

Caller ID and Wiegand access control device





# **USER MANUAL**



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#### **Contacts**

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# 1. FOR YOUR SAFETY

#### **SWITCH ON SAFELY**

Do not switch the unit on when use of a 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. 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

EIS-R (EIS) is a simple GSM intercom communication system designed to be a low-cost, reliable, single box solution for intercom application that is simple to install, and simple to use,

It is designed for unlimited range, wire-free GSM intercom, pin code access, caller ID control and Wiegand access support.

### 3. EIS-R FEATURES AND APPLICATIONS

### **Key Features**

- Built-in 5 band GSM module
- 1 intercom call button (supports 5 numbers)
- Caller ID numbers control (up-to 1000 caller ID numbers) Up to 100 temporary SPIN access codes
- Up to 1000 PIN access codes
- · 2 x Input Wiegand receiver
- 2 outputs (relay supported)

### **Programming Options**

Programming by Web server

## **Typical Applications**

- Single box, wire free intercom solution
- Remote gate opener Caller ID number recognition
- Simple (Wiegand) access system



### 4. START UP

EIS unit accepts a micro 4G GSM Sim card provided with the unit.

# VERY IMPORTANT

Use ONLY the Micro SIM card provided with the EIS-R. No other SIM cards are supported



- Connect power cable to EIS unit (YOU MUST POWER THE EIS UNIT WITH THE POWER SUPPLY INCLUDED). Do not power with any other power supply.
- Power up the unit.
- Wait until LED1 (Blue) starts flashing. This is set in around 30 45 seconds.
- EIS unit is now ready to operate.

**NOTE** 

EIS device will "beep" in 15s interval until the device is not in normal operation.

### 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 (1/2s) ON and a long pulse (5s) OFF.



### 6. CONNECTION DIAGRAM

Before connecting the EIS-R, please take a look at connection diagram.

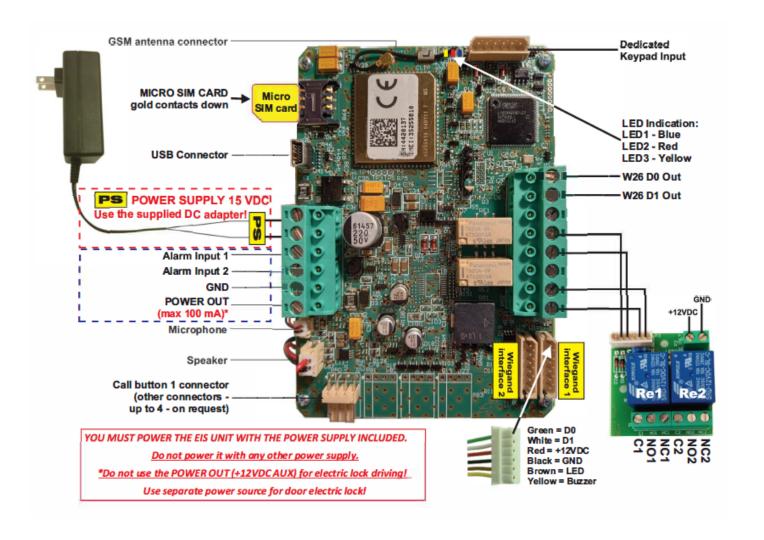


Figure 1: EIS-R: Connection diagram

**IMPORTANT** 

DO NOT USE Power out (12V AUX) to power electric locks! Use a separate power source for electric door locks!



### 7. EIS MANAGEMENT

Unit supports different types of management (programming):

- Unit can be programmed remotely by using WEB server access.
   Access it by EISWARE.com
- EISWARE APP on IPHONE or ANDROID
   Must have data plan enabled to get data transfer on either platform.

### 8. EIS FUNCTIONS with PROGRAMMING INSTRUCTIONS

 Unit can be programmed with the use of EISWare, the web-based online browser interface.

**IMPORTANT** 

The SIM card in the EIS-R unit MUST have a DATA PLAN to be able to use WEB programming!

### 8.1 WEB SERVER - LOG IN

Visit https://www.eisware.com/ to access the web server.



Figure 2: 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 a social login like Facebook, Google account or Twitter. If user lacks any of the social profiles they can proceed to the Sign UP page using standard user name and password entry.

NOTE

Server supports the following browsers:
Firefox, Google Chrome, Safari.

