Paxton10 - I/O Connector

Overview

The Paxton10 - I/O Connector is an expansion module designed to provide additional input and output capability to a Paxton10 system.
It allows installers to integrate external devices such as lighting, HVAC, lift control, alarms, sensors, and general-purpose equipment.

There are 3 variants available. These are as follows:

I/O Connector:

- 8 digital inputs
- 4 volt-free relay outputs - (<250VAC)

Input Connector:

- 16 digital inputs

Output Connector:

- 8 volt-free relay outputs - (<30VDC)

The unit connects to a Paxton10 controller via RS485, and can be powered using PoE or an external 10–24V DC supply. All configuration is completed in the Devices page of Paxton10, using the drag-and-drop mapping interface.

This Application Note covers:

- Physical installation
- Adding an I/O Connector to a Paxton10 system
- Creating input and output devices
- Mapping I/O channels
- Configuration options
- Example workflows
- Technical specifications

Physical Installation

Powering the Unit

The device connects to a Paxton10 controller via RS485 and draws power directly from the controller:

- PoE (from a compatible switch or injector)
- External DC power (10 – 24V DC)

Only one power source should be used at a time.

Connecting to the Controller

The I/O Connector communicates with the system using RS485.

1. Connect the I/O Connector to the matching terminals on the controller, using a standard uncrossed cable.
2. Daisy-chaining I/O Connectors.
- When powering the controller using mains power, it is recommended to daisy-chain no more than two I/O Connectors (the first device plus one additional device).
- When powering the controller using PoE, only a single I/O connector should be connected.

While it may be possible in certain installations to connect additional devices, not all power and wiring combinations are supported, and reliable operation cannot be guaranteed beyond the configurations described above.

Relay Load & Safety Notes

Each I/O Connector relay supports:

- 15A Switching current
- 250 VAC / 30 VDC Maximum
- 50/60Hz

Each Output Connector relay supports:

- 2A Switching current
- 30 VDC Maximum
- DC only

Ensure the connected device does not exceed relay electrical ratings.

LED Indicators

The connectors include LED status indicators for:

