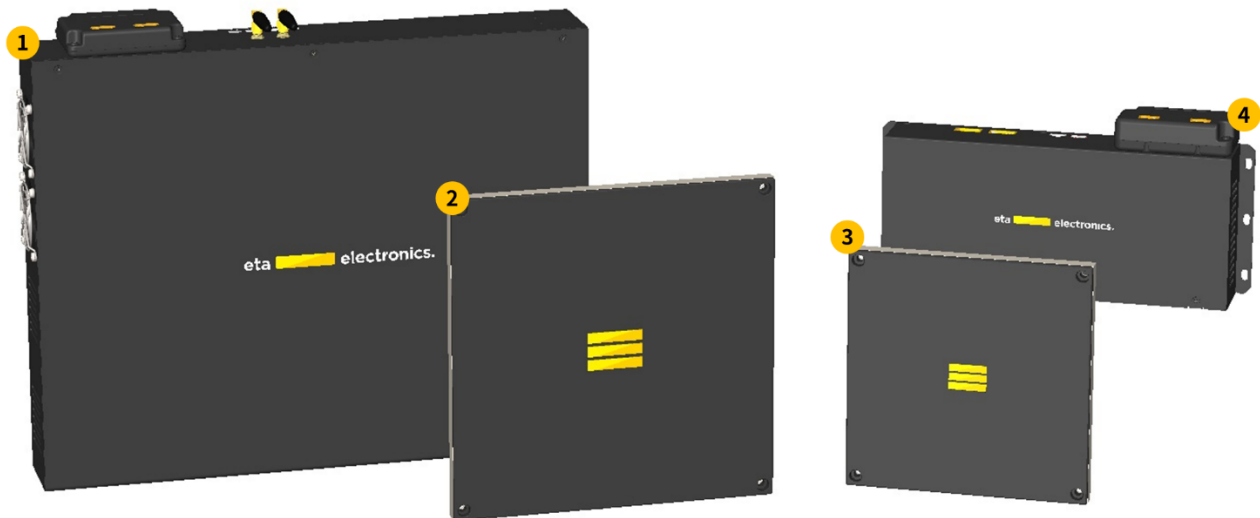


# ELYX-40A Wireless Power Transfer Solution



1 Tx control module 2 Tx coil module 3 Rx coil module 4 Rx control module

## FEATURE

- High distance charging range / Robust to misalignment
- Maximum 3,000W transmitting power
- Receiver programmable according to battery specifications (7–14s Li-ion battery, Max 40 A)
- Protection: over voltage / over current / over temperature / Foreign Object Detection (FOD)
- High End-to-End Efficiency (DC-to-Battery) (Max. 88%)
- Pre-Charge / Full-Charge Function (User Setup)
- Compatible with wired charging and wireless charging
- Cloud Server Monitoring & Power Management / [ELYX Link](#)

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- **SYSTEM COMPONENTS**
- Transmitter (DT-40A)
  - Transmitter control module
  - Transmitter coil module
  
- Receiver (DR-40A)
  - Receiver control module
  - Receiver coil module
  
- Option 1. Tx/Rx Cable length (30, 50, 100 cm)
- Option 2. Server communication (Wi-Fi)

## VERSION

- Version 0.97 May. 2026

**SPECIFICATION**

<b>TOTAL SYSTEM</b>		
<b>CHARGING CHARACTERISTIC</b>	FREQUENCY	79–90 kHz
	EFFICIENCY (Max.)	88% (DC to Battery)
	CHARGE BATTERY	Li-ion (7–14 series pack); LFP (8–16 series pack)
	CHARGE MODE	CC/CV
	CHARGE RANGE	0–50 mm distance (z-axis) offset (20–40 mm Optimal distance) Max. ±50 mm x-axis offset Max. ±50 mm y-axis offset
<b>COMMUNICATION</b>	Server	Wi-Fi
	Application	CAN
<b>ENVIRONMENT</b>	AMBIENTTEMP.	- 15 ~ 45°C
	COOLING	Fan

<b>TRANSMITTER</b>		<b>DT-40A</b>
<b>INPUT</b>	AC VOLTAGE RANGE	180–264 VAC
	FREQUENCY	47–63 Hz
	AC CURRENT (Max.)	20A / 180VAC 16 A / 230VAC
	POWER FACTOR	0.95@230 VAC at full load
	EFFICIENCY (Max.)	92.5%@Full load
<b>DIMENSION</b>	CONTROL MODULE SIZE	430 mm X 360 mm X 70 mm (7,930 g)
	COIL MODULE SIZE	250 mm X 250 mm X 15 mm (2,160 g)
<b>PROTECTION</b>	OVERTEMPERATURE	Power derating below 75°C; shut down above 75°C
	Foreign Object Detection	Conductive material sensing & shut down

