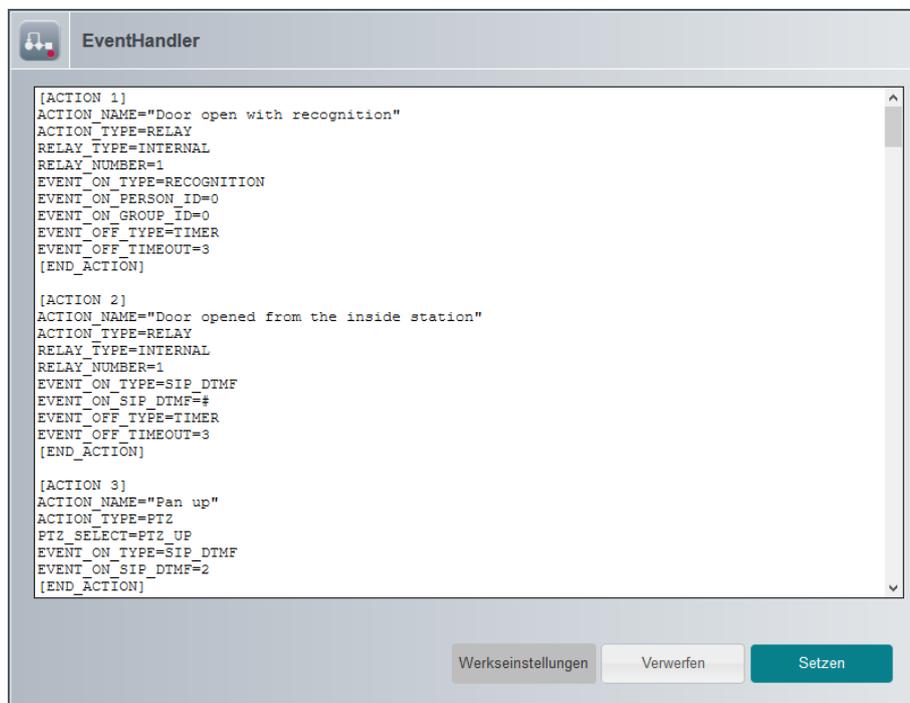


EventHandler

Manual



Version History

Version	Date	Author	Comment
0.1 - 1.1	26.11.2015 – 24.10.2018	sgilge	Last update for firmware version 6.3
1.2	23.06.2020	mfriedrich	Revision of all ACTIONS
1.3	08.06.2021	lbittner	Chapters 5.6, 5.13, 6.9 and 6.10 added

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1 Introduction

The EventHandler was developed to meet the different requirements of our customers without having to create expensive custom firmware versions.

With the EventHandler it is possible to assign certain events to certain actions. In order to achieve the greatest possible flexibility, the customer-specific configuration of the EventHandler is carried out via a configuration file, which can be edited in the WEB interface.

