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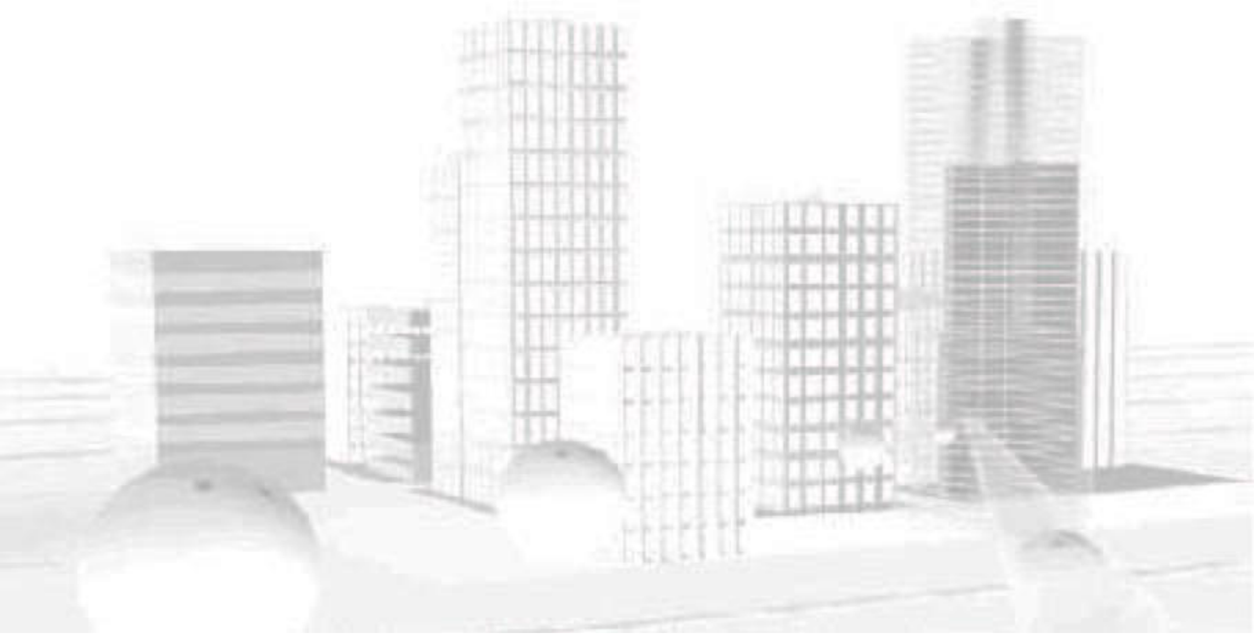
GEMOS

2N IP Intercoms driver



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1 Installation

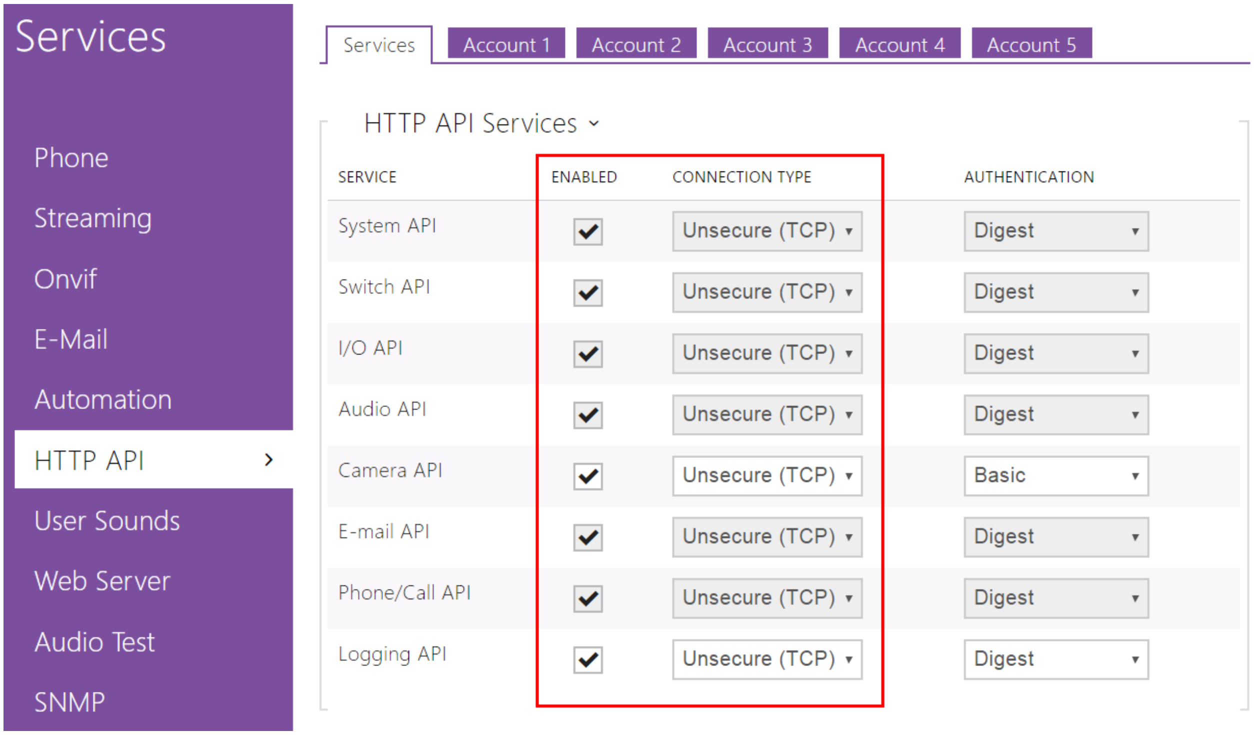
This chapter contains information useful when installing 2N intercom driver in GEMOS system. For legacy reasons manual may refer to Helios series, which currently is just called IP intercoms from 2N.

