

# PRIMECOR

## INSTALL BEFORE FLIGHT

PRIMECOR ZERO  
INTEGRATION MANUAL  
Version: 1.0

## WARNING

Product name:

**PrimeCor Zero Kit.**

**PLEASE READ THIS INTEGRATION MANUAL CAREFULLY BEFORE CONNECTING AND OPERATING PRIMECOR ZERO. REMEMBER THAT IMPROPER USE OF THE PRODUCT COULD VOID THE WARRANTY.**

To reduce the risk of fire or electric shock, do not expose the product to rain or moisture. To avoid the risk of fire or electric shock, do not place containers with liquid on or near the product. Do not install the device in a confined space, such as a bookcase. Batteries or devices with built-in batteries should not be exposed to excessive heat sources, such as direct sunlight, fire, or similar.



**Treatment of electrical and electronic equipment at the end of its life (applicable in the European Union and in European countries with separate waste collection systems)**

This symbol on the devices or packaging indicates that this product cannot be treated as normal household waste but must be handed over to the appropriate collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you help prevent potential negative consequences for the environment and human health, which could result from improper handling when disposing of this product. Recycling materials helps conserve natural resources. For detailed information about recycling this product, please contact your local city office or your household waste disposal service.

**For any issues related to technical support or warranty**, please refer to the addresses provided in the technical support and warranty documents supplied separately.

# PrimeCor Zero

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Thank you for choosing PrimeCor!

## PRIMECOR ZERO KIT

Safety Management System designed to ensure approved execution of safety-critical unmanned operations and in-line with the highest reliability requirements from civil authorities.

## Box contents

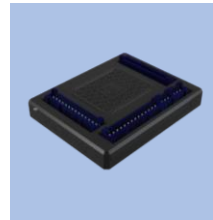
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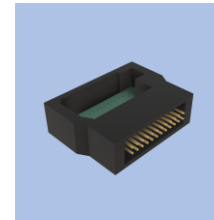
1x ERU:  
Emergency Recovery  
Unit



