GSW2 EXIO

Advanced GSM/LTE communication device

USER MANUAL

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1 FOR YOUR SAFETY

SWITCH ON SAFELY

Do not switch the unit on when use of wireless phone is prohibited or when it may cause interference or danger.

INTERFERENCE

All wireless phones and units may be susceptible to interference, which could affect performance.

SWITCH OFF IN HOSPITALS

Follow any restrictions. Switch the unit off near medical equipment.

SWITCH OFF IN AIRCRAFT

Follow any restrictions. Wireless devices can cause interference in aircraft.

SWITCH OFF WHEN REFUELING

Do not use the unit at a refueling point. Do not use near fuel or chemicals.

SWITCH OFF NEAR BLASTING

Follow any restrictions. Do not use the unit where blasting is in progress.

USE SENSIBLY

Use only in the normal position as explained in the product documentation. Do not touch the antenna unnecessarily.

2 INTRODUCTION

GSW2 EXIO is a simple but powerful GSM/LTE switch and communication system designed to ensure low-cost, simple to install/use, reliable and single box solution for remote managed switching application and secure intercom solution. It is designed for unlimited range, pin code access, CALLER ID control, ANPR and Wiegand access support.

Optional GSW2 EXIO supports alarm detection, stay-alive messages, credit detection etc…

3 GSW2 EXIO ENTRY-CONTROLLER FEATURES AND APPLICATIONS

Features:

⇒ Built-in LTE module with Multi-band LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage

⇒ Caller ID numbers control (up-to 1000 caller ID numbers)

⇒ Standalone ANPR system (with up-to 1000 licence plates)

⇒ Up to 1000 PIN access codes

⇒ 2 Inputs Wiegand receiver (up-to 1000 receivers)

⇒ 2 outputs (relay supported)

⇒ Secure intercom support (with external Audio module)

⇒ Programming by WEB server

Applications:

⇒ Secure intercom solution (with separate call module)

⇒ Remote gate opener – Caller ID number recognition

⇒ Standalone ANPR parking system

⇒ Simple (Wiegand) access system

4 START UP

GSW2 EXIO unit accepts a standard GSM SIM cards from any network.

VERY IMPORTANT	USE A **MICRO SIM CARD** 

WARNING	DO NOT Insert or remove the SIM card while the unit is powered ON!!

IMPORTANT	Before inserting SIM card to unit make sure the PIN code is removed!!

⇒ Insert SIM card in GSW2 EXIO unit.

⇒ Connect power cable to GSW2 EXIO unit. Use power supply 12-24V AC or 15-24V DC!

⇒ Power up the unit.

⇒ Wait until LED1 (blue) starts flashing. This is set in around 30 – 45 seconds.

⇒ GSW2 EXIO unit is now ready to operate.

5 LED INDICATION

Blue LED (LED1)

- Indicates the level of the GSM signal from 1 to 5 LED flashes (1 is weak signal, 5 is excellent signal)

Red LED (LED2)

- GSM module Activity

Yellow LED (LED3)

- Short flashing indicates that the GSM module is ON, but it is not yet connected on the GSM network. After connection, yellow led is flashing with short pulse (0,5s) ON and a long pulse OFF (5s).

6 CONNECTION DIAGRAM

Before connection the GSW2 EXIO please take a look at connection diagram.