1.1 Compatibility

According to the manufacturer's documentation (2N), the interface should be compatible with all IP series intercoms. Available functionality in GEMOS may vary depending on which devices (intercoms, modules) and which licenses will be purchased. The interface was created based on the Verso intercom with the firmware version 2.17, but some features added later require newer versions. It is generally recommended to use the latest available firmware version and report any problems.

1.2 Configuration of intercoms

Each intercom must be visible in the LAN, reachable from the GEMOS server and equipped with the **Enhanced Integration** or **Gold** license. When configuring through it's website, the **HTTP API services should be activated** in every intercom as shown below.

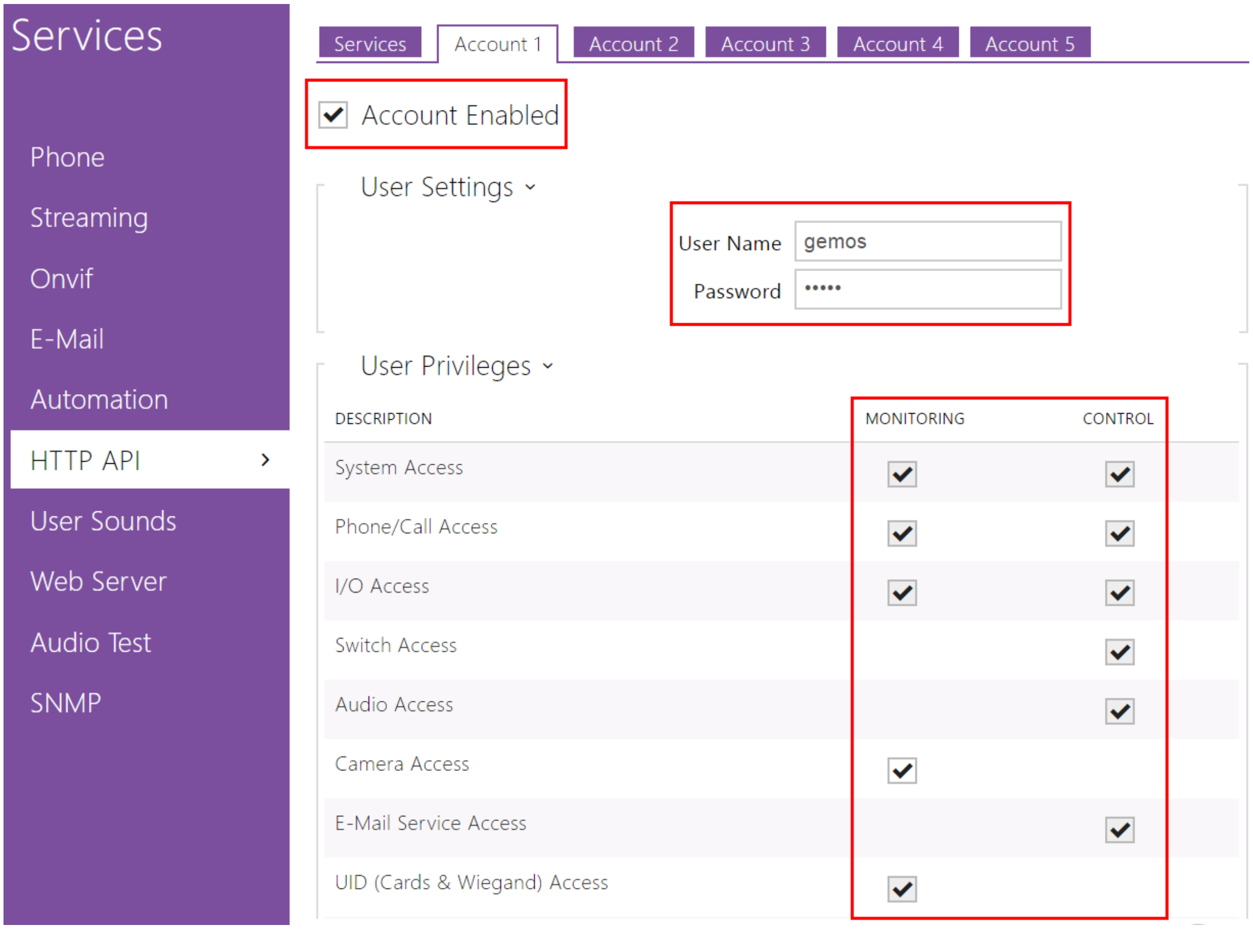


SERVICE	ENABLED	CONNECTION TYPE	AUTHENTICATION
System API	☑	Unsecure (TCP)	Digest
Switch API	☑	Unsecure (TCP)	Digest
I/O API	☑	Unsecure (TCP)	Digest
Audio API	☑	Unsecure (TCP)	Digest
Camera API	☑	Unsecure (TCP)	Basic
E-mail API	☑	Unsecure (TCP)	Digest
Phone/Call API	☑	Unsecure (TCP)	Digest
Logging API	☑	Unsecure (TCP)	Digest

Figure 1: Activation of HTTP API

As *Connection Type*, all services should have the **same** value: *Unsecure (TCP)* or *Secure (TLS)*. If *Unsecure (TCP)* is selected, communication between the interface and the intercom will be done via the HTTP protocol. If the *Secure (TLS)* option is selected, communication will take place via the HTTPS protocol. As *Authentcation* you can choose any value depending on your needs, the interface automatically supports all options.

Then you should **activate the HTTP API account**, which the driver will use to communicate with the intercom. Make sure that the account has access to all HTTP API services selected, as shown in the following figure:



☑ Account Enabled

User Name: gemos
Password: •••••

DESCRIPTION	MONITORING	CONTROL
System Access	☑	☑
Phone/Call Access	☑	☑
I/O Access	☑	☑
Switch Access		☑
Audio Access		☑
Camera Access	☑	
E-Mail Service Access		☑
UID (Cards & Wiegand) Access	☑	

Figure 2: HTTP API account activation

1.3 Driver configuration

