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Product Manual

DIN-KXI

KNX Secure IP Gateway,
DIN Rail Mount

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All other languages are a translation of the original document.

Regulatory Model: M202234003

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DIN-KXI

KNX Secure IP Gateway, DIN Rail Mount

The [DIN-KXI](#) is an IP-based KNX interface that allows a 4-Series® [Control System](#) to communicate with a KNX system. It is capable of addressing and controlling up to 1,000 datapoints and receives power over the KNX bus. The DIN-KXI can also be used as a programming interface for KNX devices using ETS5 and ETS6 software.

This section provides the following information:

- [Features](#)
- [Physical Description](#)

Features

Key features include:

- 1M wide DIN rail mounting
- Ethernet to KNX interface
- Integrates KNX with a Crestron® control system
- Supports KNXnet/IP Security (AES-128)
- Controls up to 1,000 KNX datapoints
- Up to 8 simultaneous KNXnet/IP Tunneling connections
- Configure using ETS Software
- On-board controls for setup and diagnostics
- Powered via the KNX bus

KNX Security

The device supports KNX Security (AES-128) which can be enabled using ETS software.

Ethernet Communications

The Ethernet connection allows access to the KNX bus from any point on the LAN. This provides programming and diagnostics without direct access to the DIN-KXI.

Local Diagnostics

The buttons and LEDs on the device provide diagnostic data including the operating status and communication errors.

DIN Rail Installation

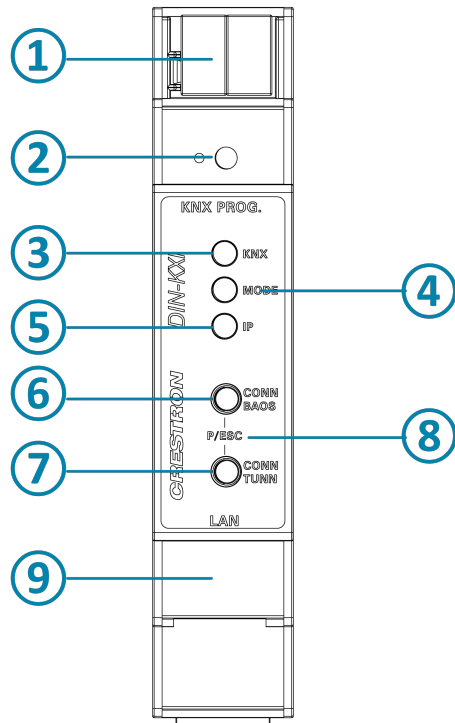
The 1M 18 mm (0.70 in) wide DIN-KXI snaps onto a standard DIN rail for installation in a wall mount enclosure. Wiring connections are made using screw terminals positioned along the bottom, clearly accessible from the front for easy installation and servicing. All setup controls and indicators are positioned on the center front panel. When installed in an enclosure utilizing 45mm cutouts, the DIN-KXI's front panel stays accessible while the connections are concealed.

Physical Description

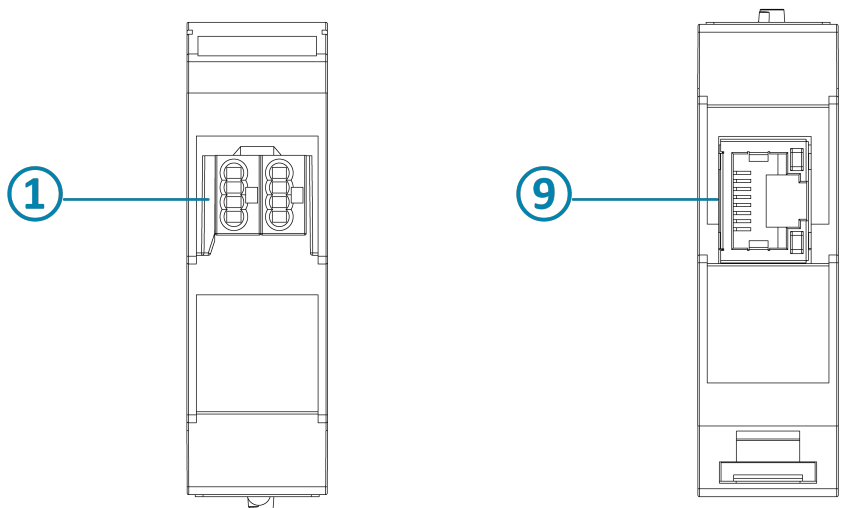
The DIN-KXI provides the following connectors, controls, and indicators.

The following illustrations shows the front, top, and bottom of the DIN-KXI. For additional details, refer to [Specifications on page 8](#) and [Operation on page 28](#).

DIN-KXI Front View



DIN-KXI Top and Bottom View



- ① **KNX Connector:** Connects to the KNX system and receives power from the KNX bus.
- ② **KNX Prog.:** LED and recessed push button to enter Programming mode and to perform a factory reset.
- ③ **KNX:** The LED lights to indicate power and KNX status.
- ④ **Mode:** The LED lights to indicate the BAOS and IP tunnel status.
- ⑤ **IP:** The LED lights to indicate the Ethernet status.
- ⑥ **CONN BAOS:** Provides manual configuration and selection of the BAOS connection.
- ⑦ **CONN TUNN:** Provides manual configuration and selection of a tunnel connection.
- ⑧ **P/ESC:** Press **CONN BAOS** and **CONN TUNN** to exit manual configuration.
- ⑨ **RJ-45:** Connects to the LAN to provide communications between the control system and DIN-KXI.

Specifications

Product specifications for the DIN-KXI.

