

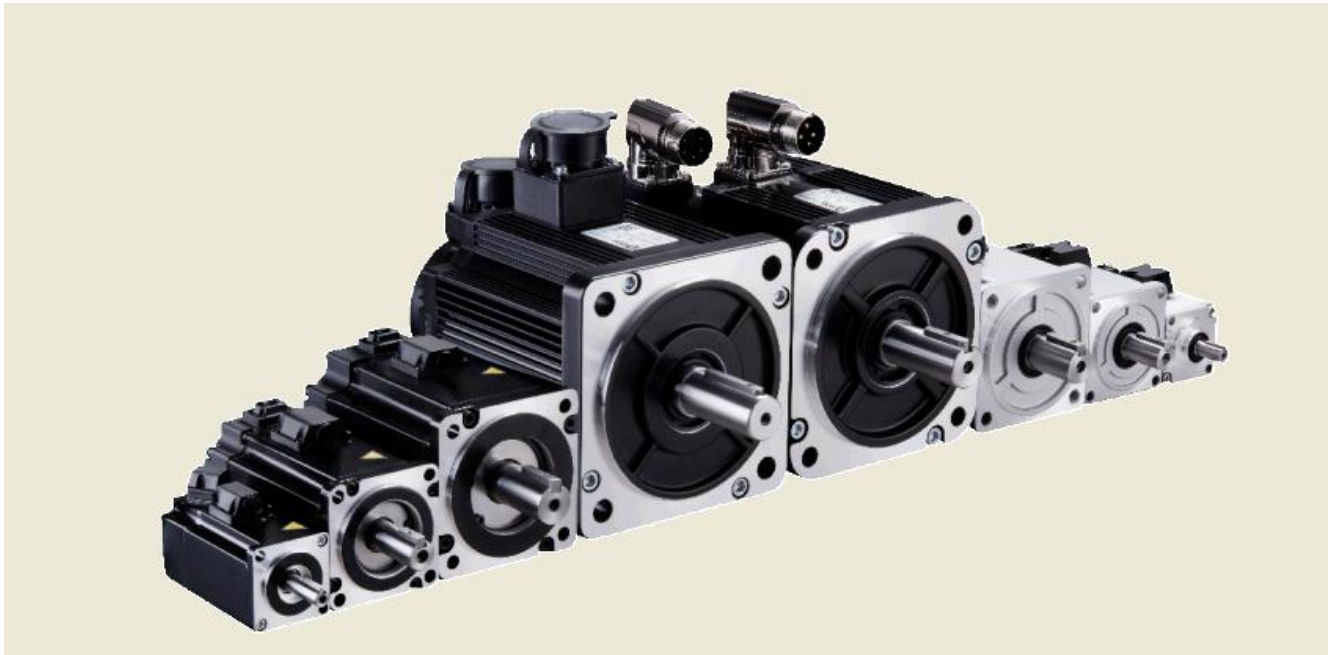
LeadShine AC Servo Motors

ELM1/ELM2 Series

The AC servo motors are designed by LeadShine with own intellectual property rights. The servo motors use rare earth neodymium-iron-boron permanent magnet rotors, provide features of high torque density, high peak torques, low noise, low temperature rising, lower current consumption. The motors power range from 50W to 7500W, frame size range from 40mm to 180mm.

Feature:

- ◆ PMSM construction, high efficiency
- ◆ Compact design, high overload
- ◆ Insulation class: Class F
- ◆ Protection level: IP65/IP67
- ◆ Encoder: 23-bit absolute encoders
- ◆ Optional accessory: brake



Part Numbers

ELM1 H - 0400 M A 60 F T - H
 (1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Series Num	
ELM1	ELM1 Series servo motor
ELM2	ELM2 Series servo motor

(2) Inertia Ratio	
L	Low
M	Medium
H	High

(3) Rated Output Power			
0050	50W	2000	2000W
0100	100W	2900	2900W
0200	200W	3000	3000W
0400	400W	4000	4000W
0750	750W	4400	4400W
0850	850W	5000	5000W
1000	1000W	5500	5500W
1300	1300W	7000	7000W
1500	1500W	7500	7500W
1800	1800W		

(4) Encoder Type	
L	23-bit optical multi-turn
M	23-bit magnetic multi-turn

(9) Connect type	
Blank	Direct connector
H	Aviation connector-H
HD	Aviation connector-HD

