

## Overview

### System definition

10 systems connected

### Event definition

30 events defined

### Action definition

30 actions defined

### Activity log

Latest action activity:

**Date/time:** 2023-06-29 09:16:34  
**System:** PraEmu-192.168.24.10-3 (PRAESENSA)  
**Log type:** Action start  
**Type:** Set background music volume

### License management

Available licenses:

- PXI-LICB (1 activated, 1 used)
- PXI-LIBGS (5 activated, 0 used)
- PXI-LMQTT (5 activated, 0 used)
- PXI-LOCAM (5 activated, 5 used)
- PXI-LPRA (5 activated, 5 used)
- PXI-LPRS (5 activated, 0 used)

# Intelligent Control



# BOSCH

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# 1 Scope

The release notes give an overview of new functionality compared to the previous release. It reports known issues and possible workarounds.

## 2 Release overview

Release	Release Date	Release Comments
1.00.20562	2021-04-21	Initial version
1.10.28720	2021-03-02	Adds full functionality for Praesensa Public address system, Bosch ONVIF Cameras and B/G-Panel series intrusion panels.
2.00.37448	2023-03-28	Adds Praesideo support and extends existing functionality
2.10.44981	2023-08-07	Adds support for generic MQTT devices (clients)

### 2.1 Download package

To install this SW on the PXI-CORE you need multiple files. All these files are combined in 1 single ZIP file for easy download. Please be aware to unpack the ZIP file only once. It will result in a couple of .app files and a .zip files. These must be used as is so without unpacking further. Please refer to the manual for further details.

### 2.2 Release 1.00


 This release uses the PXI-CORE with systems apps version V1.08 and Rexroth Node-Red RED RED-V-0108.1-1.2.7  
**It is not supported on newer versions of the PXI-CORE systems apps**

This release solely supports background music control for Praesensa zones. It requires input from the PlenaMatrix wall control panels and the specific Node-red solution.

- intelligentcontrol- 1.00.20562 (PXI-CORE app)
- mqttbroker- 2.07.20559 (PXI-CORE app)
- BGM Volume Control V1.03 (Node Red flows)

### 2.3 Release 1.10

This release adds full functionality for Praesensa Public address system, Bosch ONVIF Cameras and B/G-Panel series intrusion panels.

 This release uses the PXI-CORE with systems apps version V1.12 and Rexroth Node-Red RED RED-V-0112.1+2.1.4


These apps are release for the PXI-CORE:

- intelligentcontrol-1.10.28991 (PXI-CORE app)
- mqttbroker-2.10.28876+2.0.7 (PXI-CORE app)
- licenseserver-1.00.28892 (PXI-CORE app)
- BGM Volume Control V1.07 (Node Red flows)

## 2.4 Release 2.00

This release includes usability improvements to the GUI and adds support for Praesideo systems. Additionally, it includes major updates to core components to ensure that all currently known security vulnerabilities are fixed. Although defects from release 1.10 have been fixed, new defects have been detected. Please refer to Chapter 3 for a list of current known issues in the 2.00 release.

Furthermore, this version comes with its own user manual for the Intelligent Control application, which also describes the dependent applications MQTT broker and License Server.

 This release uses the PXI-CORE with systems apps version V1.12 and Rexroth Node-Red: RED RED-V-0112.4+2.2.2

These apps are release for the PXI-CORE:

- intelligentcontrol-2.00.37448
- mqttbroker-2.20. 37436+2.0.14
- licenseserver-1.20.37442

The previously mentioned PLM-WCP is, although still supported, formally no part of this release and only available on special request.

### 2.4.1 Praesensa Public Address

Praesensa SW version starting at V1.42 is supported.

#### 2.4.1.1 Actions

It is possible to define items which perform actions based on events. The following actions are supported

- Volume control for Back Ground Music
- Adding removing zones to BGM channels
- Make calls to selected zones using pre-recorded messages
- Set the state of virtual input contacts
- Report a fault

#### 2.4.1.2 Events

It is possible to respond to the following events

- Zone state (busy/Not busy)
- Zone Priority
- BGM volume change
- BGM zone source changed
- Virtual input contact state

### 2.4.2 Praesideo Public Address

Praesensa SW version starting at V4.43 is supported.

