

Servo Motors with 23-Bit Encoders													
Servo Motor model	Frame Size [mm]	Voltage [V]	Rated Output [Watts]	Rated Torque [Nm]	Max Torque [Nm]	Rated Current [Amps]	Max Current [Amps]	Rated Speed [rpm]	Max Speed [rpm]	Back EMF Constant [V/KRPM]	Inertia [Kg.m <sup>2</sup> 10 <sup>-4</sup> ]	Brake	Length [mm]
ELM0850LH130F-HD	130	220	850	5.4	16.2	6.5	19.5	1500	3000	62.23	13.8		145
ELM0850LH130E-HD	130	220	850	5.4	16.2	6.5	19.5	1500	3000	62.23	13.8	●	172
ELM1300LH130F-HD	130	220	1300	8.4	25.2	9.5	28.5	1500	3000	60.1	20.59		165
ELM1300LH130E-HD	130	220	1300	8.4	25.2	9.5	28.5	1500	3000	60.1	20.59	●	192
ELM1800LH130F-HD	130	220	1800	11.5	34.5	9	27	1500	3000	27	30.15		192
ELM1800LH130E-HD	130	220	1800	11.5	34.5	9	27	1500	3000	27	30.15	●	219

**Extension cable:**  
Encoder Cable: Cable-7BM\*M\*-HD (length: 1.5m,3m,5m,7m,10m optional)  
Power Cable: Cable-RZ\*M\*-HD (V2.0) (length: 1.5m,3m,5m,7m,10m optional)  
Brake Cable: Cable-SC\*M\*-HD (length: 1.5m,3m,5m,7m,10m optional)

## Typical Applications



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## High Performance AC Servo Systems

ELP Servo Drives + ELM Servo Motors

- Rated power : 100w - 2kw
- Position/Velocity/Torque control
- Easy tuning
- Modbus / EtherCAT
- Built-in Indexer
- Model following control
- Notch filter / Damping filter
- 17bit inc/23bit abs encoder
- Built-in dynamic brake



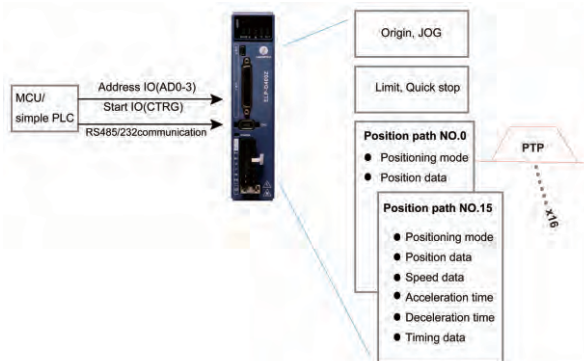
ELP Series AC servo products are high performance AC digital servo which is designed for position/velocity/torque high accurate control, power range up to 2kW and it can provide intelligent performance with easy tuning process. Combined with abundant features like MFC, vibration suppression, Multi-mode filter function, etc. It provides machines a compact size, low tuning works, but high resolution encoder up to 23 Bits, which can be used for high accuracy applications.

### ELP Series AC Servo Drives

- Power range: 100W - 2kW
- 220 Vac input
- Automatic motor identification
- Easy tuning
- Built-in dynamic brake

#### Control Types

- **Pulse+Direction**
- **Analog input**
- **Modbus**
  - Standard Modbus RTU
  - Up to 31 axes in Network based on RS485
- **EtherCAT**
  - Cia402
  - CoE-Based on DSP-402 Device Profile
- **PR Mode**  
Programmable 16-segment position table, support positioning/homing/ limit/ quick stop/ JOG...



#### Inputs/Outputs

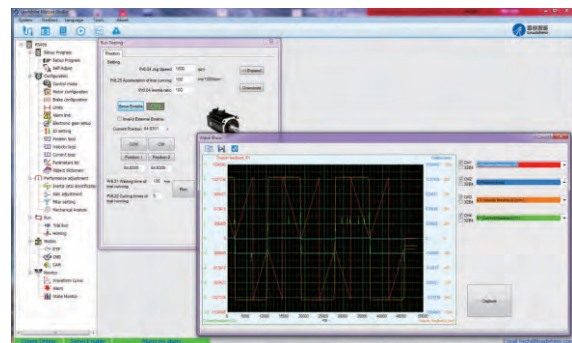
- Pulse: 0-500kHz, 5V differential input/24V Single-ended
- 9 inputs(common+ and common- two wiring modes)
- 6 outputs(4 single-ended, 2 differential)
- Encoder ABZ output(3 single-ended, 3 differential)
- -10Vdc~+10Vdc Analog

