### 5.5.4    Summary of Connections



| # | Item | Terminal or connector | Connect to |
|---|------|----------------------|-----------|
| F | Quick connect plug for IB2 BUS. Can be used if module is stacked on top of Control Panel or Remote Power Supply. | | |
| G | IB2 BUS | +12V | 12 VDC supply terminal |
| | | – | 0 VDC supply terminal |
| | | C | IB2 bus C |
| | | D | IB2 bus D |
| H | Relay 1–4 | NC | Normal Closed terminal |
| | | C | Common terminal |
| | | NO | Normal Open terminal |
| | | Wire the relays between the common **C** terminal and the normal closed **NC** or normal open **NO** terminals. | |

### 5.5.5    Example Functions

#### 5.5.5.1    Relay Function = Smoke Detector Reset

To use a relay for resetting smoke detectors, wire as follows:
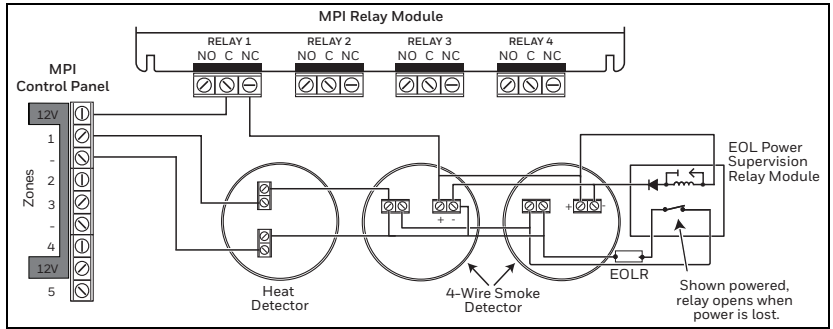


#### 5.5.5.2    Relay Function = Interior/Exterior Siren

To use a relay for adding additional sirens/sounders, wire as follows:
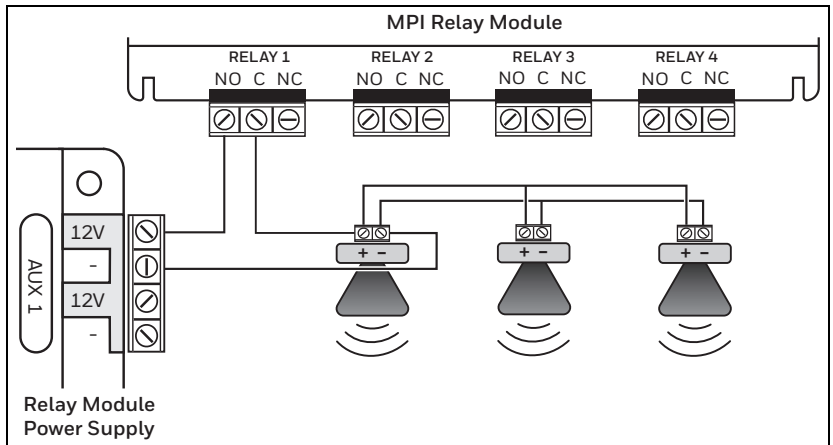


> ⚠ **Caution!**
>
> The schematic above shows a non-supervised siren configuration. It is not intended for primary notification appliances.
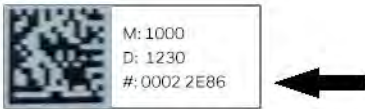
## 5.5.6     Programming

### 5.5.6.1     Module Assignment

MAXPRO Cloud will automatically detect IB2 bus devices in Installer Mode. It registers the device with the unique identifier on the label attached to the device.

To register the device in MAXPRO Cloud, proceed as follows:

1.     Log into MAXPRO Cloud. Go to the appropriate customer, site, and control panel (= "controller" in MAXPRO Cloud).
2.     Switch **CONTROLLER MODE** to **Installer** to scan for new devices.
3.     After scanning, click **VIEW ALL**.
4.     In the **New Devices** list, select the desired device. You can recognise the device by its unique identifier (see the label on the device).



5.     Specify the basic settings for the device (**Device Name**...), and then click **Register**. The system has automatically filled in the IB2 bus ID and the device's serial number.
6.     After registering, fill in the device's **Settings** tab (and other tabs if applicable) to fully configure the device. For a summary of settings, see *Configuration in MAXPRO Cloud* on page 124. For details, see the MAXPRO Cloud online help.

### 5.5.6.2     Output Configuration

You configure the outputs on the Relay Module in the same way as for the Control Panel.

## 5.5.7     LED Indicators

| LED Colour | Indication | Function |
|---|---|---|
| Green | Steady blink (0.1s on, 0.9s off) | Power and IB2 communication good |
| Red | Steady | Powered but not communicating on IB2 |
| – | Off | No power or communication |

## 5.6    MPI Zone Expander MPIEIO84U

### 5.6.1    About the MPI Zone Expander

The MAXPRO Intrusion (MPI) Zone Expander module (MPIEIO84U) provides eight additional hardwired zones for use with MPI Control Panels. Furthermore, it offers four additional low-voltage trigger outputs. The module may be mounted remotely in its own enclosure, or together with an MPI Control Panel or MPI Remote Power Supply in a cabinet.

### 5.6.2    Features

- Provides eight hard-wired zones for burglary and fire inputs. The zones support the following zone wiring types:
    - Supervised EOLR, normal open or normal closed
    - Double Balanced
    - Triple Balanced.

- Provides four programmable low-voltage trigger outputs (i.e. arming LEDs, smoke detector power reset, etc.).
- The outputs switch to ground when activated. For outputs that require a known state (logical 0/1), you can customise the outputs to use a pull-up resistor by fitting jumpers on the outputs.
- Lid and off-wall tamper protection, bypassable through MAXPRO Cloud programming.
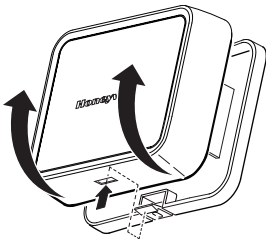
### 5.6.3    Mounting

You can install the Zone Expander against a wall in its own enclosure, or:

- You can install up to two Zone Expander modules in a cabinet on top of and/or next to an MPI Remote Power Supply.
- You can install one in a cabinet on top of the MPI Control Panel.

The procedure below is for mounting the device on the wall in its own enclosure. For installing in a cabinet, see *Cabinet Mounting with Control Panel or Remote Power Supply* on page 96.

To mount the device on the wall in its own enclosure, proceed as follows:

1.    Press the tab at the bottom of the lid and remove the lid.

2.   Fix the device to the wall using the 4 large screws (**B**).
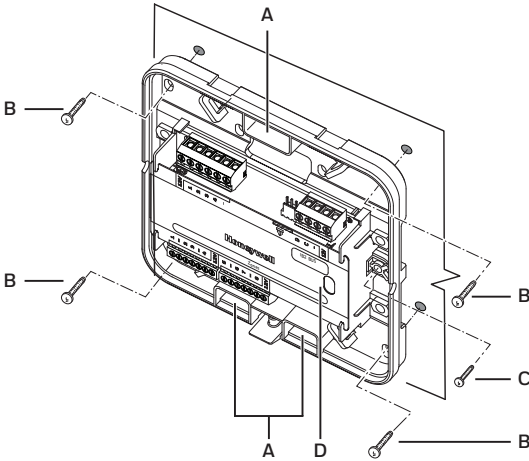


| **A** | Opening for wiring (x 3) | **C** | Tamper screw (x 1). Required for off-wall tamper protection. |
|---|---|---|---|
| **B** | Mounting screw (x 4) | **D** | LED indicator |

3.   Screw the tamper screw (**C**) into the wall. This screw provides off-wall tamper protection.

4.   For wiring, see *Summary of Connections* on page 83.

5.   Use cable ties to bundle and fix wiring. The PCB holder has various attachments point for this purpose.

6.   Click the lid back in place and fix it using the small lid screw (**E**).
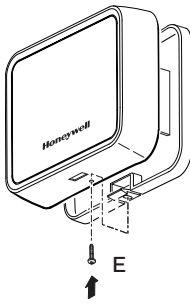
### 5.6.4    Summary of Connections
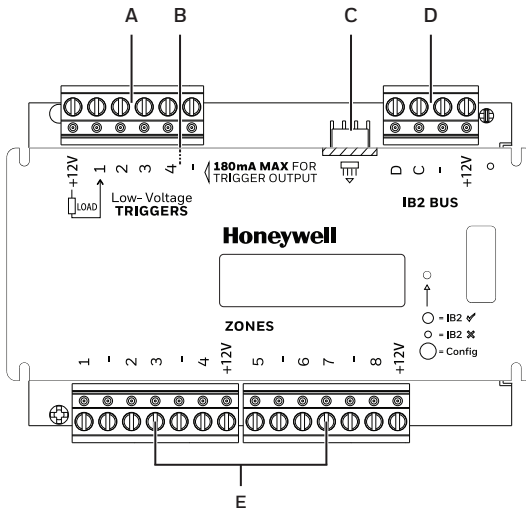


| # | Item | Terminal or connector | Connect to |
|---|------|-----------------------|------------|
| **A** | Triggers (outputs) | +12V 1–4 | Wire the **+12V** to the output device, and then use one of the trigger terminals **1** to **4** to switch to ground. The outputs will switch to ground when activated. |
| **B** | Jumpers | For outputs requiring logical state (0/1), fit jumpers on the outputs to use a pull-up resistor. Lift the info card to have access to the jumpers. | |
| **C** | Quick connect plug for IB2 BUS. Can be used if module is stacked on top of control panel or remote power supply. | | |

| # | Item | Terminal or connector | Connect to |
|---|------|----------------------|------------|
| **D** | IB2 BUS | +12V | 12 VDC supply terminal |
| | | – | 0 VDC supply terminal |
| | | C | IB2 bus C |
| | | D | IB2 bus D |
| **E** | Zones | +12V | Auxiliary 12 VDC. |
| | | 1–8<br><br>– | For zones (sensor contact inputs). Wire between the [–] terminals and the terminals 1–8.<br>Default supervision: EOLR (2K). For details and more options, see *Wiring Inputs (Zones)* on page 39.<br>Terminate unused zones using resistors. |

### 5.6.5    Wiring the Zones

The zones are suitable for both burglary and fire inputs.

> ⚠ **Caution!**
>
> Make sure to select the appropriate zone wiring type, depending on the zone function (burglary, fire).

You wire the zones in the same way as the zones on the Control Panel. For details, see *Zone Wiring Types* on page 39.

### 5.6.6    Wiring the Trigger Outputs

Wire the **+12V** to the output device, and then use one of the trigger terminals **1** to **4** to switch to ground. The outputs will switch to ground when activated. Max. current is 180 mA for each trigger.
For outputs that require a known state (logical 0/1), you can customise the outputs to use a pull-up resistor by fitting jumpers on the outputs. To reach the jumpers, lift up the info card.
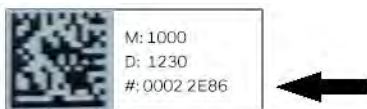
### 5.6.7     Programming

**Module Assignment**

MAXPRO Cloud will automatically detect IB2 bus devices in Installer Mode. It registers the device with the unique identifier on the label attached to the device.

To register the device in MAXPRO Cloud, proceed as follows:

1.    Log into MAXPRO Cloud. Go to the appropriate customer, site, and control panel (= "controller" in MAXPRO Cloud).
2.    Switch **CONTROLLER MODE** to **Installer** to scan for new devices.
3.    After scanning, click **VIEW ALL**.
4.    In the **New Devices** list, select the desired device. You can recognise the device by its unique identifier (see the label on the device).

M: 1000
D: 1230
#: 0002 2E86

5.    Specify the basic settings for the device (**Device Name**...), and then click **Register**. The system has automatically filled in the IB2 bus ID and the device's serial number.
6.    After registering, fill in the device's **Settings** tab (and other tabs if applicable) to fully configure the device. For a summary of settings, see *Configuration in MAXPRO Cloud* on page 124. For details, see the MAXPRO Cloud online help.

**Zone and Output Configuration**

You configure the zones and outputs (triggers) on the Zone Expander in the same way as for the Control Panel.

### 5.6.8     LED Indicators

| LED Colour | Indication | Function |
|---|---|---|
| Green | Steady blink (0.1s on, 0.9s off) | Power and IB2 communication good |
| Red | Steady | Powered but not communicating on IB2 |
| – | Off | No power or communication |

# 5.7    MPI Remote Power Supply MPIPSU35

## 5.7.1    About the MPI Remote Power Supply

The MPI Remote Power Supply is a supplemental smart power supply. In the event the total current draw of all modules connected to the control panel's auxiliary output is exceeded, the Remote Power Supply (RPS) provides additional 12 VDC power outputs to those modules and peripherals requiring additional power (such as door control modules, keypads, motion detectors, glass break detectors, sounders, etc.). Furthermore, it provides four programmable low-voltage trigger outputs.

## 5.7.2    Features

### Outputs

Provides two independent, fully protected monitored 12 VDC power outputs. Each output supports 1.5 A.

In the event a short on an output exists, the built-in PTCs isolate the shorted loop from the other outputs.

### Backup Batteries

- Supports up to two backup batteries (combined 36 Ah max.).
- Provides battery supervision.
- Automatically detects connected battery(ies), monitors and reports connection status (on power-up or in installer mode); monitors the terminal voltage of each battery independently.
- Disconnects battery when voltage falls below a specific voltage threshold (deep discharge protection).

> ⚠ **Caution!**
>
> Replace the battery or batteries according to the manufacturer's specifications and schedule. Dispose of used batteries according to local regulations.

### Control Integration

Monitors the auxiliary power supply voltages and communicates the status to MAXPRO Cloud.

### System Expansion

The cabinet can hold extra modules including the RPS's batteries, and up to two additional devices; one to the right of the RPS and one on top of the RPS holder.
Suitable devices are: Door Control Modules, Zone Expanders, and Relay Modules.
For an example, see *About the Cabinet* on page 25.

### Tamper

Provides two tamper switches (lid and off-wall). You can bypass the tamper switches by fitting a jumper on the required tamper input.

> ⊙ **Caution!**
>
> Bypassing tamper inputs may invalidate compliance with local regulations.

### Triggers

Provides four programmable low-voltage trigger outputs.

The outputs switch to ground when activated. For outputs that require a known state (logical 0/1), you can customise the outputs to use a pull-up resistor by fitting jumpers on the outputs.

## 5.7.3    Monitoring/Reporting Options

There is a Diagnostics section for each RPS in MAXPRO Cloud. The system will generate and report the events. The following status information is available on the RPS's **Diagnostics** tab:

- Incoming power supply voltage.
- Total load current.
  Reports the sum of the AUX1 and AUX2 power output currents.
- Battery charge current.
  Reports the sum of the charge current for both batteries; or charger failure if unable to charge.
- Individual monitoring and reporting for AUX1 and AUX2.
  Reports output voltage, and circuit protection (fuse) status.
  The PTCs for each of the AUX outputs serve as automatic resetting fuses.
- Individual monitoring and reporting for each battery.
  Each battery is tested and reported individually once every hour.
  Reports voltage and fuse status.

> (i) **Note**
>
> The PTC on trigger 4 is not monitored. For the position of trigger 4, see *Summary of Connections* on page 90.
>
> The measured values (voltages, currents, resistance values) in the **Diagnostics** screen are indicative values only and intended for relative comparison purposes. They are not calibrated readings.

## 5.7.4    Mounting

> ⚠ **Warning!**
>
> High voltage is present in the cabinet's built-in AC power adapter!

### 5.7.4.1    Installation in the Cabinet

To mount the RPS in the cabinet, proceed as follows:

1.  For instructions on installing the cabinet and wiring the AC power adapter, see *Mounting the Cabinet* on page 29, and *Wiring the AC Power Supply in the Cabinet* on page 106.
2.  Position the RPS over the screw holes in the cabinet (**N** on page 28) and click it into position.
3.  Secure the RPS to the mounting rails in the cabinet using the 2 screws supplied with the RPS.
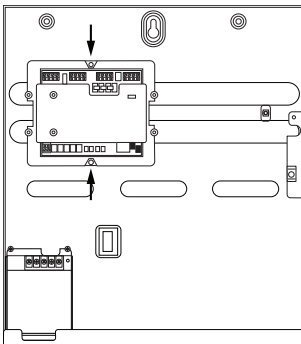


4.  Connect the input voltage, cabinet tamper switches, and backup batteries as described below.

| Connection | From | To RPS |
|---|---|---|
| Power | **V+** and **V–** terminals on cabinet's built-in AC power adapter | **+** and **–** terminals (**13.8VDC**) |
| | For detailed instructions on connecting input voltage to the RPS, see *Powering the Main Board* on page 109. | |
| Cabinet tamper switches | Door tamper switch | **T–LID** |
| | Optional wall tamper switch (not included) | **T-WALL** |
| Backup batteries | **+** and **–** terminals on backup batteries | **+** and **–** terminals **Batteries 1** and **Batteries 2**. |
| | For detailed instructions on installing backup batteries, see *Battery Installation* on page 117. | |



| | | | |
|---|---|---|---|
| **A** | Remote Power Supply | **D** | Backup battery |
| **B** | Optional wall tamper switch (not included) | **E** | Door tamper switch |
| **C** | Cabinet's built-in AC power adapter | **F** | Optional: additional MPI module. For details, see further below. |
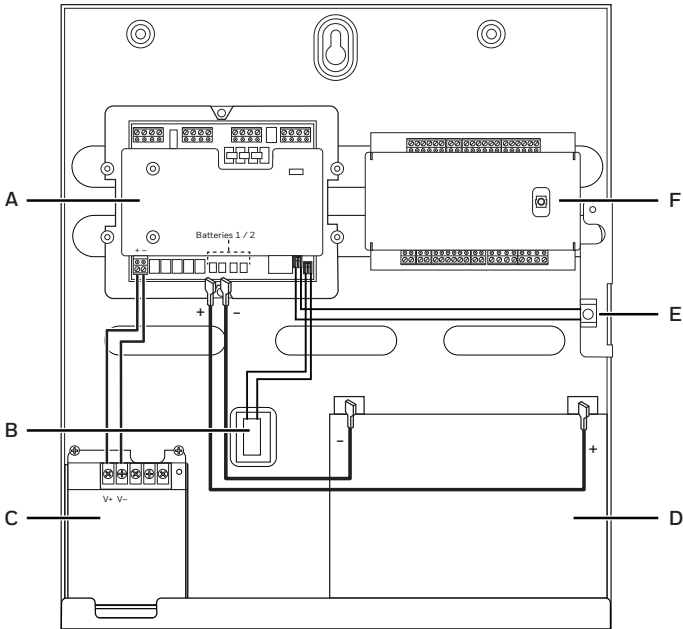
> (i) **Note**
>
> The cabinet provides several knockouts for leading wires to/from devices, in the back of the cabinet or at the sides. For details, see *Cabinet Parts* on page 27.