- Connection to controller status
- Relay activity
- Input activity

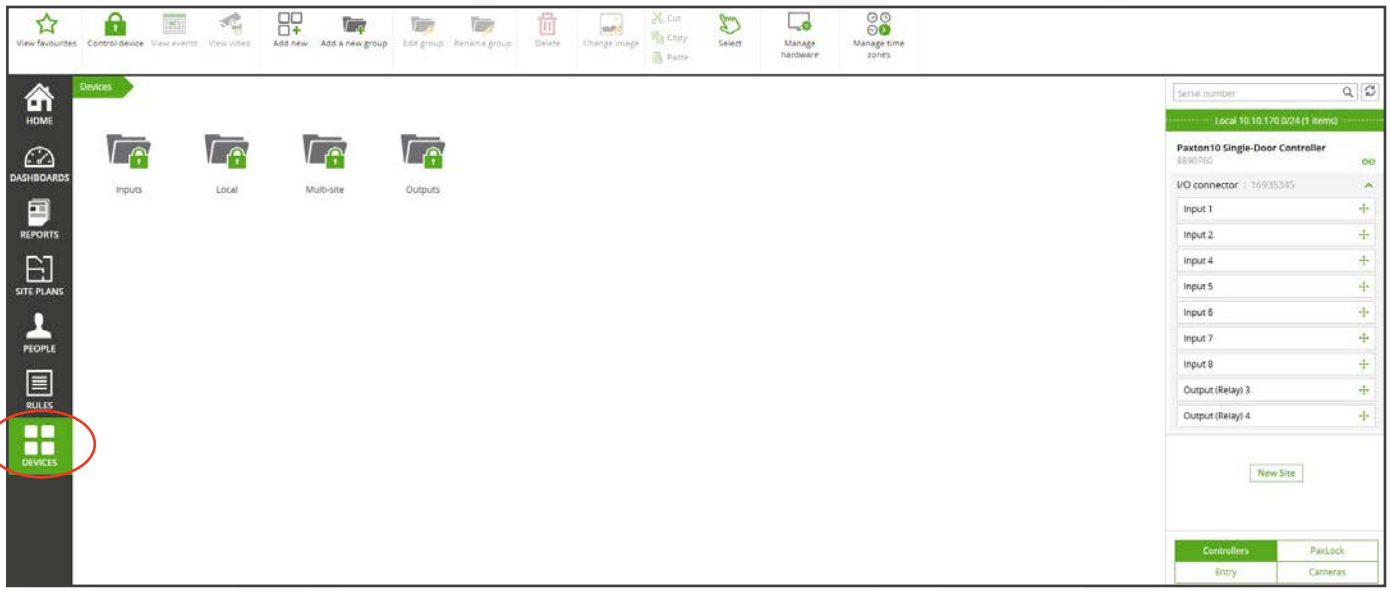
Adding the I/O Connector to Paxton10

Once powered and connected to RS485, the I/O Connector will automatically appear in the Paxton10 interface.

To view the device:

1. Click on the **Devices** page.

2. The I/O Connector will appear in the device discovery sidebar under the relevant device (Paxton10 - Single-door controller).



If the device does not appear:

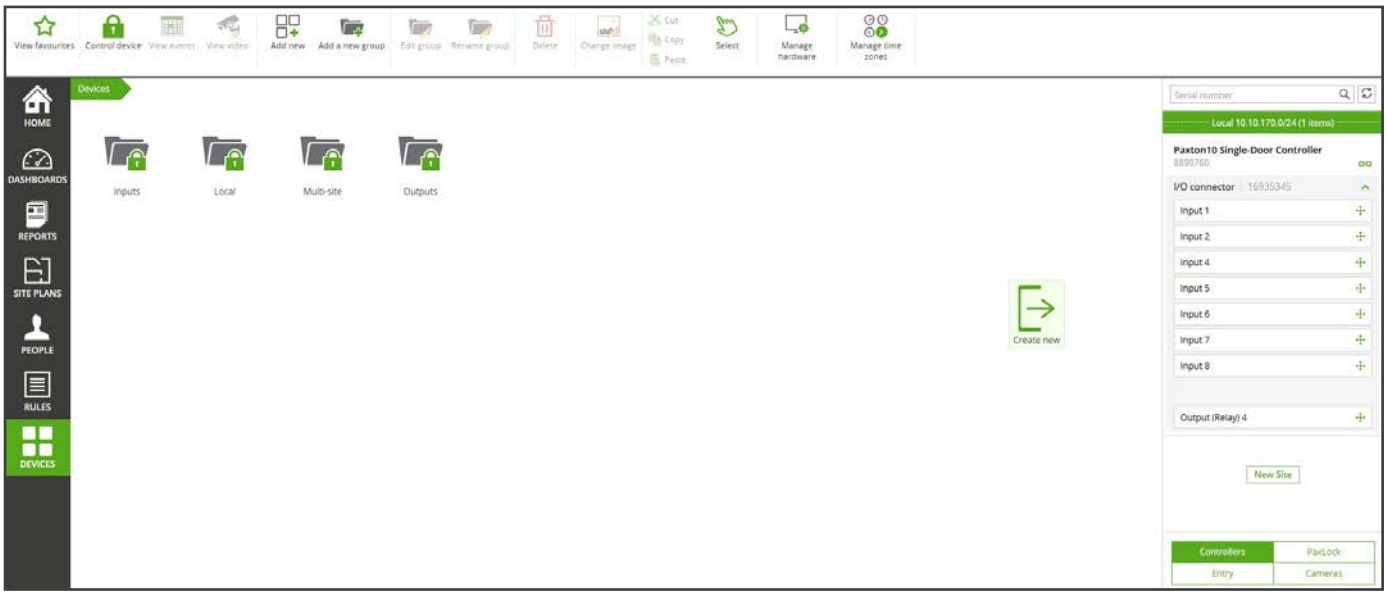
- Check RS485 wiring
- Ensure correct power source
- Confirm the Paxton10 software meets the minimum supported version (Version 4.9 SR1)

