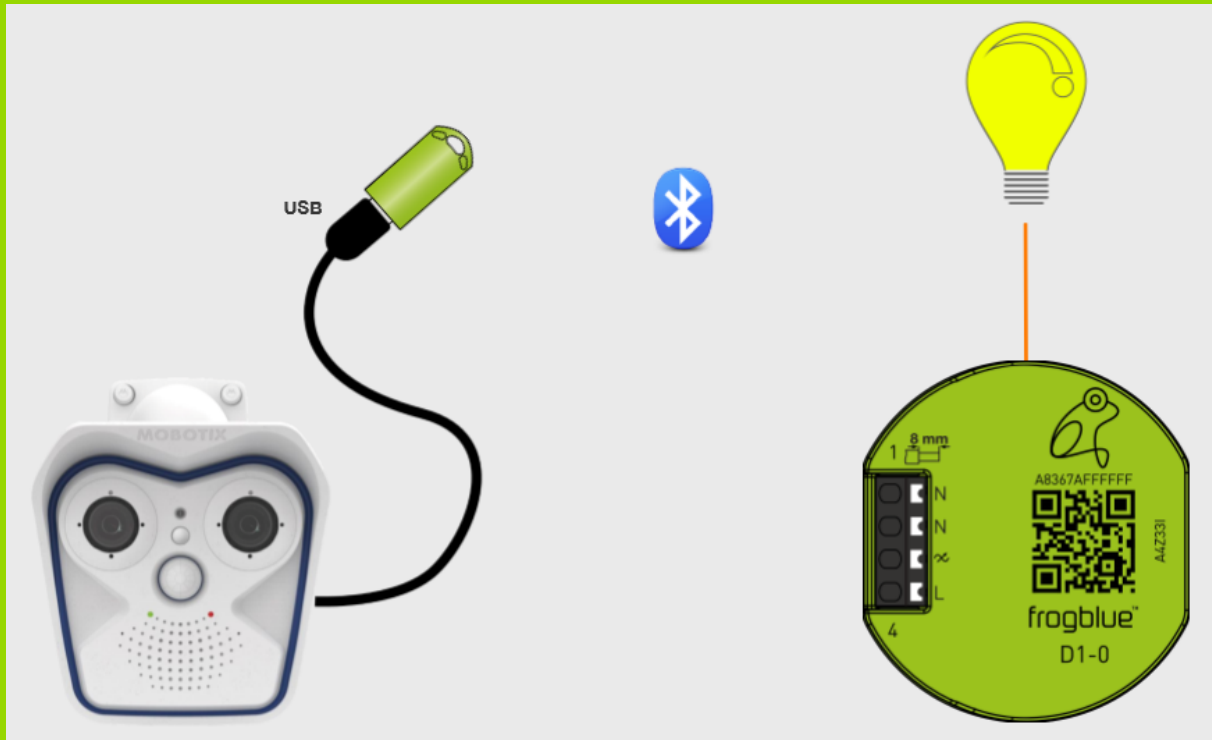




frogLink Message Mode/ASCII Mode <-> MOBOTIX



Using the USB interface of the Mobotix camera, it is possible to connect the frogLink Bluetooth LE USB stick as a serial FTDI interface so as to establish communication with the frogblue components.

The first part of the instructions that follow describes correct connection of the frogLink and configuration of the serial interface.

In the second part, some scenarios are described using example configurations.



1. frogLink connection

Admin Menu -> Hardware Configuration -> Manage Hardware Extensions

Hardware Configuration

- [Manage Hardware Expansions](#)
- [Manage MxBus Modules](#)
- [Signal Out Profiles](#)
- [Assign Wires](#) (for lights, door contact, etc.)
- [Lens Configuration](#)

USB Connector			
<input type="radio"/>	<input type="button" value="Connect"/>	ExtIO (USB)	Select this option to connect an ExtIO via USB interface.
<input checked="" type="radio"/>	<input type="button" value="Connect"/>	USB RS232 Serial Stick	Allows connecting an FTDI-to-USB adapter for attaching standard RS232 devices.
<input type="radio"/>	<input type="button" value="Connect"/>	USB Stick / Flash-based Solid State Drive	Allows connecting a USB stick or a Flash-based solid state drive for event download or event recording. Do not select this option if you want to connect a harddisk.

Do not connect frogLink to the USB cable of the Mobotix camera until instructed!

Auf 10.16.15.75 wird Folgendes angezeigt:
Please plug your USB RS232 Serial Stick into port USB Connector now.

Connection successful ->

USB Connector			
<input type="radio"/>		ExtIO (USB)	Select this option to connect an ExtIO via USB interface. <i>This device cannot be connected at the moment.</i> <i>ExtIO (USB) would conflict with active device USB RS232 Serial Stick.</i>
<input checked="" type="radio"/>	<input type="button" value="Disconnect"/>	USB RS232 Serial Stick	Allows connecting an FTDI-to-USB adapter for attaching standard RS232 devices.
<input type="radio"/>		USB Stick / Flash-based Solid State Drive	Allows connecting a USB stick or a Flash-based solid state drive for event download or event recording. Do not select this option if you want to connect a harddisk.

Save permanently and restart!



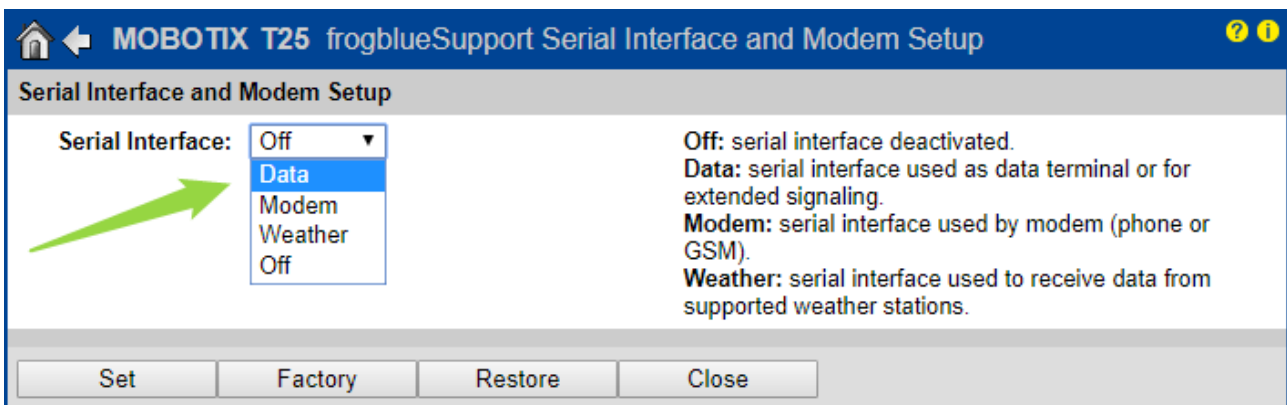
2. Serial interface configuration

Admin Menu -> Serial Interface

Serial Interface

- [Setup of serial interface, modem and weather station](#)
- [Serial Terminal](#)