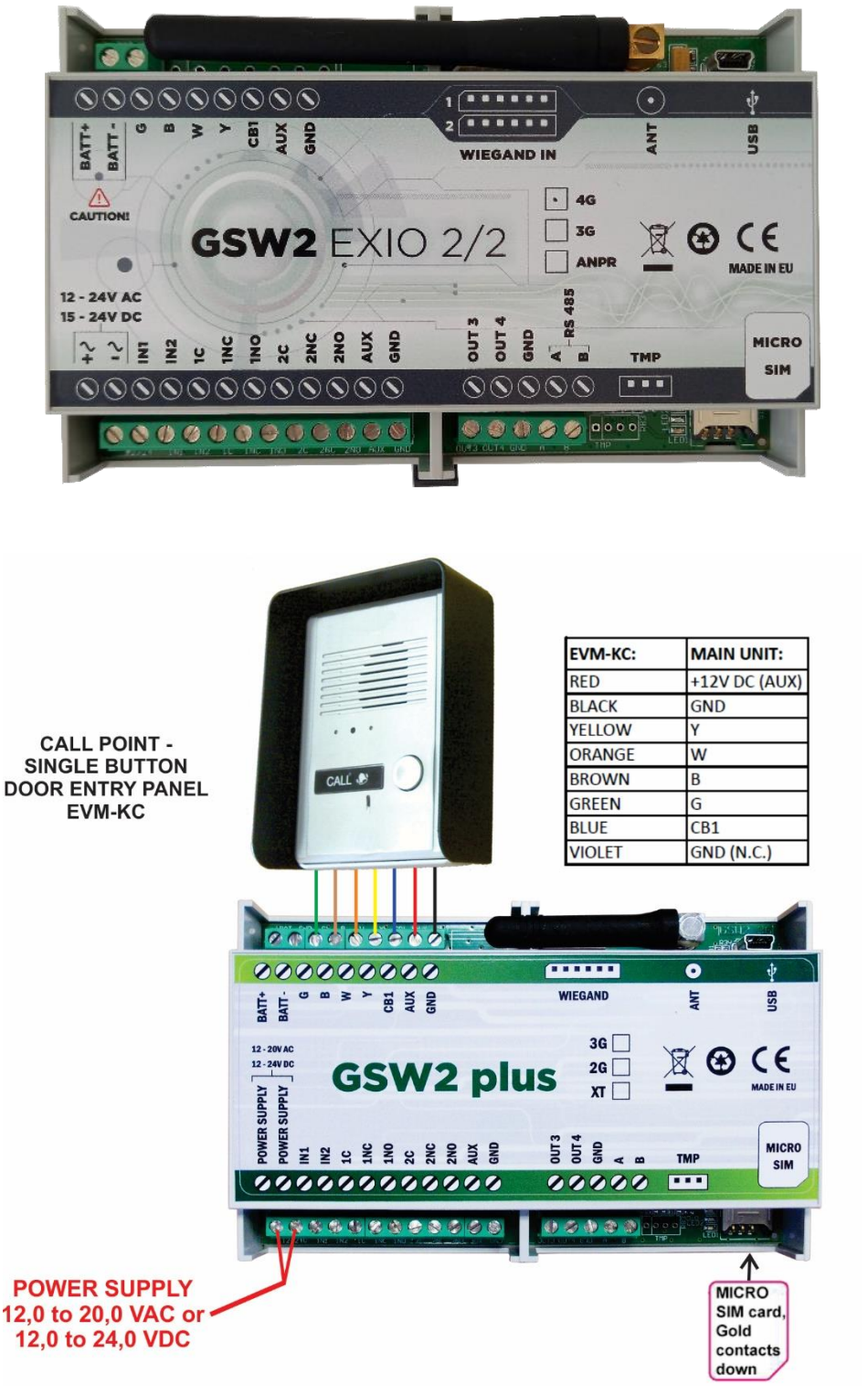

Figure 1: GSW2 EXIO: Connection diagram

PS	Power supply	**BATT+**	Back-up Battery connection
PS		**BATT-**	
IN1	Alarm input 1 / Call button 1	**G**	GSM Intercom – Call point connections
IN2	Alarm input 2 / Call button 1	**B**	
1C	Relay output 1 – Common	**W**	
1NC	Relay output 1 – Normal Close	**Y**	
1NO	Relay output 1 – Normal Open	**CB1**	
2C	Relay output 2 – Common	**AUX**	
2NC	Relay output 2 – Normal Close	**GND**	
2NO	Relay output 2 – Normal Open	**WIEGAND**	Wiegand input connector
AUX	+12V AUX max. 100 mA in total!	**ANT**	GSM Antenna
GND	Ground	**USB**	USB conn. for programming with PC
OUT 3	Wiegand output D0		
OUT 4	Wiegand output D1		
GND	Ground		
A	RS485 A		
B	RS485 B		
TMP	Temperature probe connector		

Figure 2: GSW2 EXIO: Connection table.

IMPORTANT	***DO NOT USE Power out (12V AUX) for electric lock driving! Use separate power source for door electric lock!***

7 GSW2 EXIO UNIT MANAGEMENT

Unit supports different types of management (programming):

⇒ Unit can be programmed remotely by using WEB server access.

⇒ Unit can be programmed remotely by SMS commands (Optional).

8 GSW2 EXIO FUNCTIONS WITH PROGRAMMING INSTRUCTIONS

As mentioned in previous chapters GSW2 EXIO unit can be programmed in various ways, this document will focus on most common programming way: WEB programming.

IMPORTANT	SIM card in the GSW2 EXIO unit **MUST have DATA PLAN** to be able to use WEB programming!

8.1 WEB SERVER - LOG IN

The web server can be find under the address: **https://www.easyset.eu/.**

Figure 3: WEB Server-Sign In page

User must first use the Sign IN section to create working profile on the server. The profile can be created by using social login like Facebook, Google account or Twitter. The user lacks any of the social profile it can proceed to Sign UP page use standard user name and password entry.

NOTE	Server supports Firefox, Google Chrome, Safari.

8.2 WEB SERVER – ADDING UNITS TO USER PROFILE

After login the user will be diverted to WEB server main window. This page is used to add/remove/search for GSW2 EXIO units from the user's profile.

Select "+" sign to select ADD GSW2 EXIO units to user's profile.

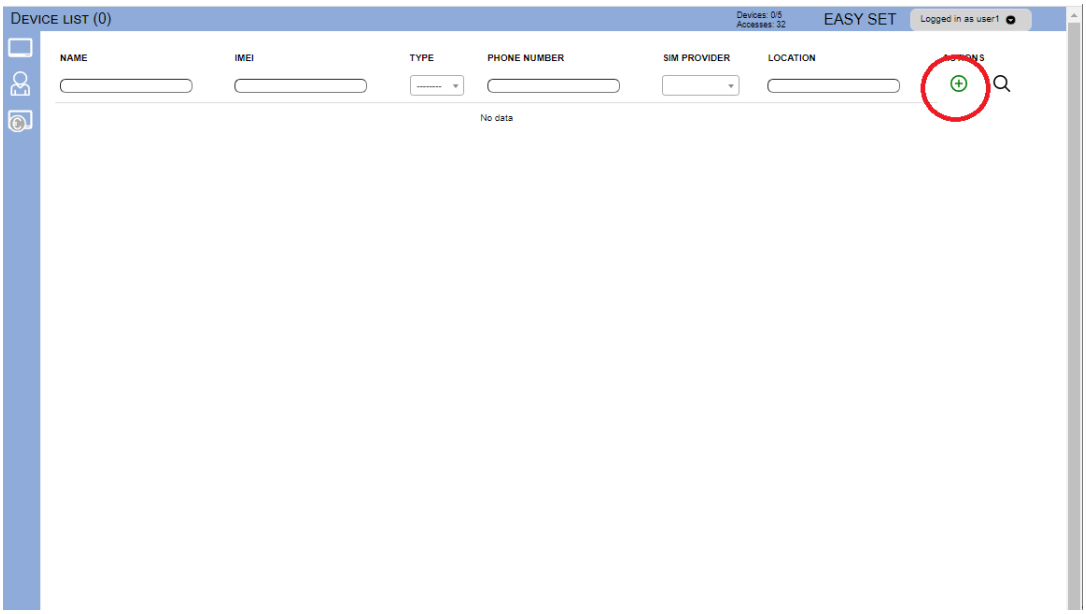

Figure 4: WEB Server-Main page select ADD mode

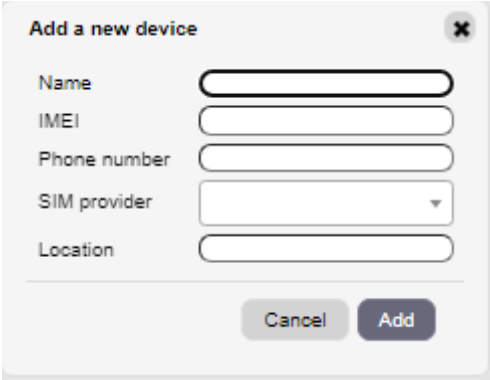

Figure 5: WEB Server-Main page adding GSW2 EXIO units

User than provides required data:

- **Name**: Name for the added unit - mandatory information.
- **IMEI**: Identification number of the unit, can be found in the enclosure of the unit - mandatory information. The IMEI is located on the cellular chip and also should be on the card board box of the GSW2 EXIO.
- **Phone Number:** The telephone number of the SIM card in the GSW2 EXIO unit - mandatory data.
- **SIM provider:** Information needed to enable data connection between the server and the unit. Selectable from the drop-down menu - mandatory data.
- **Location:** Notification field, used by the user to provide extra data for its own information - optional data.

By clicking the "+" (insert sign) after filling mandatory data, the unit will be added to the user profile.

First building of the unit data-base may take a few minutes.

8.3 WEB SERVER-UNIT MANAGEMENT

After the GSW2 EXIO unit is added to user database, the user can change the configuration of the specific unit.

All changes made by the user are listed in the **Change Log** window. By clicking **Send to device** button ALL changes are sending to the unit.

