ELD2 series DC Servo Drive

ELD2 low-voltage DC servo is a special motion control product designed for machines and applications that request a best balance between outstanding and reasonable cost.
Combined with abundant features like MFC, vibration suppression, multi-mode filter function etc. It provide machines a compact size, low tuning works.

Feature:

- Power range up to 2.5kW
- Current range up to 180Amp
- Easy tuning
- Simple, flexible to control
- Modbus RTU / CANopen
- PR-Mode
- Notch filter, damping filter
- 1000line / 2500line incremental encoder / 17bit Serial signal encoder

Technical Specification

Power & Environment					
Drive model		ELD2-RS7005 ELD2-CAN7005	ELD2-RS7010 ELD2-CAN7010B	ELD2-RS7015B ELD2-CAN7015B	ELD2-RS7020B ELD2-CAN7020B
Size(mm)		118*79.5*25.5(RS) 140*79.5*25.5(CAN)	118*79.5*25.5(RS) 140*79.5*25.5(CAN)	175*101.5*33	175*101.5*33
Rated power(kW)		0.1	0.4	0.6	0.75
Rated output current(Arms)		5	10	15	20
Max output current(Apeak)		21.2	35 (RS) 42.5 (CAN)	45	80
Main power	Voltage(V)	DC24V-70			
	Current(A)	5Arms （≤48Vdc） 3.5Arms（＞48Vdc）	10Arms （≤48Vdc） 7Arms（＞48Vdc）	15Arms （≤48Vdc） 11Arms（＞48Vdc）	20Arms （≤48Vdc） 14Arms（＞48Vdc）
Auxiliary power	Voltage(V)	——			
Control power	Voltage(V)	DC12-24			
	Current(mA)	≥12			
Control method		IGBT PWM sinusoidal Wave Drive			
Overload		300%			
Brake resistor		External connection			
Safe function		——			
Protection rank		IP20			

Power & Environment				
Drive model		ELD2-RS7030B ELD2-CAN7030B	ELD2-RS7040B ELD2-CAN7040B	ELD2-RS7060B ELD2-CAN7060B
Size(mm)		175*101.5*33	194*103*41	194*103*41
Rated power(kW)		1.2	1.5	2.5
Rated output current(Arms)		30	40	60
Max output current(Apeak)		90	120	180
Main power	Voltage(V)	DC24V-70		
	Current(A)	30Arms （≤48Vdc） 21Arms（＞48Vdc）	40Arms(≤48Vdc) 28Arms (＞48Vdc)	60Arms(≤48Vdc) 42Arms (＞48Vdc)
Auxiliary power	Voltage(V)	——	DC24V-70	
Control power	Voltage(V)	DC12-24		
	Current(mA)	≥12		
Control method		IGBT PWM sinusoidal Wave Drive		
Overload		300%		
Brake resistor		External connection		
Safe function		——	STO	
Protection rank		IP20		

Communication & Connection		
Type	ELD2-RS***	ELD2-CAN***
Pulse input	2 fast pulse input, 5V only	——
Analog input	1 analog input: -10V to +10V	——
Digital input/output	4programmable OC inputs, 24V 2 programmable OC outputs, 24V	
Communication interface	RS485	CAN
Feedback Supported	1000, 2500lines incremental TTL encoder and Serial signal encoder	

Matched Motors	
Power Range	Up to 2.5kw
Voltage Range	24 - 70Vdc
Encoder Type	1000-Line, 2500 -Line, 17-Bit
Motor Size	40mm,42mm,57mm,60mm,80mm frame or other size
Other Requirements	Brake. oil-seal. protection level. Shaft & connector can be customized