Select "Data" operating mode





3. Serial Interface settings

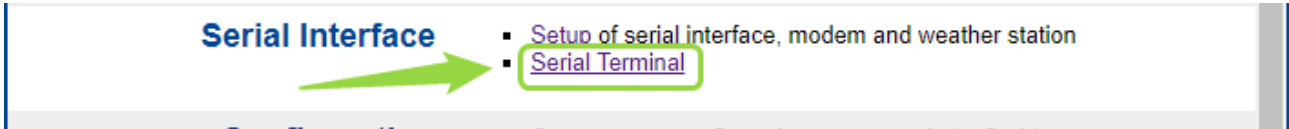
Serial Interface and Modem Setup	
Serial Interface: <input type="text" value="Data"/>	Off: serial interface deactivated. Data: serial interface used as data terminal or for extended signaling. Modem: serial interface used by modem (phone or GSM). Weather: serial interface used to receive data from supported weather stations.
Speed: <input type="text" value="115200"/> bps	Speed of serial interface
Bits: <input type="text" value="8"/>	Number of data bits per character.
Parity: <input type="text" value="N"/>	Parity mode for error detection. N: None E: Even O: Odd
Stop Bits: <input type="text" value="1"/>	Number of stop bits.
Flow Control: <input type="text" value="Off"/>	Flow control: Off: no flow control CRTSCTS: hardware flow control
Echo: <input type="text" value="On"/>	Toggles echo in terminal on or off.
End of Line: <input type="text" value="LF"/>	Selects characters to send as End of Line in terminal. Valid selection depends on your device.
Buffer Size: <input type="text" value="5"/> kB	Size of buffer reserved for logging incoming signals on serial interface.
Timestamp: <input type="text" value="On"/>	Insert timestamp in log buffer before every input line.
Relevant Links: Serial Terminal	
<input type="button" value="Set"/>	<input type="button" value="Factory"/> <input type="button" value="Restore"/> <input type="button" value="Close"/>

- Serial Interface = Data
- Transmission speed = 115200 bps
- Line end character = LF
- Permanent storage and restart



4. Terminal

Admin Menu -> Serial Interface



Update:	date	time	0... ...1... ...2... ...3... ...4... ...5... .
html	2019-03-04	13:28:35	\$messages
	2019-03-04	13:28:35	\$
	2019-03-04	13:28:35	FrontDoorLight
	2019-03-04	13:28:35	OpenDoor
	2019-03-04	13:28:35	RecordingEnabled
	2019-03-04	13:28:35	RecordingDisabled
	2019-03-04	13:28:35	DoorIsOpen
	2019-03-04	13:28:35	OpenDoor2
	2019-03-04	13:28:35	\$

Update: (1)

Update time: (1)

Input: (2) (3)

Relevant Links: [Serial Interface Setup](#)

\$ - Requests allow you to retrieve details of messages, rooms and project information available.

The request \$message or \$messages produces a list of all messages parameterised on the frogLink.



All listed messages can be executed by entering the message name.

date	time	0	1	2	3	4	5
2019-03-05	16:00:14	FrontDoorLight					
2019-03-05	16:00:14	\$newmsg:FrontDoorLight					

Update:

Updatetime:

Update

Top

PageUp

Up

Down

PageDown

Bottom

Clear

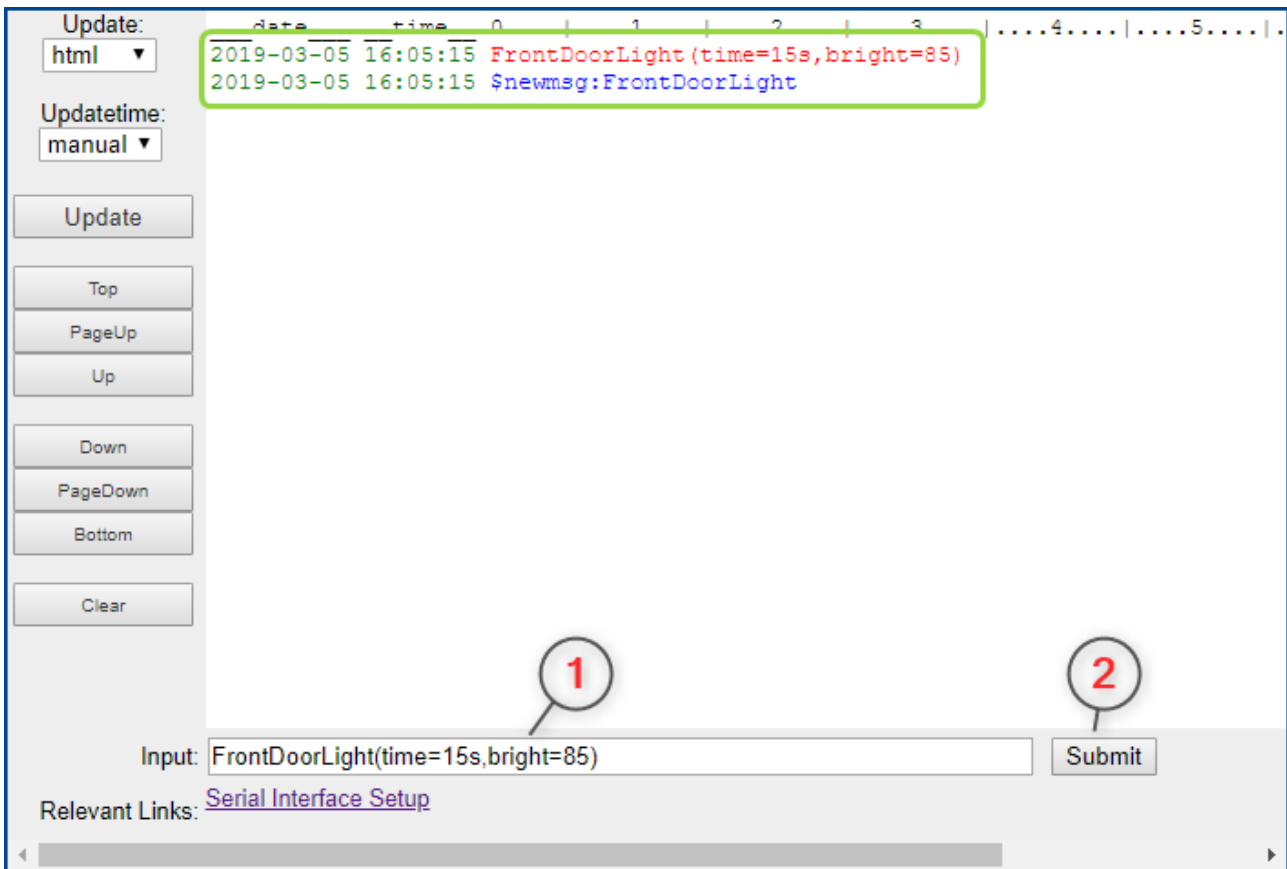
Input:

