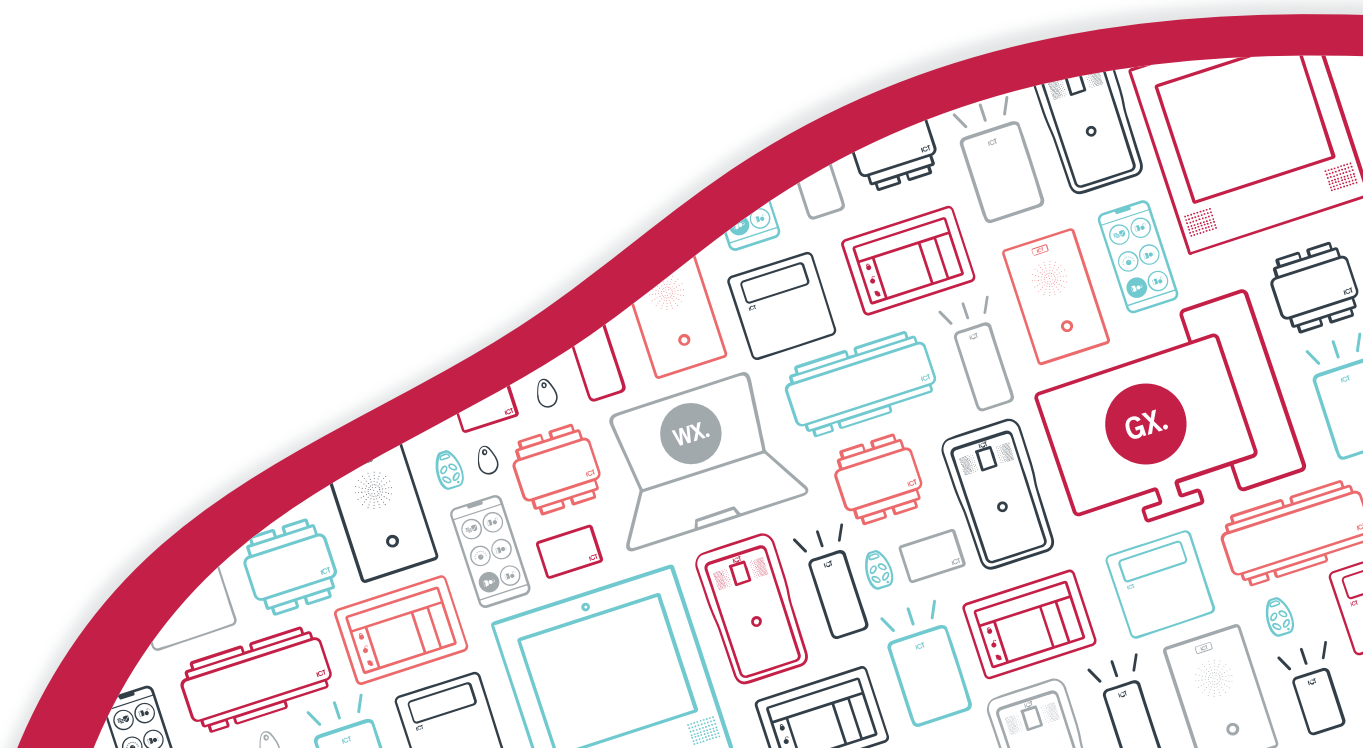
AN-312

Minimizing Offsite Reporting of False Alarms

Application Note



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Introduction

False intruder alarms can be annoying, costly and disruptive to business operation. They can even lead to intruder detection measures being ignored, bypassed or disabled.

In some regions, to prevent unnecessary callouts, specific laws regulate the way security systems must identify and report intruder alarms to monitoring stations and authorities.

Protege systems offer two advanced features which assist in minimizing offsite reporting of false alarms.

- **Remote Notify Delay** helps to prevent reporting of false alarms caused by disarming procedures.
- **Smart Input Mode** allows configuration of sequentially confirmed alarms to reduce false activations.

These features may be used independently or in combination.

The remote notify delay and smart input features behave differently when used in combination (see page 17).

Remote Notify Delay

The remote notify delay feature is used to defer remote reporting to response centers or authorities when an alarm is triggered in an armed area while an entry timer is active (i.e. the area is in 'entry delay').

This is a compliance requirement for BS 8243.

The delay is designed to reduce false alarms and callouts caused by disarming procedures during building entry, essentially adding a disarming buffer to prevent alarms being reported to the response center when a user is temporarily sidetracked to an 'off entry route' location (like going to the bathroom or turning on the heating).

Smart Input Mode

While alarms are typically activated by a single input there are scenarios where two or more independent input activations are required, providing a sequential confirmation before reporting the alarm to response centers or authorities. This can help reduce false alarms and callouts by requiring an intrusion to be verified by multiple inputs before an alarm will be reported. It also allows multiple levels of alarm reporting.

Sequentially confirmed alarm configuration is a compliance requirement for UK PD 6662:2017.

This feature is essentially designed to prevent false alarms caused by faulty inputs and inputs triggered by insects, fans and other miscellaneous 'non-intruder' events.

UK PD 6662:2017 and BS 8243

Protege systems conform to PD 6662:2017 and BS 8243 at the security grade and notification option applicable to the system when both remote notify delay **and** sequentially confirmed alarms are configured, as demonstrated in Configuring UK PD 6662:2017 and BS 8243 (see page 17).

Prerequisites

The features described in the document require the following firmware prerequisite to be installed.

Controllers	Firmware Version
Protege GX Controller	2.08 1348 or higher
Protege WX Controller	4.00 1451 or higher

Configuring Remote Notify Delay

The remote notify delay feature is used to defer remote reporting when an alarm is triggered in an armed area while an entry timer is active. The alarm is activated immediately, but the remote notify delay provides a grace period in which to silence the alarm and disarm the area before it is reported to the monitoring station.