Creating Output Devices (Relay-Controlled Equipment)

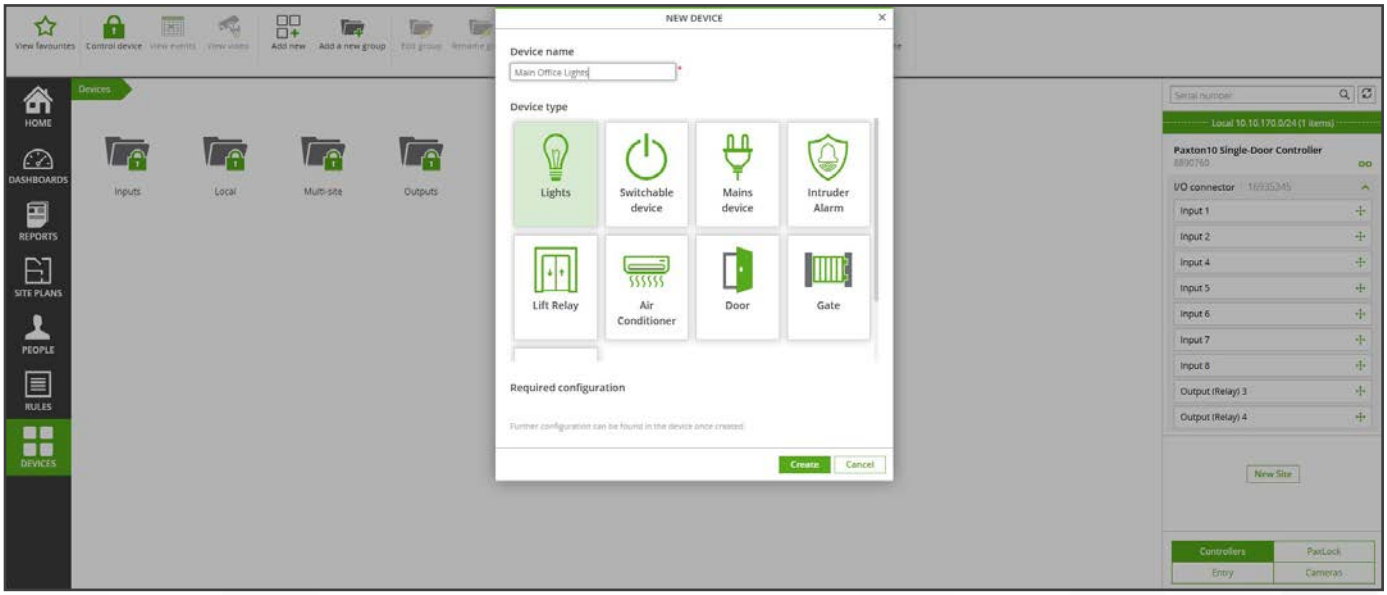
This section describes how to create output devices (e.g. lights, HVAC, machinery) and map them to a relay on the I/O Connector.

Example Workflow – "Main Office Lights"