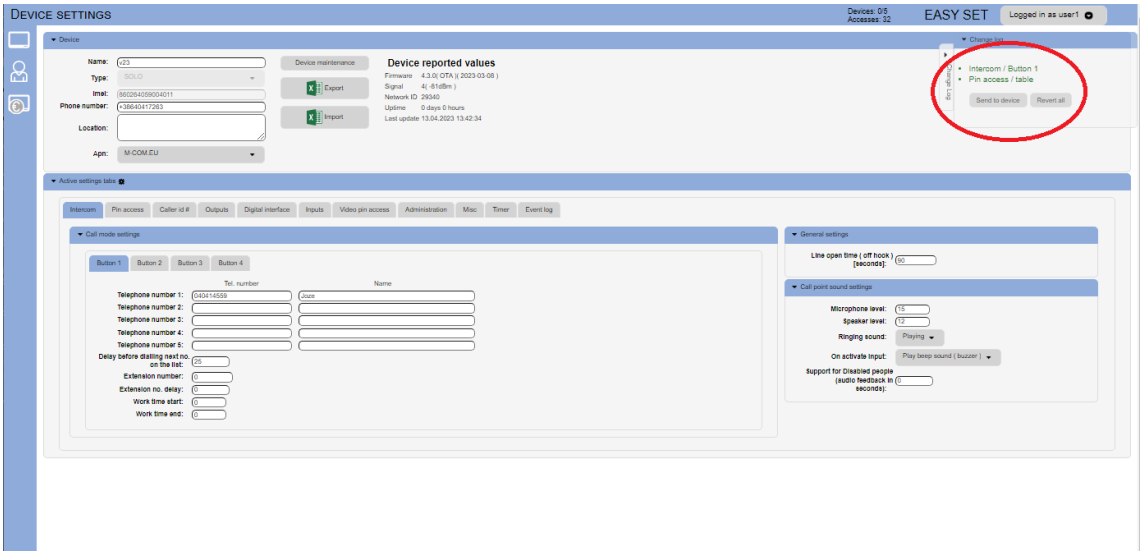

Figure 6: WEB Server-Unit management window

8.4 CALLER ID ACCESS

Caller ID access is a very simple way to control relay output defined in **Caller ID output** setting. User will by calling in the GSW2 EXIO unit trigger defined output.

Settings for this function are found in the **Caller id #** tab.

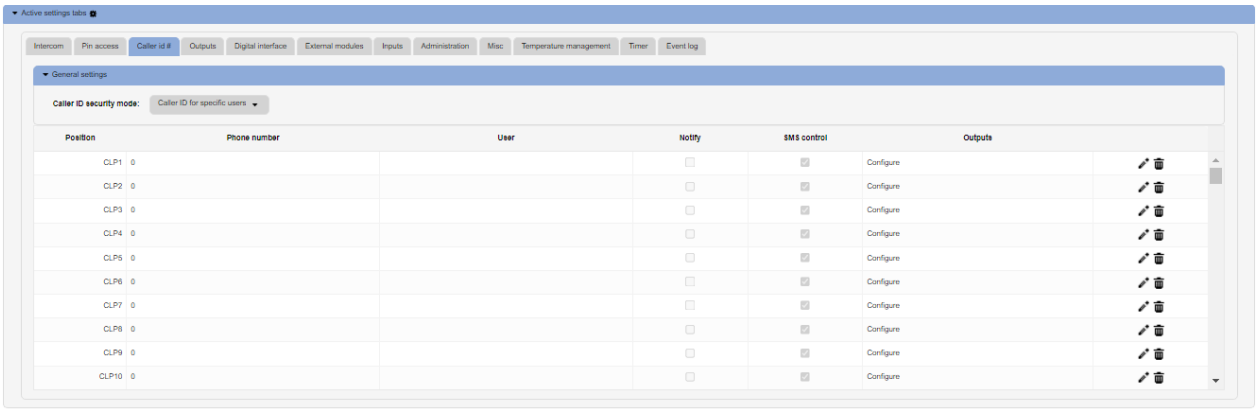

Figure 7: WEB Server-Caller ID Access

General settings:

- **Caller ID security mode:** User can select between 3 options:
  Caller ID Disabled deactivates caller ID function – all numbers are restricted
  Caller ID for specific users will limit the caller ID function only to the numbers on the list.
  Caller ID always ON will allow all users that know the number of the unit to open defined output. In last option the user doesn't need to be on the list to trigger the output

- **Phone number:** Number of the user that will be used to open the relay selected by Caller ID output.
- **User:** Name of the user.
- **Notify:** When CALLER ID is used, administrator numbers will be notified
- **SMS control:** Enable option for the user to use SMS/application to control the output.
- **Caller ID output:** Selecting the output that will be triggered in Caller ID function.

NOTE	Selection *Caller ID always ON* will allow anybody with the knowledge of the unit number to trigger the output by calling the unit. Use this setting with caution.

8.5 PIN ACCESS

Eexternal Wiegand devices are used for access by entering PIN codes.
WEB server supports simplified and advance view/configuration of the PIN code. In simplified view only basic configuration of PIN code is possible.
PIN codes support different modes/area of operation:

- Basic control mode
- Access mode
- Restricted access mode

View of the PIN code configuration will be shown according to selected PIN code mode.

Basic Control mode: The single PIN code can drive up to four pre-programmed Outputs with all possible restrictions (counter and time).

Access mode: In this mode, each Wiegand Input is dedicated to one output, the PIN code entered on Wiegand 1 is driving the relay Output 1, PIN code entered on Wiegand 2 is driving relay output 2. All possible restrictions (counter and time) apply to PIN codes.

Restricted Access mode is the same as the Access mode, except that the user can determine which Output is managed by the same PIN code. All possible restrictions (counter and time) apply to PIN codes.

Hotel mode has all the options of Restricted Access mode, plus support for master mode. This option is used for apartment/hotel applications. All possible restrictions (counter and time) apply to PIN codes.

