

## ELYX-150 Wireless PowerTransfer Solution



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

### FEATURE

- High distance charging range
- Maximum 200W transmitting power
- Three types of receivers Max 145W (24V-5A), Max 168W (36V-4A), Max 160.8W (48V-3A)
- Protection: over voltage / over current / over temperature / Foreign Object Detection (FOD)
- High End-to-End Efficiency (DC-to-Battery) (Max. 88%)
- Monitoring & Power Management

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## SYSTEM COMPONENTS

- Transmitter (DT-150)
  - Transmitter control module
  - Transmitter coil module
  
- Receiver (DR-150-24, DR-150-36, DR-150-48)
  - Receiver control module
  - Receiver coil module

## VERSION

- Version 1.2 May. 2026
- Version 1.1 May. 2026
- Version 1.0 May. 2025

**SPECIFICATION**

<b>TOTAL SYSTEM</b>		
<b>CHARGING CHARACTERISTIC</b>	FREQUENCY	79 ~ 90 kHz
	EFFICIENCY (Max.)	88 % (DC to Battery)
	CHARGE BATTERY	Li-ion battery (7, 10, 13 series pack)
	CHARGE MODE	CC/CV
	CHARGE RANGE	0 – 40 mm distance(z-axis) offset (10 – 30 mm Optimal distance) Max. ±40 mm x-axis offset Max. ±20 mm y-axis offset
<b>COMMUNICATION</b>	Monitoring	UART
<b>ENVIRONMENT</b>	WORKINGTEMP.	- 20 ~ 50°C

<b>TRANSMITTER</b>		<b>DT-150</b>
<b>INPUT</b>	ACVOLTAGE	220VAC
	CURRENT (MAX.)	1.5 A
<b>DIMENSION</b>	CONTROL MODULE SIZE	194 mm X 155 mm X 50 mm (1,200 g)
	COIL MODULE SIZE	200 mm x 106 mm x 18 mm (460 g)
<b>PROTECTION</b>	OVER CURRENT	Power amp. Protection
	Foreign Object Detection	Conductive material sensing & shut down

<b>RECEIVER</b>		<b>DR-150-24</b>	<b>DR-150-36</b>	<b>DR-150-48</b>
<b>OUTPUT</b>	VOLTAGE RANGE	15 – 29V	25 – 42V	38 – 53.6V
	CHARGE CURRENT (MAX)	5 A	4 A	3 A
	CHARGE POWER (MAX)	145W	168W	160.8W
<b>DIMENSION</b>	CONTROL MODULE SIZE	110 mm X 83.5 mm X 20 mm (260 g)		
	COIL MODULE SIZE	168 mm X 70 mm X 24.5 mm (280 g)		
<b>PROTECTION</b>	OVERVOLTAGE	105 % rated voltage of full charged battery		
	OVER CURRENT	120 % rated output current		

