

# Brushless & Brushed DC Servo Systems

ELD2 Servo Drives + ELDM Servo Motors

- Position/Velocity/Torque control
- 24-70Vdc
- Up to 90Amp peak current
- Up to 1200Watt
- Pulse+Dir / Analog Input / Modbus / CANopen
- Compact size/high power density
- Brushless motor + Brushed motor supported
- Model Following Control
- Easy tuning



ELD2 series brushless + Brushed drives, power range from 25W to 1200W, are special DC input, motion control product designed for machines and applications that request a best balance between reasonable cost and outstanding performance with MFC + vibration suppression.

## ELD2 Series Brushless + Brushed Drives

### Control Types

- Pulse+Direction(for position control)
- Analog input(for velocity/torque control )
- Modbus based on RS485
- CANopen, CiA402
- Built-in indexer  
Programmable 16-segment position table, support positioning/homing/ limit/ quick stop/ JOG...

### Inputs/Outputs

#### ELD2-RS

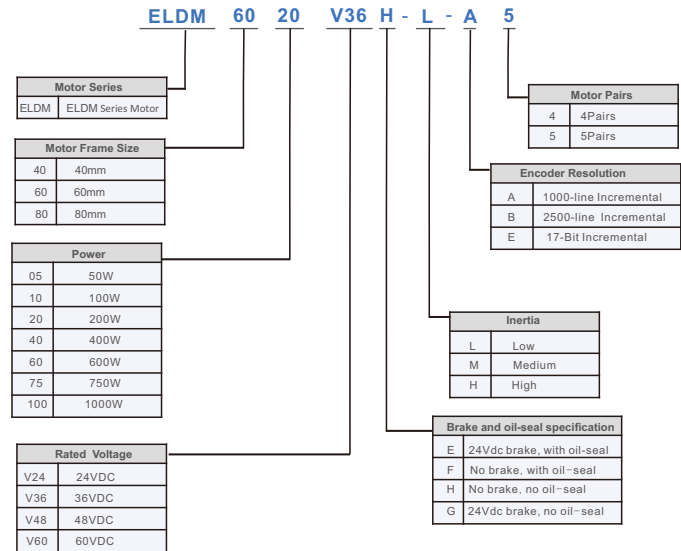
- 2 fast pulse input, 5V only
- 4 programmable OC inputs, 24V
- 1 programmable differential outputs
- 2 programmable OC outputs, 24V
- 1 analog input: -10V to +10V

#### ELD2-CAN

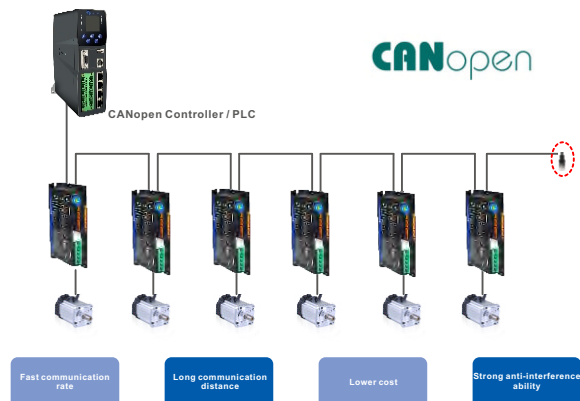
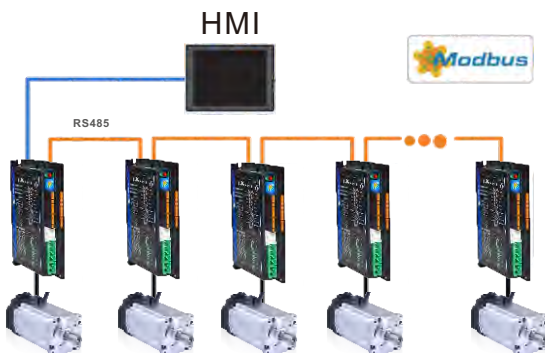
- 4 programmable OC inputs, 24V
- 1 programmable differential outputs
- 2 programmable OC outputs, 24V