Product Specifications

Power

KNX Bus	20mA
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Communications

KNX	KNX over TP (Twisted Pair); Interface protocol: cEMI; Max. APDU length: 55; Device model: System B; KNXnet/IP Security (AES-128); Compatible with ETS5 and ETS6
Ethernet	Supports ARP, ICMP, IGMP, UDP/IP, TCP/IP, DHCP, and Auto IP; DHCP is enabled by default, can be changed using the ETS Software

Connectors

KNX	(2) 4-conductor KNX bus connectors, push-in style; Consisting of (1) Red (+) and (1) Black (-) connector, for power and communications; Accepts up to 4 solid-core twisted pairs; 0.6 - 0.8 mm (22 - 20 AWG), strip wires 5 - 6 mm (0.2 - 0.24 in.)
LAN	(1) 8-pin RJ-45, female; 100BASE-TX Ethernet port; Green and yellow LEDs indicate Ethernet port status

Controls and Indicators

KNX PROG.	(1) Red LED and (1) recessed, miniature push button for entering Programming mode and factory reset; Programming Mode: Press to enter Programming mode, the LED lights to indicate that Programming mode is activated; Factory reset: Press and hold while connecting the KNX bus, hold for 6 seconds until all LEDs flash
KNX	(1) Multicolor LED, indicates power and KNX status; Green: Indicates power is received from the KNX bus; Flashing Green Indicates communications on the KNX bus; Flashing Red: Indicates communications failure on the KNX bus

MODE	(1) Multicolor LED, indicates BAOS and IP tunnel status; Green: Normal operating mode; Red: Programming mode is active; Flashes green (1 to 10 times): Manual mode is active, the selected BAOS connection (1 to 10) is not used and is available, the number of flashes indicates the connection number; Flashes Orange (1 - 10 times): Manual mode is active, the selected BAOS connection (1 - 10) is used; Flashes Green (1 - 5 times): Manual mode is active, the selected Tunnel (1 - 5) is not used and is available; Flashes Orange (1 - 5 times): Manual mode is active, the selected Tunnel (1 - 5) is used; Flashes Red: The configuration is not properly loaded
IP	(1) Multicolor LED, indicates Ethernet status; Green: Active Ethernet link and valid IP settings; Flashes green: Ethernet activity; Red: Invalid IP settings or has not received IP settings from the DHCP server
CONN BAOS	(1) push button, to enter Manual mode and select a BAOS connection; Press to enter Manual mode and select a BAOS connection (1 - 10), the MODE LED indicates the selected BAOS connection number; To exit Manual mode, press CONN BAOS and CONN TUNN simultaneously
CONN TUNN	(1) push button, to enter Manual mode and select a tunnel connection; Press to enter Manual mode and select a TUNN connection (1 - 5), the MODE LED indicates the selected tunnel connection number; To exit Manual mode, press CONN BAOS and CONN TUNN simultaneously

Environmental

Temperature	-5° to 45°C (23° to 113°F)
Humidity	5% to 93% RH (noncondensing)

Construction

Enclosure	Light gray polycarbonate housing with polycarbonate label overlay
Mounting	35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 1 DIN module space (18 mm)

Dimensions

Height	91 mm (3.57 in.)
Width	18 mm (0.70 in); 1M wide
Depth	60 mm (2.36 in.)

Weight

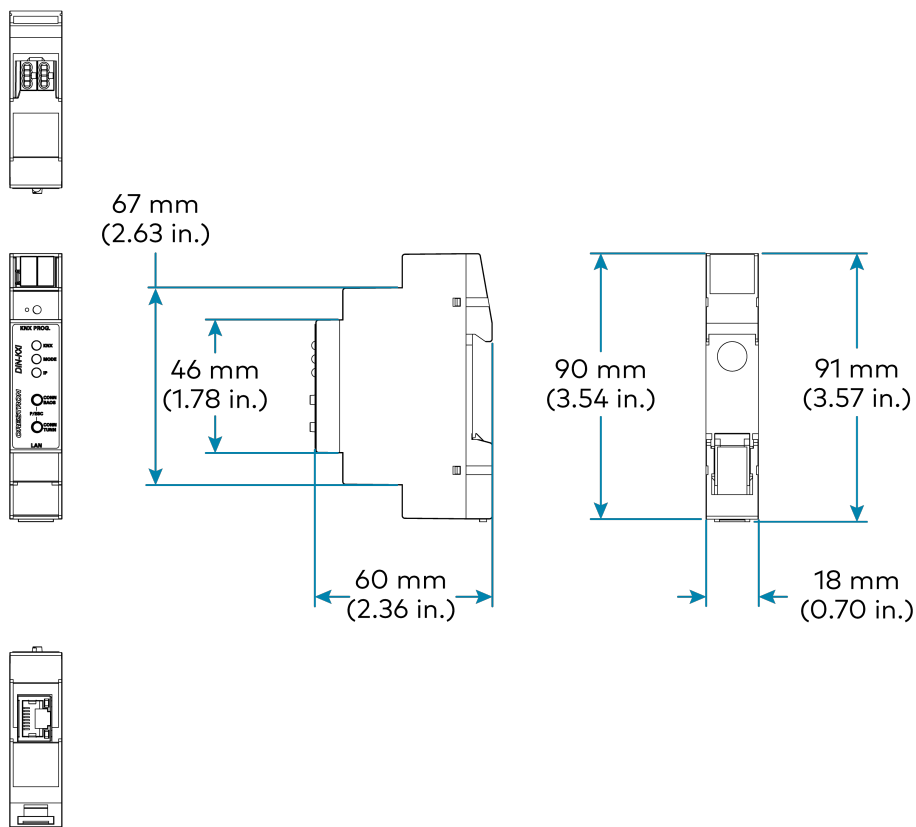
40 g (1.41 oz)

Compliance

Regulatory Model: M202234003

CE

Dimension Drawings



Installation

This section provides the following information:

- [In the Box](#)
- [Mounting](#)
- [Wiring](#)

In the Box

Qty.	Description
1	DIN-KXI, KNX Secure IP Gateway, DIN Rail Mount
Additional Items	
1	KNX Certificate Label (2062600)

Mounting

NOTE: Observe the following points when installing the DIN-KXI.

- Use the DIN-KXI in an electrical panel with DIN rail mounting provisions.
- Mount the DIN-KXI in a well-ventilated area.

