

### Yaskawa - 'M' Manufacturers Connector, Cable & Wiring Information

#### Current Exlar Feedback configurations are as follows:

YS2 = Yaskawa Absolute Encoder for GSX/GSM 40/50/60 Frame Sizes – SGMGH motor wiring w/MS Style connectors for 'M' option

YS3 = Yaskawa Absolute Encoder for GSX/GSM 20/30 Frame Sizes – SGMGH motor wiring w/MS Style connectors for 'M' option

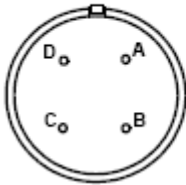
\*Please make note, We are unable to provide the Yaskawa feedback options with SLM/SLG Rotary Actuators.

#### Exlar Actuator Power Wiring

All Yaskawa options are wired from this excerpt taken from the SGMGH motor section of the Sigma II Catalog:

#### Without Brake Option

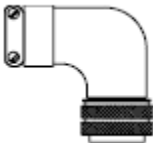
##### Motor Plug



Connector Wiring on the Motor Side	
A	U Phase
B	V Phase
C	W Phase
D	Ground Terminal

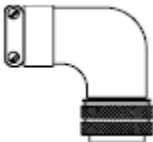
Yaskawa 4 Pin Motor Connector MS3102A18-10P, as shown above, is used on the following Exlar models using the 'M' Manufacturers Connector Option:  
GSM20, GSM30, GSM40  
GSX20, GSX30, GSX40, GSX50

Mating 4 Pin Connector  
MS3108B18-10S 90 degree + MS3057-10A Cable Clamp



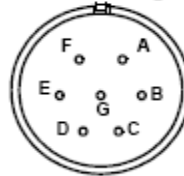
Yaskawa 4 Pin Connector MS3102A22-22P, as shown above, is used on the following Exlar Models using the 'M' Manufacturers Connector Option:  
GSX60

Mating 4 Pin Connector  
MS3108B22-22S 90 degree + MS3057-12A Cable Clamp



#### With Brake Option

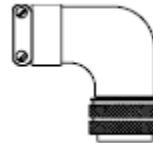
##### Motor Plug



Connector Wiring on the Motor Side			
A	U Phase	E	Brake Terminal
B	V Phase	F	Brake Terminal
C	W Phase	G	—
D	FG (Frame Ground)		

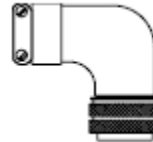
Yaskawa 7 Pin Motor Connector MS3102E20-15P, as shown above, is used on the following Exlar models using the 'M' Manufacturers Connector Option:  
GSM20, GSM30, GSM40  
GSX20, GSX30, GSX40, GSX50

Mating 7 Pin Connector  
MS3108B20-15S 90 degree + MS3057-12A Cable Clamp



Yaskawa 7 Pin Connector MS3102E24-10P, as shown above, is used on the following Exlar Models using the 'M' Manufacturers Connector Option:  
GSX60

Mating 7 Pin Connector  
MS3108B24-10S 90 degree + MS3057-16A Cable Clamp



## Yaskawa Basic Power Cable Part Numbers

Excerpt from SGMGH Section of the Yaskawa Sigma II Catalog:

Cable Description (C)	Motor Size (kW)	Part Number*		Comments	Item Class
		without Brake	with Brake		
Power Cable with Connectors (IP67)	0.5, 0.9, 1.3	B1E-□□(A)	B1BE-□□(A)	Use the following key to specify needed cable length (last two digits of the part number): 03: 3m 05: 5m 10: 10m (standard) 15: 15m 20: 20m	
	2.0, 3.0	B2E-□□(A)	B2BE-□□(A)		
	4.4	B3E-□□(A)	B3BE-□□(A)		
	5.5, 7.5	B5E-□□(A)	B5E-□□(A) B7BCE-□□(A)**		

The following Yaskawa Power Cables are recommended for all Exlar Actuators using the 'M' Manufacturers Connector Option:

**ASSEMBLY**

Dimensions: X, 127.0, (18.2), (12.7), (10.0)