#### 8.2 WEB SERVER - ADDING UNITS TO USER PROFILE



Figure 3: WEB Server-Main page select ADD mode

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

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



Figure 4: WEB Server-Main page adding EIS units





User then provides required data:

#### **Mandatory Information:**

- 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 EIS.
- Phone Number: The telephone number of the SIM card in the EIS unit - mandatory data.

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

#### **Optional Information:**

**Location:** Notification field, used by the user to provide extra data for its own information

NOTE: First building of the unit data-base may take a few minutes. It will give you a dialog box.

### **8.3 WEB SERVER-UNIT MANAGEMENT**

After the EIS 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 send to the unit. User can (revert) all changes made, before sending, by clicking (Revert all) or select particular entry and revert it.



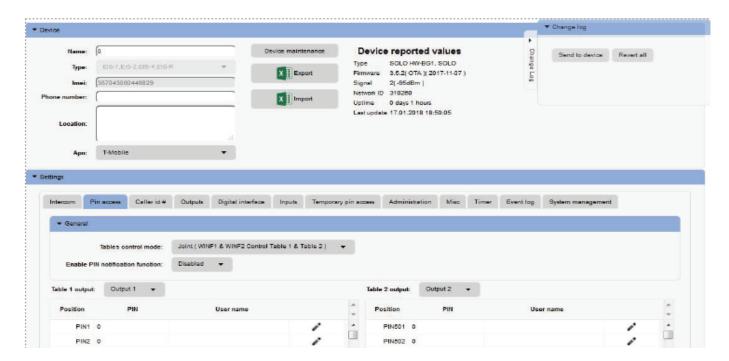


Figure 5: WEB Server-Unit management window

#### 8.4 INTERCOM CONFIGURATION

The primary function of the EIS-R unit is intercom support. Placing a call is done by pressing the call button on the front of the EIS R.

This will start a voice call procedure from Phone number 1 through 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.

\*\* To terminate the call press any button.

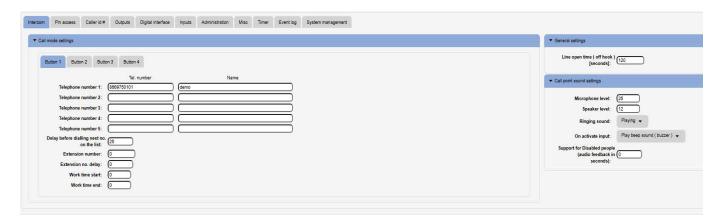


Figure 6: Web Server-Intercom settings



#### Intercom management parameters:

- **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.

#### Voice call setting

- 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.



#### 8.5 WIEGAND ACCESS

EIS unit has onboard support for 2 Wiegand output based device. With the use of external replicator more Wiegand devices can be connected to the unit.

Configuration of first Wiegand interface is found in Digital interface tab. First Wiegand interface can be found on board with a dedicated Wiegand connector and cables.

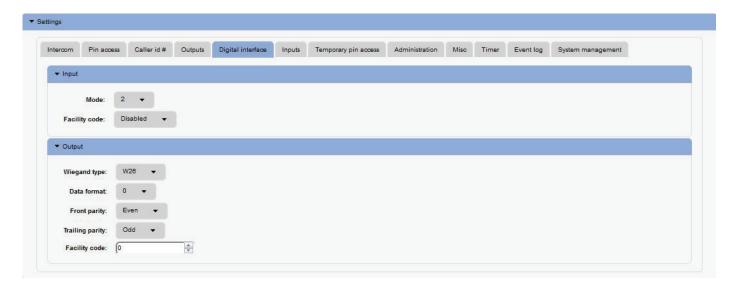


Figure 7: Web Server-First Wiegand interface support.

- Mode: Select appropriate data formatting (See advance settings section if needed, mode 2 is most common setting)
- Facility code: User can *Enable* or *Disable* facility code field.



Second Wiegand interface is shared with alarm input lines, user must select Wiegand in **Input operation mode** found in the **Inputs** tab.

Additional settings for Wiegand interface input are found in **Wiegand input 2** configuration sections.





Figure 8: WEB Server-Wiegand interface support.

- Mode: Select appropriate data formatting (See advance settings section if needed, mode 2 is most common setting)
- Facility code: User can Enable or Disable facility code field.

Wiegand devices can be defined in two sections. First section is permanent pin codes and second is temporary pin codes - limited by the number of use.

NOTE

See Chapter 9-WIEGAND INPUT DATA FORMATS for detailed explanation of different data format options.

