



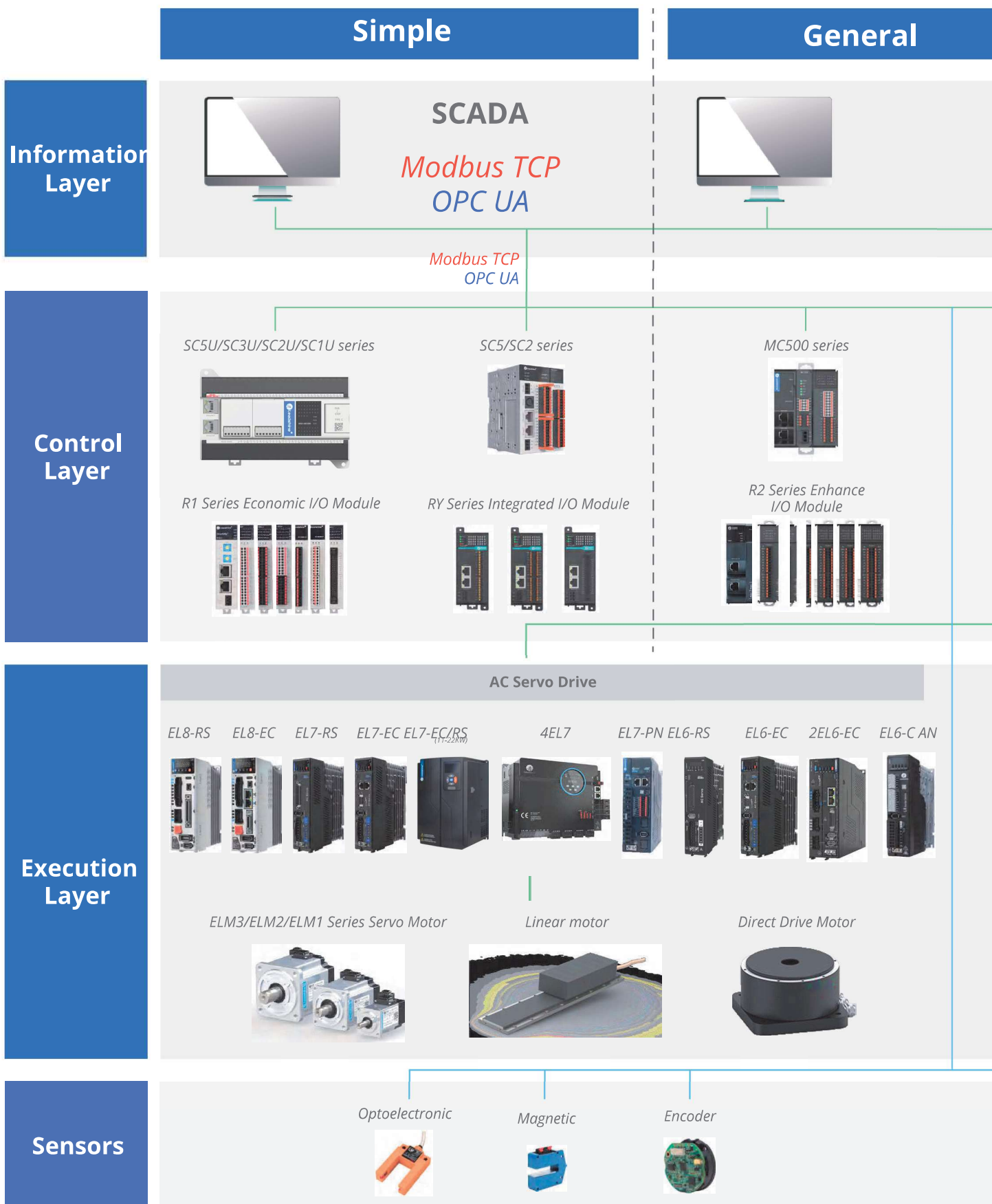
Stock Code: 002979

# **AC Servo**

## *Product Catalogue*

[www.leadshine.com](http://www.leadshine.com)

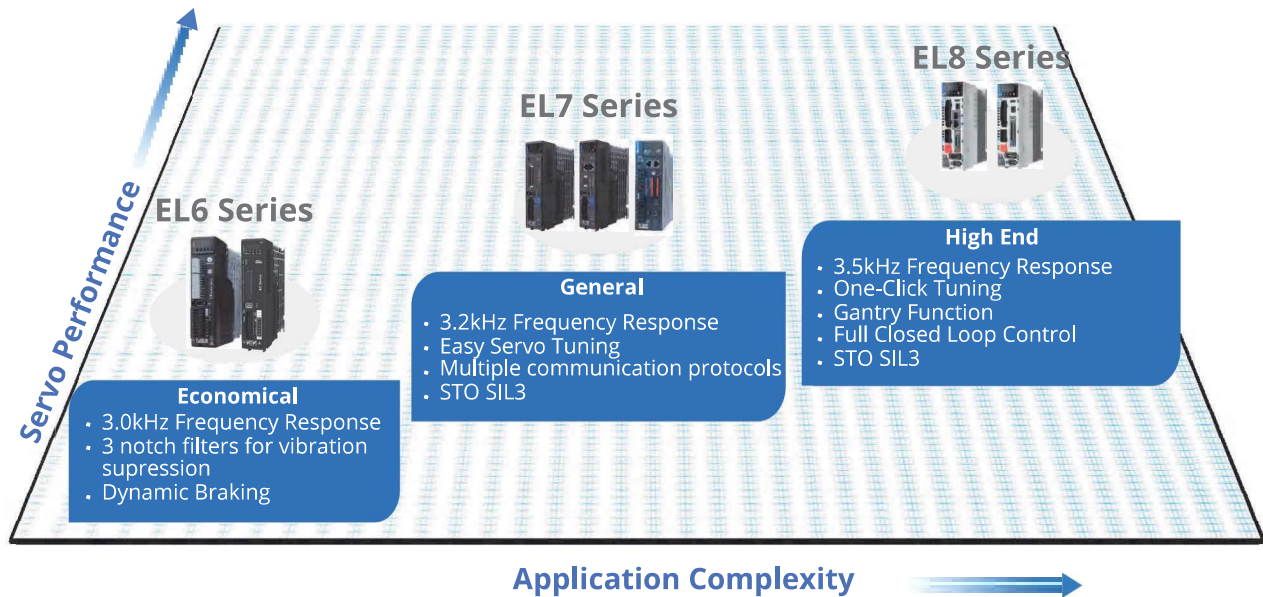
# Leadshine Motion Control Total Product System



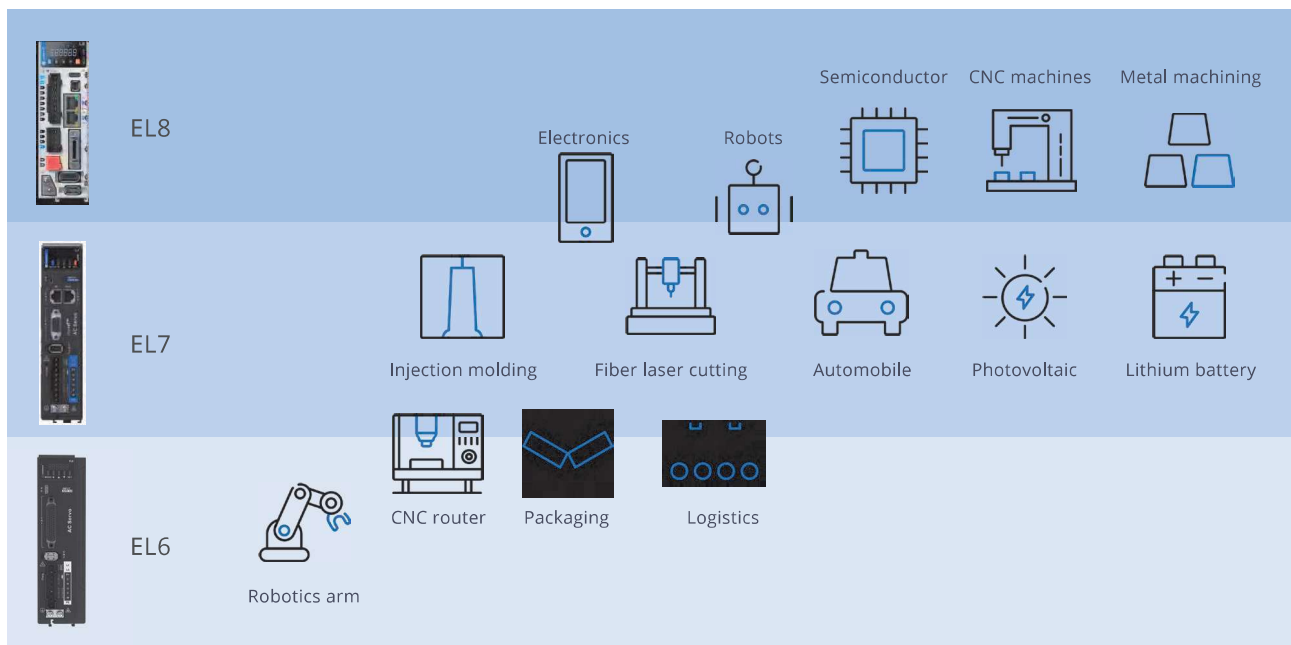


# Leadshine Servo Product

## Servo Drive Series



## Typical Applications



| Servo Drive                           | Model                              | Power (W)               | Voltage ( VAC )         | Dimensions (mm)         | Weight (kg) | Command Source |              |     |  |  |  |  |
|---------------------------------------|------------------------------------|-------------------------|-------------------------|-------------------------|-------------|----------------|--------------|-----|--|--|--|--|
|                                       |                                    |                         |                         |                         |             | Pulse+Dir      | Analog Input |     |  |  |  |  |
| AC Servo Drive EL8 Series             | EL8-EC400F                         | 400                     | 1 Phase/<br>3 Phase 220 | 150*150*43              | 1           |                | √            |     |  |  |  |  |
|                                       | EL8-RS400F                         |                         |                         |                         | √           | √              |              |     |  |  |  |  |
|                                       | EL8-EC750F                         | 750                     |                         |                         |             | √              |              |     |  |  |  |  |
|                                       | EL8-RS750F                         |                         |                         |                         | √           | √              |              |     |  |  |  |  |
|                                       | EL8-EC1000F                        |                         |                         | 150*160*55              | 1.2         |                | √            | √   |  |  |  |  |
|                                       | EL8-RS1000F                        |                         |                         |                         | √           | √              |              |     |  |  |  |  |
|                                       | EL8-EC1500F                        |                         |                         |                         |             | √              | √            |     |  |  |  |  |
|                                       | EL8-RS1500F                        | 1500                    |                         |                         |             | √              | √            |     |  |  |  |  |
|                                       | EL8-EC2000F                        |                         |                         | 183*168*80              | 2           |                | √            | √   |  |  |  |  |
| EL8-RS2000F                           |                                    |                         | √                       |                         | √           |                |              |     |  |  |  |  |
| AC Servo Drive EL7-RS Series - 220VAC | EL7-RS400P                         | 400                     | 1 Phase 220             |                         | 175*156*40  | 0.             | √            | √   |  |  |  |  |
|                                       | EL7-RS750P                         | 750                     |                         |                         | 9           | √              | √            |     |  |  |  |  |
|                                       | EL7-RS1000P                        | 1000                    |                         |                         | 1.          | √              | √            |     |  |  |  |  |
|                                       | EL7-RS1500P                        | 1500                    | 1 Phase/<br>3 Phase 220 | 175*156*50              | 1           | √              | √            |     |  |  |  |  |
|                                       | EL7-RS2000P                        | 2000                    |                         |                         | 1.          | √              | √            |     |  |  |  |  |
|                                       | EL7-RS750PT                        | 750                     |                         |                         | 2           | √              | √            |     |  |  |  |  |
| AC Servo Drive EL7 Series - 400VAC    | EL7-RS1000PT                       | 1000                    | 3 Phase 400             | 179*175*55              | 2.3         | √              | √            |     |  |  |  |  |
|                                       | EL7-RS1500PT                       | 1500                    |                         |                         |             | 3              | √            | √   |  |  |  |  |
|                                       | EL7-RS2000PT                       | 2000                    |                         |                         |             | √              | √            |     |  |  |  |  |
|                                       | EL7-RS3000PT                       | 3000                    |                         | 179*175*80              | 2.          | √              | √            |     |  |  |  |  |
|                                       | EL7-RS4400PT                       | 4400                    |                         |                         | 3.9         | √              | √            |     |  |  |  |  |
|                                       | EL7-RS5500PT                       | 5500                    |                         |                         | √           | √              |              |     |  |  |  |  |
|                                       | EL7-RS7500PT                       | 7500                    |                         | 230*250*90              | 3.3         | √              | √            |     |  |  |  |  |
|                                       | EL7-RS11K0T                        | 11000                   |                         |                         |             | √              | √            |     |  |  |  |  |
|                                       | EL7-RS15K0T                        | 15000                   |                         |                         |             | √              | √            |     |  |  |  |  |
|                                       | EL7-RS18K5T                        | 18500                   |                         | 280*170*180             |             |                | √            | √   |  |  |  |  |
|                                       | EL7-RS22K0T                        | 22000                   |                         |                         |             |                | √            | √   |  |  |  |  |
|                                       | EL7-EC400N                         | 400                     |                         |                         |             |                |              |     |  |  |  |  |
|                                       | AC Servo Drive EL7 Series - 220VAC | EL7-EC750N              |                         |                         | 750         | 1 Phase 220    | 175*156*40   | 0.9 |  |  |  |  |
|                                       |                                    | EL7-EC1000N             |                         | 1000                    |             |                | 175*156*50   | 1.2 |  |  |  |  |
| EL7-EC1500N                           |                                    | 1500                    |                         |                         |             |                |              |     |  |  |  |  |
| EL7-EC2000N                           |                                    | 2000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         | 400                     | 1 Phase/<br>3 Phase 220 | 179*175*55  | 2.3            |              |     |  |  |  |  |
|                                       |                                    | 4EL7-ECA05              | 400                     |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         | 400                     |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         | 750                     |                         |             |                |              |     |  |  |  |  |
|                                       | 1000                               |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       | 4EL7-ECA07                         | 1000                    |                         |                         | 230*200*90  |                |              |     |  |  |  |  |
|                                       |                                    | 1000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       |                                    | 750                     |                         |                         |             |                |              |     |  |  |  |  |
| 750                                   |                                    |                         |                         |                         |             |                |              |     |  |  |  |  |
| AC Servo Drive EL7 Series - 400VAC    | EL7-EC750NT                        | 1000                    | 3 Phase 400             | 179*175*55              | 1.3         |                |              |     |  |  |  |  |
|                                       | EL7-EC1000NT                       | 1500                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC1500NT                       | 2000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC2000NT                       | 3000                    |                         | 179*175*80              | 1.9         |                |              |     |  |  |  |  |
|                                       | EL7-EC3000NT                       | 4400                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC4400NT                       | 5500                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC5500NT                       | 7500                    |                         | 230*250*90              | 3.3         |                |              |     |  |  |  |  |
|                                       | EL7-EC7500NT                       | 11000                   |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC11K0T                        | 15000                   |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL7-EC15K0T                        | 18500                   |                         | 280*170*180             |             |                |              |     |  |  |  |  |
|                                       | EL7-EC18K5T                        | 22000                   |                         |                         |             |                |              |     |  |  |  |  |
| AC Servo Drive EL6 Series - 200VAC    | EL6-RS400P                         | 400                     | 1 Phase 220             | 175*156*40              | 0.9         | √              |              |     |  |  |  |  |
|                                       | EL6-CAN400Z                        |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL6-RS750P                         |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL6-CAN750Z                        | 750                     |                         |                         | √           |                |              |     |  |  |  |  |
|                                       | EL6-RS1000P                        | 1000                    |                         | 175*156*50              | 1.1         |                |              |     |  |  |  |  |
|                                       | EL6-CAN1000Z                       |                         |                         |                         |             |                | √            |     |  |  |  |  |
|                                       | EL6-EC400                          |                         |                         |                         |             | 400            |              |     |  |  |  |  |
|                                       | EL6-EC750                          | 750                     |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL6-EC1000                         | 1000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL6-EC1500                         | 1500                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | EL6-EC2000                         | 2000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | 2EL6-EC400                         | 400                     |                         | 175*179*80              |             |                |              |     |  |  |  |  |
|                                       | 2EL6-EC750                         | 750                     |                         |                         |             |                |              |     |  |  |  |  |
|                                       | 2EL6-EC1000                        | 1000                    |                         |                         |             |                |              |     |  |  |  |  |
|                                       | 2EL6-EC1500                        | 1500                    |                         | 1 Phase/<br>3 Phase 220 | 168*154*48  |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         | 1 Phase/<br>3 Phase 220 | 168*154*55  |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         | 1 Phase/<br>3 Phase 220 | 168*183*55  |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         |                         |             |                |              |     |  |  |  |  |
|                                       |                                    | 1 Phase/<br>3 Phase 220 | 168*183*75              |                         |             |                |              |     |  |  |  |  |
|                                       |                                    |                         |                         |                         |             |                |              |     |  |  |  |  |



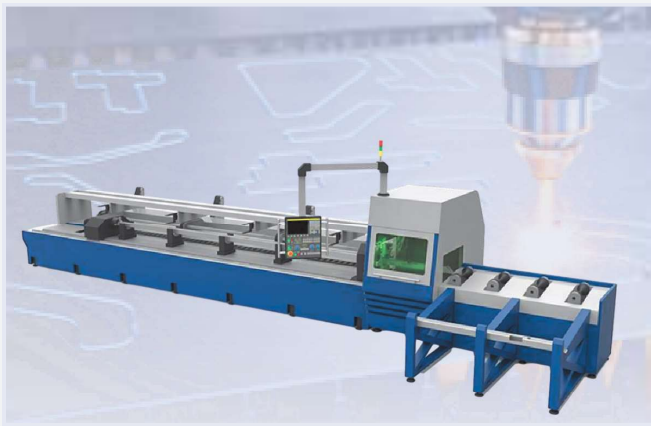
## CNC Router



### Product Advantages:

- High torque servo motor with 3 times overloading capability
- 23-bit encoders with great impact resistant and harsh environment resistance
- Servo drive optimized for CNC router applications
- Comes with safety features such as Safe Torque Off and Dynamic Braking
- Servo Motors maximum torque ranging from 0.105Nm up to 119Nm

## Fiber Laser Cutting



### Product Advantages:

- Great Compatibility with renowned laser cutting controller from FScut, Weihong, Beckhoff, Empower, etc.
- Available with most mainstream communication protocols (EtherCAT, Modbus RTU, PROFINET)
- Accurate positioning of 0.02mm and precision up to 0.01mm
- Easy servo tuning features to assist users in setting up the servo systems
- Robust and compact servo motors with high dust- and waterproof ratings



## EL8 Series

High End AC Servo Drives

EL8 Series AC Servo Drives are our latest high end servo drives which are packed with more new hardware and software features. This series of servo drive also comes with another version which combines analogue control, Modbus RTU protocol (RS485) and pulse + direction control into one. We added STO SIL3, analogue I/Os, holding brake port and EL8 series now supports a 2nd external encoder as well with our full closed loop control.



