# SGSE

Soluciones Globales de Seguridad Electrónica

milestone

## INTEGRATION OF AJAX SYSTEMS INTRUSION PANELS INTO MILESTONE

SGSE has expanded its intrusion panel integration offering with its incorporation of renowned manufacturer Ajax Systems's («Ajax's») HUB Hybrid and HUB 2 PLUS panels into Milestone Systems's («Milestone's») software, consolidating its global expansion.



The image below shows the names of the different manufacturers whose intrusion panels are currently integrated into Milestone thanks to SGSE's software innovations.



## Hybrid deployments with Ajax's HUB Hybrid

Ajax's HUB Hybrid control panel facilitates the deployment of hybrid intrusion systems, supporting all of Ajax's wireless Jeweller devices and the entire Ajax Fibra family.

This means that simple to complex topologies and everything in-between can be designed, regardless of the size of the facility.



**Topología de conexión en anillo**
contra el sabotaje

**Fibra**

## Wireless deployments with Ajax

The HUB 2 PLUS intrusion panels work with the Jeweller two-way radio protocol developed by Ajax. This ensures that all devices within the security system function correctly and efficiently over an effective distance of up to 2,000 metres between the HUB and the detectors.

This radio protocol also makes it possible to control the Ajax devices remotely and communicate alarm signals to the panel in less than 0.15 seconds. These alarm signals can also trigger events within Milestone thanks to SGSE's software innovations.
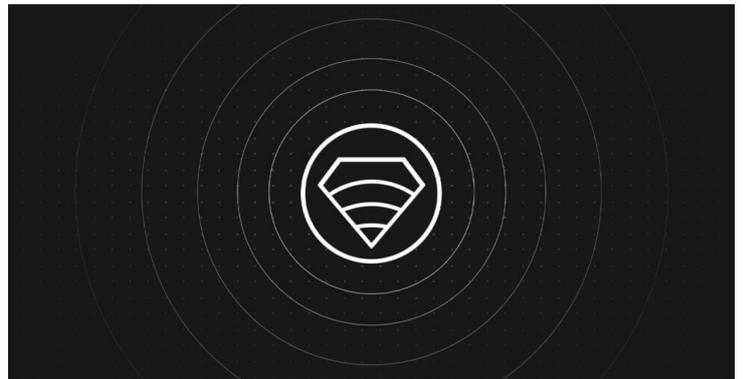


As the integration is two-way, not only can the operator monitor the status of the intrusion system within Milestone, but they can also interact with the intrusion panel from the Smart Client using the commands that appear in the drop-down menu for each icon selected or through specific actions taken from the panel via predefined rules.

## Integration architecture

To integrate Ajax's HUB 2 PLUS intrusion panel into Milestone, both the panel and the server on which the Milestone software platform has been installed must be connected to the internet.





## Implementation

The Hub panels will establish communication with the Ajax servers to which the SGSE plugin connects through this manufacturer's application programming interface (API).

It is therefore necessary for the Ajax user account credentials (which are generated when an account is created on the Ajax portal) to be configured so that the plugin can communicate correctly with the intrusion panels.

Communication of events takes place through Amazon SQS's managed message queues.

The registration of one or more Hubs (intrusion panels) that is/are associated with an Ajax account is very straightforward as it is just a case of entering the username and password for that account.

Click «save» to store the connection data in the Plugin.
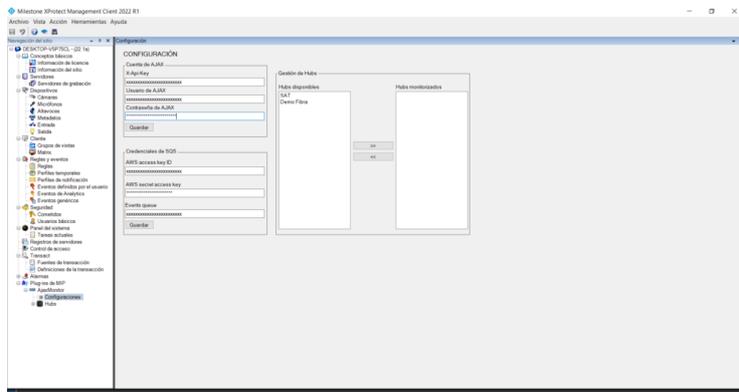
If the information entered is correct, the intrusion panels or Hubs that are associated with the Ajax account will appear in the left-hand column of the Hub Management dialog box.

