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SYSTEM OVERVIEW

The MK Electric Connected Power System gives building owners and occupiers the opportunity to monitor energy and control the status of the Connected Power Sockets installed throughout their building. This capability and further functionality is provided by integrating the solution with the Building Management System (BMS). The additional functions include scheduling, grouping, monitoring internal socket temperatures and responding to pre-set power levels regarding either over or under power. Combined with the ability to monitor and control the Connected Power Sockets, the use of low-power devices can be closely managed in a convenient way, enhancing safety and energy efficiency across a building's estate.

BASICS AND PRINCIPLES OF OPERATION

The Connected Power System consists of Connected Power Sockets and Connected Power Hubs which are linked to each other via a wireless mesh network.

Using this network, these Connected Power Sockets can communicate directly with the Connected Power Hubs, or via other Connected Power Sockets. Both the sockets and hubs communicate with smartphones and tablets via BLE (Bluetooth Low Energy) technology, allowing the installer to set up the network between the sockets and hubs using the Honeywell Connected Power Commissioning Mobile app on their smartphone or tablet.

The Connected Power Hubs are linked to the building's BMS network, and communicate with it using BACnet protocol. Building owners or occupiers can control and monitor the Connected Power Sockets using Honeywell's building energy management system – the Trend IQ Vision – on a PC workstation (the 'Connected Power Module within IQ Vision').

Wireless mesh network

The wireless mesh network uses radio frequency (RF) signals to connect the Connected Power Sockets and Connected Power Hub to each other. It has two layers: one allows each Connected Power Socket to connect directly to its Connected Power Hub, and the other layer links all devices to each other. The latter forms multiple communication routes between devices so that messages between a Connected Power Socket and its Connected Power Hub can be relayed by other Connected Power Sockets. This means that in the event of a blockage in the network, an alternative route can be used. In this way, a mesh network can often continue to operate even when a device is removed or a communication route becomes unstable, making it much more reliable than a conventional non-meshed network.

CAPABILITIES AND LIMITATIONS

Each Connected Power Hub can communicate with up to 50 Connected Power Sockets, and each Connected Power System can contain up to 50 Connected Power Hubs.

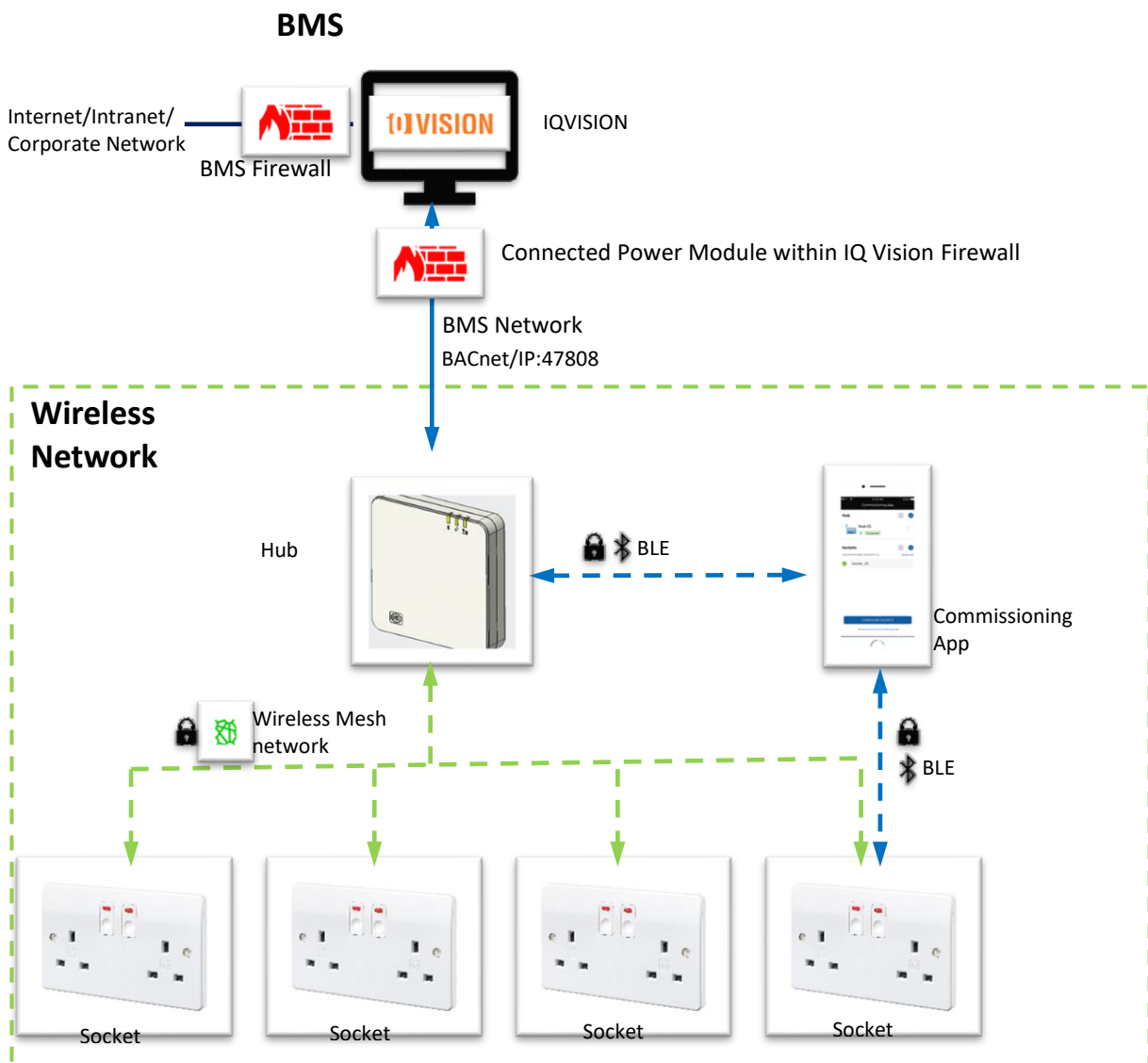
It is usual for all systems using RF technology to measure their quoted range in ideal conditions. This means that Connected Power Sockets can communicate with Connected Power Hubs up to 25 meters away using the wireless mesh network (which uses RF to transmit signals between devices). The devices do not have to be in direct line of sight of each other.

Any barriers between devices such as walls and ceilings will reduce the radio range, and in rare cases a signal may be blocked out completely.

Tip: prior to installation on site, it is recommended to survey the site in order to identify which sockets should be replaced with Connected Power Sockets,

and the best places to locate the Connected Power Hubs. This will help to ensure that signals can be transmitted, and that the Connected Power Hubs can connect to the Local Area Network (LAN).

SECURITY



The wireless mesh network used for linking the Connected Power Hubs and Connected Power Sockets is proprietary with AES authenticated encryption.

Communication between the Connected Power Hubs, Connected Power Sockets, and the Honeywell Connected Power Commissioning Mobile app is done via Honeywell GWP Secure Channel over BLE, and adheres to Honeywell PKI/ECDH/AES-128.

Ensure that the Connected Power Hubs are physically secured, and that they can only be accessed by authorised persons. The Connected Power Hubs should connect to the BMS via a dedicated physical Local Area Network (LAN) or Virtual LAN.

The Connected Power Module within IQ Vision/ PC workstation requires two network connections. The first connects to the Internet/Intranet/Corporate network to get system updates. To provide separation and protection to the BMS, a firewall must be used between the Internet/Intranet/Corporate network, and the Connected Power Module within IQ Vision.

The second network connection links the Connected Power Module within IQ Vision to the BMS network, so that the Connected Power Module within IQ Vision can communicate with the Connected Power Sockets via the Connected Power Hubs. A firewall should be used between the BMS network and the Connected Power Module within IQ Vision/ PC workstation running IQ Vision software, to provide protection to the Connected Power Module within IQ Vision.