**IMPORTANT** 

Unit MUST be restarted when switching between *Normal* and *Wiegand* mode in the **Input operation mode**.

Permanent use: devices are added in Pin access tables.

They are placed in two tables. For each table user can define which output they will trigger.



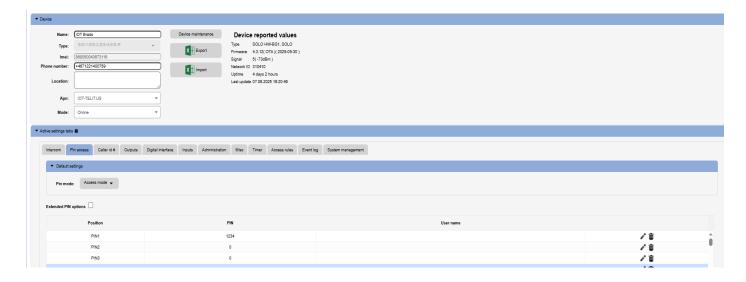


Figure 9: Web Server-Adding Wiegand devices for permanent use.

**PIN entry:** For each PIN entry user needs to select PIN code value and optional User name. Extended pin codes are placed using the **Extended PIN options** checkbox as seen below.

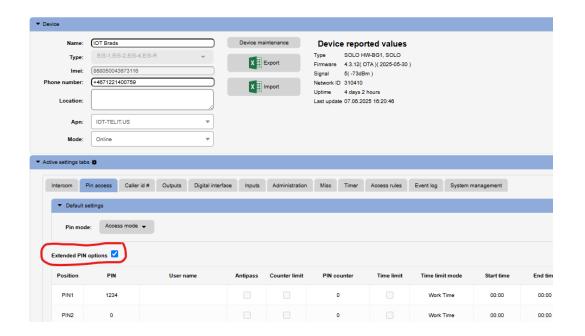


Figure 10: Web Server-Adding Wiegand devices for temporary use using **Extended PIN options** checkbox.



- Extended PIN codes activate output: Allows selection of the output that will be triggered in case of correct Extended PIN code.
- **Extended PIN entry:** For each extended PIN entry user needs to select appropriate values.

Extended PIN options	Description
Extended PIN value	Extended PIN code
User name	Name of the user
Notify	With Extended PIN code, administrator numbers CAN be notified
Counter limit	Enable/Disable counter limitation (consecutive use)
Timer limit	Enable/Disable timer limitation
Timer mode	Timer limit mode: Day limit (day limitation), Timer limit
	(hours of a day access limitation)
Rules valid on weekend	Enable/Disable timer limitation for weekend days
Counter	Number of allowed use of Extended PIN code
Timer start/Timer end	Bottom and Top timer limitation

Table 1: Web Server-Extended PIN entry parameters.

### 8.6 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 EIS unit trigger defined output.

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

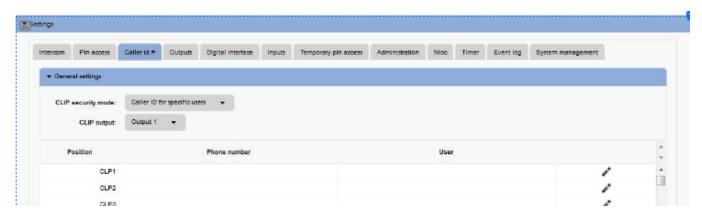


Figure 11: WEB Server-Caller ID Access



#### **General Settings:**

 Caller ID Security Mode: Defines how the system handles incoming calls for access control.

The user can select from three modes:

Caller ID Disabled – Deactivates the Caller ID function; no numbers are permitted. Caller ID for Specific Users – Only phone numbers listed in the system are allowed to trigger outputs.

Caller ID Always ON – Any caller who knows the unit's number can trigger the output,

- regardless of whether they are listed. Use this setting with caution.
- Caller ID Output: Specifies which output is activated when a valid call is received.

