

## MGMA Series - Middle Inertia

### Outline

#### Output Range

300W, 600W, 900W, 1.2kW, 2.0kW, 3.0kW, 4.5kW

#### Middle Inertia Type

Rated Speed: 1000rpm

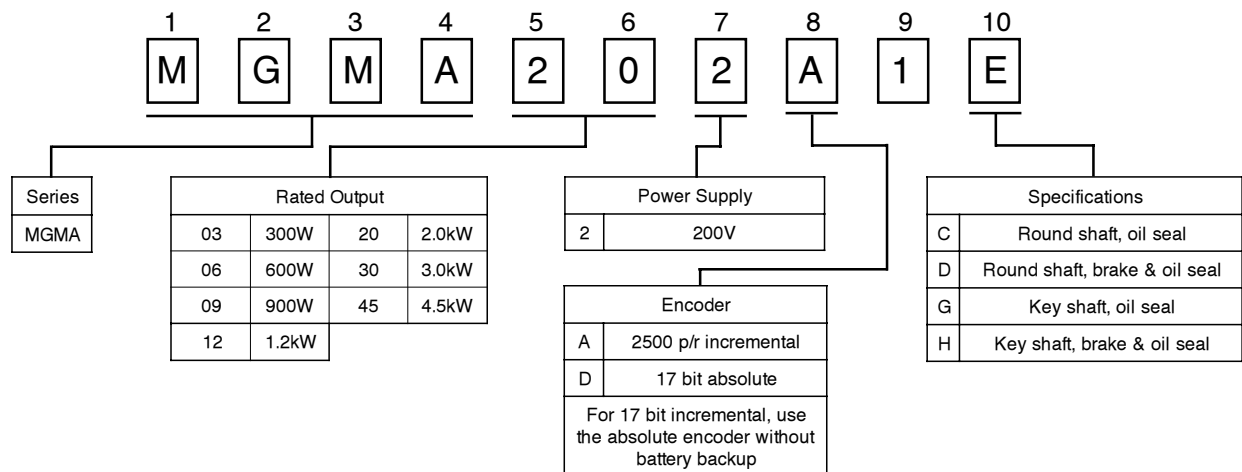
Maximum Speed: 2000rpm

Torque: From 55.80 to 947.67lb at peak

#### Applicable Amplifier

Use with MGDA Driver