PROJECT QUOTATION

Honeywell partners and integrators can use the Connected Power Map Out Tool to generate quotes for projects. This tool can easily produce a quotation that accounts for the Connected Power devices, labour hours and accessory costs required. It can also be used to easily map out devices for commissioning in the Connected Power Commissioning App — see 'Building The Network'.

Producing a quote using the Map Out Tool

1. Fill out the project details in the fields on the 'Home' tab of the Map Out Tool.

The screenshot displays the 'Home' tab of the Map Out Tool. At the top, there is a navigation bar with five tabs: 'Home' (selected), 'Budget Quote', 'Rough Quotation', 'Firm Quote', and 'Quotation'. Below the navigation bar, there are two columns for 'COMPANY LOGO' and 'PARTNER LOGO'. The main content area contains several input fields with labels and placeholder text: 'Site Name' (Input site name), 'Site Location' (Input site location), 'Customer Name' (Input customer name), 'Partner Name' (Input partner name), 'Name' (Input owner name), 'Position' (Input owner position), and 'Company' (Input owner company). At the bottom of the form, there are three buttons: 'START BUDGET QUOTE', 'START FIRM QUOTE', and 'START MANUALLY HUBS'. A footer note states: '* Click RESET to reset the memory'.

2. You will be able to either manually configure a project or configure using the tool. To manually configure a project, fill in the appropriate fields and proceed to step 8.
3. To configure a project using the tool, proceed to the 'Budget Quote' tab. In this tab, enter the details of rooms where Connected Power devices will be installed.
 - a. Assign a name and floor to the room for easy identification.
 - b. Specify the number of Connected Power Hubs required.

- c. If additional rooms are required for a project, click the 'Add A Room' button. Repeat steps a-c for each room.

Socket & Hub Estimation
Estimate the amount of socket & hub required by the room size.

Room 1 | Name Floor

ADD A ROOM **DELETE A ROOM**

- d. To remove a room from a project quote, click the 'Delete A Room' button. This will delete the most recently added room.

Socket & Hub Estimation
Estimate the amount of socket & hub required by the room size.

Room 1 | Name Floor

ADD A ROOM **DELETE A ROOM**

4. Enter the labour cost details for the project into the 'Labour Cost Estimation' section. If any additional labour costs are required, additional fields can be added by clicking the 'Add labour cost' button.

LABOR COST ESTIMATION				Total	\$1,860.00	
Efforts for Site Survey	Labor Hour (h)	<input type="text" value="12"/>	Labor Rate (\$/h)	<input type="text" value="50"/>	Labor Cost	\$650.00
Efforts for Site Walk	Labor Hour (h)	<input type="text" value="4"/>	Labor Rate (\$/h)	<input type="text" value="50"/>	Labor Cost	\$200.00
Efforts for Electrical Installation	Labor Hour (h)	<input type="text" value="10"/>	Labor Rate (\$/h)	<input type="text" value="50"/>	Labor Cost	\$500.00
Efforts for Configuration	Labor Hour (h)	<input type="text" value="10.2"/>	Labor Rate (\$/h)	<input type="text" value="50"/>	Labor Cost	\$510.00

ADD LABOR COST

5. If any accessories are included in the project, enter the name and price into the 'Accessory Cost Estimation' section.

- Click the 'Generate Quote' button at the top of the sheet. This will automatically produce a rough quote and open it in the Map Out Tool.

Home **Budget Quote** Rough Quotation Firm Quote Quotation

① — ② — ③ — ④ — ⑤

Budget Quote
Click GENERATE QUOTE to Rough Quotation.

GENERATE QUOTE

Socket & Hub Estimation Total 5 Sockets 1 Hubs
Estimate the amount of socket & hub required by the room size.

Home Budget Quote **Rough Quotation** Firm Quote Quotation

① — ② — ③ — ④ — ⑤

COMPANY
LOGO

Site name
Site location
Customer name
Partner name

PARTNER
LOGO

Owner name
Owner position
Owner company

Rough Quotation

Total Cost \$ 4,099.00

HW Costs	<i>Price</i>	<i>Qty</i>	\$	75.00
Product Cost Socket	\$ -	5	\$ -	
Product Cost Hub	\$ 75.00	1	\$ 75.00	

SW Costs	<i>Price</i>	<i>Qty</i>	\$	4,024.00
BACNet Points	\$ -	50	\$ -	
Analytics Points	\$ -	50	\$ -	
Supervisor License	\$ 4,024.00	1	\$ 4,024.00	

Labor Costs	<i>Labor Rate</i>	<i>Hour</i>	\$	-
Site Survey	\$ -	13	\$ -	
Site Walk	\$ -	0	\$ -	
Electrical Installation	\$ -	102	\$ -	
Configuration	\$ -	10.2	\$ -	

Accessory Costs	<i>Price</i>	<i>Qty</i>	\$	-
Accessories	\$ -		\$ -	

Please update with the latest generate quote where the SW costs are slightly changed in V0.2.25

- Example of a rough quotation autogenerated using the 'Budget Quote' tool.

8. The 'Firm Quote' tab will pull the data initially entered into the rough quotation and can be edited in the same way. Adjust any data necessary and specify the exact product variants required for the room installation.
9. Press the 'Generate Quote' button to produce the final quote.

The screenshot displays a software interface for generating a quotation. At the top, there is a navigation bar with five tabs: Home, Budget Quote, Rough Quotation, Firm Quote, and Quotation. The Quotation tab is selected and highlighted with a blue circle containing the number 5. Below the navigation bar, there are fields for Company and Partner logos, a date (2022/05/27), and a revision number (Rev v0.2.16). There are also fields for Site name, Site location, Customer name, Partner name, Diviner name, Diviner position, and Diviner company. The main section is titled 'Quotation' and shows a 'Total Cost' of \$4,024.00. Below this, there are four tables: HW Costs, SW Costs, Labor Costs, and Accessory Costs. The SW Costs table is the most detailed, showing a Supervisor License for \$4,024.00. The Labor Costs table shows Site Survey, Site Walk, Electrical Installation, and Configuration, all with a cost of \$0. The Accessory Costs table shows Accessories with a cost of \$0.

HW Costs		Price	Qty	\$	-
Product Cost Socket					
Logic Plus CS2T4TWHI	\$	-	0	\$	-
Logic Plus CS2T4TGRA	\$	-	0	\$	-
Metalclad Plus CS3046WHI	\$	-	0	\$	-
Metalclad Plus CS2946ALM	\$	-	0	\$	-
CableLink Plus CXP10780GAL	\$	-	0	\$	-
CableLink Plus CXP10780	\$	-	0	\$	-
Product Cost Hub	\$	75.00	0	\$	-

SW Costs		Price	Qty	\$	4,024.00
BACNet Points	\$	-	50	\$	-
Analytics Points	\$	-	50	\$	-
Supervisor License	\$	4,024.00	1	\$	4,024.00

Labor Costs		Labor Rate	Hour	\$	-
Site Survey	\$	-	0	\$	-
Site Walk	\$	-	0	\$	-
Electrical Installation	\$	-	0	\$	-
Configuration	\$	-	0	\$	-

Accessory Costs		Price	Text	\$	-
Accessories	\$	-		\$	-

A final quote produced using the map-out tool. Please update with latest tool v0.2.25

10. Proceed to map out the Connected Power devices (see 'Using the Map Out Tool' in the 'Mapping Out The Network' section).

INSTALLATION

To prevent the risk of electrocution it is essential to turn off the mains electricity supply before commencing work.

Installing Connected Power Sockets

The design of the Connected Power Sockets is based on some of our existing market leading ranges, including Metalclad Plus, Logic Plus and Cable Link Plus (suitable for floorbox mounting). This means that they fit standard 25mm wall boxes and that the wiring required has not been changed.

