digidim

Installation Guide

Helvar
freedom in lighting

EnOcean Gateway (434)

The 434 EnOcean Gateway lets you connect wireless and battery-less EnOcean controls to a Helvar Digidim lighting network. The Gateway receives messages from self-powered wireless EnOcean switches, and sends commands to the lighting system.

CE

Installation procedure

1. Mount and wire the EnOcean gateway.

2. Set up EnOcean Gateway using Designer or Toolbox

Mount and wire the EnOcean Gateway

To mount and wire the EnOcean Gateway unit, you need:

- EnOcean Gateway
- DALI network cable (isolated from power)
- Screws, fixing plugs, screwdriver and drill (these are not supplied with the 434)
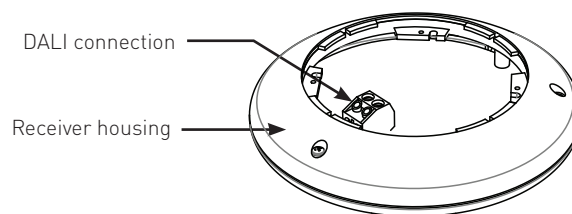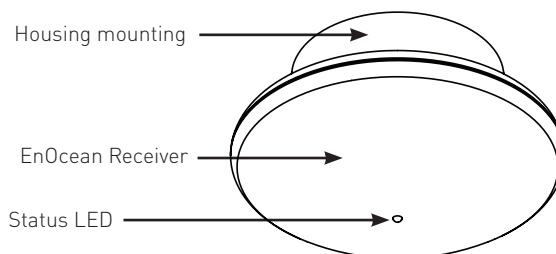
Location

Install the 434 in a location on a ceiling or wall. Install as far away as possible from the surface of metal objects.

Note: Install EnOcean switches so that obstructions between the switches and gateway are minimised.

Features and Connections

Housing mounting

EnOcean Receiver

Status LED

DALI connection

Receiver housing

Procedure

Follow these four steps to mount the 434 and connect it to your DALI network:
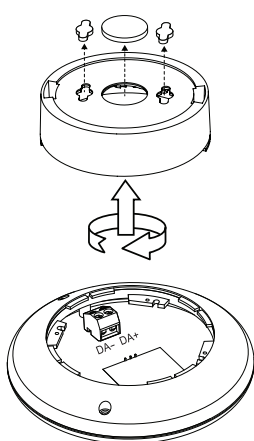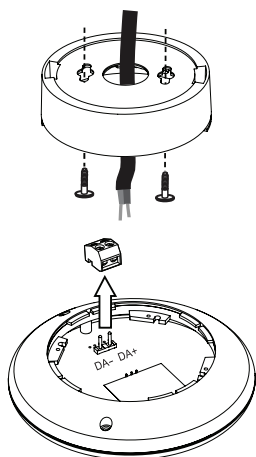
WARNING

Do NOT connect the 434 EnOcean Gateway to the mains supply: it is for connection to a DALI network.
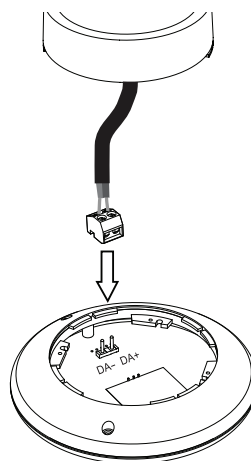
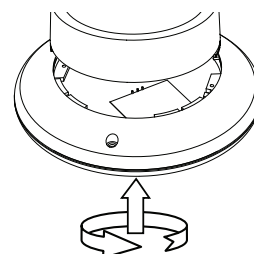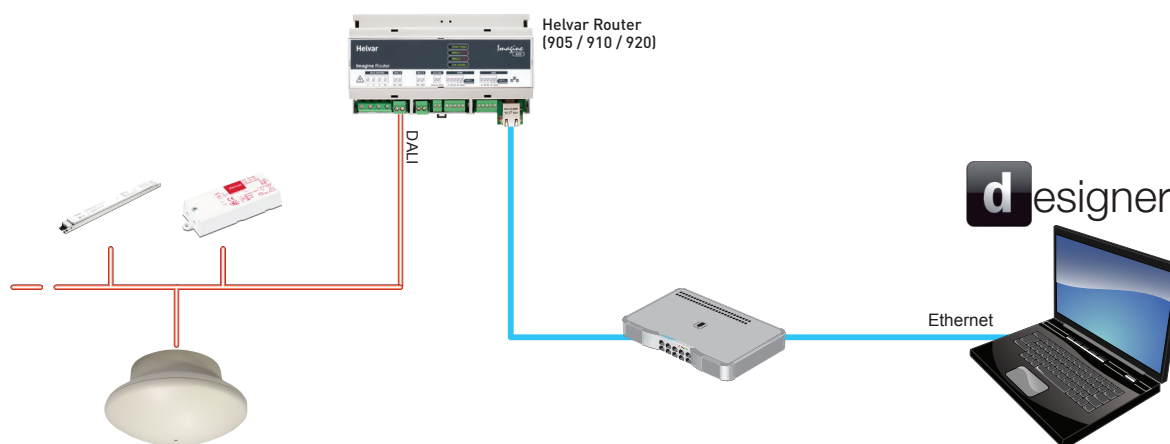|			
1. Isolate the DALI network cable from power. Twist and remove the housing mounting. Remove the knockouts as required.	2. Thread the DALI cable through the housing mounting, and screw the housing mounting in place. Remove the DALI connector block from the receiver housing.	3. Connect the DALI wires and tighten the screws (the gateway is not polarity-sensitive). Re-attach the DALI connector block.	4. Re-attach the receiver housing (align with the housing mounting, insert and twist). Power on the DALI network.