### Explanation of Part Numbers



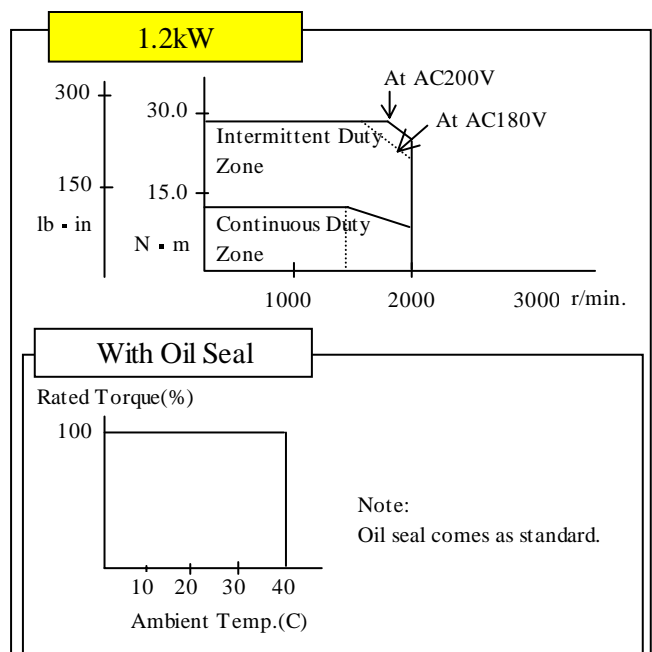
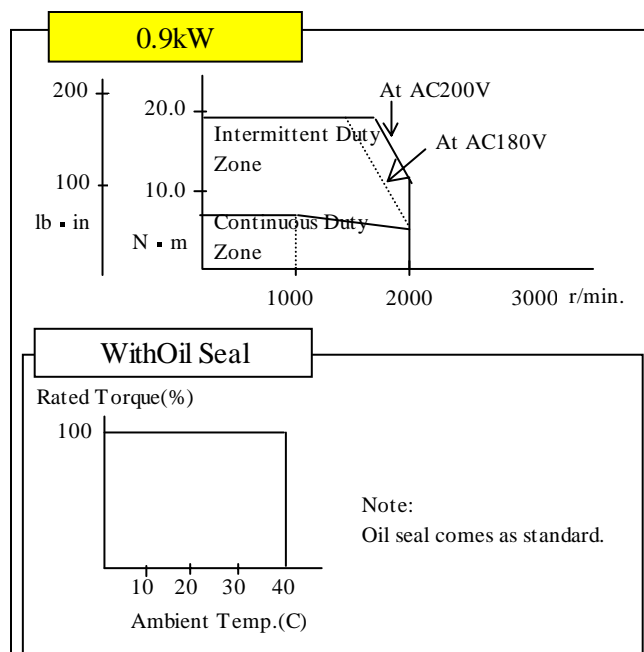
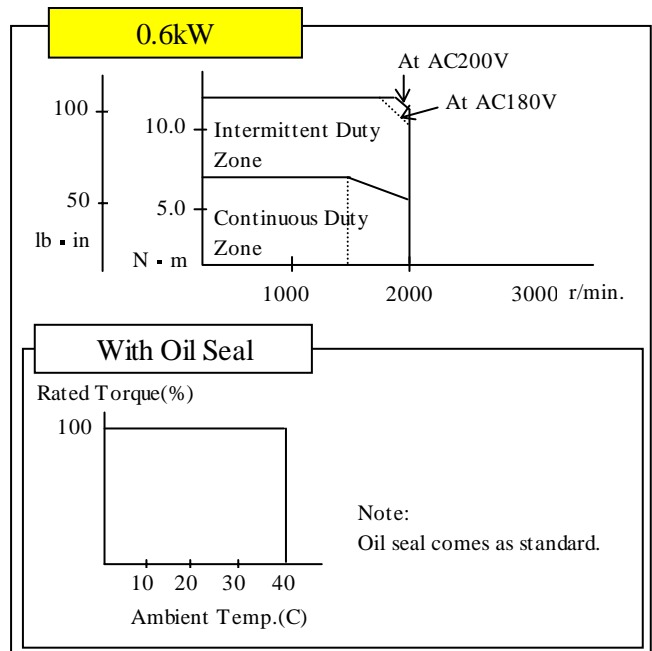
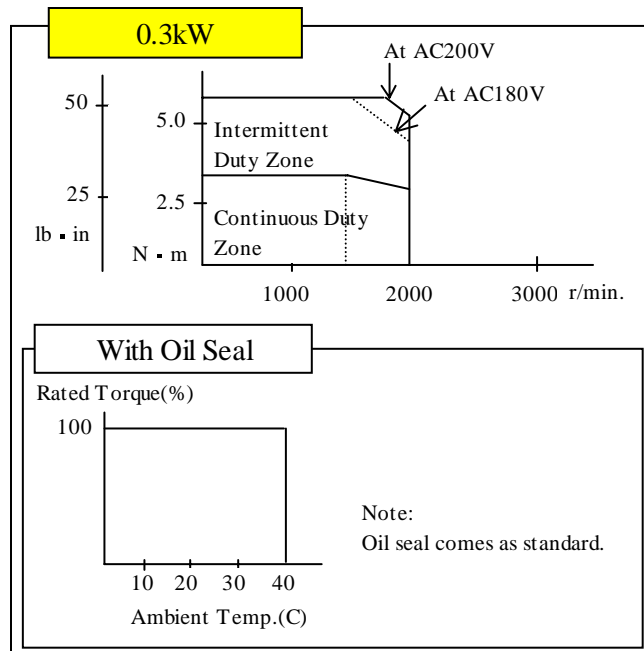
### Basic Specifications

Note: Separate power source required for brake (DC24V)