Submit

Relevant Links: [Serial Interface Setup](#)



Messages with optional parameters (in parentheses) can also be executed ->
FrontDoorLight(time=15s,bright=85)



Parameters available ->

ON -> Instead of switching the current state, the outputs are switched on.

time -> The outputs are switched on for this time.
(s = seconds, m = minutes, h = hours)

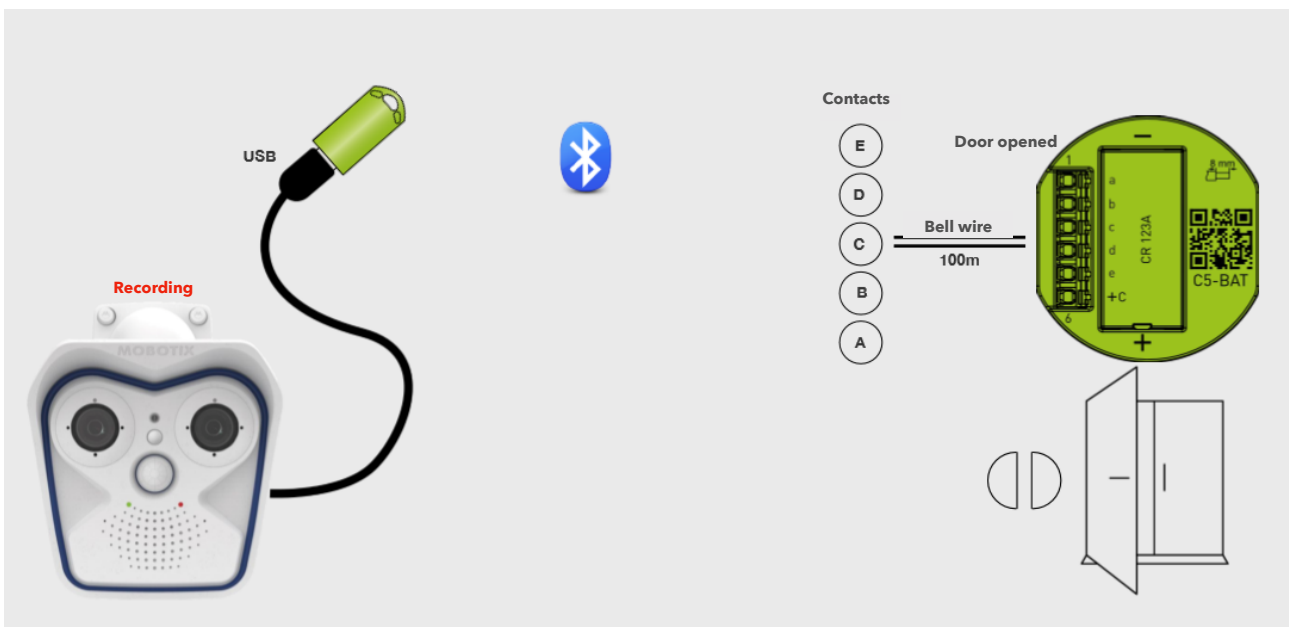
bright -> Dimming value of the output (if possible)



Example Scenarios

1. Activate or deactivate recording using frogKey
2. Recording at door opening using frogEntry2-3 and additional light input Switch with frogDim1-3
3. Open door with pin on MX keypad and additionally with frogKey

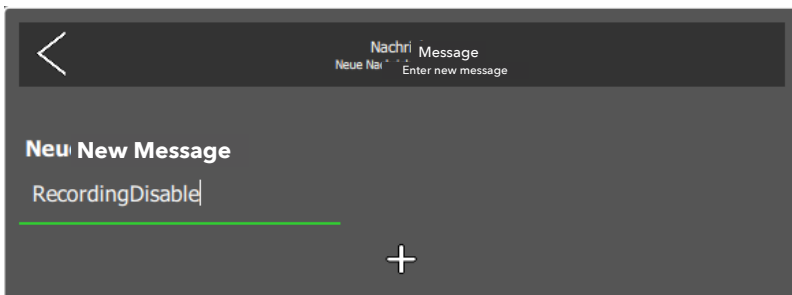
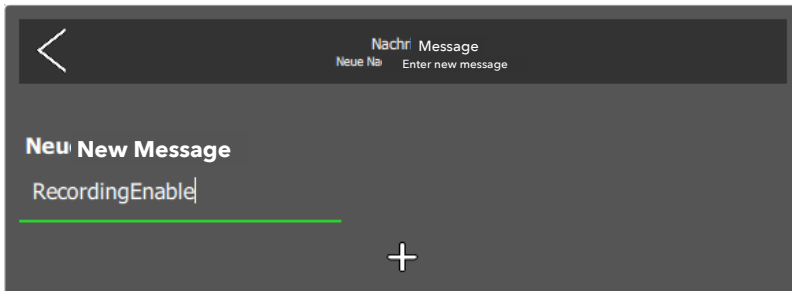
A prerequisite for these scenarios is that the froglink of the respective Mobotix camera is correctly parameterised and connected to the USB interface.