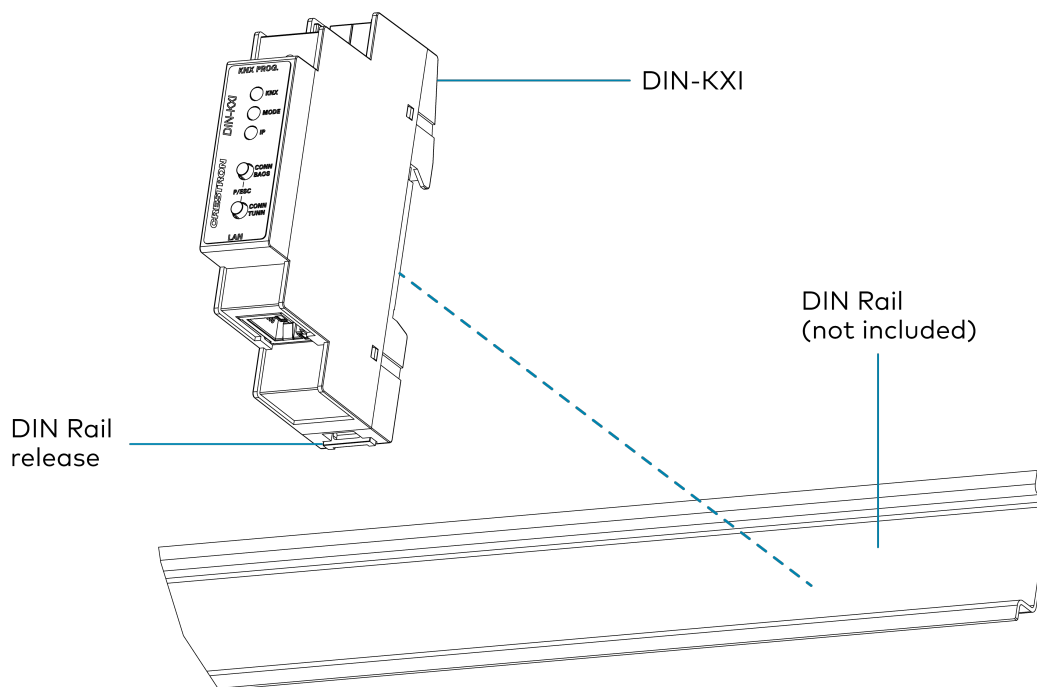
Mount to a DIN Rail

To mount the DIN-KXI to a DIN rail:

1. Hang the DIN-KXI on the top of the DIN rail.

When the DIN-KXI is mounted, the certificate label with the serial number, MAC address, and KNX certificate number may not be visible. A duplicate of the KNX certificate label (2062600) is included that can be placed inside the enclosure.

2. Press the bottom toward the DIN rail and snap it into place.



Remove from a DIN Rail

To remove the DIN-KXI DIN Rail:

1. Turn off power to the device.
2. Remove all connections from the DIN-KXI.

3. Use a small, flat-head screwdriver to pull the DIN rail release tab down.
4. Tilt the bottom of the DIN-KXI away from the bottom of the DIN rail and then remove the device.

Wiring

NOTE: When wiring the DIN-KXI, connect the device to the KNX bus that uses a KNX power supply.

KNX Bus Connection

To wire the KNX bus, connect the black (-) and red (+) terminals to the KNX bus

LAN Connection

To connect to the local LAN, connect an ethernet cable to the RJ-45 port.

Configuration

This section provides the following information:

- [Acquire with KNX Secure](#)
- [Datapoint Configuration](#)
- [IP Address Configuration](#)
- [Interface to KNX](#)

Acquire with KNX Secure

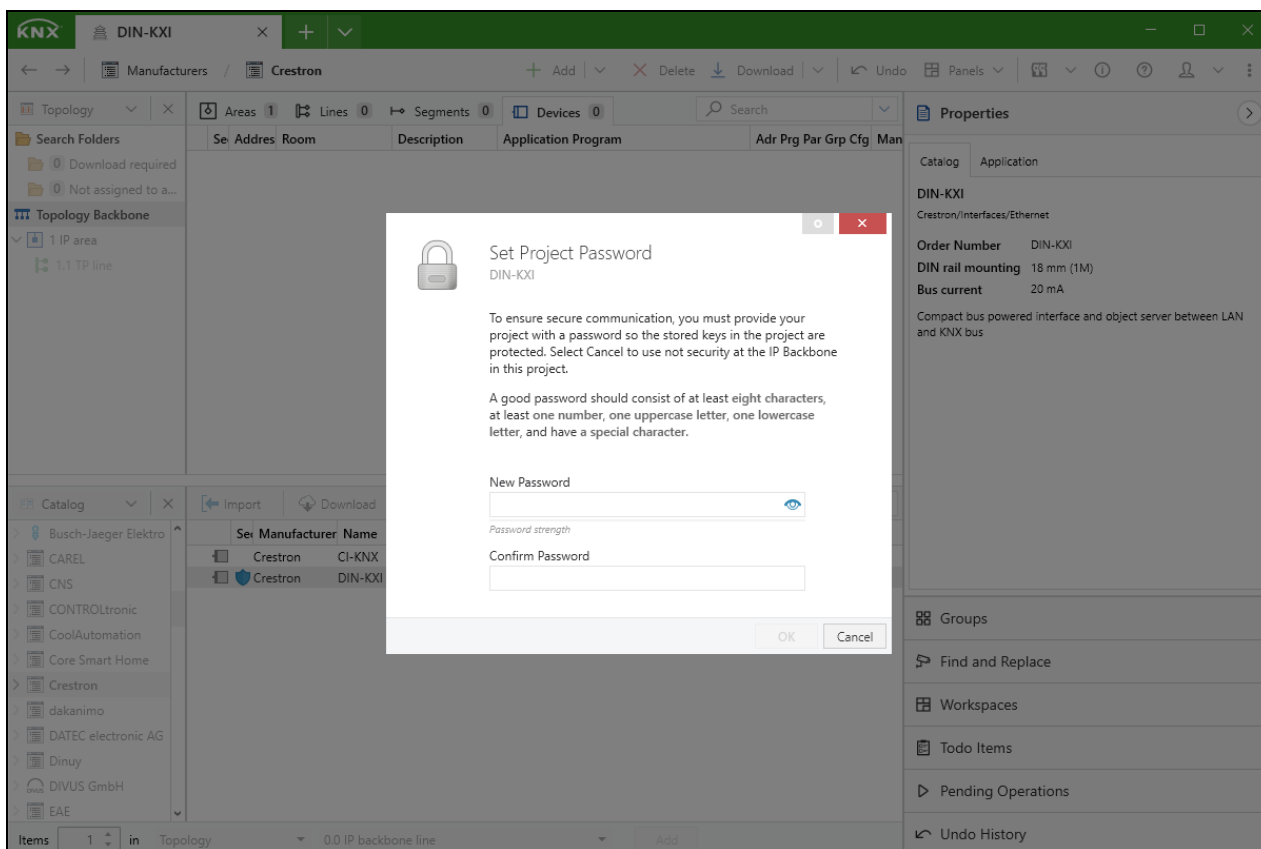
Use the info on the KNX label to acquire the DIN-KXI. The Factory Key (FSDK) for the device is on the DIN-KXI label and also on the spare label that is provided. On the label, the Factory Key (FSDK) is labeled **Cert.**

NOTE: When the configuration is changed, the settings must be downloaded onto the DIN-KXI. For details, refer to ETS Software documentation.