Remote notify delay functionality is determined by the area's status and the input type configuration of the inputs.

The remote notify delay function can only be triggered while the area is in **entry delay**.

Remote Notify Delay and Input Types

The remote notify delay operation is dependent on the input type assigned to the inputs in the area.

- If an alarm input is activated while the area is armed the alarm will be reported immediately as normal.
- When an **entry delay** input is activated the area goes into entry delay and the **entry time** starts.
- During the entry time, **delay follow** inputs have no effect on the entry time or remote notify delay.
- If an **alarm input** is activated during the entry time (while the area is in entry delay) the alarm is still activated as normal, but offsite reporting is deferred for the **remote notify delay period**.
- Unless the area is disarmed, the alarm will be reported when both the entry time and remote notify delay period have elapsed.
- If the area is disarmed before the remote notify delay period has elapsed no alarm is reported.

Entry Delay Inputs

Entry delay inputs are any input assigned to the area with an input type that has the **Entry delay input** option enabled (**Input types | Options (1)** tab).

- From the default input types the Delay and Delay Force input types have this option enabled.

This input type configuration is typically assigned to inputs which are designed to detect entry by legitimate means, such as a door position input.

When an entry delay input is activated the area goes into entry delay and the **Entry time** starts. During this period the remote notify delay can be triggered by activation of an 'alarm' input.

Delay Follow Inputs

Delay follow inputs are any input assigned to the area with an input type that has the **Entry delay follow input** option enabled (**Input types | Options (1)** tab).

- From the default input types the Delay Follow and Delay Follow Force input types have this option enabled.

While the Delay and Delay Force input types do also have this option enabled, the entry delay input option overrides the delay follow. Any inputs with the entry delay option enabled will always behave as entry delay inputs, unless the area is already in entry delay - then they will behave as delay follow inputs.

Delay follow inputs are also referred to as 'on entry route' inputs, because they exist on the standard path from a legitimate entry point to a keypad. This input type configuration is typically assigned to inputs which a user would reasonably be expected to activate in the process of entering and disarming the area, such as an entry area PIR.

When a delay follow input is activated while the area is in entry delay it is ignored, as it is an expected activation in the disarming process. No alarm will be reported and it will not start the remote notify delay period.

If a delay follow input is activated while the area is not in entry delay the alarm will be reported immediately.

Alarm Inputs

All inputs which are not configured as either entry delay or delay follow inputs are treated as instant alarm inputs.

In the BS 8243 standard these are referred to as 'off entry route' inputs, because they exist outside of the standard path from a legitimate entry point to a keypad and would not be expected to activate in the process of entering and disarming the area.

When an alarm input is activated while the area is in entry delay it will start the remote notify delay period.

If an alarm input is activated while the area is not in entry delay the alarm will be reported immediately.

Areas

It is assumed that the area already exists and has the relevant inputs and other standard configuration in place.

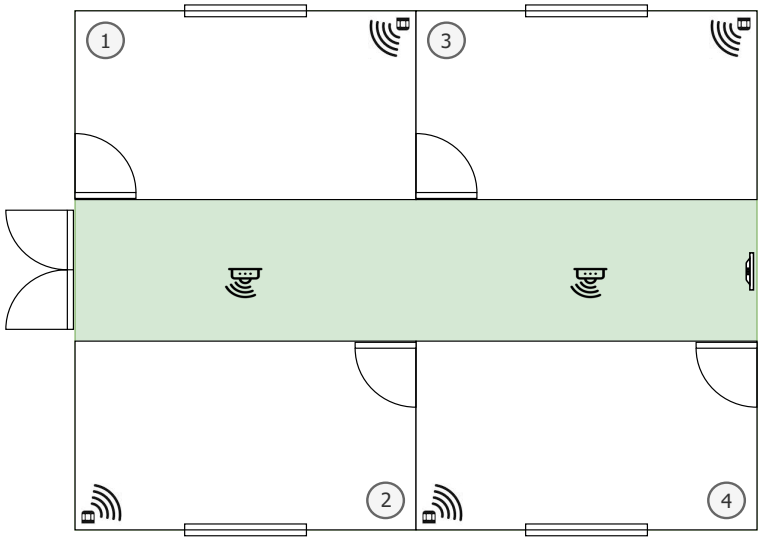
1. To configure remote notify delay, navigate to **Programming | Areas** and select the monitored area.
2. In the **Configuration** tab, expand the **Commands** window and add:
   `RemoteNotifyDelay = #`
   where **#** is the defer period in seconds. Valid values are from 30 to 2147483648 seconds.
   To comply with BS 8243 a minimum remote notify delay period of 30 seconds is required.
3. Click **Save**.

Remote Notify Delay Examples

Note that alarm and reporting behavior changes if smart input mode is also configured. For more information, see Configuring UK PD 6662:2017 and BS 8243 (page 17).

In the following examples we will use the below office area configuration.

- The door position input at the front door is an **entry delay** input.
- The two PIRs in the hallway are **delay follow** inputs, leading to the keypad at the end of the hallway.
- The PIR located in each of the four offices is an instant **alarm** input.
- The **entry time** is set to 30 seconds.
- The **remote notify delay** period is set to 30 seconds.
- The Report IP service has Log acknowledge response enabled, to generate 'message sent' events.



Example 1

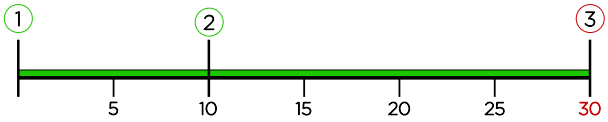
1. While the area is armed an alarm input such as the office 1 sensor is activated. The area alarm is activated immediately and instantly reported to the monitoring station.

