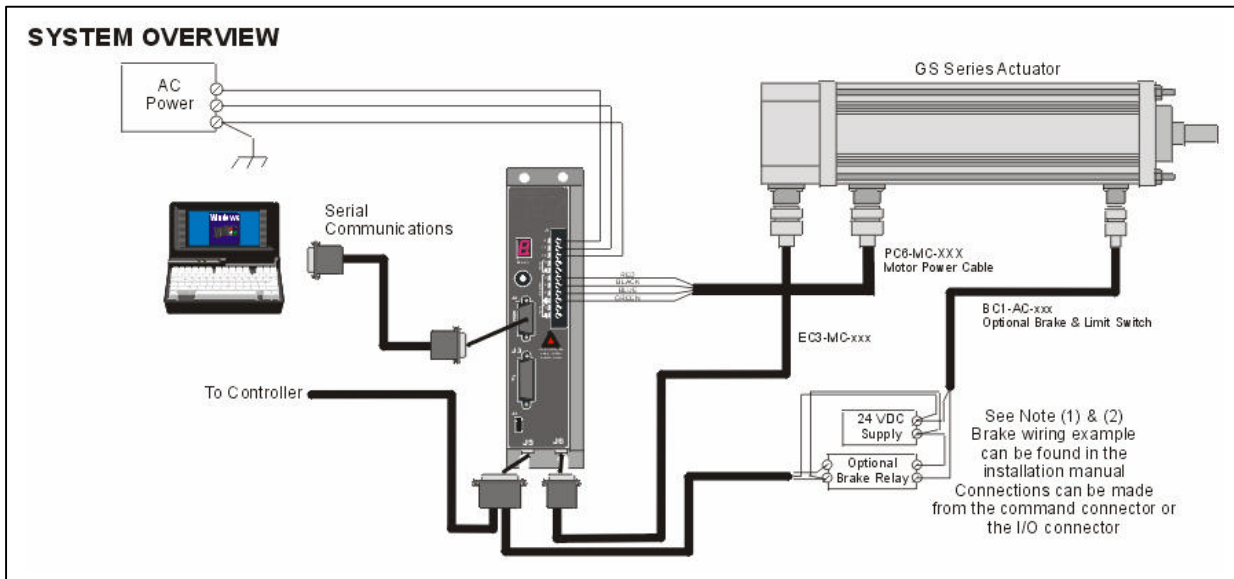


## 7.1 Emerson Epsilon Drive with GS/X Series Actuator (M Connector Option)



**Note:** Dangerous voltages exist, so use extreme caution when operating this equipment. Sufficient energy remains in the Epsilon drive to cause motion even with the power removed. Wait for the 7-segment display to dim to off when powering down the drive. At start-up, be sure to have the proper motor file selected and limit the maximum acceleration until proper operation is verified.

### SETTING UP THE EMERSON EPSILON SERIES DRIVE TO RUN GS/X SERIES ACTUATORS


The quick touch setup cannot be used to select the Exlar actuator. The motor file containing the Exlar actuators is supplied by Exlar and must be saved as the motor.ddf file in the Power Tools main directory of the personal computer. When running PTOOLS, the actuator can be selected from the motor list and downloaded to the Epsilon Series drive by following these steps:

1. Click on the PowerTools Icon
2. From the menu bar, select File-New
3. Select Predefined Setup Selection appropriate for the application
4. Enter the appropriate ID name, drive address, line voltage, and operating mode.
5. Enter the Epsilon Series drive type
6. At this point if it asks you to enter a motor, then from the pull down menu, select the appropriate GS actuator.
7. Click on the Inputs, then Outputs tabs and configure the I/O as required.
8. Click on the Position, Velocity, and Torque tabs and configure the I/O as required.
9. Click on the Motor tab, then the drop-down Motor Type. The Exlar GS Series actuators should be included in the list. If they are not, the motor.ddf file from Exlar must be loaded into the Power Tools directory.
10. Download to the Epsilon Series drive by clicking on Device – Download from the menu items.

Basic GS/X Series Parameter Settings for Emerson Epsilon Drives <sup>1</sup>							
		GS/X20	GS/X30	GS/X40	GS45	GSX50	GS/X60
Number of Poles		GS-6 GSX-8	GS-6 GSX-8	GS-8 GSX-8	GS-6	8	GS-6 GSX-8
Maximum Speed	RPM	5000	3000	3000	2400	2400	2400
J <sub>m</sub>	Lb-in-s <sup>2</sup>	See Inertia Table in section 7.0					
Encoder Size	Lines	2048	2048	2048	2048	2048	2048
Index Offset	Degrees	330	330	330	330	330	330
Hall Offset	Degrees	330	330	330	330	330	330

<sup>1</sup> Appropriate motor files may be obtained from Exlar or www.exlar.com and downloaded to Epsilon-XXX drives.

## CABLES FOR EMERSON EPSILON DRIVE WITH GS/X SERIES ACTUATOR (M CONNECTOR OPTION)

Motor Cable PC6-MC-XXX for GSX20/30 PC7-MC-XXX for GS/X40 and GS45			
Exlar Connector	Wire Color	Function	Epsilon-XXX Connection
A	Red	R Phase	R
B	Black	S Phase	S
C	Blue	T Phase	T
D	Green/Yellow & Shield	GND	

<sup>1</sup> GS60 uses PC3-AC-XXX, refer to "O" connector wiring section

Brake and Limit Switch Cable BC1-AC-XXX			
Exlar Connector	Wire Color	Function	Epsilon Connection
A	Blue	+24 VDC	24 vdc PS+
B	Yellow	24V GND	24 vdc PS-
C	Red/White	Lim Sw +	J3 or J5
D	Yellow/White	Lim Sw -	J3 or J5
E			
F	Black	24V GND	24 vdc PS-
G	Red	Brake Relay Contact -	Brake Relay connection
		Brake Relay Contact +	24 vdc PS+
		Brake Relay Coil +	J3 or J5
		Brake Relay Coil -	24 vdc PS-

NOTES: (1) GS Series travel limits are current sinking. EN Series Drive inputs are current sourcing requiring a 2.2k Ohm ¼ Watt pull resistor to the input power supply + for correct operation. Check to verify that the EN drives travel limits are configured to "Active Off" to insure correct operation. (2) An external relay is required for brake operation. (3) Connectors A, B, C and D are for limit switches. Connectors F and G are for brake.

Encoder Cable EC3-MC-XXX			
Exlar Connector	Wire Color	Function	J5, DB-26 Connection
A	Red/Green	Motor Overtemp	9
B	Blue	A+	1
C	Orange	A-	10
D		Overtemp Gnd	17
E	White/Brown	U+	4
F	White/Gray	V+	5
G	Red/Orange	W+	6
H	Orange/Red	W-	15
J			16
K	Red/Blue	+ 5 VDC	7
L		+ 5 VDC	N/C
M	Black	Z+	3
N	Green	B+	2
P	Brown	B-	11
R	Brown/White	U-	13
S	Gray/White	V-	14
T	Blue/Red	GND	17
U	Yellow	Z-	12
V			N/C
W			N/C
X			N/C
Y			N/C
Z	Shield		N/C