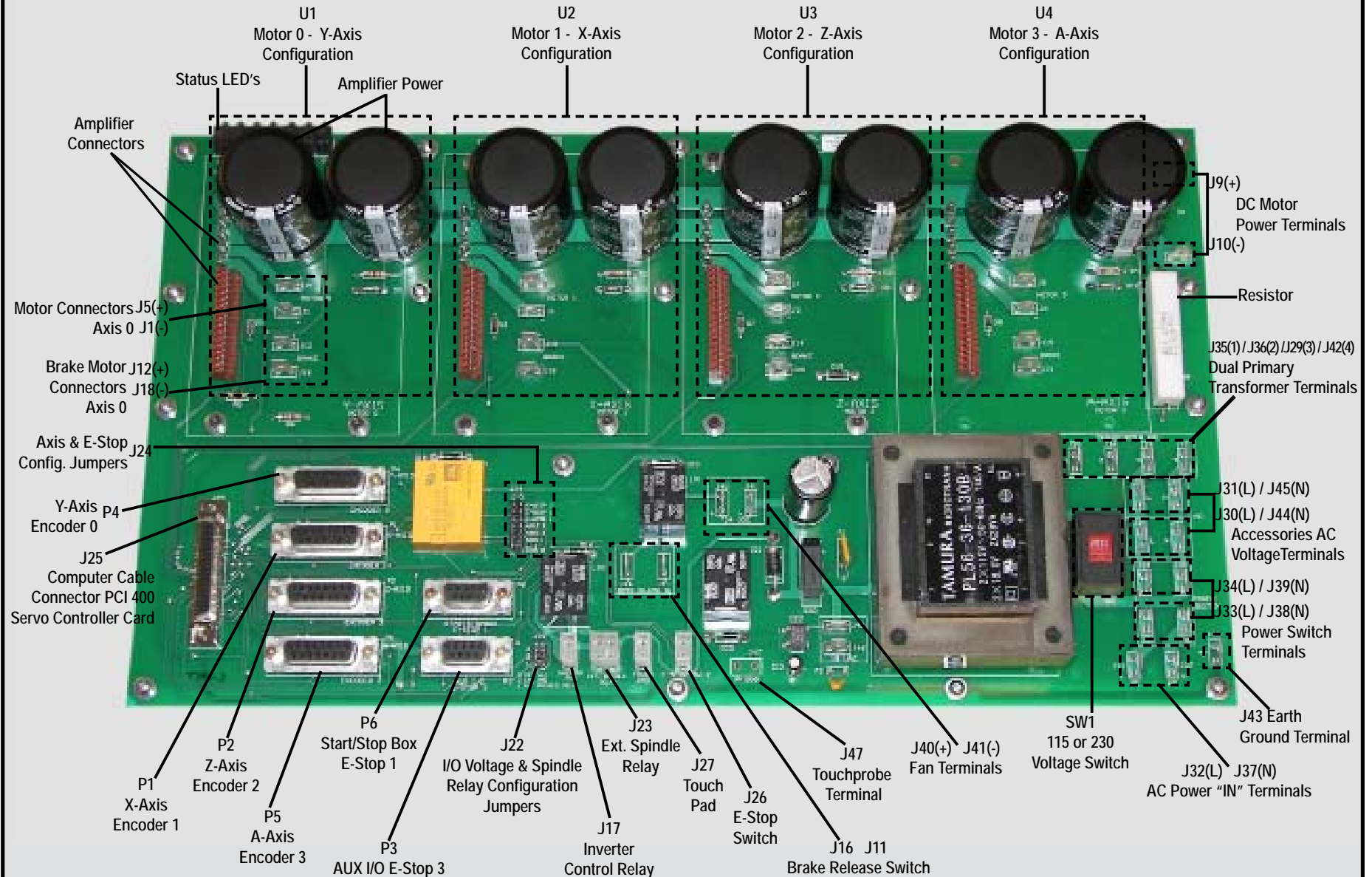


# MP/HP SERVO CONTROLLER 3 MOTHERBOARD



**Medium Power & High-Power Electronics Servo Board with Callouts**

HTT04030808

**MP/HP SERVO CONTROLLER 3 MOTHERBOARD CALLOUTS**

The following information takes callouts from the previous page, titled MP/HP Servo Controller 3 Motherboard and explains the meaning, and/or further information regarding the importance of certain parts on the controller board. This document begins with the callouts closest to the Status LED's at the top left corner of the controller board, and will work its way around the diagram clockwise.

**D17/D14/D19/D1/D2/D3/D4 - Status LED'S:**

These LED's are set up to signal the status of the servo box from the outside of the Servo Box3 front panel.