## ELDM/BLM Series Brushless Servo Motors

- Power Range: 25W – 1200W
- Low / medium inertia for different applications
- 40/42/57/60/80mm frame size motor supported
- 1000line/2500line /17-Bit incremental encoder feedback
- Small torque ripple with new design of magnetic circuit



## Communication Network



## Specifications

### Power & Environment

Driver Model	ELD2-RS7005 ELD2-CAN7005B	ELD2-RS7010 ELD2-CAN7010B	ELD2-RS7015B ELD2-CAN7015B	ELD2-RS7020B ELD2-CAN7020B	ELD2-RS7030B ELD2-CAN7030B
Size(mm)	118*79.5*25.5(RS7005) 140*79.5*25.5(CAN7005B)	118*79.5*25.5(RS7010) 140*79.5*25.5(CAN7010B)	175*100.5*31	175*100.5*31	175*100.5*31
Rated Power (kw)	0.1	0.4	0.6	0.75	1.2
Rated Output Current (A)	5	10	15	20	30
Max Output Current (A)	15	30(RS7010) 42.5(CAN7010B)	45	80	90
Main Power	Voltage (V)	DC24-70	DC24-70	DC24-70	DC24-70
	Current (A)	48-60 Vdc: 3.5Arms 60-70Vdc: 3Arms	48-60 Vdc: 7Arms 60-70Vdc: 6Arms	48-60 Vdc: 10Arms 60-70Vdc: 9Arms	48-60Vdc: 14Arms 60-70Vdc: 12Arms
Control Method	IGBT PWM Sinusoidal Wave Drive				
Overload	300%				
Brake Resistor	External Connection				
Communication Interface	RS485/CAN				
Protection Rank	IP20				

### CANopen Specifications

Link Layer Protocol	CAN Field-bus
Application Layer Protocol	CANopen protocol
CAN-ID Type	CAN 2.0A
Communication Rate	1Mbit/s, 500Kbit/s, 250Kbit/s, 125Kbit/s, 100Kbit/s, 50Kbit/s, 20Kbit/s
Sub-protocol	DS 301 V4.02: CANopen application layer protocol and communication protocol DSP 402 V2.0: Device profile for drives and motion control
CANopen Length	0 - 8bit
Support Service	NMT: Network Management Service SDO: Service Data Object PDO: Process Data Object Devices Monitor: Node protection and heartbeat message SYNC: Synchronous generator and synchronous detection, applied to the PDO transmission EMCY: Emergency object Services
PDO Transmission Modes	Time trigger, event trigger, asynchronization/synchronization trigger(configurable)
PDO Number	4 TPDOs, 4 RPDOs
Control Modes	PP (Profile Position) PV (Profile Velocity) PT (Profile Torque) HM (Homing)