In the interface configuration file (by default *dev_helios.cfg* in the *config* directory of the GEMOS system), the addresses of the intercom should be defined in the form:

```
[helios.1]             ; settings of intercom '1'
address=192.168.1.1    ; IP address or domain name of the intercom

[helios.2]             ; settings of intercom '2'
address=192.168.1.2    ; IP address or domain name of the intercom
```

All other parameters are optional and can be set globally for all intercoms (in the `[helios]` section) or separatly for each intercom (eg. in the `[helios.1]` section).

```
[helios]                           ; settings for all intercoms
username=gemos                     ; HTTP API username
password=gemos                     ; HTTP API user password
scheme=https                       ; connection type: http or https
port=443                           ; connection port, 80 or 443 by default
sslVerify=false                    ; should SSL certificate be verified
updateTime=00:00:05                ; how often poll about intercom state
requestTimeout=00:00:05            ; maximum waiting time for a response
subscriptionExpiration=00:00:50    ; time after which renew event subscription
```

The values shown above are the default values used by the driver when they are not explicitly defined in the configuration file. Meaning of the parameters:

- *address* - IP address or domain name of the intercom
- *username* - HTTP API user name defined in the intercom
- *password* - HTTP API user password defined in the intercom
- *scheme* - which protocol should be used to communicate with the intercom: `http` (no encryption) or `https` (encryption)
- *port* - TCP port is automatically selected based on the protocol used (80 for HTTP and 443 for HTTPS). By providing this parameter explicitly, you can overwrite the default port and use a custom one.
- *sslVerify* - parameter is taken into account only in HTTPS mode. If the intercoms have loaded trusted SSL certificates (the computer on which GEMOS operates is able to verify them - by entering the website of the intercom from the server we have a green padlock), you can set this parameter to `true` to increase security.