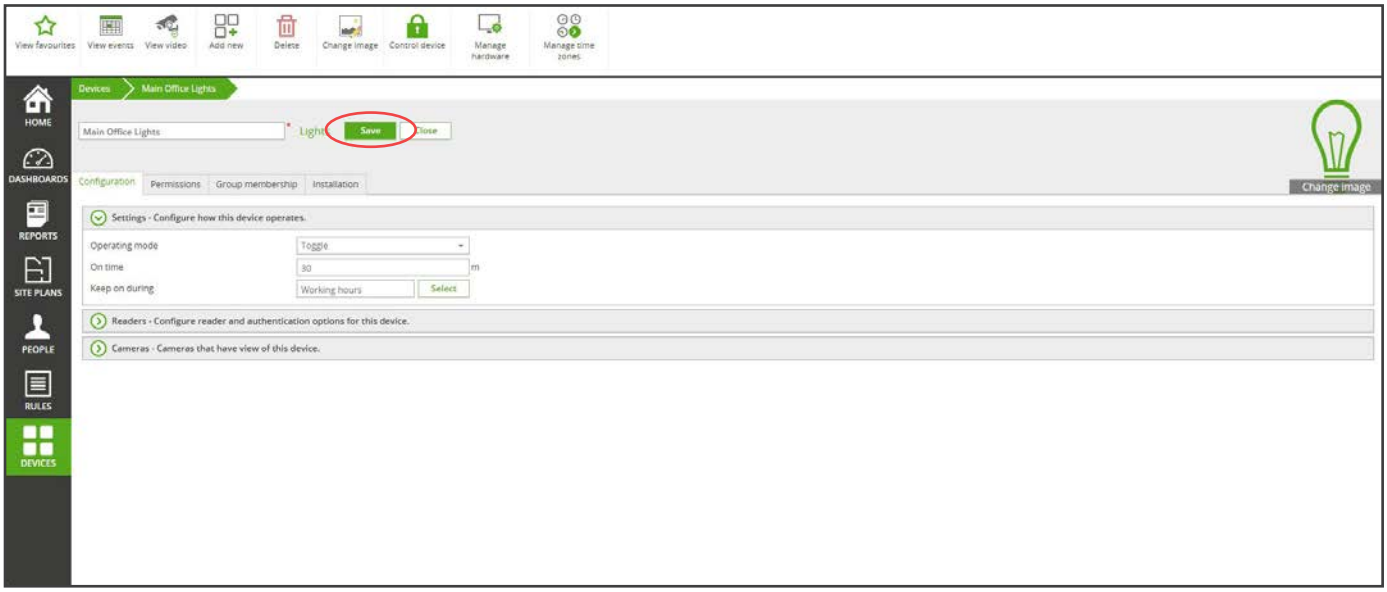
1. Go to the **Devices** page.
2. Drag your selected Output (Relay) to the Devices section.



3. Select the appropriate device type (e.g. Lights).
4. Name the device—for example: Main Office Lights.
5. Select **Create**. The device now appears on the Devices page.



6. To configure your device, you can select it from the Devices page.



7. Choose the operating mode:

- Toggle – stays on until switched off
- Timed – automatically turns off after a set period
- Momentary – short pulse for triggering equipment

8. If using Timed mode, enter an On time (e.g. 30 minutes).
9. Select **Save**.

The output device is now active and ready for use.

Output Configuration Options

Toggle Mode

The relay changes state each time it is activated.
Useful for:

- Lighting
- Manual switching
- Basic device control

Timed Mode

Turns the relay on for a defined duration.
Useful for:

- Occupancy-based lighting
- Heating or air conditioning
- Timed machinery activation