Please refer to the **Connected Power Socket Leaflet 32353388** for wiring details.

Installing Connected Power Hubs

The Connected Power Hub is a Class II device and requires mains power. It is recommended that the Connected Power Hub is hardwired.

There are three terminals supplied on the Connected Power Hub - Live, Neutral & Earth. The Earth terminal is not required to be connected. However, for convenience, this allows a 3-core cable to be used.

1. Connect your Connected Power Socket into the mains and switch the power on. Both LEDs on the Connected Power Socket will show an orange light for 2 seconds.

2. Switch on your Connected Power Hub. The Power LED on the Connected Power Hub will show a constant green light. The Bluetooth LED will show a single short yellow flash for 0.3 seconds every 10 seconds.
3. Connect the Connected Power Hub to the Building Management System network using an ethernet cable.

BUILDING THE NETWORK

Mapping out the network

Honeywell and MK Electric partnered integrators can use the Map Out Tool to generate quotations and plans for Connected Power installations. The plans for Connected Power Hubs and Connected Power Sockets can be exported via Excel and imported into the Connected Power Commissioning app to set up systems.

Using the Map Out Tool differs depending on whether you are an integrator or a user. Integrators can use the tool to generate project quotes — see 'Project Quotation' section.

1. Fill out the project details in the fields on the 'Home' tab of the Map Out Tool.

2. In the 'Hubs' tab, enter the details of each Connected Power Hub required for an installation.

Hub List

*Required Information.
No need to fill in Ethernet Setting if DHCP is ON. Name of Hubs shall NOT have a numeric initial and only contain letters and underscore.

[LOG HUBS](#)

General				Ethernet Settings			BACnet Settings					
No.	*Name	*Location	Reference	*DHCP	*ID Address IP address	*Subnet Mask IP address	*Gateway IP address	*Network Number number 1~65534	*Device Instance number	*Port number	BBMD Address IP address	BBMD Time to Live number
eg.	Hub000	FG_MR1	doorside	OFF	23.34.90.171	255.255.255.0	36.34.90.170	60012	4356	47808		
	1 HubMO			OFF	23.34.90.002	255.255.255.0	36.34.90.170	10	10000		47808	
	2 HubKIT			OFF	23.34.90.003	255.255.255.0	36.34.90.170	11	11000		47808	

- a. Hub names and locations can be up to 16 characters and cannot include special characters (except for underscores “_”). The name must begin with an alphabetical character.

- b. The 'Reference' value is optional. It can be used to identify the specific location of the Hub.
- c. Enter the Ethernet settings for the device. If DHCP is ON for a device, there is no need to fill in this section.
- d. Enter the BACnet settings for the hub. Note, ensure that both the Network Number and Device Instance are unique and do not allocate values already used for existing devices on a building's network.

3. Once the hubs have been added, click the 'Log Hubs' button.

The screenshot shows a software interface with a blue button labeled 'LOG HUBS' at the top. Below it is a section titled 'BACnet Settings' which contains a table with three columns: 'Port number', 'BBMD Address IP address', and 'BBMD Time to Live number'. The table has four rows, with the first row containing the value '17808' in the 'Port number' column and the second and third rows containing '47808' in the same column.

BACnet Settings		
Port number	BBMD Address IP address	BBMD Time to Live number
17808		
47808		
47808		

- 4. Rename the generated sockets. The name must begin with an alphabetical character and cannot contain numerical or special characters, except underscores “_”.
- 5. Update the location value for the generated sockets.

6. Assign each socket to a Hub.

Socket List

*Required Information
EXPORT this file to Commissioning APP for configuration.
Name of Sockets shall NOT have a numeric initial and only contain letters and underscore.

EXPORT

General						
No.	*Name	*Location	*Hub	Reference	Name for left outlet	Name for right outlet
6	GRD_MO_6	GRD_MO	HubKIT		WaterHeater	VendingMachine
7	GRD_MO_7	GRD_MO	HubKIT			
8	GRD_MO_8	GRD_MO	HubKIT			

7. *Optional: Enter reference details for the sockets. You can also allocate names to each outlet. This could be the name of the device that will be connected there, for example, "Name for Left Outlet: WaterHeater".*

8. Once all sockets are entered and assigned to a hub, click the 'export' button. This will produce an Excel file that can imported into the Connected Power Commissioning app.


Socket List

*Required Information
EXPORT this file to Commissioning APP for configuration.
Name of Sockets shall NOT have a numeric initial and only contain letters and underscore.

EXPORT

General						
No.	*Name	*Location	*Hub	Reference	Name for left outlet	Name for right outlet
6	GRD_MO_6	GRD_MO	HubKIT		WaterHeater	VendingMachine
7	GRD_MO_7	GRD_MO	HubKIT			
8	GRD_MO_8	GRD_MO	HubKIT			

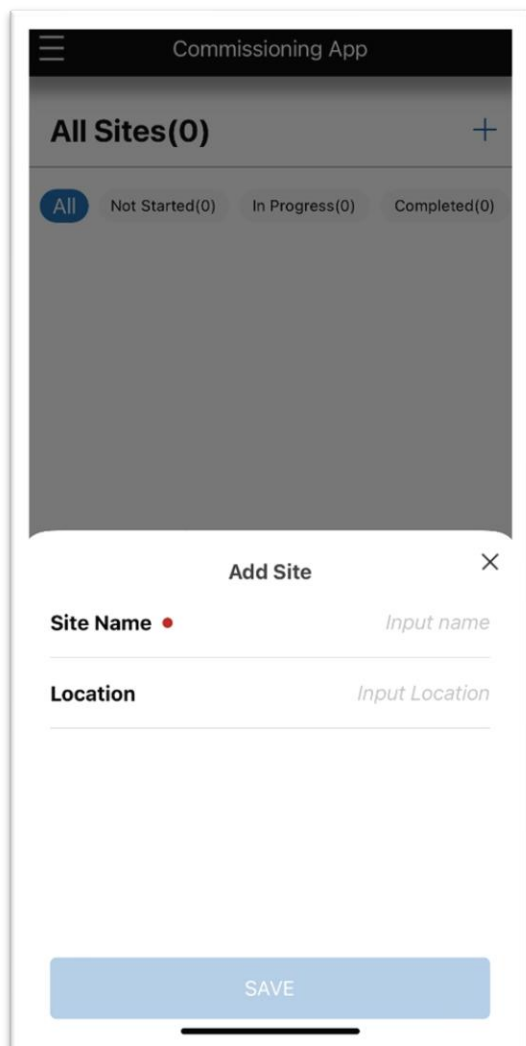
Setting up the network

The Connected Power Hubs and Connected Power Sockets are set up using the Honeywell Connected Power Commissioning app , which can be downloaded from the appropriate store (Google Play or Apple App store).

You will need to allow the Honeywell Connected Power Commissioning app to access your camera and Bluetooth via your smartphone or tablet settings.

Getting started with the Connected Power Commissioning App

Once the Connected Power Commissioning app has been downloaded and installed on your phone or tablet, you will be prompted to set up a site. Enter the site name and location to continue. Each site should correspond to a building estate to make it easier to configure each installation's Connected Power Hubs and Connected Power Sockets.