Operating Environment

Servo Drive, Servo Motor Storage Circumstance Requirement

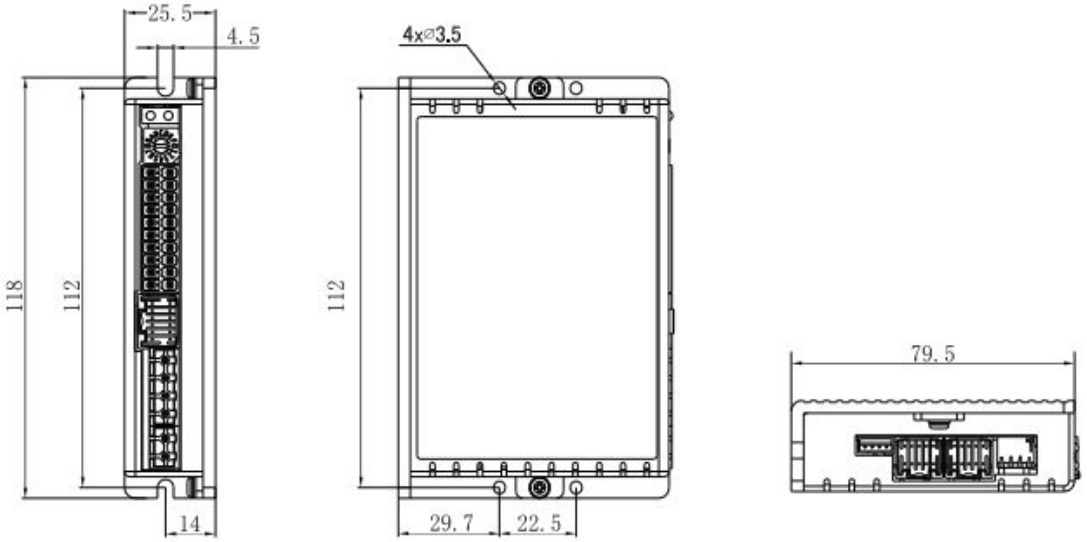
Item	ELD2 series drive
Temperature	-20-80℃
Humility	Under 90%RH (free from condensation)
Atmospheric environment	Indoor(no exposure)no corrosive gas or flammable gas, no oil or dust
Altitude	Lower than 1000m
Protection level	IP20(no protection)

Servo Drive, Servo Motor Installation Circumstance Requirement

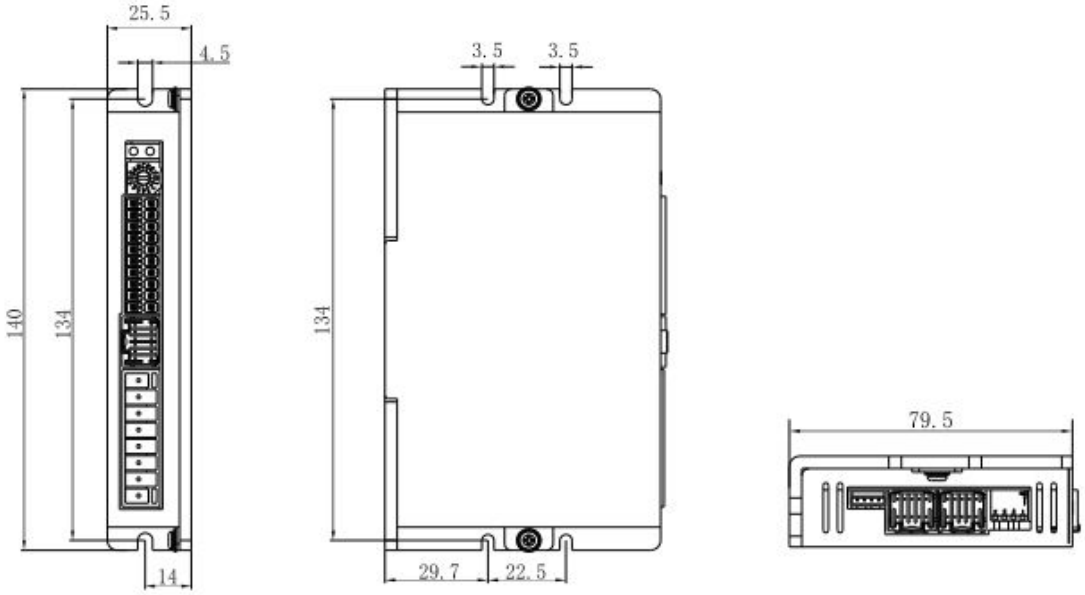
Item	ELD2 series drive
Temperature	0-55℃
Humility	Under 90%RH(free from condensation)
Atmospheric environment	Indoor(no exposure)no corrosive gas or flammable gas, no oil or dust
Altitude	Lower than 1000m
Protection level	IP00(no protection)