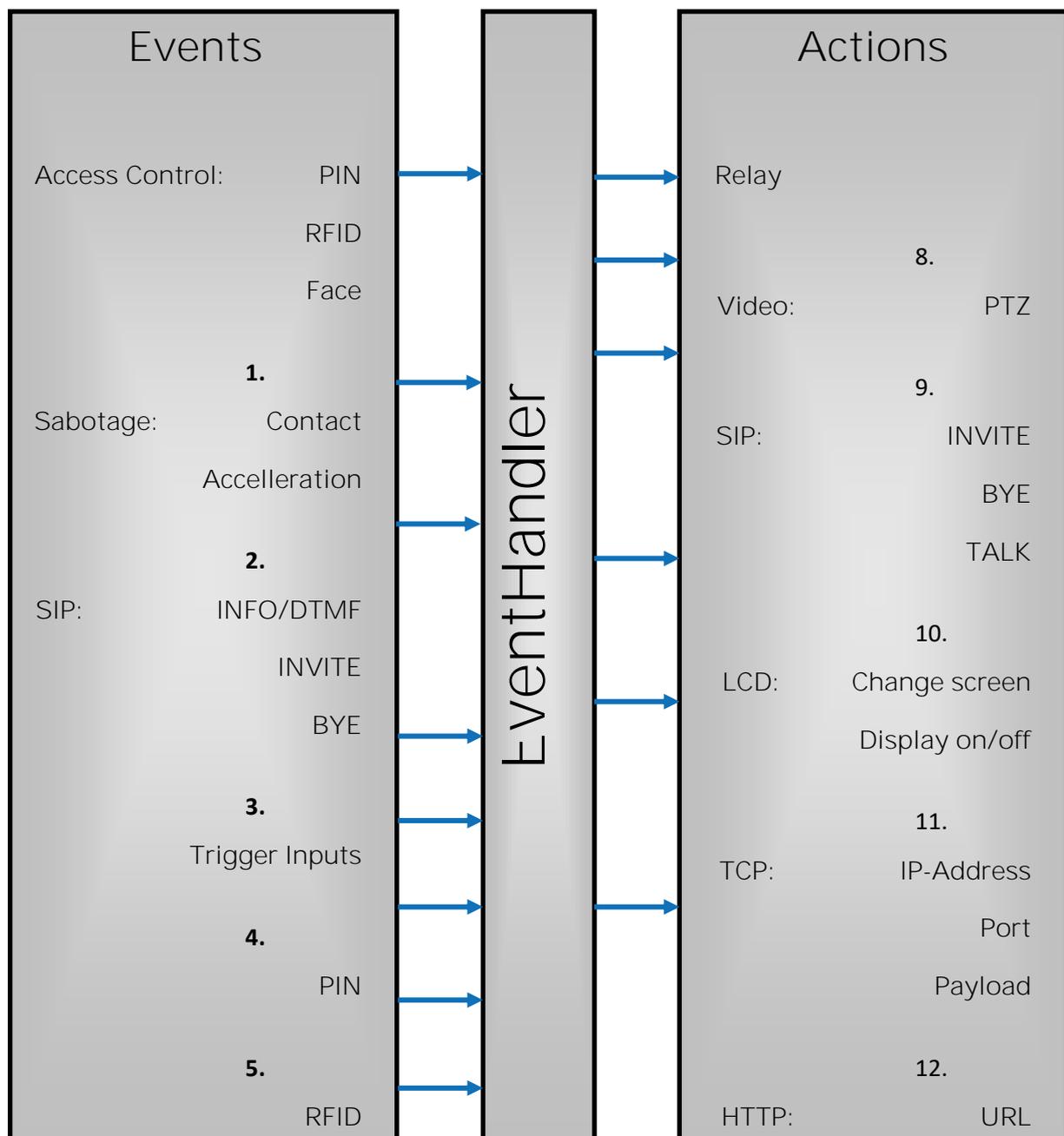
If there are no customer-specific requirements, the EventHandler can be used unchanged and the basic settings can be made on the interface configuration page of the WEB interface.

The EventHandler should not be configured by the end customer, but by a trained system integrator. It is recommended to customize the function based on the factory settings by adding new shortcuts or changing shortcuts. When the device is reset to factory settings, any changes in the configuration of the EventHandler are also reset. However, the configuration of the EventHandler can also be reset to factory settings independently of the other configurations.



Existing ACTIONS should not be deleted unless the user knows what he is doing.

2 Function



The EventHandler links events with actions. Up to 60 of these links can be configured. A single event and a single action can also occur in several different relationships.

Example: An access event switches (a) a relay, (b) a video snapshot is taken and (c) the screen shows "Access granted".

Both the actions and the events are specified more precisely by properties that are specified in the links (e.g. relay number or which DTMF signal). Actions that have bistable states, such as relays, can have both the event for switching on and the event for switching off in a logic operation.

Example: A relay is switched on for a SIP DTMF signal and switched off again after a timer has elapsed.

3 Configuration of the EventHandler

For most applications, the EventHandler does not need to be edited manually. Many cases are covered via the interface configuration in the WEB GUI.