   The remote delay notify feature is only triggered while the area is in entry delay.

Expected Events	
1	Input Office 1 (ZN104) Opened
	Report in Office (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 2

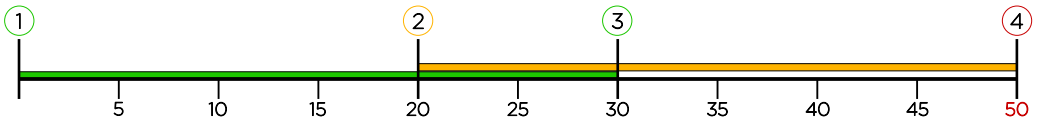
1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. A delay follow input such as an entry PIR is activated. This does not affect the process.
3. If the area is not disarmed it goes into alarm at the end of the 30 second entry time and the alarm is reported.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Report in Office (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 3

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.
3. The entry time expires. This has no impact as the remote notify delay period is operating.
4. If the area is not disarmed, at the end of the remote notify delay period the alarm is reported.



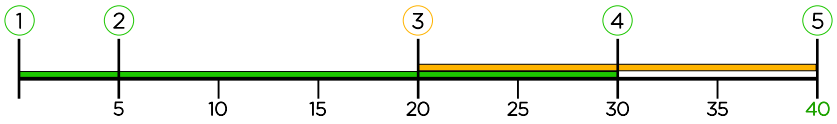
Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Office 1 (ZN104) Opened
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
3	(no events)
4	Report in Office (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Office (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 4

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. A delay follow input such as an entry PIR is activated. This does not affect the process.
3. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.

   The user now has the duration of the remote notify delay to disarm the area before the alarm is reported.
4. The entry time expires. This has no impact as the remote notify delay period is operating.
5. The area is disarmed before the remote notify delay period ends. No alarms are reported.

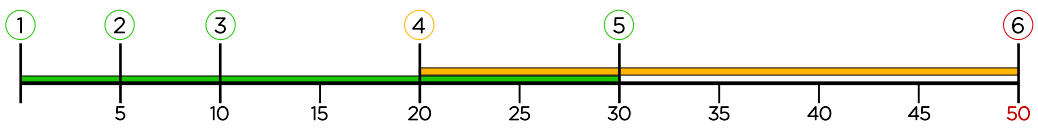
This is the primary purpose of the remote notify delay feature: when an alarm input is triggered while the area is in entry delay it provides the user with additional time to disarm the area before the alarm is reported.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Input Office 1 (ZN104) Opened
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
4	(no events)
5	User Bill Watson (UN22) Logged In At Main Keypad (KP1) Using Manager Access Level (AL1)
	Siren/Bell Off In Office (AR10) By Bill Watson (UN22) At Main Keypad (KP1)
	Area Office (AR10) Disarmed By Bill Watson (UN22) At Main Keypad (KP1)

Example 5

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. A delay follow input such as the entry PIR is activated. This does not affect the process.
3. Another delay follow input such as the keypad PIR is activated. This does not affect the process.
4. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.
5. The entry time expires. This has no impact as the remote notify delay period is operating.
6. If the area is not disarmed, at the end of the remote notify delay period the alarm is reported.

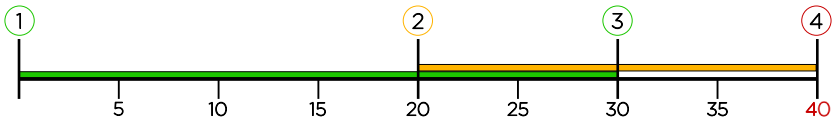


Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Input Keypad PIR (ZN103) Opened
4	Input Office 1 (ZN104) Opened
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
5	(no events)
6	Report in Office (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Office (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 6

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.
3. The entry time expires. This has no impact as the remote notify delay period is operating.
4. A second alarm input such as the office 2 sensor is activated. The alarm is instantly reported.

A second alarm input activation overrides the remote notify delay and the alarm is reported immediately.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Office 1 (ZN104) Opened
	Area Office (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
3	(no events)
4	Input Office 2 (ZN105) Opened
	Report in Office (AR10) Using Input Office 2 (ZN105) Special Code [None] Flags [NEW+ALARM]
	Report in Office (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Office (AR10) Using Input Office 2 (ZN105) Special Code [None] Flags [NEW+ALARM]
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK

Configuring Smart Input Mode

The smart input feature provides the ability to configure sequentially confirmed alarm reporting, which requires that an intrusion is confirmed by multiple independent activations.

Sequentially confirmed alarm configuration is a compliance requirement for UK PD 6662:2017.

Smart input mode operation typically requires the use of multiple areas and reporting services to configure the necessary area states, alarm activation and reporting.

1. A reporting service needs to be configured for each level of alarm reporting.
2. An area needs to be configured for each level of alarm reporting.
3. The inputs need to be assigned to all relevant areas with the appropriate input type configurations.

How Smart Input Mode Works

When an input in an armed area is activated an alarm is usually activated and reported immediately. With smart input mode enabled the area does not change state until the required number of independent inputs is activated.

- When an input is opened in the armed area the **Smart Input timer** starts.
- The area counts unique input activations, and if the number reaches the **Smart Input count** before the timer expires the area changes state.

  Repeat activation of an input does not increase the counter unless separated by activation of a different input.
- If the timer expires without the number of activations reaching the smart input count the timer and counter reset and no action is taken.

Input Types

The smart input count applies to all inputs activated in the area. It does not differentiate input types.

The area state response when the count is reached depends on the input type of the final input activated. For example, if the first input would start the entry delay but the last causes an instant alarm the area will go into alarm instantly. The area never goes into entry delay because the count is not reached with the entry delay input.