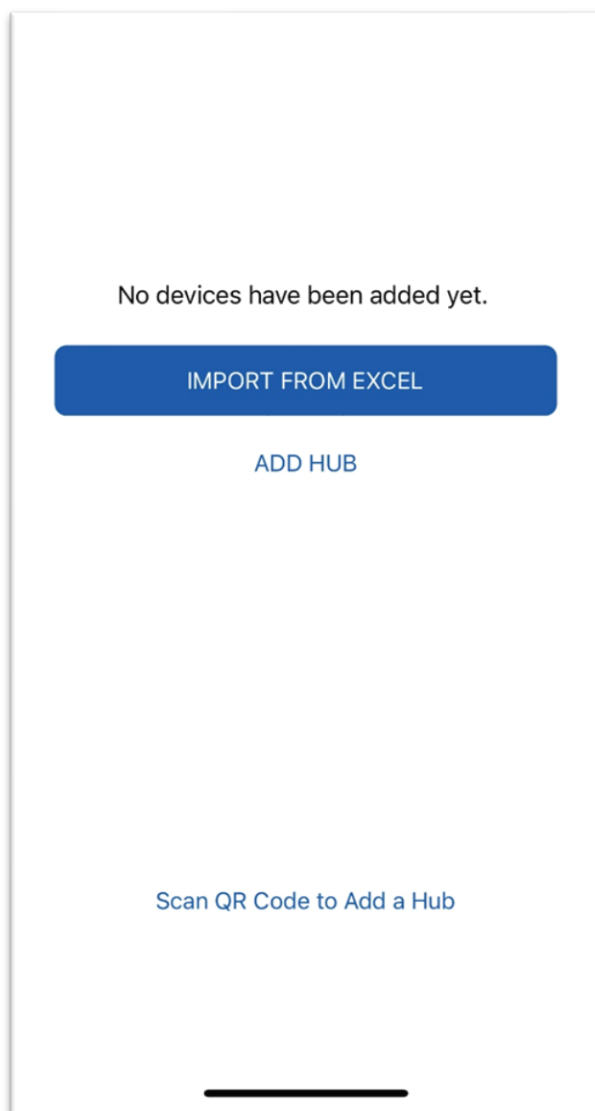


Commissioning a Connected Power Hub

Once you have created the installation site, you must add your Connected Power devices to it. These devices can then be configured via the app to connect properly to the IQ Vision Supervisor system. First, add a Connected Power Hub to the site.

Finding Connected Power Hubs

There are three ways to add Connected Power Hub: importing data from the Map Out Tool, scanning the QR code on the Connected Power Hub, or adding a hub manually.



Importing hubs via Map Out Tool

1. Select 'Import from Excel'. This will open the file explorer on your phone, from which you can select the Excel file generated from the Map Out Tool.
2. Choose the Excel file to import into the app. The app will then display all the devices added into the Map Out Tool.
3. Select a Hub to show each Connected Power Socket assigned to that hub. This will need to be configured before it is ready.
4. Within the hub's overview screen, select the 'Config' button to the right of the hub's name. This will cause the app to open your device's camera to scan the QR code located on the Connected Power Hub.
Note: if you have not yet granted camera permission for the app, you will be prompted to do so at this stage.
5. Continue with device configuration.

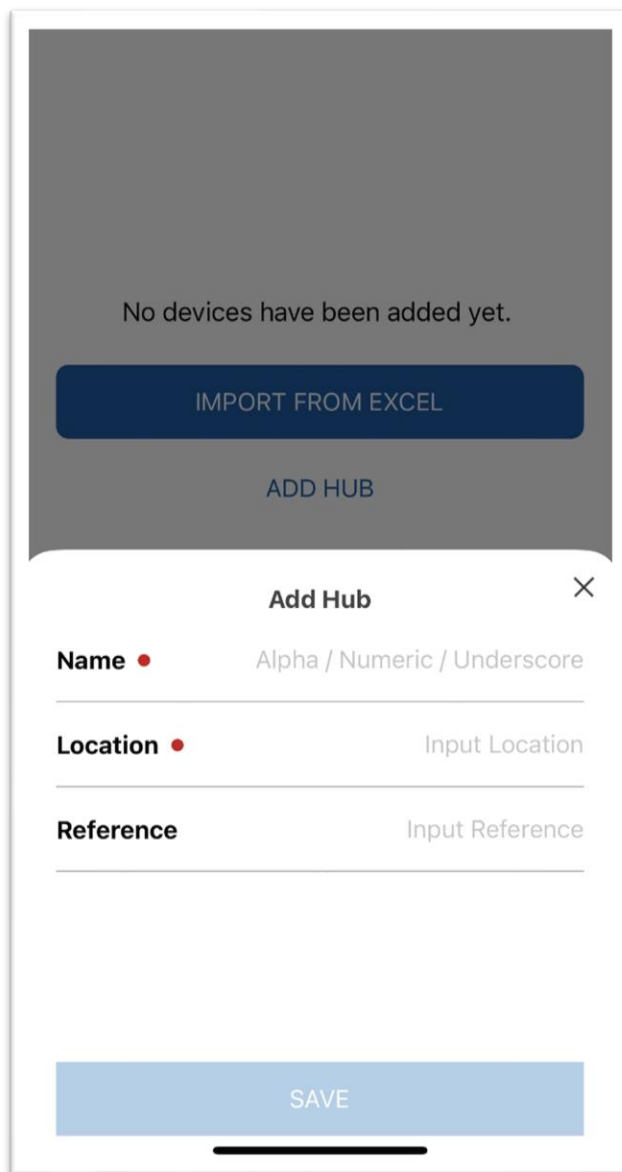
Scan hub QR code

1. Select the 'Scan QR Code to add a Hub' option at the bottom of the screen. This will open your device's camera to scan the code.
Note: if you have not yet granted camera permission for the app, you will be prompted to do so at this stage.
2. Scan the QR code on the Connected Power Hub that you wish to commission using the camera on your device.

3. The Connected Power Commissioning app will find the Connected Power Hub. If no Connected Power Hub is found, press and hold down the program button on the Connected Power Hub for 5 seconds to put it in commissioning mode. The Power LED on the Connected Power Hub will flash green 10 times.
4. Continue with device configuration.

Add a hub manually

1. Select 'Add Hub'.



No devices have been added yet.

IMPORT FROM EXCEL

ADD HUB

Add Hub X

Name • Alpha / Numeric / Underscore

Location • Input Location

Reference Input Reference

SAVE

2. Enter the Name for the Hub. This can only be a maximum of 16 characters and cannot include special characters (except for underscores "_"). The name must begin with an alphabetical character.
3. Enter a location and reference for the hub and select save. The hub is now ready for configuration.

Configuring a Connected Power Hub

A configuration screen will automatically open when a hub is found by the app.

- 1) Set up a password for the selected Connected Power Hub, and repeat it to confirm on the app, then press 'ok'.
- 2) Log into the Connected Power Hub using the password set up, then click on the arrow to fill in or edit the hub's name, location and reference on the Connected Power Hub information page. Then press 'next'.
- 3) The DHCP will automatically provide the Connected Power Hub with an IP address. However, it is recommended to assign a static IP address manually to the Connected Power Hub so that it does not change in the event of a power outage. To do this, switch off DHCP in the 'Ethernet settings 2/2', and manually enter IP Address, Subnet Mask and Gateway.
- 4) Ensure that the Port is set to 47808, if it has been set to a different value please change it back to 47808.
- 5) If network settings are changed, the Connected Power Hub will reset. Wait for 30 seconds for this to take place.
- 6) Once a hub has been set up and is in the network, the app will show that it is connected. Once it has been linked to any Connected Power Socket, the Bluetooth LED on the hub will show a green light for 3 seconds. It will then only show a green flashing light when data is being exchanged between the hub and sockets.
- 7) If the Bluetooth signal is interrupted, and the hub is disconnected, press the 'disconnected' button below the hub in question and the app will reconnect it. Once it has successfully reconnected, follow steps 2-5 to modify the Connected Power Hub's information.

Commissioning a Connected Power Socket

Finding Connected Power Sockets

Connected Power Sockets can be found on the app by either importing as part from the Map Out tool, scanning the QR code or connecting via Bluetooth.