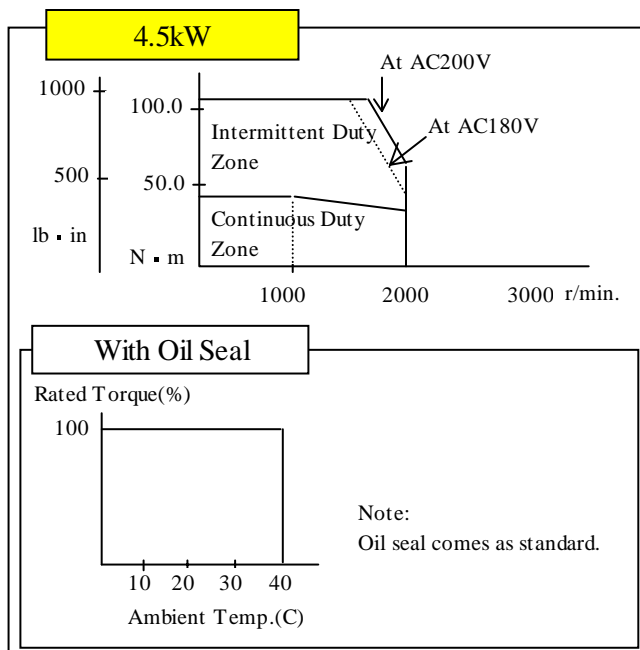
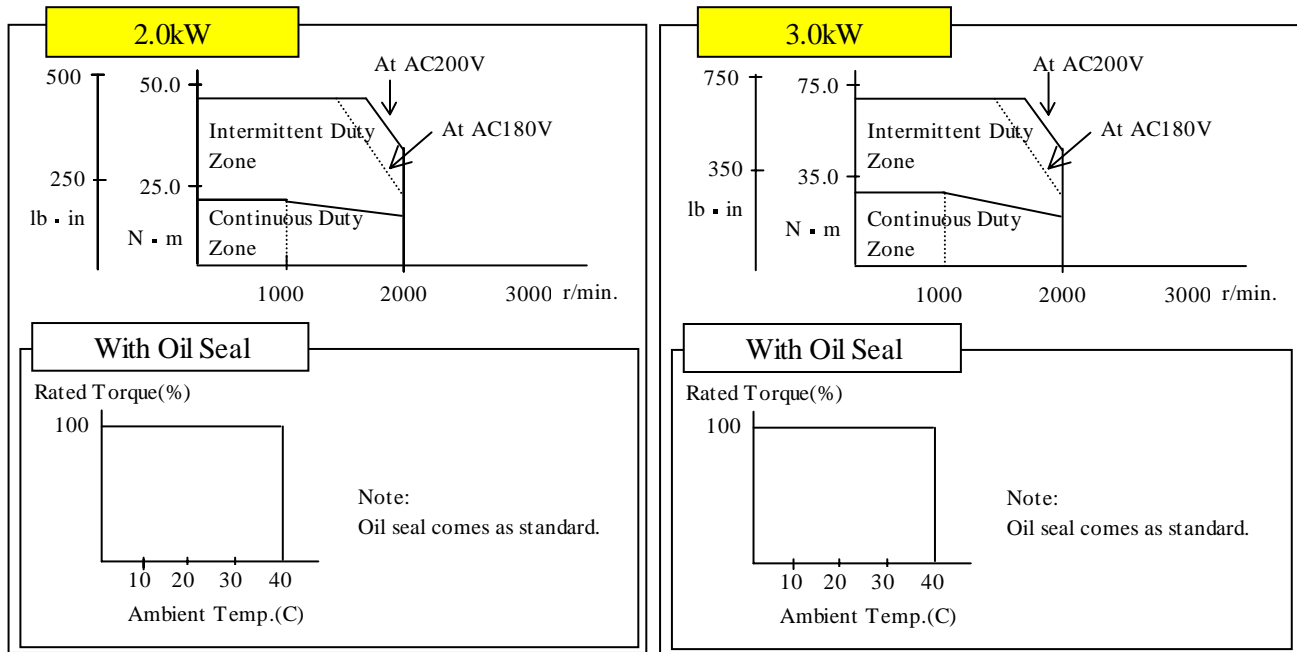
Rated Output		kW	0.3	0.6	0.9	1.2	2.0	3.0	4.5
Torque	Rated	N. m	2.84	5.70	8.62	11.5	19.1	28.4	42.9
		lb-in.	25.15	50.48	76.34	110.85	169.16	251.53	379.95
	Peak	N. m	6.3	14.4	19.3	28.0	44.0	63.7	107.0
		lb-in.	55.80	127.54	170.93	247.99	389.69	564.17	947.67
Rotor Inertia	Without Brake	x10kg· <sup>4</sup> m <sup>2</sup>	3.9	6.17	11.2	30.4	35.5	55.7	80.9
		lb. in <sup>2</sup>	1.333	2.108	3.827	10.388	12.130	19.033	27.644
	With Brake	x10kg· <sup>4</sup> m <sup>2</sup>	5.1	7.45	12.3	36.2	41.4	61.7	89.2
		lb. in <sup>2</sup>	1.743	2.546	4.203	12.370	14.146	21.083	30.480
Velocity	Rated	r/min.	1000						
	Peak	r/min.	2000						
Approximate Mass	Without Brake	kg	5.1	6.8	8.5	15.5	17.5	25.0	34.0
		lb	11.24	14.99	18.74	34.17	38.58	55.12	74.96
	With Brake	kg	6.7	8.4	10.0	19.0	21.0	28.5	39.5
		lb	14.77	18.52	22.05	41.89	46.30	62.83	87.08
Current	Rated	A(rms)	3.0	5.7	7.6	11.6	18.5	24.0	33.0
	Peak	A(0-P)	11	21	24	40	60	80	118
Power Rate	Without Brake	kW/s	20.7	52.7	66.3	43.3	103	145	228
	With Brake	kW/s	15.8	43.6	60.4	36.3	88.3	131	207
Brake (Option)	Voltage	V	DC 24 ± 2.4						
	Current	DC, A	0.59 ±10%	0.79 ±10%	1.30 ±10%	1.4 ±10%			
	Static Friction Torque	N. m	4.9 or higher	13.7 or higher	24.5 or higher	58.8 or higher			
		lb-in	43.40 or higher	69.08 or higher	216.99 or higher	520.80 or higher			