### ELM Series AC Servo Motors

- Power Range: 100W – 2kW
- Low / medium / high inertia for different applications
- Compact Size (89mm long for 400w motor)
- New design of magnetic circuit to reduce the torque ripple
- High Precision Encoders:
  - 17bit single-rev incremental encoder (131072 cps)
  - 23bit multi-rev absolute encoder (8388608 cps)
- Various connector for different applications
  - Standard plastic connector
  - IP67 aviation connector

### Leadshine Motion Studio

- Convenient GUI user interface
- Easy Tuning
- Real-time motion state monitoring
- Error history and resolution guide



## ELP Series Servo Drive Part Number

**ELP - D 2000 Z**

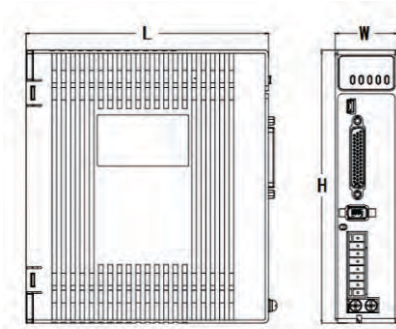
Series Num	
ELP	New series servo driver

Command Source	
D	Stand version (Pulse+direction/Analog Input)
RS	RS 485 (Pulse+direction/Analog Input/Modbus)
EC	EtherCAT

Encoder	
Z	Serial encoder
Blank	TTL signal encoder

Power	
400	400W
750	750W
1000	1000W
1500	1500W
2000	2000W

## ELP Series Servo Drive Specifications



Drive Model	Rated Power	Rated Voltage	Peak Current	Max current	Dimension
ELP-*400Z	400W	220Vac	3.5A	10.5A	156*175*40mm
ELP-*750Z	750W	220Vac	5.5A	16.5A	156*175*50mm
ELP-*1000Z	1000W	220Vac	7A	21A	156*175*50mm
ELP-*1500Z	1500W	220Vac	9.5A	28.5A	175*175*80mm
ELP-*2000Z	2000W	220Vac	12A	36A	175*175*80mm

## ELM Series Servo Motor Part Number

**ELM - 0750 B L 80 H -SS**

Series Num	
ELM	series motor

Power	
0100	100W
0200	200W
0400	400W
0750	750W
1000	1000W
1500	1500W
2000	2000W

Encoder Type	
D	17-Bit single-turn
E	17-Bit multi-turn
F	17-Bit magnetic
L	23-Bit absolute

Inertia Ratio	
L	Low
M	Medium
H	High

Plug Type	
SS	Plastic plug
HS	Small size
H	Big size aviation plug
HH	Injection plug
HD	Special Connector

NO	Shaft Form		Brake		Oil Seal	
	Circular shaft	Keyhole	Install	None	Install	None
A	•		•		•	
B	•			•	•	
C	•		•			•
D	•			•		•
E		•	•		•	
F		•		•	•	
G		•	•			•
H		•		•		•