1x TCU:  
Tracker and  
Communications Unit



1x CSU:  
Control Selector Unit



1x Control Selector  
Unit Adapter



1x cable:  
PCZ001/X021



1x cable:  
PCZ001/X041



1x cable:  
PCZ001/X031

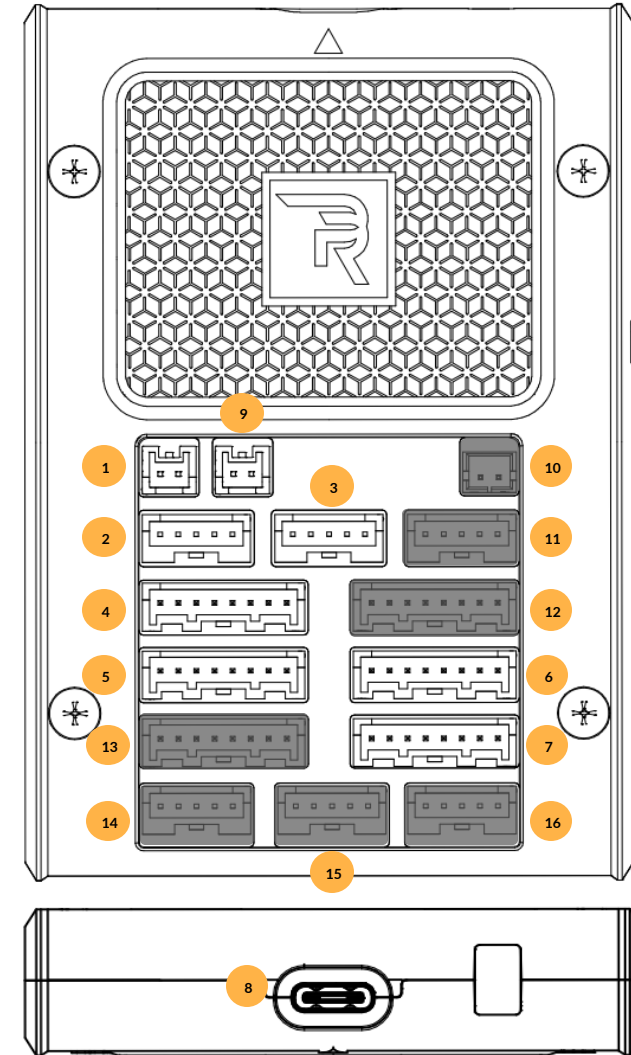


Spare parts

# Device description

## ERU EMERGENCY RECOVERY UNIT

1	PWR1	Power the ERU.
2	SERIAL/TELEM1	Transfer data with the TCU.
3	SERIAL/TELEM2	Transfer data with the Autopilot.
4	ADC2	Power CSU switch selector.
5	GPIO2	Send signal to activate the switch in the CSU.
6	GPIO1	Signal to activate means to reduce the effect of the dynamics in case of FTS (parachute).
7	CAP/PWM1	PWM Signal to activate means to reduce the effect of the dynamics in case of FTS (parachute).
8	USB-C	Comm port to communicate with a PC.
9	PWR2	Power the ERU.
10	BUZZER	Connector disabled.
11	SERIAL	Connector disabled.
12	ADC1	Connector disabled.
13	CAP/PWM2	Connector disabled.
14	RS232	Connector disabled.
15	CAN1	Connector disabled.
16	CAN2	Connector disabled.

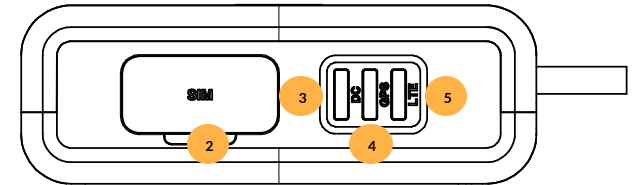
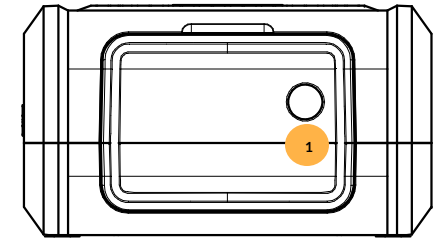
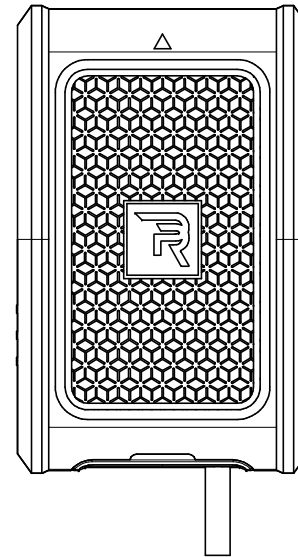


\*Some connectors are disabled for the PrimeCor Zero version.

# Device description

## TCU TRACKER & COMMUNICATION UNIT

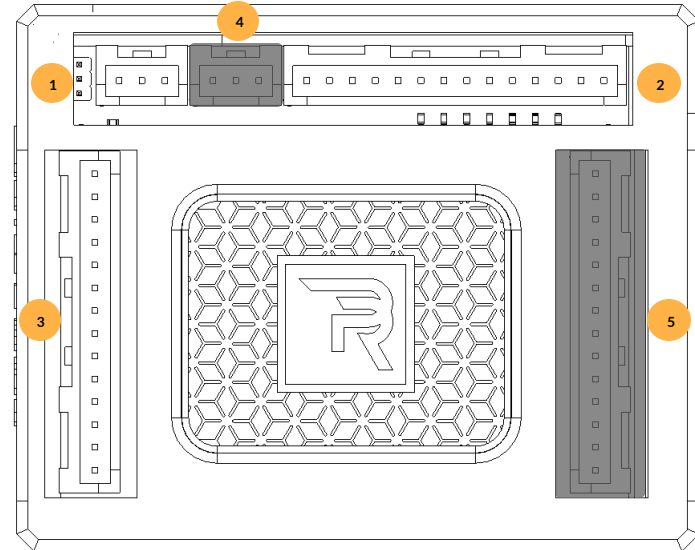
1	SERIAL/TELEM1	Transfer data with the ERU.
2	SIM	SIM slot.
3	LTS	Shows with a green light if 4G signal is adquired. Blink when trying to get signal. Remains when signal adquired.
4	GNSS	Shows with a green light if GNSS signal is adquired. Blink when trying to get signal. Remains when signal adquired.
5	DC	Shows with a green light if device is connected.