**Optional**: you can install up to 2 extra modules in the cabinet with the RPS:

- One to the right of the RPS (example in illustration further above).
- One on top of the RPS.

Suitable extra modules are: Door Control Modules, Zone Expanders, and Relay Modules. Before installing extra modules, wire the connections to the RPS first. If you stack another module on top of the RPS, the module will cover the info card indicating the RPS connectors. In this case, fix the RPS spare info card to the inside of the cabinet lid. For details, see *Cabinet Mounting with Control Panel or Remote Power Supply* on page 96.

### 5.7.4.2    Installing Backup Batteries

For details on determining the required battery capacity and installing the batteries, see *Installing Backup Batteries* on page 110.

### 5.7.5    Summary of Connections

**UL**   You must run all cabling to the remote power supply in conduit.
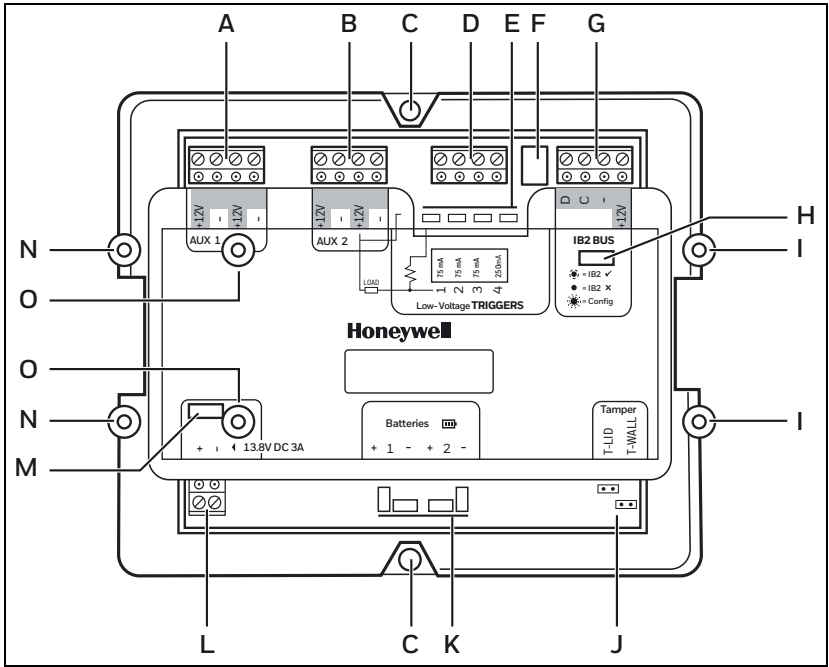
| # | Item | Terminal or connector | Connect with |
|---|------|------------------------|--------------|
| **A** | AUX 1 | +12V<br>–<br>(x 2) | Auxiliary 12 VDC output; connect to the device that you want to power via auxiliary output 1.<br>The board has two sets of terminals on AUX 1. |
| **B** | AUX 2 | +12V<br>–<br>(x 2) | Auxiliary 12 VDC output; connect to the device that you want to power via auxiliary output 2.<br>The board has two sets of terminals on AUX 2. |
| **C** | Screw hole (x 2) | | Screw holes for mounting the Remote Power Supply in the cabinet. One at the top, one at the bottom. |
| **D** | Triggers (x 4) | 1–4 | For outputs. For details, see *Wiring Outputs (Triggers)* on page 93. |
| **E** | Jumpers (x 4) | | Jumpers for the triggers. |

| # | Item | Terminal or connector | Connect with |
|---|------|----------------------|--------------|
| F | Quick connect plug for IB2 BUS (can be used for module stacked on top of main board; quick connect cable is included). | | |
| G | IB2 BUS | +12V | 12 VDC supply terminal for devices connected to the IB2 bus. |
| | | ⚠ **Caution!**<br><br>This output is for keypads and other IB2 bus expansion modules. Do not connect this to the +12V of the control panel or any other power supply. For details, see *IB2 Bus Connection* on page 93. | |
| | | – | 0 VDC supply terminal for devices connected to the IB2 bus. |
| | | C | IB2 bus C |
| | | D | IB2 bus D |
| H | IB2 bus LED | For details, see *IB2 Bus LED Indicators* on page 95. | |
| I | Positioning pin (x 2) for stacked MPI module (optional). The top pin has a screw hole for fixing the stacked module. | | |
| J | Tamper | T-LID | Cable from the cabinet's door tamper switch. |
| | | T-WALL | Cable from the cabinet's wall tamper switch (optional, not included). |
| K | Batteries 1/2 | + | + terminal on backup battery 1/2 |
| | | – | – terminal on backup battery 1/2 |
| | | ⓘ **Note**<br><br>You must install at least one battery. | |
| L | 13.8 VDC | + | Input voltage: V+ terminal on cabinet's built-in AC power adapter |
| | | – | Input voltagel: V– terminal on cabinet's built-in AC power adapter |
| M | Power LED indicator | • Green: Power input available on main board.<br>• Off: Power input not available on main board. | |
| N | Positioning pin (x 2) for stacked MPI Door Control Module (optional). The bottom pin has a screw hole for fixing the stacked module. | | |

| # | Item | Terminal or connector | Connect with |
|---|------|------------------------|--------------|
| O | Positioning pin (x 2) for stacked MPI Zone Expander or MPI Relay Module (optional). The bottom pin has a screw hole for fixing the stacked module. | | |

> ⚠ **Caution!**
>
> Incorrect wiring of the AC power supply input (**L**, 13.8 VDC) may cause **permanent and irreparable damage** to the main board.

### 5.7.6    IB2 Bus Connection

To correctly wire the IB2 bus and the devices when using an MPI Remote Power Supply, see the illustration below.

> ⚠ **Caution!**
>
> IB2 Bus +12 VDC Output: this output is for keypads and other IB2 bus expansion modules. **Do not connect** this to the +12V of the control panel or any other power supply.
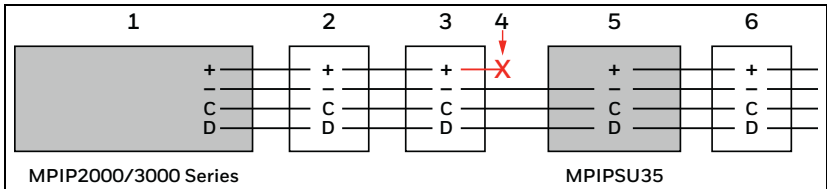


| 1 | Control Panel | 4 | Do **NOT** connect incoming +12V to the RPS's IB2 bus! |
|---|---------------|---|--------------------------------------------------------|
| 2 | Device on IB2 bus | 5 | Remote Power Supply |
| 3 | Device on IB2 bus | 6 | Device on IB2 bus after Remote Power Supply |

### 5.7.7    Wiring Outputs (Triggers)

The Remote Power Supply has four programmable low-voltage **trigger outputs** (**D** on page 91): for arming LEDs, smoke detector power reset, etc. Wire the **AUX +12V** to the output device, and then use one of the trigger terminals **1** to **4** to switch to ground. The outputs will switch to ground when activated. The max. currents are:

- 75 mA each for triggers 1–3.
- 250 mA for trigger 4.

> ⚠ **Caution!**
>
> The PTC on trigger 4 is not monitored.

For outputs that require a known state (logical 0/1), you can customise the outputs to use a pull-up resistor by fitting jumpers (**E** on page 91) on the outputs.

You can program the triggers using MAXPRO Cloud. For details, see the *MAXPRO Cloud Configuration Guide* (doc. no. 800-24096).

### 5.7.8 Programming

#### 5.7.8.1 Programming Options

The following options are programmable:

- **Triggers** (Outputs)
  - Options in MAXPRO Cloud: The system automatically assigns an output number to each trigger that you configure. Furthermore, you can specify the Output Name, the Start Trigger and Stop Trigger, additional settings for the pulse stop trigger, Areas, and Output Polarity.
  - Hardware options: The outputs switch to ground when activated. For outputs that require a known state (logical 0/1), you can customise the outputs to use a pull-up resistor by fitting jumpers on the outputs.

> ⓘ **Note**
>
> Trigger programming on the Remote Power Supply is identical as for the triggers on the Control Panel.

#### 5.7.8.2 Programming

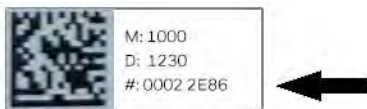MAXPRO Cloud will automatically detect IB2 bus devices in Installer Mode. It registers the device with the unique identifier on the label attached to the device.

To register the device in MAXPRO Cloud, proceed as follows:

1. Log into MAXPRO Cloud. Go to the appropriate customer, site, and control panel (= "controller" in MAXPRO Cloud).
2. Switch **CONTROLLER MODE** to **Installer** to scan for new devices.

3. After scanning, click **VIEW ALL**.

4. In the **New Devices** list, select the desired device. You can recognise the device by its unique identifier (see the label on the device).

M: 1000
D: 1230
#: 0002 2E86

5. Specify the basic settings for the device (**Device Name**...), and then click **Register**. The system has automatically filled in the IB2 bus ID and the device's serial number.

6. After registering, fill in the device's **Settings** tab (and other tabs if applicable) to fully configure the device. For a summary of settings, see *Configuration in MAXPRO Cloud* on page 124. For details, see the MAXPRO Cloud online help.

> ⓘ **Note**
>
> In Installer Mode, the system will detect how many batteries are connected, and it will lock the correct number on exiting Installer Mode.

### 5.7.9    IB2 Bus LED Indicators

| LED Colour | Indication | Function |
|---|---|---|
| Green | Steady blink (0.1s on, 0.9s off) | Power and IB2 communication good |
| Red | Steady | Powered but not communicating on IB2 |
| – | Off | No power or communication |

### 5.7.10    Maintenance

The RPS, batteries, and AC power adapter (in the cabinet) do not contain any user serviceable components. No further calibration checks or adjustments are required.

# 5.8 Cabinet Mounting with Control Panel or Remote Power Supply

You can install IB2 modules in a cabinet with a Control Panel or a Remote Power Supply, instead of in their own enclosure. The following options exist:

- In a cabinet with a Control Panel: you can install one module on top of the Control Panel.
  Suitable modules are: Relay Modules and Zone Expanders.
- In a cabinet with a Remote Power Supply: you can install up to two modules; one to the right of the RPS and one on top.
  Suitable modules are: Relay Modules, Zone Expanders, and Door Control Modules.

To mount a module in the cabinet, proceed as follows:

1. Before mounting a module in the cabinet, wire the connections to the panel/RPS main board first.
2. If you stack another module on top, the stacked module will cover the info card indicating the panel/RPS connectors. In this case, fix the panel/RPS spare info card to the inside of the cabinet lid.
3. Press the tab at the bottom of the lid and remove the lid.
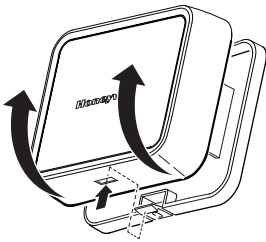


4. Gently remove the module from its enclosure: with the back facing towards you, push the two tabs **upwards** and then rotate the module towards you.
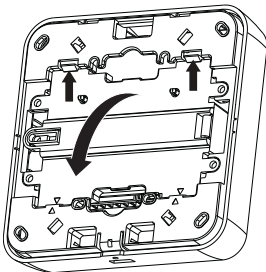
> ⓘ **Note**
>
> You may have to remove the info card before removing the
> module from its enclosure.

5. Mount the module in the cabinet as follows:

   ○ On top of the Control Panel: fit the module over the positioning pins
   on the panel, and fix the module using 2 screws (top right, bottom left).
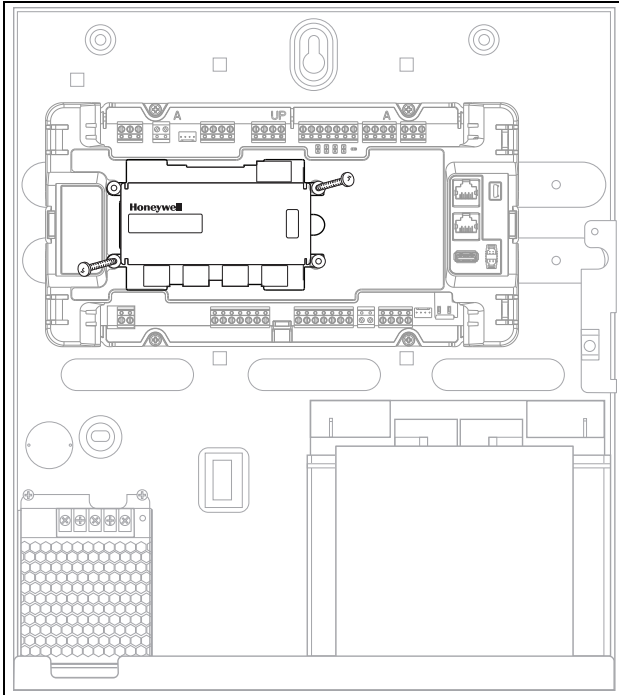
- To the right of the RPS: fix the module to the mounting rails in the cabinet using 4 screws. The example below shows a DCM.
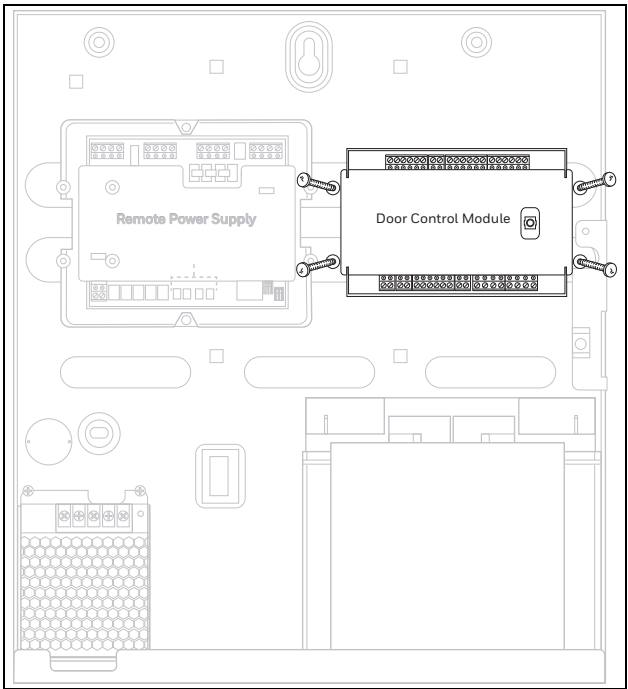
○ On top of the RPS: fit the module over the positioning pins on the RPS, and fix using 2 screws (top right, bottom left). The example below shows a DCM.
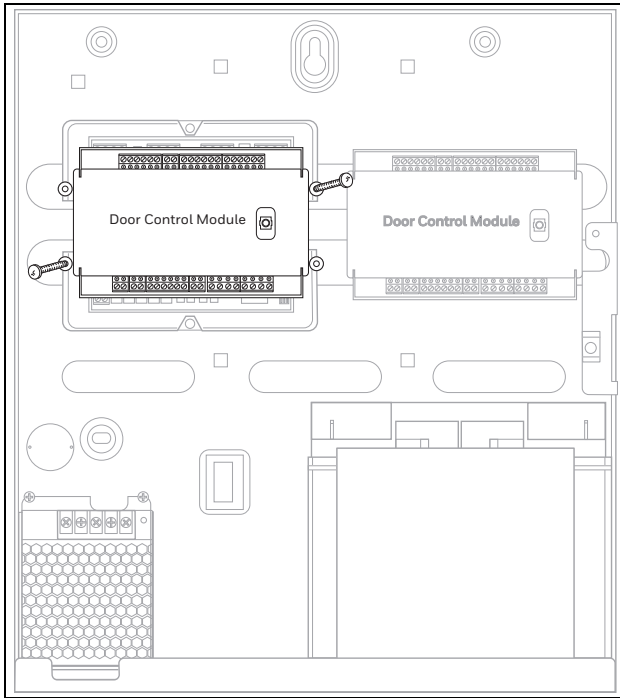


6.  Wire the module in the normal way. Tip: you can use a quick connect cable (supplied with the panel or RPS) to connect the module to the IB2 Quick connector on the panel (**#** or **#** on page 33) or the RPS (**F**, see page 90).

7.  If mounting in a cabinet, the module's built-in tamper switches (lid and off-wall) will go into alarm. To prevent this, disable its built-in tampers in MAXPRO Cloud.

> ⓘ **Note**
>
> If mounting in a cabinet, you do not use the module's tamper screw.

### Placing a Module Back in its Enclosure

To place the module back in its enclosure:

- Align the arrows on the back of the enclosure with the arrows on the back of the module, then rotate the module and click it into place.
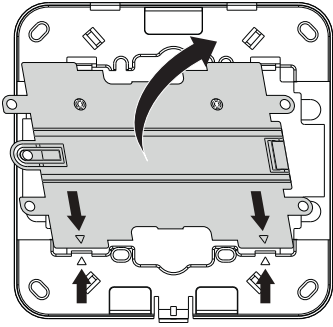
# 6    Installing V-Plex Devices

## 6.1    About V-Plex Devices

For an overview of compatible V-Plex devices, see *Parts List* on page 183.

The V-Plex loop is a multiplex loop (or polling loop) that supports low-current addressable sensors, as well as single, dual, and 8-zone expanders. The V-Plex loop provides both power and data to the V-Plex devices, and is constantly monitoring the status of all zones enabled on the loop. The maximum current draw of all devices on the V-Plex loop cannot total more than 128 mA.

> (i)    **Note**
>
> V-Plex devices that can be programmed via either DIP switches or the built-in unique serial number must be set for the **serial number mode operation**. DIP switch zone devices are not supported; the MPI control panel only supports devices in serial mode.

You must wire all devices on the V-Plex loop in parallel to the [+] and [−] V-Plex loop terminals of the control panel. You can wire the peripherals on the V-Plex loops in a daisy-chain, free star, or spur configuration.

**Notes on Wiring**

- For new V-Plex loop installations, always use twisted pair wiring. In many cases, you may use existing non-twisted pair wiring, but it is more susceptible to interference from other sources, and may be problematic in installations with long wire runs or in high noise environments.

- Always locate V-Plex loop wiring at least 6 inches (15 cm) away from AC power, telephone, or intercom wiring. The V-Plex loop carries data between the control panel and the devices; interference on this loop can cause an interruption of communication. The V-Plex loop can also cause outgoing interference on the intercom or phone lines. If this spacing cannot be achieved, shielded wire must be used. (Note that the maximum total wire length supported is cut in half when shielded wire is used).

- Recommendation if using parallel wire runs: do not draw more than 64 mA on any individual wire run. This will enhance the reliability of the system.

