



## Usage of Fibar Flush Mountables

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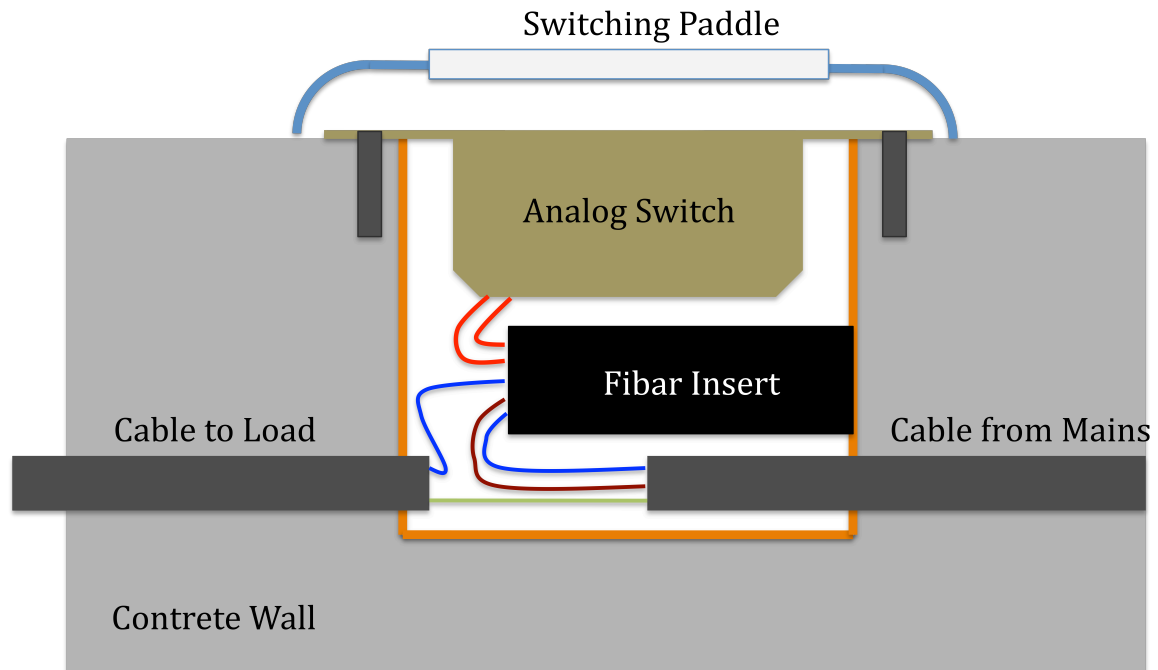
***Summary: Fibar Flush Mountables can be used in every standard European wall box behind a conventional single or dual paddle wall switch. They are designed to control the electric load both locally using the paddles of the conventional switch as well as remotely using Z-Wave. The Flush Mountable can be used***

- ***if the wall box has a depth of 60 mm,***
- ***if the wall box is 40 mm but the depth of the conventional switch is less than 25 mm.***

***The application of the devices in 40 mm boxes with conventional switches with 25 mm depth is possible in theory but require advanced craftsmanship. In real installations however this combination is also not easy to wire.***

Conventional Wall Switches of different shape and color are typically built into a wall box (Flush Mount Box, Pattress Box). Most European Boxes have a diameter of 60 mm and a depth of either 40 or 60 mm. 60 mm boxes are popular in plaster walls or new installations while 40 mm boxes are typically used in order

buildings with concrete walls. The installation cables end in these boxes and it's the installer's duty to wire them according to the need of the lighting system.



The space in these wall boxes is always tight since there is typically more cable in the box than needed to connect the wall switch. The Fibar insert is exactly 15 mm of height and fits very well into the standard 60 mm diameter boxes. The depth of a conventional switch must not exceed 25 mm for certification purposes. This means that the Fibar insert will always fit into smaller 40 mm standard wall box, but only if there is no further space needed for cables and connectors. This means that the following rules can apply:

- If there is a 65 mm wall box, there is never a problem to install the Fibar Insert.
- If the conventional switch is less deep than the theoretical maximum of 25 mm, the insert will fit into a small 40 mm box unless there are too many other cables in the box.
- Since the Fibar insert does not cover all space of the 15 mm height, there is space beside the insert and the insert will even fit into the worst-case scenario of a 40 mm box with a 25 mm conventional switch. This setup is however quite tricky to accomplish.

Here are some recommendations to make the installation easier:

1. Remove the cable coating as close to the wall box entry as possible
2. The inner wires shall not exceed the external coating by more than 30 mm.
3. It's sufficient to have 2...3 mm blank copper at the end of the cables to connect to the Fibar device.
4. The Fibar device shall be mounted right at the bottom of the wall box.

5. Connect some small wires for the connection to the conventional switch before you push the device to the bottom of the wall box and connect the incoming and outgoing cable. Connecting the conventional switch to the Fibar Devices is the very last step.
6. The connection between the conventional switch and the Fibar Device can be done using simple small and cheap wires.

The following image shows the worst-case scenario, having the insert in a 40 mm box with thick incoming and outgoing cables. Both cables have three wires (Neutral, Line, Earth). The little red wires connect the old conventional switch. A 25 mm deep switch would just fit on top of the insert.