PIN code configuration options

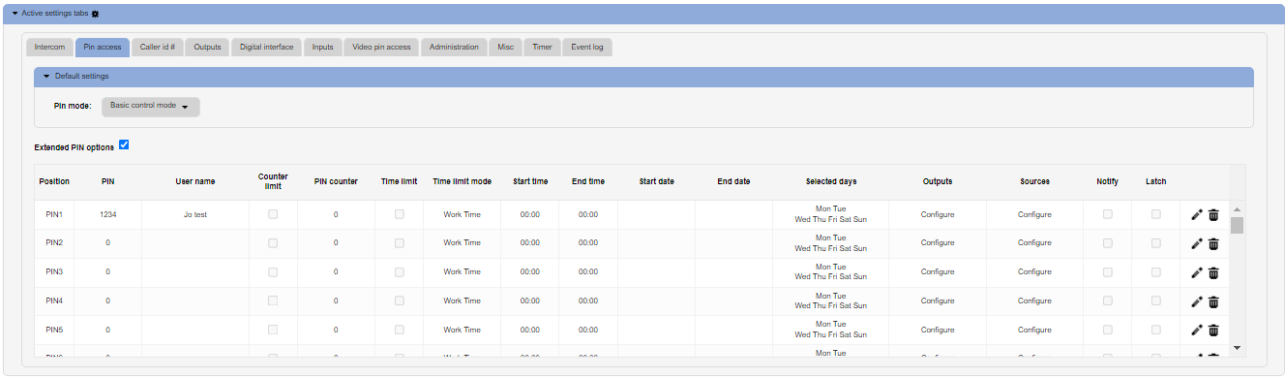

Figure 8: WEB Server- PIN Access configuration

Configuration options	Description
PIN	PIN code value
User name	Name of the user
Counter limit	Enable/Disable counter limitation (consecutive use)
Pin counter	Counter limit value
Timer limit	Enable/Disable timer limitation
Timer mode	Work Time: time limitation on daily bases, no calendar limitation Full Time constraint: absolute time limitation time + calendar limitation
Start Time	Start time of PIN code validity (hours + minutes)
End Time	End time of PIN code validity (hours + minutes)
Start date	Start day of PIN code validity (only valid for Full Time Constraint option)
End date	End day of PIN code validity (only valid for Full Time Constraint option)
Selected days	PIN code validity selection for day of a week
Outputs	Selection of the output for PIN code to trigger
Sources	Allowed input source for PIN code
Notify	When PIN code is used, administrator numbers will be notified
Latch	This selection forces output into latching mode of operation

Table 1: WEB Server-PIN entry parameters.

8.6 VIDEO PIN ACCESS (ANPR ACCESS)

Video pin (LICENCE PLATE number) access is use together with Hikvision or Tattile ANPR camera. Along with these cameras user can build a simple but powerful standalone ANPR system. VIDEO PIN ACCESS (ANPR system) support different modes/area of operation:

- Basic control mode
- Access mode
- Parking mode

View of the VIDEO PIN code configuration will be shown according to selected VPIN mode.

Basic Control mode: The single VIDEO PIN code can drive up to four pre-programmed Outputs with all possible restrictions (counter and time).

Access mode: In this mode, each Wiegand Input is dedicated to one output, the VIDEO PIN code entered on Wiegand 1 is driving the relay Output 1, VIDEO PIN code entered on Wiegand 2 is driving relay output 2. All possible restrictions (counter and time) apply to VIDEO PIN codes.

Parking mode is similar as the Access mode, but in addition it support a free parking option and inclusion to a bigger parking system (with the use of cloud parking solution EasyPin)

VIDEO PIN code configuration options are the same as PIN code configuration options.

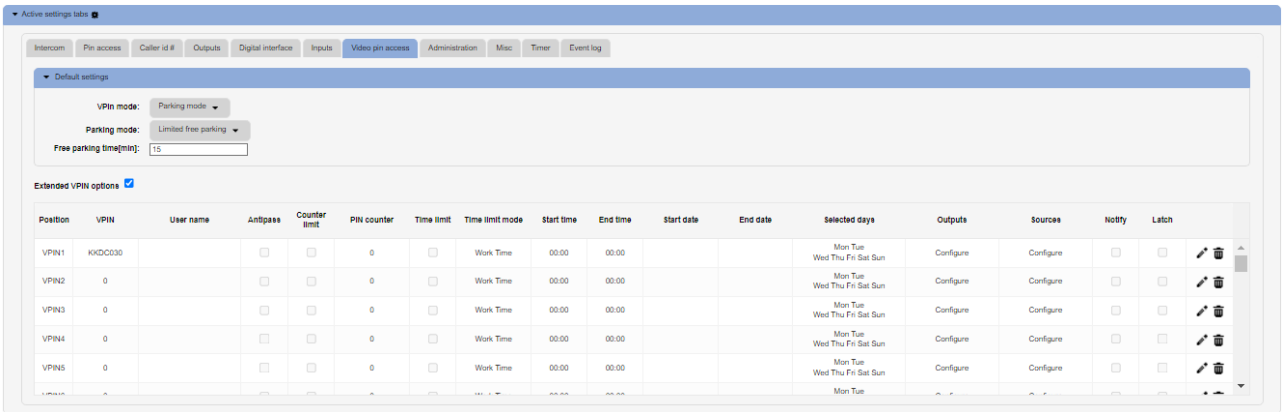

Figure 9: WEB Server-VIDEO PIN Access configuration

8.7 DIGITAL INTERFACE

GSW2 EXIO unit has onboard support for 2 Wiegand based devices. Addition to 2. Wiegand inputs the device can be also used as a Wiegand device for integration into bigger access device. In this case numbers calling the GSW2 EXIO unit will be transferred, over Wiegand interface, to access system. Configuration of first Wiegand interface is found in **Digital interface** tab.

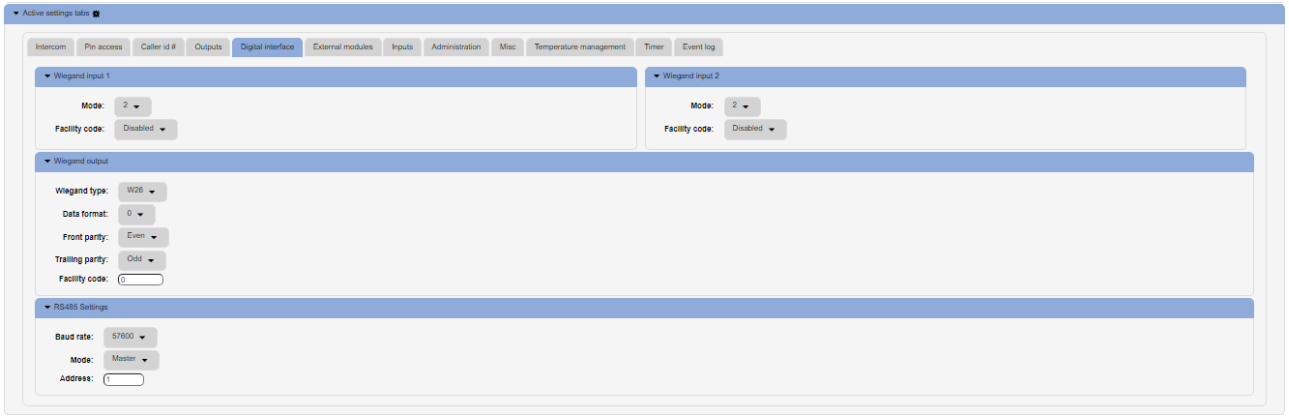

Figure 10: WEB Server-Digital interface support.

Wiegand input 1 and **Wiegand input 2**

- **Mode:** Select appropriate data formatting (Advise unit provider for more info if needed, mode 2 is most common setting)
- **Facility code:** User can *Enable* or *Disable* facility code field.

Wiegand output

- **Wiegand type:** Select length of the Wiegand data (W26 is most common setting)
- **Data format:** Select appropriate data formatting (Advise unit provider for more info if needed)
- **Front parity:** Front parity type
- **Trailing parity:** Trailing parity type
- **Facility code:** Facility value to be used for sending

NOTE	See Chapter 9 WIEGAND INTERFACE DATA FORMATs for detailed explanation of different data format options.

