

Ship Kit

This material supersedes the information on page 3 of the *6K Series Hardware Installation Guide* (88-017547-01A).

A ship kit is automatically included with the standard product part number (i.e., 6K2, 6K4, 6K6, or 6K8). If you do not need a ship kit, you may order the “no kit” (-NK) option (i.e., 6K2-NK, 6K4-NK, 6K6-NK, or 6K8-NK).

The corrected ship kit table is provided below:

Part Name	Part Number
One of the following 6K products:	
6K2 two-axis controller with ship kit (see 6K-KIT list below)	6K2
6K2 without ship kit.....	6K2-NK
6K4 four-axis controller with ship kit (see 6K-KIT list below)	6K4
6K4 without ship kit.....	6K4-NK
6K6 six-axis controller with ship kit (see 6K-KIT list below)	6K6
6K6 without ship kit.....	6K6-NK
6K8 eight-axis controller with ship kit (see 6K-KIT list below)....	6K8
6K8 without ship kit.....	6K8-NK
Ship kit items (6K-KIT): *	
6K Series Hardware Installation Guide	88-017547-01
6K Series Command Reference	88-017136-01
6K Series Programmer's Guide	88-017137-01
Motion Planner CD-ROM	95-017633-01
Ethernet cable (5-foot, RJ-45, cross-over).....	71-017635-01
Peel-and-stick labels for onboard I/O cables	87-017636-01

* The panel mounting kit (part number 74-018177-01), which includes two mounting brackets and four screws (6-32 x 1/4), is included with all 6K shipments, independent of the 6K-KIT.

Specifications

Parameter	Parameter Type	Value
Power	Input	24 VDC, 2 Amp, User Supplied Additional power may be required for I/O use See Installation Guide for Details
Environmental	Operating Temperature	32° to 122°F (0° to 50°C)
	Storage Temperature	-22° to 185°F (-30° to 85°C)
	Humidity	0% to 95% non-condensing
Performance	Command	+/- 10V or Step & Direction Configurable per axis
	Servo Update	As fast as 62.5 µs/axis
	Encoder	Two phase quadrature detect incremental encoders with differential (recommended) or single ended outputs (+5 VDC TTL compatible) Max Frequency = 12 MHz post quadrature
	Stepping Accuracy	+/-0 steps from preset total
	Position Range	+/-2,147,483,648 counts
Inputs	Velocity Range	1 to 2,048,000 counts/sec (step & direction output) 1 to 12,000,000 counts/sec (+/- 10V output)
	End-of-Travel & Home Limits per axis	Factory default is 24 VDC sourcing Jumper LIM-P to GND for sinking 0-24 VDC range through VIN _{ref} 1/3 1/3 1/3 voltage switching threshold Configurable as programmable inputs if not needed as limits
	Onboard	Fast trigger inputs 9 on 6K2 & 6K4, 17 on 6K6 & 6K8 Factory default is 24 VDC sourcing Jumper TRIG-P to GND for sinking 0-24 VDC range through VIN _{ref} 1/3 1/3 1/3 voltage switching threshold
	EVM32 Expansion (optional)	Up to 256 digital inputs (2 ms update rate) Up to 64 12-bit analog inputs (+/- 10 VDC) 12-24 VDC user supplied through EVM32 module 1/3 1/3 1/3 voltage switching threshold on digital inputs LEDs provided on digital inputs for visual reference
Outputs	Onboard	5-24 VDC user supplied 300 mA maximum current sink 4 on 6K2 & 6K4, 8 on 6K6 & 6K8
	EVM32 Expansion (optional)	Up to 256 digital outputs (300 mA maximum current sink)* Up to 64 10-bit analog outputs (+/- 10VDC) 12-24 VDC user supplied through EVM32 module Up to 256 relay outputs (0.5 A) LEDs provided on digital and relay outputs for visual reference
Communications	Ethernet	10 Base-T (10Mbps Twisted Pair) Multiple protocols
	Serial	RS-232, RS-485 2-wire or 4-wire Up to 115,200 baud, Up to 99 units in daisy-chain or multi-drop

* Maximum number of outputs and maximum current sink are heat dependent. See product documentation for duty cycle considerations.