(8) Voltage	
Blank	220VAC
T	380VAC

(7) Motor Type	
E	With brake, oil seal
F	No brake, oil seal

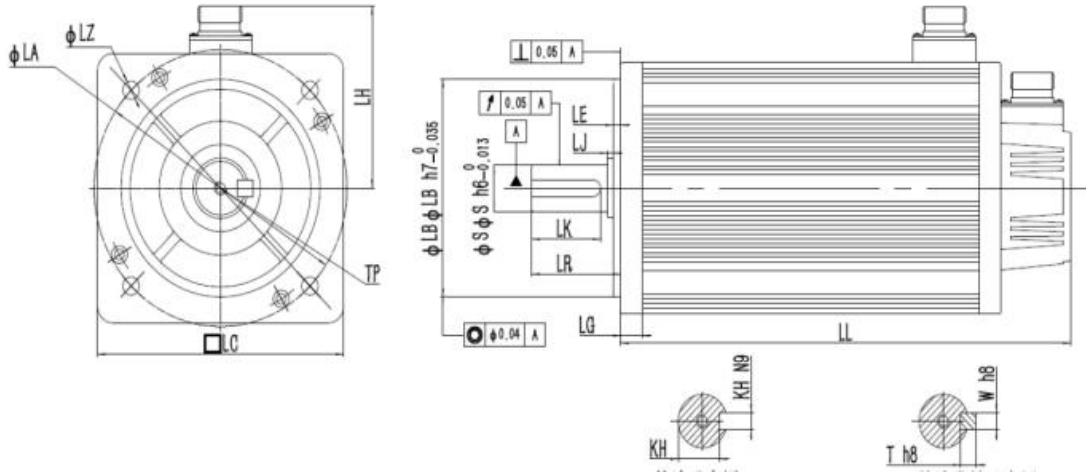
(6) Frame Size	
40	40mm
60	60mm
80	80mm
100	100mm
130	130mm
180	180mm

(5) Rated Speed	
A	3000rpm
B	2500rpm
C	2000rpm
D	1500rpm

Model Technical Specification

Servo motors with 220VAC (ELM1)

ELM Model		ELM1H-0050MA40E	ELM1H-0100MA40E	ELM1H-0200MA60E	ELM1H-0400MA60E	ELM1H-0750MA80E	ELM1H-1000MA80E
		ELM1H-0050MA40F	ELM1H-0100MA40F	ELM1H-0200MA60F	ELM1H-0400MA60F	ELM1H-0750MA80F	ELM1H-1000MA80F
Frame Size (mm)		40		60		80	
Rated Power (W)		50	100	200	400	750	1000
Rated Voltage (VAC)		220					
Rated Torque (Nm)		0.16	0.32	0.64	1.27	2.39	3.18
Peak Torque (Nm)		0.48	0.95	1.92	3.81	7.17	9.54
Rated Current (Arms)		0.93	0.92	1.5	2.1	4.1	5.7
Peak Current (Arms)		2.88	2.85	4.5	6.5	13.4	17.7
Rated Speed (r/min)		3000					
Peak Speed (r/min)		5000					
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	0.036	0.062	0.28	0.56	1.5	2
	With Brake	0.046	0.072	0.3	0.58	1.65	2.15
Weight (kg)	Without Brake	0.28	0.38	1.0	1.3	2.12	2.8
	With Brake	0.44	0.54	1.3	1.55	2.7	3.4
Permissible Load to Shaft (N)	Radial	78		245		392	
	Axial	54		74		147	
Encoder Type		23bit magnetic multi-turn					
Plug Type		Direct connector					
Matching Cable	Motor	With brake: CABLE-RZSH*M*-114-TS					
	Cable	No brake: CABLE-RZH*M*-114-TS					
Cable	Encoder	Absolute: CABLE-BMAH*M*-124-TS					
	Cable	Incremental: CABLE-BMH*M*-114-TS					
Matching Drive	Priority	EL7-**400*			EL7-**750*	EL7-**1000*	
	Optional	EL8-**400*			EL8-**750*	EL8-**1000*	
		EL6-**400*			EL6-**750*	EL6-**1000*	