Scenario 1: Activate and deactivate recording using frogKey

1. Create two messages "RecordingEnable" and "RecordingDisable" and write the altered configuration to the frogLink.





2. Parameterise frogKey



One click upwards -> recording is activated

One click downwards -> recording is deactivated



3. Mobotix-camera configuration

Create two network messages ->

Admin Menu -> Transfer Profiles -> Profiles for Network Messages

▼ IP Notify Profile 8 frogRecordingEnabled <input type="checkbox"/> Delete	
IP Notify Type	Custom Configuration
Destination Address	10.16.15.75:80
	Parallel send to all
Data Protocol	HTTP/1.0 Request
	/control/control/
	admin:meinsm
Data Type	Plain text
	?set§ion=recording&recording_activ=enable
Send Port	0

Predefined Configuration:
"MxCC Alarm" sends predefined network messages to the MxCC alarm list. *Acknowledge Required* prompts the MxCC user to confirm the message. If the alarm is not acknowledged within the specified acknowledge time, the camera triggers a transmission error. Select *Custom Configuration* to see the extended configuration.

Destination Addresses:
Receiver IP address and port. Separate IP address and port using a colon. Enter one address per line.

Send Order:
Send notification to one or more destinations. *Sequential* and *parallel* will send a notification to **each** destination address. *Send to next on error* will stop after the first successful notification or will try the next address if unsuccessful.

Transfer Protocol:
Transfer notification data using these protocol headers.

CGI-Path:
Absolute CGI path beginning with '/'. This parameter allows using [variables](#).

HTTP Authentication:
User name and password for HTTP authentication separated by colon. Example: admin:meinsm

Notification Data:
Select type of IP notification data.

Message:
Message to include in *Plain text* notification data. When using HTTP protocol this text is used for QUERY_STRING in GET request. This parameter allows using [variables](#).

Port Number:
Send a message from this camera port (0 for automatic).



▼ IP Notify Profile 7 <input type="text" value="frogRecordingDisabled"/>		<input type="checkbox"/> Delete
IP Notify Type	<input type="text" value="Custom Configuration"/>	Predefined Configuration: "MxCC Alarm" sends predefined network messages to the MxCC alarm list. <i>Acknowledge Required</i> prompts the MxCC user to confirm the message. If the alarm is not acknowledged within the specified acknowledge time, the camera triggers a transmission error. Select <i>Custom Configuration</i> to see the extended configuration.
Destination Address	<input type="text" value="10.16.15.75:80"/> <input type="text" value="Parallel send to all"/>	Destination Addresses: Receiver IP address and port. Separate IP address and port using a colon. Enter one address per line. Send Order: Send notification to one or more destinations. <i>Sequential</i> and <i>parallel</i> will send a notification to each destination address. <i>Send to next on error</i> will stop after the first successful notification or will try the next address if unsuccessful.
Data Protocol	<input type="text" value="HTTP/1.0 Request"/> <input type="text" value="/control/control"/> <input type="text" value="admin:meinsm"/>	Transfer Protocol: Transfer notification data using these protocol headers. CGI-Path: Absolute CGI path beginning with '/'. This parameter allows using variables . HTTP Authentication: User name and password for HTTP authentication separated by colon. <i>Example:</i> admin:meinsm
Data Type	<input type="text" value="Plain text"/> <input type="text" value="?set&section=recording&recording_activ=disable"/>	Notification Data: Select type of IP notification data. Message: Message to include in <i>Plain text</i> notification data. When using HTTP protocol this text is used for QUERY_STRING in GET request. This parameter allows using variables .
Send Port	<input type="text" value="0"/>	Port Number: Send a message from this camera port (0 for automatic).



Create two message events ->

Setup Menu -> Event Control -> Event Overview -> Message Events

frogRecordingEnabled Inactive Delete

5

Event Sensor Type

- IP Receive
- MxMessageSystem
- COM In

Trigger an event when receiving a message from the serial interface. Set interface to [Data > Terminal and Logger mode](#).

String Compare

Ignore Case

RecordingEnabled

Event Dead Time:
Time to wait [0..3600 s] before the event can trigger anew.

Event Sensor Type:
Choose the message sensor.

Match Mode:
Choose String Compare to search for exact substring matches and to use (extended) regular expressions for more flexible searching.

Ignore Case:
Select to ignore case while matching.

Message:
Defines a message to wait for. Leave empty to trigger on any incoming message.

frogRecordingDisabled Inactive Delete

5

Event Sensor Type

- IP Receive
- MxMessageSystem
- COM In

Trigger an event when receiving a message from the serial interface. Set interface to [Data > Terminal and Logger mode](#).

String Compare

Ignore Case

RecordingDisabled

Event Dead Time:
Time to wait [0..3600 s] before the event can trigger anew.

Event Sensor Type:
Choose the message sensor.

Match Mode:
Choose String Compare to search for exact substring matches and to use (extended) regular expressions for more flexible searching.

Ignore Case:
Select to ignore case while matching.

Message:
Defines a message to wait for. Leave empty to trigger on any incoming message.



Create two action groups ->

Setup Menu -> Event Control -> Action Groups Overview

General Settings	Value	Explanation
Action Group	<input type="text" value="frogRecordingEnabled"/> <input type="text" value="Enabled"/> <input type="text" value="(No time table)"/>	Name: The name is purely informational. Arming: Controls this action group: <i>Enabled</i> : activate the group. <i>Off</i> : deactivate the group. <i>S</i> : group armed by signal input. <i>CS</i> : group armed by custom signal as defined in General Event Settings . Time Table: Time table for this action profile (Time Tables).
Event Selection	<div style="border: 1px solid gray; padding: 2px;"><p>Message: frogDoorsOpen</p><p>Message: frogRecordingEnabled</p><p>Message: frogRecordingDisabled</p><p>Message: frogOpenDoor2</p><p>(Signal: CameraBellButton)</p></div>	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.
Action Details	<input type="text" value="5"/> <input type="text" value="Simultaneously"/>	Action Deadtime: Time to wait [0..3600 s] before a new action can take place. Action Chaining: Choose how the status of each subaction influences the execution of all others. <i>Simultaneously</i> : All actions are executed simultaneously. <i>Simultaneously until first success</i> : Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. <i>Consecutively</i> : All actions are executed in the specified order. <i>Consecutively until first success</i> : Consecutive execution, but as soon as one action succeeds, the following actions are not executed. <i>Consecutively until first failure</i> : Consecutive execution, but as soon as one action <i>fails</i> , the following actions are not executed.
Actions	Value	Explanation
Action 1	<input type="text" value="IP Notify: frogRecordingEnabled"/> <input type="text" value="0"/>	Action Type and Profile: Select the Action Profile to be executed. Action Timeout or Duration: If this action runs longer than the time specified



