

Robot PoE Switch Instructions COREIO / EAP2

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Table of Contents

1. Specifications..... 3

2. Warnings..... 3

3. Mounting Instructions..... 4

4. Operation..... 5

5. Disposal..... 6

Table of Figures

Figure 1: Robot PoE Switch - COREIO / EAP2..... 3

Figure 2: RPS COREIO / EAP mounting steps..... 4

Figure 3: COREIO / EAP2 pinout..... 4

1. Specifications

The OSE Robot PoE Switch - COREIO / EAP2 allows the user to easily integrate a Rajant ES1 Boston Dynamics COREIO or EAP2, which is then mounted onto Spot. This frees up room on the back of the robot for additional payloads, and allows the mounting of both an EAP2 and a SpotCam.

- Powers and provides mounting solution for Rajant Cardinal
- 3x 10/100 Mbit Ethernet (RJ45) with dust caps
- 1x 24 V DC output (2.1x5.5 mm) with dust caps
- Ingress protection IP54
- Operating environment -20 to 45 C

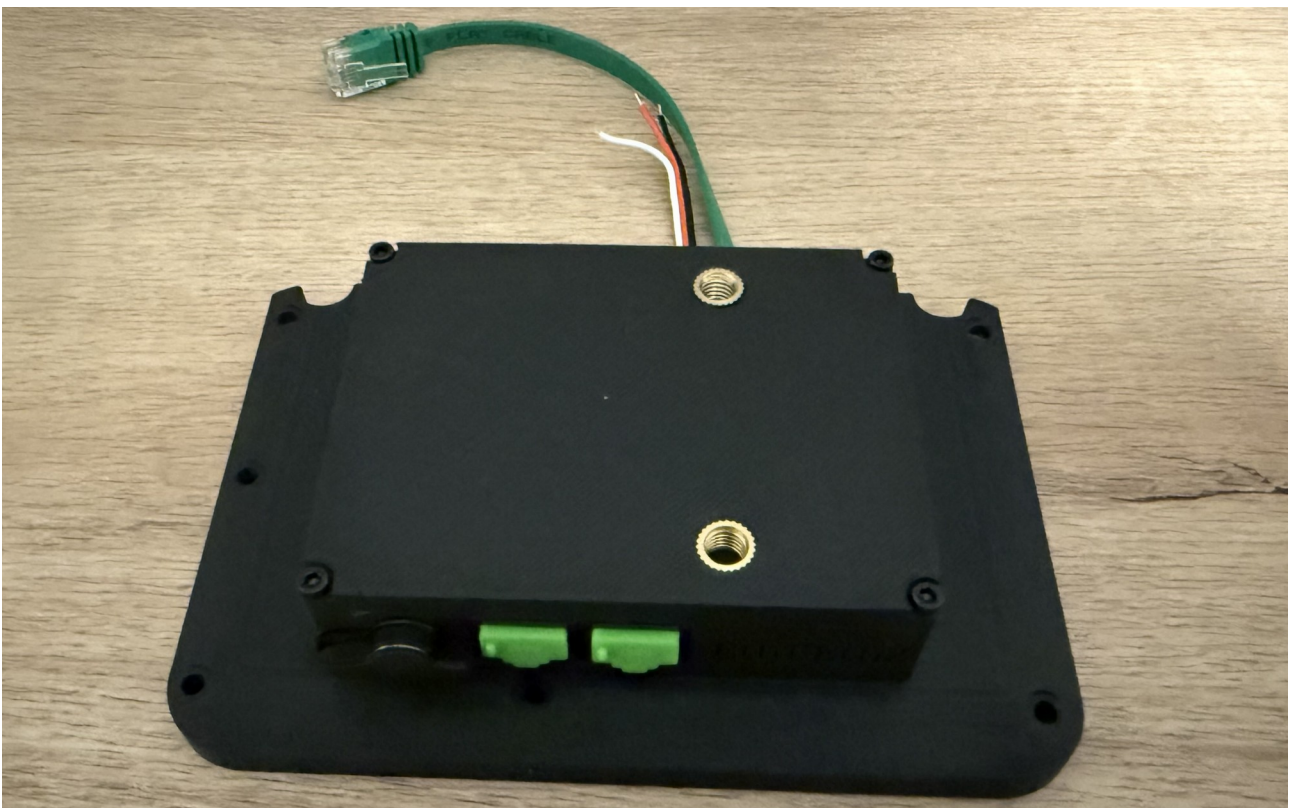


Figure 1: Robot PoE Switch - COREIO / EAP2

2. Warnings

1. Do not disassemble device, warranty will be void if device is tampered with.
2. Do not short power terminals
3. Do not exceed the specified input voltage (24V / 5V)
4. Ensure correct PPE is worn to prevent pinching and or cutting of skin whilst fitting switch

3. Mounting Instructions

The RPS COREIO / EAP2 switch will come with the following items:

- 2x M6 25 mm Hex bolts (mounting rajant cardinal)
- 1x 200 mm Ethernet cable (interfacing RPS to rajant cardinal)
- 3x Silicone dust caps (to cover RJ45 Ethernet ports)