#### 2.4.2.1 Actions

It is possible to define items which perform actions based on events. The following actions are supported

- Volume control for Back Ground Music
- Adding removing zones to BGM channels
- Make calls to selected zones using pre-recorded messages
- Set the state of virtual input contacts
- Synchronize date & time (with the PXI core)

- Report a Fault

#### 2.4.2.2 Events

It is possible to respond to the following events

- Zone state (busy/Not busy)
- Zone Priority
- BGM volume change
- BGM zone source changed
- Virtual input contact state

### 2.4.3 Bosch ONVIF Cameras

Bosch ONVIF cameras which support ONVIF Profile-M. This is supported as of camera FW version 7.82

#### 2.4.3.1 Actions

It is possible to define items which perform actions based on events. The following actions are supported:

- Go to position
- Set Relay output
- Execute auxiliary Command

#### 2.4.3.2 Events

It is possible to respond to the following events

- Motion detection
- Digital input state
- Relay state
- VCA
  - loitering Event
  - Object in Place event
  - Entering in field

### 2.4.4 B/G Panel Series Intrusion panel

#### 2.4.4.1 Actions

It is possible to define items which perform actions based on events. The following actions are supported:

- Set door state
- Set output state
- Arm/disarm area

#### 2.4.4.2 Events

It is possible to respond to the following events:

- Point state
- Area state
- Door state
- Output state


### 2.4.5 Activity log

The activity log shows all triggers received by the Intelligent Control application and actions executed. This is useful to debug why actions did not or did get executed unexpectedly.

## 2.5 Release 2.10

- This release introduces support for generic MQTT devices (clients), enabling integration with products that utilize the MQTT protocol. Sensor data published by the MQTT client is displayed as GUI-selectable events, and you can also send custom MQTT messages as actions.
- Within the activity log it is now possible to apply filtering
- The known issue list is updated.

All existing 2.00 functionality is still available

 This release uses the PXI-CORE with systems apps version V1.12 and Rexroth Node-Red: RED RED-V-0120.0+3.0.2

### 2.5.1 Generic MQTT client

#### 2.5.1.1 Actions

It is possible to define the payload for a specific (sub)topic of a generic MQTT device. This payload can be plain text or JSON encoded.

#### 2.5.1.2 Events

Topics received from the generic MQTT client are automatically decoded for:

- Number
- Boolean
- Text

This can be plain or JSON encoded. The decoded values are usable in events.

### 2.5.2 MQTT broker

#### 2.5.2.1 Users

It is possible to create user names and password for MQTT clients which can publish and subscribe to topics at the MQTT broker. Each user has its own root topic and access to other topics of the broker is prohibited for security reasons. It is possible to have a user which can only subscribe (read) or publish (write) to the MQTT broker.

#### 2.5.2.2 Certificates

The PXI-CORE 'Certificates and Keys' manager allows downloading the CA certificate used for signing the broker server certificate. By passing this certificate to the client it can verify authenticity of the broker it connects to improving the security of the user credentials.

### 2.5.3 Activity log

It is now possible to filter the activity log directly in the GUI based on:

- Date& time
- System type
- Log type
- Action type
- Sensor type

It is possible to use multiple filters simultaneously. The filter operates on the full 50.000 entries of the activity log showing up to 1000 matches

## 3 Known Issues

## 3.1 Security vulnerabilities

### 3.1.1 .NET Denial of Service Vulnerability CVE-2023-21538

This issue is fixed in release 2.10

#### Issue

A vulnerability has been discovered in the dotnet library used for the Intelligent Control application. This flaw occurs when parsing an empty HTTP response as a JSON.NET JObject, which can cause a stack overflow and crash a process. As a result, an attacker present on the local network to which the PXI core is connected could exploit this vulnerability to stop the Intelligent Control application from functioning. However, it's worth noting that this issue will not occur during normal use.

#### Mitigation

Strong advice to not allow access to the Intelligent Control web interface from the open Internet until this issue is fixed. It will be fixed in the next version of Intelligent control.

## 3.2 Functional issues

### 3.2.1 (re)Installing MQTT broker app requires a reboot [This issue is fixed in release 2.10](#)

#### Issue

When you re-install the BT-CO MQTT broker app the Intelligent Control app loses connection with the MQTT broker until the next reboot of the PXI-CORE

#### Mitigation

Power cycle the PXI-CORE or reboot via the settings menu.