**When Using Multiple Loops (MPIP3000 Series Only)**

- When using two V-Plex loops (MPIP3000 series panels only), always connect/configure devices to loop 1 (Vplex BUS 1) first. Do not use loop 2 (Vplex BUS 2) if there are no devices on loop 1.

- Multi-loop V-Plex devices must be kept together on the same loop, either loop 1 (Vplex BUS 1) or loop 2 (Vplex BUS 2). You cannot deploy them across different loops.
- The control panel only supervises loop 1.

### Notes on Inputs and Outputs

- V-Plex outputs are always physically part of a V-Plex input device. The output is always associated with the zone number allocated to the input side of the V-Plex device. The system supervises the outputs for connectivity and lid tamper via the zone side of the device.
- You need to define a zone first before you can define an output. To add a zone, you need to enter the device's serial number in MAXPRO Cloud.
- Supported V-Plex outputs are trigger/relay style outputs only.

## 6.2    V-Plex Connections

### 6.2.1    Supervision

- The MPI system supervises the V-Plex polling loop. The system can annunciate a short circuit on the V-Plex loop on the keypads and in MAXPRO Cloud. It will also monitor each of the configured devices for presence.
- If a zone expander on the V-Plex loop fails (the panel cannot "see" that device), the system displays a trouble condition for all zones on that device (i.e. 4208SN).
  A tamper condition on the device will also cause a trouble on that zone. If the device has multiple zones, such as a 4208SN, then all zones on that device will indicate a trouble condition.
- If it is a single zone, only that zone will display a trouble condition.
- If the area is armed when a device fails, and the zone is a burglary zone, the system will go into alarm.

> (i) **Note**
>
> A short or open circuit on the V-Plex loop itself prevents an area from being armed, unless all zones on that loop are bypassed.

### 6.2.2    V-Plex Loop Short

The system will indicate the V-Plex loop short when there is a physical short, a low voltage on the loop, or too much current (exceeding 128 mA).

- The panel recognizes a short when the voltage on the V-Plex loop drops to 4.5 VDC or below.
- Isolate this by checking voltage on the V-Plex loop with wires connected and with all wires removed.
  Note that the voltage normally fluctuates between 7 and 11 VDC.

### 6.2.3    Limitations of V-Plex Cable Runs

#### 6.2.3.1    Determining the Maximum Wire Length per V-Plex Loop

To determine the maximum wire length per V-Plex loop, proceed as follows:

1.  Use Table 2 (further below) for unshielded cable and Table 3 for shielded cable.
2.  Determine the maximum load of each device, and add them together to determine the maximum wire length from the tables.
    Example:
    The 4190SN requires 2.0 mA. One 4208SN requires 27.3 mA. The total load for one 4208SN plus five 4190SNs on the same loop would be (27.3 + 10.0) = 37.3 mA.
3.  Locate the row in the table selected in step 1 corresponding to the sum of all device currents determined in step 2.
    Example:
    A total load current of 37.3 mA, corresponds to the row of (33–40) mA.
4.  Determine the maximum wire length from the size, or gauge, of the wire used.
    Example:
    - The maximum wire length of No. 20 AWG wire for a total device load of 37.3 mA is 4,680 feet if you use either unshielded (Table 2) or shielded (Table 3) wire.
    - If you use No. 18 AWG wire instead, the maximum allowable wire length would be 7,410 feet for unshielded cable, and 6,000 feet for shielded wire.

**Table 2: V-Plex loop wiring distance (feet) using unshielded twisted pair (or non-metal conduit)**

| Total Load (mA @ 11.5 VDC) | Wire Gauge | | | |
|---|---|---|---|---|
| | 22 AWG | 20 AWG | 18 AWG | 16 AWG |
| 1–16 | 12,000 | 12,000 | 12,000 | 12,000 |
| 17–24 | 4,850 | 7,810 | 12,000 | 12,000 |
| 25–32 | 3,640 | 5,850 | 9,260 | 12,000 |

| Total Load (mA @ 11.5 VDC) | Wire Gauge | | | |
|---|---|---|---|---|
| | 22 AWG | 20 AWG | 18 AWG | 16 AWG |
| 33–40 | 2,910 | 4,680 | 7,410 | 11,760 |
| 41–48 | 2,420 | 3,900 | 6,170 | 9,800 |
| 49–56 | 2,080 | 3,350 | 5,290 | 8,400 |
| 57–64 | 1,820 | 2,930 | 4,630 | 7,350 |
| 65–72 | 1,620 | 2,600 | 4,110 | 6,540 |
| 73–80 | 1,450 | 2,340 | 3,700 | 5,880 |
| 81–88 | 1,320 | 2,130 | 3,370 | 5,350 |
| 89–96 | 1,210 | 1,950 | 3,090 | 4,900 |
| 97–104 | 1,120 | 1,800 | 2,850 | 4,520 |
| 105–112 | 1,040 | 1,670 | 2,650 | 4,200 |
| 113–120 | 970 | 1,560 | 2,470 | 3,920 |
| 121–128 | 910 | 1,460 | 2,310 | 3,680 |

Table 3: V-Plex loop wiring distance (feet) using shielded twisted pair (or metal conduit); one side of the shield to ground

| Total Load (mA @ 11.5 VDC) | Wire Gauge | | | |
|---|---|---|---|---|
| | 22 AWG | 20 AWG | 18 AWG | 16 AWG |
| 1–16 | 6,000 | 6,000 | 6,000 | 6,000 |
| 17–24 | 4,850 | 6,000 | 6,000 | 6,000 |
| 25–32 | 3,640 | 5,850 | 6,000 | 6,000 |
| 33–40 | 2,910 | 4,680 | 6,000 | 6,000 |
| 41–48 | 2,420 | 3,900 | 6,000 | 6,000 |
| 49–56 | 2,080 | 3,350 | 5,290 | 6,000 |
| 57–64 | 1,820 | 2,930 | 4,630 | 6,000 |
| 65–72 | 1,620 | 2,600 | 4,110 | 6,000 |
| 73–80 | 1,450 | 2,340 | 3,700 | 5,880 |
| 81–88 | 1,320 | 2,130 | 3,370 | 5,350 |
| 89–96 | 1,210 | 1,950 | 3,090 | 4,900 |
| 97–104 | 1,120 | 1,800 | 2,850 | 4,520 |
| 105–112 | 1,040 | 1,670 | 2,650 | 4,200 |
| 113–120 | 970 | 1,560 | 2,470 | 3,920 |
| 121–128 | 910 | 1,460 | 2,310 | 3,680 |

### 6.2.3.2    Wiring Notes and Recommendations

- Twisted, stranded, non–shielded cable is recommended. Avoid sharp bends in the wire.
- Shielded cable, running Aux power in the same jacket, and/or running wire in metallic conduit increases the capacitance of the wire run, which limits distances.
- Avoid running the cable near keypad wiring, intercom, or AC power lines, or anything emitting RF noise.
- V-Plex devices that can be programmed via either DIP switches or the built-in unique serial number must be set for the **serial number mode operation**. DIP switch zone devices are not supported; the MPI control panel only supports devices in serial mode.
- Shielded wire should have one end of the shield to good Earth Ground.

## 6.2.4    Load

The maximum load on one or more V-Plex loops with a single supporting control panel is 128 mA.

# 7    Powering the System

## 7.1    Wiring the AC Power Supply in the Cabinet

⚠ **Caution!**

This product is not suitable for installation, maintenance, or connection by the user. A competent, qualified installer must carry out installation and maintenance.

⚠ **Warning!**

Do not connect to a receptacle controlled by a switch.
During installation, make sure the control panel is disconnected from the AC power supply.

ⓘ **Note**

Upon a total power failure, the control panel will ignore and not transmit alarm or supervisory information for a stabilization period of 120 seconds following restoration of power. Within 60 seconds at the end of the stabilization period, the control panel shall initiate the transmission of a power restoration signal code, if the system supervision report is enabled in MAXPRO Cloud.

There are two ways to connect AC power to the cabinet's AC power adapter:

- Using a suitable power cable with a plug and attaching it to the pre-wired power plug on the side of the cabinet. You can use the power cable included with the cabinet. For details, see *Using the Pre-installed Plug in the Cabinet* on page 107.
- Using AC wiring in conduit. In this case, you have to uninstall the cabinet's pre-wired plug, and then connect the AC wires manually. For details, see *Using Conduit* on page 108.

> ⚠ **Caution!**
>
> No other connections to the AC power supply terminals are permitted than the ones described in the procedures below. All wiring must be in accordance with local regulations.
>
> Incorrect wiring of the AC power supply may cause **permanent and irreparable damage** to the main board of the Control Panel or Remote Power Supply.

The cabinet AC power adapter does not contain any user serviceable components. No further calibration checks or adjustments are required.

> ⓘ **Note**
>
> You can add up to 2 backup batteries (max. 18 Ah, up to 2 x 9 Ah) in one cabinet. For instructions and further specifications, see *Installing Backup Batteries* on page 110.

> ⓘ **Note**
>
> For 36 Ah battery capacity, you need to install 2 x 18 Ah batteries. You will need a second tamper-protected cabinet to house the second battery. You connect the second battery to the Battery 2 terminals on the control panel in the first cabinet.

### 7.1.1    Using the Pre-installed Plug in the Cabinet

The cabinet comes with the internal wiring of the AC power adapter pre-installed, and a special plug to easily connect the external AC power cable to the cabinet.

Furthermore, the cabinet comes with an AC power cable and a clamp to fix the cable to the connector.

The AC power cable used must be a three-core type (with green/yellow earth insulation) of adequate current carrying capacity. Follow local laws and regulations regarding cable types and length.

To install the power cable, proceed as follows:

1.  Screw the included cable clamp over the AC power plug to the side of the cabinet using the two screws provided.
2.  Plug the power cable into the AC power plug to the side of the cabinet.
3.  Tighten the screw on the cable clamp to fix the power cable.
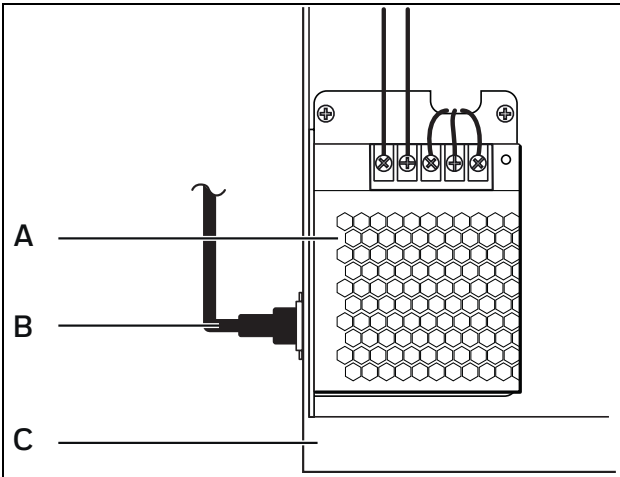
| A | Cabinet's AC power adapter | C | Cabinet |
|---|----------------------------|---|---------|
| B | AC power cable | | |
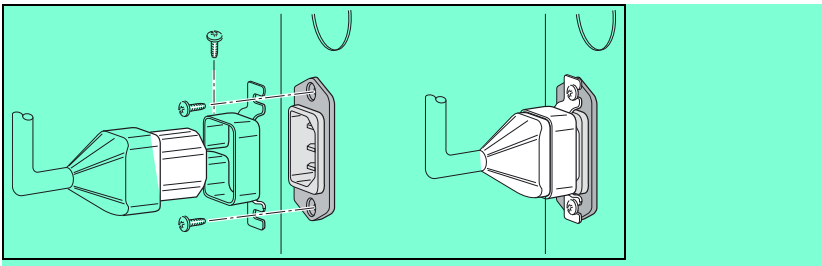


### 7.1.2    Using Conduit

If you need to run the power cabling in conduit, then you can wire the AC power as follows:

1.  Remove the pre-installed power plug at the side of the cabinet, and the internal wiring from the plug to the AC power adapter.
2.  Use a cover plate to close the knockout that previously held the power plug.
3.  Route the AC power cable from the conduit through a suitable hole in the cabinet walls (back or left-hand side panel).

4.  Wire the AC power cable (**A**) to the cabinet AC power adapter (**E**) as follows:

| AC power supply wire | Connect to terminal on AC power adapter |
|---|---|
| Line (**B**) | L |
| Neutral (**C**) | N |
| Earth (**D**) | ⏚ |



| **A** | AC power cable | **D** | Earth wire (typically yellow/green) |
|---|---|---|---|
| **B** | Line wire (typically brown) | **E** | Cabinet's AC power adapter |
| **C** | Neutral wire (typically blue) | **F** | Cabinet |
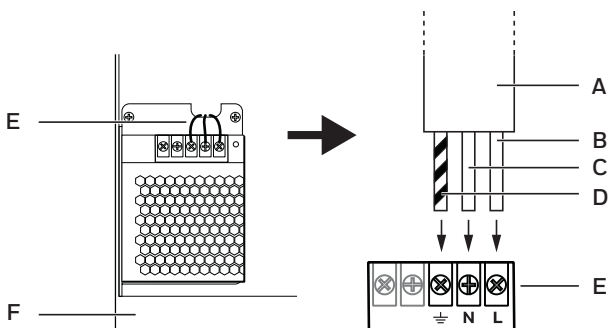
# 7.2    Powering the Main Board

The cabinet's AC power adapter outputs (**B**, see image below) are pre-wired with red and black leads and a terminal block at the end to connect to the **13.8 VDC** input pins (**A**, see image below) of the main board of the control panel or RPS. Slide the terminal block over the input pins, making sure the connections are as follows:

| From AC power adapter terminal | To main board terminals (13.8 VDC) |
|---|---|
| V– (black lead) | – |
| V+ (red lead) | + |

> ⚠ **Caution!**
>
> Incorrect wiring of the AC power supply input may cause **permanent and irreparable damage** to the control panel's main board.

---

The green LED (**C**) on the AC power adapter will light up when AC power is present.
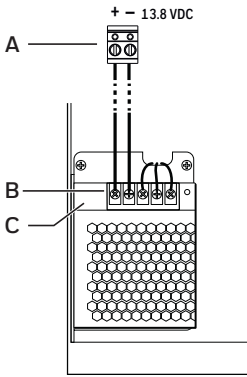
⚠ **Caution!**

No other connections to the AC power supply terminals are permitted than the ones described in the procedures below. All wiring must be in accordance with local regulations.

Incorrect wiring of the AC power supply may cause **permanent and irreparable damage** to the main board of the Control Panel or Remote Power Supply.

# 7.3     Installing Backup Batteries

Each Control Panel and each Remote Power Supply need at least one backup battery to ensure continued operation in case of a power failure. You can install up to 2 backup batteries (max. 18 Ah, up to 2 x 9 Ah) inside one cabinet. You can place the battery or batteries on the bottom of the cabinet, to the right of the built-in AC power adapter.

ⓘ **Note**

For 36 Ah battery capacity, you need to install 2 x 18 Ah batteries. You will need a second tamper-protected cabinet to house the second battery. You connect the second battery to the Battery 2 terminals on the control panel in the first cabinet.

The sections below provide instructions for calculating the control panel load, so that you can determine the required battery capacity for your application.

### 7.3.1    Maximum Current Draw

#### 7.3.1.1    On the Control Panel

The following table shows the (theoretical) maximum current that may be drawn from each individual output on the control panel:

| Output | Maximum Current Draw |
|---|---|
| Auxiliary 1 (AUX1 +12V, IB2 bus 1) | MPIP2000U series: 1,500 mA max. / MPIP3000U series: 1,100 mA max. |
| Auxiliary 2 (AUX2 +12V, IB2 bus 2 – MPIP3000 series only) | MPIP3000U series: 1,100 mA max. |
| Auxiliary 3 (AUX3 +12V, optional LTE module) | 1,100 mA max. |
| Bell 1 | 1,800 mA |
| Bell 2 (MPIP3000 series panels only) | 1,800 mA |
| V-Plex 1 | 128 mA |
| V-Plex 2 (MPIP3000 series only) | 128 mA |

#### 7.3.1.2    On the MPI Remote Power Supply

For the MPI Remote Power Supply, the maximum current that may be drawn from each individual output (AUX1 and AUX2) is 1,500 mA.

### 7.3.2    Determining the Control Panel's Load

Use the tables that follow to calculate the total current for the auxiliary power, the V-Plex loop, and the alarm sounders. In each table, multiply each device's standby and/or alarm current by the number of units used.

#### 7.3.2.1    Auxiliary Power

In Table 4, enter the devices used on auxiliary power. Calculate standby and alarm currents, then add to get the aux power current subtotal. If using two buses/aux powers, fill in a table for each one. Two tables are provided below.

- **Aux 1** = zones 1–10; triggers, devices on IB2 bus 1 (if powered by the control panel and not by an extra remote power supply), and devices using the auxiliary +12V at the top left (**#** on page 34).
- **Aux 2** = devices on IB2 bus 2 (if powered by the control panel and not by an extra remote power supply).

**Table 4: Total IB2 Bus/ Aux Power Current Draw**

| Aux 1 | | | Total Current | |
|---|---|---|---|---|
| Device Model | Device Current x No. of Units = | | Standby | Alarm |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Auxiliary Power Subtotal<br>MPIP2000 Series: Aux 1; max. 1500 mA<br>MPIP3000 Series: Aux 1; max. 1100 mA | | | | |

For MPIP3000 series with a second IB2 bus/Aux power, use the table below for the second bus/Aux power:

| Aux 2 (for MPIP3000 series only) | | | Total Current | |
|---|---|---|---|---|
| Device Model | Device Current x No. of Units = | | Standby | Alarm |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Auxiliary Power Subtotal<br>(Aux 2; max. 1100 mA) | | | | |

### 7.3.2.2    V-Plex Loop

In Table 5, enter devices used on the V-Plex loop. Calculate the total current draw on the loop. If using two loops, fill in a table for each one. Two tables are provided below:

**Table 5: Total V-Plex Loop Current Draw**

| V-Plex Loop 1 | | | |
|---|---|---|---|
| V-Plex Loop Device | Current | # of Units | Total |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| V-Plex Loop Subtotal (max. 128 mA) | | | |

For MPIP3000 series with a second V-Plex loop, use the table below for the second loop:

| V-Plex Loop 2 (for MPIP3000 series only) | | | |
|---|---|---|---|
| V-Plex Loop Device | Current | # of Units | Total |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| V-Plex Loop Subtotal (max. 128 mA) | | | |

> ⓘ **Note**
>
> The total current for each loop individually cannot exceed 128 mA. Note that the total number of points connected to the panel cannot exceed 119.

### 7.3.2.3    Alarm Sounders

In Table 6, enter the alarm sounders. Calculate alarm currents, then add to get the alarm output current subtotal.