Momentary Mode

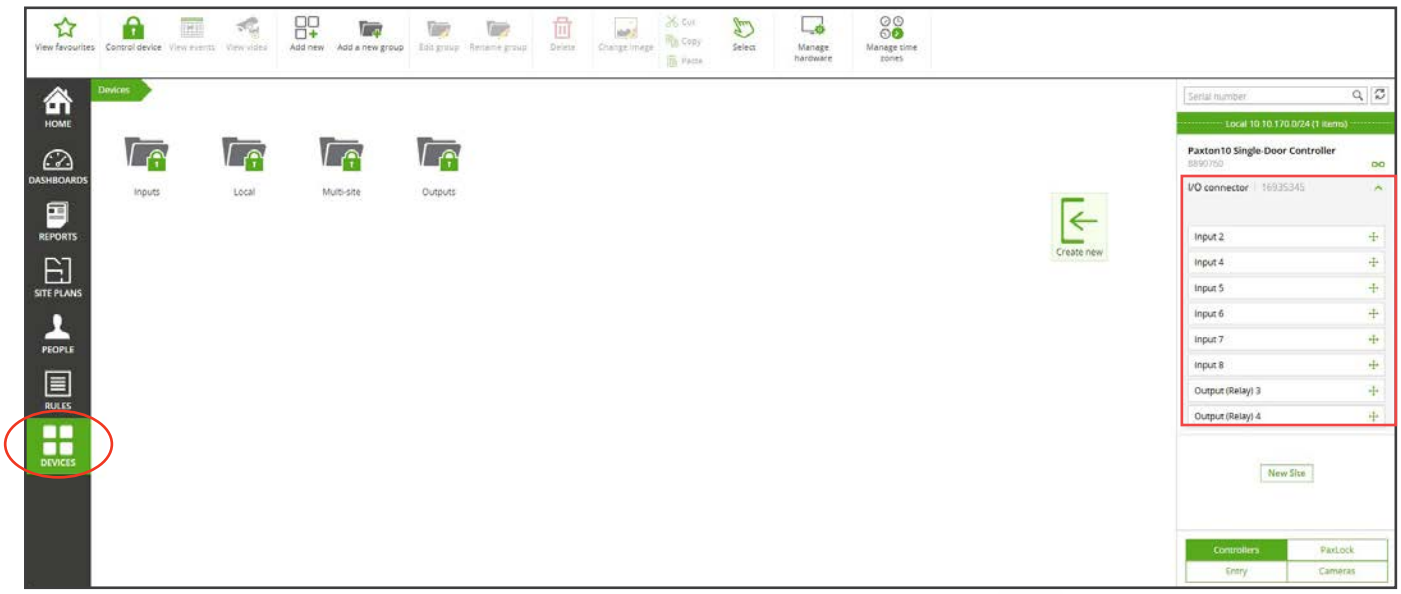
Sends a brief pulse.
Useful for:

- Elevator control signals
- Gate triggers
- Equipment that requires a momentary activation signal