### 3.2.2 Sometimes it is not possible to select a system for an action [See This issue is fixed in release 2.10](#)

#### Issue

When configuring an action a configured and connected system does not show up in the pull-down list. This happens if the system was not connected at the moment you open the page

#### Mitigation

Reload the page using <F5> or ctrl-R and check if the system shows up. If still missing check if it is connected in the system definition page.

### 3.2.3 Not possible to use Camera pre-positions as action when a specific name is used [This issue is fixed in release 2.10](#)

**Issue:** By default the camera uses pre-positions names "Pos1: ", "Pos2 ", etc. The space at the end of the pre-positions name causes Intelligent Control to reject it

**Mitigation:** Change the default name in something which does not have spaces, just "Pos1" will already work. Make sure the name has at least 1 character!

### 3.2.4 Node Red dashboard and flow editor give Error 404 [This issue is fixed in release 2.10](#)

#### Issue

When add or editing an action you get the message "can't communicate to Node-red" Next to this when opening the Node-Red dashboard a 404 error shows up.

Close all open tabs which connect to the GUI and reboot the PXI-CORE . If it is not possible to power cycle you can reboot via the settings menu and close the tab afterwards

### 3.2.5 Actions using the same event can influence each other when editing

#### Issue

When you create, delete, enable or disable an actions which uses the same event as another action **and** the event is active at that moment other actions will re-start also.

#### Mitigation

In most cases this does not cause major problems. If it's not acceptable you can define a single event per action. re-

### 3.2.6 Automatic discovery might not work [This issue is fixed in release 2.10](#)

#### Issue



Depending on the IP configuration of the PXI-CORE systems who support automatic discovery (Praesensa, ONVIF) present on the local network might not be discovered. This happens if the network interface of the PXI-CORE, usually ETH1 (XF51), has no default gateway configured. This happens easily in combination with IPv4LL addressing or fixed IP address assignment.

#### **Mitigation**

Configure a (dummy) default gateway in the IP-settings of the used network port.

XF51 use settings of ETH1

XF10 Use settings of ETH0

Hint: For IPv4LL use as default gateway 169.254.0.1

### **3.2.7 Time/date based triggers do not get triggered at the expected moment**

#### **Issue**

After changing the time-zone of the PXI-CORE the current time/date is directly updated and visible for the user, however Node-Red does not use the newly set time-zone until the next reboot.

#### **Mitigation**

Reboot the PXI-CORE after changing the time-zone.

Please note: Changes in time e.g. DST are updated immediately and correctly.

### **3.2.8 Accessing the Intelligent control GUI shows missing apps**

#### **Issue**

After changing the time-zone of the PXI-CORE checking the required applications for the Intelligent Control app does not work correctly.

#### **Mitigation**

Reboot the PXI-CORE after changing the time-zone.

Please note: Changes in time e.g. DST are updated immediately and correctly.

### **3.2.9 Not possible to remove Core18 when all snaps which used core18 are updated to core20**

This issue is not applicable for new installations as of version IC 2.00 since core18 is not installed

#### **Issue**

After updating from version 1.00 or 1.10 the CORE18 runtime is no longer required as installed app. However if you try to uninstall it you get the notification some apps still depend on it. This is caused by older versions of the app which are still administered by the Operating System

#### **Mitigation**

After updating to v2.00 for IC V.2.20 of MQTT broker and V1.20 of the License server (re)install them again. When this is finished you are able to uninstall the Core18 runtime.

### **3.2.10 Action log shows a stop action for an action which execute instantly**

#### **Issue**

Some actions do not have a duration but just happen instantly. For example 'Go to Hope position' for a camera, 'Increase background music volume', etc. The actions is executed at the moment the event becomes True, nothing happens when the event becomes False. Still the action log reports this situation as an: "action stop"

#### **Mitigation**

Ignore the action stop in the action log for these kind of events.

### **3.2.11 Bookmark a specific page does not result in directly accessing this page**

#### **Issue**

Every webpage uses a unique and clear URL. E.g. to directly go to overview page of Intelligent Control you can enter <https://<IP>/intelligentcontrol/overview>

For all pages expect the main page of the intelligent Control application this will not work if you need to login first.