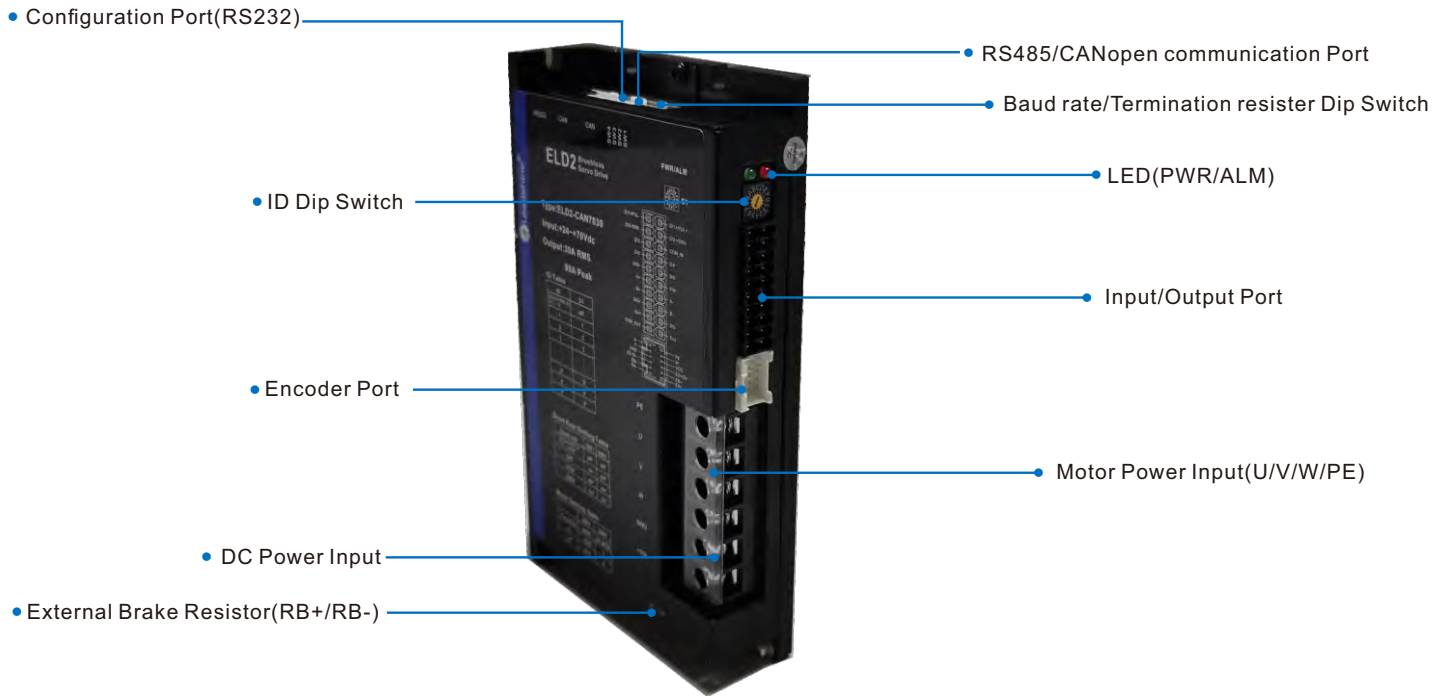
### Communication & Connection

	ELD2-RS	ELD2-CAN
Pulse Input	2 fast pulse input, 5V-24v only	-
Pulse Encoder Output	5V differential outputs, A/B phase	5V differential outputs, A/B phase
Digital Input/Output	4 programmable OC inputs, 1 programmable differential output 2 programmable OC outputs, 24V	4 programmable OC inputs, 2 programmable OC outputs, 24V
Analog Input	1 analog input: -10V to +10V	-
Feedback Supported	1000line, 2500line, 17-Bit incremental encoder	

### Matched Motors

Motor Model	BLM Series / ACM Series / ELDM Series / Third-party Brushless + Brushed motor
Power Range	25W - 1200W
Voltage Range	24 - 70Vdc
Encoder Type	1000-line, 2500-line, 17-Bit
Motor Size	40mm, 42mm, 57mm, 60mm, 80mm Frame Size
Other Requirements	Brake. oil-seal. protection level. shaft & connector can be customized