**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.

#### 8.7 OUTPUTS SETTINGS

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

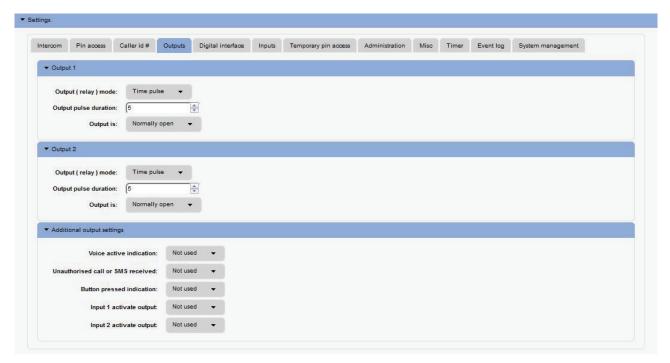


Figure 12: WEB Server-Output setting



#### **Output 1 - Settings for output 1:**

- Output (Relay) Mode: The user can select from three available options:
   Disable The output remains deactivated at all times.
   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: The output can operate in either normal or inverted (normally closed) mode.
   Normally Open In idle mode output pins are in open position.
   Normally Closed In idle mode output connection are closed.

#### **Output 2 - Settings for 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 are closed.

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

- **Voice active indication:** When unit reaches voice connection (intercom call) output defined under this section gets activated.
- **Unauthorized call or SMS received:** If unauthorized call or SMS is received on the unit this event will activate output defined under this section.
- **Button pressed indication:** When intercom call button is pressed output defined under this section gets activated.
- **Input 1 activate output:** If input 1 is in alarm mode (**Input operation mode:** Normal mode selected) alarm input event on the input will activate output defined under this section.
- **Input 2 activate output:** If input 2 is in alarm mode (Input operation mode: Normal mode selected) alarm input event on the input will activate output defined under this section.

NOTE

Due to limitation of the outputs use additional outputs settings with care.



#### 8.8 EIS WIEGAND OUTPUT INTEGRATION

EIS unit can be integrated into a bigger access system using a Wiegand interface. In this case numbers calling the unit will be transferred, over Wiegand interface, to access system.

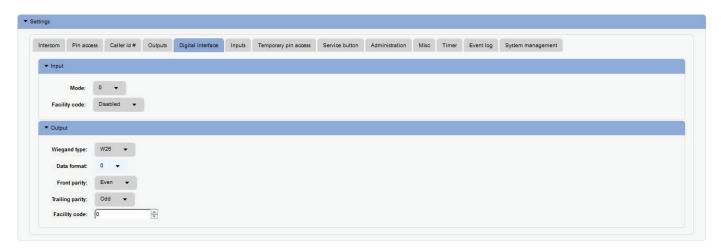


Figure 13: WEB Server-Wiegand Output settings.

Configuration of the Wiegand output interface

- Wiegand Type: Type of the Wiegand used (W26 is most common setting)
- Data format: Format of data set on the selected Wiegand type.
- Front parity, trailing parity: Selection of the proper parity in selected Wiegand type.
- Facility code: Is required, user can define facility code to Wiegand data.



### 8.9 TIMER/TIMED CONTROLLED OUTPUT

EIS 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.

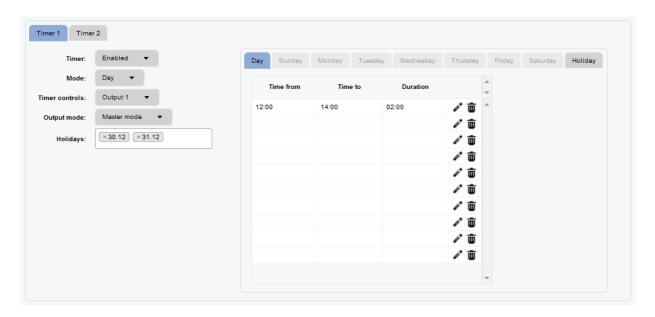


Figure 14: WEB Server-Timer setting - Day mode.

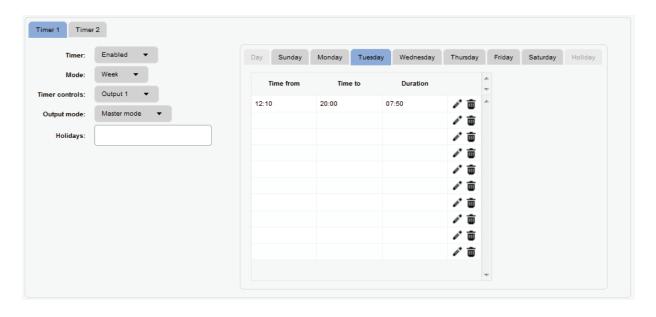


Figure 15: WEB Server-Timer setting - Week mode.



#### **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. Output1 or Output2
- Output mode: Output mode management definition.