Robotic Arm



Precise Machining



Semiconductor



Electronics



Fiber Laser

## Part Numbers

EL8 - EC 400 F

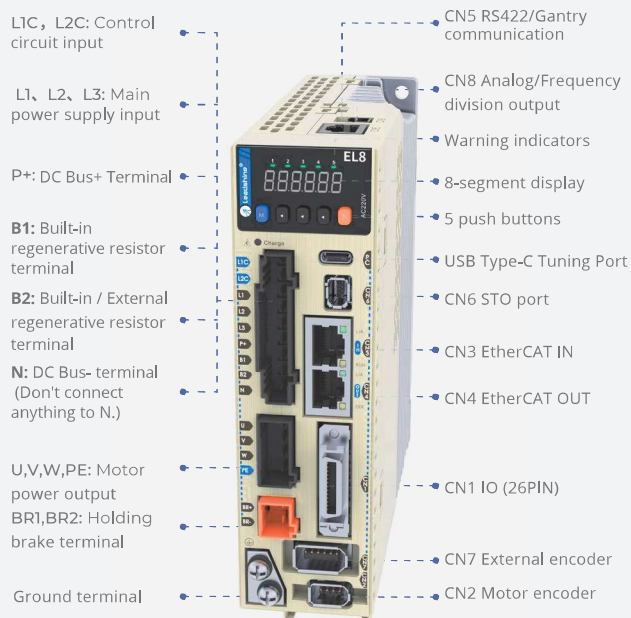
| Series Num |            |
|------------|------------|
| EL8        | EL8 series |

| Command Source |  |
|----------------|--|
| EC             | EtherCAT   |
| RS             | Modbus RTU/<br>Analog Input/<br>Pulse +Direction |

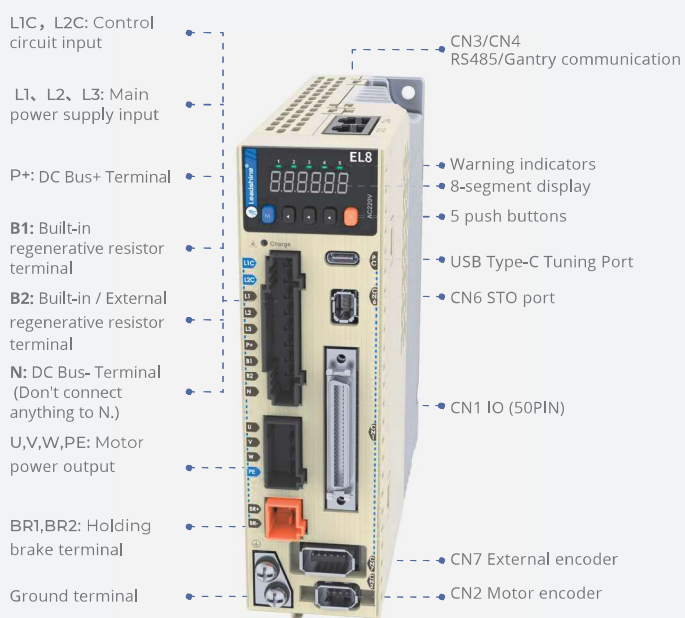
| Version |                |
|---------|----------------|
| F       | Full Functions |

| Version |       |      |       |
|---------|-------|------|-------|
| 400     | 400W  | 750  | 750W  |
| 1000    | 1000W | 1500 | 1500W |
| 2000    | 2000W |      |       |

## Ports & Connectors



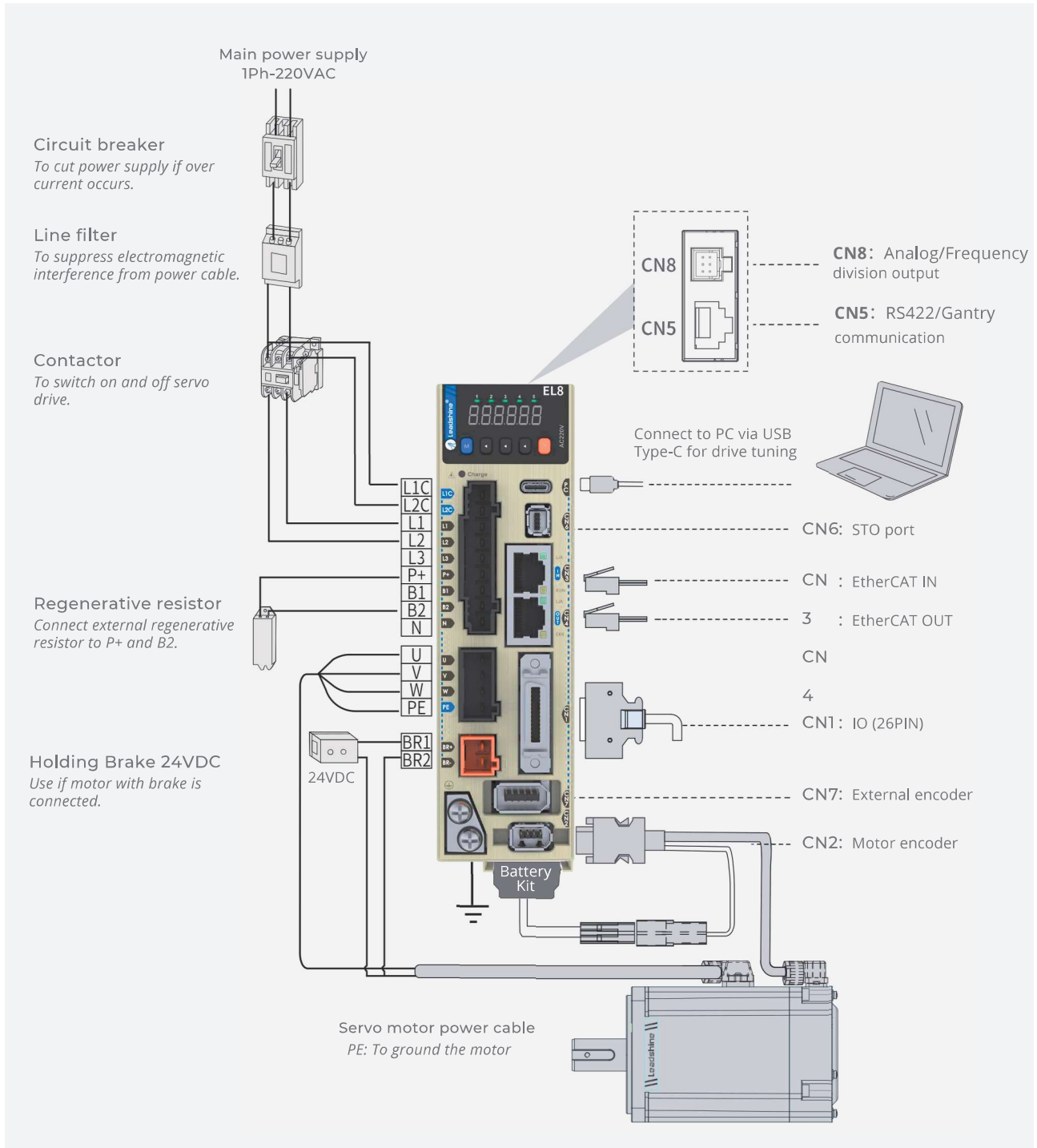
EL8 – EC Series



EL8 – RS Series



## EL8-EC & Peripheral Wiring Diagram



## Specifications

| EL8 Series Drive             | EL8-RS400F<br>EL8-EC400F                   | EL8-RS750F<br>EL8-EC750F | EL8-RS1000F<br>EL8-EC1000F | EL8-RS1500F<br>EL8-EC1500F | EL8-RS2000F<br>EL8-EC2000F |
|------------------------------|--|--------------------------|----------------------------|----------------------------|----------------------------|
| Power Rating                 | 400W                                       | 750W                     | 1000W                      | 1500W                      | 2000W                      |
| Rated Current (A)            | 2.8  | 5.5                      | 7.0                        | 9.5                        | 12                         |
| Peak Current (A)             | 9.3  | 16.9                     | 21.2                       | 31.1                       | 36                         |
| Control Circuit Power Supply | 1Ph AC 200V~240VAC, -10%~+10%, 50/60Hz     |                          |                            |                            |                            |
| Main Power Supply            | 1Ph/3Ph AC 200V~240VAC, -10%~+10%, 50/60Hz |                          |                            |                            |                            |
| Dimension L*H*W (mm)         | 150*150*43                                 | 150*160*55               |                            | 168*183*80                 |                            |

| EL8-EC                    |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| Analog I/O                | 2 analog inputs (AI1/AI2), -10V~+10V, Max. voltage: $\pm 12V$ ,  |
|                           | 2 analog outputs (AO1/AO2), -10V~+10V,   |
| Digital I/O               | 8 Digital Inputs (Supports common anode or cathode connection)   |
|                           | 3 Digital outputs (3 double-ended, DO1~DO3)  |
| Safe Torque Off (STO)     | Available for all EL8 series servo drives  |
| External encoder          |  |
| Holding brake             | Internal holding brake no need External relay  |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output |
| Communication Port        | EtherCAT protocol, RJ45 port   |
| USB Type-C                | Modify or read drive parameters without connecting to main power supply  |
| Control Mode              |  |
| Position                  | Profile Position Mode (PP)   |
|                           | Cyclic Synchronous Position Mode (CSP)   |
|                           | Homing Mode (HM)   |
| Velocity                  | Profile Velocity Mode (PV)   |
|                           | Cyclic Synchronous Velocity Mode (CSV)   |
| Torque                    | Profile Torque Mode (PT)   |
|                           | Cyclic Synchronous Torque Mode (CST)   |



## EL8-L Series

High End AC Servo Drives

EL8-L Series AC Servo Drives are our latest high end servo drives which now supports linear motors. This series of servo drive comes with EtherCAT control and another version which combines analogue control, Modbus RTU protocol (RS485) and pulse + direction control into one. We added STO SIL3, analogue I/Os, holding brake port and EL8 series now supports a 2nd external encoder for optical/magnetic scale feedback of a linear motor.



Machine tools



Electronics



Renewable energy



Fiber laser



Semiconductor



## Part Numbers

EL8 - EC 030 L

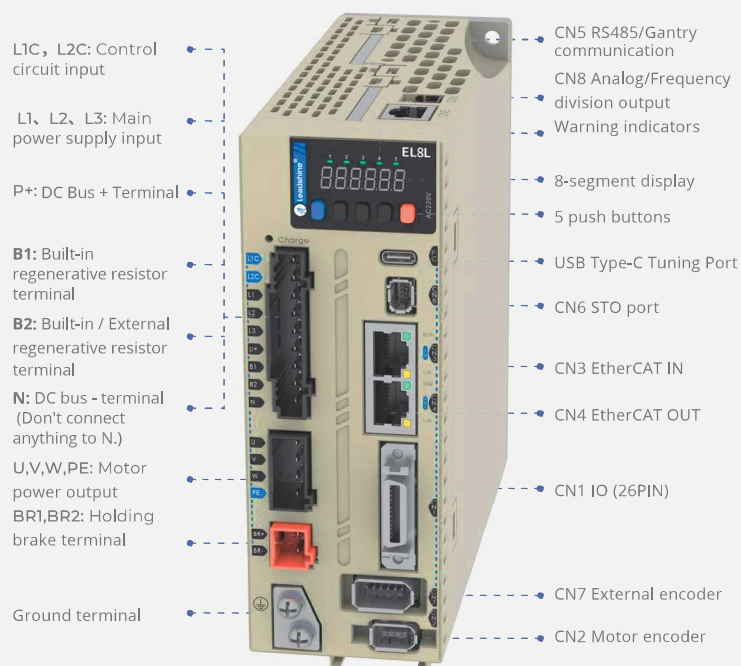
| Series Num |            |
|------------|------------|
| EL8        | EL8 series |

| Command Source |                                 |
|----------------|---------------------------------|
| EC             | EtherCAT                        |
| RS             | Modbus RTU/<br>Pulse +Direction |

| Version |              |
|---------|--------------|
| L       | Linear Drive |

| Rated Current |          |     |          |
|---------------|----------|-----|----------|
| 030           | 3.0Arms  | 045 | 4.5Arms  |
| 060           | 6.0Arms  | 080 | 8.0Arms  |
| 130           | 13.0Arms |     | 13.0Arms |

## Ports & Connectors



## Specifications

1-Phase/3-Phase 200-240VAC, 50/60Hz

| Drive Models | Rated Current (Arms) | Peak Current (Arms) | Dimension (L*H*W mm) |
|--------------|----------------------|---------------------|----------------------|
| EL8-RS030L   | 3.0                  | 9.3                 | 150*150*43           |
| EL8-EC030L   |                      |                     |                      |
| EL8-RS045L   | 4.5                  | 18.5                | 160*150*55           |
| EL8-EC045L   |                      |                     |                      |
| EL8-RS060L   | 6.0                  | 21.0                | 183*168*80           |
| EL8-EC060L   |                      |                     |                      |
| EL8-RS080L   | 8.0                  | 28.0                | 183*168*80           |
| EL8-EC080L   |                      |                     |                      |
| EL8-RS130L   | 13.0                 | 36.0                | 183*168*80           |
| EL8-EC130L   |                      |                     |                      |



## EL7-EC/RS/PN (400W-7.5kW) Series

### General Purpose AC Servo Drives

EL7-EC/RS/PN (400W-7.5kW) Series AC servo products are high performance AC digital servo which is designed for position/velocity/torque high accurate control with power rating ranging up to 2kW for 220VAC models and 7.5kW for 400VAC models which provides a perfect solution for different applications with easy tuning process.

This drive series supports automatic inertia ratio identification, vibration suppression and automatic/manual gain settings. It also comes with Safe Torque Off (STO) of SIL3 grading and matching regenerative resistor.

EL7-RS/EC/PN (400W-7.5kW) Series AC Servo Drive supports Modbus communication protocol in addition to analogue and pulse + direction input control, EtherCAT, Profinet.



CNC router



Fiber laser



Electronics



Semiconductor



Renewable energy

## Part Numbers

### EL7 - EC 750 P T

| Series Num |            |
|------------|------------|
| EL7        | EL7 series |

| Command Source |   |
|----------------|---|
| EC             | EtherCAT  |
| RS             | Modbus RTU/<br>Analog Input/<br>Pulse +Direc tion |
| PN             | Profinet  |

| Voltage |        |
|---------|--------|
| Blank   | 220VAC |
| T       | 400VAC |

| Version |  |
|---------|--|
| P       | Full functions without STO                             |
| N       | Full function including<br>CE, STO, UL* Certifications |

| Rated Power |       |      |       |
|-------------|-------|------|-------|
| 400         | 400W  | 750  | 750W  |
| 1000        | 1000W | 1500 | 1500W |
| 2000        | 2000W | 3000 | 3000W |
| 4400        | 4400W | 5500 | 5500W |
| 7500        | 7500W |      |       |

## Ports & Connectors

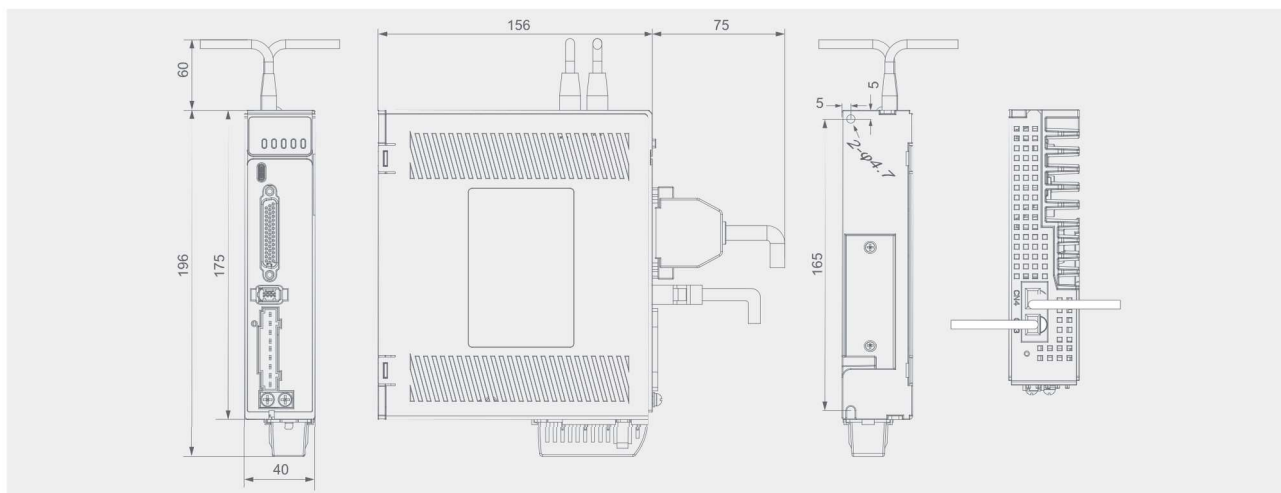
### EL7-ECN Series





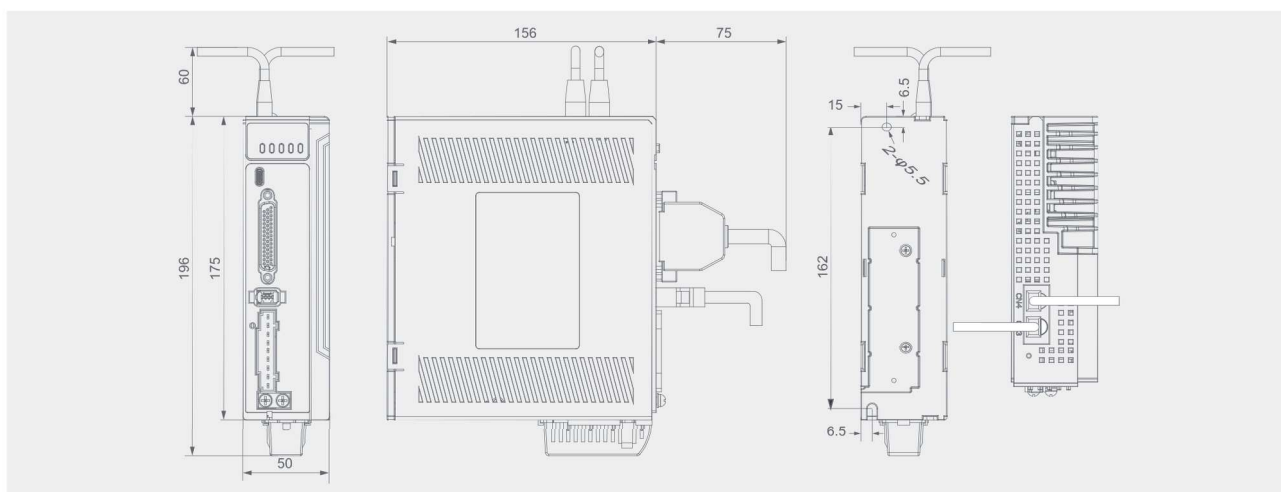
### 400W (AC 220V)