For additional information about KNX Secure and using ETS software, visit www.knx.org, support.knx.org, or [Adding device certificates](#).

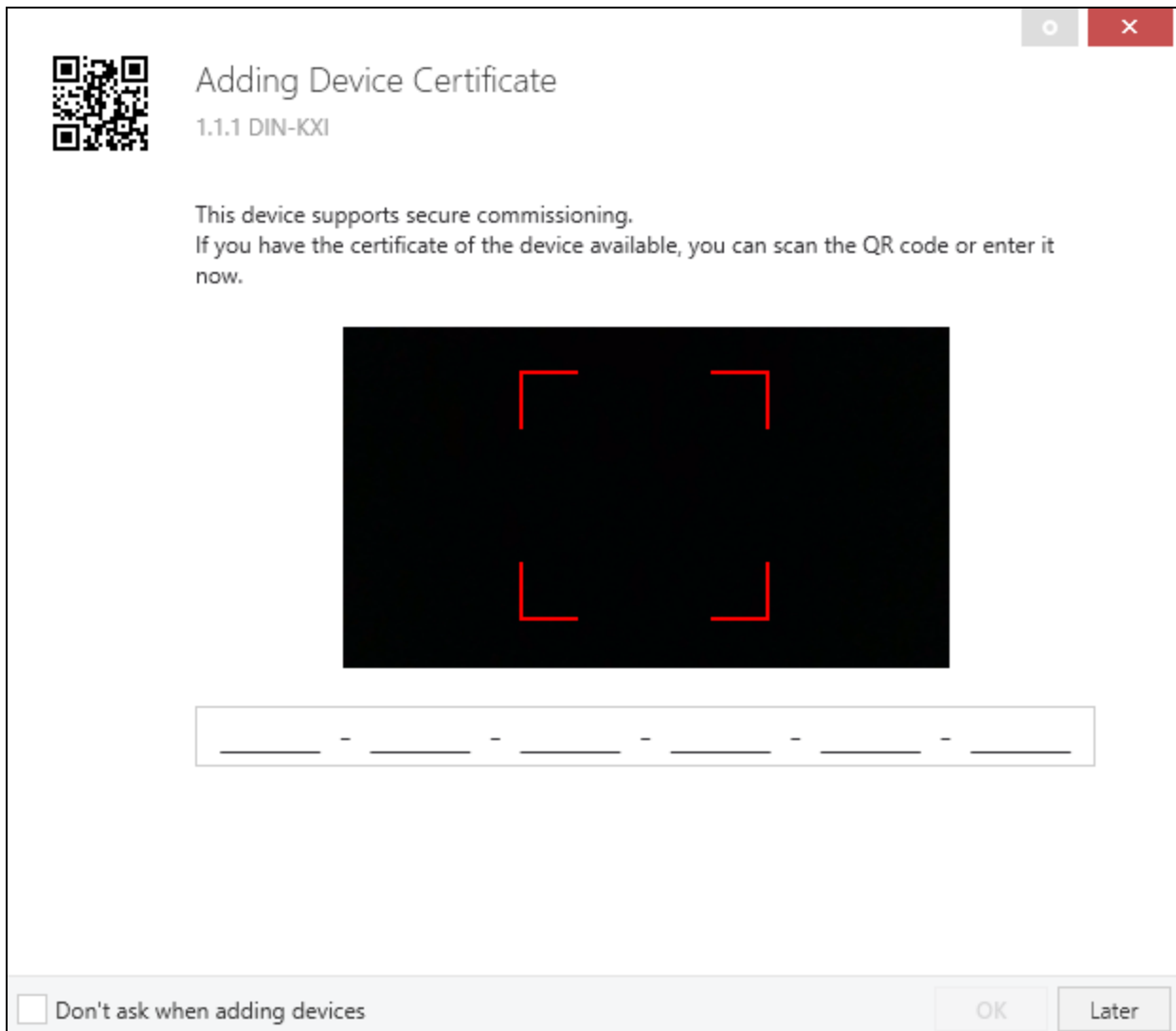
To add the KNX Secure device using ETS software:

1. Assign a password to the project in ETS software before adding the DIN-KXI to the project. A secure device cannot be added to a project that is not password protected.

