

Overview

Fulham supports manual control using EnOcean switches in Bluetooth mesh lighting systems. This is accomplished by providing an "EnOcean for Bluetooth" to "Bluetooth mesh" gateway feature in each device with Fulham firmware. This feature can be enabled using the Fulham EliteBlue mobile app.

Some definitions used in this document are listed below:

EnOcean switch	<p>A self-powered switch for Bluetooth lighting systems.</p> <p>Below there are predefined configuration types for switch behavior:</p> <p>Left rocker is used for manual control and dimming:</p> <ul style="list-style-type: none"> • Short press down - Scene 1 • Short press up - Scene 2 • Long press down - Dim Down • Long press up - Dim Up <p>Right rocker is used to trigger scenes and control color temperature (if available), scenes must be configured:</p> <ul style="list-style-type: none"> • Short press down - Scene 3 • Short press up - Scene 4 • Long press down - Warmer • Long press up - Colder¹
	EnOcean switch sample models:

¹ Color temperature control applies only to zones where compatible tunable white fixtures have been added.



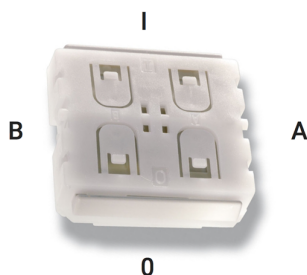
Easyfit Single (EWSSB)



Double Rocker (EWSDB)




Easyfit Double Rocker BLE Switch (EDRPB)




**EnOcean BLE Switch
Module (PTM 215B)**

The supported switches for our lighting system must be based on the EnOcean BLE Switch Module.

NOTE: In order for switches to operate as described above, the EnOcean BLE Switch Module (PTM 215B)

	<p>should be mounted so that the “I” label is placed above the “O” label.</p> <p>More information on EnOcean products available at https://www.enocean.com/en/enocean-modules-24ghz-ble/</p>
<p>EnOcean switch: QR code</p>	<p>The switch must have the appropriate QR code sticker at the back of a switch to allow for the QR code commissioning pairing option. An example of a QR code on the EnOcean switch that enables pairing with the Fulham EliteBlue mobile app:</p>  <p>An example of non-working Data matrix code (please contact EnOcean support for workarounds https://www.enocean.com/en/enocean-contact/):</p>

	 <p>NOTE: Please always consult your supplier before purchasing the switch to ensure that the particular model has the appropriate QR code pairing option.</p>
<p>EnOcean adapter</p>	<p>“EnOcean adapter” is a feature of Bluetooth mesh devices running on Fulham EliteBlue firmware that provides a communication bridge between EnOcean switches and the mesh network.</p> <p>After configuring a device as an EnOcean adapter using the Fulham EliteBlue mobile app, it becomes the first receiver and re-transmitter of data packages delivered by the registered EnOcean switch.</p> <p>The device functioning as the EnOcean adapter translates the data received from the EnOcean switch to the remaining mesh devices in the network.</p>
<p>Relay</p>	<p>A device defined as “Relay” via Fulham EliteBlue mobile app. This device relays messages further into the mesh network. Please check “Application note: Network configuration” for best practices concerning efficient network configuration setup.</p>

Mobile device proxy	A feature of qualified Bluetooth mesh devices added (provisioned) to a mesh network that allows to send and receive mesh messages over Bluetooth connection mostly used by mobile devices such as smartphones and tablets.
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Registering an EnOcean switch to a zone

Choosing a device for use as an EnOcean adapter:

To connect your EnOcean switch with your mesh network zone, you must configure one device as an EnOcean adapter device. :

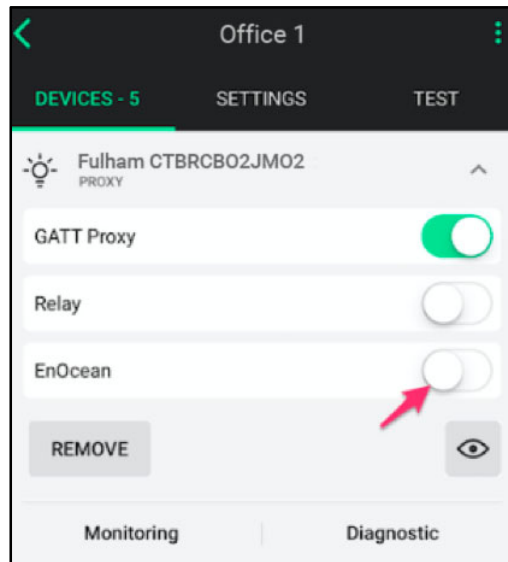
- Open Fulham EliteBlue mobile app and select your project and desired zone.
- Choose the device that will be EnOcean adapter. A **small distance** between the EnOcean switch and the device configured as an EnOcean adapter will help guarantee better performance of the switch.