Unit: mm



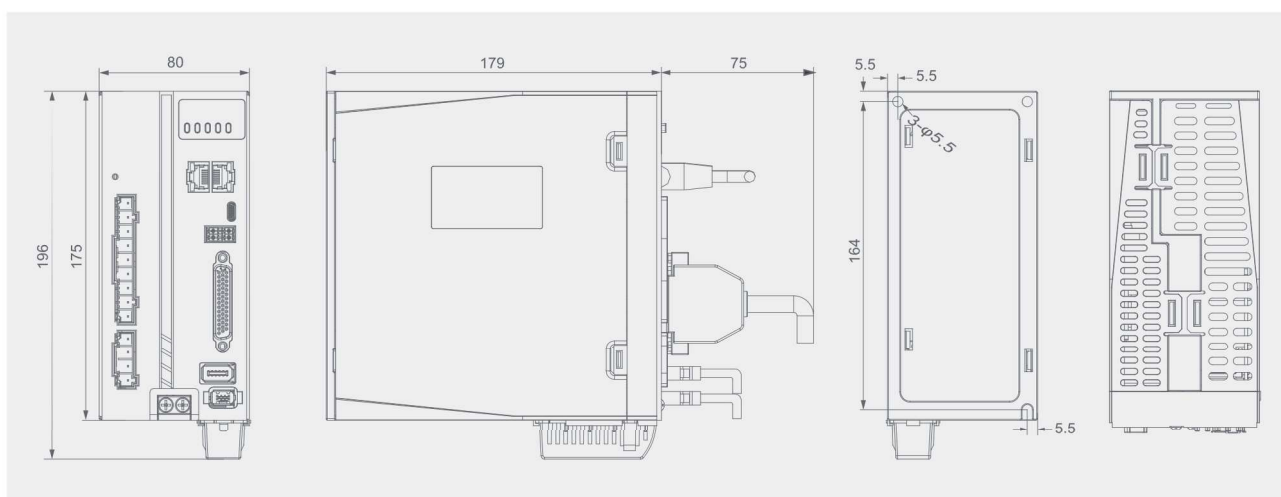
### 750W/1000W (AC 220V)

Unit: mm

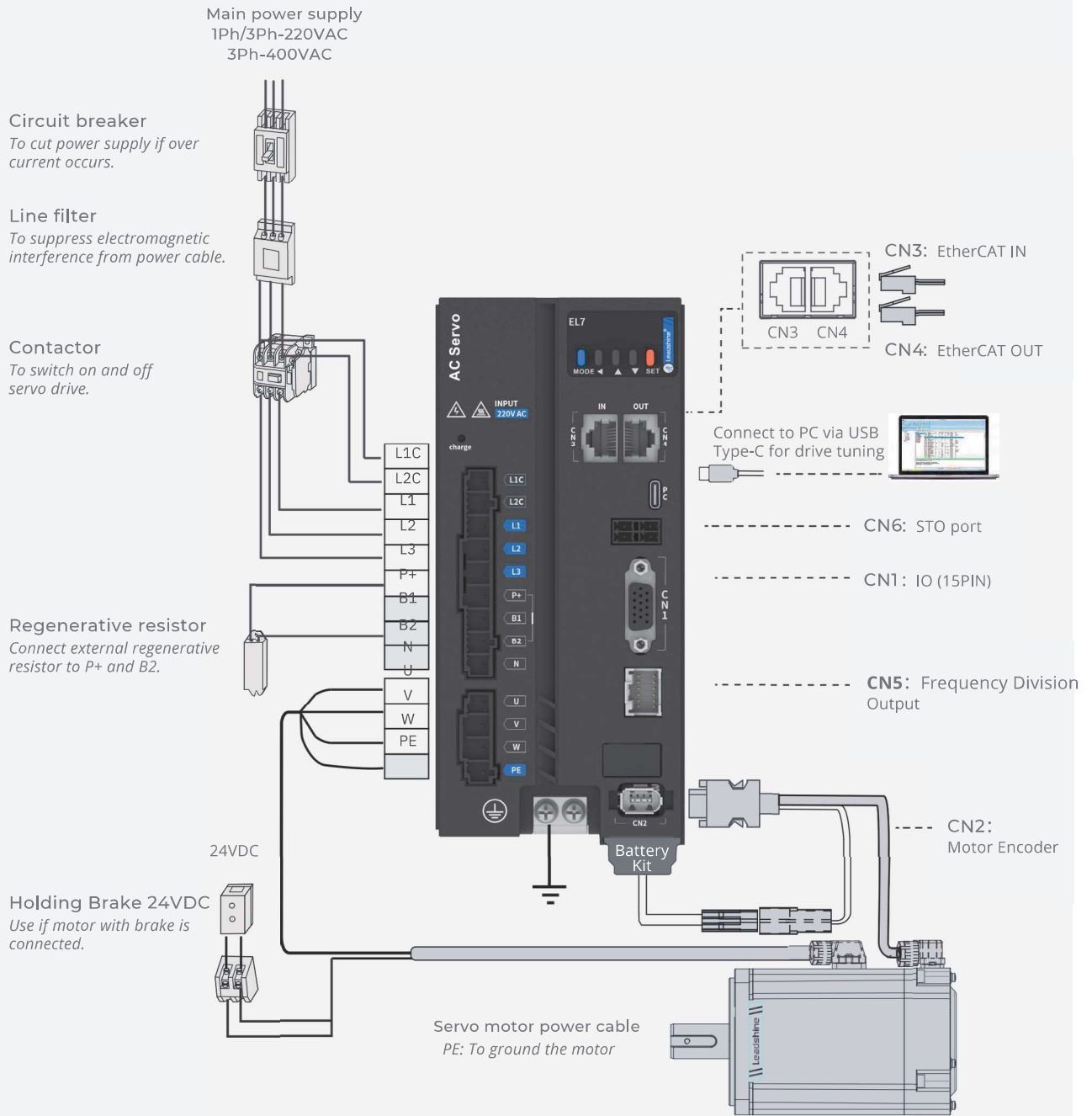


### 1500W/2000W (AC 220V)

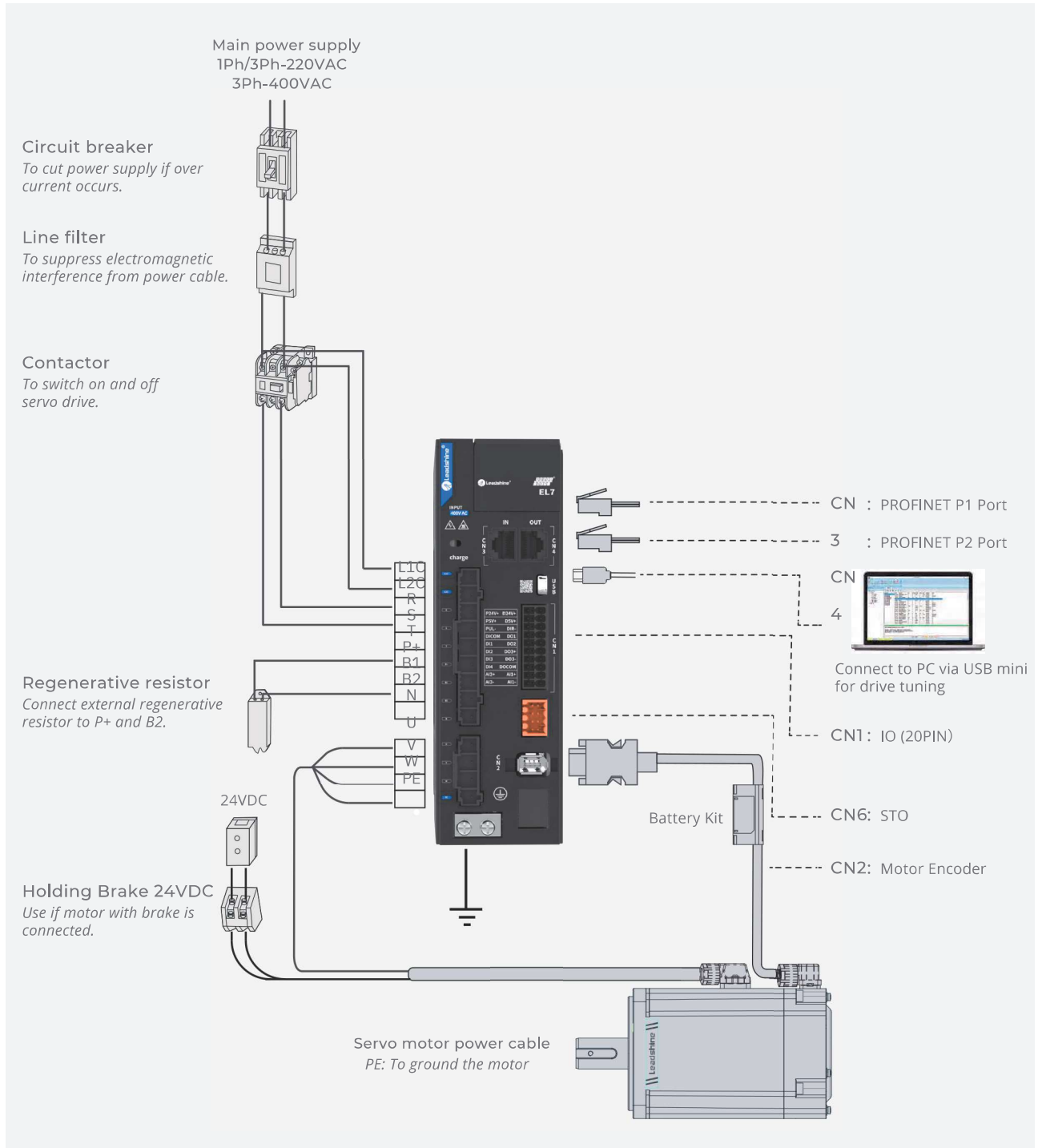
Unit: mm



## EL7-ECN & Peripheral Wiring Diagram



## EL7-PN & Peripheral Wiring Diagram





| EL7-ECN                   |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| USB Type-C Tuning         | Modify or read drive parameters without connecting to main power supply  |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output |
| Digital I/O               | 4 Digital Inputs (Supports common anode or cathode connection) DI1,DI2,DI3,DI6   |
|                           | 3 digital outputs (double-ended) DO1~DO3   |
| Communication Port        | EtherCAT, RTU protocol (RJ45 port)   |
| Control Mode              |  |
| Position                  | Profile Position Mode (PP)   |
|                           | Cyclic Synchronous Position Mode (CSP)   |
|                           | Homing Mode (HM)   |
| Velocity                  | Profile Velocity Mode (PV)   |
|                           | Cyclic Synchronous Velocity Mode (CSV)   |
| Torque                    | Profile Torque Mode (PT)   |
|                           | Cyclic Synchronous Torque Mode (CST)   |

| EL7-RS                    |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| USB Type-C Tuning         | Modify or read drive parameters without connecting to main power supply  |
| Low-speed pulse input     | 5V differential signal, 0-500kHz<br>24V single ended signal, 0-200kHz  |
| High-speed pulse input    | 5V differential signal, 0-4MHz   |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output   |
| Analog I/O                | 2 analog inputs (AI1/AI3), -10V~+10V, Max. voltage: ±12V   |
|                           | 1 analog output (AO1), -10V~+10V   |
| Digital I/O               | 8 Digital Inputs (Supports common anode or cathode connection) DI1~DI8   |
|                           | 5 digital outputs (double-ended) DO1~DO5   |
| Communication Port        | RS485 communication, Modbus RTU protocol (RJ45 port)   |
| Control Mode              |  |
| Control                   | 1. External pulse train position control, 2. JOG control, 3. Velocity control, 4. Torque control,<br>5. Hybrid control: Position-Torque/Position-Velocity/Velocitv-Torque, |

| EL7-PN                    |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| USB mini Tuning           | Modify or read drive parameters with connecting to main power supply   |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output |
| Digital I/O               | 6 Digital Inputs (Supports common anode or cathode connection) DI1~DI8   |
|                           | 3 digital outputs (double-ended) DO1~DO5   |
| Communication Port        | PROFINET protocol (RJ45 port)  |
| Control Mode              |  |
| Supported Telegram        | Telegram 1/2/3/110/111/102/105   |



## EL7-EC/RS (11-22kW) Series

General Purpose AC Servo Drives

The EL7 high power servo drive can provide the power in the range of 11~22kw. Frequency response is up to 2.0kHz. In particular, it supports gantry synchronisation and PTC temperature detection compared to lower power servo drives of the same series.



Machine Tools



Logistics



Packaging

## Part Numbers

### EL7 - EC 11K0 N T

| Series Num |            |
|------------|------------|
| EL7        | EL7 series |

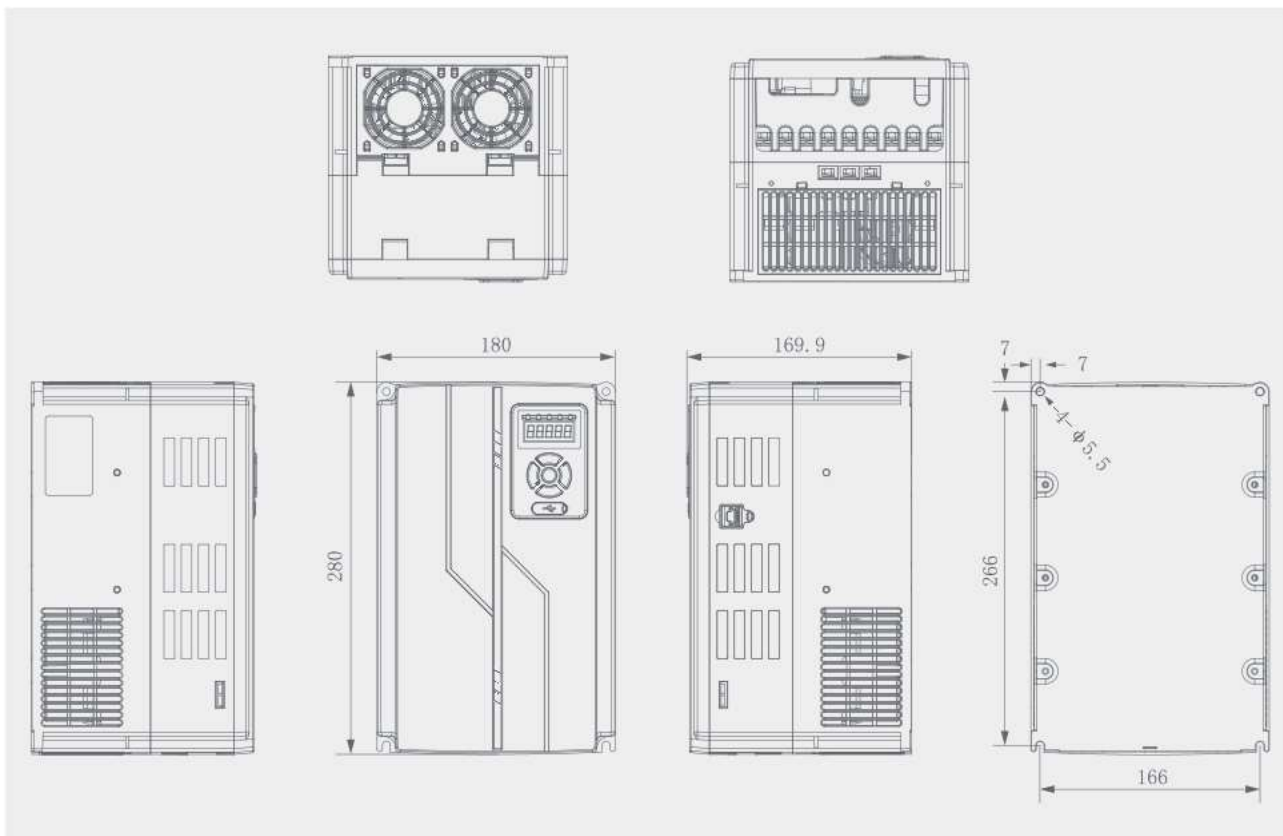
| Command Source |  |
|----------------|--|
| EC             | EtherCAT   |
| RS             | Modbus RTU/<br>Analog Input/<br>Pulse +Direction |

| Voltage |      |
|---------|------|
| Blank   | 220V |
| T       | 400V |

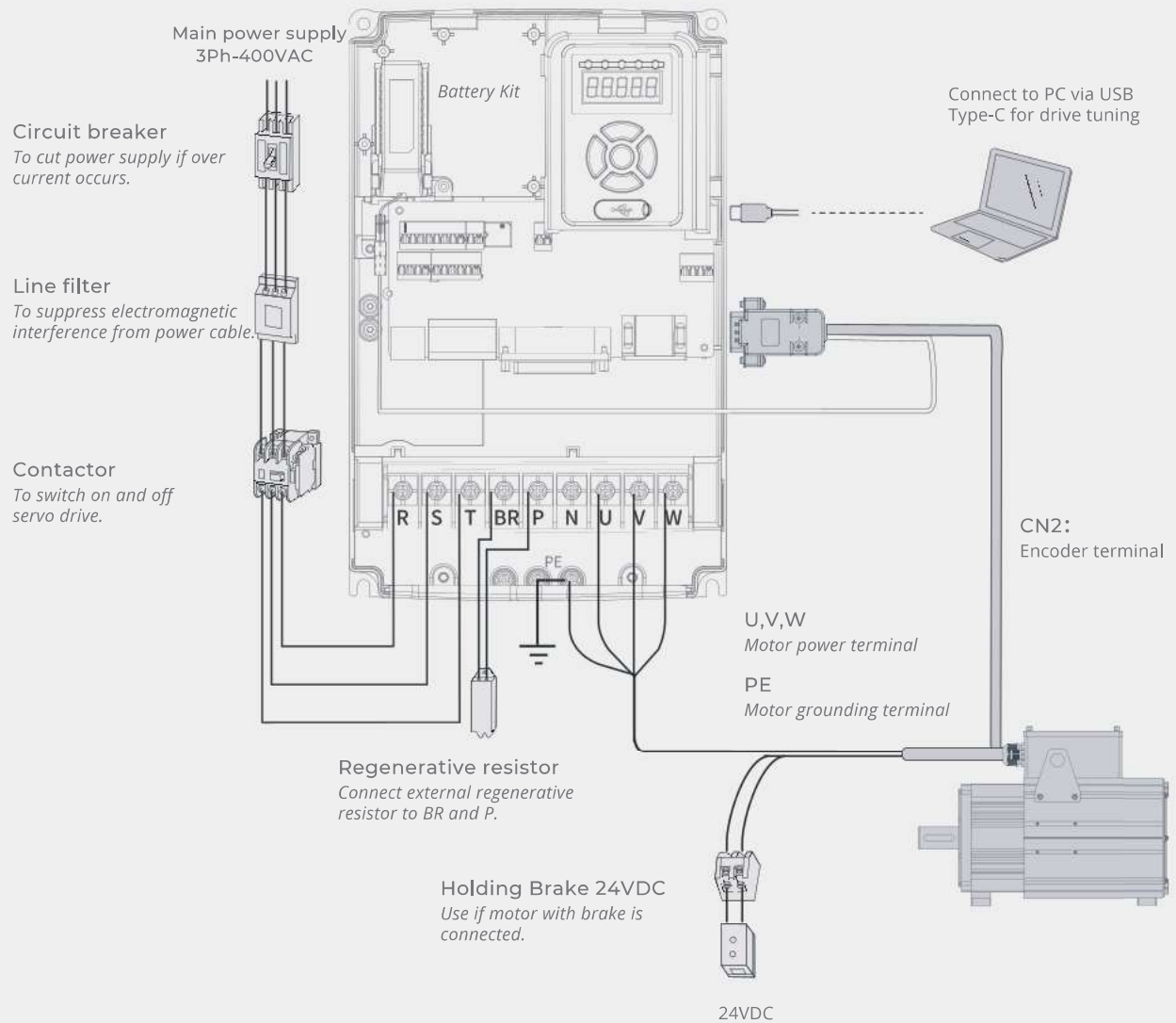
| Version |  |
|---------|--|
| N       | Full function including<br>CE, STO, UL* Certifications |

| Rated Power |        |
|-------------|--------|
| 11K0        | 11KW   |
| 15K0        | 15KW   |
| 18K5        | 18.5KW |
| 22K0        | 22KW   |