You may need to modify your entry setup, such as excluding entry delay and delay follow inputs from the area configured for sequential confirmation of alarm inputs using smart input mode.

Reporting Services

Typical use of smart input mode requires the configuration of two distinct reporting services: one that contacts the monitoring station and/or keyholder when an initial unconfirmed alarm is activated, and another that reports that a sequentially confirmed alarm has occurred, so that the police or relevant authority can be notified.

1. Navigate to **Programming | Services** and **Add** the required reporting services.
2. **Name** the services to clearly identify their function.
3. Set the **Service type** according to your reporting service.
4. Set the **Service mode** to 1 - Start with controller OS so the service starts automatically.
5. Enter the appropriate site identification codes and contact details.
6. Click **Save**.

For more information on reporting services, refer to the Protege GX Operator Reference Manual or the Protege WX Programming Reference Manual.

Areas

To separately report unconfirmed and confirmed alarms, two areas are required to configure the different input monitoring and responses. The normal user-facing area will monitor and report initial unconfirmed alarms from single input activations. This is also the area that will be armed and disarmed by normal operation.

The user-facing area may also contain entry delay and delay follow inputs which form part of the entry route and which may be excluded from the smart input monitoring of the secondary area.

The secondary area will monitor the smart input mode sequential inputs and generate confirmed alarm reporting. This area will also be configured as a child area of the first, so that it is automatically armed and disarmed with the parent area. Otherwise it would need to be armed and disarmed independently, creating the potential for false alarm reporting or an unarmed area.

Child Area

First, create the child area. This is the area that will monitor the sequential inputs and generate confirmed alarm reporting when the smart input count is reached.

1. Navigate to **Programming | Areas** and click **Add**.
2. Enter a **Name** to clearly identify this as the area that is using smart input activation.
3. In the **Options (2)** tab, check the **Enable smart input** option to enable this feature.
4. In the **Configuration** tab, set the **Smart input timer** to the time period within which the sequential input activations must occur.

   The timer is set in seconds. For example, a 30 minute window is 1800 seconds.
5. In the **Client code** field enter the central monitoring station identifier for confirmed alarms for this site. This is typically a hexadecimal number but may depend on the receiver.

   If left at the default value (FFFF), the area will use the **Client code** set in the reporting service.
6. Set the **Smart input count** to the number of unique inputs that must be triggered for the sequentially confirmed alarm to be activated.

   For BS 8243 compliance this **must** be set to **2**.
7. In the **Reporting ID** field enter the central monitoring station identifier for this area.

   This may be the same as the primary area or may be a unique code to distinguish confirmed from unconfirmed alarms.
8. In the **Reporting services** section **Add** the reporting service that was configured to report when a sequentially confirmed alarm is activated.
9. Click **Save**.

It is not necessary to configure multiple areas if only one level of alarm reporting is required. A single monitored area can be configured with the smart input settings, and simply report the alarm when the smart input count is reached. Additional areas are only needed for the different configurations required to generate alarms and alternative reporting for multiple levels of input activation.

Parent Area

It is assumed that the primary monitored area already exists and has the relevant standard configuration in place.

1. Navigate to **Programming | Areas** and select the area.
2. In the **Configuration** tab, set the **Child area** to the smart input monitoring area created above.
3. In the **Client code** field enter the central monitoring station identifier for unconfirmed alarms for this site. This is typically a hexadecimal number but may depend on the receiver.

   If left at the default value (FFFF), the area will use the **Client code** set in the reporting service.
4. In the **Reporting ID** field enter the central monitoring station identifier for this area.
5. In the **Reporting services** section **Add** the reporting service that was configured to contact the monitoring station and/or keyholder when an unconfirmed alarm is activated.
6. Go to the **Options (1)** tab and enable the **Arm child area** and **Disarm child area** options.

   This will ensure that the area monitoring the smart input count will be automatically armed and disarmed at the same time as the parent area.
7. Click **Save**.

Inputs

When the areas have been configured they need to be assigned to the necessary inputs.

Typically inputs that have the parent area assigned would also have the child area assigned, however some entry delay and delay follow inputs may be excluded from the child area due to disarming requirements.

If the area has a smart input count set to 2, activating an entry delay input (such as opening the front door) will not put the area into entry delay as the count is not reached. If a delay follow input (such as an entry PIR) is then activated, it would immediately put the area into alarm.

1. Navigate to **Programming | Inputs** and select an input that will trigger the alarms.
2. In the **Areas and input types** tab, assign the required **Areas**.

   An input that is not assigned to an area will not contribute to input counts and alarm activation for that area.
3. Assign the required **Input types**.
4. Click **Save**.

This process must be completed for all inputs that will be used to monitor the areas and contribute to alarm activation.

Smart Input Mode Examples

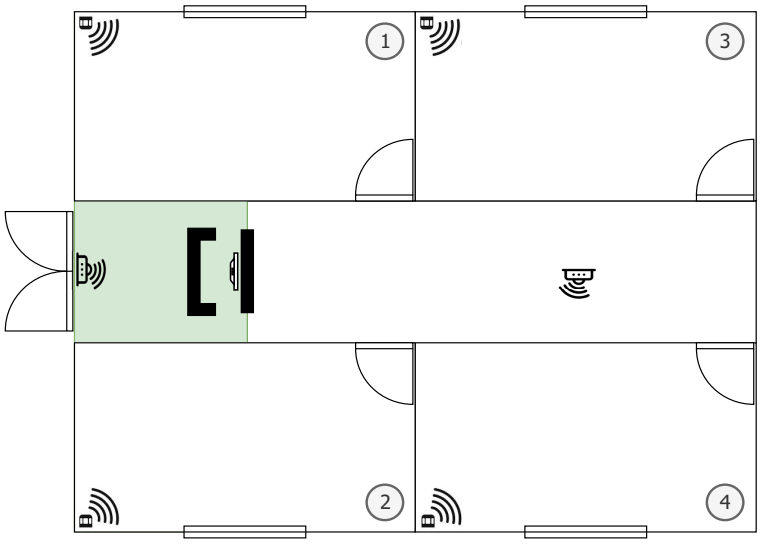
Note that alarm and reporting behavior changes if remote notify delay is also configured. For more information, see Configuring UK PD 6662:2017 and BS 8243 (page 17).