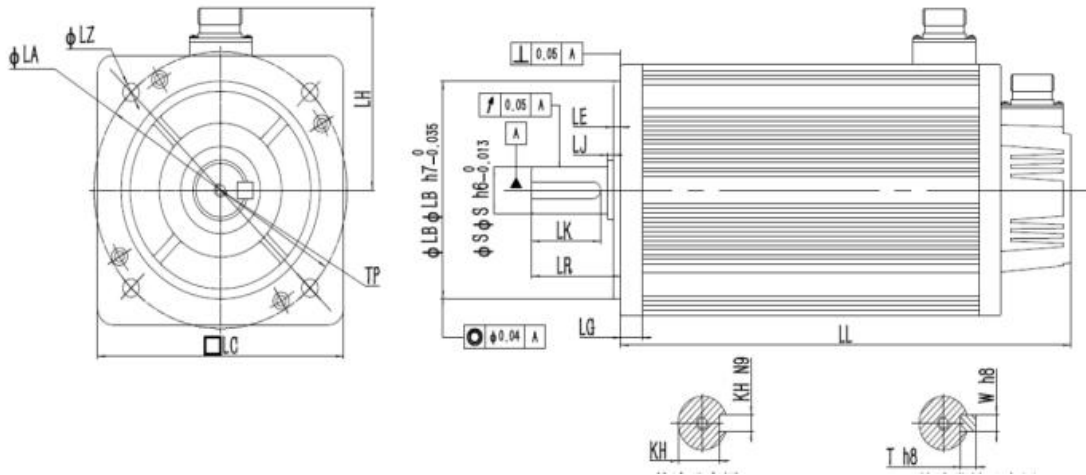
● Dimensions


Motor model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM1H-0050MA40F	56.7	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM1H-0050MA40E	84	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM1H-0100MA40F	67.7	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM1H-0100MA40E	95	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM1H-0200MA60F	71.6	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM1H-0200MA60E	100.9	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM1H-0400MA60F	88.8	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM1H-0400MA60E	118.1	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM1H-0750MA80F	90.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM1H-0750MA80E	121.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM1H-1000MA80F	103.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM1H-1000MA80E	134.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6

Servo motors with 220VAC (ELM2)

ELM Model		ELM2H-0050LA40E	ELM2H-0100LA40E	ELM2H-0200LA60E	ELM2H-0400LA60E	ELM2H-0750LA80E	ELM2H-1000LA80E
		ELM2H-0050LA40F	ELM2H-0100LA40F	ELM2H-0200LA60F	ELM2H-0400LA60F	ELM2H-0750LA80F	ELM2H-0100LA80F
Frame Size (mm)		40		60		80	
Rated Power (W)		50	100	200	400	750	1000
Rated Voltage (VAC)		220					
Rated Torque (Nm)		0.16	0.32	0.64	1.27	2.39	3.18
Peak Torque (Nm)		0.48	0.95	1.92	3.81	7.17	9.54
Rated Current (Arms)		0.93	0.92	1.5	2.1	4.1	5.7
Peak Current (Arms)		2.88	2.85	4.5	6.5	13.4	17.7
Rated Speed (r/min)		3000					
Peak Speed (r/min)		5000					
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	0.036	0.062	0.28	0.56	1.5	2
	With Brake	0.046	0.072	0.3	0.58	1.65	2.15
Weight (kg)	Without Brake	0.28	0.38	1.0	1.3	2.12	2.8
	With Brake	0.	0.54	1.3	1.55	2.7	3.4
Permissible Load to Shaft (N)	Radial	78		245		392	
	Axial	54		74		147	
Encoder Type		23bit optical multi-turn					
Plug Type		Direct connector					
Matching Cable	Motor	With brake: CABLE-RZSH*M*-114-TS					
	Cable	No brake: CABLE-RZH*M*-114-TS					
Cable	Encoder	Absolute: CABLE-BMAH*M*-124-TS					
	Cable	Incremental: CABLE-BMH*M*-114-TS					
Matching Drive	Priority	EL7-***400*			EL7-***750*	EL7-***1000*	
	Optional	EL8-***400*			EL8-***750*	EL8-***1000*	
		EL6-***400*			EL6-***750*	EL6-***1000*	