If you want to implement further solutions, you can configure the EventHandler via a description language on the EventHandler page in the WEB-GUI.

If the EventHandler was changed using the description language, most fields of the interface configuration page are deactivated.

Via the browser button factory settings, all changes in the EventHandler can be undone and the EventHandler can be reset to factory settings.



If the device is reset to factory settings via the menu item Upload/Download in the WEB GUI, all changes in the EventHandler file are also lost.

4 Syntax

A link always starts with the following line:

```
[ACTION X]
```

Where x is the number of the shortcut. The number may only appear once in the document. Numbers from 1 to 60 are allowed.



New ACTIONS should be added in the area between ACTION37 and ACTION60.

A name is assigned to the link:

```
ACTION_NAME="Door open on recognition"
```



All ACTIONS, EVENTS and so on are written in capital letters. Lower case letters are only allowed in quotation marks.

Each link has exactly one action. This is described with the action type and its properties.

```
ACTION_TYPE=RELAY  
RELAY_TYPE=INTERNAL  
RELAY_NUMBER=1
```

Each link has exactly one ON event. This event is described with the event type and its properties.

```
EVENT_ON_TYPE=RECOGNITION  
EVENT_ON_PERSON_ID=ff000002  
EVENT_ON_GROUP_ID=0
```

Certain actions can also include an OFF event.

```
EVENT_OFF_TYPE=TIMER  
EVENT_OFF_TIMEOUT=3
```

A link always ends with the line

```
[END_ACTION]
```

5 Events

5.1 Access control – RECOGNITION

If a person is identified (via RFID, PIN, face or a combination of these credentials), the RECOGNITION event is always triggered. A unique number (PERSON_ID) and the group (GROUP_ID) to which this person is assigned are sent for each person.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	RECOGNITION
Property	EVENT_ON_PERSON_ID EVENT_OFF_PERSON_ID	<p>If EVENT_XX_PERSON_ID=0 is specified, the event is executed for all persons.</p> <p>If a certain person ID is specified, the event is only triggered when this person is recognized.</p> <p>The ID is specified as a hexadecimal value and can be displayed in the WEB interface with mouse-over using the "Last name" field name</p> <p>(See Figure 1 on page 9).</p>
Property	EVENT_ON_GROUP_ID EVENT_OFF_GROUP_ID	<p>If EVENT_XX_GROUP_ID=0 is specified, the event is executed for all persons.</p> <p>If a specific group ID is specified, the event is only triggered upon detection of persons assigned to this group. The ID is specified as a hexadecimal value and can be displayed in the WEB interface using the field name "Name" with mouse-over</p> <p>(See Figure 2 on page 9).</p>

Example: Opens network relay 1 for the person with the ID FF000002:

```
[ACTION X]
ACTION_NAME="Door 2 open with recognition"
ACTION_TYPE=RELAY
RELAY_TYPE=NETWORK
RELAY_NUMBER=1
EVENT_ON_TYPE=RECOGNITION
EVENT_ON_PERSON_ID=ff000002
EVENT_ON_GROUP_ID=0
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=3
[END_ACTION]
```



Note: It's necessary to use both properties for the RECOGNITION event, for example: EVENT_ON_PERSON_ID and EVENT_ON_GROUP_ID