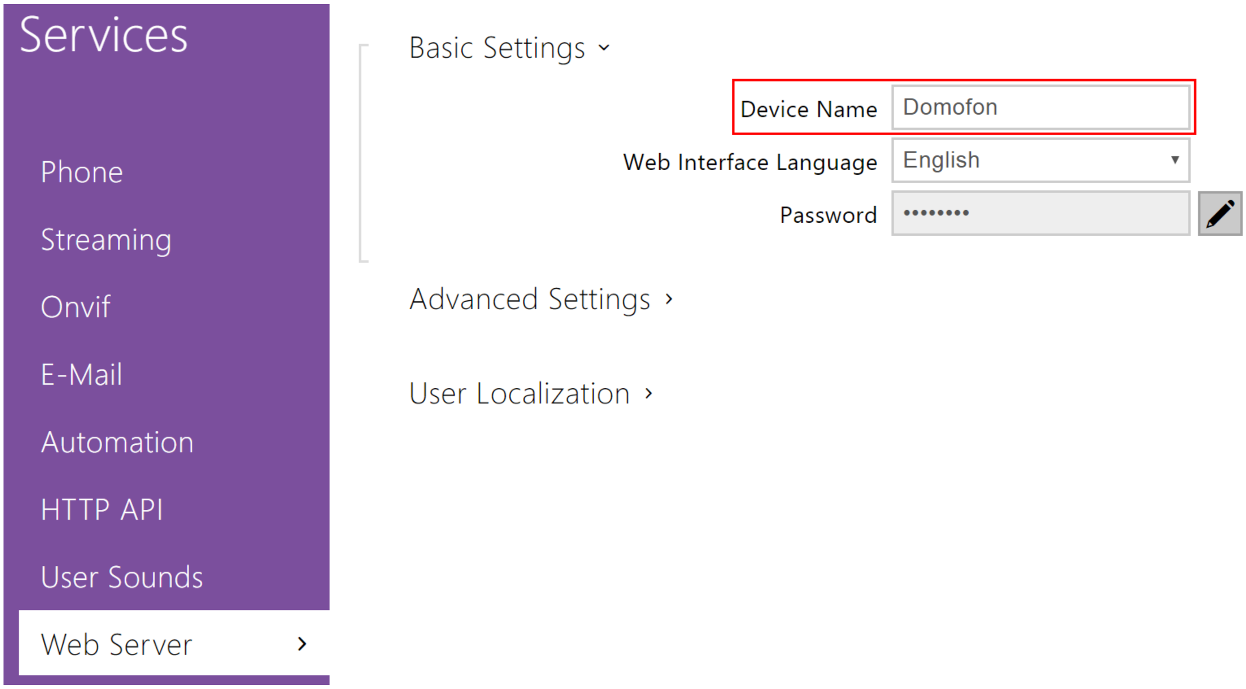
- *updateTime* - driver periodically asks the intercom for the current status. With this parameter, you can control how often you want it to do it.
- *requestTimeout* - the time after which the driver acknowledges that it has not received a response to the request and treats it as an error.
- *subscriptionExpiration* - the driver subscribes to events in the intercom. This parameter determines how often the subscription will be renewed. According to documentation, the subscription must be renewed within a minute, otherwise it will be canceled.

2 Sensors in GEMOS

This chapter contains description of the sensors created in GEMOS by the driver, along with their reported states and accepted commands.

2.1 Intercom sensor

The intercom sensor uses the value from the *Device name* field in the *Web Server* settings as its description. In order to make it easier to identify intercoms in GEMOS sensor tree, it is recommended to give the intercoms unique names.