Select the Hub or Hubs you wish to interact with and click on «>>» to move it/them to the right-hand column (Monitored Hubs). The selected Hub or Hubs will then disappear from the left-hand column (Available Hubs). The right-hand column (Monitored Hubs) shows the Hubs with which the Ajax Monitor will establish a connection so they can be managed in Milestone.

To summarise, the steps to take are as follows:

- Enter the username and password for your Ajax account
- Save the account information
- Select the Hubs you wish to interact with by moving them from the Available Hubs column to the Monitored Hubs column

## Configuration

### Zones

The SGSE plugin facilitates the automatic collection of information on the configuration of the HUB zones and displays the icons for each zone on the Smart Client plans to make the operator's job much easier.

Some of the most significant icons are shown below:

| Type of sensor | Icon |
|---|---|
| Default. | ? |
| **MotionProtect Jeweller** <br> Wireless IR motion detector | |
| **MotionProtect Outdoor Jeweller** <br> Wireless IR motion detector for outdoor use | |
| **MotionCam Jeweller** <br> Wireless IR motion detector with photo camera | |
| **MotionCam Outdoor Jeweller** <br> Wireless IR Motion detector with photo camera for outdoor use | |
| **DualCurtain Outdoor Jeweller** <br> Wireless IR two-way motion curtain detector | |
| **Button Jeweller** <br> Wireless panic button | |
| **DoubleButton Jeweller** <br> Wireless hold-up device | |
| **SpaceControl Jeweller** <br> Wireless key fob | |
| **CombiProtect Jeweller** <br> Combined wireless detector with motion and glass breakage detection and microphone | |

**GlassProtect Jeweller**
Wireless glass breakage detector with microphone

**DoorProtect Jeweller**
Wireless door opening detector

**KeyPad TouchScreen Jeweller**
Wireless keypad with touchscreen that supports authentication with smartphone, code, tags and card.

**KeyPad Plus Jeweller**
Wireless touch keypad for encrypted contactless cards and key fobs

**DoorProtect - Fibra**
Wired door opening detector

**GlassProtect - Fibra**
Wired glass breakage detector with microphone

**Combi Protect - Fibra**
Combined wired detector with motion and glass breakage detection and microphone

**MotionProtect - Fibra**
Wired motion detector

**MotionCam Protect - Fibra**
Wired motion detector with photo camera for outdoor use

**KeyPad - Fibra**
Wired touch keyboard

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LifeQuality Jeweller – Temperature



LifeQuality Jeweller – Humidity



LifeQuality Jeweller – CO2



Jeweller Relay

Wireless dry contact relay output



## Events: Alarms and rules

### Alarms

When intrusion events (such as the detection of intrusion elements and the arming and disarming of partitions, among other things) or LifeQuality events (such as when the temperature, humidity or CO2 levels exceed or fall below the preconfigured levels, and when they come back into range) occur in the panel, the plugin will notify Milestone of these events.

Depending on how they arise, these events can be used to define customized alarms in Milestone.



### Events

Just as certain intrusion events can be used to define customised alarms, plugin events can be used to define automated rules in Milestone, linking the intrusion events to any other technology available at the facility which has been integrated into Milestone.