A sequentially confirmed alarm requires that an intrusion is confirmed by multiple independent input activations. This can be configured using a single area, where the appropriate alarm is reported to the response center after the final activation, or using multiple areas to allow staged levels of activation alerts and reporting.

In the following examples we will demonstrate using two levels of reporting. When one input is triggered the primary area alarm will be reported to the designated contact, and if no further input is activated within the configured time period the timer resets and the counter returns to zero. Only when two independent inputs are triggered within the defined smart input time period will the secondary area alarm be activated and reported to the monitoring station.

In the following example we will use the below office area configuration.

- The user-facing primary area will be assigned to all inputs.
- The Front Door door position input will be an **entry delay** input and the Entry PIR will be a **delay follow**. This will allow users to enter via the front door and disarm the area at the Reception Keypad.
- These inputs will not be assigned to the secondary area, which will have smart input mode enabled.
- All PIRs beyond the reception area will be instant alarm inputs.
- The primary area will report unconfirmed alarm activations to the building manager.
- The secondary area will report confirmed alarms to the monitoring station, using a separate reporting service.
- The Report IP services have Log acknowledge response enabled, to generate 'message sent' events.



Example 1

1. While the area is armed an intruder enters through the window and the office sensor is activated. The main area alarm is activated immediately and instantly reported to the building manager.
2. The intruder moves to the hallway, activating the hallway PIR. The smart input count is reached and the secondary area goes into alarm. The new input activation is reported to the building manager, and the sequentially confirmed alarm is reported to the monitoring station.

Expected Events	
1	Input Office 1 (ZN104) Opened
	Report in Main (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
	Service Manager Alarm Service (SV3) Report IP Message Sent OK
2	Input Hallway (ZN103) Opened
	Report in Main (AR10) Using Input Hallway (ZN103) Special Code [None] Flags [NEW+ALARM]
	Report in Secondary (AR11) Using Input Hallway (ZN103) Special Code [None] Flags [NEW+ALARM]
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Service Manager Alarm Service (SV3) Report IP Message Sent OK
	Service Monitoring Alarm Service (SV2) Report IP Message Sent OK

Example 2

1. A faulty sensor in office 4 is being triggered repeatedly. The main area will repeatedly go into alarm and be reported to the building manager, but because the intrusion is not confirmed by multiple independent input activations no sequentially confirmed alarm is reported to the monitoring station.

Expected Events	
1	Input Office 4 (ZN107) Opened
	Report in Main (AR10) Using Input Office 4 (ZN107) Special Code [None] Flags [NEW+ALARM]
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
	Service Manager Alarm Service (SV3) Report IP Message Sent OK
	Input Office 4 (ZN107) Closed
	Report in Main (AR10) Using Input Office 4 (ZN107) Special Code [None] Flags [RESTORE+ALARM]
	Service Manager Alarm Service (SV3) Report IP Message Sent OK

Example 3

1. A staff member opens the front door and enters the reception area. The main area goes into entry delay.
2. Forgetting to disarm the area, they walk into the hallway, activating the PIR. The main area goes into alarm and is instantly reported to the building manager.

   Because only one input from the secondary area has been activated this area is not in alarm.

3. The staff member goes back to reception and disarms the area. Both parent and child areas are disarmed. Nothing is reported to the monitoring station, avoiding a false alarm callout.

Expected Events	
1	Input Front Door (ZN101) Opened
	Input Entry PIR (ZN102) Opened
2	Input Hallway (ZN103) Opened
	Report in Main (AR10) Using Input Hallway (ZN103) Special Code [None] Flags [NEW+ALARM]
	Area Main (AR10) Alarm Activated
	Report in Main (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Siren/Bell On In Main (AR10)
	Service Manager Alarm Service (SV3) Report IP Message Sent OK
	Service Manager Alarm Service (SV3) Report IP Message Sent OK
3	User Bill Watson (UN22) Logged In At Reception Keypad (KP1) Using Manager Access Level (AL1)
	Siren/Bell Off In Main (AR10) By Bill Watson (UN22) At Reception Keypad (KP1)
	Area Main (AR10) Disarmed By Bill Watson (UN22) At Main Keypad (KP1)
	Area Secondary (AR11) Disarmed By Area Main (AR10) Using SYSTEM USER

Configuring UK PD 6662:2017 and BS 8243

The functionality and reporting when both the remote notify delay and smart input features are configured has been specifically customized to comply with the requirements of UK PD 6662:2017 and BS 8243.

Protege systems conform to PD 6662:2017 and BS 8243 at the security grade and notification option applicable to the system when both remote notify delay and sequentially confirmed alarms are correctly configured.

Configuring both features allows you to implement the three key features of the UK PD 6662:2017 and BS 8243 requirements:

- Remote notify delay
- Sequentially confirmed alarms
- Unconfirmed and confirmed alarm reporting codes

Unconfirmed and Confirmed Alarms

Part of the compliance requirement includes the reporting of unconfirmed and confirmed alarms to response centers to clearly differentiate alarm activities. When remote notify delay and smart input mode are configured, Protege systems are able to report both unconfirmed and confirmed alarms from a single reporting service.