Alarm sounders = Bell 1 and Bell 2 (**E** on page 34), external siren on AUX3 (**P** on page 34). The maximum current on each bell circuit is 1800 mA. Bell 2 is only available on the MPIP3000 series.

**Table 6: Alarm Sounder Loads**

| Alarm Sounders | | | Total Current | |
|---|---|---|---|---|
| Device Model | Device Current x No. of Units = | | Standby | Alarm |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | | | XXXXXX | |
| | Alarm Sounder Output Subtotal | | | |

### 7.3.2.4    Total

In Table 7, enter the total calculated subtotals of all listed outputs from Table 4 through Table 6, then add to get the combined current. Remember to add also the currents for the control panel itself and, if applicable, the optional LTE module.

**Table 7: Total Current Load**

| | Total Current | |
|---|---|---|
| | Standy | Alarm |
| Aux 1 Power Subtotal (see Table 4) | | |
| Aux 2 Power Subtotal (see Table 4, if used) | | |
| V-Plex Loop 1 Power Subtotal (see Table 5) | | |
| V-Plex Loop 2 Power Subtotal (see Table 5, if used) | | |
| Alarm Sounder Output Subtotal (see Table 6) | | |
| LTE module, if present | (45 mA) | (240 mA) |
| MPI PCB Current | | |
| Total Current Load | | |

### 7.3.3    Determining the Size of the Standby Battery

The table below indicates the maximum total output currents allowed, in function of the battery capacity and the required standby time:

| Max. Total Output Current (AUX + V–Plex) + Alarm Sounders | | |
|---|---|---|
| Battery Capacity: | 14 Ah (2 x 7 Ah) | 17/18 Ah |
| 4 hours standby time | 2.6 A | 2.5 A |
| 24 hours standby time | 0.4 A | 0.27 A |

Use Table 8 below to determine the required backup battery capacity. Using the total currents calculated from Table 7, calculate the battery capacity required for the installation.

Table 8: Battery Capacity Calculation

| Capacity | Formula | Calculated Value |
|---|---|---|
| Standby capacity | For 4–hour standby time: Total standby current x 4 hours x 1.2 contingency factor.<br><br>For 24–hour standby time: Total standby current x 24 hours x 1.2 contingency factor. | |
| Alarm capacity | For 4–, 5–, or 15–minute alarm time: Total alarm current x 0.067 (4 min) / 0.250 (15 min) | |
| Total capacity | = Standby Capacity + Alarm Capacity | |

Batteries must be **12 V, sealed lead–acid batteries** suitable for use in standby (backup) operation, within the capacity range 7–18 Ah. The table below shows some examples of suitable battery models.

| Capacity | Battery Model | Comment |
|---|---|---|
| 7 Ah | Yuasa NP7-12 | Connect to the terminals for Battery 1. |
| 14 Ah | Yuasa NP7-12 x 2 | Use two identical 7 Ah batteries. Connect one battery to the terminals for Battery 1, and the other to the terminals for Battery 2. |
| 17 Ah / 18 Ah | Yuasa NP18-12B | Connect to the terminals for Battery 1. |

The system tests the batteries periodically. For details, see *Battery Test* on page 142.

### 7.3.4    Battery Installation

> ⚠ **Caution!**
>
> Position the battery or batteries in the cabinet **only as shown in the diagrams**. Look carefully at the battery terminals position.
>
> This will prevent issues caused by:
>
> - terminals touching the painted or unpainted metal surface.
> - terminals touching each other even with shrouded connections.
> - terminals touching another part including an adjacent battery.

> ⚠ **Caution!**
>
> You must install and replace batteries according to the manufacturer's specifications and schedule. Install batteries only in well ventilated areas.
> For safety precautions, maintenance, handling and recycling information, refer to the battery manufacturer's safety data sheet. (For the batteries recommended in this document, please refer to the Yuasa website.)
> Dispose of used batteries according to local regulations.

**Using a Single Battery**

To install a single battery, proceed as follows:

1.    Place the battery horizontally on the bottom of the cabinet. If the battery terminals are both on the same side, position the battery with the terminals on the left-hand side.

 or
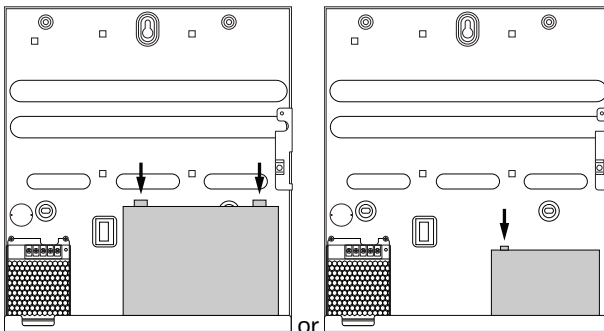
2.     Connect the battery to the **Batteries 1** terminals. Use the included battery leads.

| From battery terminal | To main board terminal |
|---|---|
| + | Batteries 1 + (red lead) |
| – | Batteries 1 – (black lead) |

## Using Two Batteries

To install two batteries, proceed as follows:

1.     Position one battery horizontally, on the left, with the terminals on the left-hand side.

2.     Position the other battery on its side, with the terminals at the top.
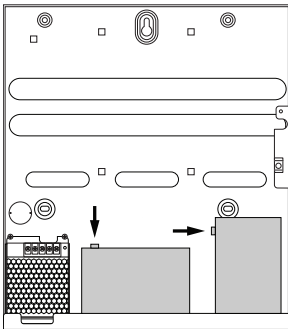


3.     Connect the batteries to **Batteries 1** and **Batteries 2** terminals. Use the included battery leads.

| Battery | From battery terminal | To main board terminal |
|---|---|---|
| Battery 1 | + | Batteries 1 + (red lead) |
| | – | Batteries 1 – (black lead) |
| Battery 2 | + | Batteries 2 + (red lead) |
| | – | Batteries 2 – (black lead) |

> (i)  **Note**
>
> In MAXPRO Cloud, the Multiple Battery Sensing feature will default to 2 batteries on fresh start-up. In Installer Mode, the system will detect how many batteries are connected, and it will lock the correct number on exiting Installer Mode.
>
> In MAXPRO Cloud, you can specify the capacity of each installed battery. This allows the system to estimate the maximum runtime on battery if AC power is lost.

For systems that require more than 18 Ah battery capacity, you have to install a second tamper-protected cabinet to put a second battery.

# 7.4     Connecting to MAXPRO Cloud

### 7.4.1     Workflow

After wiring all the devices and attaching power supplies (AC power and batteries) to the system, you will first register the control panel in MAXPRO Cloud, before finally applying power up the system. Make sure that you have connected at least one battery and one keypad.

To register the control panel in MAXPRO Cloud, proceed as follows:

1.      On your PC, open your web browser and go to https://mymaxprocloud.com/MPC/Signin. If you do not have an account yet, click **Sign up** to register as a new dealer. Sign in to MAXPRO Cloud after you receive a confirmation email from Honeywell.

2.      In MAXPRO Cloud, click the Menu button ≡ , and then click **Customers**.

3.      Click **Add a customer**, and fill in the required data for the customer. In the **Customer Name** box, enter the name of your MPI customer. In the **Site Name** box, enter a name for the site where you installed the MPI system.

4.      Click the newly created site.

5.      Click **Add Controller** to add the MPI control panel.

6.      In the **Controller type** box, select the exact model of your control panel (MPIP2100U, MPIP3000U). You can find the exact model name on the sticker on the panel's box, and on the sticker on the panel's plastic mounting bracket.

7.      In the **MAC ID** box, type the control panel's MAC address. You can find the MAC address on the label on the control panel. Type the MAC address without spaces or special characters, for example 2AC389A858C8.
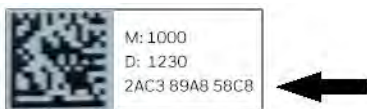


8.      In the **Time zone** box, select the time zone for the control panel.

> ⚠ **Caution!**
>
> Make sure that you select the correct time zone. If not,
> MAXPRO Cloud will not be able to connect to the control panel.

9.     Click **ADD CONTROLLER**.

10.    Once you have added the control panel in MAXPRO Cloud, apply power
       to the control panel.
       The control panel will automatically attempt to connect to the server and
       register. This process typically takes a few minutes. You can follow the
       progress on the display of the system keypad. If you have wired several
       keypads to the control panel, the system keypad is the first keypad that
       you touch after powering up. The display will show any failure points. If
       registration is successful, the connection status on MAXPRO Cloud will
       change to green. In case you experience any issues, see *Troubleshooting*
       on page 121.
       In the following steps, you will let the system discover the MPI peripherals
       that are connected to the control panel. You can then formally register
       the system keypad which was temporarily registered on first power-up,
       and all other keypads and peripherals.

11.    Switch MAXPRO Cloud to **Installer mode**, as follows: in the **Controller**
       screen, under **CONTROLLER MODE**, click **Installer**, and then click **Yes**
       to confirm. The system will automatically scan for new devices connected
       to the control panel.

12.    When scanning is finished, click **VIEW ALL** to switch to the **Devices**
       page. In the **New Devices** list, you can select and register each new
       device by giving it a dedicated description and setting any other required
       parameters.

For detailed instructions, see the MAXPRO Cloud online help.

> ⓘ **Note**
>
> For initial setup, no programming is required using the keypad. You
> will configure the system in MAXPRO Cloud.
>
> If you do need to use the keypad, the default Master User code is
> 4321; the default Installer User code is 4140.
>
> Remember that these codes are set per customer in MAXPRO Cloud.
> Once you have changed the default codes for a customer, the
> system will automatically load the changed codes to any new keypad
> that you add to the any of the customer's sites.

### 7.4.2    Troubleshooting

When you apply power to the system, all devices will power up. The system keypad (the first keypad that you touch after powering up the panel) will temporarily register with the control panel in order to facilitate the connection to the server. When the splash screen disappears from the system keypad display, the keypad will display a series of messages, indicating the progress of the connection to the server. If any point fails, the screen will offer to enter Manual Mode and indicate an error message to help determine the cause. Consider the corrective actions detailed below:

- **Internet connection check**: this message indicates if the panel has made a connection to the local network and has obtained an IP address, and if the panel was able to connect to internet. If this fails, check the items below:
    - The network cable connection: the amber LED on the Ethernet port must be flashing.
    - Is port 443 open on the router for the site?
    - Is a proxy server required for internet access on the site? If so, enter Manual Mode on the keypad to add the proxy server details.
- **MPC registration check**: this message indicates if the panel is registered in MAXPRO Cloud and is connected to the cloud. If this message fails, check the following:
    - Is a site created yet in MAXPRO Cloud using the MAC address of the panel? For instructions, see *Workflow* on page 119.

### 7.4.3    Using Manual Mode on the Keypad

If the control panel fails to connect to internet and/or to the MAXPRO Cloud server, you can use Manual Mode on the keypad to enter connection details manually.

If connection fails, proceed as follows:

1. On the keypad, tap **Enter Manual Mode**.
   The **Local Network** screen appears.
2. If you want to manually assign an IP address to the panel, provide the following information:
    - **PANEL IP ADDRESS**: type the desired IP address for the panel.
    - **GATEWAY IP ADDRESS**: type the gateway IP address for the network segment where the panel resides.
    - **SUBNET MASK ADDRESS**: type the subnet mask for the network segment where the panel resides.

3.      Tap **Next** to continue.
        The **DNS Setup** screen appears.

4.      If required, type the network's DNS IP address, and then tap **Next** to
        continue.
        The **APN Setup** screen appears.

5.      If required, type the Access Point Name (APN) address, and then tap **Next**
        to continue.
        The **Proxy Setup** screen appears.

6.      If required, provide the following information for the proxy server:

        ○  **Proxy Address**: type the URL for the desired proxy server.

        ○  **User Name**: type the user name for logging on to the proxy server.

        ○  **Password**: type the password for logging on to the proxy server.

7.      Tap **Next** to continue.
        The **Register Server Setup** screen appears.

8.      The server address is normally filled in correctly for your region. Leave
        this setting as is.

9.      Tap **SAVE**.
        The system will try and connect to internet and the MAXPRO Cloud
        server using the new settings.

# 7.5    Shutting Down the Panel Securely

The SHUTDOWN button on the panel (**B** on page 34) allows you to shut down
the control panel securely. This makes sure that the system can save all
necessary data and statuses in the flash memory. Shutting down the panel
disables the inputs and outputs, and switches off the IB2 buses, the AUX
outputs, and the PTCs. It does not remove power from the panel (from the AC
power adapter or the batteries).

You have to shut down the control panel in the following situations:

- Before disconnecting the LTE Module.
- Before installing or removing peripherals on the IB2 bus.

To shut down the control panel securely, proceed as follows:

1.      On the control panel, press the SHUTDOWN button for 5 seconds.

2.      Wait for the control panel to shut down completely. The shutdown
        LED will go out; the keypad screen will go black and all keypad LEDs will
        go out.

3.      You can now add or remove IB2 bus devices, or disconnect the LTE
        module.

To restart the control panel, briefly press the SHUTDOWN button again. The system is ready again when the keypad screen displays the current time and date.

# 8    Configuration in MAXPRO Cloud

MAXPRO Cloud allows the installing dealer to program the system remotely, and allows the end customer to monitor and control the security system remotely.

This chapter introduces the MAXPRO Cloud user interface, and provides a summary of the settings for the MPI Control Panel and peripherals. The settings information is arranged per screen in MAXPRO Cloud. This document does not contain instructions for setting up an account, rules, reports, firmware updates, alarm handling, camera viewer, MAXPRO Cloud user management, subscriptions, or any other item.

For more detailed information, see the MAXPRO Cloud Configuration Guide and online help. To access the online help: click the Help button ⓘ in the top right corner of the MAXPRO Cloud screen, and then select **Help**.

## 8.1    MAXPRO Cloud User Interface

Below is an overview of the main parts of the MAXPRO Cloud's user interface.
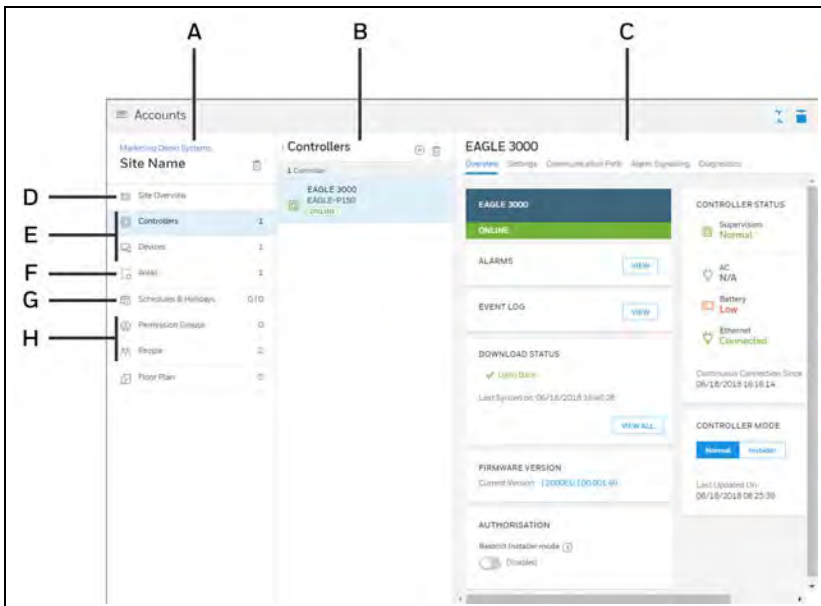


| A | Left column: to select the aspect of an integrated site configuration that you want to work on. |
|---|---|

| B | Middle column: to select the individual item to focus on. |
|---|---|
| C | Right column: contains the detailed information and configuration options of the item as selected in the other columns. The information and options can be split over several tabs. |
| D | General site settings |
| E | Configuration of inputs and outputs, and all peripherals. |
| F | Area specific configuration. |
| G | Schedule definitions. |
| H | Configuration of site users. |

## 8.2    Site Settings

Each site in MAXPRO Cloud can contain multiple control panels. Certain settings apply to all control panels and all peripherals in the site. In MAXPRO Cloud, go to the desired customer and **Site Overview** page.

### 8.2.1    Overview Tab

This tab shows the customer details.

### 8.2.2    Settings Tab

This tab allows you to set:

- Authority levels for resetting and overriding events.
- For access control with the MPI Door Control Modules, the card type is defined here for the whole site = identical for all DCMs connected to all control panels in the site.

## 8.3    Control Panel Settings

### 8.3.1    Overview Tab

The control panel's **Overview** tab displays:

- The status of the control panel (online or offline).
- The sync status of configurations. The system syncs the changes automatically when you exit Installer Mode.
- The authorisation status: indicates if the Installer mode is restricted. If that is the case, the customer has to grant the installer access to the system using the keypad.

- Buttons for viewing alarms and the event log, and for switching to Installer mode.
- The current firmware version.

> ⓘ **Note**
>
> You can update the MPI firmware using the **Firmware** option in the menu. For detailed instructions, see *Updating the Firmware* on page 139. Remember to test all functionality after updating.

> **UL**  When making changes to an existing system, there must be someone **present on site for testing** when powering up the system again or downloading configurations. Never change any configuration settings or upload firmware unless someone is there to test.

## 8.3.2    About Installer Mode

> ⚠ **Caution!**
>
> After commissioning the installation, when you have enabled the **Restrict Installer Mode** setting in MAXPRO Cloud, you can only enter Installer Mode with permission from your customer. The customer authorises the Installer Mode using the keypad. For details, see the *MAXPRO Cloud User Guide* (doc. no. 800-25754).

- Upon entering Installer Mode, MAXPRO Cloud will automatically scan for new devices connected to the control panel.
- In Installer Mode, the system will not report any alarms or faults. This allows you to add or remove peripherals and batteries, change the configuration (= settings that change the operation of the system) without generating false alarms.
  There is one exception: tamper events. Enter the Installer code on the keypad to reset the tamper alarm.
- In Installer Mode, the keypad will indicate **Installer service mode** in the top left corner of the display.

> **(i) Note**
>
> - You cannot enter Installer Mode if there are armed areas. You must disarm all areas before you can enter Installer Mode.
> - You cannot exit Installer Mode if there are faults or tamper events active. You must solve all faults and tampers, and then acknowledge the events in MPC before you can exit Installer Mode.

### 8.3.3    Settings Tab

This tab displays:

- Control Panel information and general settings
- General settings for all keypads (arming stations) that are connected to the panel: **Language**, **Fail Attempt Limit**, and **Lock Out Time**. Settings for individual keypads are available in the **Devices** page.
- Backup battery capacity
- Burglary alarm confirmation settings
- Date and time formats
- Reporting and system supervision options.

#### 8.3.3.1    System Supervision Controls

The system supervision controls allow you to choose which parts of the system you want to supervise. For example, if you are not using a V-Plex loop, you can switch off supervision to prevent trouble events for the loop.