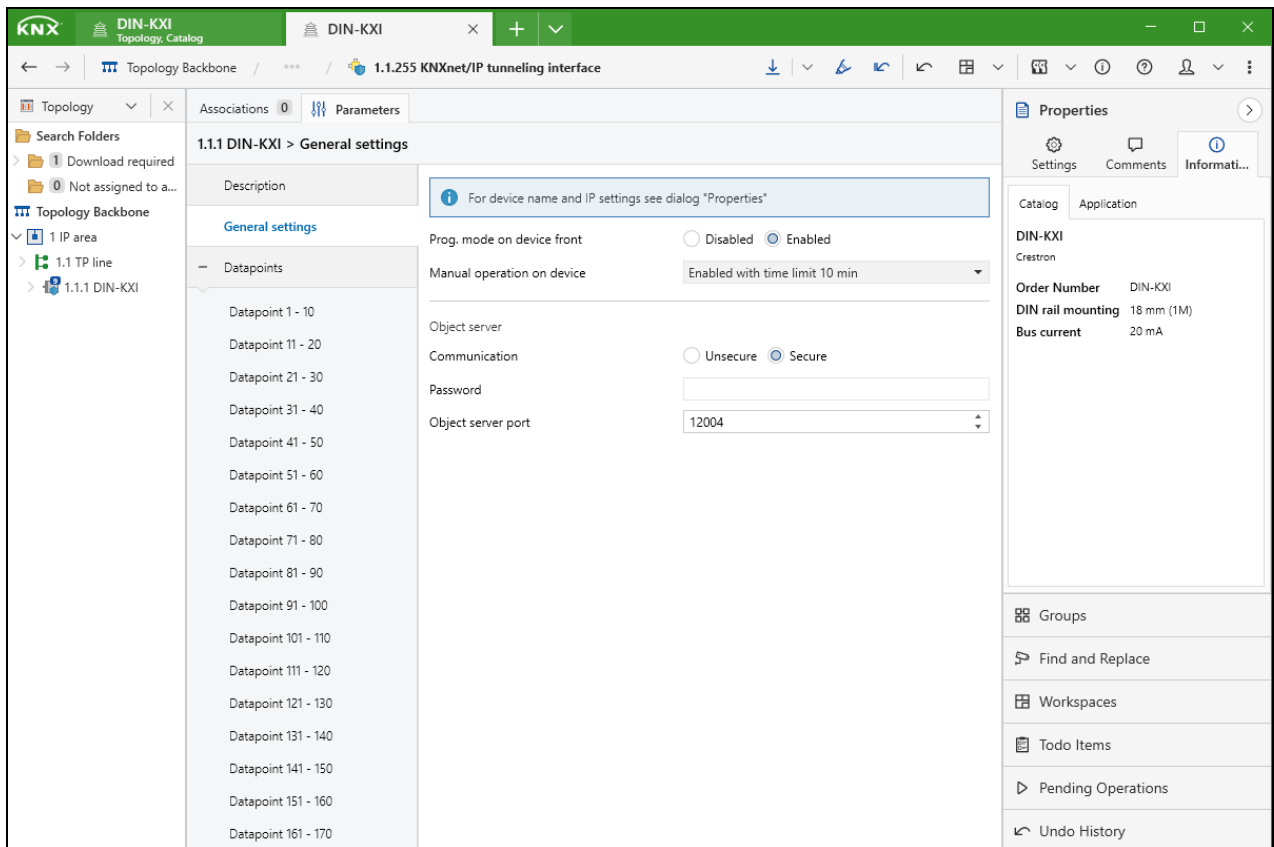


2. Find the DIN-KXI using the Online Catalog that is available in ETS software version 5.6.5 or later. For earlier versions of ETS software or when the Online Catalog is not enabled, use the offline catalog available from the [DIN-KXI](#) product page.

3. Add the DIN-KXI to ETS software. The Factory Key can be entered on the **Security** tab or before downloading the device. Scan the QR code on the label using the device running the ETS software or enter the certificate number (**Cert**) manually.



4. In the **Parameters** tab, select **General settings** and then configure the following:



- **Prog. mode on device front:** To allow use of the **Prog. mode** button on the front of the device, select **Enabled**.
- **Manual operation on device:** To allow use of the **CONN BAOS** and **CONN TUNN** buttons to enable manual operation on the front of the device, select **Enabled** with a time limit from the drop-down menu.
- **Object server:** To use a secure connection to the Object server, from **Communication** select **Secure**, in the **Password** field enter a password, and then from the **Object server port** drop-down menu enter an object server port number.

Configure the DIN KXI IO module in the SIMPL program using the same settings. For configuration information, refer to the Help (**F1**) file (PDF) that is provided for the module.

5. In the **Parameters** tab, select **Datapoints** and then configure the datapoints in ETS software and the SIMPL program. For details, refer to [Datapoint Configuration on page 20](#).

Datapoint Configuration

Configure up to 1,000 datapoints in the system using ETS software and SIMPL modules.

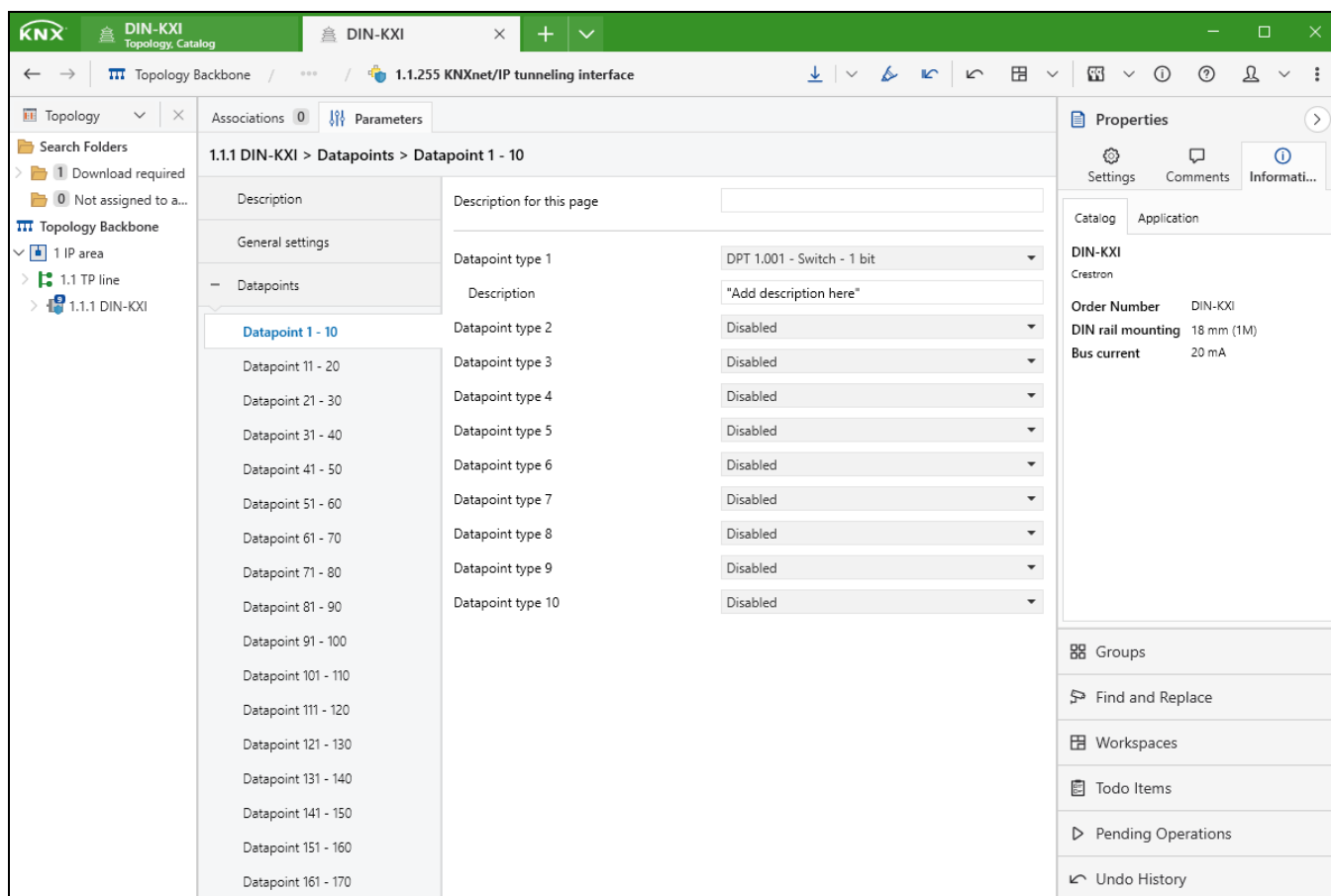
NOTE: When the configuration is changed, the settings must be downloaded onto the DIN-KXI. For details, refer to ETS Software documentation.