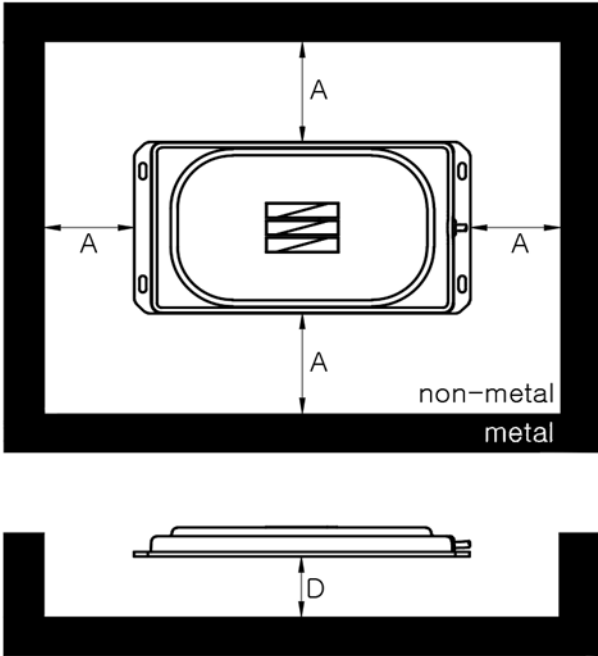
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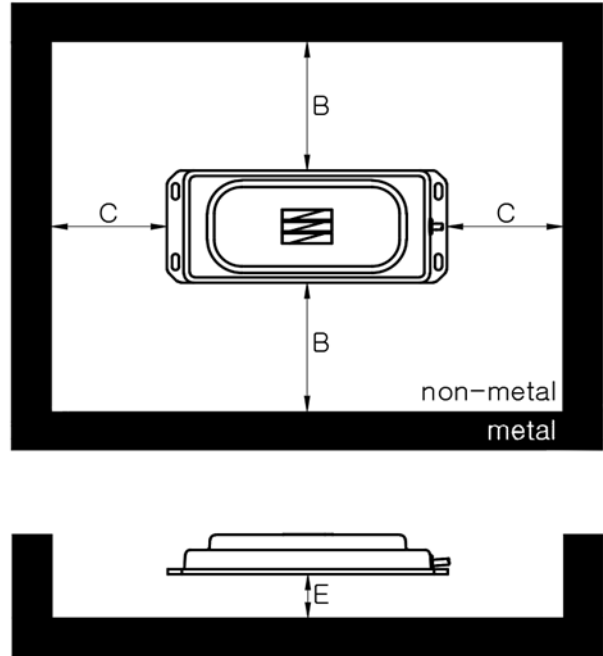
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**INSTALLATION GUIDE**

Tx coil module



Rx coil module



(mm)	A	B	C	D	E
Tx Coil Box	25**			*Al : 0 20	
Rx Coil Box		45**	55**		*Al : 0 20

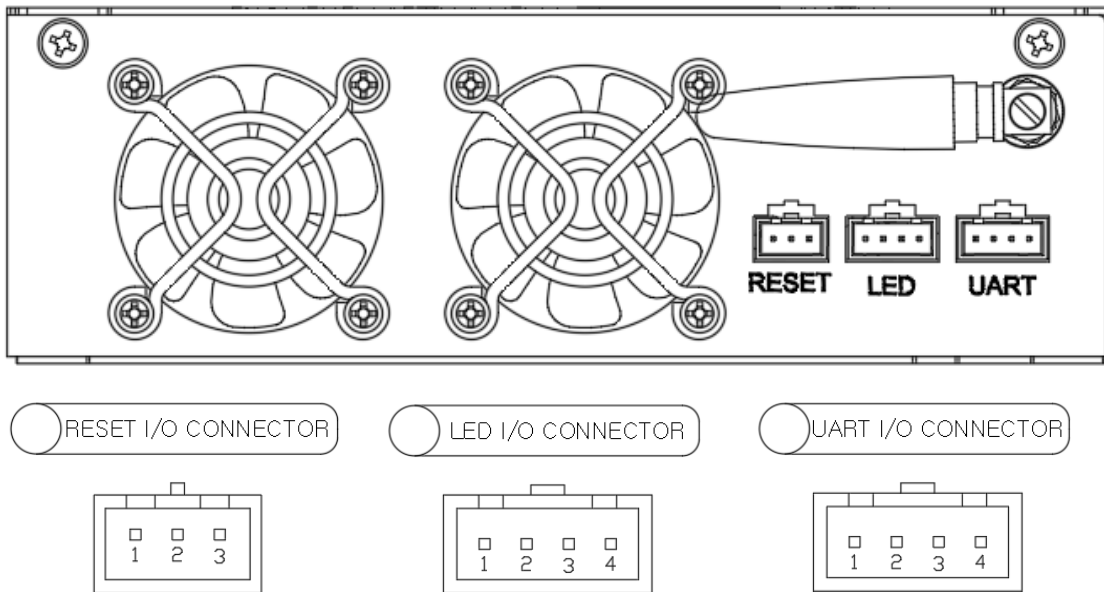
**\*Al : Aluminum**

**\*\*This numbers could be changed.**

## I/O CONNECTOR

### Tx CONTROL MODULE

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



### UART I/O Connector

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

LED I/O Connector			
Pin number	Pin Name	Type	Function
1	Blue	Output	Blue Light Control Signal
2	Green	Output	Green Light Control Signal
3	Red	Output	Red Light Control Signal
4	GND	-	Ground