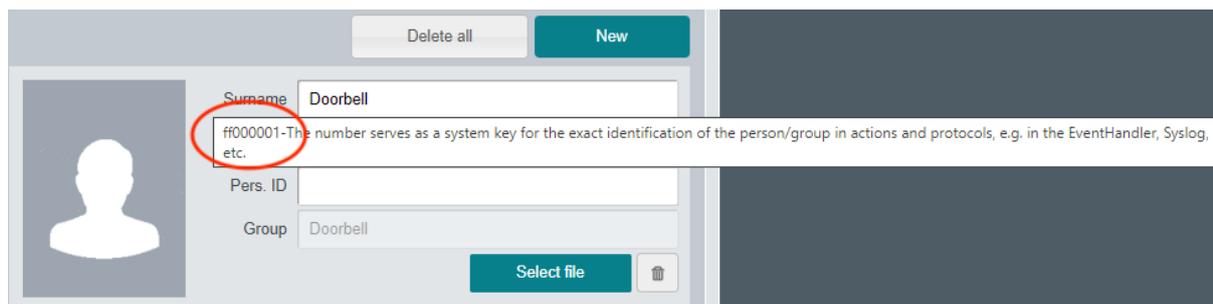


Figure 1: Tooltip of Person Name with information about PERSON_ID

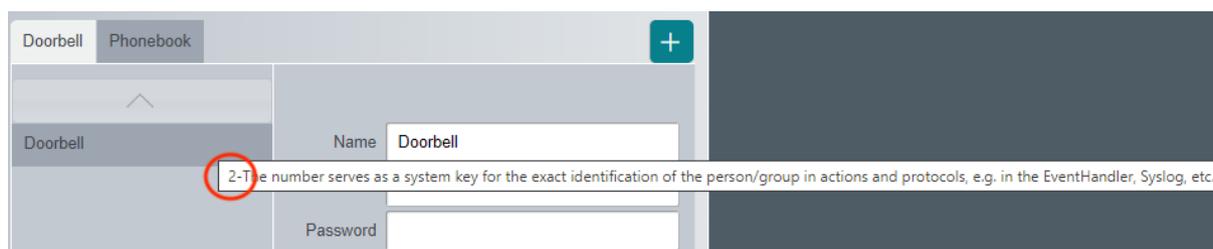


Figure 2: Tooltip of Group Name with Information about GROUP_ID

5.2 Sabotage contact – TAMPER

If either the sabotage contact is interrupted or the acceleration sensor signals a change in position, the TAMPER event is triggered.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	TAMPER
Property	-	-

Example: Switches the alarm system with the network relay 1 when the sabotage contact is opened

```
[ACTION X]
ACTION_NAME="Alarm with sabotage input"
ACTION_TYPE=RELAY
RELAY_TYPE=NETWORK
RELAY_NUMBER=1
EVENT_ON_TYPE=TAMPER
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=3
[END_ACTION]
```



The TAMPER event is only used by door terminals with article number 2100. For all other article numbers please use EVENT_ON_TYPE=TRIGGER_IN.
(See chapter 5.3)

5.3 Sabotage contact – TRIGGER_IN

Switches the alarm system via the network relay 1 if the connection from the door terminal to the housing is interrupted, for example due to sabotage.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	TRIGGER_IN
Property	EVENT_ON_TRIGGER EVENT_OFF_TRIGGER	Number of the trigger input: 2
Property	EVENT_ON_TRIGGER_EDGE	FALLING

Example:

```
[ACTION X]
ACTION_NAME="Alarm with sabotage input"
ACTION_TYPE=RELAY
RELAY_TYPE=NETWORK
RELAY_NUMBER=1
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=2
EVENT_ON_TRIGGER_EDGE=FALLING
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=3
[END_ACTION]
```

5.4 Trigger inputs – TRIGGER_IN

Falling or rising edges at the trigger inputs cause TRIGGER_IN events. The number of the trigger input and the triggering edge can be specified as properties of the TRIGGER_IN events.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	TRIGGER_IN
Property	EVENT_ON_TRIGGER EVENT_OFF_TRIGGER	Number of the trigger input 1 or 2
Property	EVENT_ON_TRIGGER_EDGE	FALLING RISING

Example: Switches to the "Access granted" screen for external trigger input (useful for external access servers if the terminal is used as a reader only).

```
[ACTION X]
ACTION_NAME="Access granted on trigger in"
ACTION_TYPE=LCD_SCREEN
LCD_SCREEN_ID=ACCESS_GRANTED
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=1
EVENT_ON_TRIGGER_EDGE=FALLING
[END_ACTION]
```