Design and specifications are subject to change without notice. Ask Panasonic for technical specifications before purchase and/or use. Whenever a doubt about safety arises from this product, please contact Panasonic immediately for technical consultation.

### S-T Characteristics

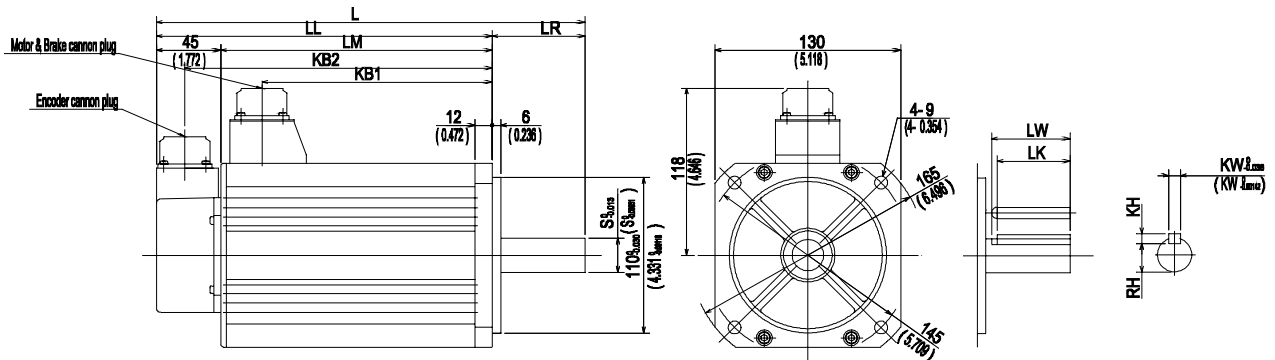


## S-T Characteristics

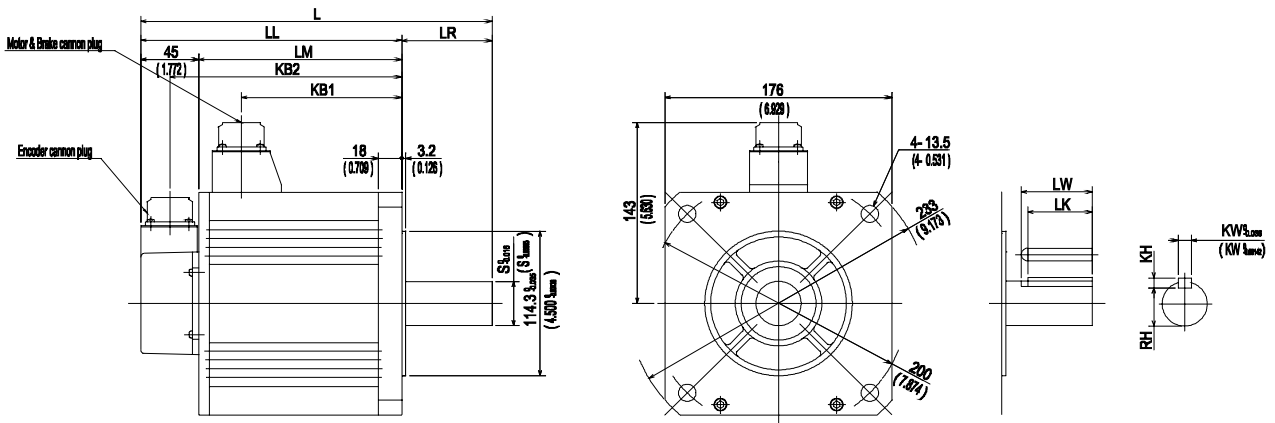


### Dimensions

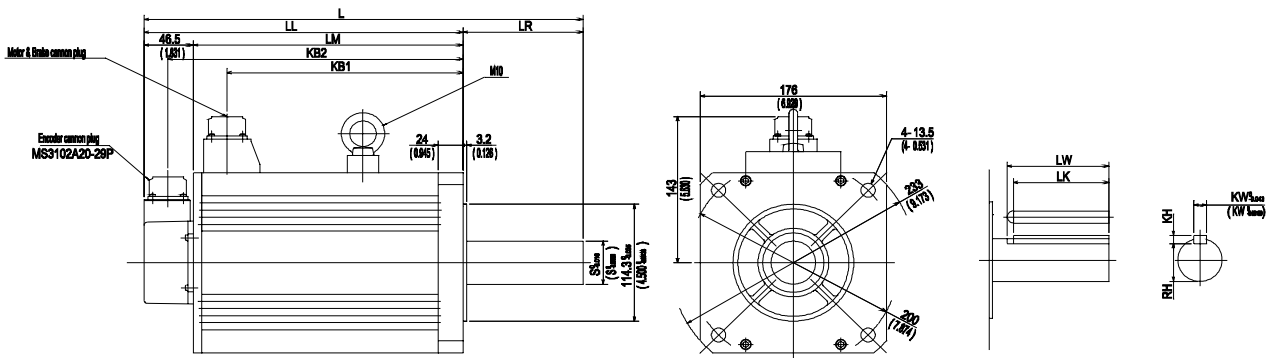
#### 0.3, 0.6, 0.9 kW



#### 1.2, 2.0, 3.0 kW



#### 4.5 kW



### Dimensions

Unit: mm

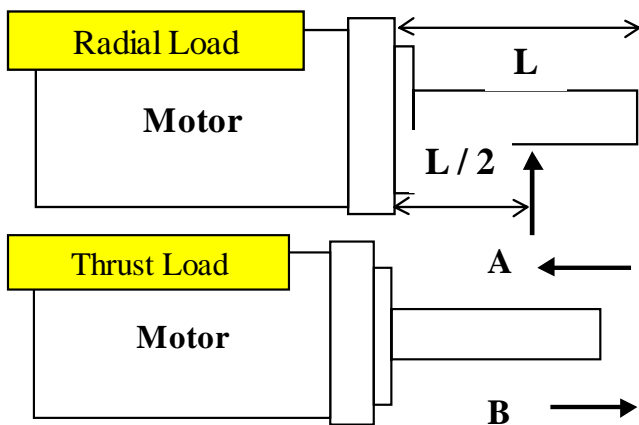
Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
0.3	Without	195	125	100	50	105	22	70	45	41	8	7	18
	With	220	150	105	75	130							
0.6	Without	220	150	105	75	130	22	70	45	41	8	7	18
	With	245	175	130	100	155							
0.9	Without	245	175	130	100	155	22	70	45	41	8	7	18
	With	270	200	155	125	180							
1.2	Without	242.5	162.5	116	85	142	35	80	55	50	10	8	30
	With	267.5	187.5	141	110	167							
2.0	Without	262.5	182.5	136	105	162	35	80	55	50	10	8	30
	With	287.5	207.5	161	130	187							
3.0	Without	302.5	222.5	176	145	202	35	80	55	50	10	8	30
	With	351	271	224.5	193.5	250.5							
4.5	Without	402	289	242.5	212	269	42	113	96	90	12	8	37
	With	450.5	337.5	291	260.5	317.5							

Unit: in.