General Settings	Value	Explanation
Action Group	<input type="text" value="frogRecordingDisabled"/> <input type="text" value="Enabled"/> <input type="text" value="(No time table)"/>	Name: The name is purely informational. Arming: Controls this action group: <i>Enabled:</i> activate the group. <i>Off:</i> deactivate the group. <i>SI:</i> group armed by signal input. <i>CS:</i> group armed by custom signal as defined in General Event Settings . Time Table: Time table for this action profile (Time Tables).
Event Selection	<input type="text" value="Message: frogDoorsOpen"/> <input type="text" value="Message: frogRecordingEnabled"/> <input type="text" value="Message: frogRecordingDisabled"/> <input type="text" value="Message: frogOpenDoor2 (Signal: CameraBellButton)"/>	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.
Action Details	<input type="text" value="5"/> <input type="text" value="Simultaneously"/>	Action Deadtime: Time to wait [0..3600 s] before a new action can take place. Action Chaining: Choose how the status of each subaction influences the execution of all others. <i>Simultaneously:</i> All actions are executed simultaneously. <i>Simultaneously until first success:</i> Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. <i>Consecutively:</i> All actions are executed in the specified order. <i>Consecutively until first success:</i> Consecutive execution, but as soon as one action succeeds, the following actions are not executed. <i>Consecutively until first failure:</i> Consecutive execution, but as soon as one action fails, the following actions are not executed.
Actions	Value	Explanation
Action 1 <input type="checkbox"/> Delete	<input type="text" value="IP Notify: frogRecordingDisabled"/> <input type="text" value="0"/>	Action Type and Profile: Select the Action Profile to be executed. Action Timeout or Duration: If this action runs longer than the time specified [0..3600 s], it is aborted and returns an error; 0 to deactivate

Save permanently and restart.

Recording is now activated with one click upwards. or deactivated by one click downwards.

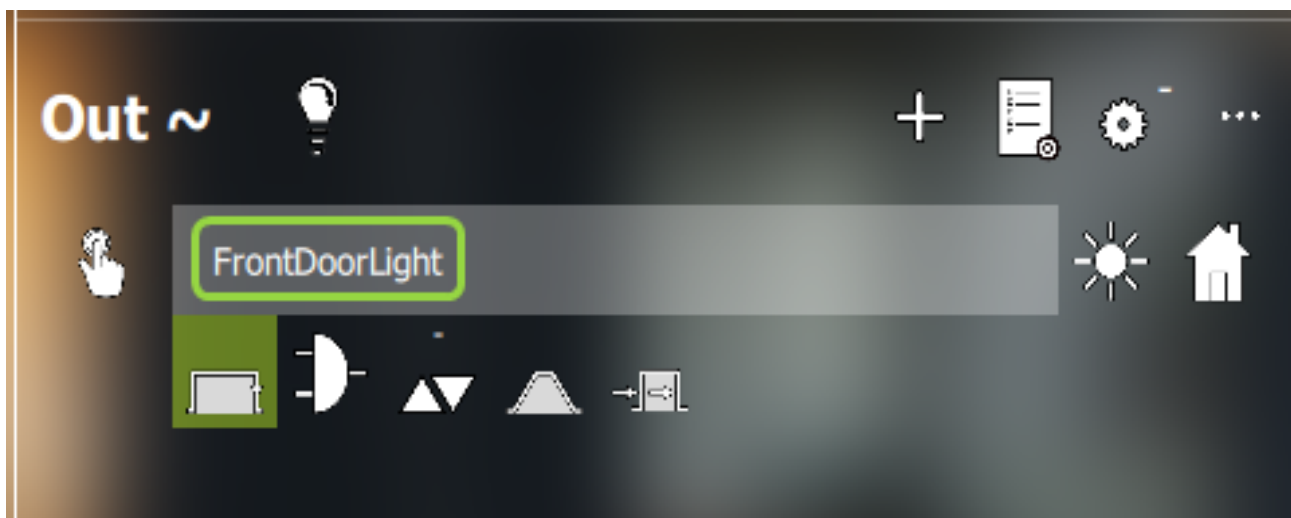
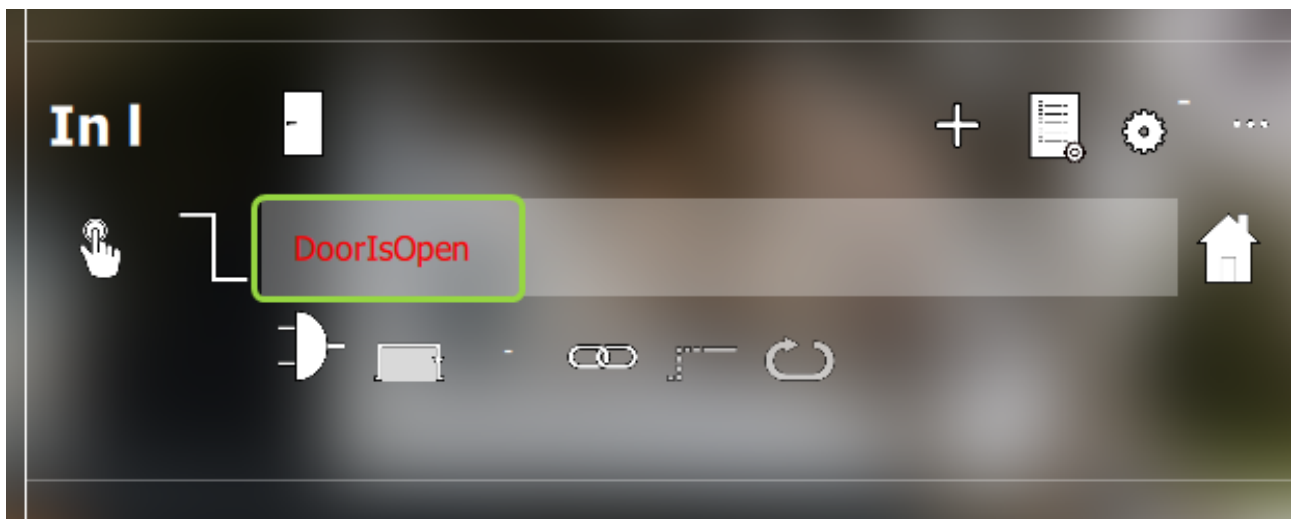
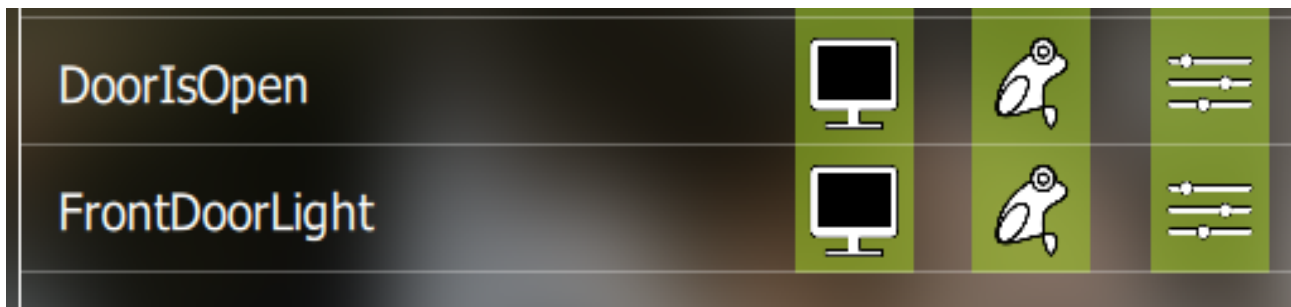