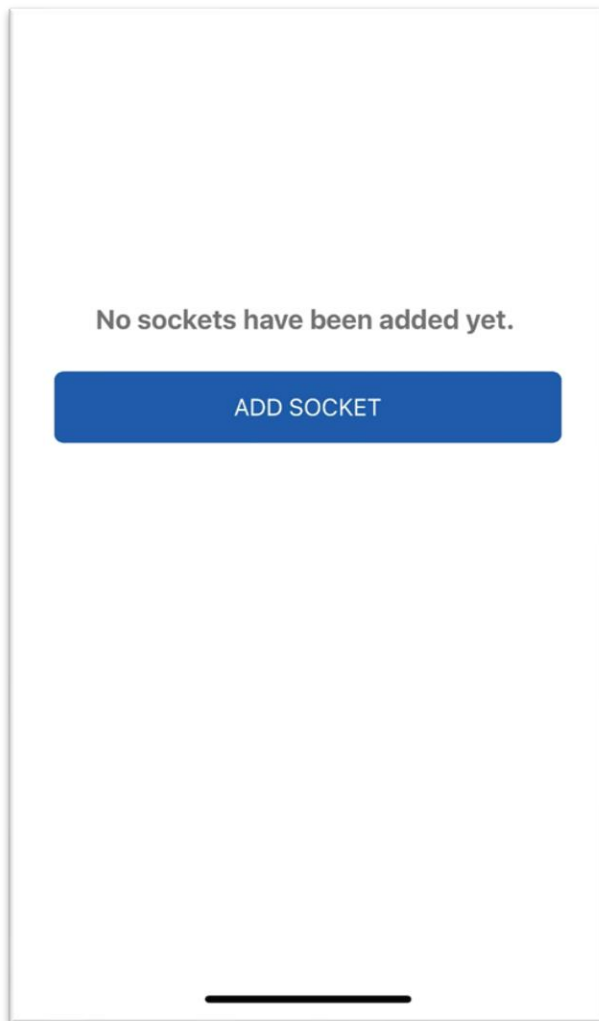
Import sockets via Map Out Tool

Connected Power Sockets that have been entered into the Map Out Tool will be automatically imported and assigned to their corresponding hub when importing a Map Out Excel file. See ['Importing hubs via Map Out tool'](#) section.

Scan QR code

1. Open the app and find the Connected Power Hub you require the socket to connect to, then press the ">" button.
2. Press the 'add socket' button, or '+' button on the right-hand side of the list of Connected Power Sockets. This will automatically open the

camera to scan for a QR code.



3. Scan the QR code on the Connected Power Socket that you wish to commission using the camera on your smartphone or tablet.
4. The Connected Power Commissioning app will find the Connected Power Socket. If no Connected Power Socket is found, or the Connected Power Socket you wish to commission is not on the list, press and hold down both buttons on the Connected Power Socket for 5 seconds to put it in commissioning mode. Both LEDs on the Connected Power Socket will flash green 10 times.

Via Bluetooth

1. Open the Connected Power Commissioning app and find the Connected Power Hub you require the Connected Power Socket to connect to, and press ">" button.
2. Press the '+' button on the right-hand side of the list of Connected Power Sockets. This will automatically open the camera to scan for a QR code. Select the 'No QR code' button in the lower right-hand side of the screen.
3. Ensure your Connected Power Socket is in commissioning mode. Press and hold down both buttons on the Connected Power Socket you wish to commission for 5 seconds. Both LEDs will flash green 10 times to confirm the device is ready to connect to the app.
4. The app will display a list of Connected Power Sockets found. If you can see the Connected Power Socket you need, skip to the ['Configuring a Connected Power Socket'](#) section.
5. If no Connected Power Socket is found, or the socket you wish to commission is not on the list, press the 'No Socket Found. Refresh' button at the bottom of the screen.

Configuring a Connected Power Socket

- 1) Select the Connected Power Socket you wish to commission
- 2) Press 'configure'
- 3) Press on the right hand side of the page to edit "Connect Connected Power Hub", "Location", "Reference", "Name for Left ID" and "Name for Right ID". When finished, select "Connect".

- 4) Once a socket has been set up and is in the network, the app will show that it has been successfully connected. The LEDs on the socket will show a green light for 3 seconds.
- 5) If you click on ">" to the right of the associated Connected Power Hub, you will be presented with Connected Power Hub Online and underneath, the configured number of Connected Power Socket(s)
- 6) After selecting the Connected Power Socket, press the 'Find' button and the Connected Power Socket will flash green 10 times on both rockers. This allows you to locate a specific Connected Power Socket.

ONBOARDING CONNECTED POWER HUBS TO THE IQVISION CONNECTED POWER MODULE

To onboard the Connected Power Hubs to Honeywell's IQVision building energy management system, please refer to the Connected Power Dashboard Manual TE201488 for more information.

Once a Connected Power Hub has been onboarded onto the Connected Power Module within IQVision, the LED above the 'network symbol' on the Connected Power Hub will show a green light for 3 seconds. It will then only show a green flashing light when data is being exchanged between the Connected Power Hub and the Connected Power Module within IQVision.

The default network port used for BACnet is 47808. Always change the port number on both the Connected Power Module within IQVision and the Connected Power Hub (via the 'Ethernet settings' page on the Honeywell Connected Power Commissioning Mobile app – see 'Commissioning a Connected Power Hub' section').

Once the hub has been linked to the Connected Power Module within IQVision, the Ethernet LED will show a single green flash for three seconds. It

will then only show a green flashing light when data is being exchanged between the hub and IQVision.

Protocol	Port	Type of communication	Allow through BMS firewall?	BMS Firewall Inbound/Outbound
foxs	4911	Station	No	Not allowed both
platformtls (Platform Port)	5011	niagarad (platform)	No	Not allowed both
http	80	Browser	Possibly for windows update	Inbound is not allowed / Outbound is allowed
https	443	Browser	Possibly for windows update	Inbound is not allowed / Outbound is allowed

Please refer to *Secure communication troubleshooting* section of the *Niagara Station Security Guide* and section 5.5 *Configure the Firewall* of the *IQVISION Configuration Manual* for more information on the network ports used in Connected Power Module within IQVision. Always enable and use secure connections and protocol. Non-secured ports and services are not recommended.

NETWORK MAINTENANCE

Adding an additional Connected Power Hub

- 1) To add more hubs, press the '+' button on the commissioning app's home page.

- 2) Enter the name, location and reference for the new hub. For more information see the 'Add a hub manually' guide, in the 'Commissioning a Connected Power Hub' section.
- 3) Follow the steps in the 'Configuring a Connected Power Hub' section.

Removing a Connected Power Hub

See Connected Power Hub NVM Reset section

Adding a Connected Power Socket

- 1) To add more Connected Power Sockets, select the appropriate hub and press the '+' button
- 2) Press 'Scan QR' or 'No QR code' to find the Connected Power Socket you want to add
- 3) Follow steps 3-4 in the 'Scan QR code', or steps 3-5 in the 'Via Bluetooth' in the 'Commissioning a Connected Power Socket' section
- 4) Select the Connected Power Socket you wish to add and press 'configure'.
- 5) Follow steps 2-5 in 'Commissioning a Connected Power Socket' above.

Adding multiple Connected Power Sockets

Multiple Connected Power Sockets can be added at the same time.

- 1) Select the Connected Power Sockets you wish to add and press 'configure'
- 2) A Connected Power Hub will automatically be assigned.

- 3) To rename multiple Connected Power Sockets at the same time, type in a name in the 'Batch Rename' field. The Connected Power Commissioning app will then rename the multiple selected Connected Power Sockets in sequence. For example, if you type in 'My Office', the Connected Power Commissioning app will rename the Connected Power Sockets one by one: "My Office 01" and "My Office 02" etc.
- 4) Press 'Connect'.
- 5) This process takes 1-5 minutes to complete. To check on progress, pull down this page to refresh.