# Device description

## CSU CONTROL SELECTOR UNIT

- |   |          |   |
|---|----------|---|
| 1 | SWITCH 1 | Control when to switch the output.  |
| 2 | OUTPUT   | Replicate the signal from Input A or B depending of the switch selection. |
| 3 | INPUT A  | Receive signals from the Autopilot PWM output to control the motors.      |
| 4 | SWITCH 2 | Connector disabled.   |
| 5 | INPUT B  | Connector disabled.   |

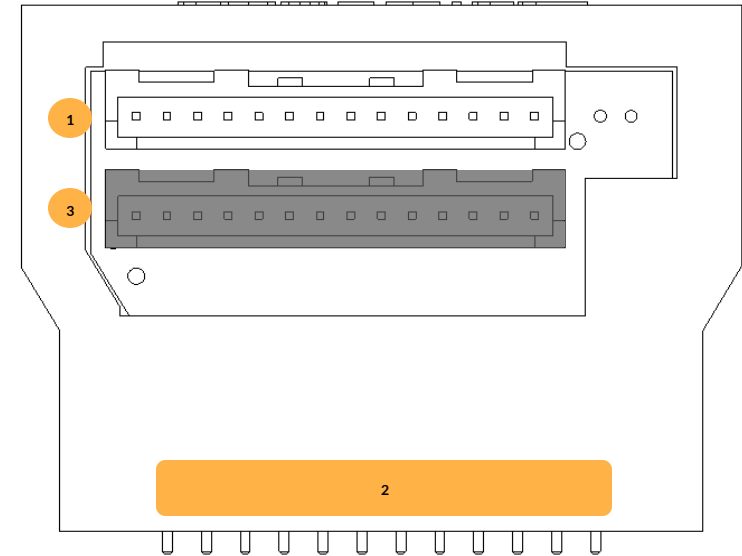


\*Some connectors are disabled for the PrimeCor Zero version.

# Device description

## CSU ADAPTER

- |   |                        |   |
|---|------------------------|---|
| 1 | INPUT PWM/<br>SIGNALS  | Receive signals from the CSU.           |
| 2 | OUTPUT PWM/<br>SIGNALS | Send PWM signals to control the motors. |
| 3 | READ PWM<br>SIGNALS    | Connector disabled.                     |



# How to install PrimeCor Zero

## 1. TCU-ERU CONNECTION

Connect cable from the TCU terminal to the corresponding ERU terminal (refer to Figure 1).



Figure 1.

## 2. AUTOPILOT-CSU CONNECTION

Connect cable (PCZ001/X041) from PWM output of the autopilot to the CSU (refer to Figure 2).

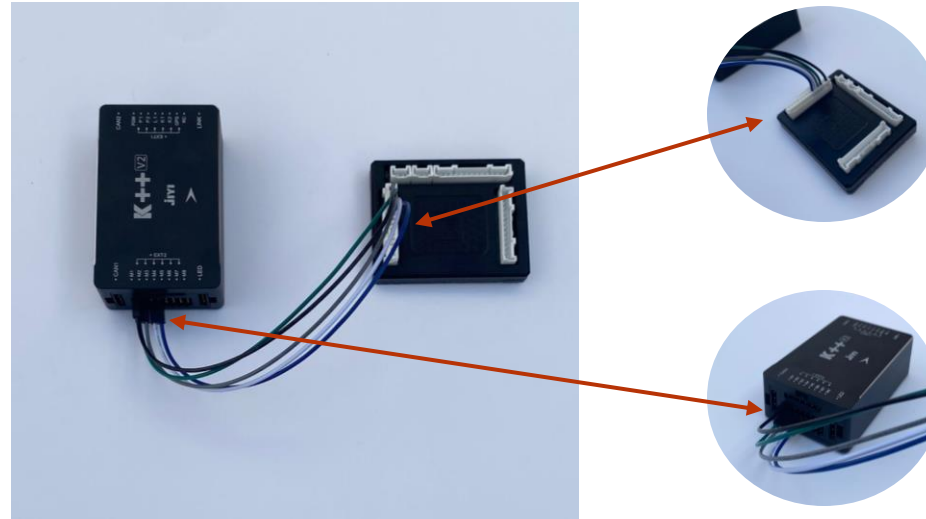


Figure 2.

## 3. CSU - ERU CONNECTION

Connect cable (PCZ001/X021) from ERU to the two corresponding terminals of the CSU (refer to Figure 3).

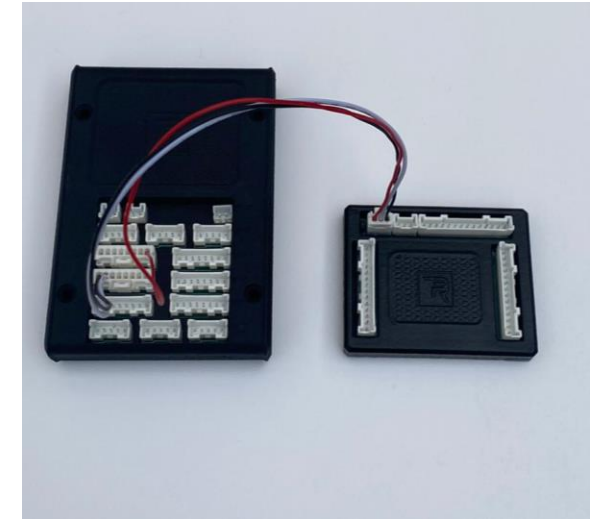


Figure 3.