**KEYWAY LOCATION**

**CONNECTION**

A	R	U
B	W	V
C	K	W
D	G	G

**NOTES:**

- ASSEMBLY INFORMATION LABEL: VERSION CODE MM/YY
- ADD WHITE TAPE LABEL WITH BLACK PRINT (SEE CONNECTION DIAGRAM FOR PRINTING INFORMATION).
- ADD APPROPRIATE HEAT SHRINK TUBE.
- YASKAWA INFORMATION LABEL: "ITEM NUMBER" ("REV") "VENDOR CODE" "MM/YY"
- REMOVE "ASSEMBLY INFORMATION LABEL"
- CHANGE CONNECTORS

**CABLE SPECIFICATION (mm)**

	B1E	B2E	B3E	B5E	06E
OUTER DIAMETER	16.4	17.9	23.9	27.4	32.3
BENDING RADIUS	8 O.D.	9 O.D.	9 O.D.	8 O.D.	8 O.D.
STANDARD	UL	UL	UL	UL	UL

**UL/ULP CLASSIFICATION**

CONNECTOR: ULMW1P07

ITEM NUMBER	DWG VERSION	X = LENGTH	CABLE	CONNECTOR
B1E-03(A)	UWR00418-1	3000		CE02-8A18-10DS DM53106A18-10S(D190)
B1E-05(A)	UWR00418-2	5000		
B1E-10(A)	UWR00418-3	10000	12AWGx4	
B1E-15(A)	UWR00418-4	15000	22428	
B1E-20(A)	UWR00418-5	20000		CE02-8A22-22DS DM53106A22-22S(D190)
B2E-03(A)	UWR00418-6	3000		
B2E-05(A)	UWR00418-7	5000		
B2E-10(A)	UWR00418-8	10000	10AWGx4	
B2E-15(A)	UWR00418-9	15000	22429	
B2E-20(A)	UWR00418-10	20000		CE05-6A32-17SD-B
B3E-03(A)	UWR00418-11	3000		
B3E-10(A)	UWR00418-13	10000	8AWGx4	
B3E-15(A)	UWR00418-14	15000	22591	
B3E-20(A)	UWR00418-15	20000		CE05-6A32-17SD-B
B5E-03(A)	UWR00418-16	3000		
B5E-05(A)	UWR00418-17	5000		
B5E-10(A)	UWR00418-18	10000	6AWGx4	
B5E-15(A)	UWR00418-19	15000	22589	
B5E-20(A)	UWR00418-20	20000		CE05-6A32-17SD-B
B6E-03(A)	UWR00418-21	3000		
B6E-05(A)	UWR00418-22	5000		
B6E-10(A)	UWR00418-23	10000	4AWGx4	
B6E-15(A)	UWR00418-24	15000	22471	
B6E-20(A)	UWR00418-25	20000		