ETS Software Configuration

Each data point gets a group address, in order to send to the bus. More than one group address can be set for one object.

To access the datapoints, go to the **Parameters** tab and then select **Datapoints**.

DIN-KXI Datapoints Tab



For each datapoint that is used in the system, configure these settings:

- **Datapoint number (1 - 1000):** The object id number. The datapoints are listed in groups of 10.
- **Datapoint type:** Select the type of object from the drop-down menu. If the datapoint is not used, select **Disabled**. The SIMPL modules provide control of 1 Bit, 2 Bit, 4 Bit, 8 Bit, 1 Byte, 2 Byte, 3 Byte, 4 Byte, 6 Byte, and 14 Byte datapoint types.
- **Description:** Enter a short description (30 character maximum) of the datapoint. The description is transferred to the device when Download of data point description option is enabled.

NOTE: To utilize polling, select the Read option in ETS software.

SIMPL Configuration

For each datapoint configured in ETS software, use SIMPL to configure the Crestron control system to interface with the KNX system. In SIMPL, go to **Crestron Modules > System Control** and then use the DIN KXI modules.

Each Crestron module allows specific KNX commands or signals to be sent or read. One module can provide control, feedback, or both. Do not add multiple modules for the same object to get control and feedback using two modules.

Modules are available to control these datapoint types:

- Datapoint 1: 1 Bit, Switch
- Datapoint 1: 1 Bit, Switch
- Datapoint 2: 2 Bit, Switch and Control
- Datapoint 3: 4 Bit, Dimming
- Datapoint 4: 8 Bit, Character ASCII
- Datapoint 5: 8 Bit, Percent Value
- Datapoint 6: 8 Bit, Signed Value
- Datapoint 7: 2 Byte, Unsigned Value
- Datapoint 8: 2 Byte, Signed Value
- Datapoint 9: 2 Byte, Temperature
- Datapoint 10: 3 Byte, Time
- Datapoint 11: 3 Byte, Date
- Datapoint 12: 4 Byte, Unsigned Value
- Datapoint 13: 4 Byte, Signed Value
- Datapoint 14: 4 Byte, Float Value
- Datapoint 15: 4 Byte, Access
- Datapoint 16: 14 Byte, String
- Datapoint 17: 1 Byte, Scene
- Datapoint 18: 1 Byte, Scene with Control
- Datapoint 20.102: 1 Byte, HVAC Mode

- Datapoint 232.600: 3 Bytes, Color RGB
- Datapoint 251.600: 6 Bytes, Color RGBW

Required Modules

These modules are required:

- One DIN KXI IO module to communicate with the DIN-KXI.
- One DIN KXI x Bit or DIN-KXI x Byte module per KNX object.

SIMPL Modules

The DIN-KXI modules can control datapoints with these Bit and Byte types.

For information about each DIN KXI SIMPL module, refer to the Help (**F1**) file (PDF) that is provided for each module.

DIN-KXI 1 Bit

- Datapoint 1: 1 Bit, Switch

DIN-KXI 1 Bit Pulse

- Datapoint 1: 1 Bit, Switch

DIN-KXI 2 Bit

- Datapoint 2: 2 Bit, Switch and Control

DIN-KXI 4 Bit

- Datapoint 3: 4 Bit, Dimming

DIN-KXI 1 Byte

- Datapoint 4: 8 Bit, Character ASCII
- Datapoint 5: 8 Bit, Percent Value
- Datapoint 6: 8 Bit, Signed Value
- Datapoint 17: 1 Byte, Scene
- Datapoint 18: 1 Byte, Scene with Control
- Datapoint 20.102: 1 Byte, HVAC Mode

DIN-KXI 2 Byte

- Datapoint 7: 2 Byte, Unsigned Value
- Datapoint 8: 2 Byte, Signed Value
- Datapoint 9: 2 Byte, Temperature

DIN-KXI 3 Byte

- Datapoint 232.600: 3 Bytes, Color RGB

DIN-KXI 4 Byte

- Datapoint 12: 4 Byte, Unsigned Value
- Datapoint 13: 4 Byte, Signed Value
- Datapoint 14: 4 Byte, Float Value
- Datapoint 15: 4 Byte, Access