# How to install PrimeCor Zero

## 4. CSU - CSU ADAPTER CONNECTION

Connect the CSU to the CSU adapter using the cable (PCZ001/X031). The cable has the same termination at both ends, so either end can be connected to each connector (check Figure 4).

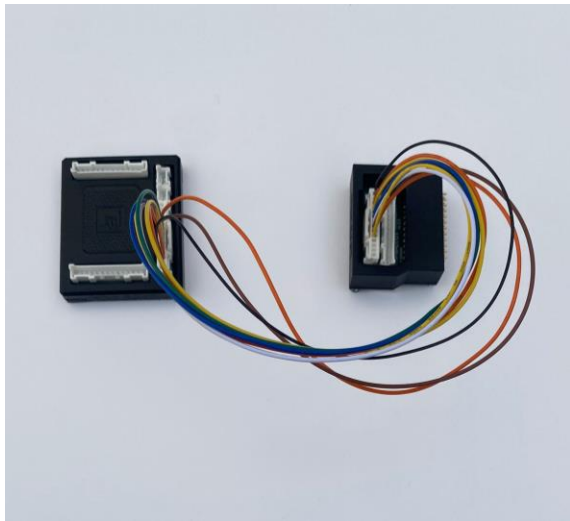


Figure 4.

## 5. CSU ADAPTER - MOTOR CONNECTION

Connect each motor to one of the output terminals of the adapter (refer to Figure 5).

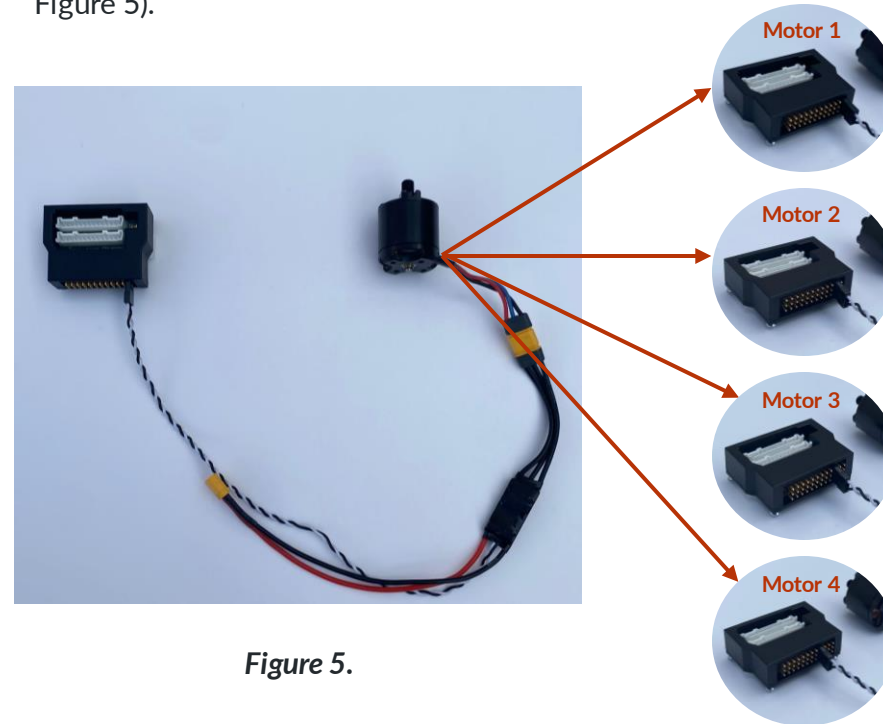


Figure 5.

## 6. POWER ERU

Power the ERU with the UAV's PDU (Power Distribution Unit) or a secondary battery (according to the client's preference).