By way of example, when an intrusion event occurs in the AJAX panel, such as the detection of an intrusion in any zone, any of several actions that are enabled in the rules engine can be performed: activating a digital output, playing an audio message, moving a pan, tilt and zoom (PTZ) camera, and sending an email, among other things.
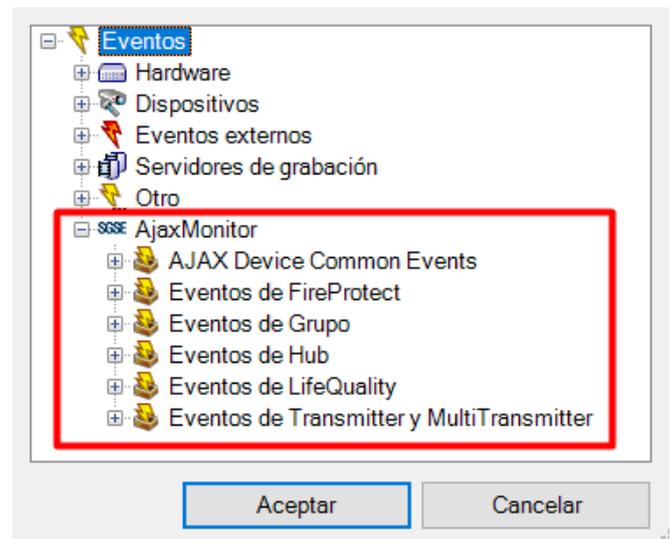


### Performing actions on the Ajax intrusion panel from the Smart Client

The example mentioned previously is not the only type of interaction that can occur with the Milestone rules engine; the rules engine also facilitates interaction with the intrusion panel itself when any event occurs in Milestone, including user-defined events that can be triggered from the Smart Client, the Web Client or even the Mobile Client.

The following actions can be performed on the intrusion panel:
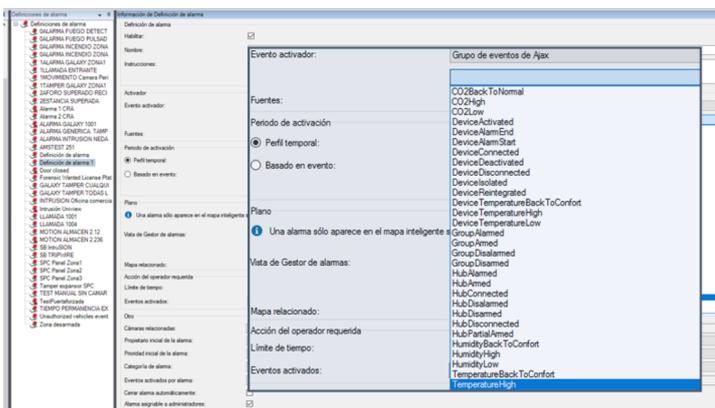
- Arm a panel
- Disarm a panel
- Arm a partition
- Disarm a partition
- Arm all partitions
- Disarm all partitions
- Activate/deactivate an output (action)
- Isolate a zone
- Deisolate a zone

We can activate one of the panel outputs (actions), for example, when a particular event occurs in Milestone. We can also create a user-defined event called «arm system» which, when activated, triggers the command to arm the entire system.