## EL7-EC/RS (11-22kW) Series



## EL7-EC/RS (11-22kW) & Peripheral Wiring Diagram



## Specifications

| EL7 (11-22kW) series        | EL7-RS11K0T<br>EL7-EC11K0T         | EL7-RS15K0T<br>EL7-EC15K0T | EL7-RS18K5T<br>EL7-EC18K5T | EL7-RS22K0T<br>EL7-EC22K0T |
|-----------------------------|------------------------------------|----------------------------|----------------------------|----------------------------|
| Rated Power                 | 11KW                               | 15KW                       | 18.5KW                     | 22KW                       |
| Rated Input Current (Arms)  | 29                                 | 36                         | 42                         | 48                         |
| Rated Output Current (Arms) | 25                                 | 32                         | 37                         | 44                         |
| Peak Output Current (Arms)  | 42.5                               | 54.4                       | 62.9                       | 74.8                       |
| Main Power Supply           | 3Ph AC 380~480V, -15~+10%, 50/60Hz |                            |                            |                            |
| Dimension L*H*W (mm)        | 280*170*180                        |                            |                            |                            |
| Regenerative Resistor       | No built-in braking resistor       |                            |                            |                            |

| EL7-RS (11-22kW)          |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| STO                       | 2 STO safety circuits  |
| USB Type-C Tuning         | Modify or read drive parameters without connecting to main power supply  |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output   |
| Digital I/O               | 8 Digital Inputs (Supports common anode or cathode connection) DI1~DI8   |
|                           | 5 digital outputs (double-ended) DO1~DO5   |
| Analogue Input            | 4 AI(AI1~AI4):<br>2 voltage inputs, input range $\pm 10V$<br>2 optional voltage/current inputs, input range 0~10V/0~20mA<br>Maximum allowable voltage: $\pm 12V$ |
| Analogue Output           | 2 AO(AO1/AO2), output range: 0~10V   |
| Communication Port        | RS485 (RJ45 interface)   |

| EL7-EC (11-22kW)          |  |
|---------------------------|--|
| Ports                     | Descriptions   |
| STO                       | 2 STO safety circuits  |
| USB Type-C Tuning         | Modify or read drive parameters without connecting to main power supply  |
| Frequency Division Output | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output   |
| Digital I/O               | 8 Digital Inputs (Supports common anode or cathode connection) DI1~DI8   |
|                           | 5 digital outputs (double-ended) DO1~DO5<br>2 sets Probe Function Input  |
| Communication Port        | EtherCAT (RJ45 interface)  |
| Analogue Input            | 4 AI(AI1~AI4):<br>2 voltage inputs, input range $\pm 10V$<br>2 optional voltage/current inputs, input range 0~10V/0~20mA<br>Maximum allowable voltage: $\pm 12V$ |
| Analogue Output           | 2 AO(AO1/AO2), output range: 0~10V   |
| Communication Port        | RS485 (RJ45 interface)   |



# 4EL7-EC Series

4 Axes Drive



4 EL7 - EC A05 □

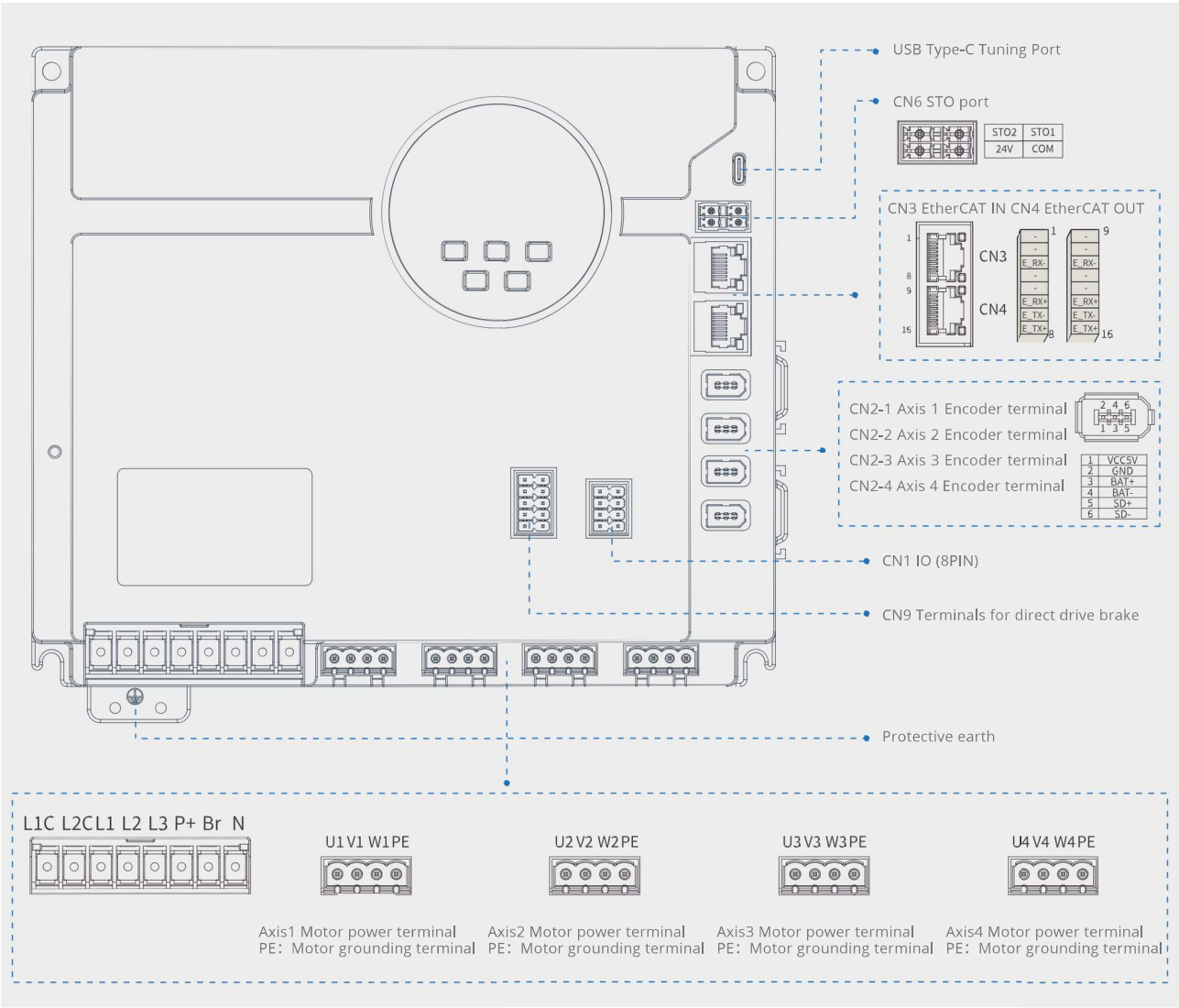
| Axes |      |
|------|------|
| 2    | 2    |
| 4    | axis |

| Series Num |            |
|------------|------------|
| EL7        | EL7 Series |

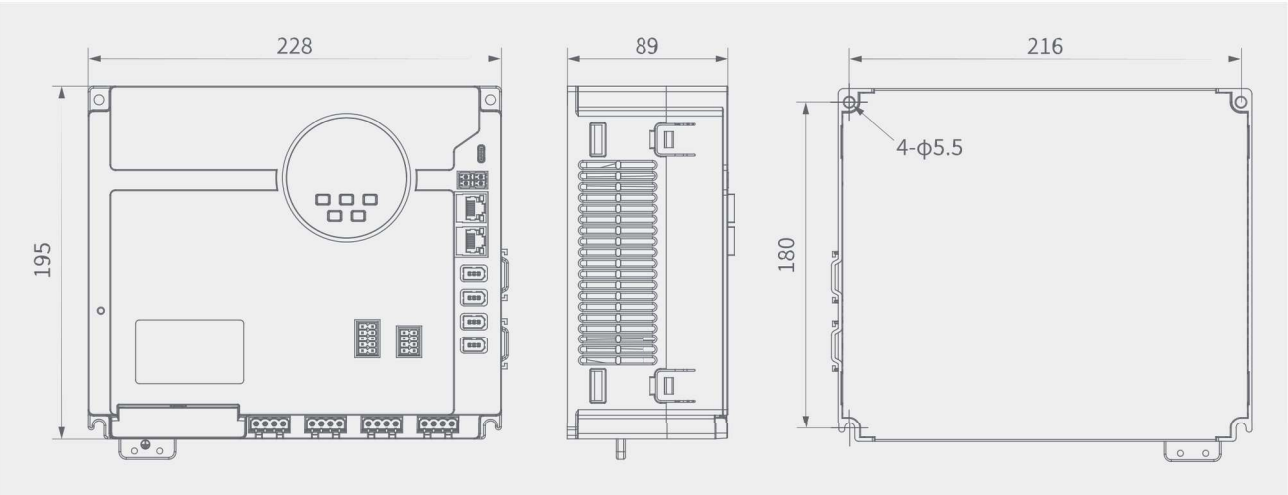
| Command Source |          |
|----------------|----------|
| EC             | EtherCAT |

| Voltage |      |
|---------|------|
| Blank   | 220V |
| T       | 400V |

| Maximum uniaxial current |    |
|--------------------------|----|
| 04                       | 4A |
| 05                       | 5A |
| 07                       | 7A |



## 4EL7-EC Series



## Specifications

- o 4EL7-EC 220V Models

| 4EL7-EC series               | 4EL7-ECA05                             |      |      |      | 4EL7-ECA07                             |       |       |      |
|------------------------------|--|------|------|------|--|-------|-------|------|
| Rated Power                  | 750W                                   | 400W | 400W | 400W | 1000W                                  | 1000W | 1000W | 750W |
| Rated Current (Arms)         | 4.3                                    | 2.5  | 2.5  | 2.5  | 6.8                                    | 6.8   | 6.8   | 4.3  |
| Peak Current (Arms)          | 16.6                                   | 9.3  | 9.3  | 9.3  | 20.4                                   | 20.4  | 20.4  | 16.1 |
| Main Power Supply            | 1Ph /3Ph 200~240V, -10%~+10%, 50/60Hz, |      |      |      | 1Ph /3Ph 200~240V, -10%~+10%, 50/60Hz, |       |       |      |
| Control Circuit Power Supply | 1Ph 200~240V, -10%~+10%, 50/60Hz,      |      |      |      | 1Ph 200~240V, -10%~+10%, 50/60Hz,      |       |       |      |
| Dimension L*H*W (mm)         | 230*200*90                             |      |      |      |  |       |       |      |

- o 4EL7-EC 400V Models

| 4EL7-EC series               | 4EL7-ECA04T                           |       |       |      | 4EL7-ECA05T                           |       |       |       |
|------------------------------|---------------------------------------|-------|-------|------|---------------------------------------|-------|-------|-------|
| Rated Power                  | 1000W                                 | 1000W | 1000W | 750W | 1000W                                 | 1500W | 1500W | 1000W |
| Rated Current (Arms)         | 3.5                                   | 3.5   | 3.5   | 2.7  | 3.5                                   | 4.6   | 4.6   | 3.5   |
| Peak Current (Arms)          | 10.6                                  | 10.6  | 10.6  | 8.6  | 10.6                                  | 13.8  | 13.8  | 10.6  |
| Main Power Supply            | 3Ph AC 380V~440V, -10%~+10%, 50/60Hz, |       |       |      | 3Ph AC 380V~440V, -10%~+10%, 50/60Hz, |       |       |       |
| Control Circuit Power Supply |                                       |       |       |      |                                       |       |       |       |
| Dimension L*H*W (mm)         | 230*200*90                            |       |       |      |                                       |       |       |       |



## EL6-EC Series

Economical AC Servo Drives

EL6 Series include cost-effective AC servo drives designed for accurate positioning control. They can power up to 2kW AC servo motors and are ideal for many OEM applications. Many advanced features are implemented such as MFC, vibration suppression, Multi - mode filter function, etc.

When combined with Leadshine servo motors with 17 or 23-bit high resolution encoders, they can provide excellent performance to your control systems.



Logistics



Packaging



lithium battery



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## Part Numbers

### EL6 - EC 400 □ □

| Series Num |            |
|------------|------------|
| EL6        | EL6 series |

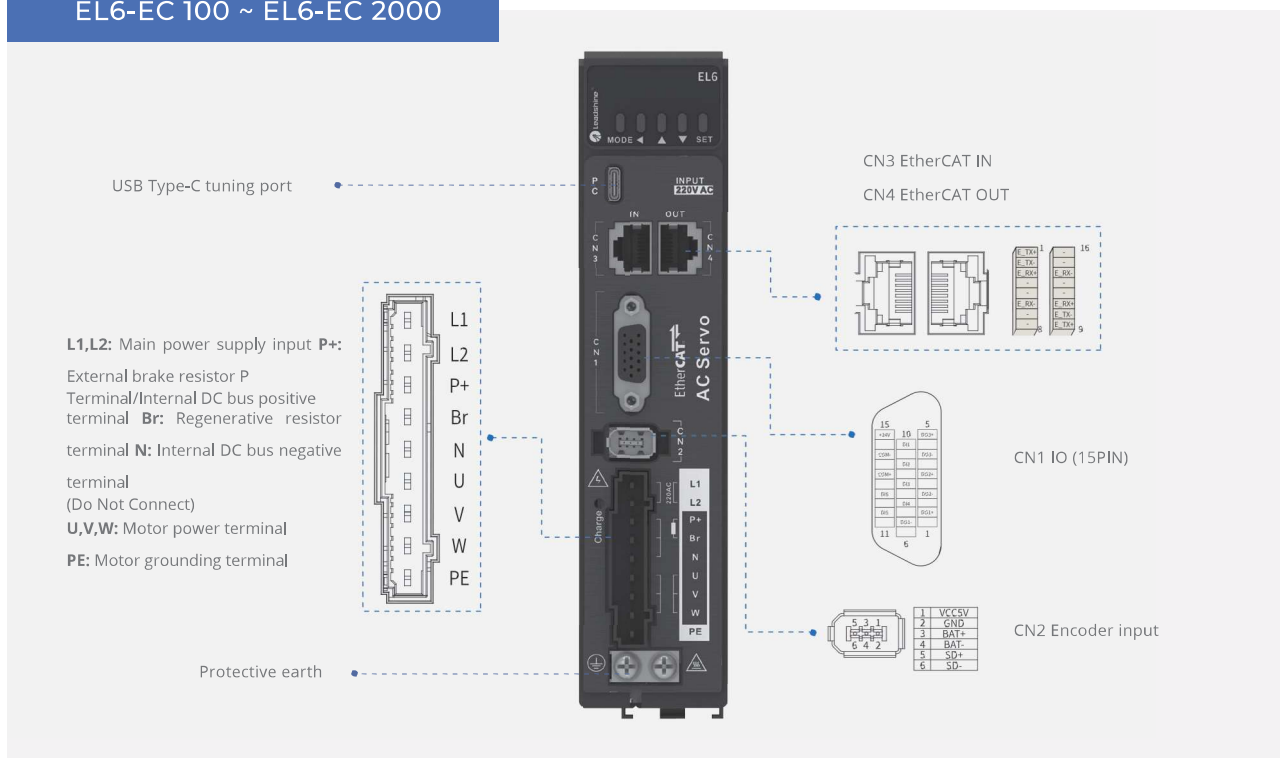
| Command Source |          |
|----------------|----------|
| EC             | EtherCAT |

| Rated Power |       |
|-------------|-------|
| 400         | 400W  |
| 750         | 750W  |
| 1000        | 1000W |
| 1500        | 1500W |
| 2000        | 2000W |

| Voltage |      |
|---------|------|
| Blank   | 220V |
| T       | 400V |

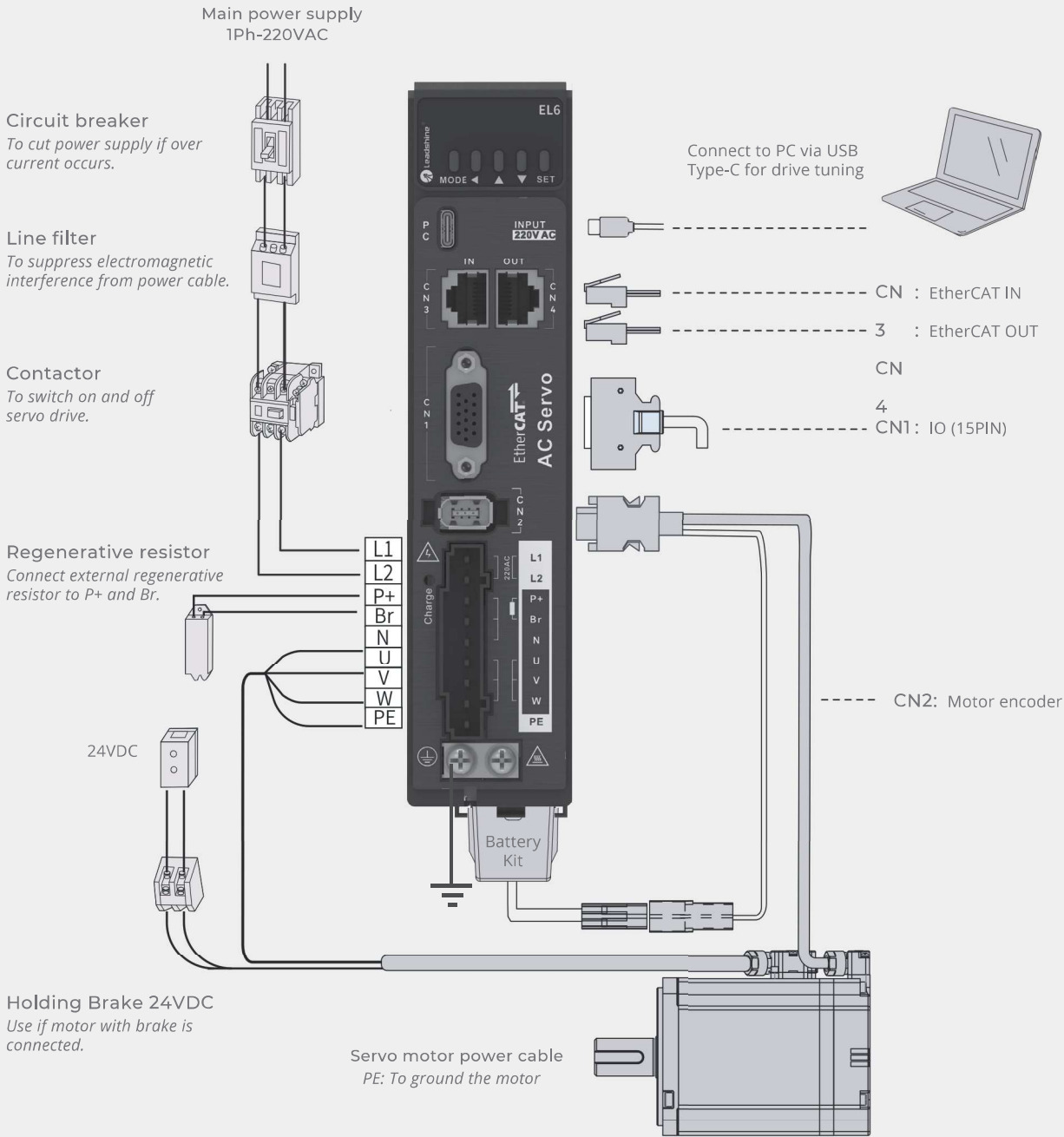
| Version |                  |
|---------|------------------|
| Blank   | Standard Version |

## EL6-EC 100 ~ EL6-EC 2000



EL6-EC & Peripheral Wiring Diagram

EL6EC-100 ~ EL6EC-1000







## 2EL6-EC Series

General Purpose EtherCAT AC Servo Drives

2EL6-EC Series AC servo products are high performance economical AC digital servo which is designed for position/velocity/torque high accurate control with power rating ranging up to 1.5kW for 220VAC and 400VAC models which provides a perfect solution for different applications with easy tuning process.