5.5 Incoming SIP DTMF signal – SIP_DTMF

An ASCII character was transmitted either via SIP-INFO or RFC2833.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	SIP_DTMF
Property	EVENT_ON_SIP_DTMF EVENT_OFF_SIP_DTMF	ASCII character

Example: Opens the door with relay 1 when the SIP DTMF signal '#' is received. This is a standard event used by the DoorKeeper to open the door.

```
[ACTION 2]
ACTION_NAME="Door opened from the inside station"
ACTION_TYPE=RELAY
RELAY_TYPE=INTERNAL
RELAY_NUMBER=1
EVENT_ON_TYPE=SIP_DTMF
EVENT_ON_SIP_DTMF=#
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=3
[END_ACTION]
```



To remain compatible with almost all SIP servers and SIP remote stations, it is recommended to use only the standard DTMF signals.

Please note that the DTMF signals are already assigned with an ACTION in the standard configuration of the EventHandler.

5.6 Establish SIP connection – SIP_CALL_TRYING

An attempt is made to establish a SIP call.

Type	EVENT_ON_TYPE	SIP_CALL_TRYING
Property	-	-

Example: Turns the light on when trying to establish a SIP connection and turns it off again after 30 seconds.

```
[ACTION X]
ACTION_NAME="Light when Call is started"
ACTION_TYPE=RELAY
RELAY_TYPE=INTERNAL
RELAY_NUMBER=1
EVENT_ON_TYPE=SIP_CALL_TRYING
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=30
[END_ACTION]
```

5.7 SIP Call Event - SIP_CALL_ESTABLISHED

A SIP call has been set up.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	SIP_CALL_ESTABLISHED SIP_CALL_BYE
Property	-	-

Example: Switches the light on when a SIP connection is established and switches it off again when the call is ended.

```
[ACTION X]
ACTION_NAME="Light when Call is started"
ACTION_TYPE=RELAY
RELAY_TYPE=INTERNAL
RELAY_NUMBER=2
RELAY_NAME=RELAY2
EVENT_ON_TYPE=SIP_CALL_ESTABLISHED
EVENT_OFF_TYPE=SIP_CALL_BYE
[END_ACTION]
```

5.8 SIP Call Event - SIP_CALL_READY

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	SIP_CALL_READY
Property	EVENT_ON_DIRECTION	INCOMING OUTGOING ALL
Property	EVENT_ON_URI=""	To perform an action on all calls, leave the field empty. To trigger the event from a specific URI, first make an incoming call to the door station and write down the URI displayed on the LCD screen (See Figure 3, page 16)

Example: Activates Audio directly for incoming calls:

```
[ACTION X]
ACTION_NAME="Immediate audio on incoming calls"
ACTION_TYPE=SIP_TALK
EVENT_ON_TYPE=SIP_CALL_READY
EVENT_ON_DIRECTION=INCOMING
EVENT_ON_URI=""
[END_ACTION]
```

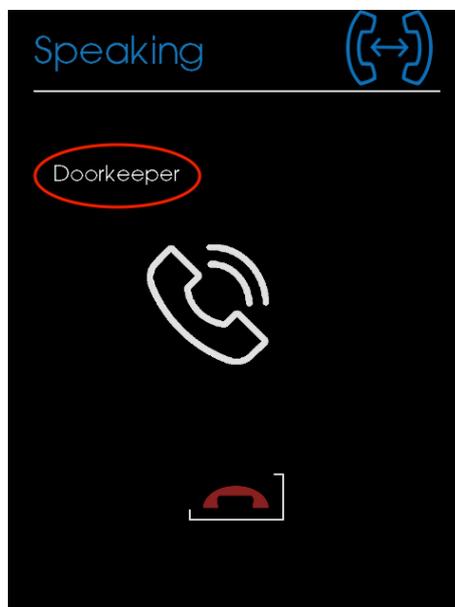


Figure 3: URI on the LCD screen



This is not a standard Event.
The DoorKeeper apps may show a wrong behavior with this event.