The «arm system» event can be activated from the Smart Client, the Web Client or even the Mobile Client.
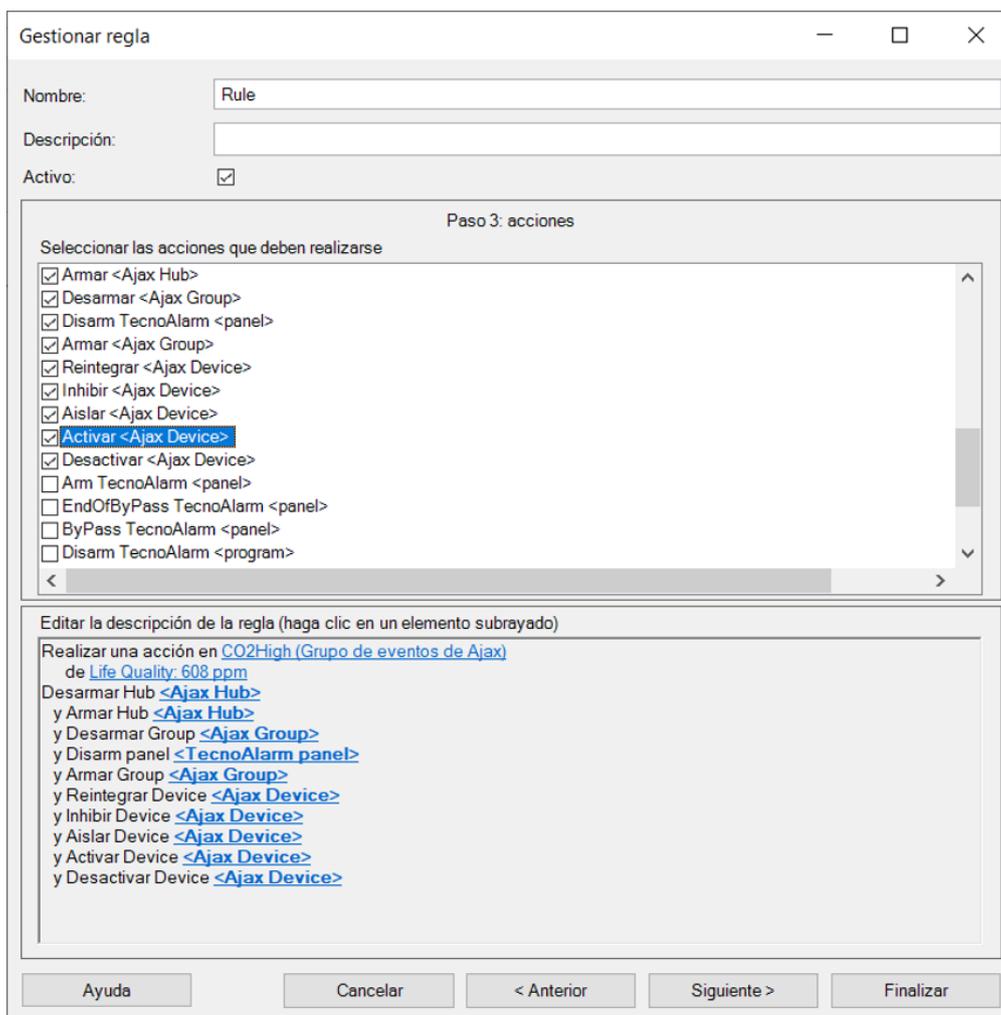


## Operation and user interface

The status of the different elements of the intrusion deployment can be seen in Milestone's Smart Client, including the panel itself (the Hub), the partitions (which are called «groups» in Ajax), the zones and the outputs (actions).

The status of each element is indicated by the colour displayed on the icon. The status indicated by each colour is shown in the table below:

| ITEM | STATUS | ICON |
|---|---|---|
| Hub 2 Plus | Normal |  |
| | Armed |  |
| | Partially armed |  |
| | Alarmed |  |
| | Unknown |  |
| Hub Hybrid | Normal |  |
| | Armed |  |
| | Partially armed |  |
| | Alarmed |  |
| | Unknown |  |
| Group | Normal |  |
| | Armed |  |
| | Alarmed |  |
| | Unknown |  |

| ITEM | STATUS | ICON |
|---|---|---|
| Zone | Normal | |
| | Alarmed | |
| | Armed | |
| | Isolated | |
| | Sabotaged | |
| | Malfunction | |
| | Unknown | |
| LifeQuality – Temperature | Normal | |
| | High | |
| | Low | |
| | Unknown | |
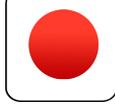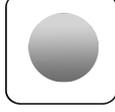
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| ITEM | STATUS | ICON |
|---|---|---|
| LifeQuality - Humidity | Normal | |
| | High | |
| | Low | |
| | Unknown | |
| LifeQuality – CO$_2$ | Normal | |
| | High | |
| | Low | |
| | Unknown | |
| Output | Activated | |
| | Deactivated | |
| | Unknown | |

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Not only is the status of the elements visible, but it is also possible to interact with them by right-clicking on their corresponding icons.

Depending on the type of element that is clicked on, a pop-up menu will allow us to perform certain actions.