Modifying Connected Power Socket Information

1. Ensure that the Connected Power Hub which is linked to the Connected Power Socket you wish to edit is connected to the Connected Power Commissioning app via Bluetooth.
2. Press the '>' button. You can then see a list of the sockets which are connected to this Connected Power Hub.
3. Press the 'pencil' icon next to the Connected Power Socket you wish to modify.

Removing a Connected Power Socket

1. Ensure that the Connected Power Hub which is linked to the Connected Power Socket you wish to edit is connected to the Connected Power Commissioning app via Bluetooth.
2. Press the '>' button. You can then see a list of the Connected Power Sockets which are connected to this Connected Power Hub.

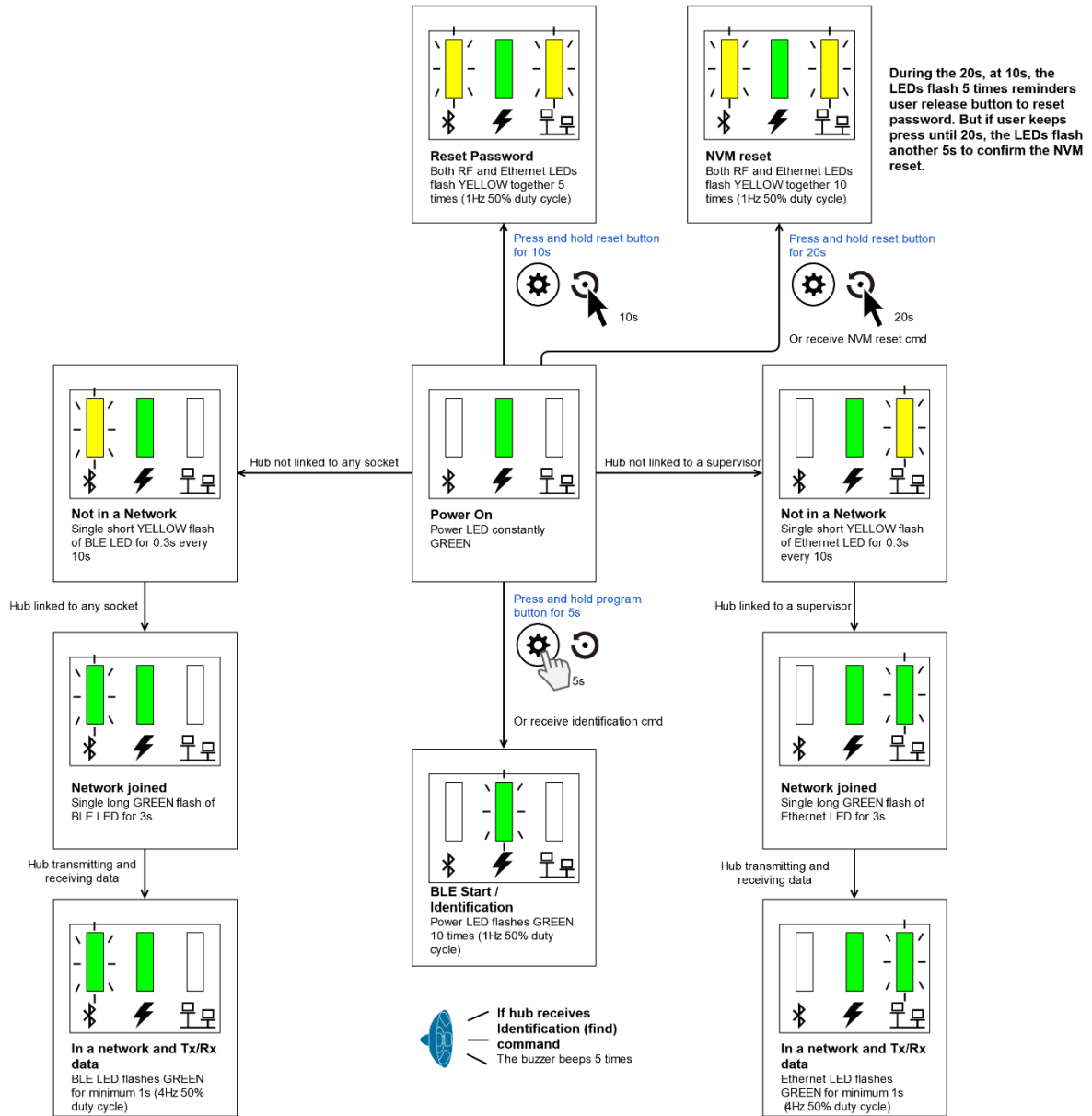
3. On the row in which the Connected Power Socket you wish to remove is located, swipe from right to left.
4. Two options will then appear on the right hand side – 'Replace' and 'Delete'. Press 'Delete'.
5. Once Connected Power Socket is removed from the network, single short ORANGE flash of both outlet LEDs together for 0.3s every 10s.

Replacing a Connected Power Socket with a new Connected Power Socket

1. Ensure that the Connected Power Hub which is linked to the Connected Power Socket you wish to edit is connected to the Connected Power Commissioning app via Bluetooth.
2. Press the '>' button. You can then see a list of the Connected Power Sockets which are connected to this Connected Power Hub.
3. On the row in which the Connected Power Socket you wish to replace is located, swipe from right to left.
4. Two options will then appear on the right hand side – 'Replace' and 'Delete'. Press 'Replace'.
5. The Connected Power Commissioning app will delete the Connected Power Socket you no longer wish to use
6. Press and hold down the Rockers on the new Connected Power Socket you wish to use for 5 seconds to put it into commissioning mode.
7. The Connected Power Commissioning app will discover the new Connected Power Socket. Press 'Replace' followed by 'Confirm' to complete the process.