Unconfirmed Alarms

An unconfirmed alarm is any alarm activation which does not meet the sequentially confirmed smart input requirements, typically single input activations.

- For SIA unconfirmed alarms are reported as BA-Burglary alarm
- For Contact ID unconfirmed alarms are reported as 130 Burglary

Unconfirmed alarm report events are identified by [NEW+ALARM] in Protege GX and [FF] [AL] in Protege WX.

Confirmed Alarms

A confirmed alarm is an alarm activation which has been confirmed by multiple independent activations, within the parameters defined in the smart input programming.

- For SIA confirmed alarms are reported as BV-Burglary Verified
- For Contact ID confirmed alarms are reported as 139 Intrusion Verifier

Confirmed alarm report events are identified by [NEW+SP1] in Protege GX and [FF] [VA] in Protege WX.

Reporting Service

One notable difference when both remote notify delay and smart input mode are enabled is that only a single reporting service is required to report both unconfirmed and confirmed alarms.

1. Navigate to **Programming | Services** and **Add** the required reporting service.
2. **Name** the service to clearly identify their function.
3. Set the **Service type** according to your reporting service.
4. Set the **Service mode** to 1 - Start with controller OS so the service starts automatically.
5. Enter the appropriate site identification codes and contact details.
6. Click **Save**.

For more information on reporting services, refer to the Protege GX Operator Reference Manual or the Protege WX Programming Reference Manual.

Areas

To separately report unconfirmed and confirmed alarms two areas are required to configure the different input monitoring and reporting. The normal user-facing area will monitor and report initial unconfirmed alarms from single input activations. This is also the area that will be armed and disarmed by normal operation.

The secondary area will monitor the smart input programming and generate confirmed alarm reporting. This area will also be configured as a child area of the first, so that it is automatically armed and disarmed with the parent area. Otherwise it would need to be armed and disarmed independently, creating the potential for false alarm reporting or an unarmed area.

Child Area

First, create the child area. This is the area that will monitor the sequential inputs and generate confirmed alarm reporting.

1. Navigate to **Programming | Areas** and click **Add**.
2. Enter a **Name** to clearly identify this as the area that is using sequential input activation.
3. In the **Options (2)** tab, check the **Enable smart input** option to enable this feature.
4. In the **Configuration** tab, set the **Smart input timer** to the time period within which the sequential input activations must occur.

   The timer is set in seconds. For example, a 30 minute window is 1800 seconds.

5. In the **Client code** field enter the central monitoring station identifier for this site. This is typically a hexadecimal number but may depend on the receiver.

   If left at the default value (FFFF), the area will use the **Client code** set in the reporting service.

6. Set the **Smart input count** to the number of unique inputs that must be triggered for the sequentially confirmed alarm to be activated.

   For BS 8243 compliance this **must** be set to **2**.

7. In the **Reporting ID** field enter the central monitoring station identifier for this area.

   This would typically be the same as the primary area.

8. In the **Reporting services** section **Add** the reporting service created above.
9. To configure the remote notify delay, expand the **Commands** window and add:

   `RemoteNotifyDelay = #`

   where **#** is the defer period in seconds. Valid values are from 30 to 2147483648 seconds.

   A minimum remote notify delay of 30 seconds is required to comply with BS 8243.

10. Click **Save**.

Parent Area

It is assumed that the primary monitored area already exists and has the relevant standard configuration in place.

1. Navigate to **Programming | Areas** and select the area.
2. In the **Configuration** tab, set the **Child area** to the sequential input monitoring area created above.
3. In the **Client code** field enter the central monitoring station identifier for this site. This is typically a hexadecimal number but may depend on the receiver.

   If left at the default value (FFFF), the area will use the **Client code** set in the reporting service.
4. In the **Reporting ID** field enter the central monitoring station identifier for this area.
5. In the **Reporting services** section **Add** the reporting service created above.
6. To configure the remote notify delay, expand the **Commands** window and add:

   `RemoteNotifyDelay = #`

   where **#** is the defer period in seconds. Valid values are from 30 to 2147483648 seconds.

   A minimum remote notify delay of 30 seconds is required to comply with BS 8243.
7. Go to the **Options (1)** tab and enable the **Arm child area** and **Disarm child area** options.

   This will ensure that the area monitoring the smart input count will be automatically armed and disarmed at the same time as the parent area.
8. Click **Save**.

Inputs

When the areas have been configured they need to be assigned to the necessary inputs. Typically inputs that have the parent area assigned would also have the child area assigned.

1. Navigate to **Programming | Inputs** and select an inputs that will trigger the alarms.
2. In the **Areas and input types** tab, assign the required **Areas**.

   An input that is not assigned to an area will not contribute to input counts and alarm activation for that area.
3. Assign the required **Input types**. The same input type should typically be used for both areas.

   Note that entry delay inputs are not included in smart input counting when remote notify delay is enabled.
4. Click **Save**.

This process must be completed for all inputs that will be used to monitor the areas and contribute to alarm activation.

Input Types

The remote notify delay operation is dependent on the input type assigned to the inputs in the area.

Entry Delay Inputs

Entry delay inputs are any input assigned to the area with an input type that has the **Entry delay input** option enabled (**Input types | Options (1)** tab).

- From the default input types the Delay and Delay Force input types have this option enabled.

This input type configuration is typically assigned to inputs which are designed to detect entry by legitimate means, such as a door position input.

When an entry delay input is activated the area goes into entry delay and the **Entry time** starts. During this period the remote notify delay can be triggered by activation of an 'alarm' input.

When the remote notify delay feature is enabled, entry delay inputs are not counted in the smart input count.