● Dimensions

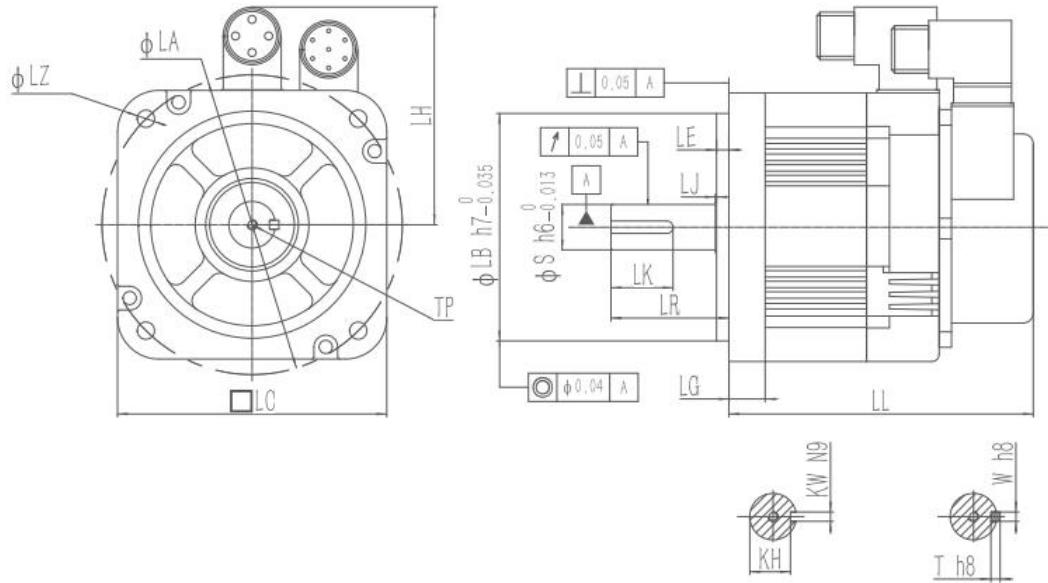
Datasheet of LeadShine AC Servo Motors


Motor model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2H-0050LA40F	56.7	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM2H-0050LA40E	84	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM2H-0100LA40F	67.7	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM2H-0100LA40E	95	40	25	46	4.5	35MAX	5	3	3	8	30	M3×8	14	6.2	3	3	3
ELM2H-0200LA60F	71.6	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM2H-0200LA60E	100.9	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM2H-0400LA60F	88.8	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM2H-0400LA60E	118.1	60	30	70	5.5	45MAX	6.6	3	3	14	50	M5×12	22.5	11	5	5	5
ELM2H-0750LA80F	90.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-0750LA80E	121.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-1000LA80F	103.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-1000LA80E	134.9	80	35	90	6.5	55MAX	8.1	3	3	19	70	M5×15	25	15.5	6	6	6

Datasheet of LeadShine AC Servo Motors

ELM Model		ELM2H-0850LD130E-HD	ELM2H-1300LD130E-HD	ELM2H-1800LD130E-HD
		ELM2H-0850LD130F-HD	ELM2H-1300LD130F-HD	ELM2H-1800LD130F-HD
Frame Size (mm)		130		
Rated Power (W)		850	1300	1800
Rated Voltage (VAC)		220		
Rated Torque (Nm)		5.4	8.4	11.5
Peak Torque (Nm)		16.2	25.2	34.5
Rated Current (Arms)		6.5	9.5	9.0
Peak Current (Arms)		19.5	28.5	28.4
Rated Speed (r/min)		1500		
Peak Speed (r/min)		3000		2000
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	13.88	20.59	23.69
	With Brake	15.78	22.26	25.36
Weight (kg)	Without Brake	5.6	7.5	8.1
	With Brake	6.9	8.8	9.4
Permissible Load to Shaft (N)	Radial	490		
	Axial	169		
Encoder Type		23bit optical multi-turn		
Plug Type		Aviation connector-HD		
Matching Cable	Motor Cable	CABLE-RZ*M*-HD		
	Encoder Cable	Absolute: CABLE-7BMA*M*-HD Incremental: CABLE-7BM*M*-HD		
	Brake Cable	CABLE-SC*M*-HD		
Matching Drive	Priority	EL7-**1000* EL8-**1000*	EL7-**1500*	EL7-**2000*
	Optional	EL6-**1000*	EL8-**1500*	EL8-**2000*