DIN-KXI 6 Byte

- Datapoint 251.600: 6 Bytes, Color RGBW

DIN-KXI 14 Byte

- Datapoint 16: 14 Byte, String

DIN-KXI Time

- Datapoint 10: 3 Byte, Time

DIN-KXI Date

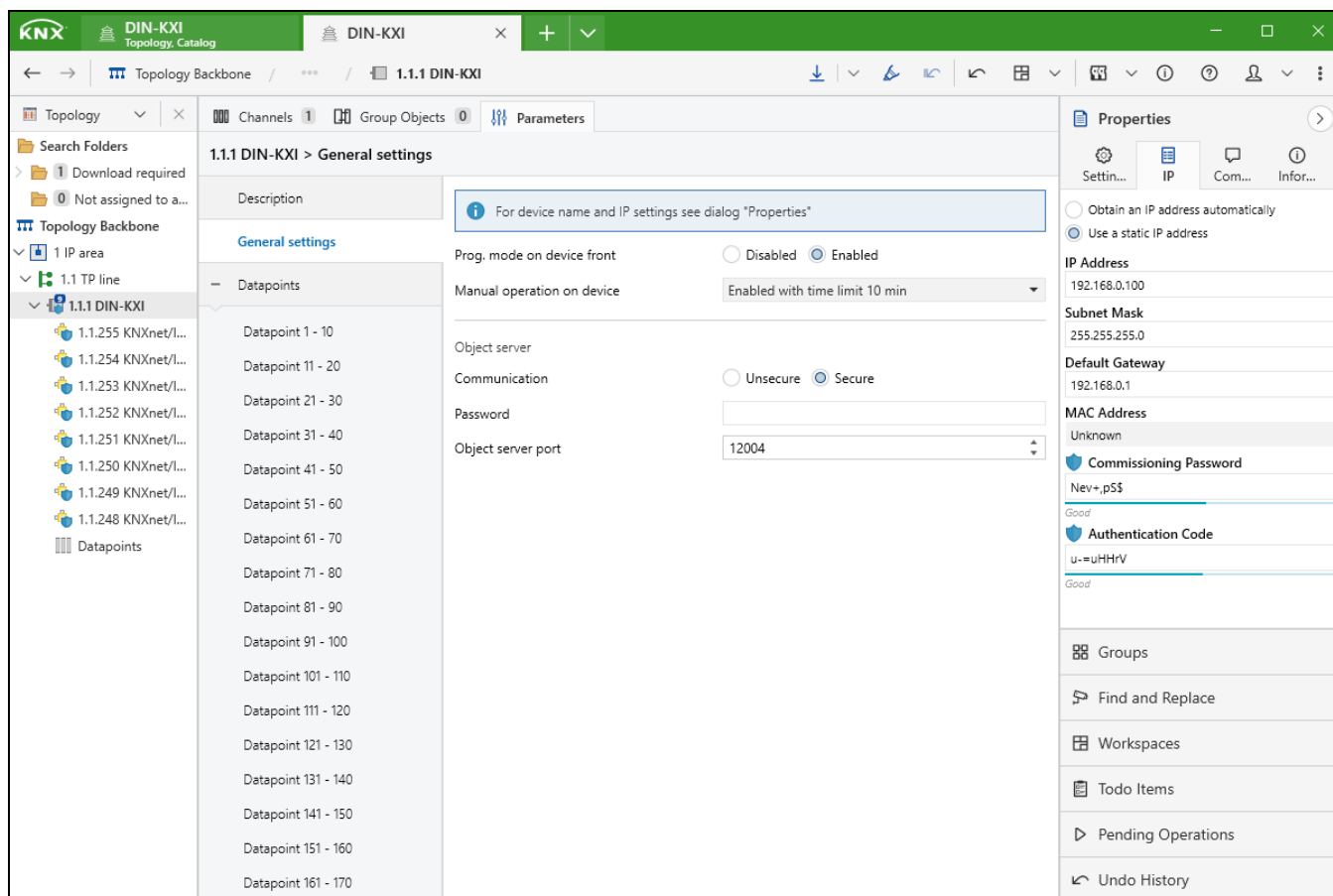
- Datapoint 11: 3 Byte, Date

IP Address Configuration

The DIN-KXI uses an IP address that is automatically assigned using DHCP (default) or manually assigned using a static IP address.

NOTE: When the configuration is changed, the settings must be downloaded onto the DIN-KXI. For details, refer to ETS Software documentation.

ETS Software - IP Address Properties



DHCP Address

The DIN-KXI uses DHCP (default setting) to obtain an IP address. The DHCP server will assign an IP-address to the Crestron DIN-KXI.

Static IP Address

To use a static IP address:

1. Go to the DIN-KXI properties and then select **IP**.
2. Select **Use a static IP address**.
3. Enter the **IP Address**, **Subnet Mask**, and **Default Gateway**.