### **Mitigation**

Use the bookmarked page again after login in to the PXI-CORE, it will now take you to the right page.

### **3.2.12 Not possible to flip the 'Allow installation from unknown source' switch**

[This issue is fixed in PXI-CORE system apps version 1.20.x](#)

### **Issue**

Pre-condition: A user with limited access right and with rights to install SW.  
Such a user has no rights to change the '*Allow installation from unknown source*' setting

### **Mitigation**

Normally there is no need to change this switch and for security it is best to leave it in the 'off' position at all times.  
In the event you would need to change this because you want to install unsigned apps you can do so with a user who has full access rights.

### **3.2.13 Deleting multiple action/events quickly result in an error**

[This issue is fixed in release 2.10](#)

### **Issue**

If you delete multiple actions or events shortly after each other you might delete the same event twice. This results in an error since it was already deleted.

### **Mitigation**

Wait until the delete conformation before deleting the next event/action.

### **3.2.14 Not possible to change the sensor type**

[This issue is fixed in release 2.10](#)

### **Issue**

Once you selected a sensor type in an event you are not able to change it afterwards.

### **Mitigation**

Delete the line for which you want to change the sensor type and select the system + the new sensor type in the empty line which is present.

### **3.2.15 Loading a configuration can take a long time**

[This issue has improved to 1 minute in release 2.10](#)

### **Issue**

When you select a previously stored configuration in the backup and restore menu you get a conformation the file is successfully loaded after a few seconds. However it can take up to 5 minutes before all configured systems are reconnected. The more systems there are in the existing configuration and restored configuration the longer it can take.

### **Mitigation**

Check the systems definitions menu to see if all systems get connected, give the system enough time.

### **3.2.16 Sometimes actions are started when restarting the PXI-CORE, updating apps or restoring an IC configuration**

### **Issue**

If you configure an action to run once when the event becomes valid it is executed again when you reboot the PXI-CORE, update the Intelligent Control app or restore a configuration.

For example if you have configured an action to play a message when the Intrusion system is set armed and you power-cycle the PXI-CORE when the system Intrusion system is still armed, this message plays again.

### Mitigation

Only reboot, update or restore configurations at moments when this effect causes the least harm.

### 3.2.17 Changing the system type while configuring an action shows incorrect action types

This issue is fixed in release 2.10

### Issue

If you want to change the selected system in the action definition screen the selectable actions are not updated correctly.

### Mitigation

If you want to change the used system in an action delete it and create a new action.

### 3.2.18 Reboot of the PXI-CORE deletes all retained topics of MQTT devices

### Issue

If you reboot or power-cycle the PXI-CORE retained topics of the MQTT broker are deleted. Depending on your specific MQTT device it can take some time before they are available again. They are not available as events during this time.

### Mitigation

Make sure your MQTT devices re-publish their current state on connection

### 3.2.19 Defined MQTT event does not trigger the first time it is received after a reboot of the PXI-CORE

### Issue

If an MQTT event is defined coming from an MQTT client it only triggers when it was different compared to the previous state. If this state was equal or unknown it does not trigger. After a reboot of the PXI-CORE it is actually unknown.

For example when an event is defined when an external MQTT device publishes:

Topic; Ext/device1/running

Payload True

It only triggers when the broker already had the topic received with any payload except 'True'

### Mitigation

Avoid reboot of the PXI-CORE.

### 3.2.20 Updating the MQTT broker app does not always end correctly

### Issue

This is only valid for systems running the system app from version 1.12.x

When entering service mode and updating the MQTT broker app the feedback the update is finished does not disappear. It is also not possible to enable operation mode again.

### Mitigation

If updating the MQTT broker app seems to take longer than 5 minutes, reboot the PXI-Core and check again. It should now be possible to enable operation mode

## 4 Supported Systems

Supported systems	Release in version
PRAESENSA public address system version 1.42 or higher	1.00
Bosch ONVIF cameras FW version 7.82 or higher	1.10
B/G panel series 3.10 or higher	1.10
PRAESIDEO public address system version 4.43 or higher	2.00

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MQTT clients supporting MQTT protocol V3.1 and above, TLS connection only	2.10

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