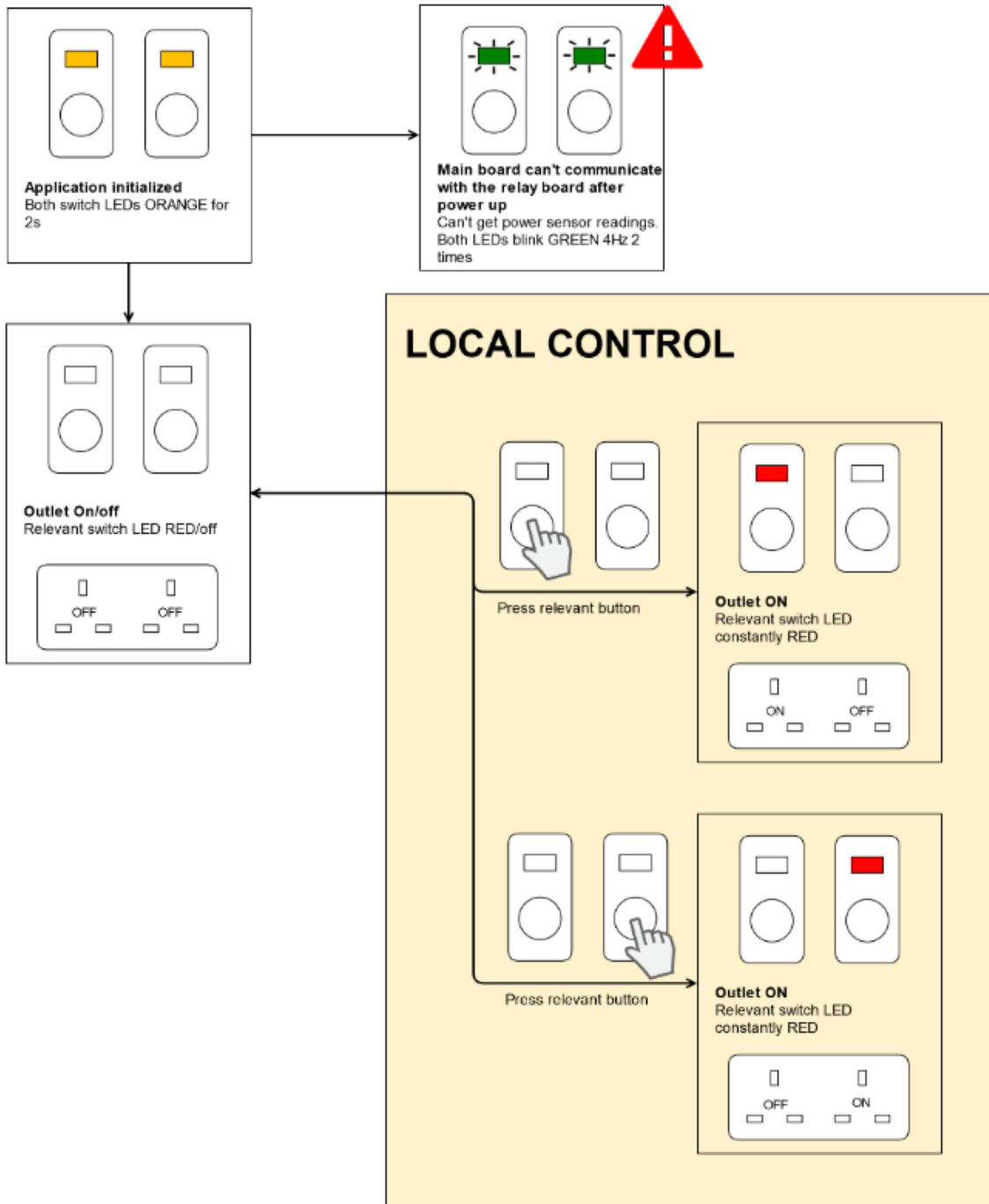
LED INDICATIONS

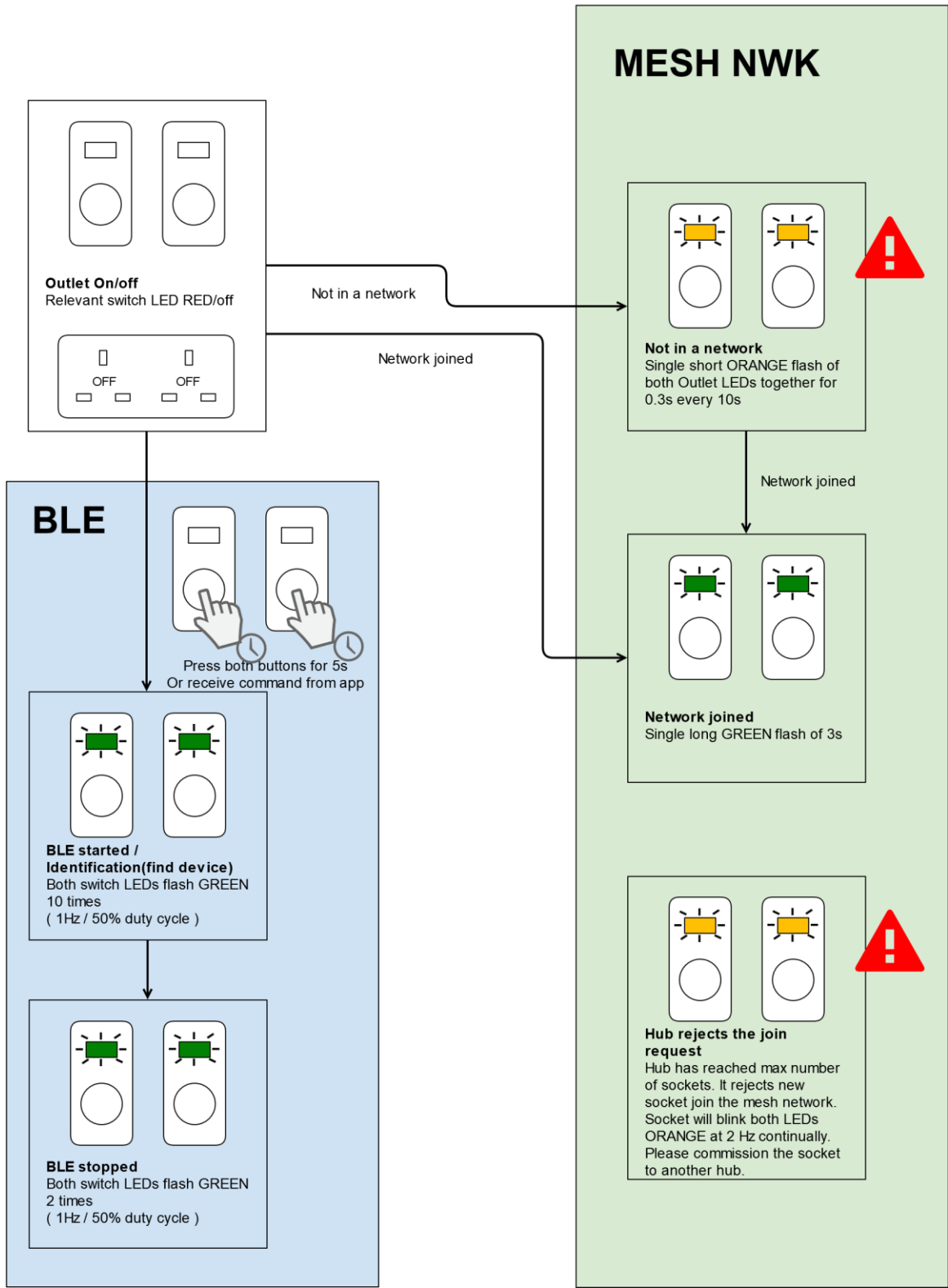
Connected Power Hub



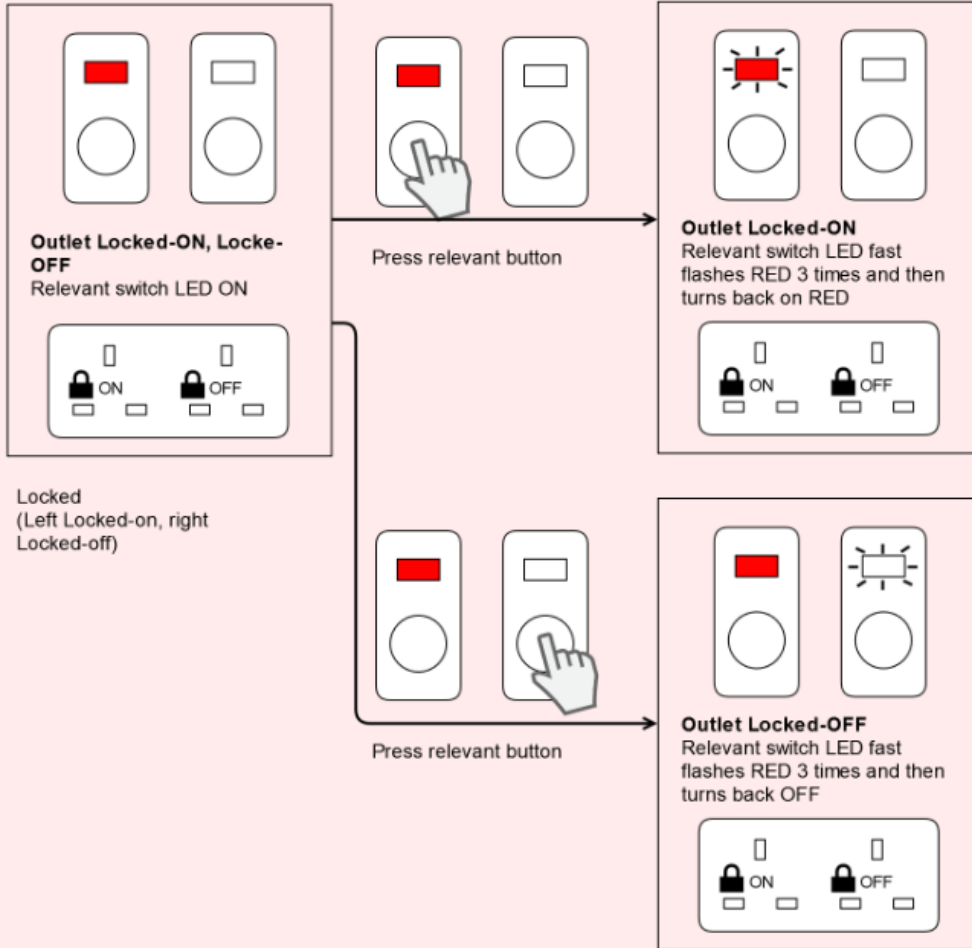
Connected Power Socket

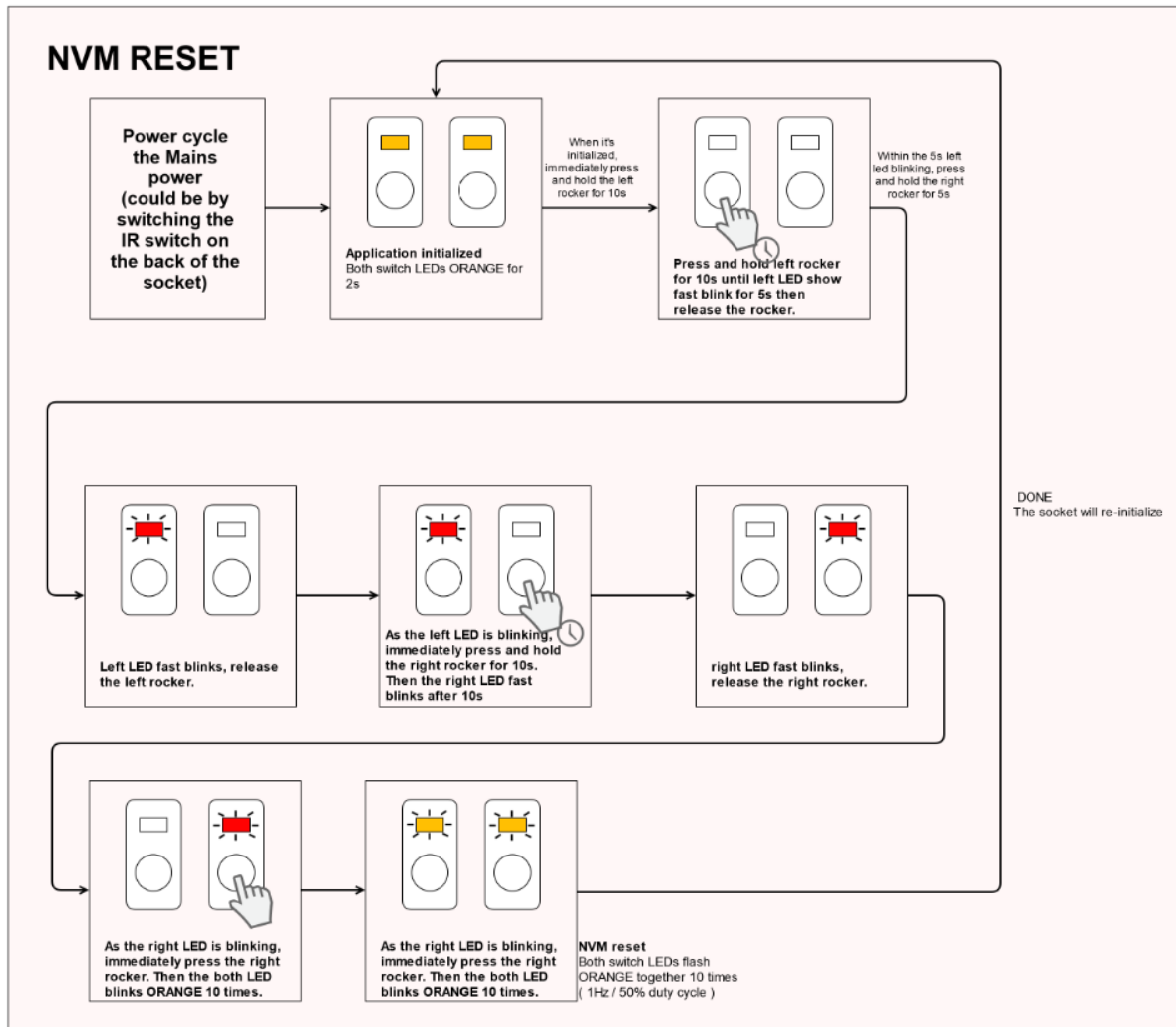
POWER UP





LOCK






TROUBLESHOOTING

Connected Power Hub password reset


Should a user lose or forget their password, it can be reset using the below procedure:

- 1) Insert a suitable tool into the reset button  and hold for 10 seconds. Both the Bluetooth and Ethernet LEDs will flash yellow together 5 times

2) Follow step 1 in the '*Setting up password and modifying Connected Power Hub information*' section

Connected Power Hub NVM reset

In the event of a Connected Power Hub being commissioned to the wrong Connected Power Socket(s), or the Connected Power Hub being attached to the wrong network, its memory can be cleared by performing an NVM (non-volatile memory) reset using the procedure below:

To perform an NVM reset on a Connected Power Hub, insert a suitable tool into the reset button  and hold for 20 seconds. Both the Bluetooth and Network LEDs on the Connected Power Hub will flash yellow together 10 times. This will clear the Connected Power Hub's non-volatile memory (NVM), allowing it to be recommissioned.

Connected Power Socket NVM reset

In the event of a Connected Power Socket(s) being commissioned to the wrong Connected Power Hub, its memory can be cleared by performing an NVM reset using the procedure below:

To perform a NVM reset on a Connected Power Socket, press and hold down the left rocker for 10 seconds. The left LED will blink quickly in red for five seconds. During this time, release the left rocker, and immediately press and hold down the right rocker for 10 seconds. The right LED will then blink quickly in red. Whilst it is blinking, press the right rocker again. Both LEDs will then blink in orange 10 times.

Once the Connected Power Socket has been reset, both LEDs will show an orange light for 2 seconds.

This procedure will clear the Connected Power Socket's non-volatile memory, allowing it to be recommissioned.