Scenario 2: Recording at door opening using frogEntry2-3 and additional light input Switching with frogDim1-3

1. Create two messages "DoorIsOpen" and "FrontDoorLight" in frogLink.

Door contact is connected to input I of frogEntry2-3.

Light input is connected to the output of frogDim1-3.





2. Mobotix-camera configuration

Create message event ->

Setup Menu -> Event Control -> Event Overview -> Message Events

The screenshot shows the configuration for a message event named "frogDoorsOpen". At the top, there is a tab labeled "frogDoorsOpen" with "Inactive" and "Delete" buttons. Below the tab is a numeric input field containing "5". To the right, the "Event Dead Time" is defined as "Time to wait [0..3600 s] before the event can trigger anew." The "Event Sensor Type" section has three radio buttons: "IP Receive", "MxMessageSystem", and "COM In", with a green arrow pointing to "COM In". Below this, a text instruction reads: "Trigger an event when receiving a message from the serial interface. Set interface to [Data > Terminal and Logger mode](#)." The "Match Mode" is set to "String Compare" in a dropdown menu. There is an unchecked "Ignore Case" checkbox. The "Message" input field contains "DoorsOpen". To the right, the "Match Mode" description states: "Choose String Compare to search for exact substring matches and to use (extended) regular expressions for more flexible searching." The "Ignore Case" description says: "Select to ignore case while matching." The "Message" description says: "Defines a message to wait for. Leave empty to trigger on any incoming message."



Create network message ->

Admin Menu -> Transfer Profiles -> Profiles for Network Messages

The screenshot shows the configuration page for 'IP Notify Profile 9 FrontDoorLight'. The interface is divided into several sections:

- IP Notify Type:** Set to 'Custom Configuration'.
- Destination Address:** Set to 'localhost:80'. Below it is a dropdown for 'Parallel send to all'.
- Data Protocol:** Set to 'HTTP/1.0 Request'. The CGI-Path is '/control/rcontrol?action=PutRS232&rs232' (highlighted with a green box). The HTTP Authentication is 'admin:meinsm'.
- Data Type:** Set to 'Plain text'. A large text area is provided for the message content.
- Send Port:** Set to '0'.

On the right side, there are several informational sections:

- Predefined Configuration:** Explains that 'MxCC Alarm' sends predefined network messages and that 'Acknowledge Required' prompts the user to confirm. It notes that if the alarm is not acknowledged within a specified time, the camera triggers a transmission error.
- Destination Addresses:** Instructs on how to enter receiver IP addresses and ports, separated by colons, one per line.
- Send Order:** Explains that 'Sequential' sends to each destination, while 'parallel' sends to the first successful one.
- Transfer Protocol:** States that notification data uses these protocol headers.
- CGI-Path:** Defines it as an absolute path starting with '/', allowing for variables.
- HTTP Authentication:** Defines the format as 'username:password'.
- Notification Data:** Instructs to select the type of IP notification data.
- Message:** Explains that the message text is used for the QUERY_STRING in a GET request and allows for variables.
- Port Number:** States that '0' is used for automatic port selection.

CGI-path =

/control/rcontrol?action=PutRS232&rs232outtext=FrontDoorLight(time=10s;bright=75)



Create action group ->

Setup Menu -> Event Control -> Action Groups Overview

General Settings	Value	Explanation
Action Group	<input type="text" value="frogDoorsOpen"/> <input type="button" value="Enabled"/>	Name: The name is purely informational. Arming: Controls this action group: <i>Enabled:</i> activate the group. <i>Off:</i> deactivate the group. <i>SI:</i> group armed by signal input. <i>CS:</i> group armed by custom signal as defined in General Event Settings . Time Table: Time table for this action profile (Time Tables).
Event Selection	<input type="text" value="(No time table)"/> <div style="border: 1px solid black; padding: 2px;"> Message: frogOpenDoor Message: frogFrontDoorLight Message: frogDoorsOpen Message: frogRecordingEnabled Message: frogRecordingDisabled </div>	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.
Action Details	<input type="text" value="5"/> <input type="button" value="Simultaneously"/>	Action Deadline: Time to wait [0..3600 s] before a new action can take place. Action Chaining: Choose how the status of each subaction influences the execution of all others. <i>Simultaneously:</i> All actions are executed simultaneously. <i>Simultaneously until first success:</i> Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. <i>Consecutively:</i> All actions are executed in the specified order. <i>Consecutively until first success:</i> Consecutive execution, but as soon as one action succeeds, the following actions are not executed. <i>Consecutively until first failure:</i> Consecutive execution, but as soon as one action fails, the following actions are not executed.
Actions	Value	Explanation
Action 1 <input type="checkbox"/> Delete	<input type="button" value="IP Notify: FrontDoorLight"/> <input type="text" value="0"/>	Action Type and Profile: Select the Action Profile to be executed. Action Timeout or Duration: If this action runs longer than the time specified [0..3600 s], it is aborted and returns an error; 0 to deactivate. For <i>Image Profile</i> action, this is the duration and no error returns.
<input type="button" value="Add new action"/>		