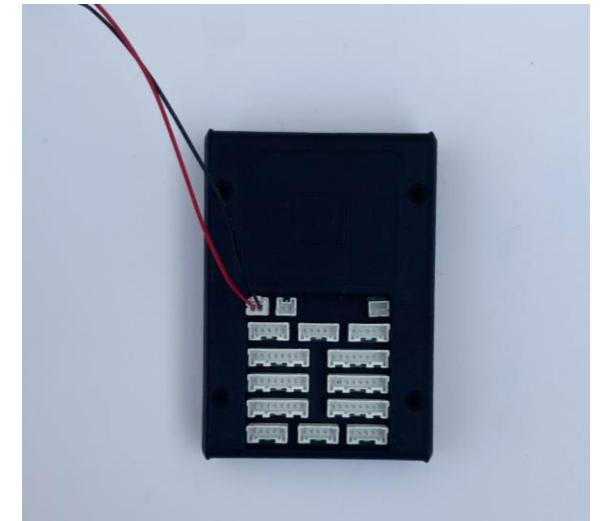
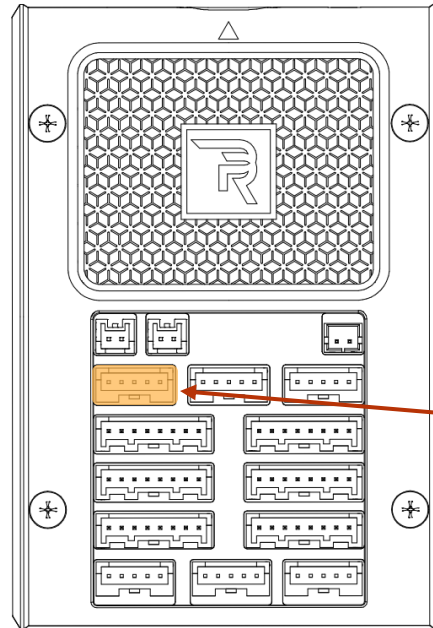
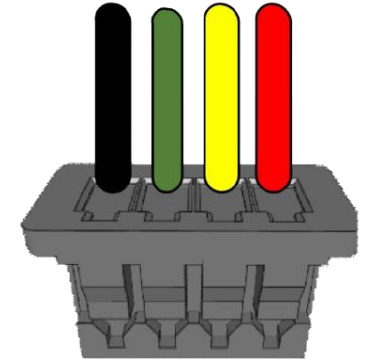
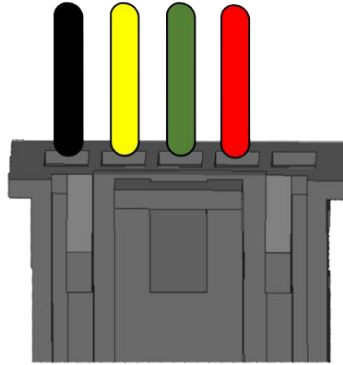


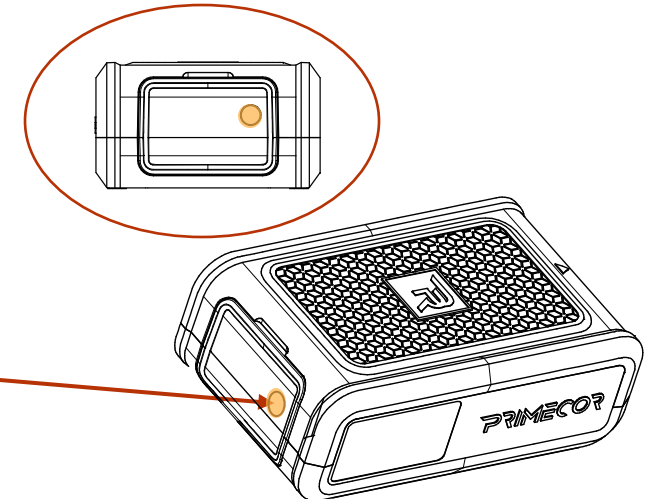
Figure 6.

# Figure 1: TCU-ERU connection

Color cable	Function
Black	Ground
Green	TX
Yellow	RX
Red	Vcc (5V)