Discover How The 6K Motion Controller Can Solve Your Next Application. Call 1-800-358-9070 Today.

Front Surface Connectors

Encoder • 9-pin D connector, female

Pin No.	Signal
1	+5VDC
2	A+
3	A-
4	B+
5	B-
6	Z+
7	Z-
8	Single Ended
9	ISO GND

Drive • 15-pin D connector, female

Pin No.	Signal
1	Step+ (stepper)
2	Direction+ (stepper)
3	Command+ (servo)
4	Stall (stepper)
5	Drive Fault (both)
6	Command- (servo)
7	Shutdown (NO) (servo)
8	Shutdown (NC) (servo)
9	Step- (stepper)
10	Direction- (stepper)
11	Shutdown+ (stepper)
12	Shutdown- (stepper)
13	ISO GND (both)
14	Shtdn Common (servo)
15	Analog Ground (servo)

Limits/Home • 25-pin D connector, female

Pin No.	Signal
1	Home4
3	Neg4
5	Pos4
7	Home3
9	Neg3
11	Pos3
13	Home2
15	Neg2
17	Pos2
19	Home1
21	Neg1
23	Pos1
25	Reserved
Even	ISO GND

Triggers/Outputs • 25-pin D connector, female

Pin No.	Signal
1	Output4
3	Output3
5	Output2
7	Output1
9	Trigger8
11	Trigger7
13	Trigger6
15	Trigger5
17	Trigger4
19	Trigger3
21	Trigger2
23	Trigger1
25	Reserved
Even	ISO GND

Top Surface Connectors

Power Input • 12-pin Screw Terminal

Pin No.	Signal
1	SHIELD
2	ISO GND
3	ENABLE
4	OUT DIODE
5	MASTER TRIG
6	ISO GND
7	CNTRL-P
8	LIM-P
9	TRIG-P
10	VINref
11	24 VDC RTN
12	+ 24 VDC PWR

Master Encoder Input • 9-pin D connector, female

Pin No.	Signal
1	+5VDC
2	A+
3	A-
4	B+
5	B-
6	Z+
7	Z-
8	ISO GND
9	ISO GND

I/O Expansion (15-pin D connector, male)

Connection to the expansion I/O modules. I/O modules sold separately. Up to 256 digital inputs, 256 digital outputs, 64 analog inputs, 64 analog outputs, and 256 relay outputs.

RS-232/485 (9-pin connector, male)

Configurable for RS-232 or RS-485 at 9600 to 115,200 baud

RS-232/Fieldbus In (9-pin D connector male)

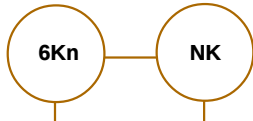
RS-232 port at 9600 to 115,200 baud
 Data in port on fieldbus options

Ethernet (RJ45 Connector)

10Base-T Ethernet connection with TCP/IP and UDP protocol

Ordering Information and Part Numbers

Controller



n= 2 – 2 axes
 n= 4 – 4 axes
 n= 6 – 6 axes
 n= 8 – 8 axes

Example: 6K4-NK
 (a 4-axes controller with no ship kit included and no synchronization bus included.)

*For fieldbus options, please contact your local ATC or call Compumotor.

I/O Screw Terminal Breakout



VM25 25 pin-D to screw terminal breakout board w/ 2' cable (for use with onboard I/O)

MotionPanel™



See HMI section for product details

Expansion I/O*



- EVM32-BASE Expansion I/O module w/ 2' cable and cover
- SIM8-IN-EVM32 8 digital input SIM with LEDs
- SIM8-OUT-PNP 8 digital sourcing output SIM with LEDs
- SIM8-OUT-NPN 8 digital sinking output SIM with LEDs
- SIM8-AN-IN 4 12-bit analog input SIM
- SIM8-AN-OUT 4 +/- 10V analog 10-bit output SIM
- SIM8-RLY10 8 10 watt reed relay SIM

* EVM32-BASE and SIM cards sold separately. Up to 4 SIM cards fit in each EVM32-BASE.