> **UL**    Switching off supervision options may invalidate compliance with local regulations.

### 8.3.4    Communication Path Tab

The system will set up the Ethernet path automatically using DHCP where possible. In some network environments, for example when using a proxy server, you must enter the network settings manually via the keypad on start-up.

The system will automatically attempt to communicate over Ethernet where available. If there is no Ethernet connection to the internet, the system will switch to an LTE module path if this is configured. The system will switch back to Ethernet when the Ethernet internet connection is restored.

The system supports two independent network connections by adding the optional LTE module (MPICLTEU/MPICLTEC). This provides Ethernet path and LTE path options. The LTE path can sometimes be referred to as cell path, or 3G/4G path.

The system monitors the Ethernet network interface independently in the hardware. It uses a PHY circuit that will generate an Ethernet line fail event when the local connection is removed (see *Events* on page 147).

The system monitors the LTE network interface whenever the connection is not active. The panel sends an AT command request to the LTE module every 6 seconds to confirm that a data connection is present. If there is no data connection available, the system records a line fail event.

The **Communication Path** tab has two subtabs:

- **Communication Path**: for the communication paths settings.
- **Communication Test**: allows you to test the communication paths.

> ⚠ **Caution!**
>
> If you change the APN for the LTE module (for example when changing providers), you have to restart the control panel for the changes to take effect.

### 8.3.5    Alarm Signalling Tab

The **Alarm Signalling** tab allows you to define one or more Alarm Reporting schemes. Each scheme consists of defining a Central Station account number, a set of events to be signalled, the areas to be involved, and the destination (alarm receivers). Typically, you only need to create a single alarm signalling report which will cover all the areas in the system. You can define a primary and secondary (backup) receiver (IP address or URL of the Central Station). However, it is possible to create multiple reports, each of which can contain different sets of events, areas, and destinations, and each with a different account number.

> ⓘ **Note**
>
> Area 1 is the 'system' area: the system reports all panel and system events (such as tampers, battery low…) on Area 1.

### 8.3.6    AlarmNet Settings

If you use AlarmNet as a receiver, the system will automatically fill in the necessary settings. If required, you can set up a second receiver.

### 8.3.7    Diagnostics Tab

The **Diagnostics** tab is only available when the control panel is online. It provides details on:

- Power: incoming voltage, toal load current, and estimated battery run time. Furthermore, it provides details on the AUX ouputs and the backup batteries.
- LTE module (Cell radio)
- Communications channels.

> **(i)  Note**
>
> The measured values (voltages, currents, resistance values) in the **Diagnostics** screen are indicative values only and intended for relative comparison purposes. They are not calibrated readings.

## 8.4    Device Status

The **Devices** page, **Configured Devices** displays the list of configured devices on the IB2 bus. It indicates the current status of each device.

## 8.5    Control Panel Input/Output Settings

To configure the inputs and outputs on the Control Panel, go the **Devices** page, and select **Panel I/O**. You will find a tab for zones (inputs), for outputs, and a diagnostics tab.

### 8.5.1    Zones Tab

For each of the 10 zones, it displays:

- Zone information, such as zone number and name
- Settings, such as zone response type, area, and if the zone is bypassable.
- Advanced settings, such as the zone supervision type and EOL resistor values.

### 8.5.2    Outputs Tab

For each output (1–9) it displays:

- Output information, such as output number and name
- Settings, such as start trigger and area(s).
- Advanced settings, such as stop trigger, pulse settings, and output polarity.

### 8.5.3    Diagnostics Tab

The **Diagnostics** tab is only available if the control panel is online.

It displays the current zone status and measured resistance value for each of the 10 zones.

Click **Refresh** to refresh the diagnostic data.

> (i)   **Note**
>
> The measured values (voltages, currents, resistance values) in the Diagnostics screen are indicative values only and intended for relative comparison purposes. They are not calibrated readings.

## 8.6    Keypad Settings

In the **Configured IB2 Devices** section, you can find the information and settings for the individual keypads:

- Keypad information, such as serial number, name, and IB2 bus.
- Settings, such as home and associated areas.

Settings that apply to all the keypads connected to the control panel, are available in the Control Panel settings. For details, see *Settings Tab* on page 127.

## 8.7    Door Control Module Settings

The following settings are available for each individual Door Control Module:

### 8.7.1    Overview Tab

The **Overview** tab hows the name of the Door Control Module and a diagram of the door configuration.

### 8.7.2    Settings Tab

This tab displays:

- DCM information, such as serial number, name, and IB2 bus.
- Settings such as the area, the operation in reduced capability mode, door open times, card/pin usage, on-board tamper switch, triple swipe, settings for entry/exit reader or RTE buttons.

> (i) **Note**
>
> The card type is set on site level (**Site** > **Settings** > **Miscellaneous**).
> For details, see *Site Settings* on page 125.

### 8.7.3    I/O Tab

This tab displays:

- Settings for the door status monitor, such as zone supervision type, EOL resistor values, and zone response type (for using the door with the entry/exit functions).
- Settings for the RTE button.
- Settings for the door lock relay.

## 8.8    Relay Module Settings

The following settings are available for each individual Relay Module:

### 8.8.1    Settings Tab

This tab displays:

- Device information, such as serial number, name, and IB2 bus.
- Settings, such as the on-board tamper switch.

### 8.8.2    Outputs Tab

This tab displays for each relay:

- Output information, such as output number and name
- Settings, such as start trigger and area(s).
- Advanced settings, such as stop trigger, pulse settings, and output polarity.

## 8.9    Remote Power Supply Settings

The following settings are available for each individual Remote Power Supply:

### 8.9.1    Settings Tab

This tab displays:

- Device information, such as serial number, name, and IB2 bus.
- Settings, such as the backup battery capacities.

### 8.9.2    Outputs Tab

For each output (trigger):

- Output information, such as output number and name
- Settings, such as start trigger and area(s).
- Advanced settings, such as stop trigger, pulse settings, and output polarity.

### 8.9.3    Diagnostics Tab

The **Diagnostics** tab is only available when the Remote Power Supply is online.

It provides details on:

- Power: incoming voltage, toal load current, and estimated battery run time.
- Details on the AUX ouputs and the backup batteries.

> **(i)  Note**
>
> The PTC on trigger 4 is not monitored.
>
> The measured values (voltages, currents, resistance values) in the Diagnostics screen are indicative values only and intended for relative comparison purposes. They are not calibrated readings.

## 8.10   Zone Expander Settings

The following settings are available for each individual Zone Expander:

### 8.10.1   Settings Tab

This tab displays:

- Device information, such as serial number, name, and IB2 bus.
- Settings, such as the on-board tamper switch.

### 8.10.2   Zones Tab

For each of the 8 zones:

- Zone information, such as zone number and name
- Settings, such as zone response type, area, and if the zone is bypassable.
- Advanced settings, such as the zone supervision type and EOL resistor values.

### 8.10.3   Outputs Tab

For each output (1–4):

- Output information, such as output number and name
- Settings, such as start trigger and area(s).
- Advanced settings, such as stop trigger, pulse settings, and output polarity.

## 8.11   V-Plex devices

The V-Plex devices page allows you set the device's zones, outputs, and run diagnostics on the V-Plex loop(s). ==For smart PIRs, you can enable the Smart Contact setting, allowing the PIR to detect a mask condition in disarmed state.==

## 8.12   Areas

The following settings are available for each area:

### 8.12.1   Settings Tab

This tab displays:

- Area information, such as area number and name
- Settings, such as area type, entry and exit delays, and settings for alarm sounders, arming/disarming, and bypassing zones.

> **ⓘ  Note**
>
> Area 1 is the 'system' area: the system reports all panel and system events (such as tampers, battery low…) on Area 1.

### 8.12.2   Sensors Tab

Displays all the sensors that are assigned to the current area.

### 8.12.3   Outputs Tab

Displays all the outputs that are assigned to the current area.

### 8.12.4   System Area

When you register a control panel in MAXPRO Cloud, the system automatically creates one area for it, Area 1, and assigns the control panel to this area. This is the system area: the system will report all panel and system events on Area 1. For example: communication failures, battery low, tamper events…

In case of a panel tamper event (lid, off-wall), the system will report the tamper event as a fault if Area 1 is disarmed, and as an alarm if Area 1 is armed.

MAXPRO Cloud sorts the area list on area number, not on area name. Even if you have renamed Area 1, it will still appear at the top of the area list (or at the bottom if you sort the list in descending order). The list displays the area number:
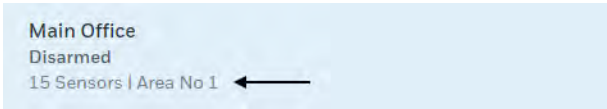


## 8.13   Scheduling and Holidays

The scheduling and holidays features allow certain operations to be automated, such as arming and disarming. The system comes with two default schedules (always on and always off), but you can define any schedule you need. You define schedules on the customer level in MAXPRO Cloud. Once a schedule is defined, you can use it on every site, every control panel... of that customer.
Holidays allow you to define 'exception days' in a fixed schedule. For example, you want to allow access to a group of users on all week days, except on holidays such as New Year.

You can assign schedules to:

- areas, for automatic arming and disarming
- permission groups, for restricting access
- rules and controller rules, for automating tasks.

---

**UL**   Automatic arming is not allowed in UL installations.

---

## 8.14   Permission Groups

Permission Groups allow you to quickly assign the same set of permissions to different people. A Permission Group is a set of access rules to areas and doors, according to a schedule. You define Permission Groups on the customer level in MAXPRO Cloud. Once a Permission Group is defined, you can use it on every site, every control panel... of that customer. For details, see the *MAXPRO Cloud Configuration Guide* (doc. no. 800-24096).

# 8.15   People

### 8.15.1   General

The Control Panel allows up to 10,000 users (People). You define users on the customer level in MAXPRO Cloud. Once you have defined a user, it is available for every site, every control panel... of that customer.

One user code can grant access to different sites, areas, and doors via **Permission Groups**. Furthermore, you can define a role (**Intrusion Authority**) for the user code, to control access to functions such as arming/disarming, silencing alarms, etc.

You assign each site user a 4-digit numeric (0–9) PIN code in the range from 1000 to 9999. This sequence of numbers provides a total of 9,000 available codes. PIN codes in the range from 0000 to 0999 are reserved.

> (i) **Note**
>
> The default PIN length is 4 digits. However, you can change the PIN length to be between 4 and 6 digits. You define the PIN length on customer level: all PIN codes for all sites will have the same length. Make sure that you specify the PIN length **before you define any people**. If not, you will need to change all the configured people's PIN codes manually.

You can also assign a card to a user. Compatible cards use 26 bits or more, providing a minimum of 67,108,864 ($2^{26}$) different card numbers. There are no reserved card number ranges.

The system is shipped with the following defaults for the Installer User and Master User codes:

| User | 6-digit code | 5-digit code | 4-digit code |
|------|--------------|--------------|--------------|
| Installer | 111222 | 11122 | 1112 |
| Master | 654321 | 65432 | 6543 |

These default codes allow the installer to get the system physically installed and to run initial testing without the need to connect to MAXPRO Cloud.

> (!) **Caution!**
>
> For security reasons, change the default codes as soon as possible from MAXPRO Cloud.

You set the Installer User and Master User codes on customer level. The system will automatically download the new codes to each of the customer's control panels once connected to MAXPRO Cloud.

- To change the Installer code: as an installer, log on to MPC to your Dealer account with an Admin role. Under **Customers**, select the desired customer, and then change the Installer PIN on the customer's **Settings** tab.
- To change the Master code: the customer must log on to MPC with the Master Admin credentials. They can change the Master PIN under **My Sites**, on the **Overview** page, on the **Settings** tab.
  Only the Master Admin user can change the Master PIN.

You can create additional Installer and Master codes for each control panel in the normal way for creating people and credentials. For details on programming people, see the *MAXPRO Cloud Configuration Guide* (doc. no. 800-24096).

MAXPRO Cloud holds the main user database. It operates as one database across the End Customer's account. The **user's name is the unique reference**. No two users can share both the same First and Last Name.

## 8.15.2    Intrusion Authority Levels

You have to assign a role, or level of authority, to each end user of the system. This authorizes the end user for certain system functions. An end user can have different levels of authority within different areas.

The following levels of authority are available:

- Installer
- Master
- Employee
- Security Guard
- Janitor
- Duress.

> **(i)  Note**
>
> The permissions for the Installer as described in the table below, are only available if the customer's Administrator authorises them by setting the dealer privileges in MAXPRO Cloud. For example, the Administrator can allow or deny installers from arming and/or disarming areas.
>
> The dealer privileges are valid for all the customer's sites.

For details on the permissions of each level, go to any person's **Permission** tab, and click the Info button ⑦ above the **Intrusion Authority** box. For MAXPRO Intrusion, the authorisations are defined as follows:

| Function | Authority Levels | | | | | |
|---|---|---|---|---|---|---|
| | Installer | Master | Daily employee | Security guard | Janitor | Duress |
| **General Functions** | | | | | | |
| Arm | Yes | Yes | Yes | Yes | Yes | Yes |
| Disarm | Yes, but only if armed by same code | Yes | Yes | Yes | Yes | Yes |
| Bypass zones[1] | Burglary only | Burglary only | Burglary only | Burglary only | No | No |
| **Cancel (silence) alarms and events** | | | | | | |
| Residential Fire alarms | Yes | Yes | Yes | Yes | No | No |
| Burglary, medical, panic, and non-security[2] alarms | Only if armed by the installer | Yes | Yes | Yes | Yes | Yes |
| Troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Tampers | Yes | Yes | Yes | Yes | Yes | Yes |
| **Reset** | | | | | | |
| Residential Fire alarms | Yes | Yes | Yes | Yes | No | No |
| Burglary alarms | Yes | Yes | Yes | Yes | No | No |
| Panic/holdup alarms | Yes | Yes | Yes | Yes | Yes | Yes |
| AC power troubles | Yes | Yes | Yes | Yes | No | No |
| System battery troubles | Yes | Yes | Yes | Yes | No | Yes |
| Single comms path troubles | Yes | Yes | Yes | Yes | No | Yes |
| ATS and fail to comms troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Sensor masked | Yes | Yes | Yes | Yes | No | Yes |
| Other troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Tampers | Yes | Yes | Yes | Yes | No | Yes |

---

1 If the zone is bypassable. Fire zones are never bypassable.

2 An example of a non-security alarm: an alarm from a sensor in a freezer indicating that the temperature is too high.

| Function | Authority Levels | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Installer | Master | Daily employee | Security guard | Janitor | Duress |
| **Override** | | | | | | |
| AC power troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| System battery troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Single comms path troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| ATS and fail to comms troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Sensor masked | Yes | Yes | Yes | Yes | Yes | Yes |
| Other troubles | Yes | Yes | Yes | Yes | Yes | Yes |
| Tampers | Yes | Yes | Yes | Yes | No | No |
| **Other Actions** | | | | | | |
| View log | Yes | Yes | No | Yes | No | No |
| Run siren and walk test | Yes | Yes | No | Yes | No | No |

# 8.16  Controller Rules

Controller rules allow the system to perform automated actions within the control panel, based on complex logical combinations of events. A controller rule has two parts:

- **If**: a logic combination of conditions which must be true to trigger the rule. You can use up to three conditions, combining them by AND or OR logic. You cannot combine AND and OR logic in one rule; you have to choose one.
- **Then**: A list of actions which the system will carry out when the logical combination of conditions becomes true. You can use up to three actions.

When the conditions become true, the system will carry out the defined actions once, and in sequence. However, as this happens almost immediately, the order of the actions is only important if one of the actions is a 'wait' action. Wait actions enable you to carry out two separate actions with a defined time interval between them.

| **IF** | | **THEN** |
|---|---|---|
| Condition 1 is true. | | Perform action 1. |
| AND/OR | | Followed by |
| Condition 2 is true. | | Perform action 2. |
| AND/OR | | Followed by |
| Condition 3 is true. | | Perform action 3. |

The controller rules run from the control panel, and are not affected by the connection with MAXPRO Cloud. Controller rules are separate from the standard Rules in MAXPRO Cloud.

For details on programming controller rules, see the *MAXPRO Cloud Configuration Guide* (doc. no. 800-24096).

> **UL** Using rules (standard Rules or Controller Rules) for automating tasks may render the system non-compliant. Check all the rules that you program for compliance with product standards.

## 8.17  Floor Plan

Floor plans allow you to visualise a site and its zones. For details, see the MAXPRO Cloud Configuration Guide.

## 8.18  Clock Synchronisation

The system runs a clock synchronization script once a day and on start-up using the Network Time Protocol (NTP). If the system detects a time difference greater than 10 seconds, it logs a clock sync event.

## 8.19  Updating the Firmware

Honeywell regularly provides firmware updates for your MPI system, which you can easily download via MAXPRO Cloud. When new firmware for the MPI system is available, a notification message appears in MAXPRO Cloud. If your system contains multiple control panels, you need to perform the update for each control panel.

> ⓘ **Note**
>
> The firmware update may include updates for the MPI control panel and peripherals. Depending on the number of devices that need updating, the entire process may take more than one day.
>
> Honeywell recommends to use the Ethernet connection (instead of the cell radio connection) for performing firmware upgrades.

To update the firmware, proceed as follows:

1. First, download the firmware using MAXPRO Cloud: in the control panel's **Overview** page, click the **New Firmware Available** button.
2. Select the desired control panel and firmware version, and then click **Update**.
   The system starts downloading the selected firmware version. The **Current version** column indicates progress.
3. Wait for the firmware to download completely: the **Current version** column will indicate 100%.
   When downloading is completed and the system is ready, the keypad will display a message the next time a user logs on to it, indicating that new firmware is available for installation.
4. Make sure the control panel is in Normal mode. If the control panel is in Installer mode, then switch it back to Normal mode first.
5. Go to the system keypad and log on. The keypad will display a message that new firmware is available.
6. Tap **Update**.

> ⓘ **Note**
>
> If you want to postpone the new firmware installation, tap **Postpone**. The next time you log on to the keypad, the system will display the screen for installing the new firmware again.

The system starts installing the new firmware for the control panel. The message in the top left corner of the keypad indicates that the system is updating. When finished, the control panel will automatically restart.

7. When the control panel has restarted, log on to the system keypad again. The keypad will display a message to confirm that the firmware has been upgraded.
8. Tap **OK** to confirm the message. The home screen will indicate that the control panel has been restarted.
9. Tap **View Items** and reset the event.
   The firmware update will appear in the control panel's event log.

If there are **updates for the peripherals**, the system will download these in the background after the control panel update has completed. This may take more than one day, depending upon the size of the system. You can safely use the control panel and the peripherals during this period. When the peripheral updates are ready to install, the keypad will again display a message the next time a user logs on, indicating that new firmware is available for installation.