5.9 RFID card – RFID

In contrast to the RECOGNITION event, the RFID UID can be specified directly for the RFID event. This allows a card to be configured to switch a function without having to be assigned to a person.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	RFID
Property	EVENT_ON_RFID EVENT_OFF_RFID	UID of RFID card e.g. EVENT_ON_RFID=A003FBE4

Example: Switches on the alarm system via the network relay 1 when a RFID card with the UID ABCDEF is held in front of the device and switches off the alarm system if a RFID card with the UID FEDCBA is held in front.

```
[ACTION X]
ACTION_NAME="Alarm off on RFID"
ACTION_TYPE=RELAY
RELAY_TYPE=NETWORK
RELAY_NUMBER=1
EVENT_ON_TYPE=RFID
EVENT_ON_RFID=ABCDEF
EVENT_OFF_TYPE=RFID
EVENT_ON_RFID=FEDCBA
[END_ACTION]
```

5.10 PIN code – PIN

In contrast to the RECOGNITION event, the PIN number can be specified directly for the PIN event. This allows a PIN to be configured for switching a function without having assigned this PIN to a person.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	PIN
Property	EVENT_ON_PIN EVENT_OFF_PIN	PIN number

Example: Switches on the alarm system via the network relay 1 when the PIN number 1234 is entered and switches off the alarm system when the PIN number 4321 is entered.

```
[ACTION X]
ACTION_NAME="Alarm off on PIN"
ACTION_TYPE=RELAY
RELAY_TYPE=NETWORK
RELAY_NUMBER=1
EVENT_ON_TYPE=PIN
EVENT_ON_PIN=1234
EVENT_OFF_TYPE=PIN
EVENT_OFF_PIN=4321
[END_ACTION]
```

5.11 Timer – TIMER

For bistable actions, such as switching relays, a TIMER event can be configured as an OFF event. The timer is started when the action is switched. Once the timer has expired, the following is switched off.

Type	EVENT_OFF_TYPE	TIMER
Property	EVENT_OFF_TIMEOUT	Timeout in seconds

Example: See chapter 5.5

5.12 LCD screen buttons – PUSH_BUTTON

Each list element of the group and phonebook page can trigger an event (in addition to the normal function, such as SIP call).

If (without SIP call) only the event is to be triggered, a group must be used to which no persons have been assigned or a person who has no SIP-URI entry, but the check mark for "Phonebook" is set.

Type	EVENT_ON_TYPE EVENT_OFF_TYPE	PUSH_BUTTON
Property	EVENT_ON_PUSHBUTTON_ID EVENT_OFF_PUSHBUTTON_ID	The ID of the button corresponds to the ID of the group or person represented by the button. See Figure 1 and Figure 2 on page 9. Person IDs always start with ffxxxxxx and must be distinguished from group IDs.

Example: Implementation of a light switch on the home screen (group ID=1)

```
[ACTION X]
ACTION_NAME="Light"
ACTION_TYPE=RELAY
RELAY_TYPE=INTERNAL
RELAY_NUMBER=2
EVENT_ON_TYPE=PUSH_BUTTON
EVENT_ON_PUSHBUTTON_ID=1
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=60
[END_ACTION]
```

Example: Implementation of a workshop bell on the homescreen (person ID = FF000018)

```
[ACTION X]
ACTION_NAME="Workshop bell"
ACTION_TYPE=RELAY
RELAY_TYPE=INTERNAL
RELAY_NUMBER=2
EVENT_ON_TYPE=PUSH_BUTTON
EVENT_ON_PUSHBUTTON_ID=FF000018
EVENT_OFF_TYPE=TIMER
EVENT_OFF_TIMEOUT=1
[END_ACTION]
```

5.13 Starting an event after a timer has expired – FREE_TIMER

After an action "START_TIMER" has expired, a "FREE_TIMER" event is required, which starts after the timer has expired.