● Dimensions



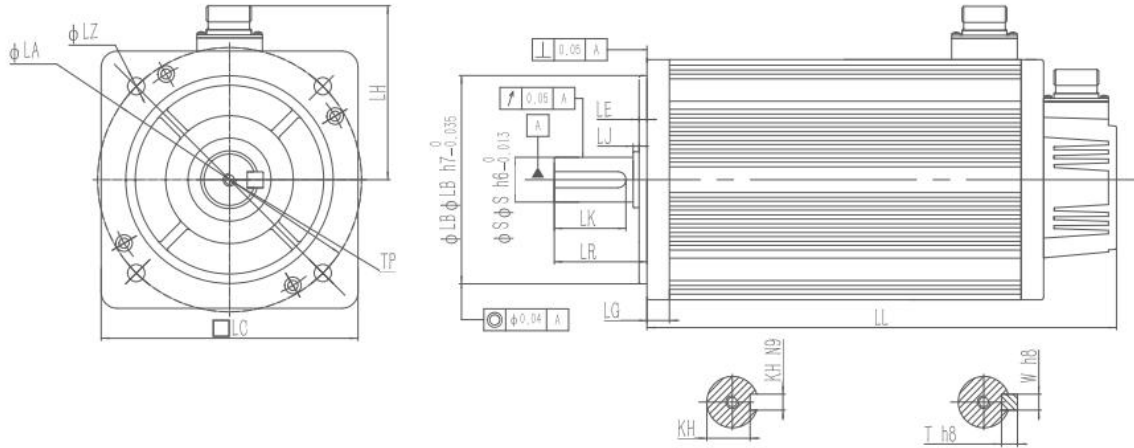
Model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2H-0850LD130F-HD	147	130	57	145	8.5	106	17.5	6	0.5	19	110	M5×12	30	16	5	5	5
ELM2H-0850LD130E-HD	172	130	57	145	8.5	106	17.5	6	0.5	19	110	M5×12	30	16	5	5	5
ELM2H-1300LD130F-HD	168	130	57	145	8.5	106	17.5	6	0.5	22	110	M5×12	30	18.5	6	6	6
ELM2H-1300LD130E-HD	192	130	57	145	8.5	106	17.5	6	0.5	22	110	M5×12	30	18.5	6	6	6
ELM2H-1800LD130F-HD	195	130	57	145	8.5	106	17.5	6	0.5	24	110	M5×12	30	19	8	8	8
ELM2H-1800LD130E-HD	219	130	57	145	8.5	106	17.5	6	0.5	24	110	M5×12	30	19	8	8	8

Datasheet of LeadShine AC Servo Motors

ELM Model		ELM2M-1000LB130E-H	ELM2M-1500LB130E-H	ELM2M-2000LB130E-H
		ELM2M-1000LB130F-H	ELM2M-1500LB130F-H	ELM2M-2000LB130F-H
Frame Size (mm)		130		
Rated Power (W)		1000	1500	2000
Rated Voltage (VAC)		220		
Rated Torque (Nm)		4	6	7.7
Peak Torque (Nm)		12	18	22
Rated Current (Arms)		4	6	7.5
Peak Current (Arms)		12	18	22
Rated Speed (r/min)		2500	2500	2500
Peak Speed (r/min)		2600	2600	2800
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	8.5	12.6	15.3
	With Brake	8.95	12.6	16.8
Weight (kg)	Without Brake	6.2	7.4	8.3
	With Brake	8.3	9.5	11
Permissible Load to Shaft (N)	Radial	490		
	Axial	196		
Encoder Type		23bit optical multi-turn		
Plug Type		Aviation connector-H		
Matching Cable	Motor Cable	CABLE-RZ*M*-H(V2.0)		
	Encoder Cable	Absolute: CABLE-7BMA*M*-HZ Incremental: CABLE-7BM*M*-HZ		
	Brake Cable	CABLE-SC*M*-H(V3.0)		
Matching Drive	Priority	EL7-**1000* EL8-**1000*	EL7-**1500* EL8-**1500*	EL7-**2000* EL8-**2000*
	Optional	EL6-**1000*	-	-