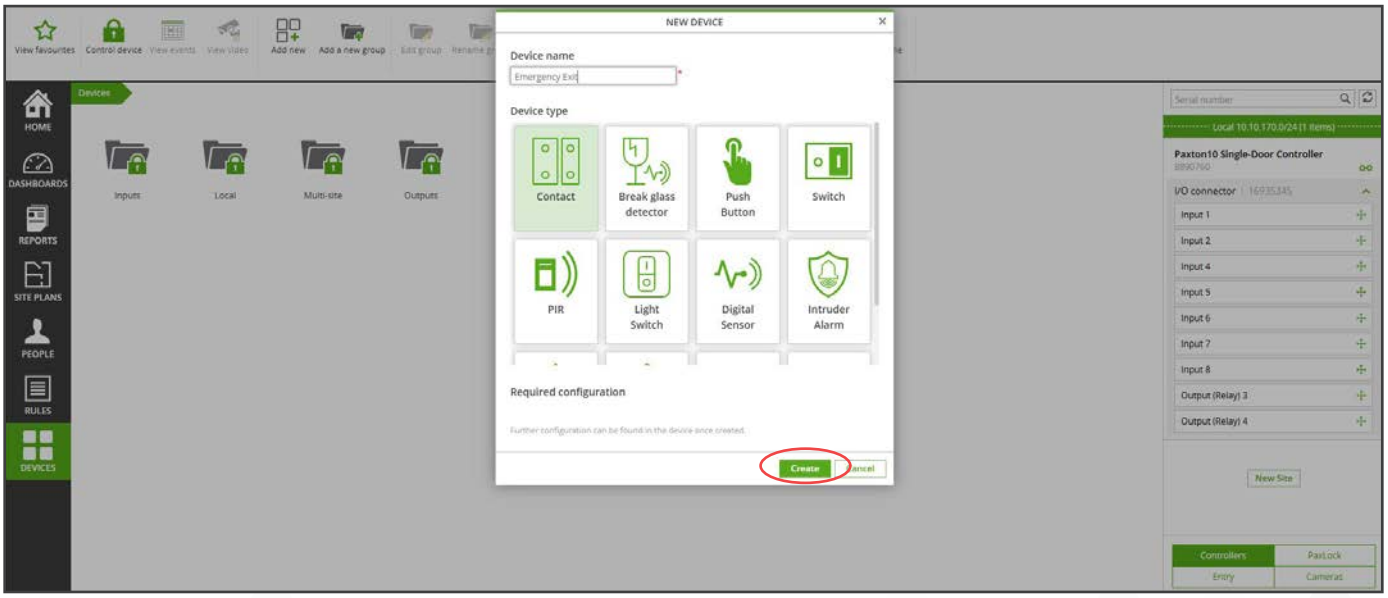
Creating and Mapping Input Devices

Input Setup Workflow

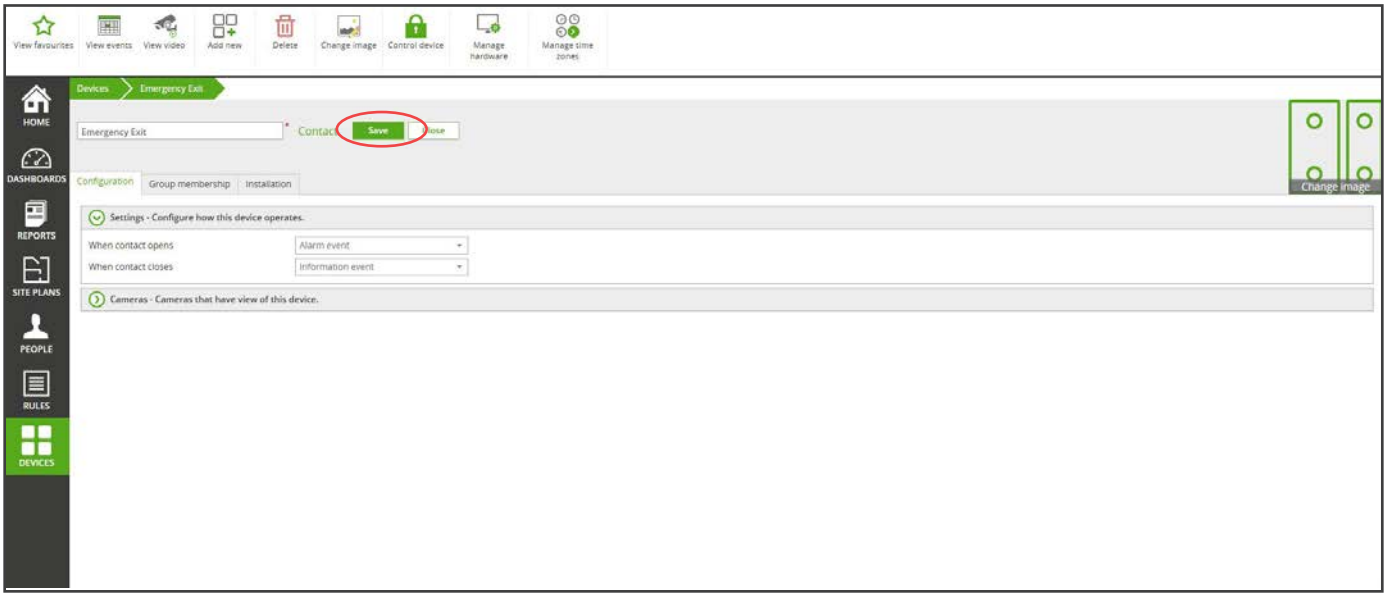
1. Go to the **Devices** page.
2. Drag your selected Input to the Devices section.
3. Select the appropriate device type (e.g. Contact).



4. Name your device – for example: Emergency exit.
5. Select **Create**. The device now appears on the Devices page.



6. To configure your device, you can select it from the Devices page.
7. Configure the input behavior.
8. Select **Save**.



Inputs can now be used in rules, reports, or event triggers.

Linking I/O Devices to Rules

Once configured, input and output devices can be included in system automation.
Examples:

Input-Triggered Rules

- PIR Input - Activate Lights
- Door Contact - Send Notification
- Alarm Trigger Input - Activate Relay Output

Output-Driven Rules

- Elevator Relay - Activate only when a permitted user presents a credential
- HVAC Output - Turn on during scheduled operating hours
- Lighting Relay - Automatically turn off outside building hours

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