Set up EnOcean Gateway using Designer

Helvar Router
(905 / 910 / 920)

DALI

designer

Ethernet

1. Discover the Gateway in Designer

- Ensure the PC is connected to the lighting router (e.g. Helvar 920) controlling the lighting network.
- Run Designer software and connect to the appropriate workgroup.
- 'EnOcean Gateway 434' now appears in the Device Tree, under one of the connected DALI subnets.

Note: You cannot put the Gateway in a group. You can group the buttons of the switch units (when the switch unit is paired with the Gateway) .

2. Put the Gateway in Learning Mode

- In Designer's Device Tree, click 'EnOcean Gateway 434'.
- In the Properties window, set 'Learning Mode' either to 'Top is Off', or to 'Top is On'. If you are not going to use these default settings, choose either mode. In Learning Mode, the status LED will flash red at intervals of 1.25 s.

Note: The Gateway cannot be used to control the lights while in Learning Mode.

3. Pair the Switch Unit with the Gateway

- On the EnOcean switch unit, press the left button up or down (dual rocker switch) or the up or down button (single rocker switch). Make sure the switch is within signal range of the Gateway unit.

- The Gateway detects the switch. The status LED flashes green. After a few seconds, the switch appears in the Device Tree.

Note: If the switch does not appear in the Device Tree, check DALI network activity in the DALI History window (View > History > *DALI Subnet*).

To pair other switches (maximum 20 per Gateway), repeat step 3.

4. Turn off Learning Mode

- In the Device Tree, click 'EnOcean Gateway 434' and select 'Properties'.
- In the Properties window, set 'Learning Mode' to 'OFF'. The status LED will stop flashing red.

Note: The Gateway, now out of Learning Mode, can send commands to the lighting network.

5. Group Buttons and Configure Button Actions -
If you are not going to use the default switch unit settings, configure the button actions using Designer (see the "Device Configuration" section of the Designer Help files).

The Gateway and switches should now be operational.

Default EnOcean switch unit settings (Designer)

Dual Rocker Switch

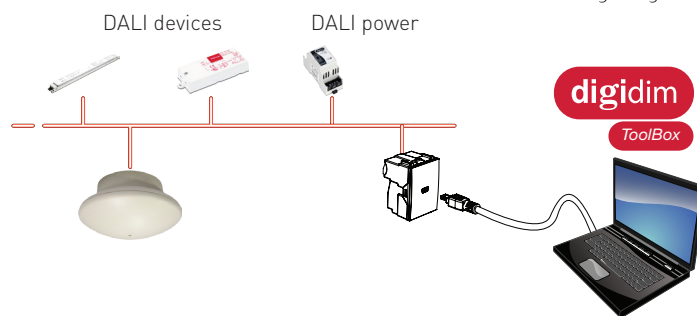|	Top is On	Top is Off
1:	Scene 1.1 (On)	Scene 1.15 (Off)
2:	Scene 1.15 (Off)	Scene 1.1 (On)
3:	Scene 1.1 (On)	Scene 1.15 (Off)
4:	Scene 1.15 (Off)	Scene 1.1 (On)

Single Rocker Switch

	Top is On	Top is Off
1:	NOT USED	NOT USED
2:	NOT USED	NOT USED
3:	Scene 1.1 (On)	Scene 1.15 (Off)
4:	Scene 1.15 (Off)	Scene 1.1 (On)

Set up EnOcean Gateway using Toolbox

DALI devices   DALI power

DALI network (configured with Toolbox software)

You need a Windows PC (running Helvar's Toolbox software, v. 2.3.2 or later) connected via USB or serial cable to the DALI network. Use a 510 USB interface, or other Helvar serial interface.

1. Discover the Gateway in Toolbox

- Ensure the PC is connected to the DALI network.

- Run Toolbox software and connect to the DALI network.

- In the Device Layout tab, you should now see 'EnOcean Gateway 434'.

Note: You cannot put the Gateway in a group. You can group the buttons of the switch units, when the switch unit is paired with the Gateway.

2. Put the Gateway in Learning Mode

- In Toolbox's Device Layout tab, right-click 'EnOcean Gateway 434' and select 'Properties'.

- Set 'Learning Mode' either to 'Top is Off', or to 'Top is On'. If you are not going to use these default settings, choose either mode.

- In Learning Mode, the status LED will flash red at intervals of 1.25 s.

Note: The Gateway cannot be used to control the lights while in Learning Mode.