If we right-click on a **HUB** icon, we can:

- Arm all partitions
- Carry out a forced arming
- Disarm all partitions



If we right-click on a **group** (partition), we can:

- Fully arm
- Disarm
- Forcedly arm
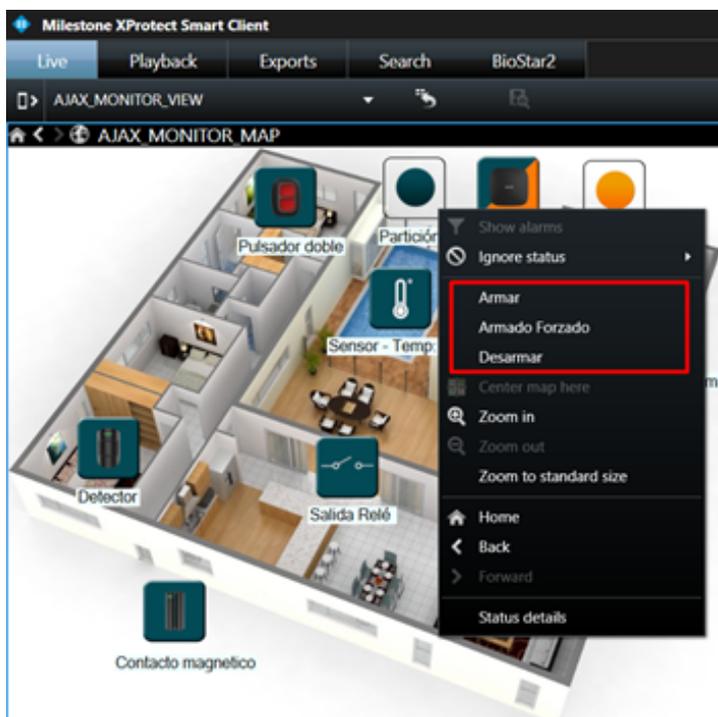


If we right-click on a **zone** icon, we can:

- Isolate it
- Temporarily isolate it (until the next disarming)
- Reset it

If we right-click on an **output** (action), we can:

- Activate it
- Deactivate it



## Integration of the MultiTransmitter Fibra into Milestone

The MultiTransmitter Fibra is an integration module for connecting third-party wired devices, such as an infrared barrier, to the Ajax security system. It has 18 zones for connecting NC, NO, EOL, 2EOL and 3EOL devices.

The MultiTransmitter Fibra works as part of the Ajax security system, exchanging data with the Hub Hybrid through the secure Fibra protocol and wiring. The range of wired communication is up to 2,000 metres when connected via a U/UTP cat.5 twisted-pair cable.



The MultiTransmitter Fibra events shown in the image below are integrated into Milestone to trigger actions through the rules engine for this software platform.
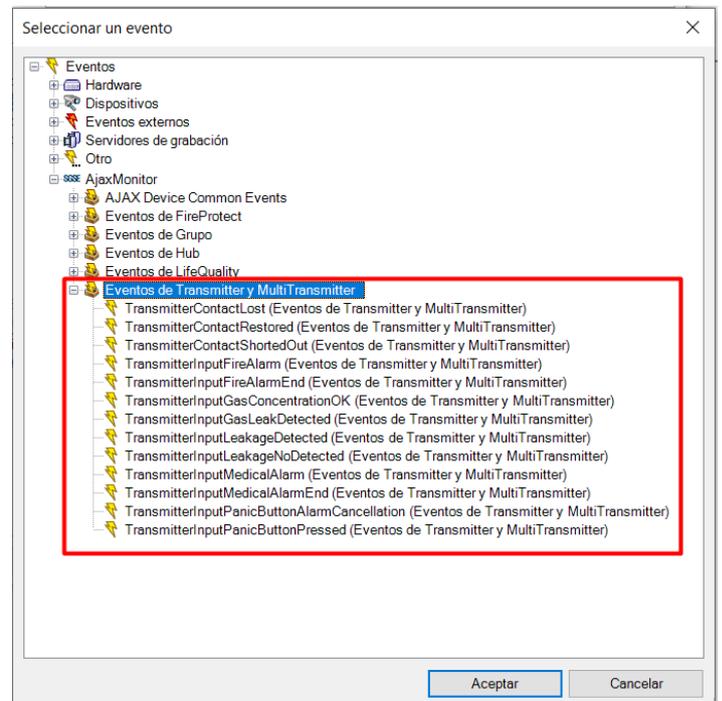


