

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			

Datasheet of ELD2 Series Drive

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℃
Humidity	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)

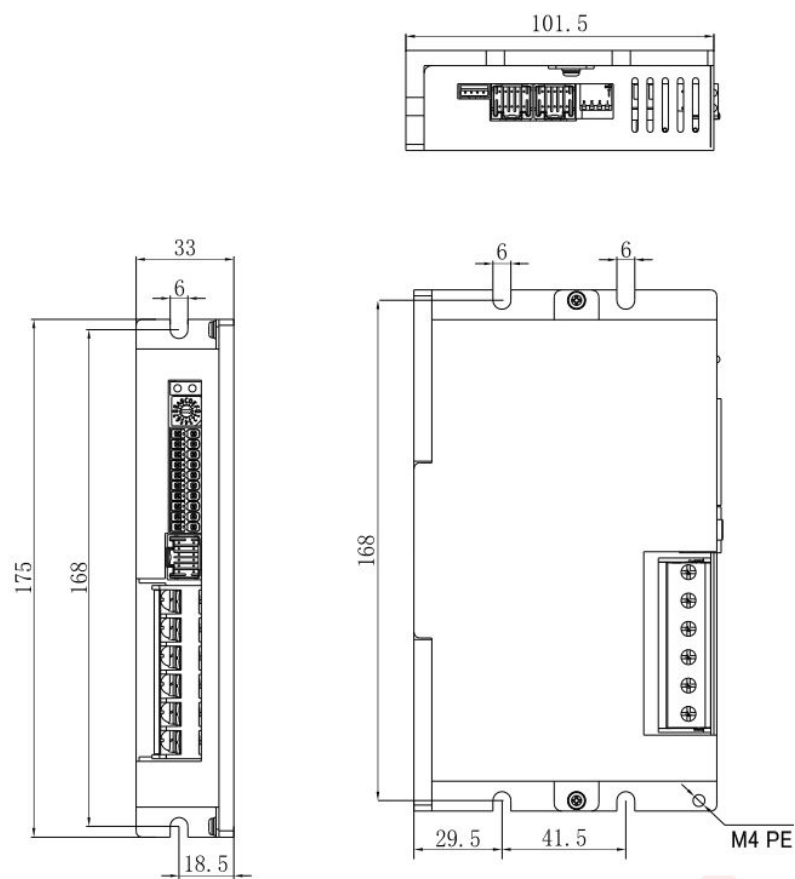
Item	ELD2 series drive
Temperature	0-55℃
Humidity	Under 90%RH(free from condensation)
Atmospheric environment	Indoor(no exposure)no corrosive gas or flammable gas, no oil or dust
Altitude	Lower than 1000m
Protection level	IP00(no protection)

ELD2-RS7005/ELD2-RS7010

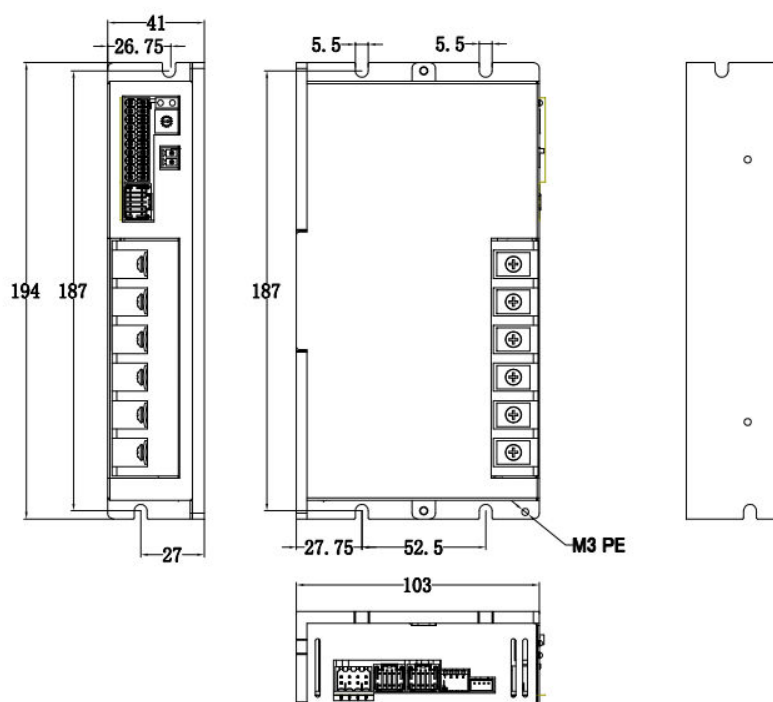


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ELD2-**7015B/ELD2-**7020B/ELD2-**7030B

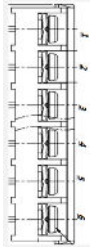


ELD2-**7040B/ELD2-**7060B



Connectors and Pin Assignment

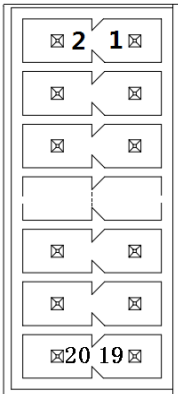
Power terminal

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 -

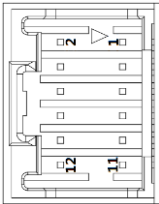
Signal Explanation of Control Signal Port-CN1

CN1		Pin	Signal	IO	Detail		
					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			

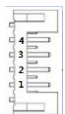
Datasheet of ELD2 Series Drive

		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

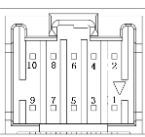
Encoder Input Port

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

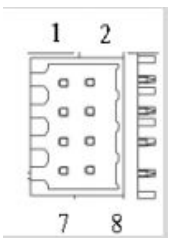
Communication port

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

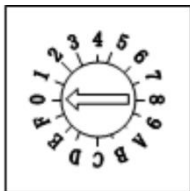
STO		Pin	Detail
STO		1	GND
		2	5V
		3	STO 1-
		4	STO 1+
		5	STO 2-
		6	STO 2+
		7	EDM-
		8	EDM+

Datasheet of ELD2 Series Drive

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

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