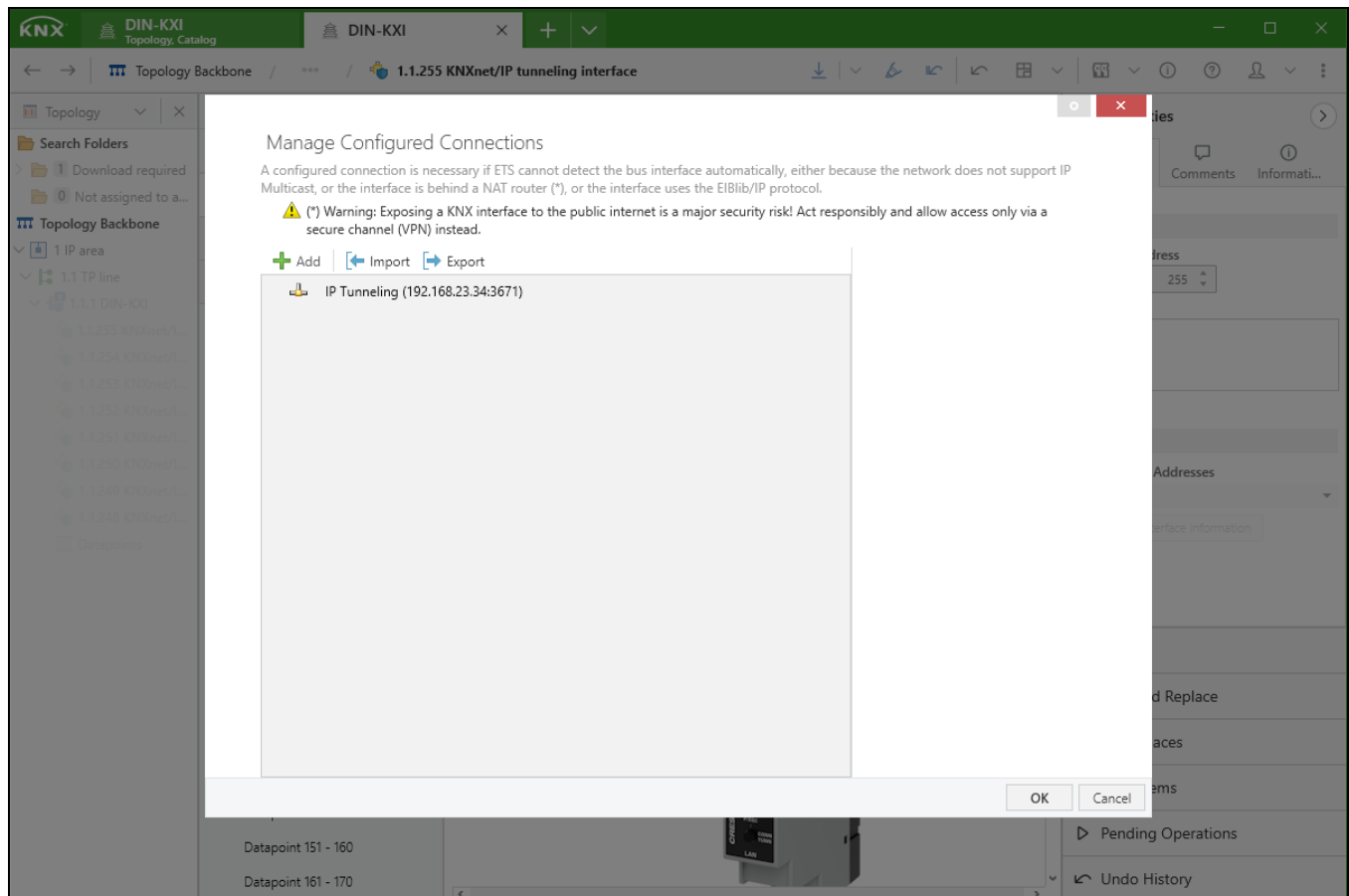
Interface to KNX

The DIN-KXI can act as an interface to KNX system and allow multiple simultaneous connections.

NOTE: When the configuration is changed, the settings must be downloaded onto the DIN-KXI. For details, refer to ETS Software documentation.

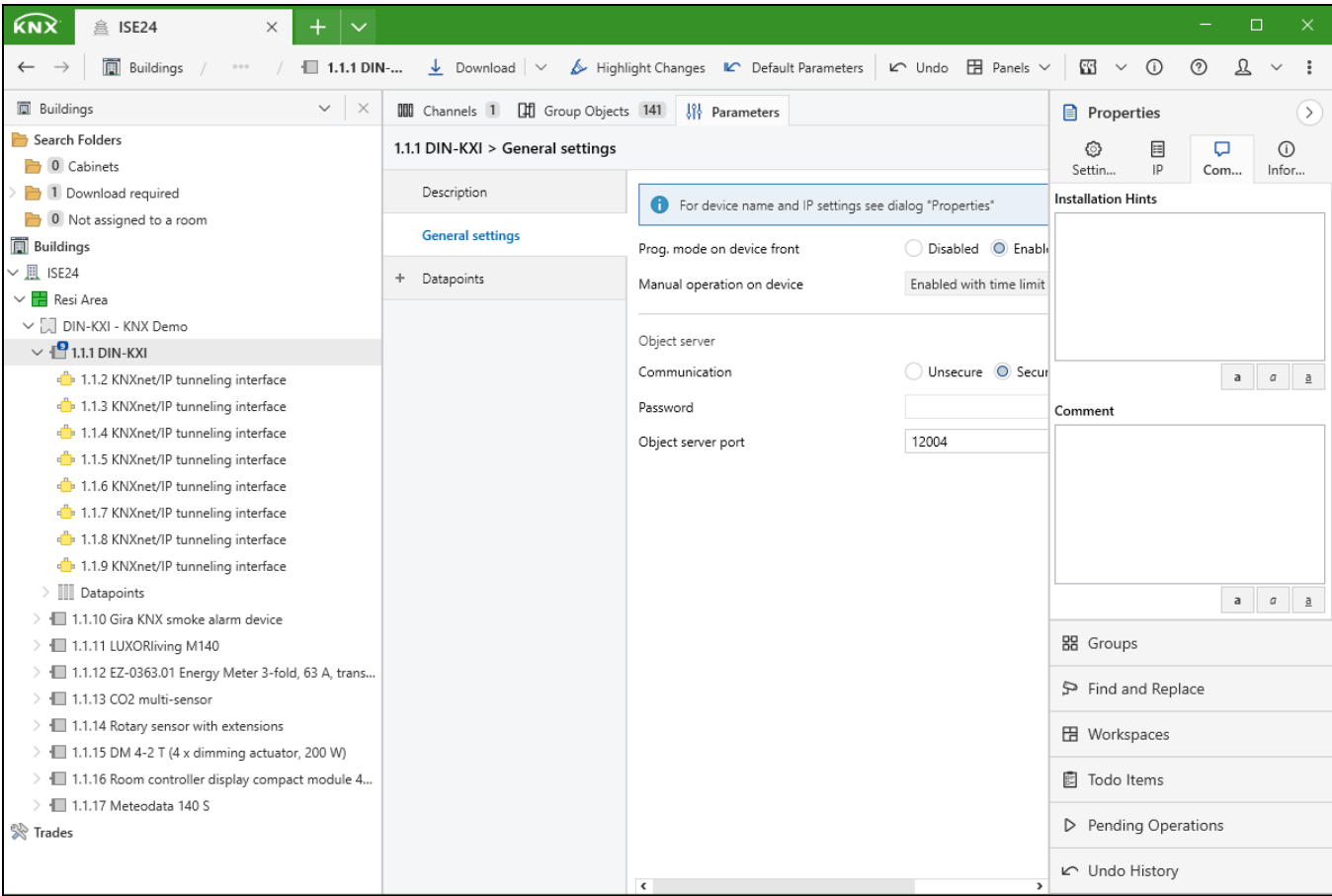
In order to use this function, configure the connections using the Manage Configured Connections screen in ETS software.

ETS Software - Manage Configured Connections



There are nine tunneling connections available to the KNX bus.

ETS Software - Tunneling Interface Connections



Operation

Use the buttons located on the front of the DIN-KXI to factory reset the device or enter programming mode.

Factory Reset

To factory reset the device:

1. Disconnect the device from the KNX bus to turn it off.
2. Press and hold **KNX Prog**. Do not release the button.
3. Reconnect the device to the KNX bus to turn it on.
4. Continue holding **KNX Prog** until all LEDs flash quickly. Then, release the **KNX Prog** button.

Programming Mode

To enter or exit **Programming** mode, press **KNX Prog**. Alternatively, simultaneously press **CONN BAOS** and **CONN TUNN** to enter or exit **Programming** mode.

Resources

The following resources are provided for the DIN-KXI.

NOTE: You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

Programmer and Developer Resources

- help.crestron.com: Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- developer.crestron.com: Provides developer documentation for Crestron APIs, SDKs, and other development tools

Product Certificates

To search for product certificates, refer to the [Product Certificates](#) section of the Crestron Resource Library.

Related Documentation

- www.knx.org
- support.knx.org