Device Name: Domofon

Web Interface Language: English

Password: ••••••••

Figure 3: Intercom name setting

Reported states:

Status	Code	Extension	Meaning
Ready	0x301	-	Correct communication
Fault	0x302	-	Communication failure
Free	0x3101	-	Intercom free
Incoming call	0x3103	number	Someone is calling from the number
Outgoing call	0x3104	number	Intercom calls the number
Busy	0x310B	number	Intercom has an active connection

Reported events:

Event	Code	Extension	Meaning
Wrong PIN	0x70031100	entered code	Unknown code entered
Key input	0x70031800	entered code	Valid code entered

Available commands:

Command	Code	Parameter	Meaning
Trigger	0x130	delay*	Reboots the intercom
Insert text	0x221F	text, display time	Displays the text on the screen
Call	0x3104	number, delay*	Dials the given number
Accept call	0x3105	connection id*, delay*	Establishes connection with caller
Busy	0x310B	connection id*, delay*	Rejects caller with busy signal
End	0x3118	connection id*, delay*	Hangs up the call

Comments:

- parameters marked with an asterisk (*) are optional
- parameter *delay* is the time in the format: `hh:mm:ss.fff` (milliseconds can be omitted)
- sending an order with the parameter *delay* will result in delaying execution for a given time
- parameter *delay* can not be longer than 24 hours

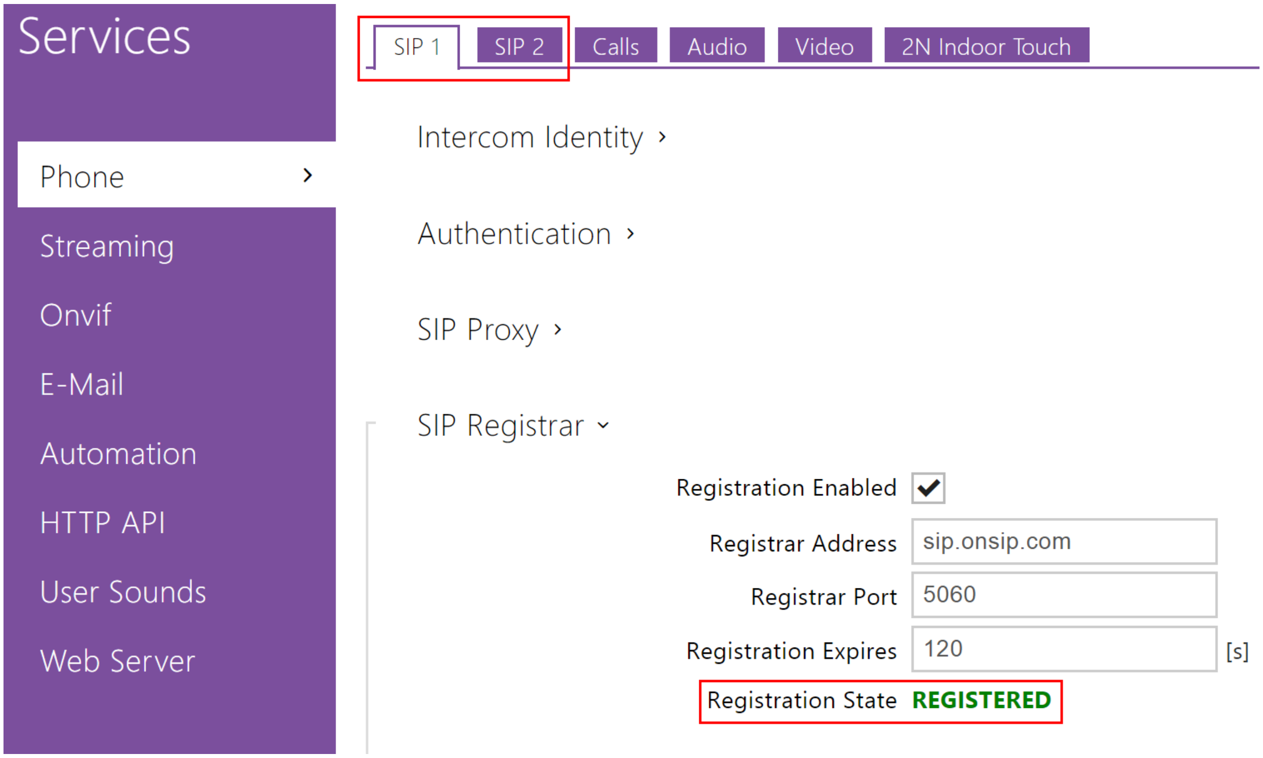
Phone number which should be given in the command *Call* or which is presented as an extension of states *Incoming connection*, *Outgoing connection*, *Busy* does not have to consist only of digits, it all depends on how the SIP server is configured and what number format is used. Instead of phone number, also direct recipient SIP address can be provided (in such case SIP server is not required). Example of *Call* command parameter which uses direct SIP address:

```
sip:john@192.168.1.1:5060
```

In commands *Receive*, *Busy*, *End* the connection id is an optional parameter. If you do not provide it, the first incoming call is picked up or all active calls are disconnected. Currently, the driver does not return call identifiers anywhere, so entering them as a parameter is rather future-oriented.