8.8 OUTPUTS SETTINGS

The behavior on the outputs is defined in the **Output tab.**

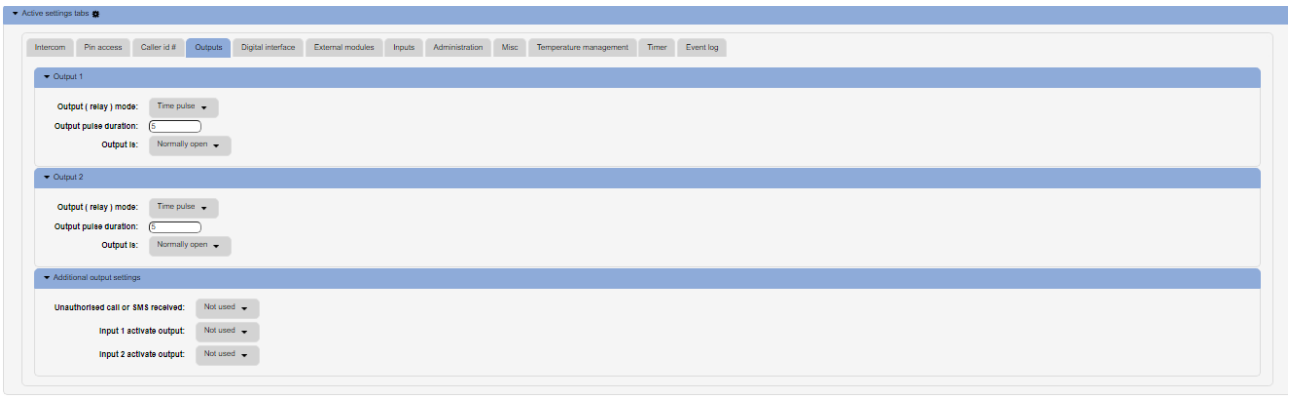

Figure 11: WEB Server-Output setting

Output 1 and **Output 2**

- **Output (relay) mode:** User can select between 3 options
  Disable-Output is disabled
  Latching-Output is in latching mode. First Caller ID or PIN entry will activate the output, second Caller ID or PIN entry will deactivate the output.
  Time Pulse-Output is time pulse mode. After output is triggered it will be activated for the time defined in **Output pulse duration**, after that time output will be restored.
- **Output pulse duration:** ON time for output in case of output mode *Timer pulse.*
- **Output is:** Output can work in normal or inverted (normally close) mode.
  Normally open-In idle mode output pins are in open position.
  Normally closed-In idle mode output connection is closed.

Additional output settings - Setting are used to link onboard actions with the outputs if needed:

- **Unauthorized call or SMS received:** If unauthorized call or SMS is received on the unit this event will activate output defined under this section.
- **Input 1 activate output:** Activation of the input will activate output defined under this section.
- **Input 2 activate output:** Activation of the input will activate output defined under this section.

NOTE	Do to limitation of the outputs use additional outputs settings with care.

8.9 INTERCOM CONFIGURATION

One of the options on GSW2 EXIO unit is secure implementation of intercom support. Intercom function is possible with the external audio module. Selecting (calling) apartment number is achieved pressing the call button beside appropriate name plate.

This action will start a voice call procedure from **Phone number 1** till **Phone number 5**. After the call is answered the called user has the option to trigger the output by pressing “11” for opening Output 1 or “21” for triggering Output 2.

If the call is answered the unit will stop dialing next numbers on the list.

Management of the intercom function is found under **Intercom** tab.

General settings:

- **Enable intercom button 1:** User has to enable intercom button 1 before using it as a call button 1.
- **Enable intercom button 2:** User has to enable intercom button 2 before using it as a call button 2.
- **Line open time:** Defines maximum in-connection time in second before the unit will automatically disconnect the call.

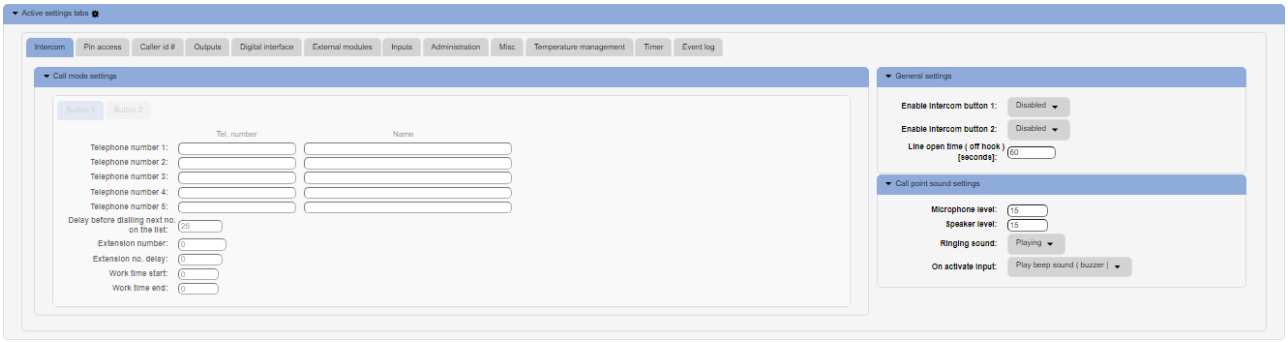

Figure 12: WEB Server-Intercom settings.

Call mode settings:

- **Telephone number 1…Telephone number 5:** Number that the unit will call when call button pressed.
- **Delay before dialing next no. on the list:** Time delay in second before next user on the list gets dialed if the call to the previous user is not answered.
- **Extension number:** Parameter is used to set the DTMF number in auto self-select function
- **Extension no. delay:** Parameter is used to set the delay (in sec.) for sending DTMF number in auto self-select function.
- **Work time start, Work time end:** Parameters are used to define work time schedule. Inside this limits number under position 1 to 4 will be dialed, outside this limits number under position 5 will be dialed.

Call point sound settings

- **Microphone level:** Increasing the level will increase the sensitivity of the unit microphone decreasing will decrease the sensitivity.
- **Speaker level:** Increasing the level will increase the volume of the unit speaker, decreasing will decrease the level of the speaker.
- **Ringing sound:** By selecting *Playing* the unit will play the dial tone in the connection phase of the call, by selecting *Muted* the unit will not play any sound in the connection phase of the call.
- **On activate input:** By selecting *Play beep sound (buzzer)* the unit will provide audio feed back (buzzer BEEP) when the apartment entry is selected, by selected *Muted* unit will provide no audio feedback when the apartment entry is selected.

8.10 TIMER-TIMED CONTROLLED OUTPUT

GSW2 EXIO unit features 2 timers that can be used to control the outputs on the unit. Timers can run in day or week mode depending on the selected setting. For each timer user can select which output it will control.