Datasheet of LeadShine AC Servo Motors

● Dimensions

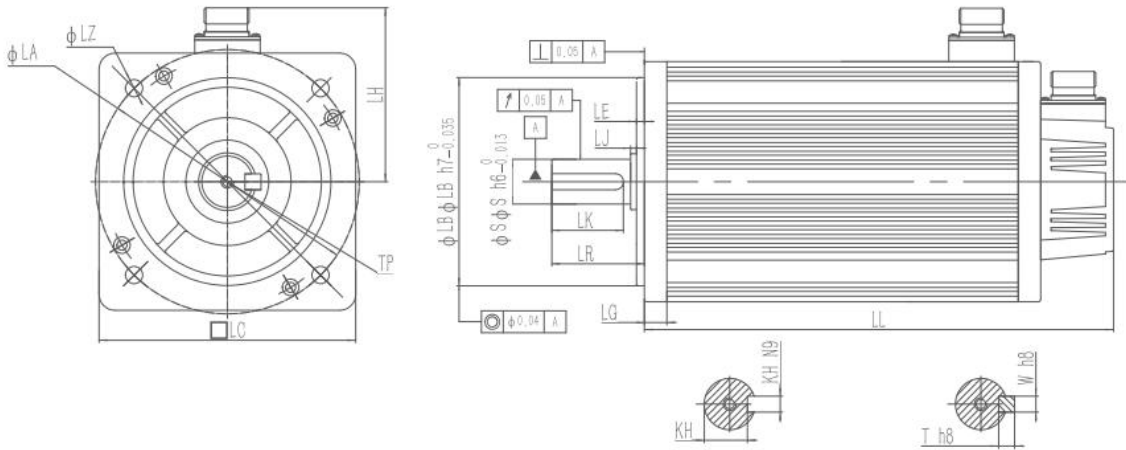


Model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2M-1000LB130F-H	166	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6
ELM2M-1000LB130E-H	223	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6
ELM2M-1500LB130F-H	179	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6
ELM2M-1500LB130E-H	236	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6
ELM2M-2000LB130F-H	192	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6
ELM2M-2000LB130E-H	270	131	57	145	9	111	14	5	2	22	110	M6×20	40	18.5	6	6	6

Servo motors with 380VAC (ELM2)

ELM Model		ELM2H-0750LA80FT	ELM2H-1000LA80FT	ELM2L-1000LA100FT-H	ELM2L-1500LA100FT-H
		ELM2H-0750LA80ET	ELM2H-1000LA80ET	ELM2L-1000LA100ET-H	ELM2L-1500LA100ET-H
Frame Size (mm)		80		100	
Rated Power (W)		750	1000	1000	1500
Rated Voltage (VAC)		380			
Rated Torque (Nm)		3.39	3.18	3.2	4.9
Peak Torque (Nm)		7.17	9.54	9.6	14.7
Rated Current (Arms)		2.7	4	3.9	5.1
Peak Current (Arms)		8.8	12.4	11.7	14.4
Rated Speed (r/min)		3000		3000	3000
Peak Speed (r/min)		5000		6000	5000
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	1.5	2	2.43	3.503
	With Brake	1.65	2.15	2.63	3.503
Weight (kg)	Without Brake	2.12	2.8	4.6	5.8
	With Brake	2.7	3.4	5.9	7.1
Permissible Load to Shaft (N)	Radial	392		490	
	Axial	147		98	
Encoder Type		23bit optical multi-turn			
Plug Type		Direct connector		Aviation connector-H	
Matching Cable	Motor Cable	With brake: CABLE-RZSH*M*-114-TS No brake: CABLE-RZH*M*-114-TS		CABLE-RZ*M*-H	
	Brake Cable			CABLE-SC*M*-H	
	Encoder Cable	Absolute: CABLE-BMAH*M*-124-TS Incremental: CABLE-BMH*M*-114-TS		Absolute: CABLE-7BMA*M*-HZ Incremental: CABLE-7BM*M*-HZ	
		Priority	EL7-**750*T	EL7-**1000*T	EL7-**1000*T