OUTPUT mode	Description
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.
Slave mode	The behavior of the outputs (Time pulse or Latching mode) is defined in the 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.



#### 8.10 ADMINISTRATION

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

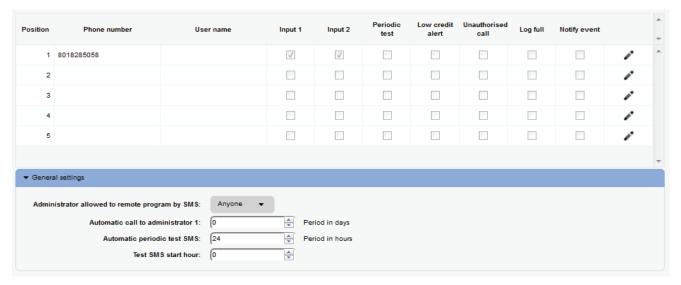


Figure 16: Web Server-Notification numbers

- Phone number, User name: Specifies the phone number and user name of the user designated to receive notification messages.
- Input1, Input2: If input lines 1 & 2 are defined in alarm mode (Input operation mode: Normal mode) and if alarm condition is meet, users with check boxes will receive alarm notification SMS.

Figure 19: 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 EIS 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.

#### 8.11 EVENT LOGGING

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

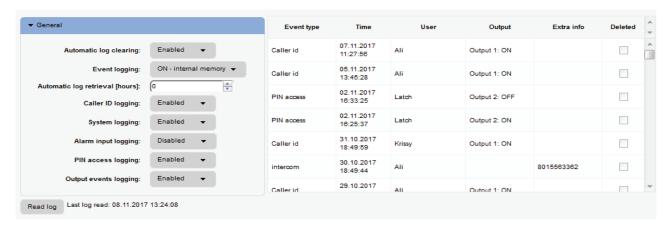


Figure 17: WEB Server-Log event

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.

#### 8.12 MISCELLANEOUS

This tab is split into 2 sections.

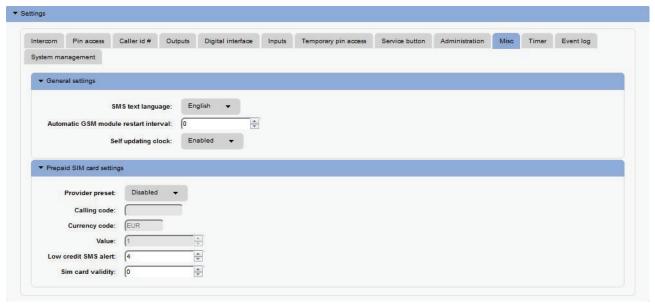


Figure 18: WEB Server-Misc.



#### 8.13 PIN ACCESS NOTIFICATION FUNCTION

This function is used to notify administrator when a selected pin code is being used. Notification is done by SMS send to the selected administrator numbers.

Global enabling of the notification function is done in 2. Steps:

STEP 1: User has to select Enable option in the Enable Pin Notification function.

STEP 2: Send the configuration to the device!!

This procedure is ONLY done 1 time when enabling this function.

- 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.

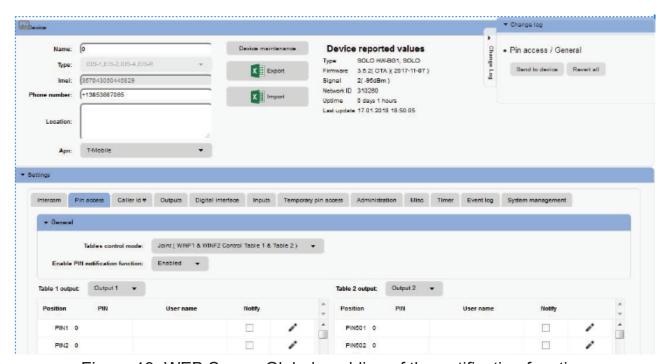


Figure 19: WEB Server-Global enabling of the notification function.

After the notification function is enabled, user can select which pin code will send the notification SMS. This is done by placing a tick in the check box of the pin code notify field.



The last step is selecting a number that will be receiving the notification SMS. Selecting is done in the **Administration** tab. In the **Notify PIN** column put a tick in the check box for the appropriate phone number, multiple choices are possible.