Model

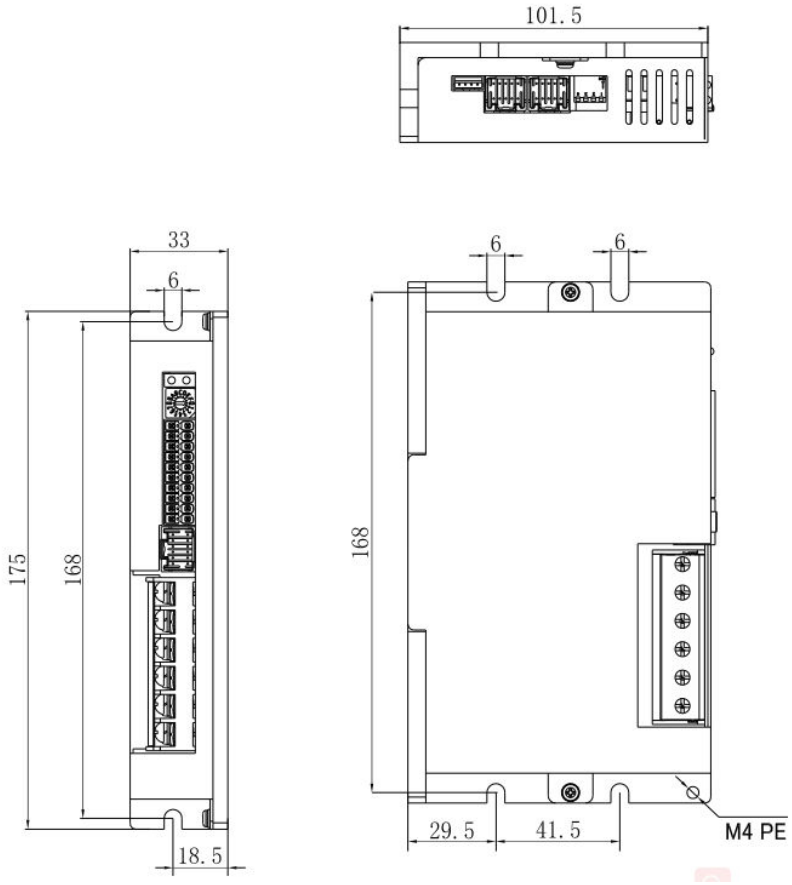
ELD2-RS7005/ELD2-RS7010



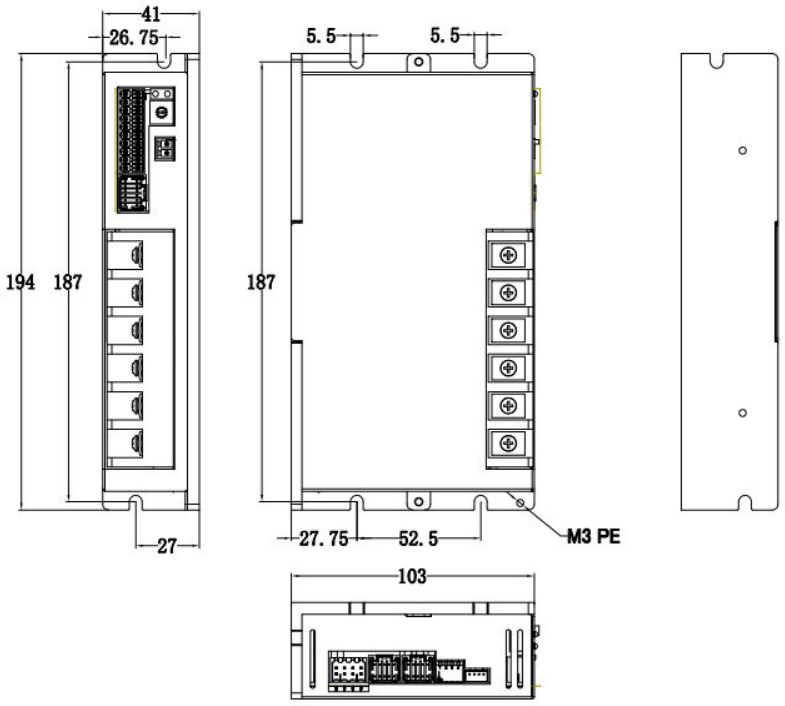
ELD2-CAN7005B/ELD2-CAN7010B



ELD2-**7015B/ELD2-**7020B/ELD2-**7030B



ELD2-**7040B/ELD2-**7060B

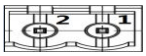


Connectors and Pin Assignment

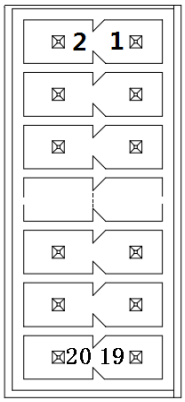
Power terminal

Power terminal	Pin	Signal	Input / Output	Details
	1	VCC	Input	Power supply input
	2	GND	Input	Ground connection
	3	U	Output	Motor phase U
	4	V	Output	Motor phase V
	5	W	Output	Motor phase W
	6	PE	Output	Motor protective connection

Regenerative resistor

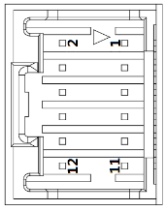
RBR		Pin	Signal	Input / Output	Details
RBR		1	RBR+	Output	Regenerative resistor +
		2	RBR-	Output	Regenerative resistor -

Signal Explanation of Control Signal Port-CN1

CN1		Pin	Signal	IO	Detail		
CN1					ELD2-RS***		ELD2-CAN***
		1	DI1+	Input	Differential pulse input，5V, 500KHz	Pulse	NA
		2	DI1-	Input			
		3	DI2+	Input	Differential pulse input，5V, 500KHz	Direction	NA
		4	DI2-	Input			
		5	COM_IN	Input	Power supply positive terminal of the external input control signal, 12V ~ 24V		