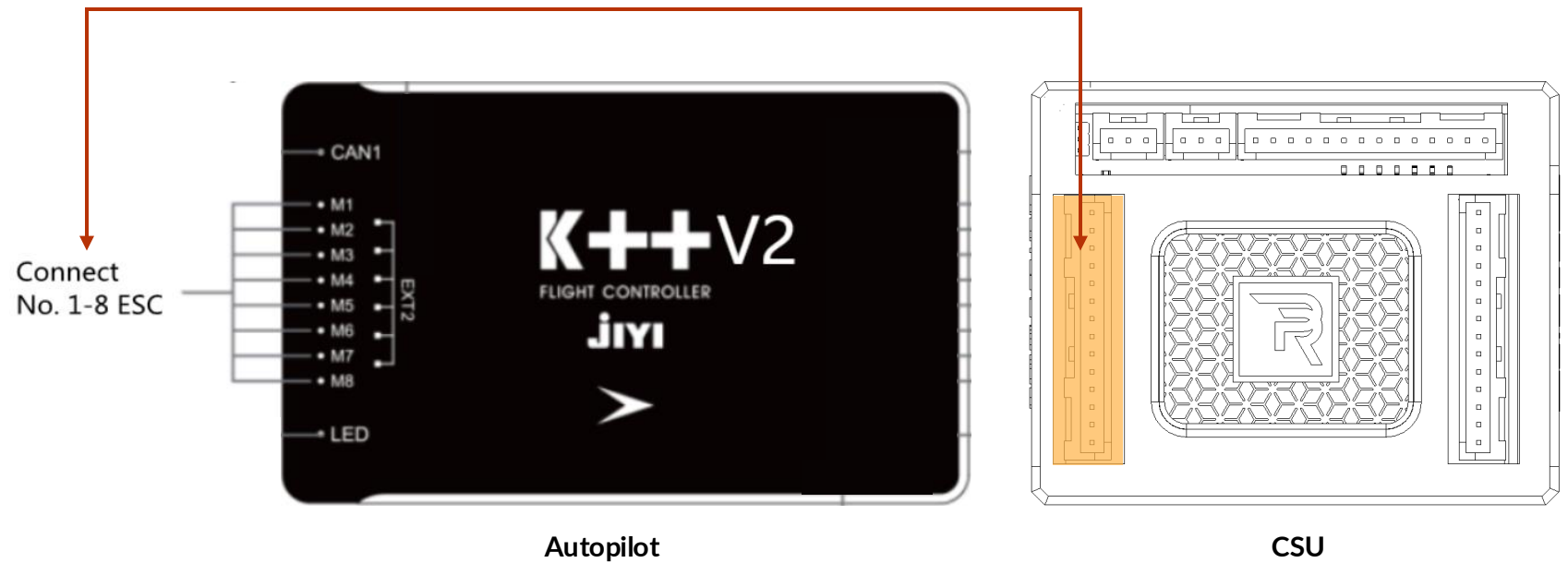
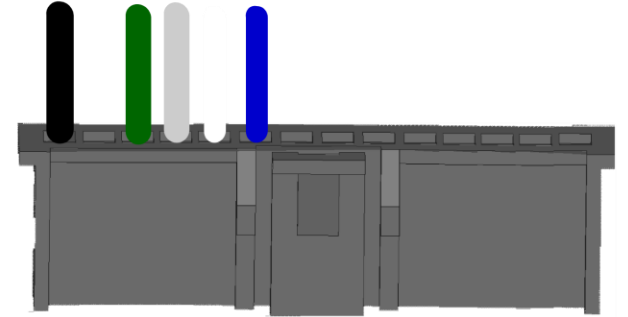
ERU: Emergency Recovery Unit