TIP: If you have troubles finding the location of particular devices, use the small light bulb icon placed on the devices list. Tap the light bulb and observe which luminaire is drawing attention by slowly blinking.

Registering an EnOcean switch:

- Once you have selected the optimal device, tap the “EnOcean” toggle to enable the EnOcean adapter for that device.



- The app may ask for permission to access the camera. Select **OK**.
- Point the camera at the QR code on the back of the EnOcean switch or on its packaging.
- The app will read the QR code and configure the EnOcean switch.
- When the pairing succeeds, test the EnOcean adapter connection by pressing EnOcean switch and observing the behaviour of the light fixtures in the target zone.



NOTE: If the EnOcean switch is physically too far from the selected EnOcean adapter device, the devices within the zone will not respond.

Simultaneous EnOcean adapter and Mobile device proxy on a single device:

- Do not simultaneously turn on both the EnOcean adapter and Proxy modes on one device. Doing so is known to cause issues with reception of the EnOcean packets from the switch.
- As a result, the lighting mesh network may fail to respond after pressing the EnOcean switch.

Installing EnOcean switch and enabling EnOcean adapter

Figure 1 shows correct EnOcean adapter device location. The adapter located right next to the EnOcean switch receives data packages from the switch and is able to deliver the packages to the devices located further in the zone.