**DESIGN:** - MATERIAL: SEE CHART ABOVE

**DRAWN:** R. GRAVES 1-26-00 **SPRD:** SEE CHART ABOVE

**CHKD:** J. PINCENTI 2-10-00 **FINISH:** N/A

**TOLRNGS/REFERENCES:**

**APPR:** M. MORAN 5-17-00 **REV:** 0002

**MODEL:** SGMGH **TITLE:** SGMG(H)/S(H) MOTOR POWER CABLE

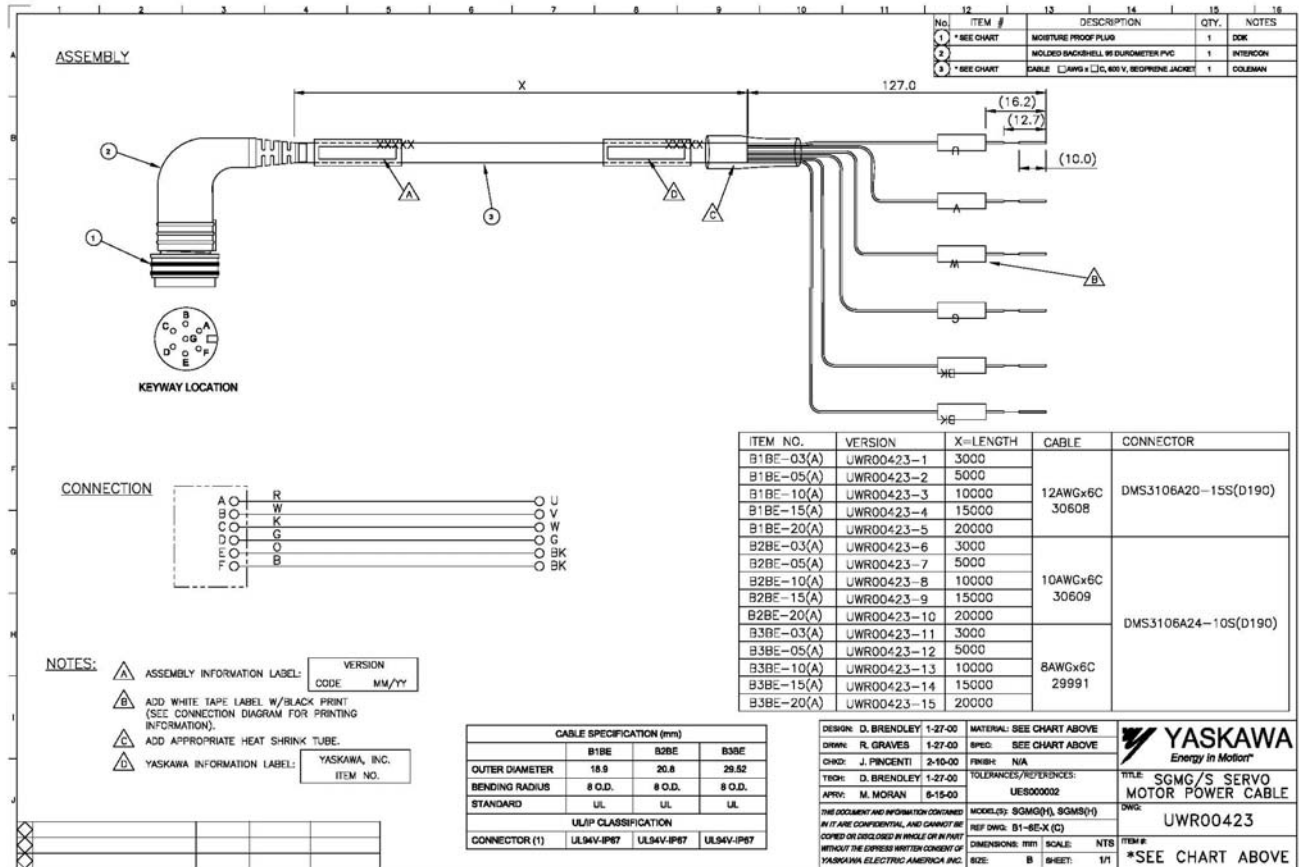
**REF DWG:** B1-6E-X (G) **DWG:** UWR00418

**DIMENSIONS:** MM **SCALE:** NTS **ITEM #:** \*SEE CHART ABOVE

### Without Brake

GSM20, GSM30, GSM40, GSX20, GSX30, GSX40, GSX50 – B1E-xx(A)  
GSX60 – B2E-xx(A)

\*When selecting part numbers other than Exlar recommends, please consult your Yaskawa Representative, Distributor or Agent.



### With RB-Rear Brake Option

GSM20, GSM30, GSM40, GSX20, GSX30, GSX40, GSX50 - **B1BE-xx(A)**  
 GSX60 - **B2BE-xx(A)**

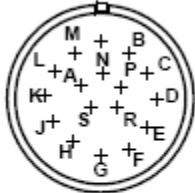
\*When selecting part numbers other than Exlar recommends, please consult your Yaskawa Representative, Distributor or Agent.

## Exlar Actuator Feedback Wiring

### 'M' Manufacturers Connector Option with YS2 or YS3 Feedback:

Serial Absolute Encoder connections excerpt from SGMGH Section of the Yaskawa Sigma II Catalog:

#### Encoder Plug



MS3102A20-29P

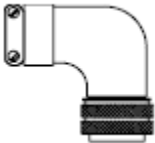
Connector Wiring on the Encoders			
A	—	K	—
B	—	L	—
C	Data +	M	—
D	Data -	N	—
E	—	P	—
F	—	R	—
G	0V	S	Battery - (Note*)
H	+5V <sub>dc</sub>	T	Battery + (Note*)
J	FG (Frame Ground)	*Note: Used with an absolute encoder only.	

Non-Environmental Mating Connector:  
 MS3108B20-29S (L Type)  
 MS3106B20-29S (Straight Type)

Yaskawa 17 Pin Connector MS3102A20-29P, as shown above, is used on All Exlar Models using the 'M' Manufacturers Connector Option.