The table below shows how the MultiTransmitter Fibra icons look in Milestone based on their different statuses:

| ITEM | STATUS | ICON |
|---|---|---|
| Multitransmitter Fibra | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Malfunction |  |
| | Unknown |  |

One of the most significant advantages offered by this device is the possibility of connecting zones to the system's technical alarms such as:

- Fire alarms coming from the fire panel
- Medical alarms
- Gas alarms
- Leak detection
- Third-party panic button

Icon

**Medical alarm**
Alarm triggered by pressing the emergency help button.



**Anti-sabotage alarm**
Event that activates a detector's/ device's anti-sabotage switch

|  | Icon |
|---|---|

**Water leak alarm**
Alarm caused by flooding

**Fire alarm**
Alarm triggered when fire detectors are activated

**Gas alarm**
Alarm triggered when gas concentration is exceeded

**Intrusion**
Alarm triggered when motion, door opening, or other, detectors are activated

**Alarm triggered by malfunction**
Malfunction event for a connected detector or device.

**Panic button alarm**
Alarm triggered by pressing an alarm button.

**Customised**
The user creates a customised event type.

# Integration of the MultiTransmitter Jeweller and the Transmitter Jeweller into Milestone

As well as the integration of the MultiTransmitter Fibra into Milestone mentioned previously, the integration of both the MultiTransmitter Jeweller and the Transmitter Jeweller is also available in this software platform. This enables the facility's wired alarms (for example, an alarm from an image analysis device set up within the perimeter of the facility) to be incorporated so they can be transmitted wirelessly to the HUB using the Jeweller radio protocol via Ajax's MultiTransmitter Jeweller and Transmitter Jeweller.

The image below shows the typical architecture of an Ajax system that operates by using the Jeweller radio protocol with the MultiTransmitter Jeweller and its wired alarms.



Its events are incorporated into Milestone, as shown in the previous section.

The icons indicating the different statuses of the MultiTransmitter Jeweller are shown in the table below:

| ITEM | STATUS | ICON |
|---|---|---|
| Multitransmitter Jeweller | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Maltunction |  |
| | Unknown |  |

By way of example, if we only have a small deployment and want to incorporate just one alarm, such as the infrared barrier in the picture below, we can use the Transmitter Jeweller wireless module, which is also integrated into Milestone, to connect to it via the Jeweller radio protocol.

The icons indicating the different statuses of the Transmitter Jeweller are shown in the table below:

| ITEM | STATUS | ICON |
|---|---|---|
| Transmitter Jeweller | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Malfunction |  |
| | Unknown |  |

## Integration of Ajax's ReX and ReX 2 radio signal repeaters into Milestone

Ajax's ReX and ReX 2 radio signal repeaters make it possible to extend the working distances of the electronic security deployments, as shown in the image below:
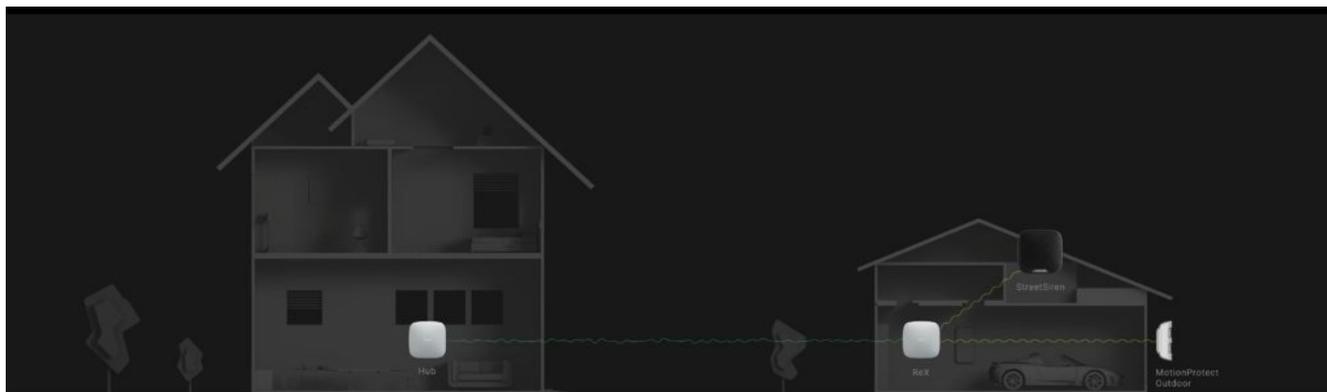
The icons indicating the different statuses of Ajax's ReX and ReX 2 repeaters in Milestone are shown in the table below:

| ITEM | STATUS | ICON |
|---|---|---|
| ReX y ReX2 | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Malfunction |  |
| | Unknown |  |