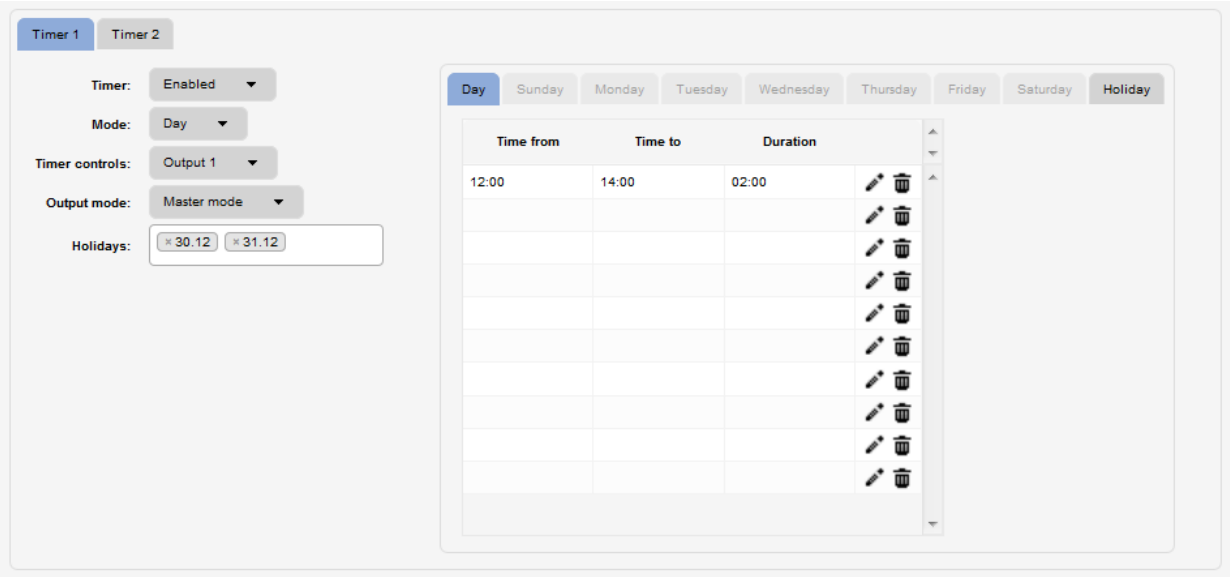

Figure 13: WEB Server-Timer setting →Day mode.

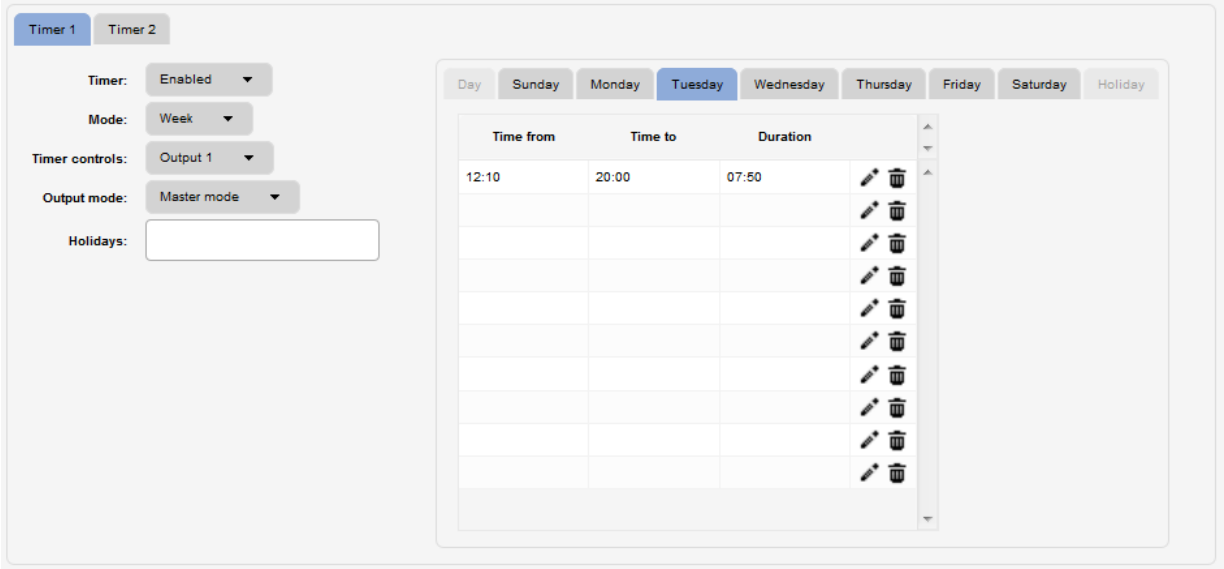

Figure 14: WEB Server-Timer setting →Week mode.

Timer settings:

- **Timer:** Parameter is used to enable and disable the timer function.
- **Mode:** User can select between day or week mode. In day mode the timer will control on the day table which is the same for all week. In week mode the user can define different setting for each day in the week.
- **Timer controls:** Output controlled by the timer function.
- **Output mode:** Output mode management definition.

OUTPUT mode options	Description
Slave mode	The behavior of the outputs (Time pulse or Latching mode) is defined in the **Output** tab.
Master mode:	When the output is driven by the timer (output is activated by the timer) the outputs are in latching mode regardless of the setting in **Output** tab. When the output is not activated by the timer, the outputs are working by the defined settings in **Output** tab.
Output precondition	In this mode Timer is used as PRECONDITION for output control used by other functions like PIN access or Called ID #.

Table 2: WEB Server-Timer setting, output mode options

- **Holidays:** With the definition of the holiday days (use day picker), user can define special behavior on the holiday days.

The described settings are the same for both timers.

8.11 ALARM INPUTS

GSW2 EXIO unit can be used to send alarm SMS messages if alarm is raised on iput alarm lines. Alarm lines are multiplexed with the intercom button lines. To use alarm lines disable intercom function for the appropriate line (**Intercom** tab).

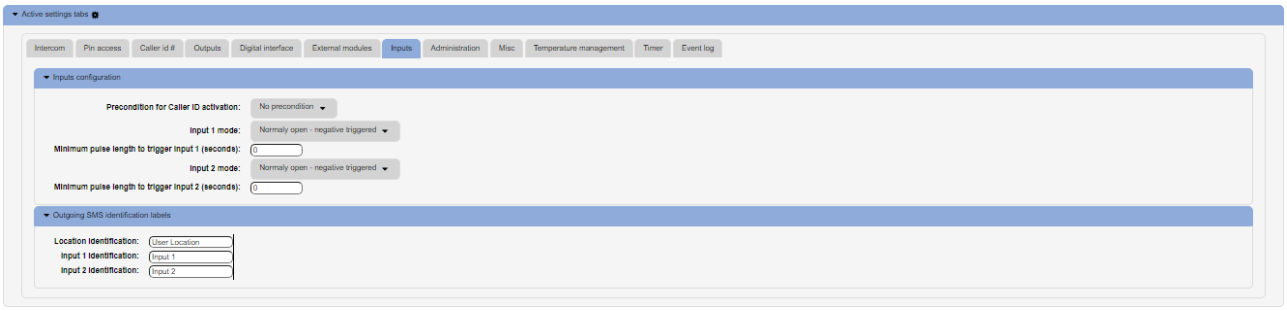

Figure 15: WEB Server-Input alarm mode.