10.  When the peripheral updates are ready to install: tap **Update**. The system applies the firmware to all relevant peripherals. The system will be ready for use within 5 minutes.

11.  If applicable, repeat for other control panels.

# 9    Testing and Commissioning

> **UL**  When making changes to an existing system, there must be someone **present on site for testing** when powering up the system again or downloading configurations. Never change any configuration settings or upload firmware unless someone is there to test.

## 9.1    Battery Test

The system runs the following battery tests:

- If AC power is present, the control panel runs a brief battery test every 60 minutes to determine if the battery or batteries are connected.
- It runs an extended battery test every 4 hours to check on the battery's condition. The extended test begins 4 hours after exiting Installer Mode.

If the control panel finds that the battery voltage is low (less than approximately 11.2 V), it generates a low battery warning. It will log the warning, display it on the keypad, and report it to the central station. When the battery level is normal again, the system will send a Restore report to the central station.

> **UL**  The test report must be transmitted at least once every 24 hours.

## 9.2    Burglary Walk Test

The Burglary Walk Test causes the system to sound keypad beeps in response to faults on zones, so you can check proper zone operation without triggering alarms. You perform the test in disarmed mode, using the keypad. The system will send 'start of walk test' and 'end of walk test' messages to the central station.

> ⓘ **Note**
>
> You perform a Burglary Walk Test for each area individually. The system will not send alarms for that area during the test. Other areas are still operative and will cause the external sounder and communicator to activate if an alarm condition occurs.

> **UL**  The burglary walk test must be conducted every month.

To run the burglary walk test, proceed as follows:

1.   Log on to the keypad, and tap **Menu** > **Test modes** > **Walk test standard sensors**.
2.   Tap the desired area, and then tap **Start test**. They keypad displays the list of untested zones in that area.
3.   Activate each zone in the area. The keypad produces a double beep when you activate each zone. The system moves the tested zones to the tested zones list.
4.   After testing all the zones in the area, you can:
     ○   Tap **View Tested** to see the tested zones. Then tap **Back** to return to the list of areas.
     ○   Tap **New Test** to return to the **Test modes** menu.
5.   Repeat for all areas and all zones.
6.   Tap **Done** to finish.

> (i) **Note**
>
> If there is more than one keypad for the area, all keypads indicate that the Burglary Walk Test is in progress. During the test, all keypads will beep once every 30 seconds.
>
> The system automatically exits the Burglary Walk Test mode if there is no activity (no doors or windows are opened and closed, no motion detectors are activated, etc.) for 30 minutes. During the last 5 minutes, all keypads in the area display a message that the system is about to exit Walk Test mode, and they beep twice every 15 seconds. After that, the system returns to normal operation.

## 9.3   Armed Burglary System Test

Besides the standard burglary walk test, you shall also perform a test while the system is armed, to check if the system produces the required alarm sounds and sends the alarm messages to the CMS.

> (i) **Note**
>
> The system sends alarm messages to the CMS during the armed system tests. Notify the CMS that you will be performing a test.

To perform an armed system test, proceed as follows:

1.   Notify the CMS that you will perform a test of the system.
2.   Using the keypad, arm the system.

3. Fault one or more zones.

4. Using the keypad, silence any alarm sounder(s).

5. Rearm the system.

6. Repeat arming/faulting/silencing/rearming until you have tested all zones. Check at least the following items:

   ○ Check that entry/exit delay zones provide the assigned delay times.

   ○ If configured, check the emergency buttons on the keypad (Fire, Medical, and Police).

   ○ If a zone has been programmed for audible alarm, check if the system produces the required alarm sounds (on the keypad, on the alarm sounders).

   ○ If the zone has been programmed for silent alarm, there are no audible alarms or displays, but the system will send a report to the CMS.

7. Notify the CMS that all tests are finished, and verify results with them.

## 9.4    Smoke Detector Test

You must test all smoke detectors monthly. To run a smoke detector test, proceed as follows:

- Press the TEST button located on the detector. If the TEST button does not cause the detector to activate, you must replace it immediately.

## 9.5    Siren Test

The siren test on the keypad allows you to test all alarm sounders (and any related strobe lights). You can perform the test per area, or for all areas at once.

To run the siren test, proceed as follows:

1. Log on to the keypad, and tap **Menu** > **Test modes** > **Siren test**.

2. Tap the desired area, or tap **All Areas** to test the alarm sounders in all areas.

3. Tap **Test**.
   The system activates the alarm sounders and any related strobes in the selected area or areas.

4. Check if the alarm sounders and strobes work as required.

5. Tap **Stop** to deactivate the alarm sounders and related strobes.

# 10　Important Information

## 10.1　To the Installer

**Regular maintenance and inspection** (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

You, as an installer, should assume the responsibility of developing and offering a regular maintenance program to the user as well as informing the user of the proper operation and limitations of the alarm system and its component parts. You must include recommendations for a specific program of frequent testing (at least weekly) to ensure the system's proper operation at all times.

Furthermore, **maintain proper documentation** of the installation. Note the devices that were installed, when they were installed, and where they were installed. Keep track of the last time any maintenance or testing was performed, as well as which maintenance or test tasks were performed. Finally, document any changes to the system.

## 10.2　Turning the System over to the User

Once the system is fully set up, tested, and approved; and before turning the system over to the user:

- Make sure that the **default user PIN codes** (Installer and Master code) have been changed. If not, anyone knowing the default codes can log on to the keypad and make (unauthorised) changes to the system. For details on changing the default PIN codes, see the MAXPRO Cloud online help.
- Make sure that the customer has enabled the **Restrict Installer Mode** setting in MAXPRO Cloud (go to **My Sites**, then select the desired site, then select the desired control panel; repeat for each control panel). With this setting enabled, the customer has to grant access to an installer before they can log on and start Installer Mode to make changes to the system. This will prevent unauthorised changes to the system once it has been set up and approved. The customer can use the keypad to allow and block access for the installer.
- Fully explain the operation of the system to the customer by going over each of its functions, as well as the User Guide supplied. Explain the operation of each zone (entry/exit, perimeter, interior, fire, etc.). Be sure the customer understands how to operate any emergency feature(s) programmed into the system.

## 10.3   Contacting Technical Support

**PLEASE, before you call Technical Support**, be sure you:

- **Read the instructions!**
- Check all wiring connections.
- Determine that the power supply and/or backup battery are supplying proper voltages.
- Verify your programming information where applicable.
- Verify that all keypads and devices are registered properly in MAXPRO Cloud.
- Note the proper model number of the devices, and the firmware version (if known) along with any documentation that came with the product.
- If you receive a warning or error message, note down the exact message text.
- Note your Honeywell customer number and/or company name.
  Having this information handy will make it easier for us to serve you quickly and effectively.

# 11   Events

## 11.1   Event Notification Priority

Normally, the system sends all events to the CMS in chronological order.

If multiple events occur simultaneously, the system prioritises the event transfer as follows:

1. Fire
2. Duress (panic/hold-up)
3. Silent PA
4. PA
5. 24 hour
6. Burglar
7. Other alarms
8. All others
9. Audio alarms.

**Special case: AC power fail event**

In case of an AC power fail event, the panel immediately logs the event and reports it to MAXPRO Cloud. However, the system will not immediately send the event to the CMS. Instead, it is delayed by a random time between 40 and 50 minutes. This prevents nuisance alarms for short AC power interruptions, and prevents that the CMS is flooded with such alarms in case of a general power outage in a region.

## 11.2   Indications

The system provides general indications when permitted as the events occur. It displays the indications that you access on a keypad (by viewing alerts) in the following order, and then ordered by time of occurrence:

- Fire
- Duress (panic/hold-up)
- Burglar
- Trouble
- Other alarms

## 11.3   Event Reporting per Area

If the system only has one area, then all events are reported and logged on Area 1, the system area.

In a system with multiple areas, event reporting is as follows:

- All **system events** are reported on Area 1, the system area. System events are: communication with peripherals, battery status, tampers…
- All events regarding **access control** on the DCM are reported on the area that is associated with the DCM.

A few examples:

- A battery low event on a Remote Power Supply will report to Area 1 (battery low = system event).
- A tamper event on a Door Control Module will report to Area 1 (tamper = system event).
- A door status event on a Door Control Module will report on the DCM's area.

## 11.4   MPI Events and Contact ID Codes

### 11.4.1   Events List

| MPI Event | CID # |
|---|---|
| Medical Alarm | 1100 |
| Fire Alarm | 1110 |
| Panic Alarm | 1120 |
| duress PIN entered | 1121 |
| 24 Hour silent holdup alarm | 1122 |
| alarm intruder – not used? | 1130 |
| alarm perimeter | 1131 |
| alarm interior | 1132 |
| alarm 24 hour | 1133 |
| alarm entry exit | 1134 |
| alarm day/night | 1135 |
| alarm outdoor | 1136 |
| open circuit trouble | 1137 |
| interconnection trouble | 1137 |

| MPI Event | CID # |
|---|---|
| Input device consant voltageTamper | 1137 |
| open circuit trouble | 1137 |
| Tamper | 1137 |
| Intrusion Verifier | 1139 |
| exp mod tamper caused by mod missing | 1143 |
| aux bell tamper | 1143 |
| Equipment fail (aasuming non-burglary) | 1150 |
| General alarm | 1150 |
| AC Loss | 1301 |
| Fuse Failure detected | 1301 |
| fuse reset failed for mains | 1301 |
| High voltage condition detected | 1301 |
| Low voltage condition detected | 1301 |
| AC Loss | 1301 |
| AC Power disabled | 1301 |
| Battery Failure detected | 1302 |
| Low battery | 1302 |
| Fuse for Battery Failure detected | 1302 |
| Battery Module disabled | 1302 |
| Bell/Sounder Trouble | 1321 |
| Bell/Sounder Trouble conflict with 321 | 1321 |
| expansion module tamper | 1341 |
| module missing | 1341 |
| wall tamper | 1341 |
| General alarm restore | 1350 |
| 24 Hour trouble | 1354 |
| 24 Hour trouble Cell (RF Jam) | 1354 |
| 24 Hour trouble(Lan Fault) | 1354 |
| Comm Path Supervision Fault | 1358 |
| Fire Trouble | 1373 |
| Cross zoneTrouble | 1378 |

| MPI Event | CID # |
|---|---|
| Sensor Trouble | 1380 |
| open circuit trouble | 1383 |
| Input device consant voltageTamper | 1383 |
| Sensor Tamper | 1383 |
| bell aux tamper | 1383 |
| Smoke Detector High Sensitivity | 1385 |
| Smoke Detector Low Sensitivity | 1386 |
| Partition unset event | 1401 |
| burglary cancel | 1406 |
| Remote Disarm | 1407 |
| Door Forced open restore | 1421 |
| Early Armed | 1451 |
| Late Disarmed | 1452 |
| Failed to Arm/close the system with in Access Window | 1453 |
| Exit error | 1457 |
| recent close | 1459 |
| lockout –multiple attemptfailure tamper | 1461 |
| Zone Bypassed | 1570 |
| Fire Zone Bypassed | 1571 |
| Panic Zone Bypassed | 1572 |
| Burglary bypass | 1573 |
| Burglary Zone Bypassed | 1573 |
| Burglary walk test started | 1607 |
| panel program entry | 1627 |
| panel program exit | 1628 |
| fire silence | 1912 |
| CO silence | 1912 |
| Medical Alarm Restored | 3100 |
| Fire Alarm Restored | 3110 |
| Panic Alarm Restored | 3120 |
| 24 Hour silent holdup alarm restore | 3122 |

| MPI Event | CID # |
|-----------|-------|
| alarm restore event | 3130 |
| alarm perimeter | 3131 |
| alarm interior restore | 3132 |
| alarm 24 hour restore | 3133 |
| alarm entry exit restore | 3134 |
| alarm day/night restore | 3135 |
| alarm outdoor restore | 3136 |
| open circuit trouble restore | 3137 |
| interconnection trouble restore | 3137 |
| constant voltage trouble restore | 3137 |
| open circuit trouble restore | 3137 |
| short circuit trouble restore | 3137 |
| Tamper restore | 3137 |
| exp mod tamper caused by mod missing restore | 3143 |
| aux bell tamper restore | 3143 |
| Equipment fail restore (assuming non-burglary) | 3150 |
| Carbon Monoxide Detector Restored | 3162 |
| Fire Verifier | 3200 |
| AC Restoral | 3301 |
| Fuse Restoral | 3301 |
| fuse reset success for mains | 3301 |
| AC Restoral | 3301 |
| AC power enabled | 3301 |
| aux rail | 3301 |
| Battery Failure restored | 3302 |
| Fuse for Battery Failure restored | 3302 |
| Battery module enabled | 3302 |
| Battery Failure restored | 3302 |
| Battery charger restored | 3302 |
| Bell/Sounder Trouble Restore | 3321 |
| modules missing restore | 3341 |

| MPI Event | CID # |
|---|---|
| wall tamper restore | 3341 |
| expansion module tamper restore | 3341 |
| 24 Hour restore | 3354 |
| 24 Hour restore Cell(RF Jam) | 3354 |
| 24 Hour restore(Lan Fault) | 3354 |
| Comm Path Supervision Restore | 3358 |
| Fire Trouble Restored | 3373 |
| Cross zoneTrouble Restore | 3378 |
| Sensor Trouble Restore | 3380 |
| open circuit trouble restore | 3383 |
| Sensor Tamper Restore | 3383 |
| bell aux tamper restore | 3383 |
| open circuit trouble restore | 3383 |
| constant voltage trouble restore | 3383 |
| short circuit trouble restore | 3383 |
| Smoke Detector High Sensitivity Restored | 3385 |
| Smoke Detector Low Sensitivity Restored | 3386 |
| Partition Full event | 3401 |
| Auto Armed | 3403 |
| Alarm cancel event | 3406 |
| arm instant | 3441 |
| Partition Partset instant event | 3441 |
| Early Armed | 3451 |
| Late Armed | 3452 |
| Rearm after alarm | 3463 |
| Zone Unbypassed | 3570 |
| Fire Zone Unbypassed | 3571 |
| Panic Zone Unbypassed | 3572 |
| Unbypass Panic | 3573 |
| Burglary walk test end | 3607 |
| Burglary Zone detected fault during walk test | 3613 |
| Burglary Zone restored during walk test | 3613 |

### 11.4.2   Zone Identifiers

The system will send either a user identifier or a zone identifier together with the event code. The zone identifiers are defined as follows:

| Event | Zone ID |
|---|---|
| Event related to IB2 peripherals | 8xx range[1] |
| Event related to reader zones | 7xx range[2] |
| Primary path supervision fault | 951 |
| Primary path supervision fault restore | 951 |
| Secondary path supervision fault | 952 |
| Secondary path supervision fault restore | 952 |
| ATS fault | 950 |
| ATS fault restore | 950 |
| Event reporting failure | 960 |
| Event reporting failure restore | 960 |

## 11.5   MPI Events and SIA Codes

| MPI Event | SIA Code |
|---|---|
| AC Restoral | AR |
| Fuse Restoral | AR |
| fuse reset success for mains | AR |
| AC Restoral | AR |
| AC power enabled | AR |
| aux rail | AR |
| AC Loss | AT |
| Fuse Failure detected | AT |
| fuse reset failed for mains | AT |
| High voltage condition detected | AT |
| Low voltage condition detected | AT |
| AC Loss | AT |
| AC Power disabled | AT |

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1 Range xx is the IB2 peripheral identifier (01–92).

2 Range xx is the reader identifier.

| MPI Event | SIA Code |
|---|---|
| alarm audible | BA |
| alarm intruder – not used? | BA |
| alarm perimeter | BA |
| alarm interior | BA |
| alarm 24 hour | BA |
| alarm entry exit | BA |
| alarm day/night | BA |
| alarm outdoor | BA |
| alarm polling loop | BA |
| alarm exit error | BA |
| Burglary bypass | BB |
| burglary cancel | BC |
| Cross zoneTrouble | BG |
| Cross zoneTrouble Restore | BJ |
| Sensor Trouble Restore | BJ |
| cross zonealarm | BM |
| alarm audible restore | BR |
| alarm restore event | BR |
| alarm perimeter | BR |
| alarm interior restore | BR |
| alarm 24 hour restore | BR |
| alarm entry exit restore | BR |
| alarm day/night restore | BR |
| alarm outdoor restore | BR |
| alarm polling loop restore | BR |
| Sensor Trouble | BT |
| Burg Bypass restore | BU |
| Intrusion Verifier | BV |
| Burglary Zone detected fault during walk test | BX |
| Burglary Zone restored during walk test | BX |
| Auto Armed | CA |

| MPI Event | SIA Code |
|---|---|
| arm instant | CG |
| Partition Partset instant event | CG |
| Late Armed | CJ |
| Early Armed | CK |
| Partition Full event | CL |
| Rearm after alarm | CP |
| Remote Arm | CQ |
| recent close | CR |
| Failed to Arm/close the system with in Access Window | CT |
| Door Forced open | DF |
| lockout –multiple attemptfailure tamper | DK |
| Door Forced open restore | DR |
| Door Propped open restore | DR |
| Door Propped open | DT |
| Exit alarm | EA |
| Exit error | EE |
| Fire Alarm | FA |
| Pull Station Activated | FA |
| Carbon Monoxide Detected | FA |
| Fire Zone Bypassed | FB |
| fire silence | FC |
| CO silence | FC |
| Fire Trouble Restored | FJ |
| Smoke Detector High Sensitivity Restored | FJ |
| Smoke Detector Low Sensitivity Restored | FJ |
| Pull Station Restored | FR |
| Fire Alarm Restored | FR |
| Carbon Monoxide Detector Restored | FR |
| Fire Trouble | FT |
| Smoke Detector High Sensitivity | FT |
| Smoke Detector Low Sensitivity | FT |

| MPI Event | SIA Code |
|---|---|
| Fire Zone Unbypassed | FU |
| Fire Verifier | FV |
| duress PIN entered | HA |
| 24 Hour silent holdup alarm | HA |
| Burglary Zone Bypassed | HB |
| Sensor Trouble Restore | HJ |
| 24 Hour silent holdup alarm restore | HR |
| Sensor Trouble | HT |
| Unbypass Panic | HU |
| Panic Verify | HV |
| Equipment fail (aasuming non-burglary) | IA |
| Equipment fail restore (assuming non-burglary) | IR |
| 24 Hour restore | LR |
| 24 Hour trouble | LT |
| Medical Alarm | MA |
| Zone Bypassed | MB |
| Sensor Trouble Restore | MJ |
| Medical Alarm Restored | MR |
| Sensor Trouble | MT |
| Zone Unbypassed | MU |
| 24 Hour restore Cell(RF Jam) | NR |
| 24 Hour restore(Lan Fault) | NR |
| 24 Hour trouble Cell (RF Jam) | NT |
| 24 Hour trouble(Lan Fault) | NT |
| Auto Disarmed | OA |
| Untyped alarm is silenced | OC |
| Panic alarm is silenced | OC |
| tamper alarm is silenced | OC |
| panic alarm is silenced at area level by user | OC |
| Late Disarmed | OJ |
| Early Armed | OK |