Delay Follow Inputs

Delay follow inputs are any input assigned to the area with an input type that has the **Entry delay follow input** option enabled (**Input types | Options (1)** tab).

- From the default input types the Delay Follow and Delay Follow Force input types have this option enabled.

While the Delay and Delay Force input types do also have this option enabled, the entry delay input option overrides the delay follow. Any inputs with the entry delay option enabled will always behave as entry delay inputs, unless the area is already in entry delay - then they will behave as entry delay follow inputs.

Delay follow inputs are also referred to as 'on entry route' inputs, because they exist on the standard path from a legitimate entry point to a keypad. This input type configuration is typically assigned to inputs which a user would reasonably be expected to activate in the process of entering and disarming the area, such as an entry area PIR.

When a delay follow input is activated while the area is in entry delay it is ignored, as it is an expected activation in the disarming process. No alarm will be reported, it will not start the remote notify delay period, it will not start the smart input timer, and it will not increment the smart input count if the smart input timer has already started.

If a delay follow input is activated while the area is armed it will start the smart input timer.

Alarm Inputs

All inputs which are not configured as either entry delay or entry delay follow inputs will be treated as instant alarm inputs.

In the BS 8243 standard these are referred to as 'off entry route' inputs, because they exist outside of the standard path from a legitimate entry point to a keypad and would not be expected to activate in the process of entering and disarming the area.

When an alarm input is activated while the area is in entry delay it will start the remote notify delay period.

If an alarm input is activated while the area is armed it will start the smart input timer.

UK PD 6662:2017 and BS 8243 Examples

The programming to comply with UK PD 6662:2017 and BS 8243 utilizes both the remote notify delay and smart input mode features to achieve the required alarm reporting.

Remote notify delay is used to defer offsite reporting when an alarm input is activated while the area is in entry delay, to prevent reporting of false alarms caused by disarming procedures.

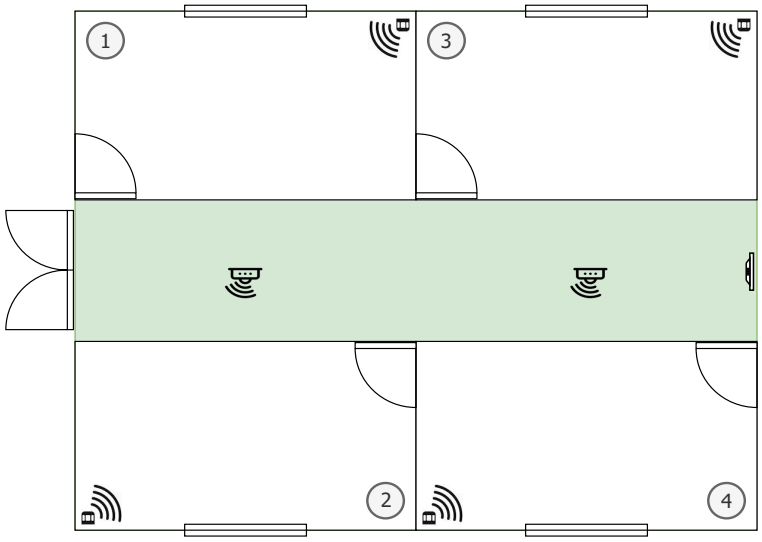
Smart input mode is used to configure sequentially confirmed alarms, to reduce false activations and ensure that unconfirmed and confirmed alarms are correctly identified and reported.

- If an alarm input is activated while the area is armed the **unconfirmed** alarm will be reported immediately.
- If the **smart input count** is reached with independent input activations the **confirmed** alarm will be reported.
- When an **entry delay** input is activated the area goes into entry delay and the **entry time** starts.
- During the entry time, **delay follow** inputs have no effect on the entry time or remote notify delay, and are not included in the smart input count.
- If an **alarm input** is activated while the area is in entry delay the alarm is still activated as normal, but reporting is deferred for the **remote notify delay period**, allowing for the area to be disarmed. The unconfirmed alarm is not reported until either the delay period ends or the smart input count is reached.
- When the **smart input count** is reached it overrides remote notify delay. All alarms are reported immediately.
- If the area is disarmed before the remote notify delay period has elapsed no alarm is reported.

In the following examples we will use the below office area configuration.

- The door position input at the front door is an **entry delay** input.
- The two PIRs in the hallway are **delay follow** inputs, leading to the keypad at the end of the hallway.
- The PIR located in each of the four offices is an **instant** input.
- The **entry time** is set to 30 seconds.
- The **remote notify delay** period is set to 30 seconds.
- In the secondary area the **smart input count** is set to 2.
- In the secondary area the **smart input timer** is set to 300 (5 minutes).

When remote notify delay and smart input mode are both enabled, when the parent area goes into entry delay the child area follows, so in this configuration the same inputs are assigned in both areas.



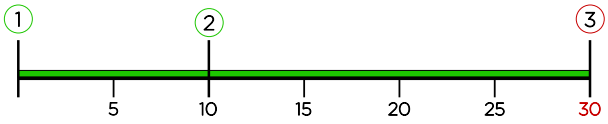
Example 1

1. While the area is armed an intruder enters through the window and the office sensor is activated. The main area alarm is activated immediately and the unconfirmed alarm is instantly reported.
2. The intruder moves to the hallway, activating the entry PIR. The smart input count is reached and the secondary area goes into alarm. The confirmed alarm is reported.