3. Pair the Switch Unit with the Gateway

- In Toolbox, open DALI History (Tools > History). This lets you check DALI network activity.

- On the EnOcean switch unit, press the left button up or down (dual rocker switch) or the up or down button (single rocker switch). Make sure the switch is within signal range of the Gateway unit.

- The status LED flashes green. To confirm that the Gateway has detected the switch, check that a new row appeared in DALI history, assigned to the Gateway address. One press is enough to pair the switch with the gateway. You can press the buttons more times, to check the signal range limits of the switch unit.

Note: Paired Switch Units will appear in the device layout tab at the end of Step 5.

To pair other switches (maximum 20 per Gateway), repeat step 3.

4. Turn off Learning Mode

- In Toolbox's Device Layout tab, right-click 'EnOcean Gateway 434' and select 'Properties'.

- Set 'Learning Mode' to 'OFF'. The status LED will stop flashing red.

- The Gateway, now out of Learning Mode, can send commands to the lighting network.

5. Discover the Switch Unit in Toolbox

- In Toolbox Device Layout tab, press F5, (or View > Refresh). The switch buttons now appear in the device tree.

6. Group Buttons and Configure Button Actions

If you are not going to use the default switch unit settings, configure the button actions using Toolbox (see the "Device Configuration" section of the Toolbox Help files).

The Gateway and switches should now be operational.

Default EnOcean switch unit settings (Toolbox)

Dual Rocker Switch

	Top is On	Top is Off
1:	On / Up	Off / Up
2:	Off / Down	On / Down
3:	On / Up	Off / Up
4:	Off / Down	On / Down

Note: On = Maximum Level

Single Rocker Switch

	Top is On	Top is Off
1:	NOT USED	NOT USED
2:	NOT USED	NOT USED
3:	On / Up	Off / Up
4:	Off / Down	On / Down

Technical Data

Connections

DALI:	Removable 2-part connector block
	Wire size: 0.5 mm^2 - 2.5 mm^2
	Solid or stranded
Cable rating:	All cables must be mains rated
	Note: See "Mount and wire the EnOcean Gateway" for connection instructions.

Power

DALI Supply Input:	13 V to 22.5 V
DALI Consumption:	20 mA
Operation	
Operating frequency:	434: 868 MHz ISM band (Europe)
	434/R2: 928 MHz (Japan, Australia)
Range (switches):	Typical EnOcean Switches: 30 m (unobstructed space)
Maximum number of switch units per gateway:	20

Mechanical Data

Dimensions (mm):	110 (ø) x 58 mm
Weight:	75 g
Colour:	White: RAL 9002
IP rating:	IP 30

Operating Conditions

Ambient Temperature:	0°C to +50°C
Relative Humidity:	Max 90%, non-condensing
Storage Temperature:	-10°C to +70°C

Conformity and Standards

EMC Emission:	EN 61000-6-3
EMC Immunity:	EN 61547
Safety:	EN 60950
R & TTE:	1999/5/EC
ARIB STD-T108 (434/R2)	R 206-000372
Wireless protocol:	ISO/IEC 14543-3-10
Environment:	Complies with WEEE and RoHS directives

Status LED

Status LED: red or green

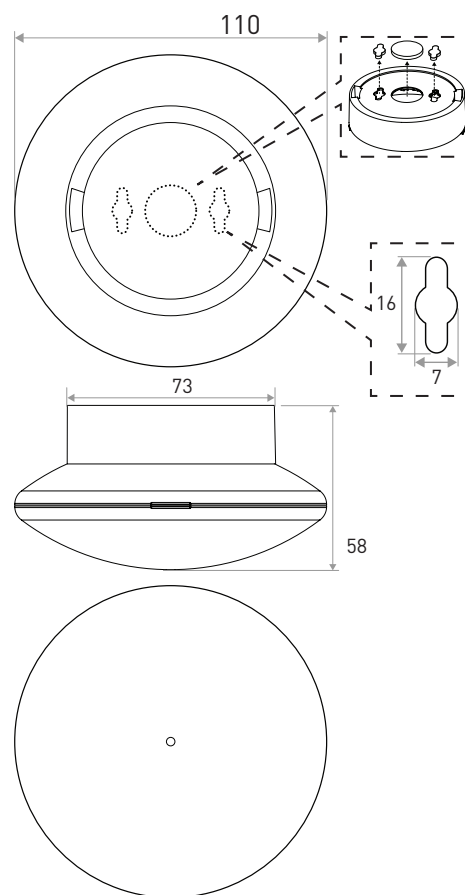In normal operation the LED remains unlit.

The red LED flashes to indicate the following:

- FAST: DALI network in process of discovering the Gateway; or
- FAST: Designer or Toolbox software identifying the Gateway; or
- SLOW (every 1.25 s): Gateway is in Learning Mode

The green LED flashes to indicate the following:

- The Gateway is in Learning Mode, and has detected a switch (received a signal from a switch unit).

Dimensions (mm)

Order codes

EnOcean Gateway [868 MHz]	434
EnOcean Gateway/R2 [928 MHz]:	434/R2