		6	DI3	Input	Digital input signal 3, default value is forward enable signal , low level available in default , max voltage is 24V input 20KHz		
		7	DI4	Input	Digital input signal 4, default value is alarm clear signal , low level available in default , max voltage is 24V input 20KHz		
		8	DI5	Input	Digital input signal 5, default value is forward run prohibited (POT)signal in position mode , low level available in default , max voltage is 24V input 20KHz		
		9	DI6	Input	Digital input signal 6, default value is reverse run prohibited (NOT) signal in position mode , low level available in default , max voltage is 24V input 20KHz		
		10	Vin+	Input	Analog input , voltage input range : -10VDC~+10VDC , input resistor 20KΩ		
		11	Vin-	Input			
		12	A+	Input	Output terminal of motor encoder A phase		
		13	A-	Output			
		14	B+	Output	Output terminal of motor encoder B phase		
		15	B-	Output			
		16	DO+	Output	ELD2-RS7005/ELD2-RS7010: Differential output 1, 24V/100mA	ELD2-******B: Brake output, 24V/(max 1A)	
		17	DO-	Output			

		18	DO1	Output	Digital output signal 1 , (ALARM) , 24V, 8mA
		19	DO2	Output	Digital output signal 2 , (Servo-Ready) , 24V, 8mA
		20	COM_O	Output	Digital output signal commonality ground, 24V