TCU: Tracker & Communication Unit

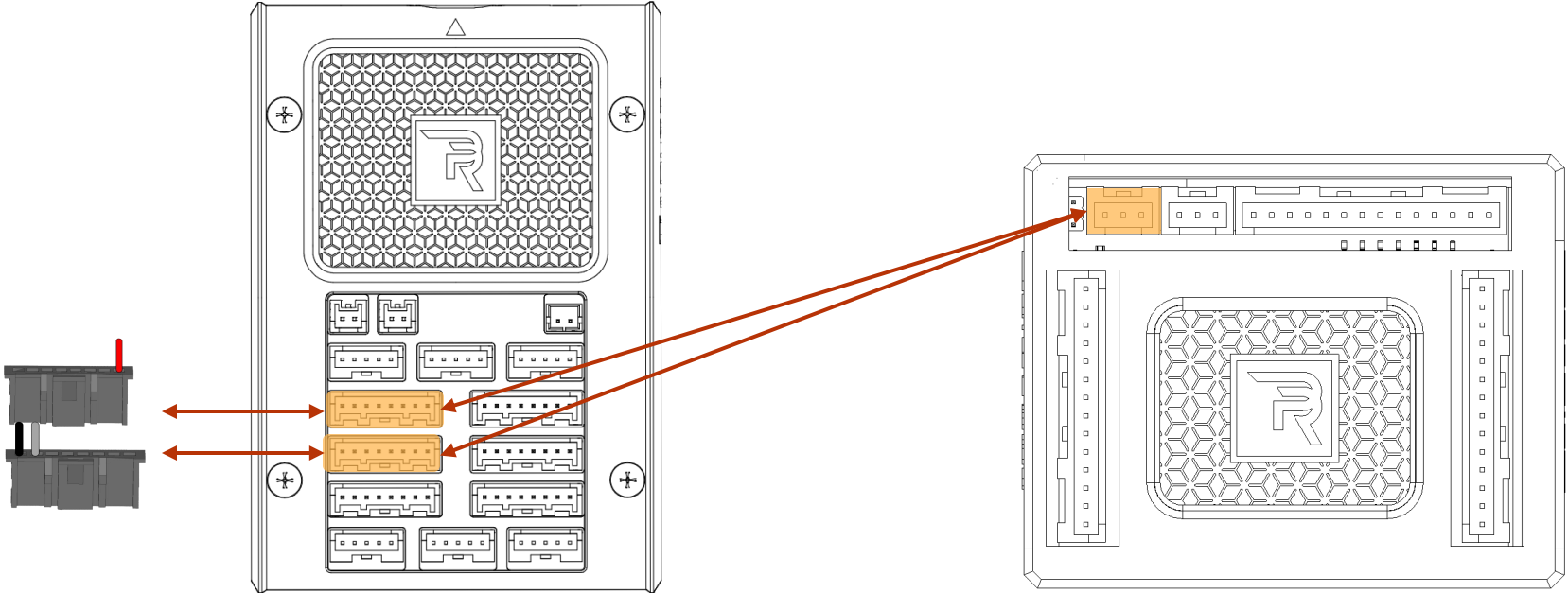
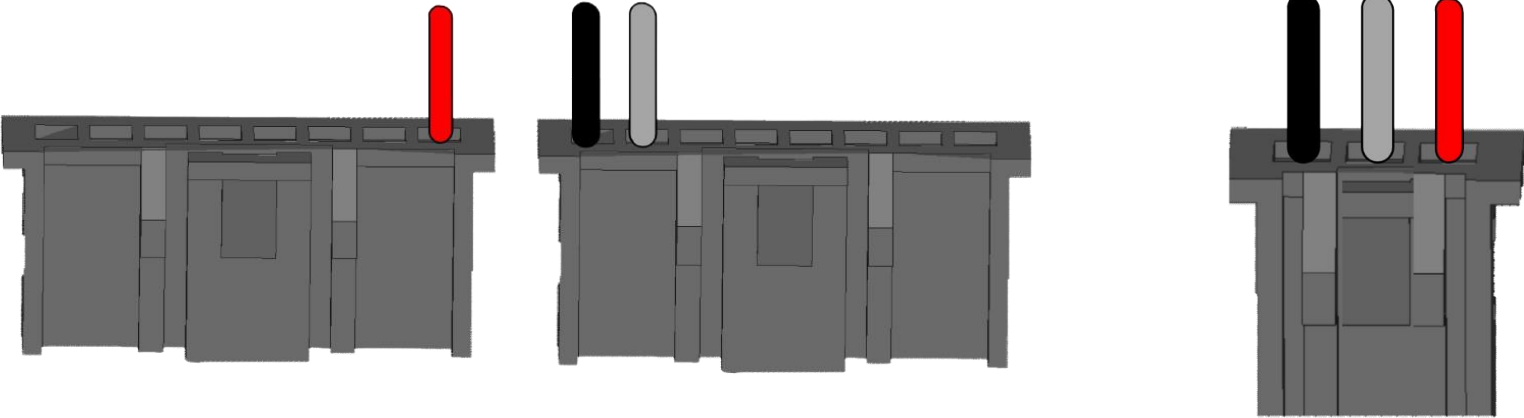
## Figure 2: Autopilot -CSU connection

Color cable	Function
Black	Ground
Other colors	PWM Signals



# Figure 3: CSU feeding from ERU

Color cable	Function
Black	Ground
Red	Vcc (5V)
Grey	Digital signal (3,3 V)