| MPI Event | SIA Code |
|---|---|
| Partition unset event | OP |
| Remote Disarm | OQ |
| Alarm cancel event | OR |
| Panic Alarm | PA |
| Panic Zone Bypassed | PB |
| Sensor Trouble Restore | PJ |
| Panic Alarm Restored | PR |
| Sensor Trouble | PT |
| Panic Zone Unbypassed | PU |
| panel program entry | RB |
| Automated Test/outbound connection is established | RP |
| panel program exit | RS |
| Manual Test/outbound connection is established | RX |
| open circuit trouble | TA |
| interconnection trouble | TA |
| Input device consant voltageTamper | TA |
| open circuit trouble | TA |
| Tamper | TA |
| exp mod tamper caused by mod missing | TA |
| aux bell tamper | TA |
| expansion module tamper | TA |
| open circuit trouble | TA |
| Input device consant voltageTamper | TA |
| open circuit trouble | TA |
| Zone Bypassed | TB |
| Burglary walk test end | TE |
| open circuit trouble | TJ |
| modules missing restore | TJ |
| wall tamper restore | TJ |
| Sensor Tamper Restore | TJ |
| bell aux tamper restore | TJ |

| MPI Event | SIA Code |
|---|---|
| open circuit trouble restore | TR |
| interconnection trouble restore | TR |
| constant voltage trouble restore | TR |
| open circuit trouble restore | TR |
| short circuit trouble restore | TR |
| Tamper restore | TR |
| exp mod tamper caused by mod missing restore | TR |
| aux bell tamper restore | TR |
| expansion module tamper restore | TR |
| open circuit trouble restore | TR |
| constant voltage trouble restore | TR |
| short circuit trouble restore | TR |
| Burglary walk test started | TS |
| module missing | TT |
| wall tamper | TT |
| Sensor Tamper | TT |
| bell aux tamper | TT |
| open circuit trouble restore | TT |
| Zone Unbypassed | TU |
| General alarm | UA |
| Zone Bypassed | UB |
| Sensor Trouble Restore | UJ |
| General alarm restore | UR |
| Sensor Trouble | UT |
| Zone Unbypassed | UU |
| Bell/Sounder Trouble | YA |
| Bell/Sounder Trouble conflict with 321 | YA |
| Comm Path Supervision Fault | YC |
| Bell/Sounder Trouble Restore | YH |
| Comm Path Supervision Restore | YK |
| AC Loss on peripheral | YP |

| MPI Event | SIA Code |
|-----------|----------|
| AC Loss on Peripheral Restoral | YQ |
| AC Loss on Peripheral Restoral | YQ |
| Battery Failure restored | YR |
| Fuse for Battery Failure restored | YR |
| Battery module enabled | YR |
| Battery Failure restored | YR |
| Battery charger restored | YR |
| Battery Failure detected | YT |
| Low battery | YT |
| Fuse for Battery Failure detected | YT |
| Battery Module disabled | YT |
| Low System Battery | YT |
| Battery charger Failed | YT |
| Battery is discharging | YT |

# 12  Specifications

## 12.1  MPI Control Panel

### MPIP2000 Series (MPIP2100U), MPIP3000 Series (MPIP3000U)

Intended for mounting in an MPI Cabinet.

### 12.1.1  Specifications

| Board power | |
|---|---|
| Input voltage | 14 VDC nominal (13.6–14.5 VDC) |
| Current consumption, typical[1] | MPIP2000U series: 205 mA |
| | MPIP3000U series: 250 mA |
| Current consumption, max.[2] | MPIP2000U series: 290 mA |
| | MPIP3000U series: 380 mA |
| Backup battery | Up to 2 x 12 VDC sealed lead acid (SLA) battery |
| Recommended batteries | Yuasa NP7-12 (7 Ah) / Yuasa NP18-12B (18 Ah) |
| | For permitted combinations, see specification for the cabinet: *MPI Cabinet* on page 162. |
| Battery protection | System has protection for charging and reverse polarity connection. |
| Battery low voltage[3] | 11.2 VDC |
| Battery cut-off voltage[4] | 10.2 VDC |
| Minimum supported battery voltage[5] | 9.5 VDC |
| **Zones (inputs) (x 10)** | |
| Voltage | 3.3 VDC |
| Resistance tolerance | 1 % max. |

---

[1] Typical current consumption is for the panel circuit board only and does not include any current drawn from the auxiliary outputs.
[2] Max. current consumption is for the panel circuit board only and does not include any current drawn from the auxiliary outputs.
[3] The voltage at which the system will issue the low battery warning.
[4] The voltage at which the system will disconnect the backup batteries from the circuit.
[5] The voltage at which the system will treat the battery as if it is not there and will not recharge it.

| Auxiliary outputs | |
|---|---|
| Power rating | 13.8 VDC nominal (10.2–14.4 VDC)<br><br>In the event of a failure, overvoltage protection will operate at 16.5 VDC. |
| AUX 1 (AUX1, IB2 bus 1) | MPIP2000U series: 1.5 A max. / MPIP3000U series: 1.1 A max. |
| AUX 2 (AUX2, IB2 bus 2) | MPIP2000U series: not fitted / MPIP3000U series: 1.1 A max. |
| AUX 3 (AUX3, LTE module) | MPIP2000U series: 1.1 A max. / MPIP3000U series: 1.1 A max. |
| Total current available for AUX outputs | The combined load from all auxiliary outputs and devices depends on panel model and battery capacity, and must not exceed the maximums as given in the table in *Current Ratings* on page 162. |
| Auxiliary low power output fault | 10.0 VDC |
| Auxiliary high power output fault | 14.5 VDC |
| Circuit protection | All circuits are power limited using PTCs. |
| **Low-voltage trigger outputs (x 4)** | |
| Per output | 50 mA (switch to ground), max. 13.8 VDC |
| **Relay outputs** | |
| Relay 1<br><br>Relay 2 (where fitted) | Voltage free; contact rating 28 VDC, 2.8 A max.; resistive loads |
| **Bell outputs** | |
| Bell 1<br><br>Bell 2 (where fitted) | 12 VDC nominal (10.2–14.4 VDC); 1.8 A max. (each) |
| **Communication** | |
| On-board Ethernet | EN 50136-1 SP5 |
| With optional LTE module MPIPCLTEU/MPIPCLTEC | EN 50136-1 DP4 |
| Encryption | TLS V1.2BC |
| Communication method | Pass-through (Ref. EN 50136-2 Section 6.1.3) |
| IP alarm receiver for AlarmNet | MAXPRO Receiver Software or other receiver compatible with Honeywell ISOM protocol. (Note: Use IP receivers only; dial-up receivers are not suitable.) |
| **Environmental** | |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |

| Physical | |
|---|---|
| Dimensions (W x D x H) | Including cabinet: 14 in x 16 in x 4.3 in |
| | Without cabinet: 11 in x 5.7 in x 1.65 in (including mounting bracket) |
| | As shipped: 14 in x 7.68 in x 3.07 in |
| Weight | MPIP2000U series: 1.11 lb; MPIP3000U series: 1.18 lb |
| | As shipped: MPIP2000U series: 1.84 lb; MPIP3000U series: 1.90 lb |

## 12.1.2    Current Ratings

The table below lists the advised loads to meet regulations based on using a battery at 100% capacity and allowing for activation of a sounder as per the regulation. Loads need to be adjusted if the battery is at less than 100%. There is no restriction other than the permitted load on capacity of battery used. For the purposes of calculation, an allowance of 400 mA to activate the sounder has been included, but not the standby current of the sounder. When calculating the total load, remember to include the standby current of the sounder.

| Battery Capacity | 7 Ah | 14 Ah | 17/18 Ah | 36 Ah |
|---|---|---|---|---|
| UL365/609 Merc; recharge 24 h | 1460 mA | 2100 mA | 2000 mA | 1250 mA |
| UL BSV/609 Bank; recharge 72 h | – | – | – | 270 mA |

> **(i) Note**
>
> For 36 Ah battery capacity, you need to install 2 x 18 Ah batteries. You will need a second tamper-protected cabinet to house the second battery. You connect the second battery to the Battery 2 terminals on the control panel in the first cabinet.

# 12.2   MPI Cabinet

**MPIBXM35P**

| Electrical | |
|---|---|
| Input voltage (AC power supply) | 110–230 VAC; 50–60 Hz |
| DC output | 13.8 VDC ± 1% |
| Ripple (max.) | 120 mVp-p |

| Recommended batteries | Yuasa NP7-12 (7 Ah); up to 2, or |
| | Yuasa NP18-12B (18 Ah) x 1 |
| **Physical** | |
| Dimensions (H x W x D) | 16 in x 14 in x 4.3 in |
| | As shipped: 17.12 in x 14.76 in x 4.53 in |
| Mounting holes |  |
| Weight | 11.25 lb approx. (includes AC power adapter) |
| | As shipped: 11.90 lb approx. |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| Ingress and impact protection | IP42; IK06 |

The installation must be in accordance with local regulations.

The AC power adapter does not contain any user serviceable components. No further calibration checks or adjustments are required.

# 12.3   MPI Remote Power Supply

**MPIPSU35**

Intended for mounting in an MPI Cabinet.

## 12.3.1   Specifications

| **Board power** | |
| --- | --- |
| Input voltage | 14 VDC nominal (13.6–14.5 VDC) |
| Idle current[1] | 35 mA |
| Max. current[2] | 35 mA |
| Backup battery | Up to 2 x 12 VDC sealed lead acid (SLA) battery |

[1] Idle current consumption is for the RPS circuit board only and does not include any current drawn from the auxiliary outputs.
[2] Maximum current consumption is for the RPS circuit board only and does not include any current drawn from the auxiliary outputs.

| Recommended batteries | Yuasa NP7-12 (7A Ah) / Yuasa NP18-12B (18 Ah) |
|---|---|
| | For permitted combinations, see specification for the cabinet: *MPI Cabinet* on page 162. |
| Battery protection | System has protection for charging and reverse polarity connection. |
| Battery low voltage[1] | 11.2 VDC |
| Battery cut-off voltage[2] | 10.2 VDC |
| Minimum supported battery voltage[3] | 9.5 VDC |
| **Auxiliary outputs** | |
| AUX1, AUX2 | 13.8 VDC nominal (10.2–14.4 VDC) |
| | In the event of a failure, overvoltage protection will operate at 16.5 VDC. |
| | 1.5 A max. per auxiliary output |
| Total current available for AUX outputs | The combined load from all auxiliary outputs and devices depends on battery capacity, and must not exceed the maximums as given in the table in *Current Ratings* on page 165. |
| AUX low power output fault | 10.0 VDC |
| AUX high power output fault | 14.5 VDC |
| Circuit protection | All circuits are power limited using PTCs. |
| **Low-voltage trigger outputs (x 4)** | |
| Triggers 1–3, per output | 75 mA (switch to ground), max. 13.8 VDC |
| Trigger 4 | 250 mA (switch to ground), max. 13.8 VDC |
| **Environmental** | |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| **Physical** | |
| Dimensions (W x D x H) | 6.18 in x 5 in x 1.65 in |
| | As shipped: 9.25 in x 6.4 in x 2.95 in |
| Weight | 0.55 lb |
| | As shipped: 0.97 lb |

---

1 The voltage at which the system will issue the low battery warning.

2 The voltage at which the system will disconnect the backup batteries from the circuit.

3 The voltage at which the system will treat the battery as if it is not there and will not recharge it.

### 12.3.2   Current Ratings

The table below lists the advised loads to meet regulations based on using a battery at 100% capacity and allowing for activation of a sounder as per the regulation. Loads need to be adjusted if the battery is at less than 100%. There is no restriction other than the permitted load on capacity of battery used. For the purposes of calculation, an allowance of 400 mA to activate the sounder has been included, but not the standby current of the sounder. When calculating the total load, remember to include the standby current of the sounder.

| Battery Capacity | 7 Ah | 14 Ah | 17/18 Ah | 36 Ah |
|---|---|---|---|---|
| UL365/609 Merc; recharge 24 h | 1680 mA | 2330 mA | 2180 mA | 1430 mA |
| UL BSV/609 Bank; recharge 72 h | – | 150 mA | 200 mA | 460 mA |

> **ⓘ Note**
>
> For 36 Ah battery capacity, you need to install 2 x 18 Ah batteries. You will need a second tamper-protected cabinet to house the second battery. You connect the second battery to the Battery 2 terminals on the control panel in the first cabinet.

## 12.4   MPI Keypad

**Keypads MPIKTSMF, MPIKTSPRX**

| Electrical | |
|---|---|
| Input voltage | 13.8 VDC nominal (10–14.5 VDC) |
| Current, idle | MPIKTSMF: 100 mA / MPIKTSPRX: 75 mA |
| Current, max. (display and buzzer on) | MPIKTSMF: 130 mA / MPIKTSPRX: 110 mA |
| Sounder | Full Power, -3 dB, -6 dB, and -9 dB (85 dB at 4 in) |
| **Card support** | |
| MPIKTSMF card types | MIFARE (Classic 32-bit); reading CSN only<br>EM4102 ASK 125 kHz; up to 40 bits |
| MPIKTSPRX card types | EM4102 ASK 125 kHz; up to 40 bits |
| **Environmental** | |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |

| Ingress and impact protection | IP42; IK06 |
|---|---|
| **Physical** | |
| Dimensions (W x H x D) | 3.33 in x 5.55 in x 1.58 in<br>As shipped: 3.66 in x 6.57 in x 1.96 in |
| Weight | 5.96 oz<br>As shipped: 8.60 oz |
| Options | MPIKW1: MAXPRO Intrusion Keypad Wall Mounting Plate |

## FCC Information

| Model: MPIKTSMF | Model: MPIKTSPRX |
|---|---|
| FCC ID: PV3MPIKTSMF | FCC ID: PV3MPIKTSPRX |
| IC: 12252A-MPIKTSMF | IC: 12252A-MPIKTSPRX |

## FCC Compliance Statement

**Caution**: Changes or modifications not expressly approved could void your authority to use this equipment.
This device complies with Part 15 of the FCC Rules. Operation to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## ISED Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## Option: Keypad Wall Mounting Plate MPIKW1

| Dimensions (W x D x H) | 7.00 in x 6.93 in x 0.20 in<br>As shipped: 7.00 in x 7.00 in x 1.37 in |
|---|---|
| Weight | 1.66 oz<br>As shipped: 3.17 oz |

# 12.5   MPI Door Control Module

### MPIDC1

| Board power | |
|---|---|
| Input voltage | 13.8 VDC nominal (10–14.5 VDC) |
| Current, idle | 60 mA |
| Current, max. | 185 mA (relays active) |
| **Access control** | |
| Reader power | 13.7 VDC; 1 A |
| Wiegand data | 5 VDC |
| Card types | Wiegand:<br><br>• HID cards: 26, 32, 34, 35, and 48 bit<br>• MIFARE cards: Classic 32 bit and DESFire 56 bit; reading CSN only<br>• EM4102 ASK 125 kHz; up to 40 bits.<br><br>Note: card type is set on site level (all DCMs in the site). |
| **Relays** | |
| Door Strike/Lock | 12–30 VDC; 3 A max.; dedicated for door lock (magnetic lock or door strike).<br><br>Current-limited to 1.5 A with 12 VDC on NC/NO pin. |
| **Trigger outputs (x 4)** | |
| LED R, LED Y, LED G, BUZZ | 50 mA each (switch to ground) |
| **Zones (inputs)** | |
| RTE (request to exit) | Default 2K End of Line Resistor |
| DSM (door status monitor) | Default 2K End of Line Resistor |
| **Environmental** | |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| Ingress and impact protection | IP42; IK06 |
| **Physical** | |
| Dimensions (W x D x H) | With enclosure: 7.08 in x 5.5 in x 1.5 in<br><br>Without enclosure: 5.12 in x 3.38 in x 1.02 in<br><br>As shipped: 8.46 in x 5.90 in x 1.77 in |

| Weight | With enclosure: 0.78 lb |
|---|---|
| | Without enclosure: 0.26 lb |
| | As shipped: 1.0 lb |

# 12.6   MPI Relay Module

## MPIEOP4

| Board power | |
|---|---|
| Input voltage | 13.8 VDC nominal (10–14.5 VDC) |
| Current, idle | 15 mA |
| Current, max. | 185 mA (relays active) |
| Relays (x 4) | Contact rating 28 VDC; max. 2.8 A (resistive load) max. per relay |
| **Environmental** | |
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| Ingress and impact protection | IP42; IK06 |
| **Physical** | |
| Dimensions (W x H x D) | With enclosure: 5.75 in x 5.75 in x 1.34 in |
| | As shipped: 6.89 in x 6.1 in x 1.57 in |
| Weight | With enclosure: 0.56 lb |
| | As shipped: 0.73 lb |

# 12.7   MPI Zone Expander

## MPIEIO84U

| Board power | |
|---|---|
| Input voltage | 13.8 VDC nominal (10–14.5 VDC) |
| Current, idle | 35 mA |
| Current, max. | 60 mA (all zones active) |
| **Zones (inputs) (x 8)** | |
| Voltage | 3.3 VDC |
| Resistance tolerance | 1 % max. |

| Trigger outputs (x 4) | |
|---|---|
| Per output | 180 mA (switch to ground), max. 13.8 VDC |
| **Environmental** | |
| Operating temperature | 14–122 °F / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| Ingress and impact protection | IP42; IK06 |
| **Physical** | |
| Dimensions (W x H x D) | With enclosure: 5.75 in x 5.75 in x 3.4 in<br>As shipped: 6.89 in x 6.1 in x 1.57 in |
| Weight | With enclosure: 0.58 lb<br>As shipped: 0.75 lb |

## 12.8  MPI LTE Module

**MPICLTEU (US), MPICLTEC (Canada)**

Intended for mounting in an MPI Cabinet.

| LTE module | |
|---|---|
| Input voltage | 14 VDC nominal (13.85–14.5 VDC) |
| Current, idle | 45 mA |
| Current, max. (transmitting) | 240 mA |
| Frequency bands | LTE Category 1 and 3G UMTS<br>LTE: Bands: 2, 4, 5, 12<br>3G UMTS Bands: 5, 4, 2 |
| SIM Card | 2FF mini-SIM<br>For connection with AlarmNet: pre-activated SIM card included. |
| **Antennas (x 2)** | |
| Type | Wideband, Dipole 4G LTE |
| Frequencies | 698–960 MHz, 1575.42 MHz, 1710–2700 MHz |
| Polarization | Linear |
| Peak gain | 3 dBi |
| VSWR | < 2:1 |
| Impedance | 50 Ohms |
| Connector type | SMA-M, Hinged |

| Environmental | |
|---|---|
| Operating temperature | 14–122 ºF / Indoor use only |
| Humidity | Max. 93% RH non-condensing |
| **Physical** | |
| Dimensions (W x H x D) | LTE module: 4.0 in x 4.8 in x 1.0 in |
| | Each antenna: 6.63 in x 1.93 in |
| | As shipped: 9.65 in 6.5 in x 3.15 in |
| Weight | LTE module: 3.42 oz |
| | As shipped: 13.86 oz |
| | Each antenna: 1.6 oz |

## Compliance

This device complies with Part 15 of the FCC Rules, and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 des règles de la FCC et exempt de licence RSS d'Industrie Canada. Son fonctionnement est soumis aux conditions suivantes : (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

This radio transmitter (MPICLTEU, MPICLTEC) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (MPICLTEU, MPICLTEC) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Wideband, Dipole 4G LTE; gain 3 dBi; impedance 50 Ohms.