2.2 SIP account sensor

The driver monitors registration status of all SIP accounts available in the intercom. The current status of SIP accounts can be viewed on the intercom website:



Registration Enabled ☑

Registrar Address sip.onsip.com

Registrar Port 5060

Registration Expires 120 [s]

Registration State **REGISTERED**

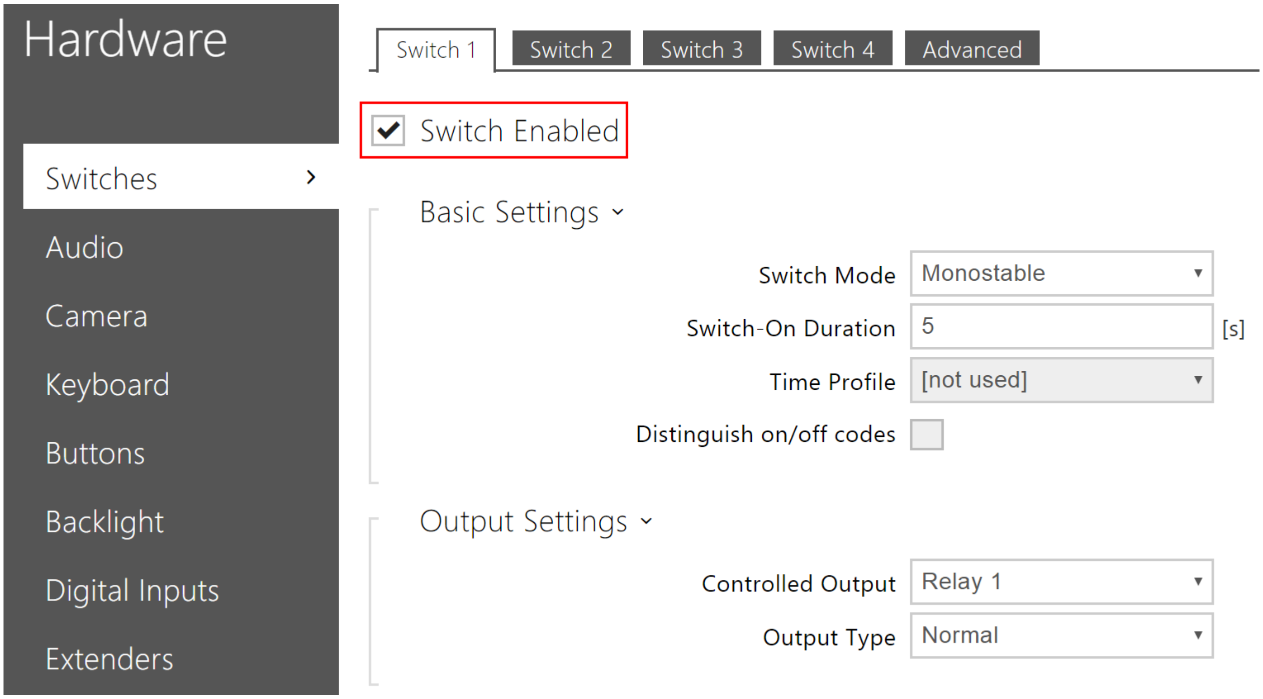
Figure 4: SIP account registration status

Reported states:

Status	Code	Meaning
Ready	0x301	Account registered
Fault	0x302	Not registered
Initialiation	0x304	Registering

2.3 Switch sensor

The driver monitors the states of all switches that can be configured via the intercom website



☑ Switch Enabled

Basic Settings

Switch Mode: Monostable

Switch-On Duration: 5 [s]

Time Profile: [not used]

Distinguish on/off codes: □

Output Settings

Controlled Output: Relay 1

Output Type: Normal

Figure 5: Activation of switches

Reported states:

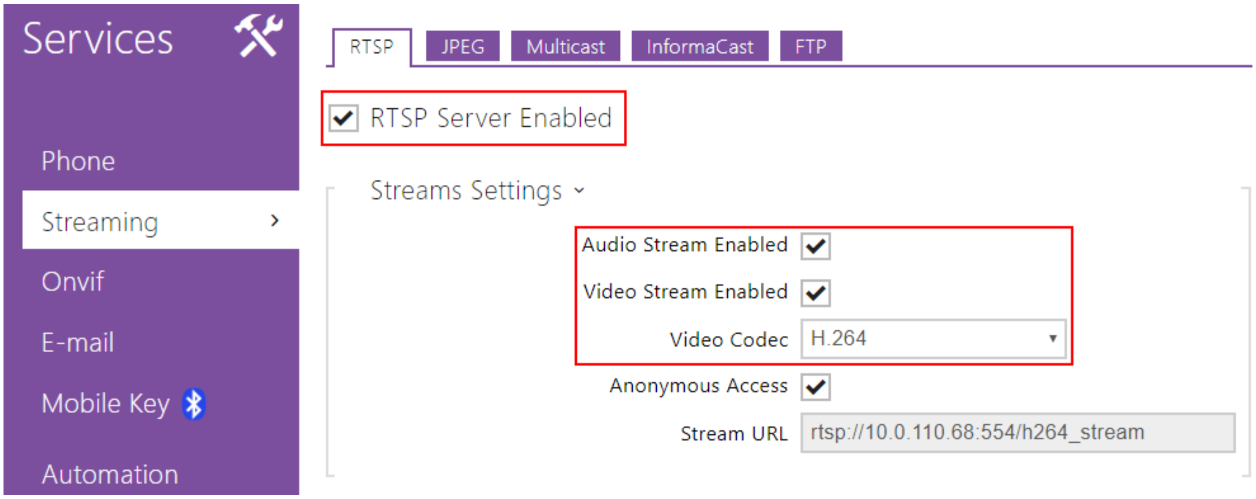
Status	Code	Meaning
Off	0x201	Switch is not active
On	0x202	Switch is active
Enabled	0x401	Switch is enabled
Disabled	0x402	Switch is disabled

Available commands:

Command	Code	Meaning
Off	0x201	Deactivates switch
On	0x202	Activates switch

2.4 Camera sensor

The camera sensor does not change it's state (no information if camera works) and does not accept commands. It's a virtual sensor with operator panel containing video/audio from the intercom (RTSP stream). In order to use this functionality, it is necessary to **install VideoControl component min. version 1.7** on the workstation and activate the RTSP streaming in intercom:



☑ RTSP Server Enabled

Audio Stream Enabled ☑

Video Stream Enabled ☑

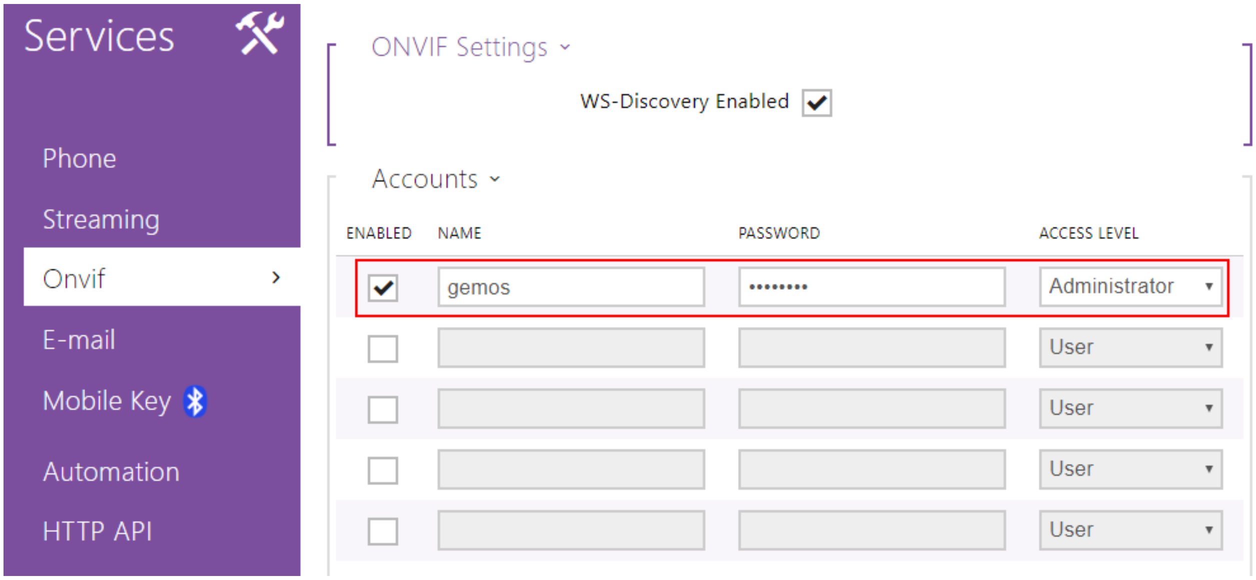
Video Codec H.264

Anonymous Access ☑

Stream URL rtsp://10.0.110.68:554/h264_stream

Figure 6: Activation of the RTSP stream

Access to the video stream can be set as anonymous. In situation when anonymous access was not chosen, a dedicated user account should be created that GEMOS will use for authorization. An account enabling access to the RTSP stream is created in the **ONVIF** tab.