Frame Size	
40	40mm
60	60mm
80	80mm
110	110mm
130	130mm



## ELM AC Servo Motor Models

### Servo Motors with 17-Bit Encoders

Servo Motor model	Frame Size [mm]	Voltage [V]	Rated Output [Watts]	Rated Torque [Nm]	Max Torque [Nm]	Rated Current [Amps]	Max Current [Amps]	Rated Speed [rpm]	Max Speed [rpm]	Back EMF Constant [V/KRPM]	Inertia [Kg.m <sup>2</sup> 10 <sup>-4</sup> ]	Brake	Length [mm]
ELM0100FL40H-SS	40	220	100	0.32	0.96	1.1	3.3	3000	5000	20.5	0.046		79
ELM0100FL40G-SS	40	220	100	0.32	0.96	1.1	3.3	3000	5000	20.5	0.046	●	109
ELM0200FL60H-SS	60	220	200	0.64	1.92	1.7	5.1	3000	5000	29.2	0.20		86.5
ELM0200FL60G-SS	60	220	200	0.64	1.92	1.7	5.1	3000	5000	29.2	0.22	●	118.5
ELM0400FL60H-SS	60	220	400	1.28	3.81	2.8	8.4	3000	5000	30.2	0.32		115.5
ELM0400FL60G-SS	60	220	400	1.28	3.81	2.8	8.4	3000	5000	30.2	0.34	●	147.5
ELM0400FM60H-SS	60	220	400	1.27	3.81	2.8	8.4	3000	5000	30.2	0.67		115.5
ELM0400FM60G-SS	60	220	400	1.27	3.81	2.8	8.4	3000	5000	30.2	0.67	●	147.5
ELM0750FM80H-SS	80	220	750	2.4	7.2	4.5	13.5	3000	5000	35.7	1.53		124.5
ELM0750FM80G-SS	80	220	750	2.4	7.2	4.5	13.5	3000	5000	35.7	1.59	●	157.3
ELM1000FM80H-SS	80	220	1000	3.2	9.6	5.7	17.1	3000	5000	36.5	1.77		139.5
ELM1000FM80G-SS	80	220	1000	3.2	9.6	5.7	17.1	3000	5000	36.5	1.79	●	172.3

**Extension cable:**  
Encoder Cable: Cable-7BM\*M\*-Z (length: 1.5m,3m,5m,7m,10m optional)  
Power Cable: Cable-RZ\*M\*-S (length: 1.5m,3m,5m,7m,10m optional)  
Brake Cable: Cable-SC\*M\*-S (length: 1.5m,3m,5m,7m,10m optional)

### Servo Motors with 23-Bit Encoders

Servo Motor model	Frame Size [mm]	Voltage [V]	Rated Output [Watts]	Rated Torque [Nm]	Max Torque [Nm]	Rated Current [Amps]	Max Current [Amps]	Rated Speed [rpm]	Max Speed [rpm]	Back EMF Constant [V/KRPM]	Inertia [Kg.m <sup>2</sup> 10 <sup>-4</sup> ]	Brake	Length [mm]
ELM0100LL40F-SS	40	220	100	0.32	0.96	1.1	3.3	3000	6500	14.8	0.048		80.7
ELM0100LL40E-SS	40	220	100	0.32	0.96	1.1	3.3	3000	6500	14.8	0.051	●	114.7
ELM0200LH60F-SS	60	220	200	0.64	1.92	1.9	5.7	3000	6500	21.8	0.29		73.1
ELM0200LH60E-SS	60	220	200	0.64	1.92	1.9	5.7	3000	6500	21.8	0.31	●	103.6
ELM0400LH60F-SS	60	220	400	1.27	3.81	3.2	9.6	3000	6500	22.6	0.56		89.5
ELM0400LH60E-SS	60	220	400	1.27	3.81	3.2	9.6	3000	6500	22.6	0.58	●	120.2
ELM0750LH80F-SS	80	220	750	2.4	7.2	5.1	15.3	3000	6500	28.8	1.56		95.7
ELM0750LH80E-SS	80	220	750	2.4	7.2	5.1	15.3	3000	6500	28.8	1.66	●	130.7

**Extension cable:**  
Encoder Cable: Cable-7BM\*M\*-Z (length: 1.5m,3m,5m,7m,10m optional)  
Power Cable: Cable-RZ\*M\*-S (length: 1.5m,3m,5m,7m,10m optional)  
Brake Cable: Cable-SC\*M\*-S (length: 1.5m,3m,5m,7m,10m optional)

### Servo Motors with 23-Bit Encoders

Servo Motor model	Frame Size [mm]	Voltage [V]	Rated Output [Watts]	Rated Torque [Nm]	Max Torque [Nm]	Rated Current [Amps]	Max Current [Amps]	Rated Speed [rpm]	Max Speed [rpm]	Back EMF Constant [V/KRPM]	Inertia [Kg.m <sup>2</sup> 10 <sup>-4</sup> ]	Brake	Length [mm]
ELM1000LM130F-H	130	220	1000	4	12	4	12	2500	3000	72	8.5		166
ELM1000LM130E-H	130	220	1000	4	12	4	12	2500	3000	72	8.5	●	223
ELM1500LM130F-H	130	220	1500	6	18	6	18	2500	3000	65	12.6		179
ELM1500LM130E-H	130	220	1500	6	18	6	18	2500	3000	65	12.6	●	236
ELM2000LM130F-H	130	220	2000	7.7	22	7.5	21	2500	3000	68	15.3		241
ELM2000LM130E-H	130	220	2000	7.7	22	7.5	21	2500	3000	68	15.3	●	249