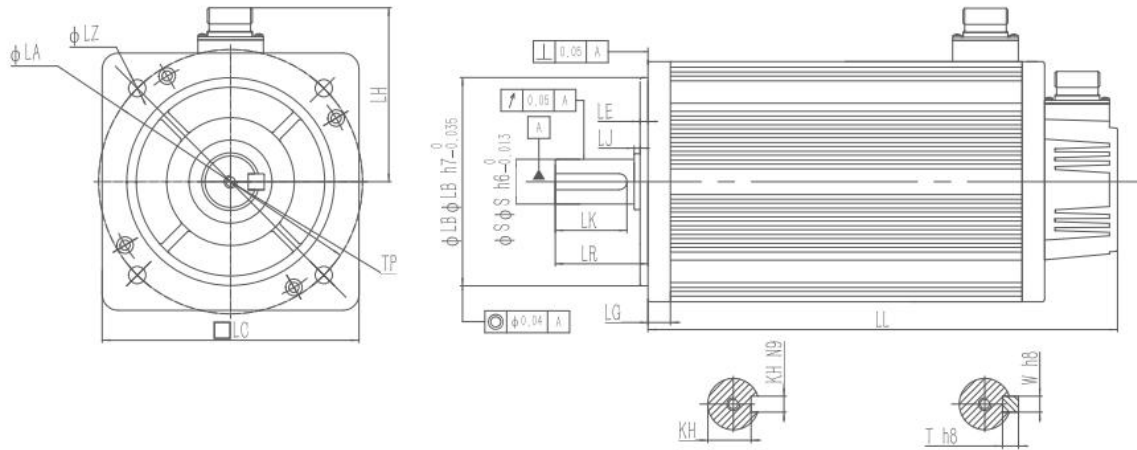
- Dimensions

Datasheet of LeadShine AC Servo Motors


Model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2H-0750LA80FT	90.9	80	35	90	6.5	55	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-0750LA80ET	121.9	80	35	90	6.5	55	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-1000LA80FT	103.9	80	35	90	6.5	55	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2H-1000LA80ET	134.9	80	35	90	6.5	55	8.1	3	3	19	70	M5×15	25	15.5	6	6	6
ELM2L-1000LA100FT-H	154	100	45	115	9	111	12	5	2.5	24	95	M8×16	36	20	8	8	7
ELM2L-1000LA100ET-H	194	100	45	115	9	111	12	5	2.5	24	95	M8×16	36	20	8	8	7
ELM2L-1500LA100FT-H	178	100	45	115	9	111	12	5	2.5	24	95	M8×16	36	20	8	8	7
ELM2L-1500LA100ET-H	218	100	45	115	9	111	12	5	2.5	24	95	M8×16	36	20	8	8	7

ELM Model	ELM2H-0850LD130ET-H		ELM2H-1300LD130ET-H		ELM2H-1800LD130ET-H		
	ELM2H-0850LD130FT-H		ELM2H-1300LD130FT-H		ELM2H-1800LD130FT-H		
Frame Size (mm)	130						
Rated Power (W)	850		1300		1800		
Rated Voltage (VAC)	380						
Rated Torque (Nm)	5.4		8.4		11.5		
Peak Torque (Nm)	16.2		25.2		34.5		
Rated Current (Arms)	3.5		4.8		6.5		
Peak Current (Arms)	10.5		14.4		19.5		
Rated Speed (r/min)	1500						
Peak Speed (r/min)	3000						
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	13.88		20.59		23.69	
	With Brake	15.78		22.26		25.36	
Weight (kg)	Without Brake	5.6		7.5		8.1	
	With Brake	6.9		8.8		9.4	
Permissible Load to Shaft (N)	Radial	490					
	Axial	169					
Encoder Type	23bit optical multi-turn						
Plug Type	Aviation connector-H						
Matching Cable	Motor Cable	CABLE-RZ*M*-H					
	Encoder Cable	Absolute: CABLE-7BMA*M*-HZ Incremental: CABLE-7BM*M*-HZ					
	Brake Cable	CABLE-SC*M*-H					
Matching Drive	Priority	EL7-**1000*		EL7-**1500*		EL7-**2000*	