Inputs configuration:

- **Caller ID enabled by ID:** Additional sensor can be used as a precondition for **Caller Id** function. If input is used as a precondition, input must be active AND Caller ID number must be met to activate selected output.
- **Input 1 mode:** Different mode of possible input configuration:

  1. Normally open – negative triggered: Input activation with negative voltage (GND).

  2. Normally closed: Input activation when breaking positive or negative voltage loop.

  3. Normally open – positive triggered: Triggered with positive voltage (+ 12V DC).

  4. Not used: Alarm input disabled.

  5. Normally open – negative triggered – SMS on restore: Same as option 1 + unit send restore SMS when alarm conditions on input are ceases to exist.

  6. Normally closed – SMS on restore: Same as option 2 + unit send restore SMS when alarm conditions on input are ceases to exist.

  7. Normally open – positive triggered – SMS on restore: Same as option 3 + unit send restore SMS when alarm conditions on input are ceases to exist.
- **Input 1 time delay before sending SMS (seconds):** Minimum required time of stable condition on alarm input to be acknowledge as valid alarm event, SMS notification is send out after valid alarm condition.
- **Input 2 mode:** Different mode of possible input configuration:

  1. Normally open – negative triggered: Input activation with negative voltage (GND).

2. Normally closed: Input activation when breaking positive or negative voltage loop.

3. Normally open – positive triggered: Triggered with positive voltage (+ 12V DC).

4. Not used: Alarm input disabled.

5. Normally open – negative triggered – SMS on restore: Same as option 1 + unit send restore SMS when alarm conditions on input are ceases to exist.

6. Normally closed – SMS on restore: Same as option 2 + unit send restore SMS when alarm conditions on input are ceases to exist.

7. Normally open – positive triggered – SMS on restore: Same as option 3 + unit send restore SMS when alarm conditions on input are ceases to exist.

- **Input 2 time delay before sending SMS (seconds):** Minimum required time of stable condition on alarm input to be acknowledge as valid alarm event, SMS notification is send out after valid alarm condition.

Output SMS notification labels:

- **Location identification:** Head od the SMS text idetifying the location/name of the unit.
- **Input 1 identification:** Naming for Input 1 alarm event.
- **Input 2 identification:** Naming for Input 2 alarm event.

8.12 ADMINISTRATION

Administration tab allows user to enable advanced settings: notification of unauthorized access, periodic test messages, lock down of the unit…

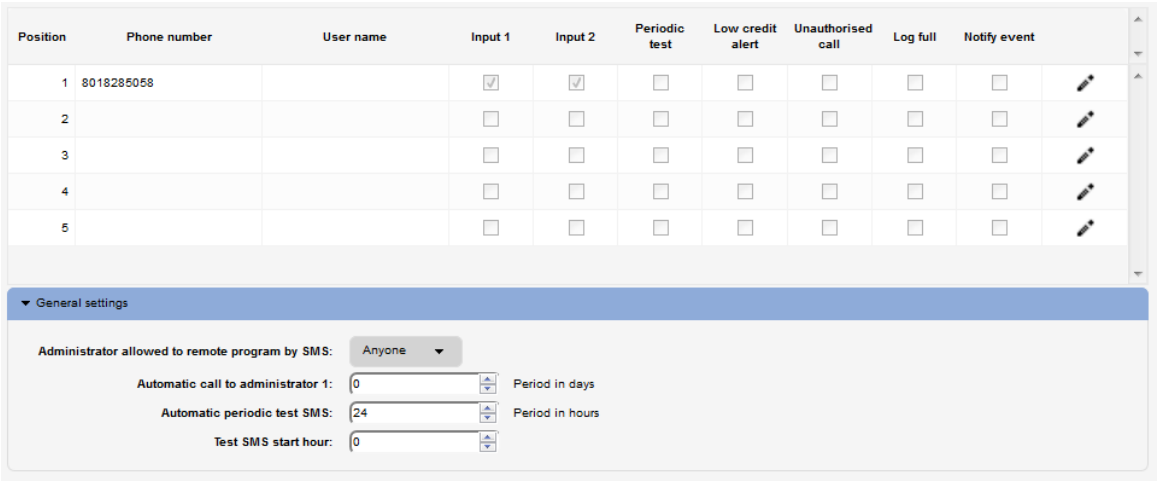

Figure 16: WEB Server-Notification numbers

- **Phone number**, **User name:** Phone number and user name of the user that will be receiving notification messages.
- **Input 1, Input 2:** If on input lines 1 & 2 if alarm condition is meet, users with check boxes will receive alarm notification SMS.

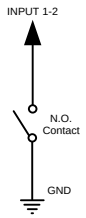

Figure 17: WEB Server-Input alarm configuration

- **Periodic test:** User can receive periodic (keep-alive) SMS, tick the check box for the appropriate user. Timer period is defined under parameter **Automatic periodic test SMS**, it is definable in hours.
- **Low credit alert:** In case of prepaid SIM card the unit can notify the user if the credit on the SIM card is low. To enable notification SMS tick the check box in corresponding position. Note that additional input in the **Misc** tab is needed to fully enable credit checking function.

- **Unauthorized call:** In case of unauthorized call the unit can notify user. To enable notification SMS tick the check box in corresponding position.
- **Log full:** Administrator can receive a SMS when LOG event buffer gets at a critical full level.
- **Notify event:** Selection of administrators that will be notified if the notification event is enabled in Temporary pin access tab or Pin access tab.

- **Administration allowed to remote program by SMS:** By selection this option the user can "Lock down" the GSW2 EXIO unit, preventing any unauthorized user to change any configuration on the unit.
- **Automatic call to administrator 1:** To prevent SIM card provider to lock out the SIM card from the network, user can define a periodic call out to telephone number under position 1. Parameter is defined in days (It is not mandatory to set this parameter).
- **Automatic periodic test SMS:** Definition of Time Out for periodic SMS sending.
- **Test SMS start hour:** Periodic SMS, first send-out hour.

8.13 EVENT LOGGING

GSW2 EXIO unit itself supports up to 20000 log events entry. These log events can be pull up to the server by clicking **Read Log** button in the "Event Log" tab. Events are listed in the table.