## ELD2 Connectors and Terminals



## Typical Applications



Printing Machines



Logistic



AGV Machines



Medical

## Motor Type

### 1000line Incremental Encoder

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]	Shaft Diameter [mm]
ACM4204V24H-01-A4	42	24	40	0.125	0.37	2.7	8	3000	4000	3.51	0.048		81	6
ACM4206V24H-01-A4	42	24	60	0.185	0.56	3.7	11.5	3000	4000	3.76	0.072		101	6
ACM4210V24H-01-A4	42	24	100	0.2	0.75	5.5	16.5	3000	4000	3.42	0.096		121	6
BLM57025-1000	57	36	25	0.08	0.16	1.6	3.2	3000	3500	5.2	0.03		70	6.35
BLM57050-1000	57	36	50	0.16	0.32	3	6	3000	3500	5.55	0.075		80	6.35
BLM57090-1000	57	36	90	0.29	0.58	3.45	6.9	3000	3500	8.8	0.119		100	6.35
BLM57130-1000	57	36	130	0.41	0.82	5.3	10.6	3000	3500	8.2	0.173		120	8
BLM57180-1000	57	36	180	0.57	1.14	6.7	13.4	3000	3500	8.9	0.23		140	8
57BL180D-1000	57	36	180	0.57	1.14	6.7	13.4	3000	3500	6.6	0.23		140	8
ELDM6010V24HL-A5	60	24	100	0.32	0.96	5.8	17.4	3000	4000	3.6	0.11		78	14
ELDM6010V24GL-A5	60	24	100	0.32	0.96	5.8	17.4	3000	4000	3.6	0.11	●	110	14
ELDM6020V24HL-A5	60	24	200	0.64	1.92	11	33	3000	4000	3.9	0.21		90	14
ELDM6020V24GL-A5	60	24	200	0.64	1.92	11	33	3000	4000	3.9	0.21	●	122	14
ELDM6020V36HL-A5	60	36	200	0.64	1.92	7	21	3000	4000	6.19	0.21		90	14
ELDM6020V36GL-A5	60	36	200	0.64	1.92	7	21	3000	4000	6.19	0.21	●	122	14
ELDM6040V24HL-A5-HD	60	24	400	1.27	3.84	20	65	3000	4000	4.2	0.43		117	14
ELDM6040V24GL-A5-HD	60	24	400	1.27	3.84	20	65	3000	4000	4.2	0.43	●	149	14
ELDM6040V48HL-A5	60	48	400	1.27	3.81	10	31	3000	4000	7.68	0.42		114	14
ELDM6040V48GL-A5	60	48	400	1.27	3.81	10	31	3000	4000	9.73	0.56	●	147	14
ELDM6040V60HL-A5	60	60	400	1.27	3.81	9	27	3000	4000	9.73	0.42		114	14
ELDM6040V60GL-A5	60	60	400	1.27	3.81	9	27	3000	4000	9.73	0.42	●	147	14
ELDM8075V48HM-A5-HD	80	48	750	2.39	7.17	19	57	3000	4000	8.7	1.5		142	19
ELDM8075V48GM-A5-HD	80	48	750	2.39	7.17	19	57	3000	4000	8.7	1.5	●	177	19
ELDM80100V48HM-A5-HD	80	48	750	3.2	9.6	28	86	3000	4000	7.7	2.2		165	19
ELDM80100V48GM-A5-HD	80	48	750	3.2	9.6	28	86	3000	4000	7.7	2.2	●	201	19
ELDM6005V24HM-A5-600	60	24	50	0.8	2.4	11	35	600	1200	5	0.27		96	14
ELDM6013V24GM-A5	60	24	125	0.4	1.2	9	28.5	3000	5000	3.2	0.15	●	113	14
ELDM8006V24HM-A5-150	80	24	55	3.5	10.5	7.5	24	150	300	30	1.2		116	19
ELDM8006V24GM-A5-150	80	24	55	3.5	10.5	7.5	24	150	300	30	1.2	●	151	19

### 2500line Incremental Encoder

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]	Shaft Diameter [mm]
ELDM4005V24HL-B5	40	24	50	0.16	0.48	3.8	12	3000	4000	3	0.02		71	8
ELDM4005V24GL-B5	40	24	50	0.16	0.48	3.8	12	3000	4000	3	0.021	●	103	8
ELDM4010V24HL-B5	40	24	100	0.32	0.96	5.7	18.1	3000	4000	3.8	0.038		85	8
ELDM4010V24GL-B5	40	24	100	0.32	0.96	5.7	18.1	3000	4000	3.8	0.039	●	117	8
ELDM4010V48HL-B5	40	48	100	0.32	0.96	4.0	12.5	3000	5000	5.5	0.04		85	8

#### Extension cable:

Power Cable: CABLE-ACM\*M\* / CABLE-PL\*M\*-H (length: 1.2m, 2.2m, 3m, 5m, 7m, 10m optional)  
Encoder Cable: CABLE-LD2-BM\*M\* / CABLE-LD2-BM\*M\*-S (length: 1.2m, 2.2m, 3m, 5m, 7m, 10m optional)  
Brake Cable: CABLE-SC\*M\*-S (length: 1.2m, 2.2m, 3m, 5m, 7m, 10m optional)  
Configuration Cable: CABLE-PC-1  
Communication Cable: CABLE-TX\*M\*-LD2