WS-Discovery Enabled ☑

ENABLED	NAME	PASSWORD	ACCESS LEVEL
☑	gemos	••••••••	Administrator
□			User
□			User
□			User
□			User

Figure 7: Set ONVIF login and password

The same login and password should then be entered in the driver configuration file:

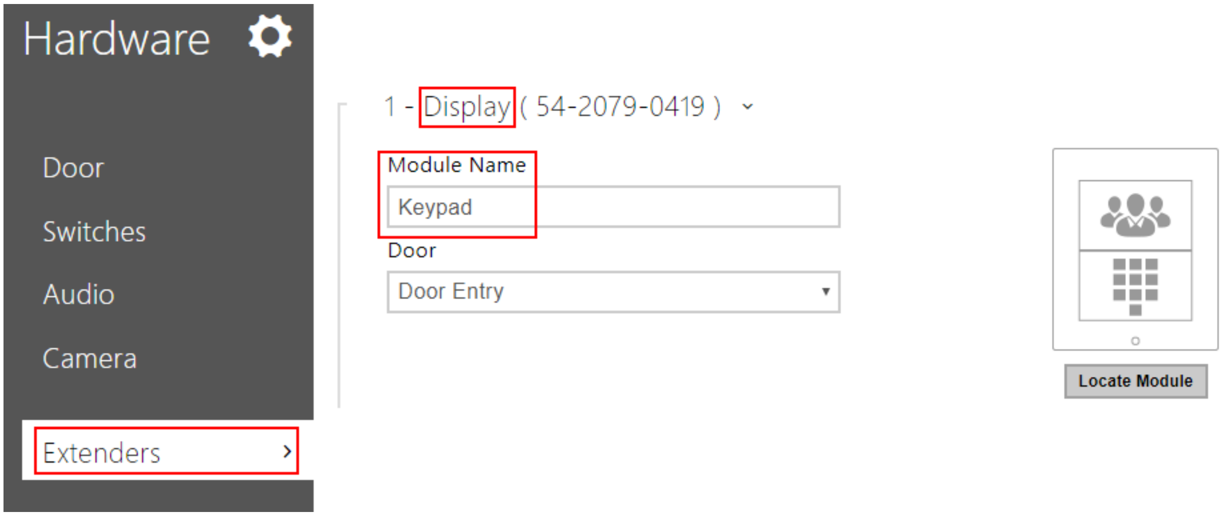
```
[helios.1]
address=192.168.1.1
onvifUsername=gemos
onvifPassword=1234
```

If all intercoms have the same login and password, they can be defined in the configuration globally:

```
[helios]
onvifUsername=gemos
onvifPassword=1234
```

2.5 Display sensor

This sensor represents a display available, for example, in a touch keyboard module. Allows to display any text or image until next user interction with the display or for a specified period of time. The functionality is available **from firmware version 2.21**. To check if the device is equipped with a display or set a name for it, navigate to extension options and locate the module in the list:



1 - Display (54-2079-0419)

Module Name: Keypad

Door: Door Entry

Figure 8: Display settings

Available commands:

Command	Code	Parameter	Meaning
Off	0x201	-	Turns off the text/picture
Insert text	0x221F	text or file name, time	Displays the text/picture

It is possible to display text or image from a previously saved file. In case of text, to break it to a new line, place vertical lines (|) in it. Providing time is optional, without it the text will be displayed until next user interation with the display. Time format expected: `hh:mm:ss`.

Parameter example for the command `0x221F` (Insert text), displaying a two-line message for 10 seconds:

```
Zone 1|Not ready to arm, 00:00:10
```

To display an image, first place it in GEMOS in `resources/dev_helios` directory, and then provide file name in command parameter. Supported formats: PNG, JPG, BMP. Command parameter example:

```
image.png, 00:00:10
```