<b>RECEIVER</b>		<b>DR-40A</b>
<b>OUTPUT</b>	VOLTAGE RANGE	20–58.8V (Programmable voltage range)
	CHARGE CURRENT (Max.)	40 A
	CHARGE POWER (Max.)	2,352W
	RIPPLE & TOLERANCE	±1%
<b>DIMENSION</b>	CONTROL MODULE SIZE	290 mm X 145 mm X 50 mm (1,640 g)
	COIL MODULE SIZE	190 mm x 190 mm X 15 mm (1,250 g)**
<b>PROTECTION</b>	OVER VOLTAGE	105% rated voltage of full charged battery
	OVER CURRENT	105% rated output current
	OVERTEMPERATURE	Power derating below 75°C; shut down above 75°C

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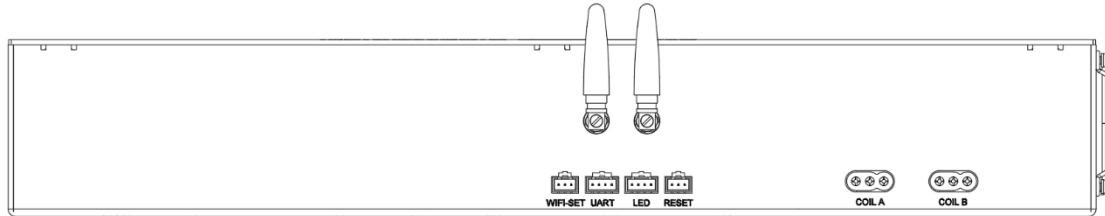
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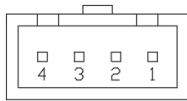
## I/O CONNECTOR

### Tx Control Module

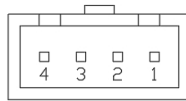
- LED housing/ contact : SMAW250-04 or equivalent
- RESET,WIFI SETTING housing/ contact : SMAW250-03 or equivalent



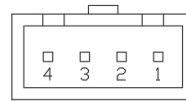
WIFI-SET I/O CONNECTOR



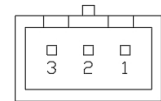
UART I/O CONNECTOR



LED I/O CONNECTOR



RESET I/O CONNECTOR



### RESET I/O Connector

Pin number	Pin Name	Type	Function
1	RESET	Input	MCU Reset
2	GND		Ground
3	VDD	Output	3.3V Output

### LED I/O Connector

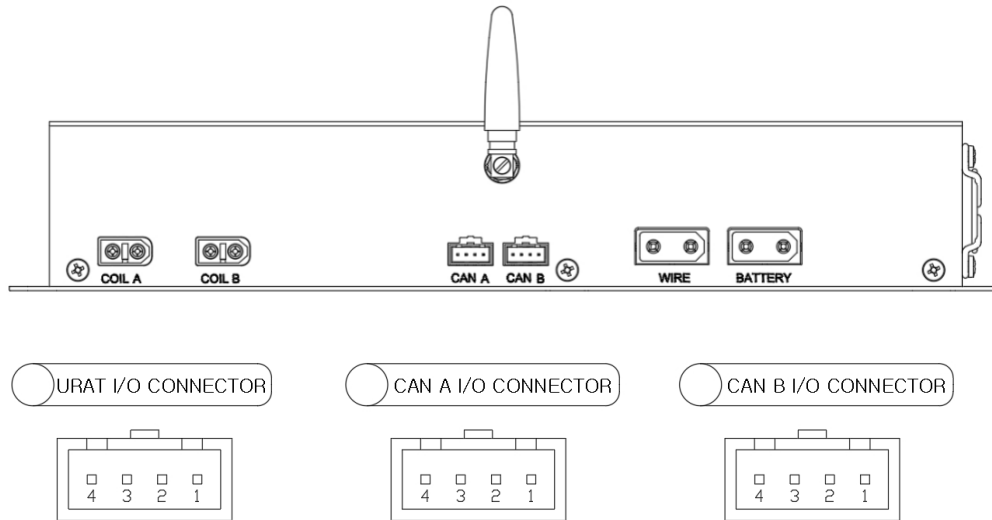
Pin number	Pin Name	Type	Function
1	Red	Output	Red Light Control Signal
2	Green	Output	Green Light Control Signal
3	Blue	Output	Blue Light Control Signal
4	GND	-	Ground

### WIFI Setting I/O Connector

Pin number	Pin Name	Type	Function
1	SET_W	Input	Set the WIFI Configuration
2	GND		Ground
3	VDD	Output	3.3V Output

## Rx Control Module

- BATTERY,WIRE, COIL output housing/ contact: AMASS XT60E-M or equivalent
- UART,CAN housing/ contact: SMAW250-04 or equivalent



### UART I/O Connector

Pin number	Pin Name	Type	Function
1	GND	Output	Ground
2	TXD	Output	UART Transmit Data
3	RXD	Input	UART Receive Data
4	VDD	Input	5V**

\*\* (Optional) If 5V is not supplied to pin 4, charging data can be received only during charging time.

### CAN A,B I/O Connector

Pin number	Pin Name	Type	Function
1	GND	Output	Ground
2	CAN_H	Input/Output	High level CAN bus line
3	CAN_L	Input/Output	Low level CAN bus line
4	VDD	Input	5V**

\*\* (Optional) If 5V is not supplied to pin 4, charging data can be received only during charging time.