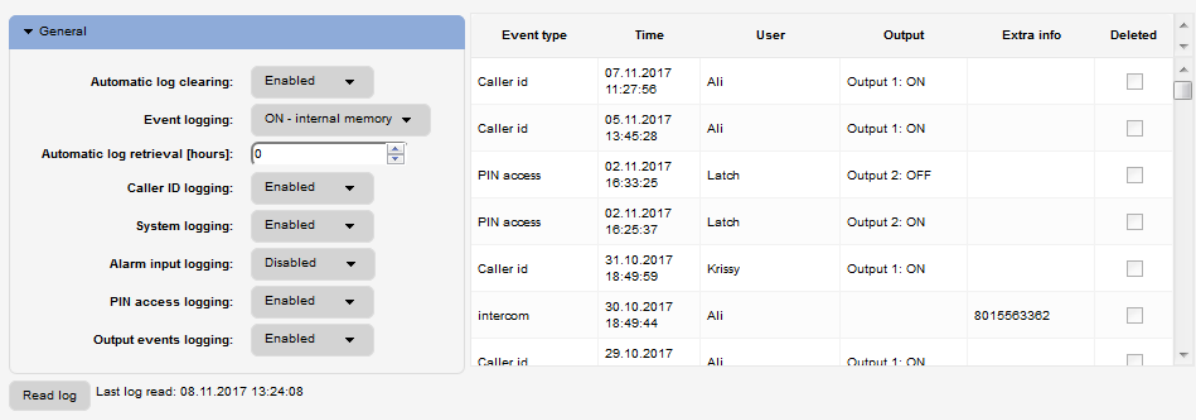

Figure 18: WEB Server-Log event

Each event is equipped with the event type, time, output if triggered and the user name of the user responsible for the event.

If user names are available (Called ID #, PIN codes, Intercom user …) user name will be shown in the user column.

- **Automatic log clearing:** Behavior if the internal LOG buffer on the unit is FULL of events, unit can CLEAR events or STOP recording new events.
- **Event logging:** User can select between, not logging, logging to internal memory (unit) or optional sending events over units USB connection to the external PC.
- **Automatic log retrieval:** Definition of Time Out period for unit to upload LOG events to the WEB server.
- **Caller ID logging:** Enable/Disable logging of the Caller ID # events.
- **System logging:** Enable/Disable logging of special system evens.
- **Alarm input logging:** Enable/Disable logging for input alarm events.
- **Pin access logging:** Enable/Disable of the Pin access and Temporary pin access events.
- **Output events logging:** Enable/Disable of the events triggering the outputs (Timer, Intercom, …)

NOTE	After events are read and stored to the server, the local copy on the unit gets deleted.

8.14 MISC

This tab is split into 2 sections.

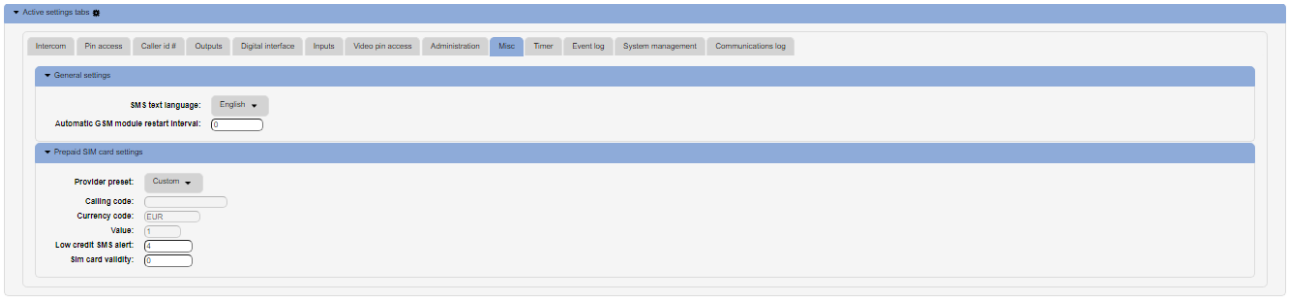

Figure 19: WEB Server-Misc

General settings can be found:

- **SMS text Language**: define the language of the SMS information send out. User can select appropriate language in drop-down menu.
- **Automatic GSM module restart interval:** User can select GSM module restart interval (hours) if needed (Not advisable to use this parameter if not advised otherwise).
- **Self-updating clock:** Parameter is used to allow unit to synchronize to real time. To have the correct time along in log event it is advisable to enable this function.

Prepaid SIM card setting is used the enable credit checking/parsing in case if prepaid SIM card is used. User can select the proper setting by selecting used SIM card provider in the drop down menu in **Provider preset.**

9 WIEGAND INTERFACE DATA FORMATS

GSW2 EXIO unit support standard Wiegand interface, it will work with Wiegand 26bit and Wiegand 30bit protocol and others.

9.1 WIEGAND 26 BIT, DIFFERENT DATA FORMATS

Possible data format:

Mode 0: All 24bit of data are used a decimal representation, no option for facility code

P	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**24Bit card number**																							**Parity**

	Limits
Card Number	0 - 16777215
Facility Number	None

Table 3: Wiegand 26: Mode 0.

Mode 1: 24bit of data is divided between facility code 8 bits and 16bits for card number

P	F	F	F	F	F	F	F	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**8Bit card facility number**								**16Bit card number**															**Parity**

	Limits
Card Number	0 - 16777215
Facility Number	NOT USED

Table 4: Wiegand 26: Mode 1.

Mode 2: 24bit of data is divided between facility code 8 bits and 16bits for card number

P	F	F	F	F	F	F	F	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**8Bit card facility number**								**16Bit card number**															**Parity**

	Limits
Card Number	0 - 16777215
Facility Number	0 - 255

Table 5: Wiegand 26: Mode 2.

Mode 3: Sections of 4bit data are used as decimals values for number

P	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**Dec. 6**				**Dec. 5**				**Dec. 4**				**Dec. 3**				**Dec. 2**				**Dec. 1**			**Parity**

	Limits
Card Number	0 - 99999
Facility Number	None

Table 6: Wiegand 26: Mode 3.

9.2 WIEGAND 30 BIT, DIFFERENT DATA FORMATS

Possible data format:

Mode 0: All 30bit of data are used a decimal representation, no option for facility code

P	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**28Bit card number**																											**Parity**

	Limits
Card Number	0 - 268435455
Facility Number	None

Table 7: Wiegand 30: Mode 0.

Mode 1: 30bit of data is divided between facility code 8 bits, 16bits for card number and 4bits of unused data.

P	0	0	0	0	F	F	F	F	F	F	F	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**Not used**				**8Bit facility number**								**16Bit card number**															**Parity**

	Limits
Card Number	0 - 16777215
Facility Number	NOT USED

Table 8: Wiegand 30: Mode 1.

Mode 2: 28bit of data is divided between facility code 8 bits, 16bits for card number and 4bits of unused data.

P	0	0	0	0	F	F	F	F	F	F	F	F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**Not used**				**8Bit facility number**								**16Bit card number**															**Parity**

	Limits
Card Number	0 - 16777215
Facility Number	0 - 255

Table 9: Wiegand 30: Mode 2.

Mode 3: Sections of 4bit data are used as decimals values for number

P	0	0	0	0	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	**P**
Parity	**Not Used**				**Dec. 6**				**Dec. 5**				**Dec. 4**				**Dec. 3**				**Dec. 2**				**Dec. 1**			**Parity**

	Limits
Card Number	0 - 99999
Facility Number	None

Table 10: Wiegand 30: Mode 3.

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