LED Output Display			
Name	Display	Output	Function
Initialization	Red & Blue & Green	Present	Displaying during system initialization and calibration
Ready	Blue	Blinking	Display searching the receivers

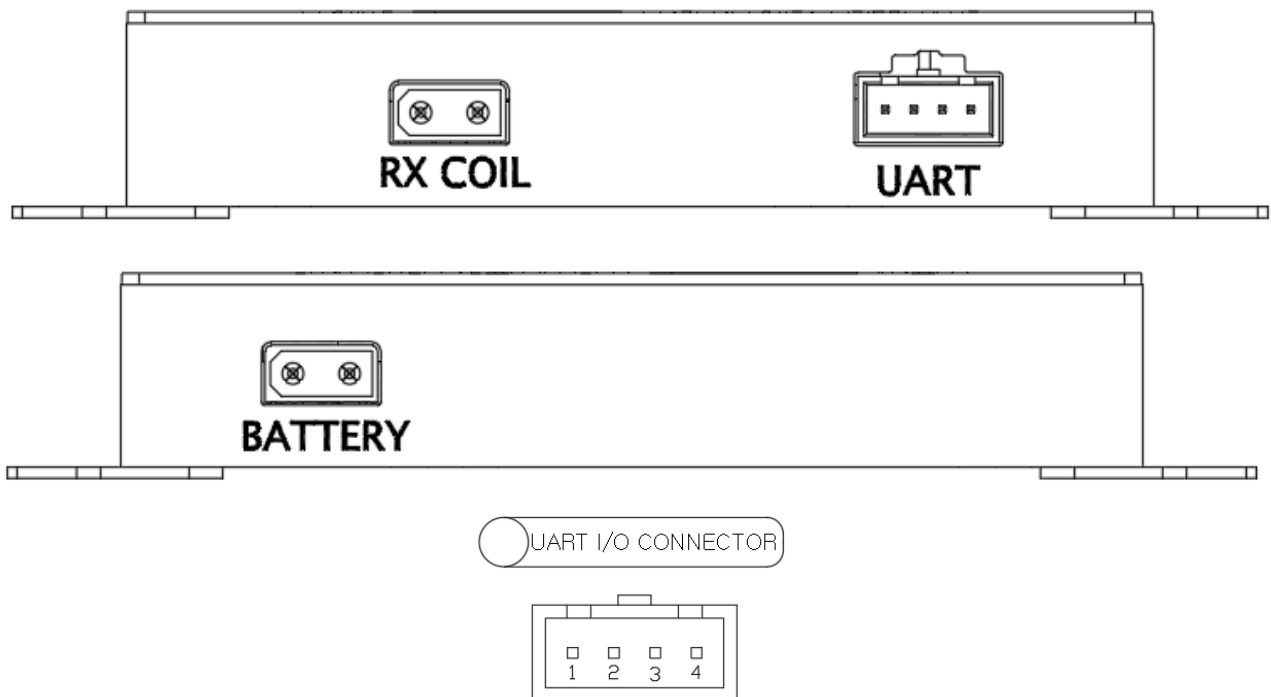
Charge	Green	Blinking	Displaying during constant current or voltage charge operation
Full-Charge	Green	Present	Display full charging of battery
Error	Red	Present	Indicates abnormality

### RESET I/O Connector

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

### Rx CONTROL MODULE

- BATTERY, WIRE output housing/ contact: AMASS XT30PW0-M or equivalent
- UART housing/ contact: SMAW250-04 or equivalent



### UART I/O Connector

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

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

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