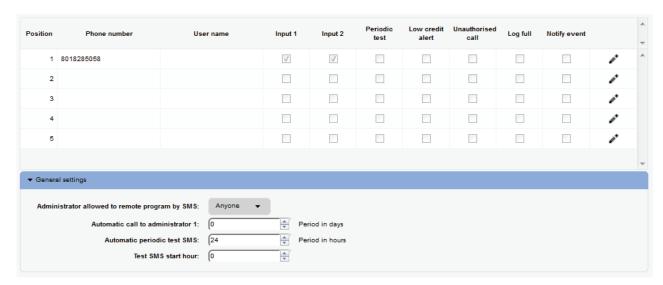


Figure 20: WEB Server-Selecting administrator numbers for notification.

#### 9 WIEGAND INPUT DATA FORMATS

EIS units support standard Wiegand interface, it will work with Wiegand 26-bit and Wiegand 30-bit protocol. On each Wiegand protocol EIS unit support 4 different data formats, they all can be selected through all possible management systems.

Selecting the appropriate data format for FIRST Wiegand interface is done by connecting the WEB server, selecting the **Digital interface** and in **Input** section selecting proper **Mode** option.

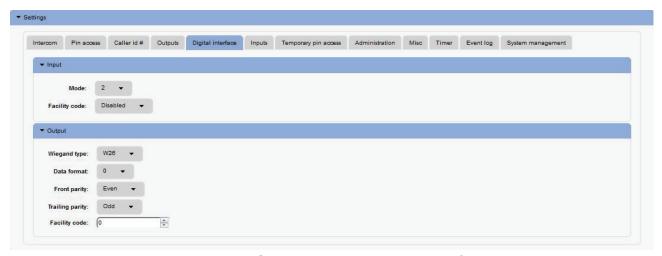


Figure 21: WEB Server-First Wiegand interface support.



Selecting the appropriate data format for SECOND Wiegand interface is done by connecting to the WEB server, selecting the **Input tab** and in **Wiegand input 2 configuration** section selecting proper **Mode** option.

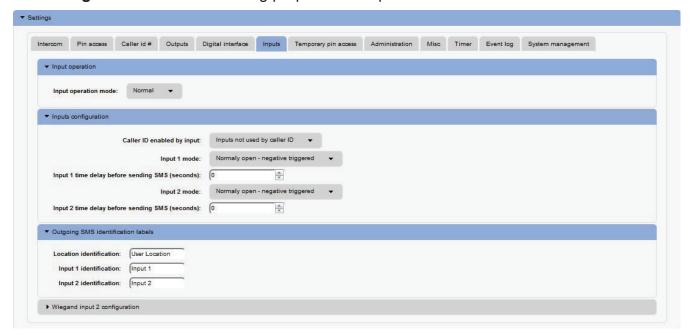


Figure 22: WEB Server-Second Wiegand interface support.



# 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

Р	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity										2	24Bit	car	d nu	mbe	r										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

Р	F	F	F	F	F	F	F	F	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		8Bit	car	d fac	cility	num	ber		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

Р	F	F	F	F	F	F	F	F	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		8Bit	car	d fac	cility	num	ber		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

Р	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		De	c. 6	·		De	c. 5	·		De	c. 4			De	c. 3			De	c. 2			De	c. 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

Р	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		·	·		•	•	•	·	•	•	·	•	28Bi	t card	d nur	nber	•	•		•	·	•	•	•	·	·	·	•	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.

Р	0	0	0	0	F	F	F	F	F	F	F	F	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		Not	usec	-		8	Bit f	acilit	y nu	mbe	r								16Bit	card	l nun	nber							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.

Р	0	0	0	0	F	F	F	F	F	F	F	F	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		Not	used	I		8	BBit f	acilit	y nu	mbe	r								16Bit	card		nber							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

Р	0	0	0	0	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	В	Р
Parity		Not I	Used	t		De	c. 6			De	c. 5			De	c. 4			De	c. 3			Dec	c. 2			Dec	c. 1		Parity

	Limits
Card Number	0 - 99999
Facility Number	None

Table 10: Wiegand 30: Mode 3.



#### TRANSMITTER SOLUTIONS WARRANTY

The warranty period of this Transmitter Solutions product is twenty-four (24) months. This warranty shall begin on the date the product is manufactured. During the warranty period, the product will be repaired or replaced (at the sole discretion of Transmitter Solutions) if the product does not operate correctly due to a defective component. This warranty does not extend to (a) the product case, which can be damaged by conditions outside the control of Transmitter Solutions, or (b) battery life of the product. This warranty is further limited by the following disclaimer of warranty and liability:

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