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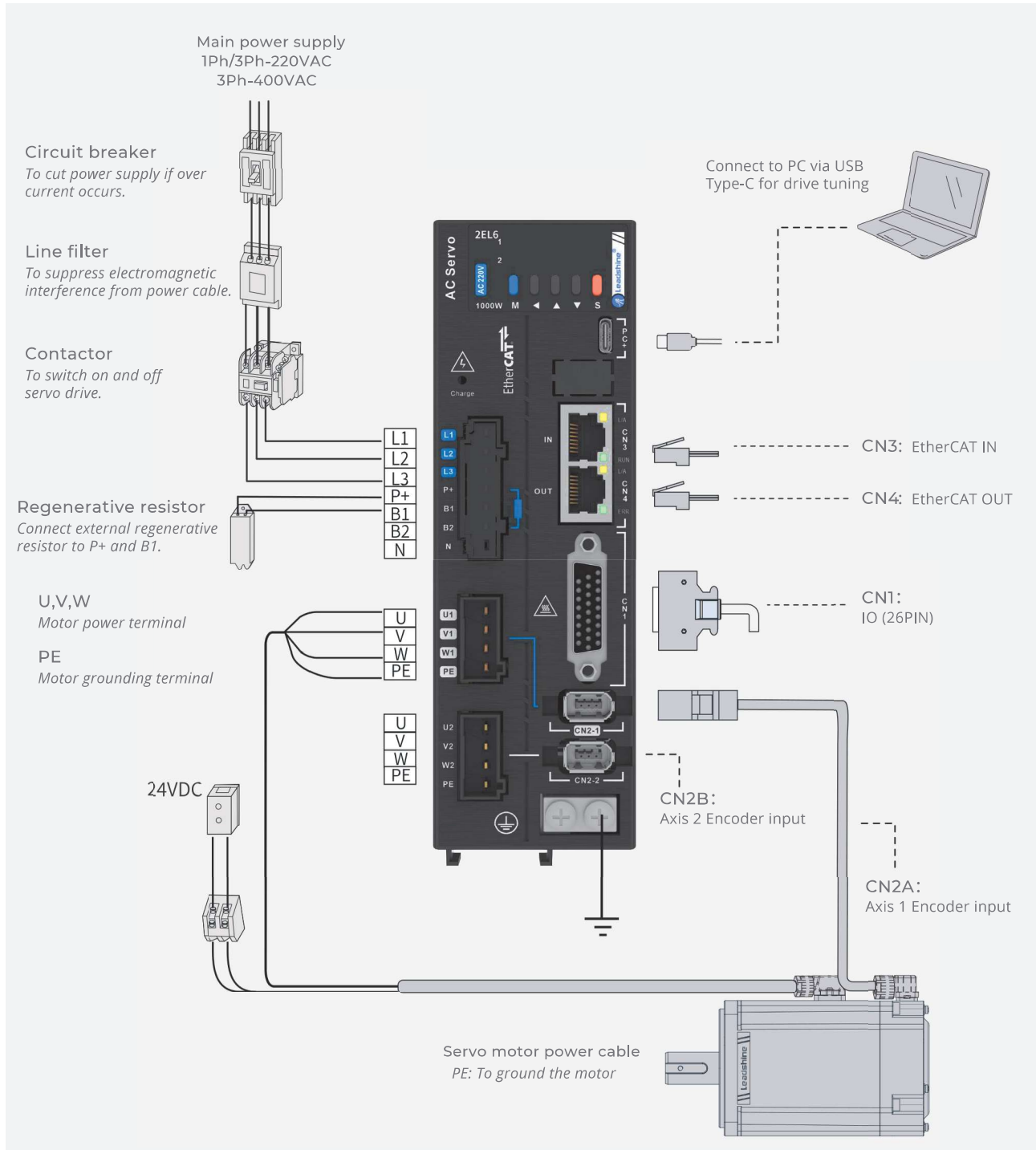


lithium battery

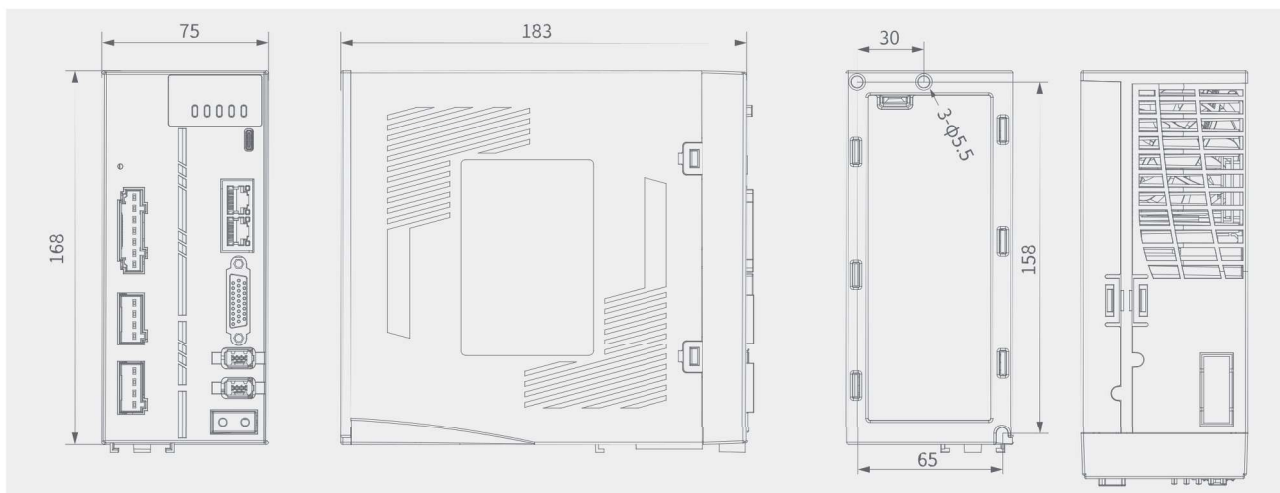


Photovoltaic

## 2EL6-EC & Peripheral Wiring Diagram



1500W (AC 220V)



## Specifications

### 2EL6-EC 220V Models

| 2EL6-EC series               |                               | 2EL6-EC400                            | 2EL6-EC750 | 2EL6-EC1000                                | 2EL6-EC1500 |
|------------------------------|-------------------------------|---------------------------------------|------------|--|-------------|
| Rated Power                  |                               | 400W                                  | 750W       | 1000W                                      | 1500W       |
| Rated Current (Arms)         |                               | 2.5                                   | 4.3        | 6.8  | 8.5         |
| Peak Current (Arms)          |                               | 9.1                                   | 16.1       | 21   | 24.2        |
| Control circuit power supply |                               | 1Ph AC 200V~240V, -10%~+10%, 50/60Hz, |            | 1Ph /3Ph AC 200V~240V, -10%~+10%, 50/60Hz, |             |
| Main power supply            |                               | 1Ph AC 200V~240V, -10%~+10%, 50/60Hz, |            | 1Ph /3Ph AC 200V~240V, -10%~+10%, 50/60Hz, |             |
| Regenerative Resistor        | Resistance Value ( $\Omega$ ) | None                                  | 40         | 40   | 40          |
|                              | Resistance Power (W)          |                                       | 80         | 80   | 80          |
| Dimension H*L*W (mm)         |                               | 168*154*48                            | 168*154*55 | 168*183*55                                 | 168*183*75  |

| Ports              | Descriptions  |
|--------------------|---|
| USB Type-C Tuning  | Modify or read drive parameters without connecting to main power supply |
| Digital I/O        | Axis 1: DI1,DI3,DI5,DI7(probe inputs) DO: DO1,DO3                       |
|                    | Axis 2: DI2,DI4,DI6,DI8(probe inputs) DO: DO2,DO4                       |
|                    | DI4/DI5 probe inputs  |
| Communication Port | EtherCAT (RJ45 interface)   |



## EL6-RS Series

Economical AC Servo Drives

EL6 Series include cost-effective AC servo drives designed for accurate positioning control. They can power up to 1kW AC servo motors and are ideal for many OEM applications. Many advanced features are implemented such as MFC, vibration suppression, Multi - mode filter function, etc.

When combined with Leadshine servo motors with 17 or 23-bit high resolution encoders, they can provide excellent performance to your control systems.



Logistics



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## Part Numbers

### EL6 - RS 750 P

| Series Num |            |
|------------|------------|
| EL6        | EL6 series |

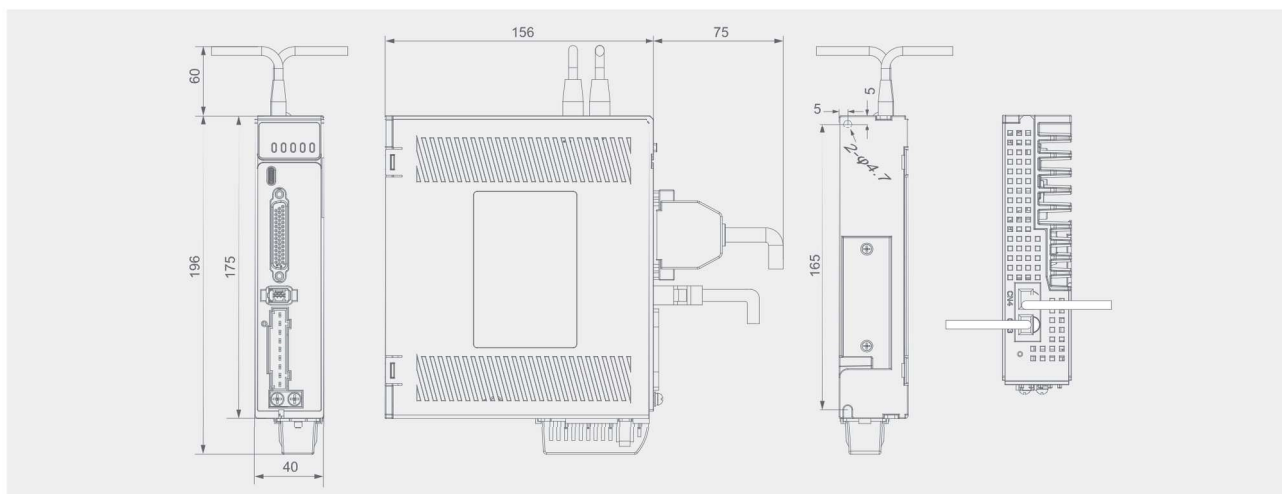
| Command Source |                                  |
|----------------|----------------------------------|
| RS             | Modbus RTU/<br>Pulse +Direc tion |

| Version |                            |
|---------|----------------------------|
| P       | Full functions without STO |

| Rated Power |       |
|-------------|-------|
| 400         | 400W  |
| 750         | 750W  |
| 1000        | 1000W |

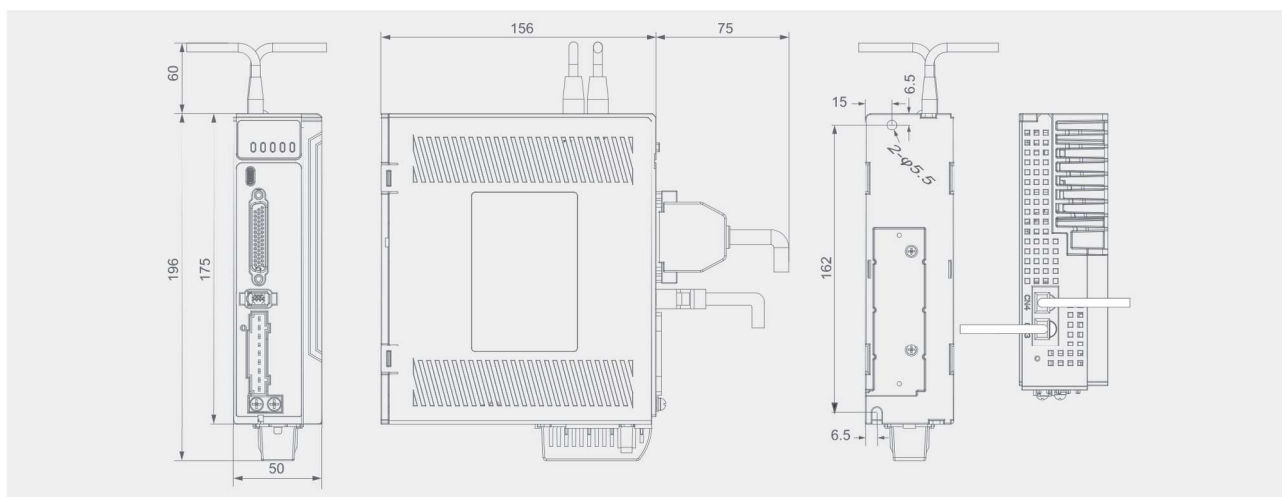
400W (AC 220V)

Unit: mm



750W/1000W (AC 220V)

Unit: mm





## Specifications

### ○ EL6-RS 220V Models

| EL6-RSP Series Drive         | EL6-RS400P                             | EL6-RS750P | EL6-RS1000P |
|------------------------------|--|------------|-------------|
| Power Rating                 | 400W                                   | 750W       | 1000W       |
| Rated Current (Arms)         | 3.5                                    | 5.5        | 7.0         |
| Peak Current (Arms)          | 9.5                                    | 16.6       | 21          |
| Control circuit power supply | 1Ph AC 200V-240V, -10% - +10%, 50/60Hz |            |             |
| Main power supply            |  |            |             |
| Dimension L*H*W (mm)         | 175*156*40                             | 175*156*50 |             |

| Ports                     | Descriptions   |
|---------------------------|--|
| USB Type-C Tuning         | Modify or read drive parameters without connecting to main power supply  |
| Low-speed pulse input     | 5V differential signal, 0-500kHz<br>24V single ended signal, 0-200kHz<br>5V differential signal, 0-4MHz  |
| High-speed pulse input    | Supports phase A/B/Z differential frequency division output<br>Supports phase Z open collector frequency division output   |
| Frequency Division Output | 8 Digital Inputs (Supports common anode or cathode connection) DI1~DI8   |
| Digital I/O               | 5 digital outputs (double-ended) DO1~DO5   |
|                           | RS485 communication, Modbus RTU protocol (RJ45 port)   |
| Communication Port        |  |
| Control Mode              |  |
| Control                   | 1. External pulse train position control<br>2. JOG control<br>3. Velocity control<br>4. Torque control<br>5. Hybrid control: Position-Torque/Position-Velocity/Velocity-Torque   |
| Control Features          |  |
| Drive Mode                | IGBT SVPWM sinusoidal wave drive   |
| Feedback Method           | Encoder: RS485 Protocol  |
| Easy-to-use               | One-click tuning, Single parameter tuning, Black box, Zero tracking control  |
| Notch Filter              | Mechanical resonance suppression. Supports up to 3 filters, 50Hz~4000Hz  |
| Vibration suppression     | End vibration suppression  |
| Alarm                     | Overcurrent. Overvoltage. Undervoltage. Overheat. Overload. Overtravel.<br>Main power input phase loss. Regenerative resistor error. Position deviation error.<br>Encoder feedback error. Excessive braking rate. EEPROM error |



## EL6-CAN Series

Economical AC Servo Drives

EL6-CAN Series is cost-effective AC servo drives of CANopen protocol designed for accurate control. They can power to 1kW AC servo motors and are ideal for many OEM applications. Many advanced features are implemented such as MFC, vibration suppression, multi filter functions, etc.

When combined with Leadshine servo motors with 17-bit or 23-bit high resolution encoder, they can provide excellent performance to your control systems.