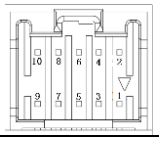
Encoder Input Port

CN2		Pin	Signal	IO	Detail
CN2		1	SHIELD	Input	Ground terminal for shielded
		2	HU	Input	Hall sensor U input
		3	HW	Input	Hall sensor W input
		4	HV	Input	Hall sensor V input
		5	VCC	Input	+5V for encoder power supply
		6	GND	Input	
		7	EZ+/D+	Input	Encoder channel Z+ put/ Serial encoder signal
		8	EZ-/D-	Input	Encoder channel Z- input/ Serial encoder signal
		9	EB+	Input	Encoder channel B+ input
		10	EB-	Input	Encoder channel B- input
		11	EA+	PE	Encoder channel A+ input
		12	EA-	Input	Encoder channel A- input

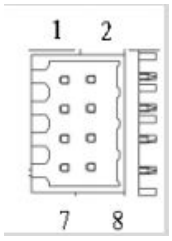
Communication port

CN7		Pin	Detail
RS232		1	5V
		2	TX
		3	GND
		4	RX

Bus connector- IN or OUT

BUS		Pin	Modbus(RS485)	CANopen
CANopen / Modbus(RS485)		1	485data+	CANH
		3	485 data-	CANL
		5	GND	GND
		other	NC	NC

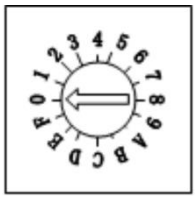
STO connector

STO		Pin	Detail
STO		1	GND
		2	5V
		3	STO 1-
		4	STO 1+
		5	STO 2-
		6	STO 2+
		7	EDM-
		8	EDM+

Auxiliary power

Auxiliary power		Pin	Detail
Auxiliary power		1	VCC+
		2	GND

Rotary Code Switch—Modbus(RS485) / CANopen

RCS		NO.	Slave ID	NO.	Slave ID
S1		0	Modbus : Default Pr5.31=16 CANopen: Default Pr0.23=16	8	8
		1	1	9	9
		2	2	A	10
		3	3	B	11
		4	4	C	12
		5	5	D	13
		6	6	E	14
		7	7	F	15

Dip Switch

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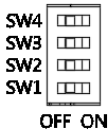
<tr><th>Switch</th><th></th><th>Pin</th><th>Detail</th></tr>
<tr><td rowspan="4">SW</td><td rowspan="4"> 
</td><td>SW1</td><td rowspan="2">Modbus / CANopen baud rate:
<table>
<tr><th>SW1</th><th>SW2</th><th>Modbus Baud rate</th><th>CANopen Baud rate</th></tr>
<tr><td>off</td><td>off</td><td>Default Pr5.30=9600</td><td>Default Pr0.24=1M</td></tr>
<tr><td>on</td><td>off</td><td>19200</td><td>500K</td></tr>
<tr><td>off</td><td>on</td><td>38400</td><td>250K</td></tr>
<tr><td>on</td><td>on</td><td>57600</td><td>125K</td></tr>
</table></td></tr>
<tr><td>SW2</td></tr>
<tr><td>SW3</td><td>Bus terminal resistance:
ON: 120ohm
OFF: Null</td></tr>
<tr><td>SW4</td><td>
<table>
<tr><th>Parameter</th><th>ELD2-RS****</th><th>SW4</th><th>Detail</th></tr>
<tr><td rowspan="2">Pr6.33=0</td><td rowspan="2">Rotation direction</td><td>off</td><td>CCW</td></tr>
<tr><td>on</td><td>CW</td></tr>
<tr><td rowspan="2">Pr6.33=8</td><td rowspan="2">Modbus slave ID MSB</td><td>off</td><td>0: Slave ID = RCS</td></tr>
<tr><td>on</td><td>1: Slave ID = 16 + RCS</td></tr>
<tr><th>Parameter</th><th>ELD2-CAN****</th><th>SW4</th><th>Detail</th></tr>
<tr><td rowspan="2">——</td><td rowspan="2">CANopen slave ID MSB</td><td>off</td><td>0: Slave ID = RCS</td></tr>
<tr><td>on</td><td>1: Slave ID = 16 + RCS</td></tr>
</table></td></tr>
</table>