#### Mating 17 Pin Connector

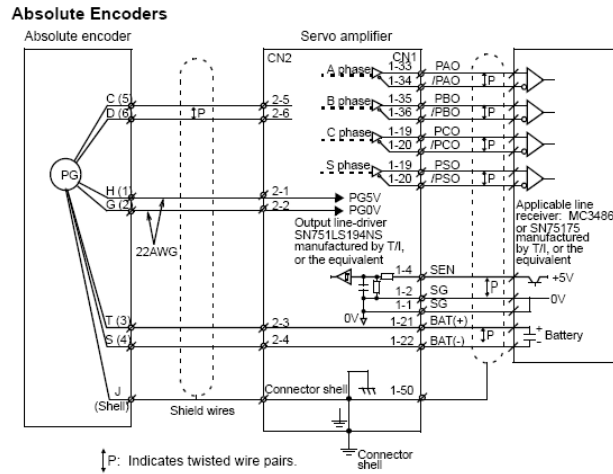
MS3108B20-29S 90 degree + MS3057-12A Cable Clamp



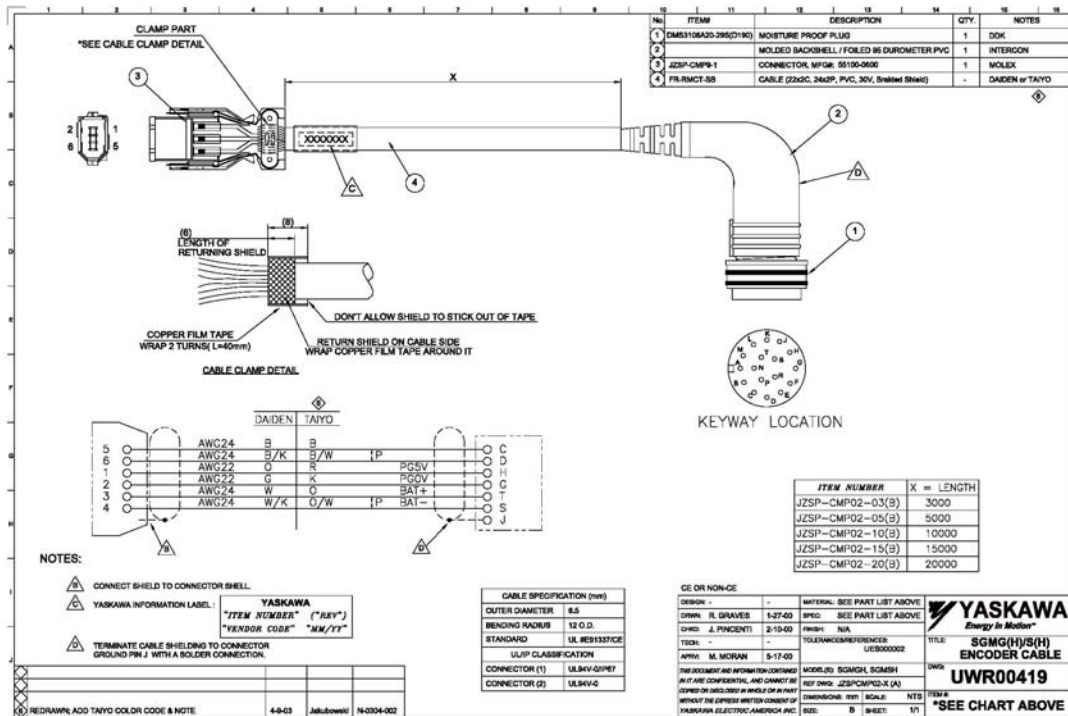
## Drive Connections Sigma II Amplifiers:

Please refer to the "Sigma Amps with Exlar SR and GSX series actuators.pdf" found at [www.yaskawa.com](http://www.yaskawa.com) to select the proper Sigma II amplifier for use with your Exlar Actuator.

Excerpt of Absolute Encoder connections from the SGDH Section of the Sigma II Catalog:



Exlar recommends cable part number **JZSP-CMP02-xx(B)** for use with all Sigma II drives and all Exlar models using the 'M' connector option and YS2/Y53 feedback options.



\*When selecting part numbers other than Exlar recommends, please consult your Yaskawa Representative, Distributor or Agent.