Activate recording on door opening ->

Setup Menu -> Event control -> Recording

Storage Settings	Value	Explanation
Recording (REC)	Event Recording ▾ Include audio ▾	Recording Mode: Type of event and story recording. <i>Snap Shot Recording:</i> stores single JPEG picture. <i>Event Recording:</i> stores stream files for every event using MxPEG codec. <i>Continuous Recording:</i> continuously streams video stream files using MxPEG codec. Events can be triggered with a higher frame rate using <i>Start Recording, Recording</i> and <i>Stop Recording</i> . Record Audio Data: Store audio data in stream file if available. Enable and configure microphone .
Start Recording	Message: frogOpenDoor Message: frogFrontDoorLight Message: frogDoorsOpen Message: frogRecordingEnabled Message: frogRecordingDisabled Max fps ▾ 1 10 s ▾	Start Recording: Select the events which will start recording. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first. Event Frame Rate: Recording speed if an event is detected, in frames per second. Recording Time Before Event: Additional recording time before an event in seconds. Recording Time: Time to include in recorded stream after an event occurred.
Retrigger Recording	(select all) (select none) ----- (Environment: PI) (Environment: MI)	Retrigger Recording: Select the events which will retrigger recording. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.
Stop Recording	(select all) (select none) ----- (Environment: PI) (Environment: MI)	Stop Recording: Select the events which will stop recording. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.



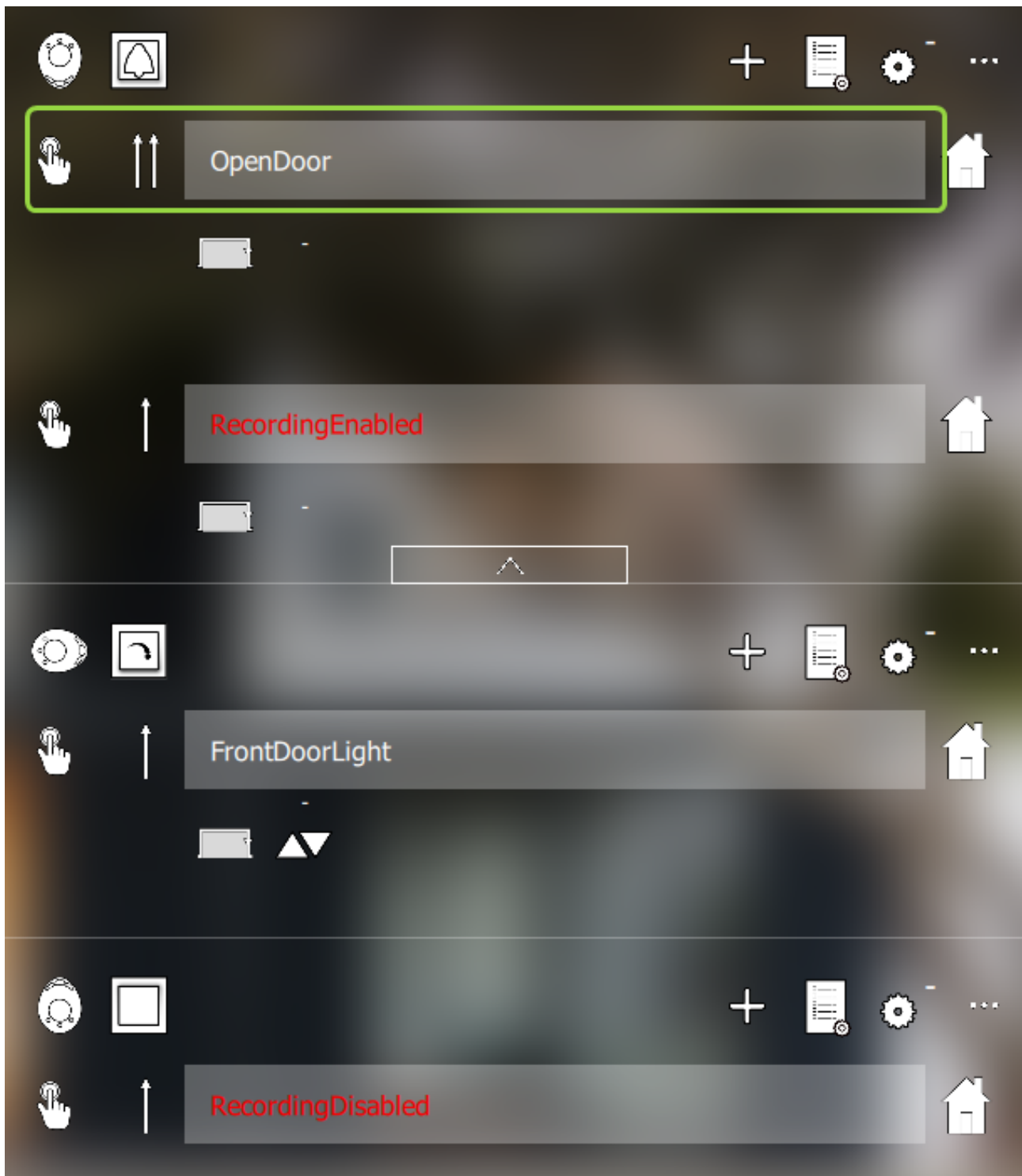
If the entrance door is now opened, the camera recording and the light are switched on.