● Dimensions

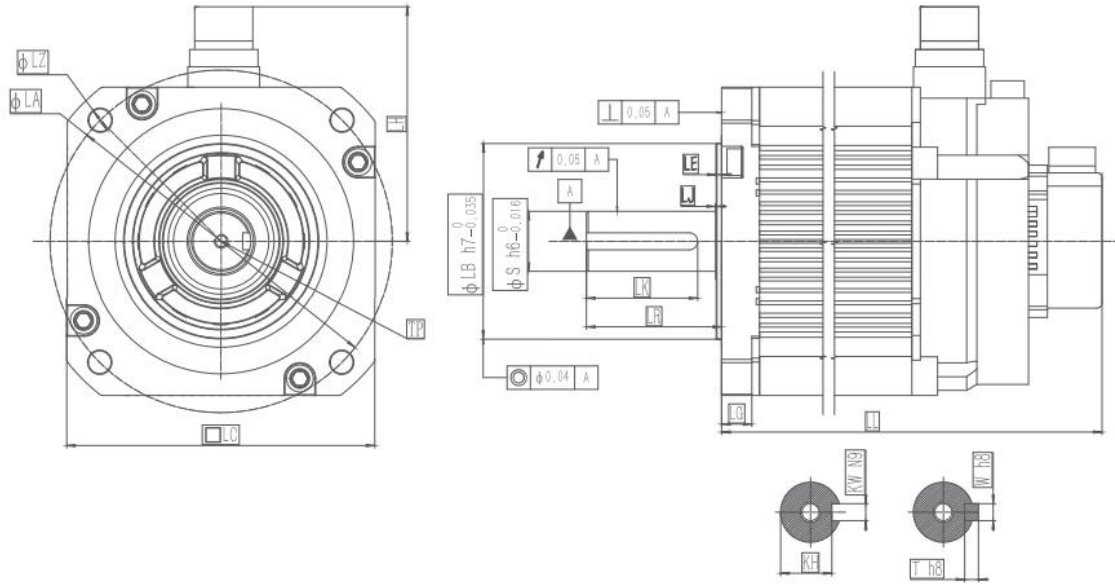
Datasheet of LeadShine AC Servo Motors


Model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2H-0850LD130FT-H	147	130	55	145	8.5	106	17.5	4	0.5	19	110	M6×20	30	16	5	5	5
ELM2H-0850LD130ET-H	172	130	55	145	8.5	106	17.5	4	0.5	19	110	M6×20	30	16	5	5	5
ELM2H-1300LD130FT-H	168	130	55	145	8.5	106	17.5	4	0.5	22	110	M6×20	30	18.5	6	6	6
ELM2H-1300LD130ET-H	192	130	55	145	8.5	106	17.5	4	0.5	22	110	M6×20	30	18.5	6	6	6
ELM2H-1800LD130FT-H	195	130	55	145	8.5	106	17.5	4	0.5	24	110	M6×20	30	19	8	8	8
ELM2H-1800LD130ET-H	219	130	55	145	8.5	106	17.5	4	0.5	24	110	M6×20	30	19	8	8	8

Datasheet of LeadShine AC Servo Motors

ELM Model		ELM2M-2900LD180ET-H	ELM2M-4400LD180ET-H	ELM2M-5500LD180ET-H	ELM2M-7500LD180ET-H
		ELM2M-2900LD180FT-H	ELM2M-4400LD180FT-H	ELM2M-5500LD180FT-H	ELM2M-7500LD180FT-H
Frame Size (mm)		180			
Rated Power (W)		2900	4400	5500	7500
Rated Voltage (VAC)		380			
Rated Torque (Nm)		18.6	28.4	35	48
Peak Torque (Nm)		55.8	85	87.5	119
Rated Current (Arms)		11.8	15.7	20.6	25.7
Peak Current (Arms)		35.4	47.1	51.5	64.5
Rated Speed (r/min)		1500			
Peak Speed (r/min)		3000			
Inertia (kgm ² ·10 ⁻⁴)	Without Brake	56.8	78.2	109	130
	With Brake	65.3	86	118	140
Weight (kg)	Without Brake	16.3	21.4	25.8	32.3
	With Brake	21.8	26.5	31.1	37.6
Permissible Load to Shaft (N)	Radial	784			
	Axial	343			
Encoder Type		23bit optical multi-turn			
Plug Type		Aviationconnector-H-180			
Matching Cable	Motor Cable	CABLE-RZA*M*-H-180(V1.0)	CABLE-RZB*M*-H-180		
	Encoder Cable	Absolute: CABLE-7BMA*M*-HZ-180 Incremental: CABLE-7BM*M*-HZ-180			
	Brake Cable	CABLE-SC*M*-H-180(V1.0)			
Matching Drive	Priority	EL7-***3000*T	EL7-***4400*T	EL7-***5500*T	EL7-***7500*T

● Dimensions



Model	LL	LC	LR	LA	LZ	LH	LG	LE	LJ	S	LB	TP	LK	KH	KW	W	T
ELM2M-2900LD180FT-H	201	180	79	200	4-Φ13.5	134	18	3.2	0.3	35	114	M12×25	65	30	10	10	8
ELM2M-2900LD180ET-H	249	180	79	200	4-Φ13.5	134	18	3.2	0.3	35	114	M12×25	65	30	10	10	8
ELM2M-4400LD180FT-H	230	180	79	200	4-Φ13.5	134	18	3.2	0.3	35	114	M12×25	65	30	10	10	8
ELM2M-4400LD180ET-H	278	180	79	200	4-Φ13.5	134	18	3.2	0.3	35	114	M12×25	65	30	10	10	8
ELM2M-5500LD180FT-H	257	180	113	200	4-Φ13.5	134	18	3.2	0.3	42	114	M16×32	96	37	12	12	8
ELM2M-5500LD180ET-H	305	180	113	200	4-Φ13.5	134	18	3.2	0.3	42	114	M16×32	96	37	12	12	8
ELM2M-7500LD180FT-H	297	180	113	200	4-Φ13.5	134	18	3.2	0.3	42	114	M16×32	96	37	12	12	8
ELM2M-7500LD180ET-H	345	180	113	200	4-Φ13.5	134	18	3.2	0.3	42	114	M16×32	96	37	12	12	8

Environment

Item	Storage	Installation
Temperature	-20-60°C (free from freezing)	0°C~40°C (free from freezing)
Humidity	20%~90%RH (free from condensation)	
Atmospheric environment	Indoor(no exposure)no corrosive gas or flammable gas, no oil or dust	
Altitude	Lower than 1000m	
Vibration	Less than 0.5G (4.9m/s ²) 10-60Hz (non-continuous working)	
Protection level	IP65 / IP67	