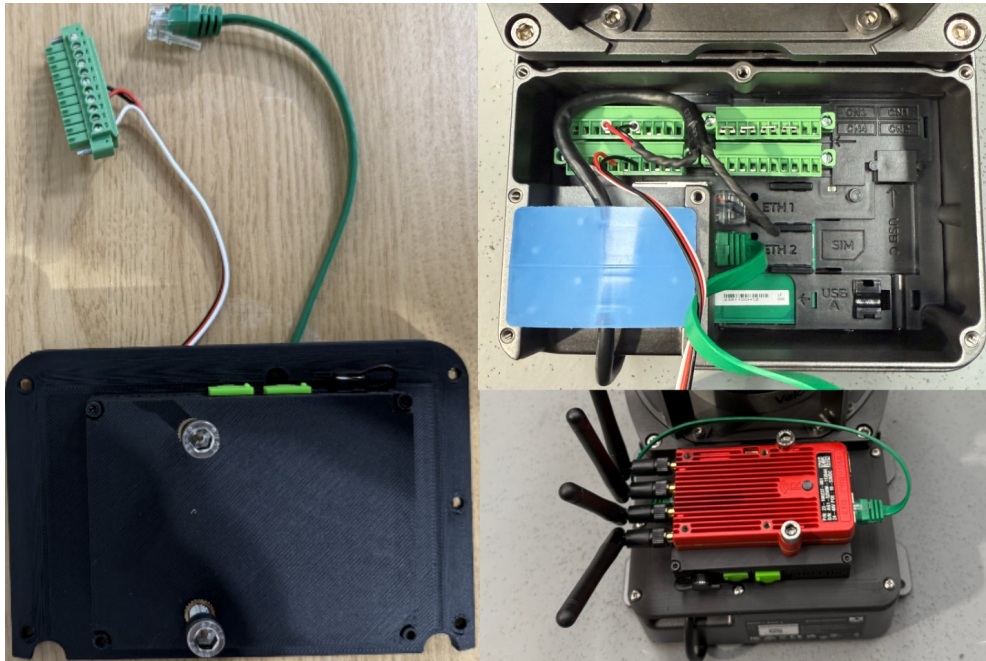


Figure 2: RPS COREIO / EAP mounting steps

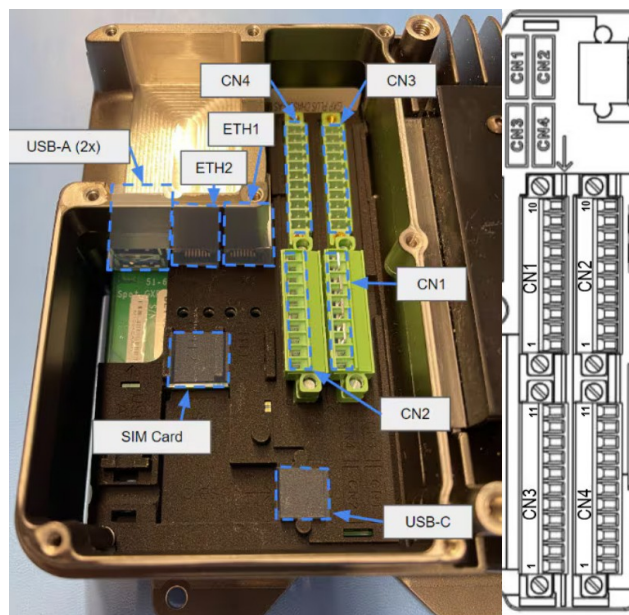


Figure 3: COREIO / EAP2 pinout

Built into the unit is the DC power cable and Ethernet cable, these are to be connected to the COREIO / EAP2 DC expansion bus (CM4 connector) and internal Ethernet port.

To mount the RPS, first remove the top plate of the COREIO / EAP2. Ensure you keep the screws. DO NOT use power tools for this job, as the screws are made of soft metal and will be damaged.

Next, remove the CN4 connector, using a flat head screw driver (you may need to use some needle nose pliers to do this, as it is a tight fit).

The DC power cable of the RPS switch connects to the COREIO using the CN4 connector, via the following pins (shown in Figures 2 and 3):

- White - 24V – CN4 Pin 2
- Red - 5V – CN4 Pin 5
- Black - GND – CN4 Pin 7

Once the DC power is connected, insert the Ethernet cable from the RPS switch into Eth 2 of the COREIO / EAP2

Now the RPS can be mounted to the COREIO. Place it on top and lever it in place. Note that rear of the unit needs to get over the lip of the COREIO. This is achieved when the holes line up, which is visible through the screw holes of the RPS switch.

Once lined up, screw the unit into place with the screws from the original blanking plate. Screw to hand tight, DO NOT use power tools. You will have one screw left over. Place this and the original plate somewhere safe.

The Rajant cardinal can now be mounted on to the unit using the M6 bolts provided. Ensure you use suitable loctite to secure them.

Finally, connect the Rajant up to the switch using the included 200 mm Ethernet cable. This cable plugs into the port marked "Rajant". This is shown in Figure 2.

4. Operation

The RPS COREIO / EAP2 switch allows the user to integrate a Rajant Cardinal onto the Boston Dynamics Spot via it's COREIO or EAP2. Once mounted and electrically connected, the Boston Dynamics Spot and all its attached payloads will be on a Rajant network.

In order to communicate with the robot via the Rajant network, the controlling device must be placed onto the correct subnet.

The base station end of the Rajant mesh network should be connected to the controlling tablet via a USB C to Ethernet converter. Once connected, navigate to the following on the Android tablet:

Settings

Connections

More Connections

Ethernet

Click "static", and enter the following settings:

- IP address - 192.168.50.9
- Netmask - 255.255.255.0
- DNS address - 0.0.0.0
- Default gateway – 192.168.50.3

Once this has been done, navigate to the Spot application, and click on the Ethernet adapter and “Add new robot” on the opening page. This will allow you to control the robot as normal through the Spot application.

5. Disposal

The RPS COREIO / EAP2 switch is classed as electronic waste, and must be disposed off according to local regulations.