Scenario 3: Open door with a pin on the MX keypad and additionally with frogKey

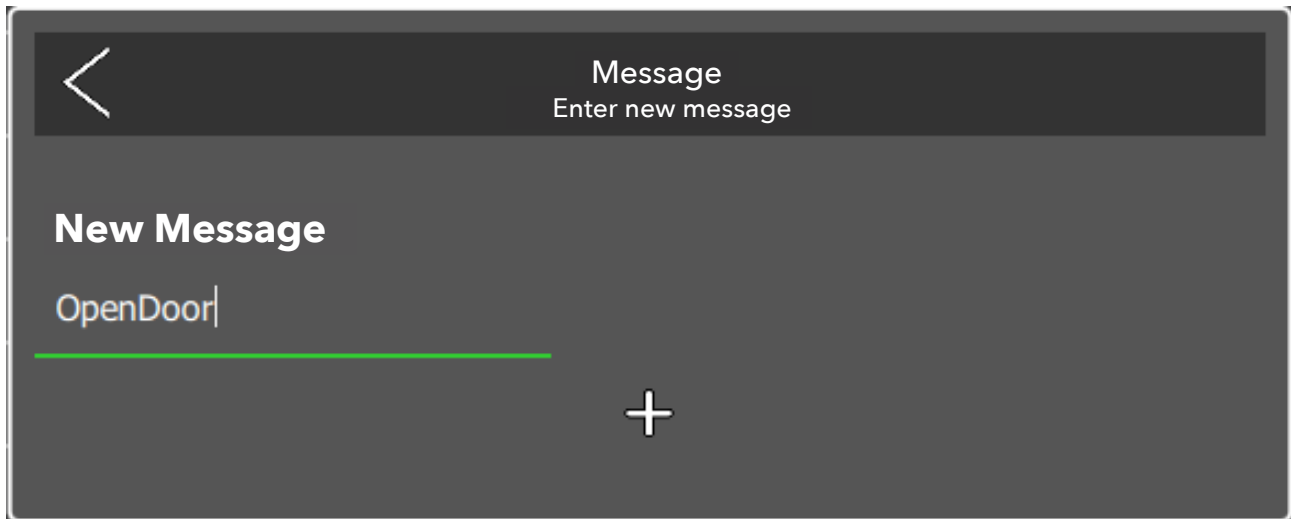
1. Parameterise frogKey and frogLink ->

Create message in frogKey





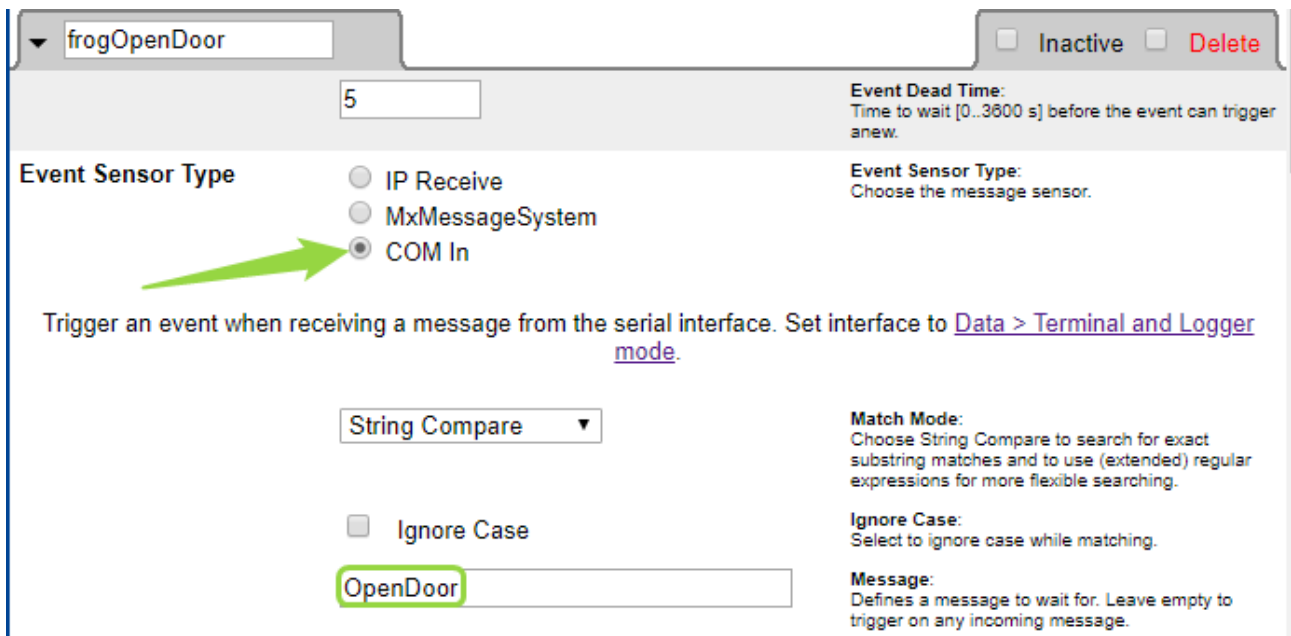
Create message in frogLink and write configuration



2. Mobotix-camera configuration

Create message event ->

Setup Menu -> Event Control -> Event Overview -> Message Events





Create action group ->

Setup Menu -> Event Control -> Action Groups Overview

General Settings	Value	Explanation
Action Group	<input type="text" value="OpenDoor"/> <input type="text" value="Enabled"/> <input type="text" value="(No time table)"/>	Name: The name is purely informational. Arming: Controls this action group: <i>Enabled:</i> activate the group. <i>Off:</i> deactivate the group. <i>SI:</i> group armed by signal input. <i>CS:</i> group armed by custom signal as defined in General Event Settings . Time Table: Time table for this action profile (Time Tables).
Event Selection	<div style="border: 1px solid gray; padding: 2px;"><p>Internal: Denied PIN access</p><p>Internal: Ring</p><p>Message: frogOpenDoor</p><p>Message: frogFrontDoorLight</p><p>Message: frogDoorsOpen</p></div>	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be activated first.
Action Details	<input type="text" value="5"/> <input type="text" value="Simultaneously"/>	Action Deadtime: Time to wait [0..3600 s] before a new action can take place. Action Chaining: Choose how the status of each subaction influences the execution of all others. <i>Simultaneously:</i> All actions are executed simultaneously. <i>Simultaneously until first success:</i> Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. <i>Consecutively:</i> All actions are executed in the specified order. <i>Consecutively until first success:</i> Consecutive execution, but as soon as one action succeeds, the following actions are not executed. <i>Consecutively until first failure:</i> Consecutive execution, but as soon as one action fails, the following actions are not executed.
Actions	Value	Explanation
Action 1	<input type="text" value="Device Out: ~Door"/> <input type="text" value="0"/>	Action Type and Profile: Select the Action Profile to be executed. Action Timeout or Duration: If this action runs longer than the time specified

The door now opens when you click twice upwards.