Robot PoE Switch Instructions
Spot

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1. Specifications

The OSE Robot PoE Switch – Spot (RPS Spot), allows the user to easily integrate a Rajant ES1 or Cardinal on to a Boston Dynamics spot robot, with or without a GXP (General Expansion Payload). The RPS Spot provides networking to the robot as well as additional Ethernet and power outputs for additional payloads, along with a PoE+ output for powering and networking to a Fluke SV600.

- Powers and provides mounting solution for Rajant Cardinal
- GXP elimination circuitry (removes the need for customer to provide a GXP)
- 1x 12 V DC output (2.1x5.5 mm) with dust caps
- Ingress protection IP54
- Secondary PoE+ output for use with PoE+ devices such as Fluke SV600
- Operating environment -20 to 45 C
- 3x 10/100 Mbit Ethernet (RJ45) with dust caps

Figure 1: Robot PoE Switch – Spot, with Rajant ES1 mounted

2.Warnings

1. Do not disassemble device, warranty will be void if device is tampered with.
2. Do not power the device externally. Power device only from the payload port on Spot
3. 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)
- 2x M4 8 mm Hex bolts (mounting Rajant ES1)
- 4x M5 12mm Hex bolts (mounting RPS to Spot)
- 4x M5 T-nuts (mounting RPS to Spot)
- 1x 200 mm Ethernet cable (interfacing RPS to rajant cardinal)

1. Using the appropriate Hex bolts (M4 or M6 depending on Rajant model) mount the Rajant onto the top of the RPS. It is recommended to use a thread locking compound. Using the provided Ethernet cable, connect the Rajant to the Ethernet output marked “Rajant”.
2. Slide 4x M5 T nuts into Spot’s payload rails, 2 on each side, and position in appropriate locations.
3. Place the RPS with affixed Rajant onto the payload rails of Spot, and secure in place using the M5 12 mm Hex bolts and M5 T nuts.
4. Electrically connect the RPS to Spot via the payload expansion port and 20 pin ribbon connector

4. Operation

The RPS Spot switch allows the user to integrate a Rajant Cardinal onto the Boston Dynamics Spot. Once mounted and electrically connected, the Boston Dynamics Spot and all its attached payloads will be on a Rajant network.

To utilise the secondary PoE+ output, connect an Ethernet cable to the silver Ethernet port on the rear of the device marked “PoE+” This is capable of providing 30 W at 48 V using the 802.3at/af standard.

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 Spot switch is classed as electronic waste, and must be disposed off according to local regulations.