**Extension cable:**  
Encoder Cable: Cable-7BM\*M\*-HZ (length: 1.5m,3m,5m,7m,10m optional)  
Power Cable: Cable-RZ\*M\*-H(V1.1), Cable-RZ\*M\*-H(V2.0)(Flexible) (length: 1.5m,3m,5m,7m,10m optional)  
Brake Cable: Cable-SC\*M\*-H (length: 1.5m,3m,5m,7m,10m optional)

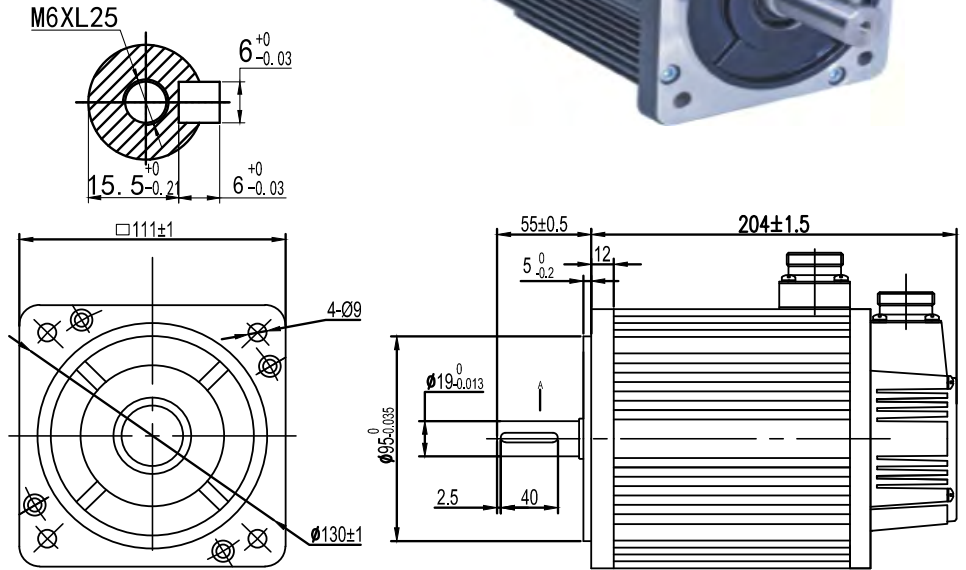


## ELM1500EM-110F-H

110# 1500W servo motor | version  
17-bit absolute encoder and brake | v1.0



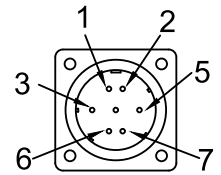
Rated voltage	200-220	V AC
Rated power	1500	W
Rated torque	5	N.m
Peak torque	15	N.m
Rated speed	3000	RPM
Peak speed	4500	RPM
Rated current	6	A <sub>rms</sub>
Peak current	18	A <sub>rms</sub>
Torque Const	0.83	N.m/A <sub>rms</sub>
Back EMF Const	62	V/KRPM
Resistance	1.03	Ω
Inductance	3.43	mH
Inertia	6.3	kg m <sup>2</sup> ·10 <sup>-4</sup>
Poles	8	
Encoder type	17bit multiple-turn	
Protection level	IP54	



### Motor side connector

connector	winding connector	encoder connector	braker connector
Terminal	YD28J4Z	YD28J7Z	
Plastic shell			

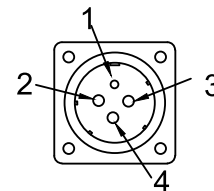
wiring order of absolute encoder connector							
pos	1	2	3	4	5	6	7
col							
sig	PE	5V	0V	SD+	SD-	BAT+	BAT-



### Driver side connector

connector	winding connector	encoder connector	braker connector
Terminal	LS-YDA28K4TS-01	LS-YDA28K7TS-01	
Plastic shell			

winding connection				
position	1	2	3	4
colour				
signal	PE	U	V	W



type	Companion products
ELM1500EM110F-H	ELP-D1000Z / CABLE-RZ5M0-H / CABLE-7BM5M0-HZ