Type	EVENT_ON_TYPE	FREE_TIMER
Property	EVENT_ON_TIMER_ID	The ID corresponds to the ID of the timer which has been started with the action "START_TIMER" (See Chapter 6.9): 1...10

This can be used to terminate the SIP connection with a delay after the relay has been switched.

Example: The first action starts a timer with the ID number 1 and a duration of 5 seconds by pressing the phone key '#'.
.

After this timer has expired, the second event is executed, which terminates the SIP connection..

```
[ACTION xx]
ACTION_NAME="Timer 1"
ACTION_TYPE=START_TIMER
TIMER_ID=1
TIMER_TIMEOUT=5
EVENT_ON_TYPE=SIP_DTMF
EVENT_ON_SIP_DTMF=#
[END_ACTION]
```

```
[ACTION xx]
ACTION_NAME="Call_BYE"
ACTION_TYPE=SIP_BYE
EVENT_ON_TYPE=FREE_TIMER
EVENT_ON_TIMER_ID=1
[END_ACTION]
```

6 Actions

6.1 Switching relays – RELAY

The RELAY action switches one of the internal relays or a network relay. The RELAY action has both an ON and an OFF event.

Type	ACTION_TYPE	RELAY
Property	RELAY_TYPE	INTERNAL NETWORK (the address of the network relay can be configured in Web interface)
Property	RELAY_NUMBER	INTERNAL: 1...2 (depends on device) NETWORK: 1...6

Example: See chapter 5.5 and 5.9 for example.

6.2 Video Pan-Tilt-Zoom – PTZ

With the action PTZ the image section (ROI) of the colour sensor can be changed.

Type	ACTION_TYPE	PTZ
Property	PTZ_SELECT	PTZ_LEFT PTZ_RIGHT PTZ_UP PTZ_DOWN PTZ_CENTER PTZ_ZOOM_IN PTZ_ZOOM_OUT To recall the preset positions: PTZ_PRESET1 PTZ_PRESET2 PTZ_PRESET3

Example: Switches to default view 2 (standard event)

```
[ACTION 11]
ACTION_NAME="PTZ Preset2"
ACTION_TYPE=PTZ
PTZ_SELECT=PTZ_PRESET2
EVENT_ON_TYPE=SIP_DTMF
EVENT_ON_SIP_DTMF=7
[END_ACTION]
```

6.3 Initiating SIP call– SIP_CALL

The SIP_CALL action initiates a SIP call.

Type	ACTION_TYPE	SIP_CALL
Property	SIP_CALL_KEY	ID of the person to be called. The ID of a person is displayed in the Access Control area of the Web interface. (See Figure 1 on page 9)

Example: A SIP call is triggered via a remote bell connected to the trigger input.

```
[ACTION X]
ACTION_NAME="External Doorbell"
ACTION_TYPE=SIP_CALL
SIP_CALL_KEY=ff000000
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=1
EVENT_ON_TRIGGER_EDGE=FALLING
[END_ACTION]
```



No events should be used for normal SIP calls via the list elements (phone book).
The normal SIP call is not controlled by the EventHandler.

6.4 Determine SIP call – SIP_BYE

The SIP_BYE action ends a SIP call.

Type	ACTION_TYPE	SIP_BYE
Property	-	-

Example: A SIP call is started and ended via a switch.

```
[ACTION X]
ACTION_NAME="TRIGGER1 SIP CALL"
ACTION_TYPE=SIP_CALL
SIP_CALL_KEY=ff000000
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=1
EVENT_ON_TRIGGER_EDGE=RISING
[END_ACTION]
```

```
[ACTION Y]
ACTION_NAME="TRIGGER1 SIP BYE"
ACTION_TYPE=SIP_BYE
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=1
EVENT_ON_TRIGGER_EDGE=FALLING
[END_ACTION]
```

6.5 Audio up/mute – SIP_TALK

With the action SIP_TALK the audio signal is switched on or off. The SIP-TALK action has both an ON and an OFF event.