If Connected Power Socket(s) fails and becomes unpowered, it cannot be NVM reset, however Connected Power Socket(s) can be deleted using the Connected Power Commissioning App.

Carrying out insulation resistance tests on a Connected Power Socket

The IR switch, which is used as part of 500V insulation resistance testing, can be accessed from the top face of the Connected Power Socket. Before commencing the insulation resistance test, ensure that IR Switch is in the OPEN Position "0", this will prevent damaging the electronic circuitry. Once the insulation resistance test has passed, in preparation for commissioning the Connected Power Socket the user should ensure the IR Switch is in the Closed Position "1". Please refer to the Connected Power Socket Leaflet 32353388 for more details about location of IR Switch.

WARNINGS AND PRECAUTIONS

- 1) To ensure a safe installation:
 - i. This product should be installed by a competent person (e.g. a qualified electrician) in accordance with these instructions and the appropriate clauses of the current edition of the IEE Wiring Regulations (BS 7671).
 - ii. It is essential that all connections are made as instructed, that cables are not stressed and that terminal screws are fully tightened.
 - iii. The Connected Power Hub should be used for indoor usage only.

- 2) Ensure that all electrical connections are correct and fully secured and that the product is screwed securely to its mounting box before turning the mains electricity supply on.
- 3) Ensure that the Connected Power Hub is physically secure, and that only authorised persons can access the Connected Power Hub.
- 4) Ensure that the network installation, operation and maintenance follows the Supervisor's security guide.
- 5) Ensure that the Connected Power Hub is on a separate dedicated physical network or virtual network for BACnet communication.
- 6) Only authorised persons can open the device terminal cover(s).

CONTACT INFORMATION

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