Power Supply

PS-60W
 60 Watt 24 volt DC power supply



Cables

- 71-016137-10 10' 6K to Stepper (ZETA, OEM750, S-Drive)
- 71-017003-10 10' 6K to Servo (cut off)
- 71-016949-100 100' expansion I/O cable
- 71-016987-10 Gemini to 6K Servo
- 71-016966-10 Gemini to 6K Stepper

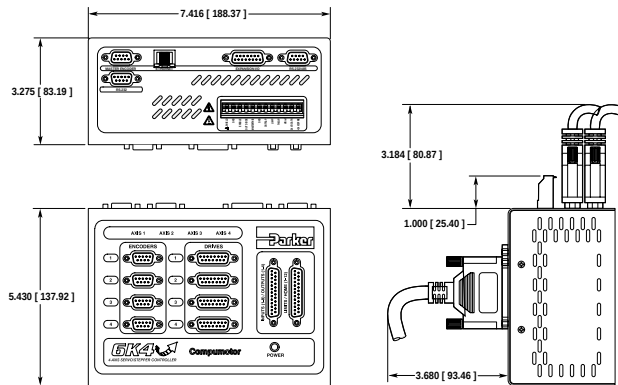
Ship Kit

- 6K-Kit 6K Hardware Installation Guide
- 6K Programmer's Guide
- 6K Command Reference
- Motion Planner CD
- Panel Mounting Hardware
- Crossover Ethernet cable for direct PC to 6K communication only

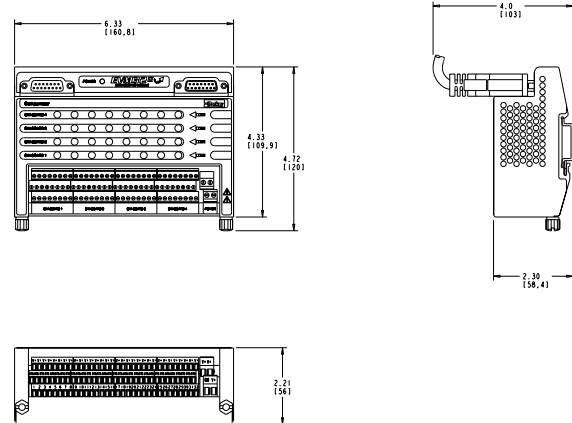
Dimensions for 6K and EVM32

Dimensions in inches (mm)

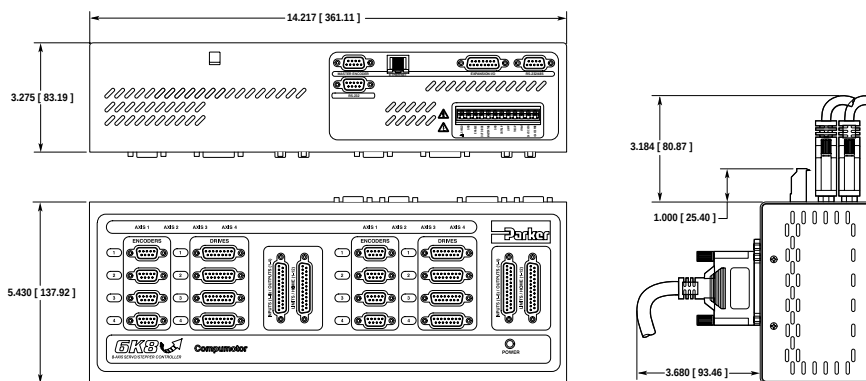
6K2 & 6K4



EVM32



6K6 & 6K8



Discover How The 6K Motion Controller Can Solve Your Next Application. Call 1-800-358-9070 Today.