## 12.9    Cable Type Requirements

| Function | Signal(s) | Type | Max. Length | Interior / Exterior |
|----------|-----------|------|-------------|---------------------|
| AC power | 110/230 VAC | As per local laws and regulations | | Interior |
| Zone | Sensor contact input | Twisted pair or better (core min. 0.182 mm² / 24 AWG) | 100 m / 328 ft | Interior |
| Inter unit wiring | IB2 | • 4-core alarm cable (22/4 STR CM/CL2); 100 ohms/km max.<br>• CAT5E UTP 24 AWG. | 3.65 km / 12,000 ft (see also note below) | Interior |
| | V-Plex | See *Limitations of V-Plex Cable Runs* on page 103. | | Interior |
| Ethernet | | CAT5E shielded | 100 m / 328 ft | Interior |
| Aerial extension leads | 4G LTE | 50 ohm low-loss SMA M to F coaxial | As per cable manufacturer's recommendation | Interior |
| External siren (SAB) | Power, trigger, tamper, and fault | As per manufacturer's recommendation | 100 m / 328 ft | Interior |
| Bell | Bell1/Bell2 | As per manufacturer's recommendation | 100 m / 328 ft | Interior |

> ⚠ **Caution!**
>
> **IB2 bus wiring: Use of other types of cables than those listed are at the installer's risk.**

# 13   Glossary

| | |
|---|---|
| ARC | Alarm Receiving Centre |
| ATP | Alarm Transmission Path |
| ATS | Alarm Transmission System |
| CMS | Central Monitoring Station |
| CSN | Card Serial Number |
| DCM | Door Control Module |
| Entry delay | Entry delay defines the delay time that allows users to enter the premises through a door that has been programmed as an entry delay door and disarm the system without setting off an alarm. The system must be disarmed within this period or an alarm will occur. |
| EOLR | End of Line Resistor |
| Exit delay | Exit delay defines the delay time that allows users to leave the premises through a door that has been programmed as an entry/exit delay door after arming the system without setting off an alarm. The user must leave within this period or an alarm will occur. |
| MPC | MAXPRO Cloud |
| MPI | MAXPRO Intrusion |
| RPS | Remote Power Supply |
| PTC | Positive Temperature Coefficient. PTC thermistors protect against over-current. |
| VSWR | Voltage Standing Wave Ratio |

# 14   Limitations of the Alarm System

WARNING!
THE LIMITATIONS OF THIS ALARM SYSTEM

While this System is an advanced wireless security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intruders may gain access through unprotected openings or have the technical sophistication to bypass an alarm sensor or disconnect an alarm warning device.
- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive

Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.

- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm-warning devices, however loud, may not warn hearing-impaired people.

- Telephone lines needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.

- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.

- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors and transmitters are working properly. The security keypad (and remote keypad) should be tested as well.

Wireless transmitters (used in some systems) are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 4 to 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting

themselves and continue to insure their lives and property. We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

# 15   Compliance and Approvals

## 15.1   Listings and Certifications

### 15.1.1   US Listings

- UL294, Access Control Systems
- UL365, Police Station Connected Burglar Alarm Units and Systems
- UL609, Local Burglar Alarm Units and Systems
- UL636, Holdup Alarm Units and Systems
- UL985, Household Fire Warning System Units
- UL1023, Household Burglar-Alarm System Units
- UL1076, Proprietary Burglar Alarm Units and Systems
- UL1610, Central-Station-Burglar-Alarm Units

### 15.1.2   Canadian Listings

- CAN/ULC-S303, Local Burglar Alarm Units and Systems
- CAN/ULC-S304 Signal Receiving Centre and Premise Burglar Alarm Control Units
- CAN/ULC-S319, Electronic Access Control Systems
- CAN/ULC-S545, Residential Fire Warning System Control Units

### 15.1.3   SIA Certification

- ANSI/SIA CP-01-2014, Control Panels, SIA False Alarm Reduction.

## 15.2   Agency Statements

### 15.2.1   UL Installation Requirements

The following requirements apply to both UL Residential and UL Commercial Burglary installations:

- All areas must be owned and managed by the same person(s).
- All areas must be part of one building at one street address.
- The audible alarm device(s) must be placed where it/they can be heard by all areas.
- The control panel's cabinet must be protected from unauthorized access. This can be done by using the tamper switch on the cabinet door or by

installing a UL Listed passive infrared (PIR) detector positioned to detect cabinet access. Wire the selected PIR detector to any EOLR-supervised zone (Zone 1–10). Program this zone for Trouble by Day/Alarm by Night or 24-Hour Audible Burglary response. The 24-hour alarm response must be used for multiple-area systems.

- You must run all cabling to the control panel and the remote power supply in conduit.

### 15.2.2    UL294 Access Control Systems

If you are using a DCM for access control, then **all readers** that you use with the DCM:

- must be UL listed
- must have both an off-wall and a cover tamper switch.

Install the DCM itself inside of the protected area.

### 15.2.3    UL609 Local Mercantile Premises

Use the following guidelines for a Local Mercantile Premises installation:

- All zones must be configured for EOLR supervision. Wireless sensors may not be used.
- Use the door tamper switch supplied with the control panel cabinet.
- Wire a bell such as the AB12M Bell/Box to the bell output. Bell wires must be run in conduit.
- Entry delays must not exceed 45 seconds, and exit delays must not exceed 60 seconds. You can specify the entry and exit delays per area.
  The default entry delay is 30 seconds; the default exit delay is 45 seconds.

### 15.2.4    UL365 Police Station Connected Burglar Alarm

Follow the instructions for UL609 local installations given above.

**For Systems with Line Security:**

Use Ethernet as a primary connection.

### 15.2.5    UL611/UL1610 Central Station Burglary Alarm

Follow the instructions for UL609 Local installations given above.

**For Systems with Line Security:**

Use Ethernet as a primary connection.

### 15.2.6    UL985 Household Fire Warning System Units

You must connect devices used for fire alarms using separate cabling. This implies:

- When using the zones on the control panel: wire the fire devices to separate zones with separate cabling.
- When using the supervised bell outputs: wire the bells separately.
- When using the expansion buses (IB2 and V-Plex): wire the fire devices to a separate bus. For example:
  - On the MPIP2000 Series, you can install all fire devices on the V-Plex bus, and all other devices on the IB2 bus, or vice versa.
  - The MPIP3000 Series panels support two IB2 buses and two V-Plex loops, offering you more options: you can, for example, install all fire devices on IB2 bus 1 and all other devices on IB2 bus 2. When using V-Plex fire devices, you can install them all on V-Plex 1 and use the other buses (V-Plex 2 and the two IB2 buses) for the non-fire devices.

### 15.2.7    UL1023 Household Burglar-Alarm System Units

- Entry delays must not exceed 15 seconds, and exit delays must not exceed 120 seconds. You can specify the entry and exit delays per area.
  The default entry delay is 30 seconds: you must change it for UL1023 compliance. The default exit delay is 45 seconds.
- Wiring and connections shall be made in accordance with CAN/ULC-S302.
- Automatic arming and remote arming are not allowed.

### 15.2.8    CAN/ULC-S303, Local Burglar Alarm Units and Systems

- Entry delays must not exceed 60 seconds. You can specify the entry delays per area.
  The default entry delay is 30 seconds.

### 15.2.9    CAN/ULC-S304 Signal Receiving Centre and Premise Burglar Alarm Control Units

- For central station communications, only use the Honeywell cellular module (LTE module) and on-board Ethernet communication channels linked to AlarmNet to ensure communication security.
  It is recommended to obtain assurances from your internet service provider that they employ Uninterrupted Power Supplies with 24 hour standby capability to support their network. If this is not possible then you must use the MPI cellular module as a backup communication path for Ethernet.
- Wiring and connections shall be made in accordance with CAN/ULC-S302.

**Area Settings**

When automatically arming/disarming an area (using an auto arming schedule or a rule), the system can provide a notification in advance that the area is about to arm. The keypads that have the area set as home area will start beeping, allowing the users to leave the area before it is armed, and preventing false alarms.

You can set the time of notification using the **Prewarning Period (in Mins)** setting for the area. This defines how many minutes before arming the keypads will start to beep. For CAN/ULC-S304 compliance, the setting **must be 10 minutes or more**. If you set **Prewarning Period (in Mins)** to 0, the area will arm without any advance warning. The default setting is 10 minutes.

## 15.2.10  CAN/ULC-S545 Residential Fire Warning System Control Units

You must connect devices used for fire alarms using separate cabling. This implies:

- When using the zones on the control panel: wire the fire devices to separate zones with separate cabling.
- When using the supervised bell outputs: wire the bells separately.
- When using the expansion buses (IB2 and V-Plex): wire the fire devices to a separate bus. For example:
  - On the MPIP2000 Series, you can install all fire devices on the V-Plex bus, and all other devices on the IB2 bus, or vice versa.
  - The MPIP3000 Series panels support two IB2 buses and two V-Plex loops, offering you more options: you can, for example, install all fire devices on IB2 bus 1 and all other devices on IB2 bus 2. When using V-Plex fire devices, you can install them all on V-Plex 1 and use the other buses (V-Plex 2 and the two IB2 buses) for the non-fire devices.

## 15.2.11  ANSI/SIA CP-01 False Alarm Reduction Requirements

### 15.2.11.1  Control Panel Settings

- Set **Exit Error Logic** in the control panel settings to **Exit Error Disabled** for UL compliance.
- Set **Exit Error Logic** in the control panel settings to **Exit Error Enabled** for SIA compliance.
- Set the **Alarm Reporting Limit (Per Zone)** to 2. (The default setting is **Unlimited**.) This prevents the system from transmitting an excessive number of alarms from a zone that is repeatedly being tripped (for example: a loose door shaking in the wind).

#### 15.2.11.2  Area Settings

- Set **Entry Delay** to 30 seconds (default setting is 30 seconds).
- Set **Exit Delay** to 60 seconds (default setting is 45 seconds).
- Select the **Restart Exit Time** option (default = selected).
- Select the **Auto-stay arm on no exit** option. This allows the system to automatically arm in stay mode if the exit door is not opened/closed. Furthermore, make all **Interior Follower** zones in the area **bypassable**.
- Set **Abort Window** (in seconds) to 30 seconds (default setting is 30 seconds).
- Select the **Abort Annunciation** option (default = selected).
- Set **Cancel Report Timing** to 5 minutes (default setting is **Anytime**).
- Select the **Cancel Annunciation** option (default = selected).
- Enable the **Cross Zone Association** option, and select minimum two zones in **Cross Zone List**.
- Select the **Exit Delay Sounding** option. This makes sure that the keypads beep during the exit delay to warn people to leave the area.
  If you clear the option, the keypads will not beep during exit delay. In this case, set the exit delay to 255 seconds.

#### 15.2.11.3  People Settings

Do not define any Duress users. By default, the system does not contain any Duress users.

### 15.2.12  California State Fire Marshal (CSFM) and UL Residential Fire Battery Backup Requirements

The California State Fire Marshal and UL have regulations that require all residential fire alarm control panels to have backup battery with sufficient capacity to operate the control panel and its attached peripheral devices for 24 hours in the intended standby condition, followed by at least 4 minutes in the intended fire alarm signalling condition.

The control panel can meet this requirement without using a supplemental power supply, provided that the control panel's outputs (including the current drawn from the auxiliary power output terminals) are limited as indicated in the table in *Current Ratings* on page 162.

### 15.2.13  Federal Communications Commission (FCC) Part 15

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.

### 15.2.13.1  FCC Class B Digital Device Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### 15.2.13.2  Industry Canada (IC) Class B Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### 15.2.13.3  FCC / IC Statement

This device complies with Part 15 of the FCC Rules, and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 des règles de la FCC et exempt de licence RSS d'Industrie Canada. Son fonctionnement est soumis aux conditions suivantes : (1) Cet appareil ne doit pas causer d'interférences nuisibles. (2) Cet appareil doit accepter toute interférence reçue y compris les interférences causant une réception indésirable.

### 15.2.13.4  RF Exposure Warning

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 7.8 in (20 cm) from all persons and must not be co-located or operated in conjunction with any other transmitter except in accordance with FCC multi-transmitter product procedures.

### 15.2.13.5  Mise en Garde

Exposition aux Fréquences Radio : L'antenne(s) utilisée pour cet émetteur doit être installée à une distance de séparation d'au moins 7,8 pouces (20 cm) de toutes les personnes.

# 16  Parts List

| Part No. | Product Name | Remark |
|---|---|---|
| **Control Panels** | | |
| MPIP2100U | MAXPRO Intrusion P2100U Controller | Needs cabinet |
| MPIP3000U | MAXPRO Intrusion P3000U Controller | Needs cabinet |
| MPI-150U | Kit MAXPRO Intrusion P2100U Controller + MPIBXM35P cabinet | |
| MPI-300U | Kit MAXPRO Intrusion P3000U Controller + MPIBXM35P cabinet | |
| **Cabinets with AC Power Adapter** | | |
| MPIBXM35P | MAXPRO Intrusion cabinet and PSU with plug; medium-size; 3.5 A | |
| **Communication Module** | | |
| MPICLTEU | MAXPRO Intrusion LTE module (US) | |
| MPICLTEC | MAXPRO Intrusion LTE module (Canada) | |
| **MAXPRO Cloud** | | |
| MPC-I003 | MPC monthly fee for MPI 2000 & MPI 3000 Intrusion Panels management (per panel) | |
| MPC-IDC0 | MPC monthly fee for MPI Door Control Intrusion Panels management (per door) | |
| **MAXPRO Receiver Software** | | |
| MPICRX | MAXPRO Intrusion Receiver Full Capacity Licence (beyond 100 connections. Trial version also available.) | |
| **IB2 Bus Devices** | | |
| **Expansion Power Supply** | | |
| MPIPSU35 | MAXPRO Intrusion expansion PSU 3.5 A | Needs cabinet |
| **I/O Wired Expanders** | | |
| MPIEIO84U | MAXPRO Intrusion Zone Expander Module, 8 hardwired zones + 4 triggers | |
| MPIEOP4 | MAXPRO Intrusion Relay Module, 4 relays | |
| **Keypads** | | |
| MPIKTSMF | MAXPRO Intrusion Touchscreen Keypad Mifare | |
| MPIKTSPRX | MAXPRO Intrusion Touchscreen Keypad Proximity | |

| Part No. | Product Name | Remark |
|---|---|---|
| MPIKW1 | MAXPRO Intrusion Keypad Wall Mounting Plate | Optional |
| **Access Control Modules** | | |
| MPIDC1 | MAXPRO Intrusion 1 Door Control Module (1 door, up to 2 readers[1]) | |
| **V-Plex Devices[2]** | | |
| **I/O Expanders** | | |
| 4101SN | Single output relay module | |
| 4193SNP | 2-zone expander | |
| 4208SN | 8-zone expander | |
| 4208U | Universal 8-zone expander | |
| **Door/Window Contacts** | | |
| 4191SN-BR | Recessed contact | |
| 4191WA | 3/4 in (19 mm) adapter for steel doors | |
| 4939SN-WH | Surface mount contact | |
| 4959SN | Aluminum overhead door contact | |
| **Interior Motion Detection** | | |
| DT8050A-SN | DUAL TEC motion detector with anti-mask | |
| DT8360ACM-SN[3] | DUAL TEC ceiling mount motion detector with mirror optics and anti-mask | |
| DT8360CM-SN | DUAL TEC ceiling mount motion detector with mirror optics | |
| IS3050A-SN | PIR motion detector with anti-mask | |
| **Interior Glass Break Detection** | | |
| FG1625SN | Glass break detector | |
| **Holdup Devices** | | |
| 269SN | Holdup switch | |
| **Fire Devices** | | |
| 5193SD | Photoelectric smoke detector | |
| 5193SDT | Photoelectric smoke detector with heat detector | |

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[1] Entry reader only; exit reader function will be available soon.

[2] Not all listed V-Plex devices may be available in all regions. Check the specifications and security grading in the sensor's datasheet, and contact your local Honeywell Intrusion Sales Representative for availability in your region.

[3] DT8360 models available soon.

| Part No. | Product Name | Remark |
|---|---|---|
| Extenders/Isolators | | |
| 4193SN | SIM serial interface module | |
| 4209U | Group zoning module | |

| Literature | |
|---|---|
| 800-23044 | MPI Installation and Setup Guide |
| 800-23040 | MPI Control Panel Quick Install Guide |
| 800-23148 | MPI Door Control Module Quick Install Guide |
| 800-23149 | MPI Remote Power Supply Quick Install Guide |
| 800-23150 | MPI Keypads Quick Install Guide |
| 800-25981 | MPI Keypad Mounting Plate Quick Install Guide |
| 800-23151 | MPI Zone Expander Quick Install Guide |
| 800-23154 | MPI Relay Module Quick Install Guide |
| 800-23041 | MAXPRO Intrusion User Guide |
| 800-25485 | MPI 4G/LTE Module Quick Install Guide |
| 800-24875 | MPI Cabinet Quick Install Guide |
| 800-25507 | MPI Security Manual |
| 800-24096 | MAXPRO Cloud Configuration Guide for Installers |
| 800-24095 | MAXPRO Cloud Mobile App Guide |
| 800-24094 | MAXPRO Cloud Quick Start Guide |
| 800-25754 | MAXPRO Cloud End User Guide |
| 800-25755 | MAXPRO Receiver (MPIRCX) Installation and User Guide |

# 17 Support, Warranty, and Patent Information

For the latest documentation and online support information, please go to:
www.mywebtech.com

For the latest US warranty information, please go to:
www.security.honeywell.com/resources/warranties

For patent information, please go to:
www.honeywell.com/patent

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