Type	ACTION_TYPE	SIP_TALK
Property	-	-

Example: Switching audio on and off via '*' on the telephone (standard event)

```
[ACTION 26]
ACTION_NAME="Talk"
ACTION_TYPE=SIP_TALK
EVENT_ON_TYPE=SIP_DTMF
EVENT_ON_SIP_DTMF=*
EVENT_OFF_TYPE=SIP_DTMF
EVENT_OFF_SIP_DTMF=*
[END_ACTION]
```

6.6 Send HTTP Get Request to an HTTP server– HTTP_GET

The HTTP_GET action sends an HTTP_GET header to the defined URL. This can be used to control home automation systems (such as Crestron).

Type	ACTION_TYPE	HTTP_GET
Property	HTTP_URL	Describes the HTTP-Header to be sent in the format http://user:password@ip-address/switch/alarmsystem or http://ip-address/switch/light
Property	HTTP_AUTHENTICATION	BASIC DIGEST Mode of authentication of RFC2617

Example: Signal to home automation to switch the light.

```
[ACTION X]
ACTION_NAME="Send http request with recognition"
ACTION_TYPE=HTTP_GET
HTTP_URL=http://ip-address/switch/light
HTTP_AUTHENTICATION=DIGEST
EVENT_ON_TYPE=RECOGNITION
EVENT_ON_PERSON_ID=ff000001
EVENT_ON_GROUP_ID=0
[END_ACTION]
```



The ACTION_NAME is displayed as a message on the LCD screen to give the user feedback.

6.7 Send TCP message– TCP_OUTPUT

This action outputs a string over a TCP connection.

Type	ACTION_TYPE	TCP_OUTPUT
Property	TCP_OUTPUT_IP	IP address or DNS TCP connection 192.168.1.20
Property	TCP_OUTPUT_PORT	Remote Port of TCP connection
Property	TCP_OUTPUT_STRING	String to be sent out. Maximum string length is 127 characters.

Example:

```
[ACTION X]
ACTION_NAME="TCP Out"
ACTION_TYPE=TCP_OUTPUT
TCP_OUTPUT_IP=192.168.2.91
TCP_OUTPUT_PORT=80
TCP_OUTPUT_STRING="This string has been sent via TCP_OUTPUT"
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=2
EVENT_ON_TRIGGER_EDGE=FALLING
[END_ACTION]
```

6.8 Changes LCD screen – LCD_SCREEN

Switches to a specific screen. This can be used, for example, to switch off an alarm when an authorized person has been detected.

Type	ACTION_TYPE	LCD_SCREEN
Property	LCD_SCREEN_ID	Selection of displays: ACCESS_GRANTED ACCESS_DENIED ACCESS_WAIT DIALOG_GREEN DIALOG_RED DIALOG_YELLOW DIALOG_GREY PIN_SCREEN ALIGNEMENT_SCREEN
Property	LCD_SCREEN_TEXT	Displays the desired text. Can only be used with DIALOG_xxx and ACCESS_DENIED. Max. 100 characters

Example: See Chapter 5.4

6.9 Start Timer – START_TIMER

Starts one of ten different timers, which executes the event "FREE_TIMER" with the corresponding ID after the time has expired.

Type	ACTION_TYPE	START_TIMER
Property	TIMER_ID	Ten timer IDs are available: 1...10
Property	TIMER_TIMEOUT	Timeout in Seconds

Example: See Chapter 5.13

6.10 Wake up screen – WAKE_UP

This action ends the set screensaver and displays the main menu.

Type	ACTION_TYPE	WAKE_UP
Property	-	-

Example: If the motion detector connected to the Trigger 2 input on the door terminal is triggered, the screen saver ends and the telephone book is displayed.

```
[ACTION X]
ACTION_NAME="End Screensaver"
ACTION_TYPE=WAKE_UP
EVENT_ON_TYPE=TRIGGER_IN
EVENT_ON_TRIGGER=1
EVENT_ON_TRIGGER_EDGE=RISING
[END_ACTION]
```