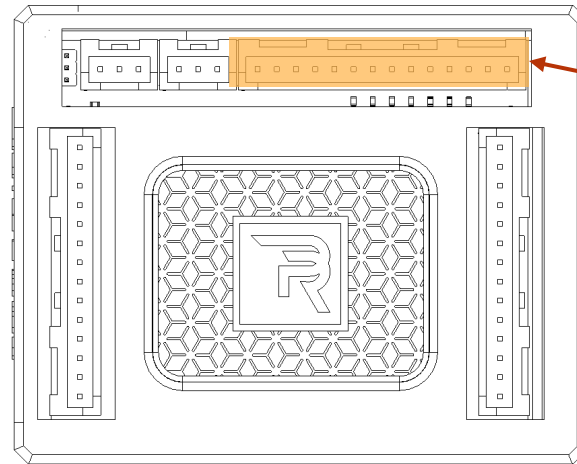
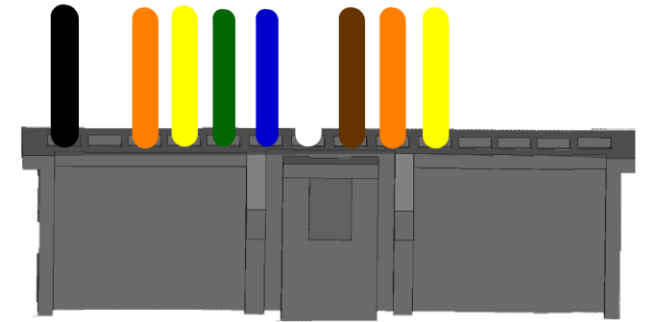
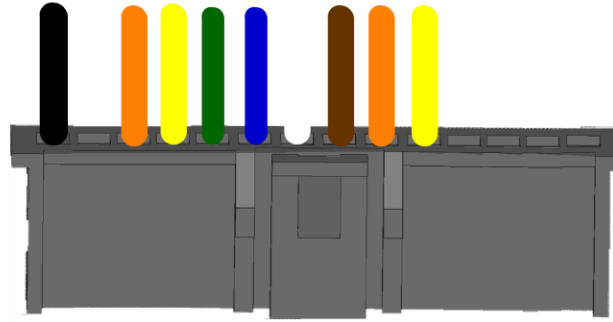


ERU: Emergency Recovery Unit

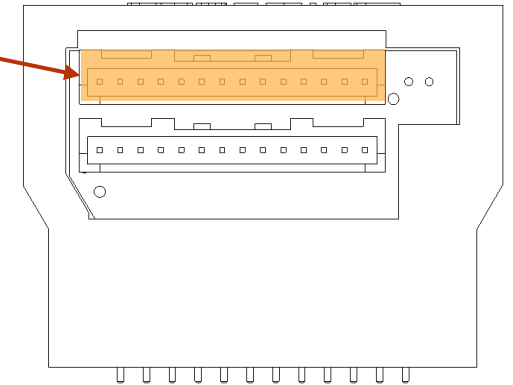
CSU: Control Selector Unit

# Figure 4: CSU to CSU Adapter

Color cable	Function
Black	Ground
Other colors	Signals



CSU: Control Selector Unit

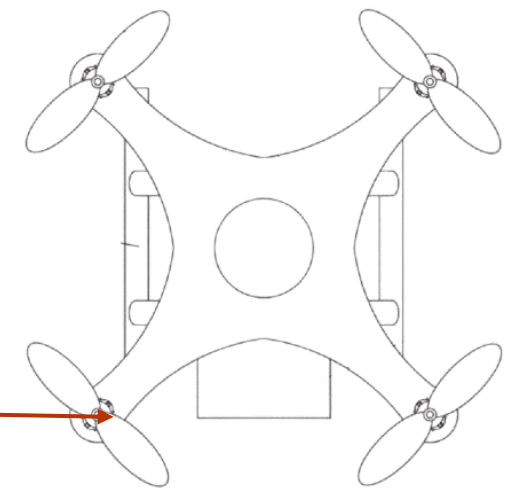
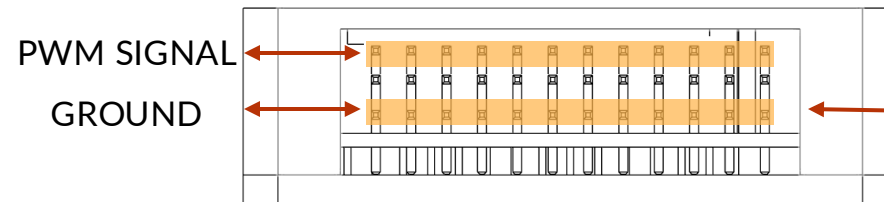
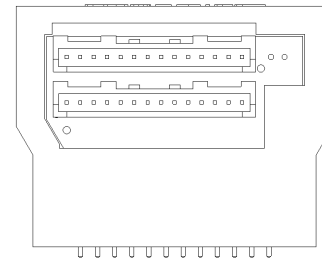


CSU adapter



# Figure 5: CSU Adapter to Motor

Color cable	Function
Black	Ground
White	PWM Signal



CSU Adapter

Motor

# PRIMECOR

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