Logistics



Packaging



lithium battery



Photovoltaic

## Part Numbers

### EL6 - CAN 400 Z

| Series Num |                        |
|------------|------------------------|
| EL6        | EL6 servo drive series |

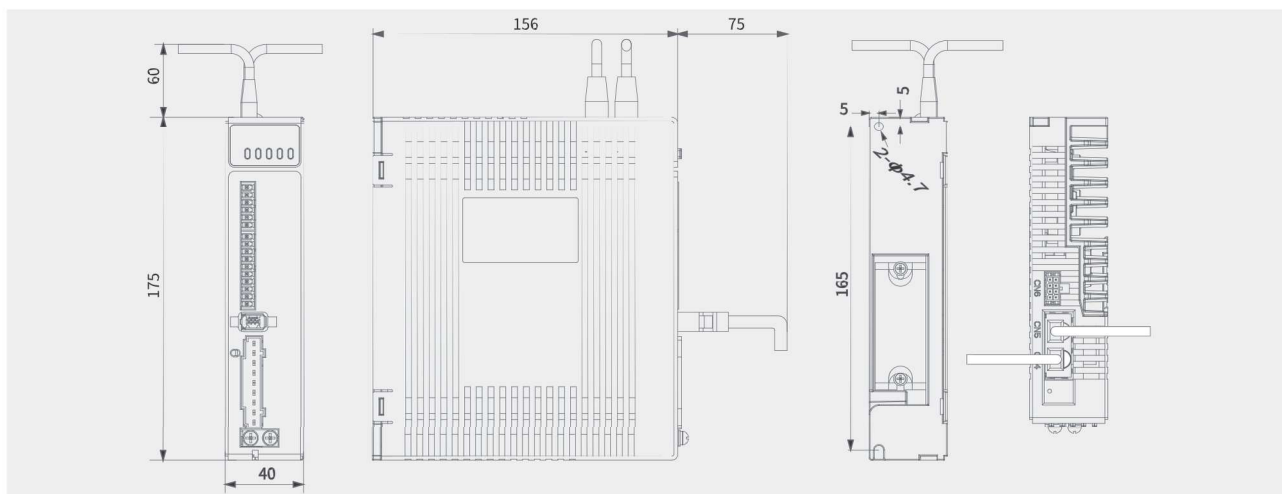
| Command Source |         |
|----------------|---------|
| CAN            | CANopen |

| Version |                  |
|---------|------------------|
| Z       | Standard Version |

| Rated Power |       |
|-------------|-------|
| 400         | 400W  |
| 750         | 750W  |
| 1000        | 1000W |

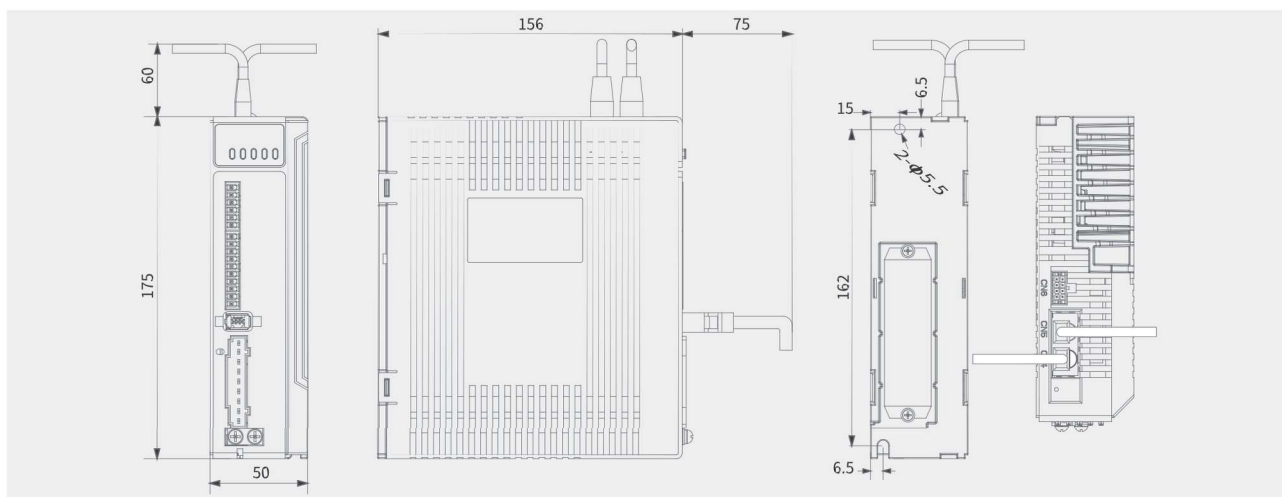
400W (AC 220V)

Unit: mm



750W/1000W (AC 220V)

Unit: mm





## ELM1/ELM2 Series

AC Servo Motors

### Feature:

Power rating: 30W-22kW

Voltage: 220VAC/400VAC

Encoder: 23-bit encoder

Optional accessory: brake

Frame size: 25mm,40mm,60mm,80mm,100mm,130mm,180mm,200mm.

### o ELM1 Series

23-Bit magnetic encoder  
Power: 50W-1800W

### o ELM2 Series

23-Bit optical encoder  
Power: 30W-22kW

## Part Numbers

# ELM2 H - 0850 L D 130 E 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

|       |        |       |        |
|-------|--------|-------|--------|
| 0030  | 30W    | 0050  | 50W    |
| 0100  | 100W   | 0200  | 200W   |
| 0400  | 400W   | 0750  | 750W   |
| 0850  | 850W   | 1300  | 1300W  |
| 1800  | 1800W  | 1500  | 1500W  |
| 2000  | 2000W  | 2900  | 2900W  |
| 3000  | 3000W  | 3800  | 3800W  |
| 4000  | 4000W  | 4400  | 4400W  |
| 5000  | 5000W  | 7000  | 7000W  |
| 7500  | 7500W  | 11000 | 11000W |
| 15000 | 15000W | 18500 | 18500W |
| 22000 | 22000W |       |        |

### (4) Encoder Type

|   |                            |
|---|----------------------------|
| L | 23-bit optical multi-turn  |
| P | 21-bit optical multi-turn  |
| M | 23-bit magnetic multi-turn |
| N | 26-bit optical multi-turn  |
| F | 17-bit magnetic            |
| D | 17-bit optical             |

### (9) Connect type

|       |                      |
|-------|----------------------|
| Blank | Direct connector     |
| H     | Aviation connector-H |

### (8) Voltage

|       |        |
|-------|--------|
| Blank | 220VAC |
| T     | 400VAC |

### (7) Motor Type

|   |                      |
|---|----------------------|
| E | With brake, oil seal |
| F | No brake, oil seal   |

### (6) Frame Size

|     |       |
|-----|-------|
| 25  | 25mm  |
| 40  | 40mm  |
| 60  | 60mm  |
| 80  | 80mm  |
| 100 | 100mm |
| 130 | 130mm |
| 180 | 180mm |
| 200 | 200mm |

### (5) Rated Speed

|   |        |   |        |
|---|--------|---|--------|
| A | 3000rp | B | 2500rp |
| C | m      | D | m      |
| E | 2000rp |   | 1500rp |

m

m

1000rp

m

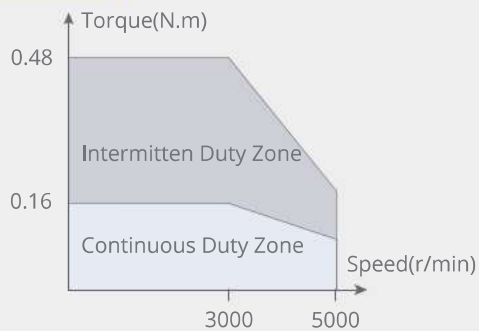


## 40mm Frame size & 50W~100W

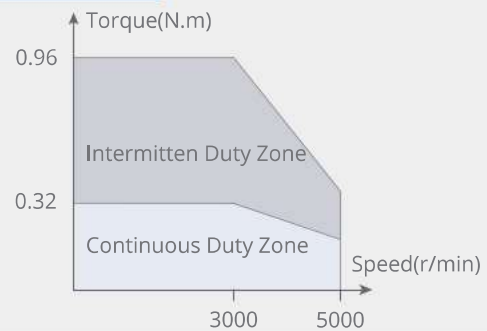
| Type Name       | Frame Size (mm) | Brake | Voltage (VAC) | Power (W) | Speed (rpm) |      | Torque (Nm) |      | Current (Arms) |      | Permissible load to shaft (N) |       | Encoder                 | Inertia ( kgm²*10-4) | Weight (kg) |
|-----------------|-----------------|-------|---------------|-----------|-------------|------|-------------|------|----------------|------|-------------------------------|-------|-------------------------|----------------------|-------------|
|                 |                 |       |               |           | Rated       | Max  | Rated       | Max  | Rated          | Max  | Radial                        | Axial |                         |                      |             |
|                 |                 |       |               |           |             |      |             |      |                |      |                               |       |                         |                      |             |
| ELM1H-0050MA40E | 40              | √     | 220           | 50        | 3000        | 5000 | 0.16        | 0.48 | 0.93           | 2.88 | 78                            | 54    | 23-bit magnetic encoder | 0.046                | 0.44        |
| ELM1H-0050MA40F |                 | ×     |               |           |             |      |             |      |                |      |                               |       |                         | 0.036                | 0.28        |
| ELM1H-0100MA40E |                 | √     |               | 100       |             |      | 0.32        | 0.96 | 0.92           | 2.85 |                               |       |                         | 0.072                | 0.54        |
| ELM1H-0100MA40F |                 | ×     |               |           |             |      |             |      |                |      |                               |       |                         | 0.062                | 0.38        |
| ELM2H-0050LA40E |                 | √     |               | 50        |             |      | 0.16        | 0.48 | 0.93           | 2.88 |                               |       | 23-bit optical encoder  | 0.046                | 0.44        |
| ELM2H-0050LA40F |                 | ×     |               |           |             |      |             |      |                |      |                               |       |                         | 0.036                | 0.28        |
| ELM2H-0100LA40E |                 | √     |               | 100       |             |      | 0.32        | 0.96 | 0.92           | 2.85 |                               |       |                         | 0.072                | 0.54        |
| ELM2H-0100LA40F |                 | ×     |               |           |             |      |             |      |                |      |                               |       |                         | 0.062                | 0.38        |

### Speed-Torque characteristics

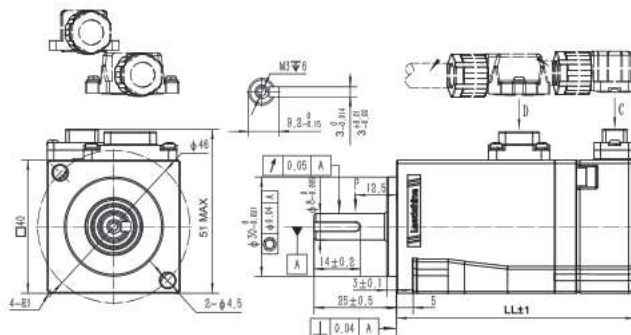
50W Motor



100W Motor



### Dimensions

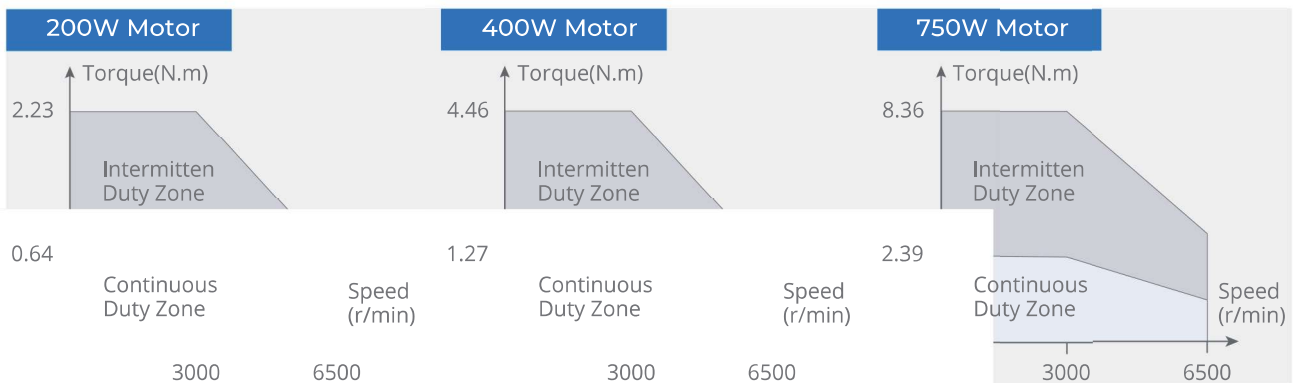


| Motor model     | LL   |
|-----------------|------|
| ELM*H-0050*A40E | 84   |
| ELM*H-0050*A40F | 56.7 |
| ELM*H-0100*A40E | 95   |
| ELM*H-0100*A40F | 67.7 |

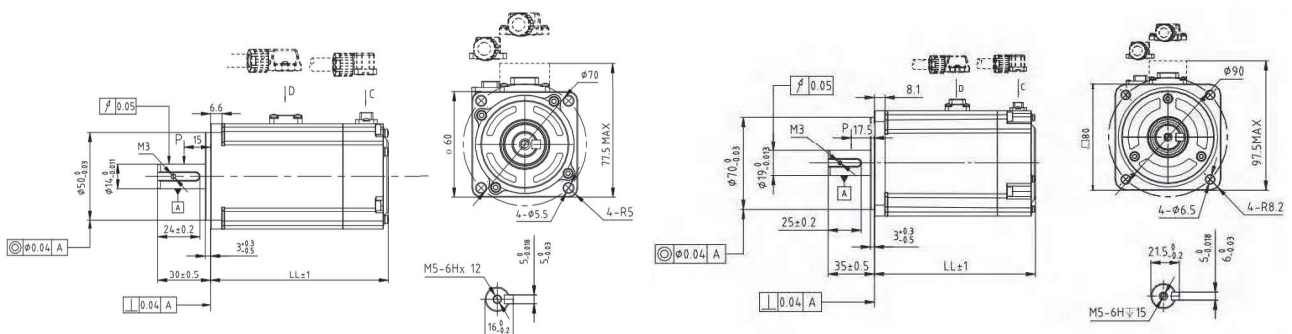
## 200W~750W

| Type Name       | Frame Size (mm) | Brake | Voltage (VAC) | Power (W) | Speed |      | Torque |      | Current |      | Permissible load to shaft |       | Encoder                | Inertia ( kgm <sup>2</sup> *10-4) | Weight (kg) |
|-----------------|-----------------|-------|---------------|-----------|-------|------|--------|------|---------|------|---------------------------|-------|------------------------|-----------------------------------|-------------|
|                 |                 |       |               |           | (rpm) |      | (Nm)   |      | (Arms)  |      | (N)                       |       |                        |                                   |             |
|                 |                 |       |               |           | Rated | Max  | Rated  | Max  | Rated   | Max  | Radial                    | Axial |                        |                                   |             |
| ELM2L-0200LA60E | 60              | ✓     | 220           | 200       | 3000  | 6500 | 0.64   | 2.23 | 1.5     | 5.7  | 245                       | 74    | 23-bit optical encoder | 0.15                              | 1.2         |
| ELM2L-0200LA60F |                 | ×     |               |           |       |      |        |      |         |      |                           |       |                        | 0.14                              | 0.85        |
| ELM2L-0400LA60E |                 | ✓     |               | 400       |       |      | 1.27   | 4.46 | 2.4     | 9.1  |                           |       |                        | 0.26                              | 1.54        |
| ELM2L-0400LA60F |                 | ×     |               |           |       |      |        |      |         |      |                           |       |                        | 0.25                              | 1.19        |
| ELM2L-0750LA80E | 80              | ✓     |               | 750       |       |      | 2.39   | 8.36 | 4.2     | 16.1 | 392                       | 147   |                        | 0.79                              | 2.74        |
| ELM2L-0750LA80F |                 | ×     |               |           |       |      |        |      |         |      |                           |       |                        | 0.77                              | 2.12        |

### Speed-Torque characteristics



### Dimensions



| Motor model     | LL    | Motor model     | LL    |
|-----------------|-------|-----------------|-------|
| ELM2L-0200LA60E | 101.2 | ELM2L-0400LA60E | 118.2 |
| ELM2L-0200LA60F | 71.8  | ELM2L-0400LA60F | 88.8  |

| Motor model     | LL    |
|-----------------|-------|
| ELM2L-0750LA80E | 121.9 |
| ELM2L-0750LA80F | 90.9  |

2003/2/24

2003/2/24

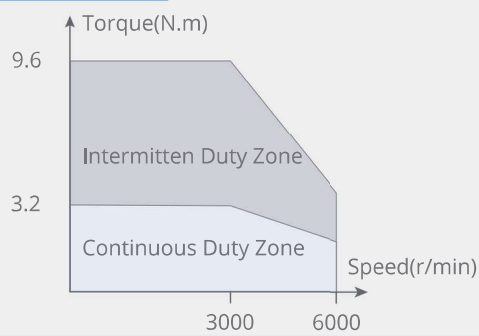
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## 100mm Frame size & 1000W~1500W

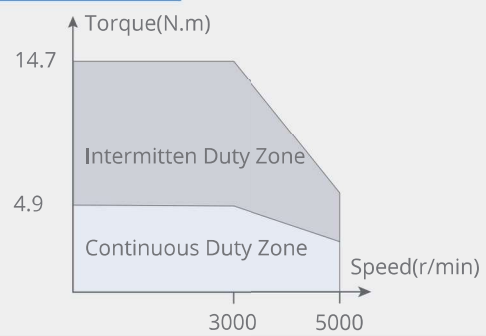
| Type Name          | Frame Size (mm) | Brake | Voltage (VAC) | Power (W) | Speed (rpm) |     | Torque (Nm) |     | Current (Arms) |     | Permissible load to shaft (N) |                        | Encoder | Inertia (kgm²*10-4) | Weight (kg) |
|--------------------|-----------------|-------|---------------|-----------|-------------|-----|-------------|-----|----------------|-----|-------------------------------|------------------------|---------|---------------------|-------------|
|                    |                 |       |               |           | Rated       | Max | Rated       | Max | Rated          | Max | Radial                        | Axial                  |         |                     |             |
| ELM2L-1000LA100E-H | 100             | √     | 220           | 1000      | 6000        | 3.2 | 9.6         | 6.5 | 19.5           | 490 | 98                            | 23-bit optical encoder | 2.63    | 5.9                 |             |
| ELM2L-1000LA100F-H |                 | ×     |               |           |             |     |             |     |                |     |                               |                        | 2.43    | 4.6                 |             |
| ELM2L-1500LA100E-H |                 | √     |               | 1500      | 5000        | 4.9 | 14.7        | 8   | 25.5           |     |                               |                        | 3.803   | 7.1                 |             |
| ELM2L-1500LA100F-H |                 | ×     |               |           |             |     |             |     |                |     |                               |                        | 3.503   | 5.8                 |             |

### Speed-Torque characteristics

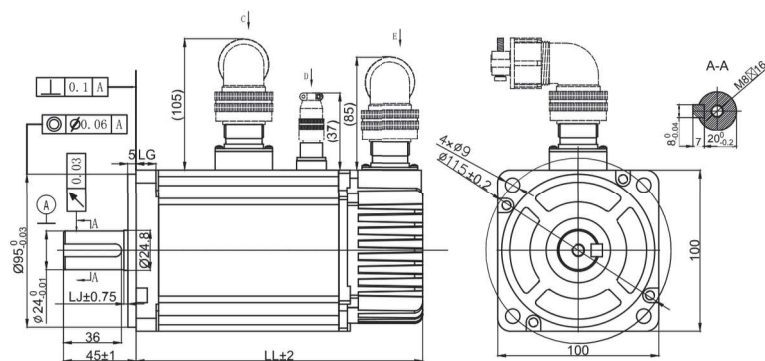
1000W Motor



1500W Motor

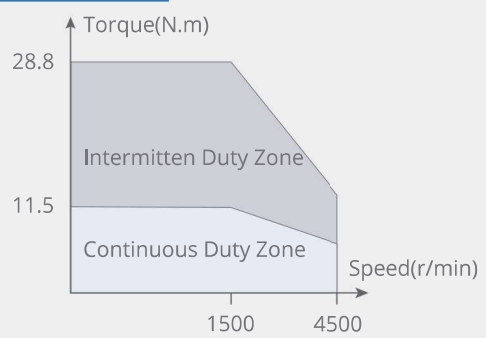


### Dimensions

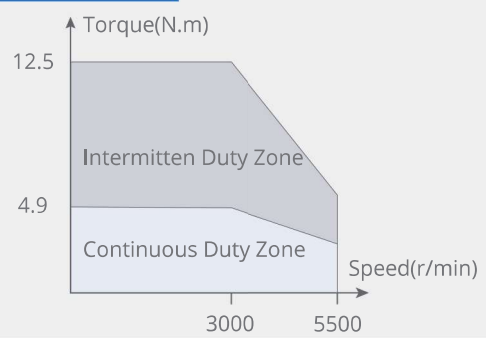


| Motor model        | LL  |
|--------------------|-----|
| ELM2L-1000LA100E-H | 194 |
| ELM2L-1000LA100F-H | 154 |
| ELM2L-1500LA100E-H | 218 |
| ELM2L-1500LA100F-H | 178 |