**U1/U2/U3/U4- Motor/Axis Configurations:**

The Motor/Axis Configurations pertain to the grouping of components that operate each axis and separate motors of the machines. They include the Amplifiers, Motor Connectors, Brake Motors, and Amplifier Connectors.

**J9(+)/J10(-) - DC Motor Power Terminals:**

These jumpers connect the external power supply for the DC Motor Power. J9 has a positive(+) charge, while J10 has a negative (-) charge. The Maximum power in through the DC Motor Power is 85V.

**J35(1)/J36(2)/J29(3)/J42(4) - Dual Primary Transformer Terminals:**

Primaries of power transformer connect here.

**J31(L)/J45(N)/J30(L)/J44(N) - Accessories AC Voltage Terminals:**

Provides accessory power voltage equal to the line voltage.

**J34(L)/J39(N)/J33(L)/J38(N) - Power Switch Terminals:**

The terminals for double pole power switch.

**J43 - Earth Ground Terminal:**

Earth Ground connection.

**J32(L)/J37(N) - AC Power "IN" Terminals:**

Connection for 120V or 220V, 50/60 Hz Power. Set the SW1 Voltage Switch appropriately.

**SW1 - 115 or 230 Voltage Switch:**

Set this switch to the line (mains) voltage. Failure to set correctly will result in damage.

**J40(+)/J41(-) - Fan Terminals:**

Terminals for 24VDC enclosure cooling fan.

**J16/J11 - Brake Release Terminals:**

Terminals for brake release switch, they normally open momentarily to allow voltage /current flow. Normally closed flows when not activated.

**J47 - TouchProbe Connector:**

Connector for TouchProbe.

<b>J47</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Input (OT3)
2	Ground

**J26 - E-Stop Switch 2:**

Connector for External E-stop Switch.

**J27 - TouchPad Connector:**

Connector for tool calibration touchpad.

<b>J27</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Input
2	Ground

**J23 - External Spindle Relay:**

Connector for an external spindle control relay J22, Jumper 1 must be installed to use this connector. Relay coil current must not exceed 250mA. If external relay box (H26T60-SRVRELAY) is used, connect it to this connector.

<b>J23</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Relay Contact
2	+24V
3	Relay
4	Opto-Isolated Ground

**J17 Inverter Control Relay:**

On/Off spindle control. If an inverter is used, it is connected to this connector.

<b>J17</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Relay Contact
2	Relay Contact

**J22 - I/O Voltage & Spindle Relay Configuration Jumpers:**

Jumper 3 is the External Voltage In, do not use unless instructed to do so by Techno. Jumper 1 is the Internal Spindle Relay that is usually installed if the inverter is connected to J17, otherwise remove. If J7 is used to control an inverter this jumper must be installed, otherwise remove.

<b>J22</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Internal Spindle Relay
2	External Ground
3	External Voltage In

**P3 - AUX I/O E-Stop 3 Connector :**

Connector for accessories such as tool changer controllers.

<b>P3</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	Spindle Output
2	+24V
3	Opto-Isolated Ground
4	External V In
5	Home 3
6	E-Stop Switch 2
7	E-Stop Switch 3
8	Ground
9	OT3

**P6 - Start/Stop Box E-Stop 1 Connector:**

The Start/Stop Box and E-Stop 1 is attached to this connector.

<b>P6</b>	
<u>PIN</u>	<u>FUNCTION</u>
1	No Connection
2	+24V
3	Opto-Isolated Ground
4	OT0
5	OT1 (Start)
6	ESTOP 1
7	ESTOP 1
8	Ground
9	OT2 (Stop)

**P5/P2/P1/P4 - Axes Encoder Connectors:**

P4 is the Encoder 0 Connector, also known as the Y-Axis.  
 P1 is the Encoder 1 Connector, also known as the X-Axis.  
 P2 is the Encoder 2 Connector, also known as the Z-Axis.  
 P5 is the Encoder 3 Connector, also known as the A-Axis.

**J25 - Computer Cable Conn. PCI400 Servo Controller Card:**

Connects to PCI 400 Card.

**J24 - Axis and E-Stop Configuration Jumpers:**

Axis and E-Stop Configuration. **Install** jumper for any axis or E-Stop that is **not present**.

E-stop 3 on P3 Aux I/O  
 E-stop 2 on E-stop Switch 2(J26)  
 E-stop 1 on RG+ Start/Stop Box  
 Axis 3  
 Axis 2  
 Axis 1  
 Axis 0

**P5/P2/P1/P4**

PIN	FUNCTION
1	E-Stop Loop 1
2	Encoder A
3	Encoder B
4	Encoder Z
5	+5V
6	Home
7	OT
8	+24V
9	No Connection
10	Encoder A
11	Encoder B
12	Encoder Z
13	Ground
14	Gound
15	E-Stop Loop 2