Expected Events	
1	Input Office 1 (ZN104) Opened
	Report in Main (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
	Service Alarm Service (SV3) Report IP Message Sent OK
2	Input Entry PIR (ZN102) Opened
	Report in Main (AR10) Using Input Entry PIR (ZN102) Special Code [None] Flags [NEW+ALARM]
	Report in Secondary (AR11) Using Input Entry PIR (ZN102) Special Code [None] Flags [NEW+SP1]
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 2

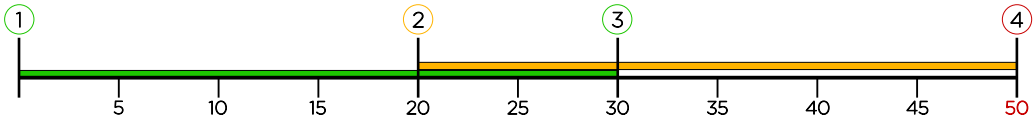
1. The door is opened, activating the door position input. Both the primary and secondary areas go into entry delay, starting the entry time.
2. A delay follow input such as an entry PIR is activated. This does not contribute to the smart input count or trigger the remote notify delay.
3. If the area is not disarmed it goes into alarm at the end of the 30 second entry time and the unconfirmed alarm is reported.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Report in Main (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 3

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately. No alarms are reported.
3. The entry time expires. This has no impact as the remote notify delay period is operating.
4. If the area is not disarmed, at the end of the remote notify delay period the secondary area goes into alarm and both the unconfirmed and confirmed alarms are reported for both areas.



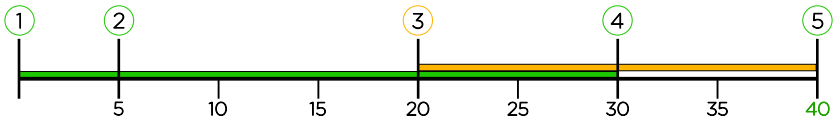
Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Office 1 (ZN104) Opened
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
3	(no events)
4	Report in Main (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Main (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Report in Secondary (AR11) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+SP1]
	Report in Secondary (AR11) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+SP1]
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 4

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. A delay follow input such as an entry PIR is activated. This does not affect the process.
3. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.

   The user now has the duration of the remote notify delay to disarm the area before the alarm is reported.
4. The entry time expires. This has no impact as the remote notify delay period is operating.
5. The area is disarmed before the remote notify delay period ends. No alarms are reported.

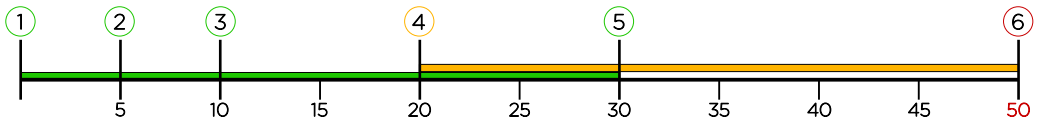
This is the primary purpose of the remote notify delay feature; when an alarm input is triggered while the area is in entry delay it provides the user with additional time to disarm the area before the alarm is reported.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Input Office 1 (ZN104) Opened
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
4	(no events)
5	User Bill Watson (UN22) Logged In At Main Keypad (KP1) Using Manager Access Level (AL1)
	Siren/Bell Off In Main (AR10) By Bill Watson (UN22) At Main Keypad (KP1)
	Area Main (AR10) Disarmed By Bill Watson (UN22) At Main Keypad (KP1)
	Area Secondary (AR11) Disarmed By Area Main (AR10) Using SYSTEM USER

Example 5

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. A delay follow input such as the entry PIR is activated. This does not affect the process.
3. Another delay follow input such as the keypad PIR is activated. This does not affect the process.
4. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.
5. The entry time expires. This has no impact as the remote notify delay period is operating.
6. If the area is not disarmed, at the end of the remote notify delay period the secondary area goes into alarm and both the unconfirmed and confirmed alarms are reported for both areas.

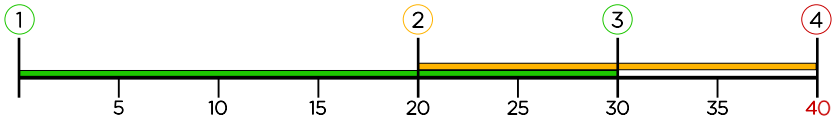


Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Entry PIR (ZN102) Opened
3	Input Keypad PIR (ZN103) Opened
4	Input Office 1 (ZN104) Opened
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Office (AR10)
5	(no events)
6	Report in Main (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Main (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Report in Secondary (AR11) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+SP1]
	Report in Secondary (AR11) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+SP1]
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK

Example 6

1. The door is opened, activating the door position input. The area goes into entry delay, starting the entry time.
2. An alarm input such as the office 1 sensor is activated, starting the remote notify delay period. The area alarm is activated immediately.
3. The entry time expires. This has no impact as the remote notify delay period is operating.
4. A second alarm input such as the office 2 sensor is activated. The smart input count is reached, overriding the remote notify delay, and the secondary area immediately goes into alarm. Both the unconfirmed and confirmed alarms are reported for both areas.

   The smart input count overrides the remote notify delay and the alarm is reported immediately.



Expected Events	
1	Input Front Door (ZN101) Opened
2	Input Office 1 (ZN104) Opened
	Area Main (AR10) Alarm Activated
	Siren/Bell On In Main (AR10)
3	(no events)
4	Input Office 2 (ZN104) Opened
	Report in Secondary (AR11) Using Input Office 2 (ZN105) Special Code [None] Flags [NEW+SP1]
	Area Secondary (AR11) Alarm Activated
	Siren/Bell On In Secondary (AR11)
	Report in Main (AR10) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+ALARM]
	Report in Main (AR10) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+ALARM]
	Report in Secondary (AR11) Using Input Front Door (ZN101) Special Code [None] Flags [NEW+SP1]
	Report in Secondary (AR11) Using Input Office 1 (ZN104) Special Code [None] Flags [NEW+SP1]
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK
	Service Alarm Service (SV3) Report IP Message Sent OK

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