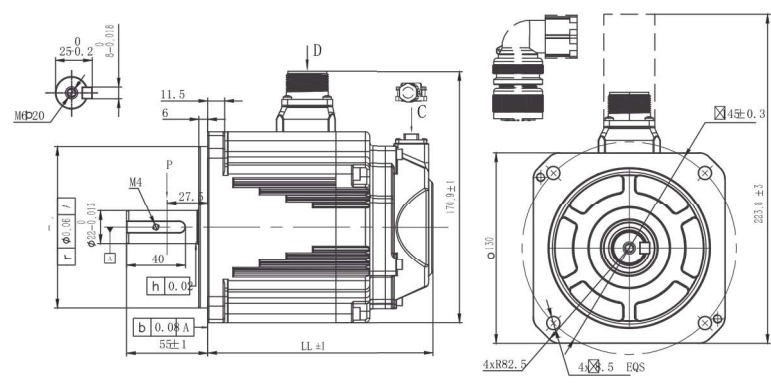
1800W Motor



1500W Motor



Dimensions



| Motor model        | LL    |
|--------------------|-------|
| ELM*H-0850*D130E-H | 153.5 |
| ELM*H-0850*D130F-H | 126   |
| ELM*H-1300*D130E-H | 171.5 |
| ELM*H-1300*D130F-H | 144   |
| ELM*H-1800*D130E-H | 189.5 |
| ELM*H-1800*D130F-H | 162   |
| ELM1M-1500*A130E-H | 153.5 |
| ELM1M-1500*A130F-H | 126   |

Peak Speed (rpm)

Resistance ( $\Omega$ )

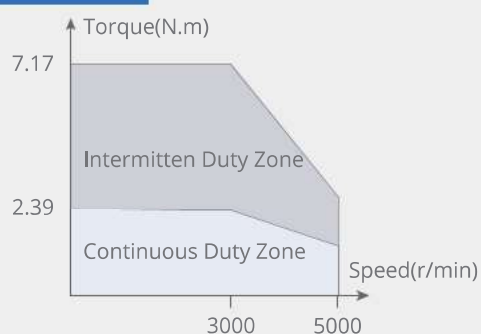
400  
VAC

80mm Frame size & 750W~1000W

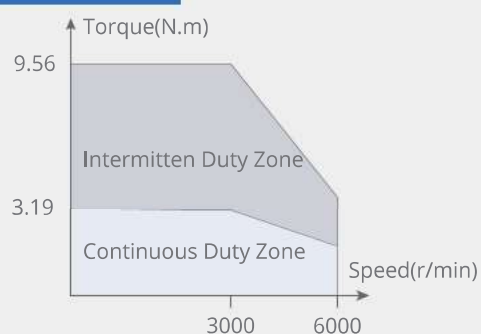
| Type Name         | Frame Size<br>(mm) | Brake | Voltage<br>(VAC) | Power<br>(W) | Speed<br>(rpm) |      | Torque<br>(Nm) |      | Current<br>(Arms) |      | Permissible<br>load to shaft<br>(N) |       | Encoder                      | Inertia<br>(kgm <sup>2</sup> *10 <sup>-4</sup> ) | Weight<br>(kg) |  |  |
|-------------------|--------------------|-------|------------------|--------------|----------------|------|----------------|------|-------------------|------|-------------------------------------|-------|------------------------------|--|----------------|--|--|
|                   |                    |       |                  |              | Rated          | Max  | Rated          | Max  | Rated             | Max  | Radial                              | Axial |                              |  |                |  |  |
| ELM2H-0750LA80ET  | 80                 | √     | 400              | 750          | 3000           | 5000 | 2.39           | 7.17 | 2.7               | 8.8  | 392                                 | 147   | 23-bit<br>optical<br>encoder | 1.65   | 2.7            |  |  |
| ELM2H-0750LA80F T |                    | ×     |                  |              |                |      |                |      |                   |      |                                     |       |                              | 1.5  | 2.12           |  |  |
| ELM2H-1000LA80ET  |                    | √     |                  | 1000         |                | 5000 | 3.18           | 9.54 | 4                 | 12.4 |                                     |       |                              | 2.15   | 3.4            |  |  |
| ELM2H-1000LA80F T |                    | ×     |                  |              |                |      |                |      |                   |      |                                     |       |                              | 2.0  | 2.8            |  |  |

### Speed-Torque characteristics

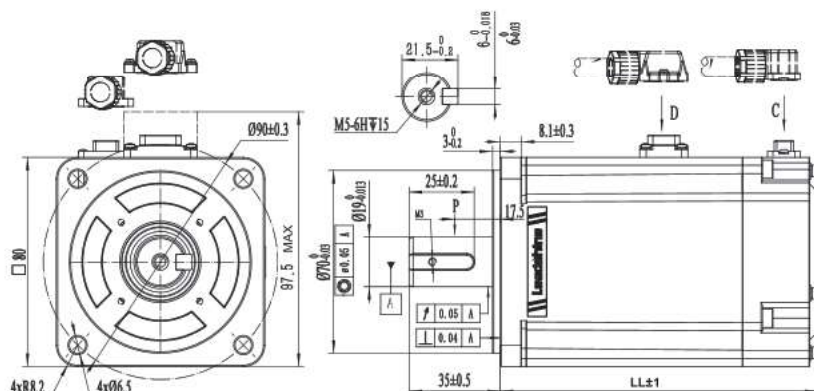
750W Motor



1000W Motor

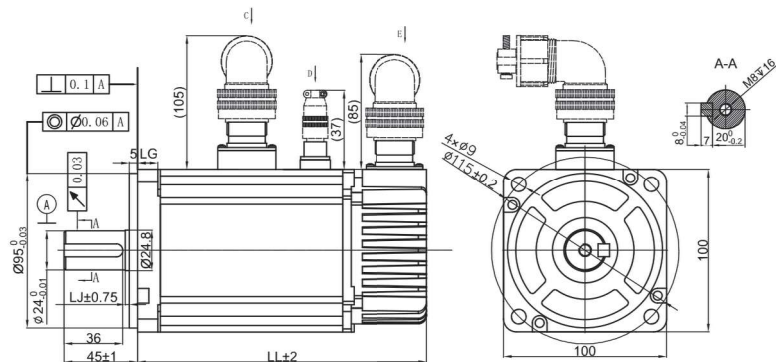


### Dimensions




| Motor model       | LL    |
|-------------------|-------|
| ELM2H-0750LA80ET  | 121.9 |
| ELM2H-0750LA80F T | 90.9  |
| ELM2H-1000LA80ET  | 134.9 |
| ELM2H-1000LA80F T | 103.9 |

## Dimensions



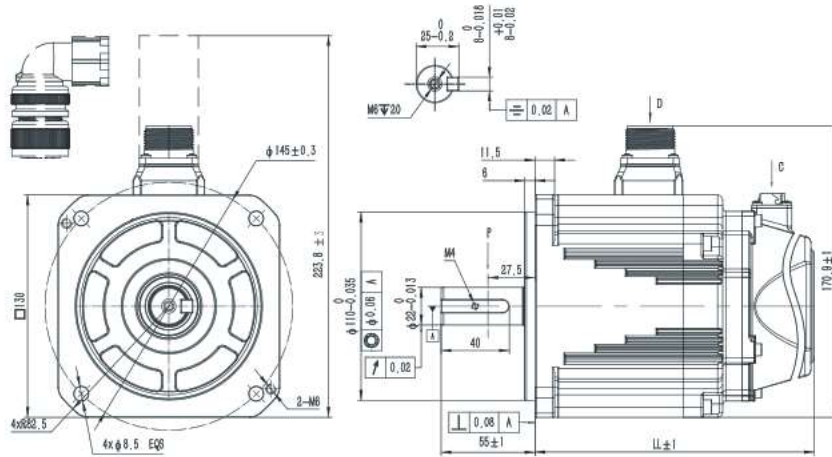
| Motor model         | LL  | LG | LJ  |
|---------------------|-----|----|-----|
| ELM2L-1000LA100ET-H | 194 | 12 | 2.5 |
| ELM2L-1000LA100FT-H | 154 |    |     |
| ELM2L-1500LA100ET-H | 218 |    |     |
| ELM2L-1500LA100FT-H | 178 |    |     |
| ELM2L-2000LA100ET-H | 259 | 10 | 2.0 |
| ELM2L-2000LA100FT-H | 219 |    |     |
| ELM2L-2500LA100ET-H | 285 |    |     |
| ELM2L-2500LA100FT-H | 245 |    |     |

130mm Frame size & 850W~3800W

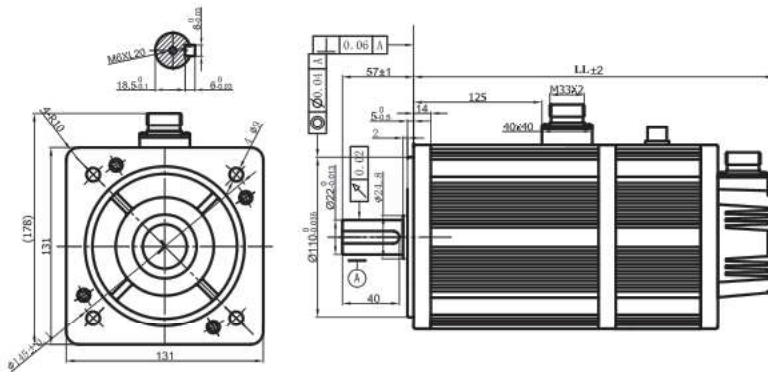
| Type Name            | Frame Size (mm)   | Brake | Voltage (VAC) | Power (W) | Speed (rpm) |      | Torque (Nm) |      | Current (Arms) |     | Permissible load to shaft (N) |       | Encoder | Inertia (kgm²*10-4)    | Weight (kg) |     |
|----------------------|---|-------|---------------|-----------|-------------|------|-------------|------|----------------|-----|-------------------------------|-------|---------|------------------------|-------------|-----|
|                      |   |       |               |           | Rated       | Max  | Rated       | Max  | Rated          | Max | Radial                        | Axial |         |                        |             |     |
| ELM2H-0850LD130ET-H  |  | √     | 400           | 850       | 1300        | 1500 | 4500        | 8.34 | 23.8           | 4.6 | 13.8                          | 343   | 686     | 23-bit optical encoder | 14.8        | 6.9 |
| ELM2H-0850LD130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       |         |                        | 12.5        | 5.5 |
| ELM2H-1300LD130ET-H  |   | √     |               |           |             |      |             |      |                |     |                               |       |         |                        | 21          | 8.6 |
| ELM2H-1300LD130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       |         |                        | 18.7        | 7.3 |
| ELM2H-1800LD130ET-H  |   | √     | 400           | 1800      | 2500        | 2800 | 15          | 30   | 7.4            | 15  | 490                           | 196   | 26.1    |                        | 10.2        |     |
| ELM2H-1800LD130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       | 23.8    |                        | 8.8         |     |
| ELM2M-3800LB130ET-H  |   | √     |               |           |             |      |             |      |                |     |                               |       | 14.8    |                        |             |     |
| ELM2M-3800LB130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       | 11.7    |                        |             |     |
| ELM2L-3000LA130ET-H  | 130   | √     | 400           | 3000      | 3000        | 6000 | 12.6        | 37.8 | 13             | 39  | \                             | \     | 11.3    | 13.25                  |             |     |
| ELM2L-3000LA130FT-H  |   | ×     |               |           |             |      |             |      |                |     |                               |       | 9.6     | 11.55                  |             |     |
| ELM2L-4000LA130ET-H  |   | √     |               |           |             |      |             |      |                |     |                               |       | 13.1    | 15.2                   |             |     |
| ELM2L-4000LA130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       | 11.4    | 13.5                   |             |     |
| ELM2L-5000LA130ET-H  |   | √     |               |           |             |      |             |      |                |     |                               |       | 15.6    | 16.7                   |             |     |
| ELM2L-5000LA130F T-H |   | ×     |               |           |             |      |             |      |                |     |                               |       | 13.9    | 15                     |             |     |



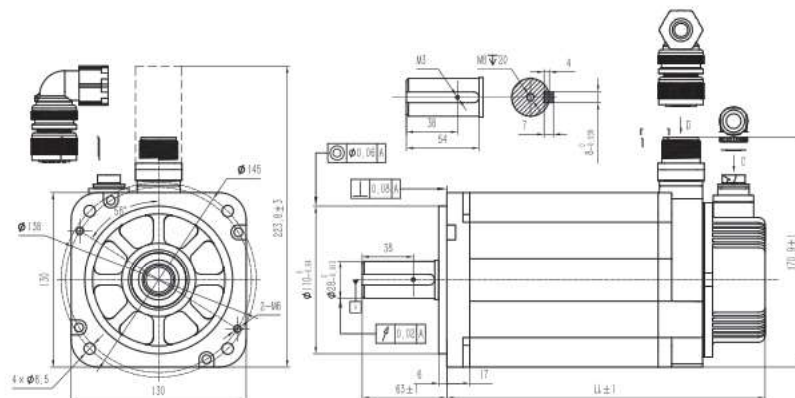
## Dimensions



| Motor model         | LL    |
|---------------------|-------|
| ELM2H-0850LD130ET-H | 163.7 |
| ELM2H-0850LD130FT-H | 136.2 |
| ELM2H-1300LD130ET-H | 181.7 |
| ELM2H-1300LD130FT-H | 154.2 |
| ELM2H-1800LD130ET-H | 199.7 |
| ELM2H-1800LD130FT-H | 172.2 |

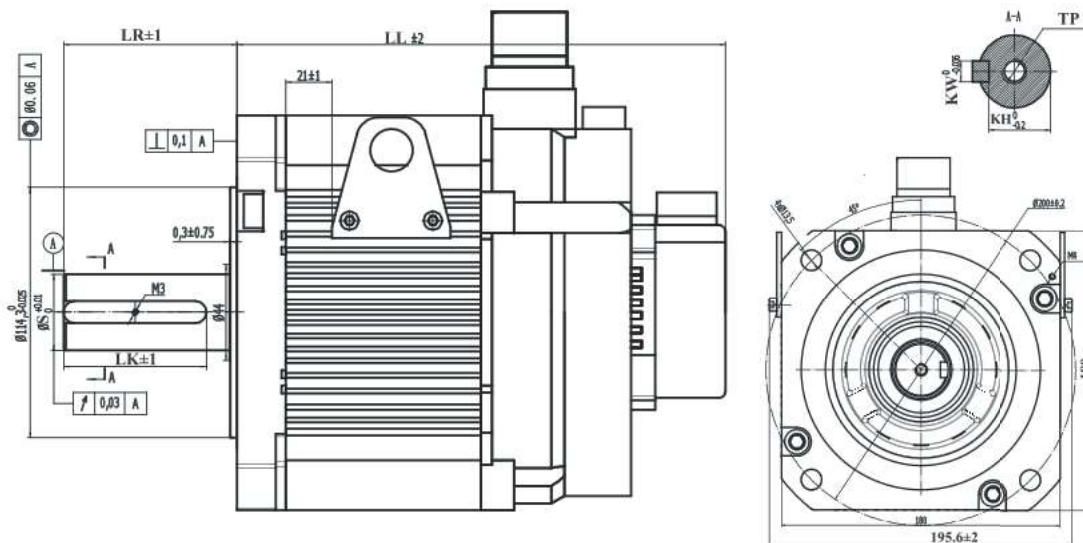


| Motor model         | LL  |
|---------------------|-----|
| ELM2M-3800LB130ET-H | 312 |
| ELM2M-3800LB130FT-H | 231 |



| Motor model         | LL    |
|---------------------|-------|
| ELM2L-3000LA130ET-H | 248.5 |
| ELM2L-3000LA130FT-H | 236.5 |
| ELM2L-4000LA130ET-H | 268.5 |
| ELM2L-4000LA130FT-H | 256.5 |
| ELM2L-5000LA130ET-H | 288.5 |
| ELM2L-5000LA130FT-H | 276.5 |

## Dimensions



| Motor model         | LL  | LR | LK | S  | KW | TP     | KH |
|---------------------|-----|----|----|----|----|--------|----|
| ELM2M-2900LD180ET-H | 241 |    |    |    |    |        |    |
| ELM2M-2900LD180FT-H | 193 |    |    |    |    |        |    |
| ELM2M-4400LD180ET-H | 271 |    |    |    |    |        |    |
| ELM2M-4400LD180FT-H | 223 | 79 | 65 | 35 | 10 | M12×25 | 30 |
|                     |     |    |    |    |    |        |    |

| Motor model         | LL  | LR  | LK | S  | KW | TP        | KH |
|---------------------|-----|-----|----|----|----|-----------|----|
| ELM2M-5500LD180ET-H | 291 |     |    |    |    |           |    |
| ELM2M-5500LD180FT-H | 243 |     |    |    |    |           |    |
| ELM2M-7500LD180ET-H | 331 |     |    |    |    |           |    |
| ELM2M-7500LD180FT-H | 283 | 113 | 96 | 42 |    | 12 M16×32 | 37 |
|                     |     |     |    |    |    |           |    |

200mm Frame size & 11000W~22000W

| Type Name            | Frame Size (mm) | Brake V (Vdc) | Wdg (mm) | Power (W) | Speed (rpm) |      | Torque (Nm) |     | Current (Arms) |      | Encoder                | Inertia ( kgm <sup>2</sup> *10-4) | Weight (kg) |
|----------------------|-----------------|---------------|----------|-----------|-------------|------|-------------|-----|----------------|------|------------------------|-----------------------------------|-------------|
|                      |                 |               |          |           | Rated       | Max  | Rated       | Max | Rated          | Max  |                        |                                   |             |
| ELM2M-11000LD200ET-H | 200             | √             | 400      | 11000     | 1500        | 1800 | 70          | 140 | 21.4           | 42.8 | 23-bit optical encoder | 81                                | 59          |
| ELM2M-11000LD200FT-H |                 | ×             |          |           |             |      |             |     |                |      |                        | 75                                | 51          |
| ELM2M-15000LD200ET-H |                 | √             |          | 15000     |             |      | 96          | 144 | 30             | 45   |                        | 120                               | 75          |
| ELM2M-15000LD200FT-H |                 | ×             |          |           |             |      |             |     |                |      |                        | 114                               | 67          |
| ELM2M-18500LD200ET-H |                 | √             |          | 18500     |             |      | 118         | 177 | 35             | 52.5 |                        | 137                               | 80          |
| ELM2M-18500LD200FT-H |                 | ×             |          |           |             |      |             |     |                |      |                        | 131                               | 75          |
| ELM2M-22000LD200ET-H |                 | √             |          | 22000     |             |      | 140         | 210 | 42.8           | 64.2 |                        | 151                               | 88          |
| ELM2M-22000LD200FT-H |                 | ×             |          |           |             |      |             |     |                |      |                        | 145                               | 83          |

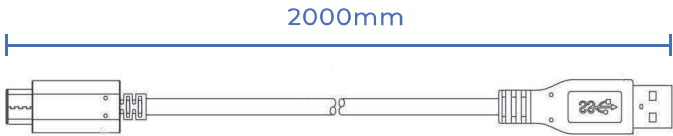



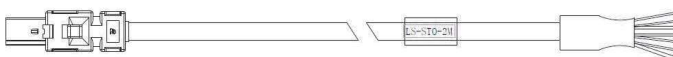
## Cable Selection

The cables which are available for our EL6/EL7/EL8 series AC servo drives and ELM1 & ELM2 AC servo motors are listed in detail in this section including a comprehensive guide on how to match the right cables to the drives and motors.