## The integration of the KeyPad Plus wireless touch keyboard into Milestone

Ajax devices like the KeyPad Plus wireless touch keyboard can also be integrated into Milestone.

The icons indicating the different statuses of the KeyPad Plus while integrated into Milestone are shown in the table below:

| ITEM | STATUS | ICON |
|---|---|---|
| KeyPad Plus | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Malfunction |  |
| | Unknown |  |

## LifeQuality

LifeQuality is a wireless Ajax device that works with the Jeweller radio protocol and makes air quality monitoring possible thanks to its temperature, humidity and CO2 sensors.

ICONS

$CO_2$ — Carbon dioxide

Temperature

Humidity
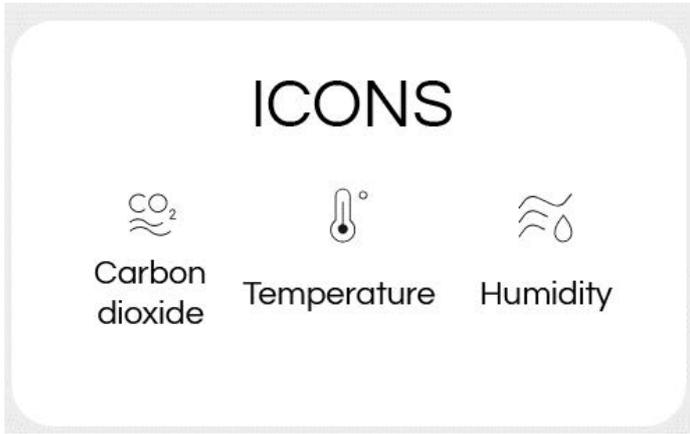
LifeQuality works in conjunction with Ajax's Hub 2, Hub 2 Plus and Hub Hybrid intrusion panels and has a maximum working distance of up to 1,700 metres from the panel. It can be installed on ceilings, walls and surfaces and has a battery life of up to 3 years.

Ajax's LifeQuality is an interesting add-on module. It can also be integrated into the plugin developed by SGSE so it can trigger events in Milestone when:

- Humidity:
  - Bellow range.
  - Above range.
  - Back in range.



Nivel de humedad de confort es **de 65% a 80%**

El nivel de humedad recomendado para las instalaciones es del 40% al 60%

- Temperature:
  - Bellow range.
  - Above range.
  - Back in range.



Nivel de temperatura de confort es **de 23 °C a 28 °C**

Establezca el rango de temperatura de confort según sus preferencias

- CO2:
  - Bellow range.
  - Above range.
  - Back in range.



