IoT Router

Installation Manual

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1. IoT Router Features

Cascoda's IoT Router enables KNX communication between KNX IOT and KNX Net/IP. It is part of the KNX IoT Hub as an add on feature.

2. General information

2.1. Document Version information

This manual is amended periodically and will be brought into line with new software releases. The change status (date) can be found in the contents header. If you have a device with a later software version, please check www.cascoda.com to find out whether a more up-to date version of the manual is available.

2.2. Used Terms

Sign	Description
DANGER!	Indicates an immediately hazardous situation which will lead to death or severe injuries if it is not avoided.
CAUTION!	Indicates a potentially hazardous situation which may lead to trivial or minor injuries if it is not avoided.
WARNING!	Indicates a situation which may lead to damage to property if it is not avoided.
NOTE!	Indicates a situation which may lead to possible (known) side effects.

Table 1: *Used Terms*

2.3. Safety instructions

Not applicable.

2.4. Issues

Questions about the product?

You can reach the technical service of Cascoda under Tel. +44 (0)2380 638 111 or support@cascoda.com.

We need the following information to process your service request:

- Type of appliance (model name or item number)
- Description of the problem
- Serial number or software version
- Source of supply (dealer/installer who bought the device from Cascoda)

For questions about KNX functions:

- Version of the device application
- ETS version used for the project

2.5. Contact information

info@cascoda.com
Threefield House,
Threefield Lane,
Southampton,
SO14 3LP, UK

3. Configuration

3.1. Device Startup

The device is start up when the KNX IoT Hub is powered on.

3.2. Commissioning

Configuration is made using the KNX software as of ETS 6.2.2 or later. The product file can be downloaded from the ETS online catalogue and the Cascoda website.

The KNX IoT Router page can be found at the KNX IoT Tab.

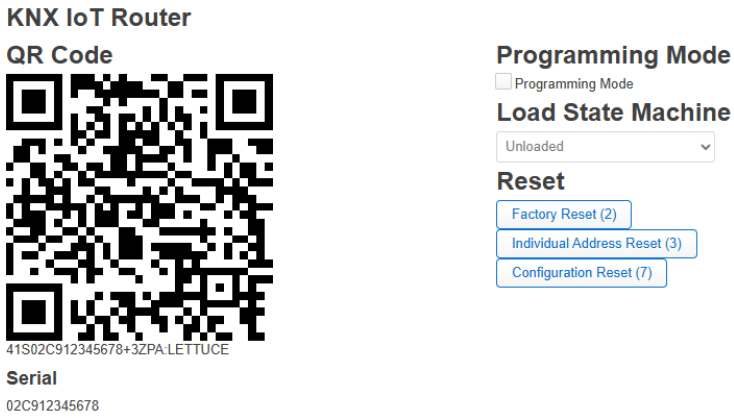

Fig 1: IoT Router page.

This page shows the QR code which can be used by ETS.

The QR code can be used to for KNX commissioning.

Check out the youtube video here, demonstrating the process of doing (Thread and) KNX commissioning using a QR code scanner.

3.2.1. KNX Commissioning

KNX commissioning is adding the device to an ETS project. Since KNX IoT is a secure KNX protocol, one needs to have the security credentials and the serial number of the device. This information is contained in the QR code.

1. Open the project provided in ETS version 6.3.0 or later.
2. Open the "Devices" panel, and select the device that you will use in this project. In the "Properties" section on the right, click "Add Device Certificate". A window will pop up, with an input field for the QR code information. Use a QR code scanner to scan the QR code provided on screen or copy/paste the QR info string.
3. The KNX IoT Router device can only be added to an KNX IoT Area or Line.

3.2.1.1. Creating a Configuration

The IoT Router configuration is automatically created by ETS. ETS will calculate the list of group ids and its types and security information for all group communication that needs to

be routed between KNX IoT and KNX Net/IP.

3.2.1.2. Downloading the ETS configuration

The downloading of the configuration can happen when the ETS data for the data is created, e.g.:

The download can be started in ETS, and one can use either:

- Download by serial number
- Download per programming mode

The download by serial number does not require any interaction with the device. All you have to do is click on the Use Serial Number button.

The download per programming button requires pressing the **Programming mode** toggle, e.g. the toggle is turned on. Disabling the programming mode can achieved by turning off the **Programming mode** toggle.

Once the download is complete, the device becomes fully operational and functional.

3.2.2. Troubleshooting

3.2.2.1. Troubleshooting failed downloads

Failed downloads can be caused by the IPv6 addresses allocated to the Hub by the upstream router. Please attempt the following steps:

1. Navigate to Network -> Interfaces.
2. Find the WAN6 Interface within the list, and press the corresponding "Edit" button.
3. Navigate to the Advanced Settings tab, uncheck "Delegate IPv6 prefixes" and set "IPv6 assignment length" to "disabled".
4. Press Save, then press Save and Apply
5. Restart the KNX IoT Hub and ETS.

If you are still having difficulties completing a download, you can additionally unplug any upstream Ethernet cables connected to the WAN interface, to ensure no global IPv6 addresses are allocated to the Hub.

3.2.2.2. Reset of the IoT Router

- Reset KNX

Reset of KNX is achieve by pressing the **Factory Reset** button.

> **NOTE!** KNX Reset: this means that also the security credentials are removed. Hence ETS will download newly created device keys.

4. KNX device information

Info Field	Value
Manufacturer	Cascoda
Model	KNX IOT Router
Order_number	0006
Hardware_type	000000000006
Hardware version	[0, 0, 1]
Firmware version	[0, 0, 1]
Sleepy Device	No

4.1. Data points

No data points defined.

4.2. Parameters

No parameters defined.

4.3. IoT Router supported types

The list of supported Data Types:

- Major Type: 1
- Major Type: 2
- Major Type: 3
- Major Type: 4
- Major Type: 5
- Major Type: 6
- Major Type: 7
- Major Type: 8
- Major Type: 9
- Major Type: 10
- Major Type: 11
- Major Type: 12
- Major Type: 13
- Major Type: 14
- Major Type: 17
- Major Type: 18

- Major Type: 20
- Major Type: 232