Output	Brake	L	LL	LM	KB1	KB2	S	LR	LW	LK	KW	KH	RH
0.3	Without	7.677	4.921	3.937	1.969	4.134	0.866	2.756	1.772	1.614	0.315	0.276	0.709
	With	8.661	5.906	4.134	2.953	5.118							
0.6	Without	8.661	5.906	4.134	2.953	5.118	0.866	2.756	1.772	1.614	0.315	0.276	0.709
	With	9.646	6.890	5.118	3.937	6.102							
0.9	Without	9.646	6.890	5.118	3.937	6.102	0.866	2.756	1.772	1.614	0.315	0.276	0.709
	With	10.630	7.874	6.102	4.921	7.087							
1.2	Without	9.547	6.398	4.567	3.346	5.591	1.378	3.150	2.165	1.969	0.394	0.315	1.181
	With	10.531	7.382	5.551	4.331	6.575							
2.0	Without	10.335	7.185	5.354	4.134	6.378	1.378	3.150	2.165	1.969	0.394	0.315	1.181
	With	11.319	8.169	6.339	5.118	7.362							
3.0	Without	11.909	8.760	6.929	5.709	7.953	1.378	3.150	2.165	1.969	0.394	0.315	1.181
	With	13.819	10.669	8.839	7.618	9.862							
4.5	Without	15.827	11.378	9.547	8.346	10.591	1.654	4.449	3.780	3.543	0.472	0.315	1.457
	With	17.736	13.287	11.457	10.256	12.500							

### Thrust and Radial Load

Note: Same overall length for both incremental and absolute



Output (kW)	Upon setting a motor to your system			Upon running a motor	
	Radial Load	Thrust A	Thrust B	Radial Load	Thrust Load
0.3, 0.6, 0.9	980 N	588 N	686 N	490 N	196 N
	220 lb	132 lb	154 lb	110 lb	44 lb
1.2, 2.0, 3.0	1666 N	784 N	980 N	784 N	343 N
	374 lb	176 lb	220 lb	176 lb	77 lb
4.5	2058 N	980 N	1176 N	1176 N	490 N
	462 lb	220 lb	264 lb	264 lb	110 lb

### Connectors

#### Motor (Without Brake)

0.3-0.9kW	Plug	JL04V-2E20-4PE-B
	Female Plug - Straight	JL04V-6A20-4SE-EB
	Female Plug - L angle	JL04V-8A20-4SE-EB
	Cable clamp	JL04-2022CK(14)
1.2-4.5kW	Plug	JL04HV-2E22-22PE-B
	Female Plug - Straight	JL04V-6A22-22SE-EB
	Female Plug - L angle	JL04V-8A22-22SE-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	U
B	V
C	W
D	E

#### Motor (With Brake)

0.3-0.9kW	Plug	JL04V-2E20-18PE-B
	Female Plug - Straight	JL04V-6A20-18SE-EB
	Female Plug - L angle	JL04V-8A20-18SE-EB
	Cable clamp	JL04-2022CK(14)
1.2-4.5kW	Plug	JL04V-2E24-11PE-B
	Female Plug - Straight	JL04V-6A24-11SE-EB
	Female Plug - L angle	JL04V-8A24-11SE-EB
	Cable clamp	JL04-2428CK(17)

Pin	Signal
G	Brake
H	Brake
A	No Connection
F	U
I	V

Pin	Signal
B	W
E	FG-Frame Ground
D	FG-Frame Ground
C	No connection

Pin	Signal
A	Brake
B	Brake
C	No Connection
D	U
E	V

Pin	Signal
F	W
G	FG-Frame Ground
H	FG-Frame Ground
I	No connection

#### Encoder - 2500p/r Incremental

0.3-4.5kW	Plug	MS3102A 20-29P
	Female Plug - Straight	JA06A-20-29S-J1-EB
	Female Plug - L angle	JA08A-20-29S-J1-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	A
B	$\overline{A}$
C	B
D	$\overline{B}$
E	Z
F	$\overline{Z}$
G	Power ground
H	+5V
J	FG-Frame ground

Pin	Signal
K	No connection
L	No connection
M	No connection
N	No connection
P	RX
R	$\overline{RX}$
S	No connection
T	No connection

#### Encoder - 17 bit

0.3-4.5kW	Plug	MS3102A 20-29P
	Female Plug - Straight	JA06A-20-29S-J1-EB
	Female Plug - L angle	JA08A-20-29S-J1-EB
	Cable clamp	JL04-2022CK(14)

Pin	Signal
A	No connection
B	No connection
C	No connection
D	No connection
E	No connection
F	No connection
G	0V
H	+5V
J	FG-Frame ground

Pin	Signal
K	SD
L	$\overline{SD}$
M	No connection
N	No connection
P	No connection
R	No connection
S	Battery ground
T	No. 2 battery

Note: Pin assignment is for 17 bit absolute encoder.  
Connection of pin S and T not required for 17 bit incremental