For our EL6/EL7/EL8 series AC servo drives, an USB Type-C tuning cable is optionally provided to connect the drives to a PC for tuning purposes. Any USB Type-C to Type-A data cable can handle the same task. Ethernet cables are also available for communications between drives and controllers. Safe Torque Off STO cable (2 meters) is included with every purchase of our EL6/EL7/EL8 Series AC servo drives.

Motor power supply cables (including motor brake cables) and encoder cables are matched with our ELM1 and ELM2 series AC servo motors. The cables are matched to the servo motors based on motor series and frame sizes.

### Servo Drive Cables

|                           |  |                 |   |
|---------------------------|--|-----------------|---|
| Tuning Cable              | EL8-Series<br>EL7-RSP Series<br>EL7-ECN Series<br>EL6-RSP Series | CABLE-TYPEC2M0  |   |
|                           | EL7-ECF series   | CABLE-USB1M5    |   |
|                           | EL6-CAN series   | CABLE-L6TS1M5   |   |
| Communication cable       |  | CABLE-TX*M*-BUS |  <p><i>*M*represents the length of the cables. For example, 1M5 = 1.5 meters<br/>Available length: 0.2M, 0.5M, 1.0M, 1.5M, 3M, 5M, 7M, 10M, 13M</i></p> |
| Safe Torque Off STO cable |  | CABLE-STOH*M*   |  <p><i>*M*represents the length of the cables. For example, 1M5 = 1.5 meters<br/>Available length: 0.2M, 1.0M, 1.5M, 2M, 3M, 5M</i></p>                 |

## Encoder cable model number

# CABLE BMA H 3M0 - 113 - T - R

| Sign  | Meaning              |
|-------|----------------------|
| CABLE | Cable identification |

| Sign | Cable type  |
|------|---|
| BM   | Incremental encoder cable                         |
| BMA  | Absolute encoder cable<br>(Including Battery Kit) |

| Sign | Voltage              |
|------|----------------------|
| H    | AC Servo motor cable |
| D    | DC Servo motor cable |

| Sign | Length    | Sig  | Lengt  |
|------|-----------|------|--|
| 1M5  | 1.5 meter | n    | h  |
| 3M0  | 3 meter   | 13M0 | 13 meter   |
| 5M0  | 5 meter   | 15M0 | 15 meter   |
| 7M0  | 7 meter   | ***  | Please contact leadshine teams for other lengths |
| 10M0 | 10 meter  |      |  |

| Sign | Drive side terminal type |
|------|--------------------------|
| 1    | 1394-6P Connector        |
| 2    | MOLEX Connector          |

| Sign | Customized models                  |
|------|------------------------------------|
| R    | Direct plug for back-facing wiring |
| ***  | Customized                         |

| Sign  | Special requirements       |
|-------|----------------------------|
| Blank | Fixed cable                |
| T     | flexible cable             |
| TS    | flexible & oil proof cable |
| ***   | Reserved                   |

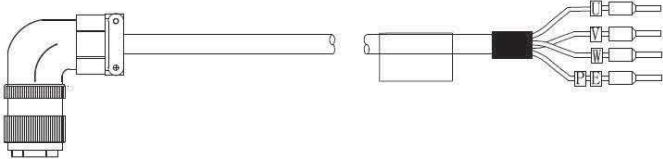
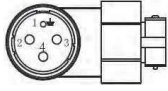
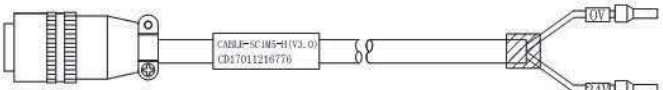
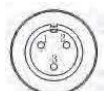
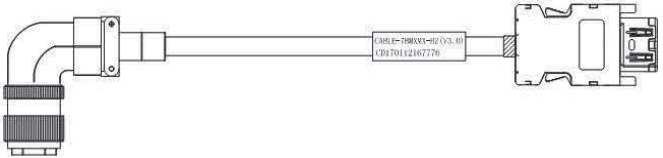

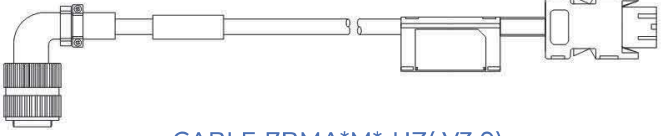
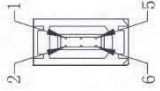
| Sign | Motor side terminal type    |
|------|-----------------------------|
| 1    | AMP plastic plug            |
| 2    | Reserved                    |
| 3    | Assembly type aviation plug |
| 4    | Terminal type direct plug   |
| ***  | Reserved                    |

| Sign | Cable specifications |
|------|----------------------|
| 1    | 2PX24AWG             |
| 2    | 3PX24AWG             |
| 3    | 2PX26AWG             |
| 4    | 3PX26AWG             |
| 5    | Reserved             |

## ELM2 Series - 100&130mm

- Frame size:100mm/130mm
- Power rating:1000W/1500W/2000W/2500W/3800W



| Cable Type    |             | Diagram   | Pin   |          |     |
|---------------|-------------|---|---|----------|-----|
| Motor power   |             | <br>CABLE-RZ*M*-H( V2.0)      |    |          |     |
|               |             |   | 1   | Yellow   | PE  |
|               |             |   | 2   | Red      | U   |
|               |             |   | 3   | Green    | V   |
| Motor brake   |             | <br>CABLE-SC*M*-H( V3.0)    |   |          |     |
|               |             |   | 1   | Black    | 0V  |
|               |             |   | 2   | Red      | 24V |
|               |             |   |   |          |     |
| Motor encoder | Incremental | <br>CABLE-7BM*M*-HZ( V3.0)  |  |          |     |
|               | Absolute    | <br>CABLE-7BMA*M*-HZ( V3.0) |  |          |     |
|               |             |   | A   | Terminal | B   |
|               |             |   | 1   | PE       | -   |
|               |             |   | 2   | 5V       | 1   |
|               |             |   | 3   | 0V       | 2   |
|               |             |   | 4   | SD+      | 5   |
|               |             |   | 5   | SD-      | 6   |
|               |             |   | 6*  | BAT+     | -   |
|               |             |   | 7*  | BAT-     | -   |
|               |             |   | *Terminal 6 & 7 is to be connected to battery kit for absolute encoder                |          |     |

## ELM2 Series - 130mm

- o Frame size: 130mm
- o Power rating:  
850W/1300W/1800W/3000W/4000W/5000W


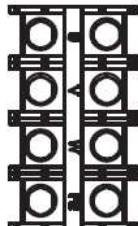
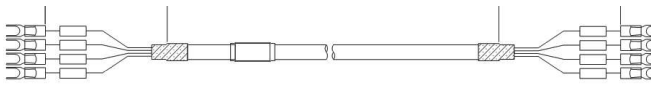
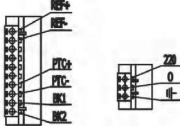
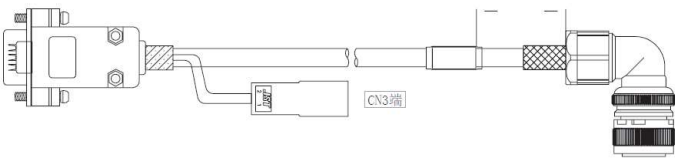




| Cable Type    |               | Diagram                    | Pin  |          |   |
|---------------|---------------|----------------------------|--|----------|---|
| Motor power   | With brake    | <br>CABLE-RZSH*M*-135-TS   |  |          |   |
|               | Without brake | <br>CABLE-RZH*M*-135-TS    | A Blue U<br>B Black V<br>C Red W<br>D Yellow Green PE<br>1* Black 0V<br>2* Red 24V<br>*1&2 terminal for motor with brake |          |   |
| Motor encoder | Incremental   | <br>CABLE-BMH*M*-115-TS    |  |          |   |
|               | Absolute      | <br>CABLE-BMH*M*-125-TS    |  |          |   |
|               | Battery kit   | <br>ER14505 BOX-G DCH ROHS | A  | Terminal | B |
|               |               |                            | 10   | PE       | - |
|               |               |                            | 2  | 5V       | 1 |
|               |               |                            | 3  | 0V       | 2 |
|               |               |                            | 4  | SD+      | 5 |
|               |               |                            | 5  | SD-      | 6 |
|               |               |                            | 6*   | BAT+     | - |
|               |               |                            | 7*   | BAT-     | - |
|               |               |                            | *Terminal 6 & 7 is to be connected to battery kit for absolute encoder   |          |   |

## ELM2M Series – 200mm

- Frame size:200mm
- Power rating:11000W-22000W



| Cable Type    |             | Diagram   | Pin   |          |     |
|---------------|-------------|---|---|----------|-----|
| Motor power   | 11kw&15kw   | <br><b>CABLE-RZH*M*-272</b>   |    |          |     |
|               | 18.5kW-22kW | <br><b>CABLE-RZH*M*-292</b>   |   |          |     |
| Motor brake   |             | /   |  |          |     |
|               |             |   | REF-  | White    | 0V  |
|               |             |   | REF+  | Red      | 24V |
| Motor encoder |             | <br><b>CABLE-BMH*M*-D20</b> |  |          |     |
|               |             |   |  |          |     |
|               |             |   | A   | Terminal | B   |
|               |             |   | 1   | PE       | -   |
|               |             |   | 2   | 5V       | 7   |
|               |             |   | 3   | 0V       | 8   |
|               |             |   | 4   | SD+      | 1   |
|               |             |   | 5   | SD-      | 2   |
|               |             |   | 6*  | BAT+     | -   |
|               |             |   | 7*  | BAT-     | -   |
|               |             |   | 8   | PTC+     | 9   |
| 9             | PTC-        | 5   |   |          |     |
|               |             | *Terminal 6 & 7 is to be connected to battery kit for absolute encoder  |   |          |     |



## EL7 Series

| Frame Size (mm) | Rated Power (W) | Motor Model        | Matching Drive                                       | Motor Length (mm) | Rated Torque (Nm) | Rated/Max Speed(rpm) | Inertia (kgm2*10 <sup>-4</sup> ) | Motor Cable  | Encoder cable  | Brake Cable  |
|-----------------|-----------------|--------------------|--|-------------------|-------------------|----------------------|----------------------------------|--|--|--|
| 40              | 50W (220V)      | ELM2H-0050LA40F    | EL7-RS400P<br>EL7-EC400F<br>EL7-EC400N<br>EL7-PN400F | 56.7              | 0.16              | 3000/5000            | 0.036                            | CABLE-RZH*M*-114-TS- (R) 【without brake】<br>CABLE-RZSH*M*-114-TS- (R) 【with brake】<br>(Add "R" after the model for back facing motor wiring) | CABLE-BMH*M*-114-TS- (R) 【Incremental】<br>CABLE-BMH*M*-124-TS- (R) 【Absolute】 +ER14505 BOX-G (Battery Kit)<br>(Add "R" after the model for back facing motor wiring) | If you need brake cable, please select power cable with brake in the power cable column. |
|                 |                 | ELM2H-0050LA40E    |  | 84                |                   |                      | 0.046                            |  |  |  |
|                 | 100W (220V)     | ELM2H-0100LA40F    |  | 67.7              | 0.32              | 3000/5000            | 0.062                            |  |  |  |
|                 |                 | ELM2H-0100LA40E    |  | 95                |                   |                      | 0.072                            |  |  |  |
| 60              | 200W (220V)     | ELM2H-0200LA60F    |  | 71.6              | 0.64              | 3000/5000            | 0.28                             |  |  |  |
|                 |                 | ELM2H-0200LA60E    |  | 101.1             |                   |                      | 0.3                              |  |  |  |
|                 | 400W (220V)     | ELM2H-0400LA60F    |  | 88.8              | 1.27              | 3000/5000            | 0.6                              |  |  |  |
|                 |                 | ELM2H-0400LA60E    |  | 118.1             |                   |                      | 0.62                             |  |  |  |
| 80              | 750W (220V)     | ELM2H-0750LA80F    | EL7-RS750P<br>EL7-EC750F                             | 90.9              | 2.39              | 3000/5000            | 1.8                              |  |  |  |
|                 |                 | ELM2H-0750LA80E    | EL7-EC750N<br>EL7-PN750F                             | 121.9             |                   |                      | 1.95                             |  |  |  |
|                 | 1000W (220V)    | ELM2H-1000LA80F    | EL7-RS1000P<br>EL7-EC1000F                           | 103.9             | 3.18              | 3000/5000            | 2                                |  |  |  |
|                 |                 | ELM2H-1000LA80E    | EL7-EC1000N<br>EL7-PN1000F                           | 134.9             |                   |                      | 2.15                             |  |  |  |
|                 | 750W (380V)     | ELM2H-0750LA80FT   | EL7-RS750PT<br>EL7-EC750FT                           | 90.9              | 2.39              | 3000/5000            | 2.12                             |  |  |  |
|                 |                 | ELM2H-0750LA80ET   | EL7-EC750NT<br>EL7-PN750FT                           | 121.9             |                   |                      | 2.7                              |  |  |  |
| 100             | 1000W (220V)    | ELM2L-1000LA100F-H | EL7-RS1000P<br>EL7-EC1000F                           | 154               | 3.2               | 3000/6000            | 2.43                             |  |  |  |
|                 |                 | ELM2L-1000LA100E-H | EL7-EC1000N<br>EL7-PN1000F                           | 194               |                   |                      | 2.63                             |  |  |  |
|                 | 1500W (220V)    | ELM2L-1500LA100F-H | EL7-RS1500P<br>EL7-EC1500N                           | 178               | 4.9               | 3000/5000            | 3.503                            |  |  |  |
|                 |                 | ELM2L-1500LA100E-H | EL7-PN1500F  | 218               |                   |                      | 3.803                            |  |  |  |
| 130             | 850W (220V)     | ELM2H-0850LD130F-H | EL7-RS1000P<br>EL7-EC1000F                           | 126               | 5.39              | 1500/4500            | 12.5                             |  |  |  |
|                 |                 | ELM2H-0850LD130E-H | EL7-EC1000N<br>EL7-PN1000F                           | 153.5             |                   |                      | 8.34                             |  |  |  |
|                 | 1300W (220V)    | ELM2H-1300LD130F-H | EL7-RS1500P<br>EL7-EC1500N                           | 144               | 8.34              |                      | 18.7                             |  |  |  |
|                 |                 | ELM2H-1300LD130E-H | EL7-PN1500F  | 171.5             |                   |                      | 21                               |  |  |  |
|                 | 1800W (220V)    | ELM2H-1800LD130F-H | EL7-RS2000P<br>EL7-EC2000N                           | 162               | 11.5              | 1500/3000            | 23.8                             |  |  |  |
|                 |                 | ELM2H-1800LD130E-H | EL7-PN2000F  | 189.5             |                   |                      | 26.1                             |  |  |  |

## EL6 Series

| Frame Size (mm) | Rated Power (W) | Motor Model        | Matching Drive              | Motor Length (mm) | Rated Torque (Nm) | Rated/Max Speed(rpm) | Inertia (kgm <sup>2</sup> *10 <sup>-4</sup> ) | Motor Cable  | Encoder cable   | Brake Cable  |
|-----------------|-----------------|--------------------|-----------------------------|-------------------|-------------------|----------------------|---|--|---|--|
| 40              | 50W (220V)      | ELM2H-0050LA40F    | EL6-RS400P<br>EL6-CAN400Z   | 56.7              | 0.16              | 3000/5000            | 0.036   | CABLE-RZH*M*-114-TS- (R) 【without brake】<br>CABLE-RZSH*M*-114-TS- (R) 【with brake】<br>(Add "R" after the model for back facing motor wiring) | CABLE-BMH*M*-114-TS 【Incremental】<br><br>CABLE-BMH*M*-124-TS- (R) 【Absolute】 +ER14505 BOX-G (Battery Kit)<br>(Add "R" after the model for back facing motor wiring) | If you need brake cable, please select power cable with brake in the power cable column. |
|                 |                 | ELM2H-0050LA40E    |                             | 84                |                   |                      | 0.046   |  |   |  |
|                 | 100W (220V)     | ELM2H-0100LA40F    |                             | 67.7              | 0.32              | 3000/5000            | 0.062   |  |   |  |
|                 |                 | ELM2H-0100LA40E    |                             | 95                |                   |                      | 0.072   |  |   |  |
| 60              | 200W (220V)     | ELM2H-0200LA60F    | EL6-RS750P<br>EL6-CAN750Z   | 71.6              | 0.64              | 3000/5000            | 0.28  |  |   |  |
|                 |                 | ELM2H-0200LA60E    |                             | 101.1             |                   |                      | 0.3   |  |   |  |
|                 | 400W (220V)     | ELM2H-0400LA60F    |                             | 88.8              | 1.27              | 3000/5000            | 0.6   |  |   |  |
|                 |                 | ELM2H-0400LA60E    |                             | 118.1             |                   |                      | 0.62  |  |   |  |
| 80              | 750W (220V)     | ELM2H-0750LA80F    | EL6-RS750P<br>EL6-CAN750Z   | 90.9              | 2.39              | 3000/5000            | 1.8   |  |   |  |
|                 |                 | ELM2H-0750LA80E    |                             | 121.9             |                   |                      | 1.95  |  |   |  |
|                 | 1000W (220V)    | ELM2H-1000LA80F    | EL6-RS1000P<br>EL6-CAN1000Z | 103.9             | 3.18              | 3000/5000            | 2   |  |   |  |
|                 |                 | ELM2H-1000LA80E    |                             | 134.9             |                   |                      | 2.15  |  |   |  |
| 100             | 1000W (220V)    | ELM2L-1000LA100F-H | EL6-RS1000P<br>EL6-CAN1000Z | 154               | 3.2               | 3000/6000            | 2.43  | CABLE-RZ*M*-H (V1.1) 【Fixed cable】<br>CABLE-RZ*M*-H (V2.0) 【Flexible cable】  | CABLE-7BM*M*-HZ (V3.0) 【Incremental】<br>CABLE-7BMA*M*-HZ (V3.0) 【Absolute】  | CABLE-SC*M*-H (V3.0)   |
|                 |                 | ELM2L-1000LA100E-H |                             | 194               |                   |                      | 2.63  |  |   |  |
| 130             | 850W (220V)     | ELM2H-0850LD130F-H | EL6-RS1000P<br>EL6-CAN1000Z | 126               | 5.39              | 1500/4500            | 12.5  | CABLE-RZH*M*-135-TS 【without brake】<br>CABLE-RZSH*M*-135-TS 【with brake】   | CABLE-BMH*M*-114-TS 【Incremental】<br>CABLE-BMH*M*-124-TS- (R) 【Absolute】 +ER14505 BOX-G (Battery Kit)<br>(Add "R" after the model for back facing motor wiring)     | If you need brake cable, please select power cable with brake in the power cable column. |
|                 |                 | ELM2H-0850LD130E-H |                             | 153.5             |                   |                      | 14.8  |  |   |  |