Nivel permisible de $CO_2$ **hasta 500 ppm**

El nivel seguro de $CO_2$ para las instalaciones no debe superar las 1.000 ppm (partes por millón)
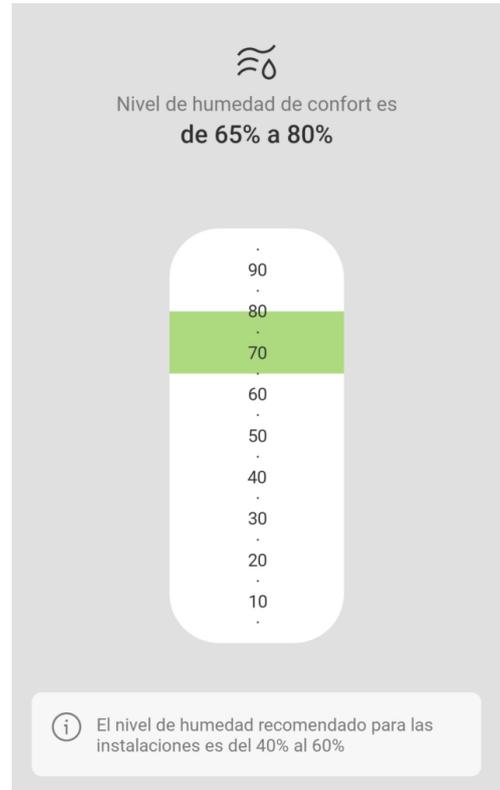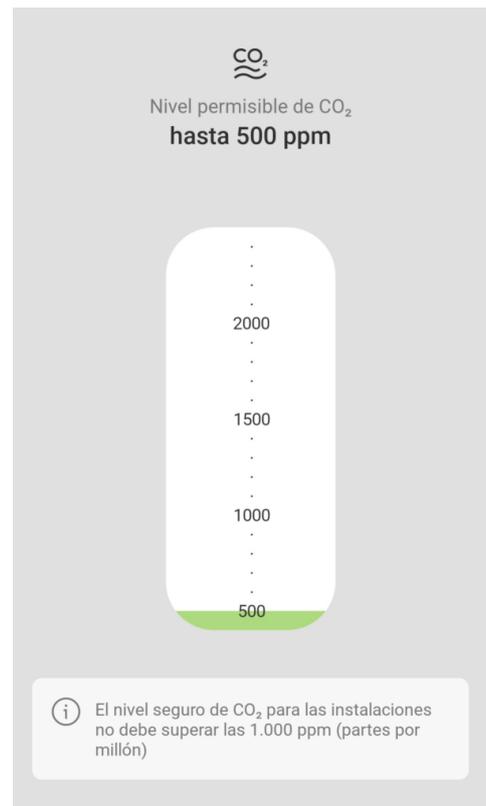
In the LifeQuality section, there is no mention of the fact that the data collected by the sensors are displayed on the map in real time. We can view the data, such as the temperature, $CO_2$ and humidity, which is collected by the sensors in real time, in the Milestone platform.

As demonstrated previously, these events can trigger a rule and cause an action to be performed within Milestone. For example, this can occur when the temperature in an area is higher than the predefined threshold.



## Integration of FireProtect Plus wireless fire detector into Milestone

Ajax's FireProtect Plus device is a wireless fire detector with temperature and carbon monoxide sensors that monitor the security of a room twenty-four hours a day. It emits a warning immediately if the levels of carbon monoxide or smoke in the air become dangerous or if there is a sudden increase in temperature.
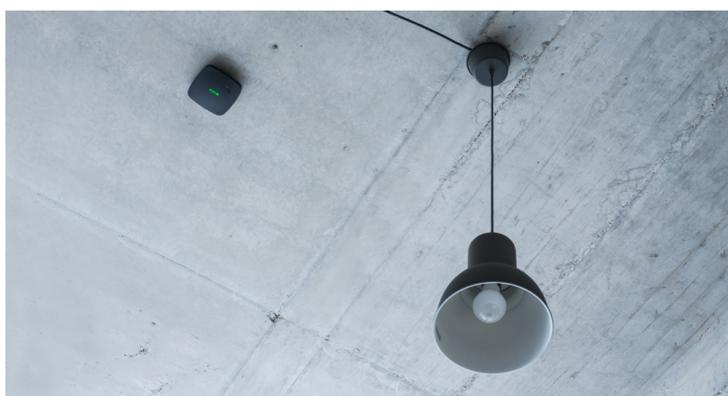


The device detects smoke through a camera with a photoelectric sensor. An added chemical element detects carbon monoxide and raises the alarm.

The icons indicating the different statuses of the FireProtect Plus detector in Milestone (as it works in conjunction with an Ajax Hub) are shown in the table below:

| ITEM | STATUS | ICON |
|------|--------|------|
| FireProtect | Normal |  |
| | Alarmed |  |
| | Armed |  |
| | Isolated |  |
| | Sabotaged |  |
| | Malfunction |  |
| | Unknown |  |

Take your intrusion panel integrations into Milestone to the next level with SGSE.

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