be active at the same time.



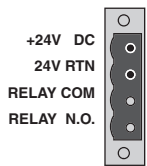
**+24VDC/Relay Connector**

Required +24VDC input. 19.2 – 28.8 VDC. 500 mA minimum.

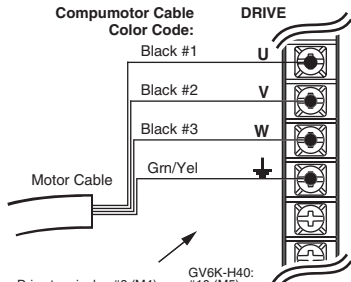
When drive is enabled, it holds relay closed.

Relay rating: 5A at 24VDC or 120VAC.

If drive is faulted or disabled, relay will open. (Typical use: control of motor brake.)



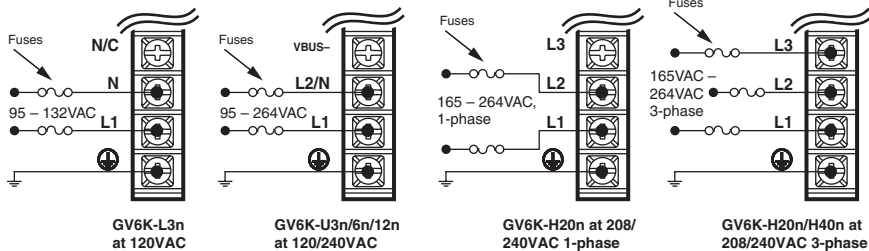
**Motor Output Connections**



Motor Cable  
Drive terminals: #8 (M4) #10 (M5)  
Mating terminals: spade fork, 0.25" L.D., 0.50" O.D. max. width

GV6K-H40: #10 (M5)  
ring terminal maximum width

**AC Input Connections**



**LEDs**

Green/Red Yellow/Green

LED Color:  
Left Right

Red Grn  
Red Yel  
Grn Grn (flash)  
Off Yel  
Grn Off  
Red Off

Indicated State:  
+24VDC only  
AC only  
Motion in progress  
Autorun mode  
Initializing  
Drive ready  
Drive not enabled or  
Drive faulted

**Ethernet Connector**

RJ-45 connector for 10Base-T (10Mbps twisted pair) TCP/IP protocol. Default address is 192.168.10.30. Green LED on = Connection OK; Yellow LED on (flash) = Transmitting.

**Master Encoder Connector**

Connect an encoder for Following only; not for servo feedback or stepper stall detect.

**Expansion I/O Connector**

Connect as many as eight EVM32-II I/O modules in series, for up to 256 additional I/O points.

**50 Pin DRIVE I/O Connector**



Output Ground	50	25	Analog Ground
Output 6	49	24	Analog Input-
Output 5	48	23	Analog Input+
Output Ground	47	22	Analog Output B
Output 4	46	21	Analog Output A
Output 3	45	20	Digital Ground
Output Ground	44	19	Enc Out Z-
Output 2	43	18	Enc Out Z+
Output Ground	42	17	Enc Out B-
Output 1	41	16	Enc Out B+
Input/Limit Ground	40	15	Enc Out A-
Input 3	39	14	Enc Out A+
(Trig B) Input 2	38	13	Reserved
(Trig A) Input 1	37	12	Reserved
Input/Limit Ground	36	11	Reserved
(Master Trig) Input 5	35	10	Reserved
Input 4	34	9	Reserved
CNTRL-P: Inputs 1 – 5	33	8	Reserved
Input/Limit Ground	32	7	Digital Ground
(Home) Limit 3	31	6	Digital Ground
Input/Limit Ground	30	5	Reserved
(Neg) Limit 2	29	4	Reserved
(Pos) Limit 1	28	3	Reset
CNTRL-P: Lim 1 – 3	27	2	Digital Ground
VINref	26	1	Enable

**26 Pin MOTOR FEEDBACK Connector**



Cos-	26	13	Thermal Switch
Cos+	25	12	Thermal Switch
Sin-	24	11	Digital Ground
Sin+	23	10	Encoder Z-
Reserved	22	9	Encoder Z+
Reserved	21	8	Encoder B-
Ref 1-	20	7	Encoder B+
Ref 1+	19	6	Encoder A-
Hall C	18	5	Encoder A+
Hall B	17	4	Encoder Ground
Hall A	16	3	Encoder Ground
Hall Ground	15	2	Encoder +5V
Hall +5V	14	1	Encoder +5V

**Multiple Drive Connections**