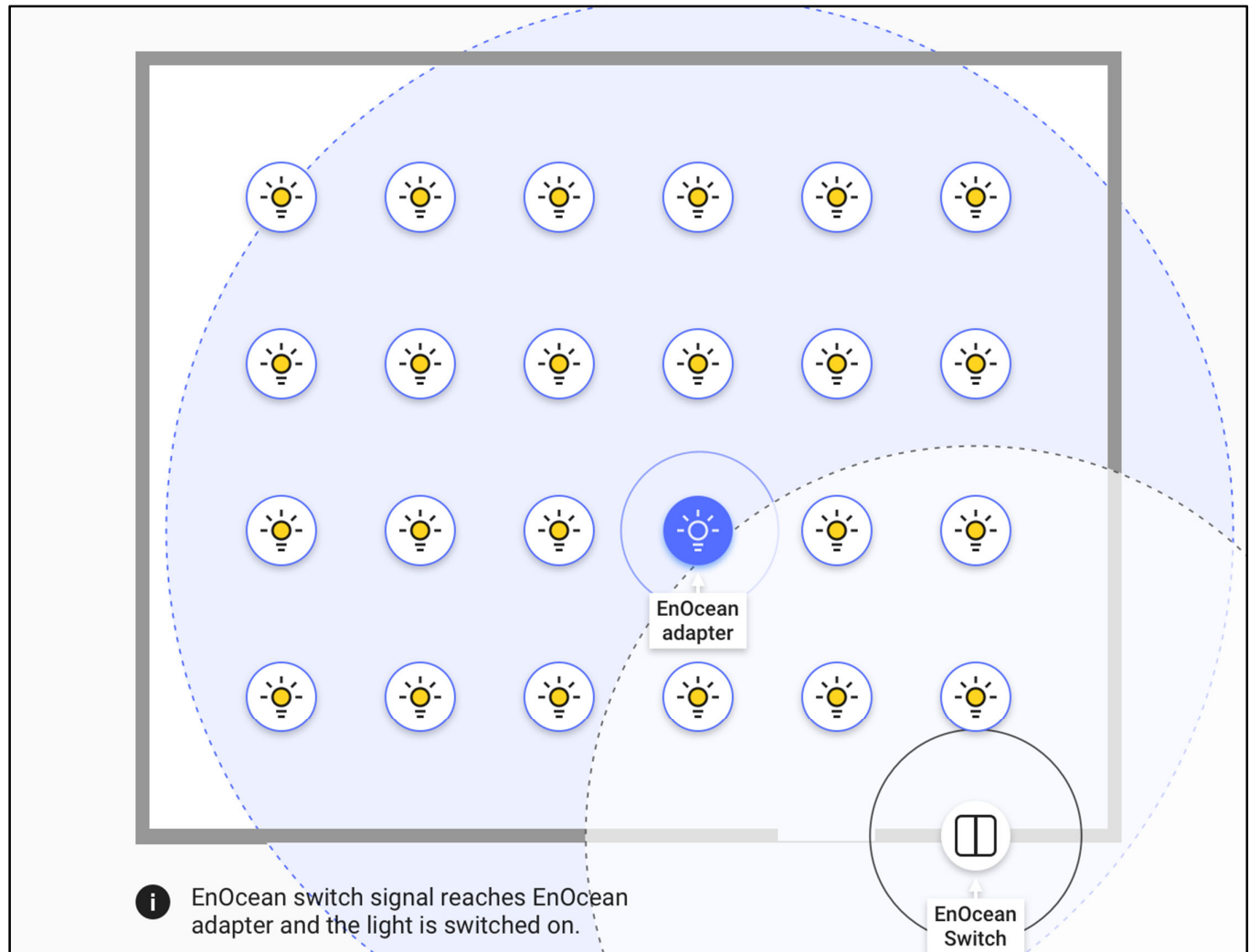


fig.1 EnOcean adapter device - correct location

Figure 2 shows incorrect EnOcean adapter device location. The adapter is **not** located right next to the EnOcean switch. EnOcean adapter device does not receive data packages from the switch and it fails to transmit data to the devices in the zone.



fig.2 EnOcean adapter device - incorrect location.

Controlling multiple zones with single EnOcean switch:

- When you want to control multiple zones with one switch, we highly recommend using our Zone linking feature available in our Fulham EliteBlue web application.
- You can assign single EnOcean switch to control more than one zone. However, it makes sense **only** when zones are located close to each other.

- In case when zones are scattered away, or they are placed on different floors, transmitting data between EnOcean switch and EnOcean adapter device will fail due to too large distance between them.

Troubleshooting:

Issue: When pressing the EnOcean switch, devices in a single zone do not respond.

The EnOcean adapter option on the device is enabled and configured with the Fulham EliteBlue mobile app. However, when pressing the EnOcean switch, one of e.g. 6 devices does not respond.

To troubleshoot this issue, follow the steps below:

1. Check if the devices are connected to a power supply and powered on.
 - Look for the activity LED on the device.
2. Verify that the devices are functioning correctly.
 - Open the "TEST" tab in the Fulham EliteBlue mobile app.
 - Select the device that is not functioning properly.
 - Check if the device responds to:
 - pressing light bulb icon (the device should be drawing attention);
 - changing the light lightness using the lightness slider (the device lightness should adjust accordingly).
3. Check if there is a device in the Fulham EliteBlue mobile application with "EnOcean adapter" enabled.
 - Verify if the device with "EnOcean adapter" responds to pressing light bulb icon (the device should be drawing attention);
4. Check if the devices:
 - Are active on the Devices list in the Fulham EliteBlue mobile app for the selected zone.
 - Make sure that there are not any warnings on the Devices list.
 - Are properly configured and have appropriate firmware version installed.

If you have verified the device functionality with the above steps and are still experiencing issues with EnOcean switch performance, we recommend checking Mesh-related settings, e.g. enabling the Relay functionality on a device close to the faulty one. For more information on best practices regarding Relays, have a look at "Fulham Application Note: Network Settings".

Issue: After pressing the EnOcean switch, only some of the devices respond (e.g. 4 out of 8).

Multiple Linked zones:

If this issue occurs in the case where two or more zones are linked and controlled by the same EnOcean switch, it may indicate a problem with Zone linking. Check Zone linking settings in the Fulham EliteBlue web application.

Single zone:

In this situation, it is possible that there's problem with your network settings. For more setup information on best practices regarding Relays, have a look at "Fulham EliteControl Application Note: Network Settings".

Issue: Sometimes the whole zone doesn't react to the EnOcean switch.

Once in a while data packages fail to reach the EnOcean adapter device and consequently all the luminaires fail to react when the EnOcean switch is pressed. This may be caused by heavy congestion in the 2.4GHz wireless spectrum.

To solve the above problem, try to:

1. Select a different device that will act as EnOcean adapter. This can help to improve the transmission between switch and adapter. Remember, that the EnOcean adapter device needs to be placed close to the EnOcean switch.
2. Reduce the number of devices with Mobile device proxy enabled. For more information, have a look at "Fulham EliteControl Application Note: Network Settings".
3. If this malfunctioning repeats often and hampers everyday usage of the lighting system, it is possible to reprogram the switch using Near Field Communication (NFC). Reprogramming the switch increases the number of repetitions of data packages sent to the luminaires and thus minimizes the chances that all of transmitted packages will be lost. For details on the process of reprogramming EnOcean switches using NFC please contact <https://www.enocean.com/en/enOcean-contact>



NOTE: EnOcean switch reprogramming can be done only in cases of severe malfunctioning.

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