DIVUS OPENDOOR

OPENDOOR manual

Version 3.0

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GENERAL INFORMATION

DIVUS GmbH
Pillhof 51
I-39057 Eppan (BZ) - Italy

You are always welcome to inform us of errors or make suggestions for improving the program.

The present agreement also applies to special appendices to the manual.

This manual can contain terms and descriptions, which inproper use by third can harm the copyrights of the au-thor.

Please read the manual before beginning and keep the manual for later use.

The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

CONVENTIONS

[KEYS]	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
COURIER	On-screen messages are given in the Courier font, e.g. C:\>
COURIER BOLD	Keyboard input to be made by the user are given in Courier bold, e.g. C:\>DIR).
„…"	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. "Configuration").
PICTOGRAMS	In this manual, the following symbols are used to indicate particular text blocks.
	Caution! A dangerous situation may arise that may cause damage to material.
	Hint Hints and additional notes
	New New features

SAFETY INSTRUCTIONS

The present operating instructions contain those safety instructions that are required to safely operate the machine.

All persons working with the machine must heed the present operating instructions, especially the safety instructions.

In addition, all local stipulations governing the prevention of accidents must be heeded.

Only trained and authorized personnel may **INSTALL AND OPERATE** the machine.

PROPER APPLICATION: The machine has been designed for application inside the building automation and must not be used to control security functions.

The machine has been built using state-of-the-art technology and all applicable safety regulations. However, damage or negative effects to the machine or other material cannot be excluded if the machine is operated.

The machine meets the requirements of the EMC guidelines and of the harmonized European standards. Modifications to the machine hardware may affect the system's EMC compatibility.

Without special protection measures, the machine must not be used in EX areas and in plants that require special monitoring.

Danger of explosion. Do not expose the buffer batteries to heat. Serious injury may be the result.

The operating voltage of the machine must be within the specified range! The product label provides the required information.

Empty conduit pipe connections from inside a room to outside (e.g. to connect blinds or shutters) must be sealed air tight after completing installation.

STANDARDS

The **DIVUS** OPENDOOR meets the following guidelines and standards:

EMC Directive 2014/30/EU (ex 89/336/CEE – 92/31/CEE – 93/68/CEE – 04/108/CE)
Standard(s) to which conformity is declared:

- DIN EN 55011:2011-04   Industrial, Scientific And Medical Equipment - Radio-frequency Disturb-ance Characteristics

- DIN EN 55022:2011-12   Information Technology Equipment - Radio Disturbance Characteristics

- DIN EN 61000-6-2:2011-06   Immunity standard for industrial environments

- DIN EN 61000-6-3:2012-11   Emission standard for residential, commercial and light-industrial envi-ronments

RoHS2 Directive 2011/65/EU (ex 02/95/EC)
Standard(s) to which conformity is declared:

- DIN EN 50486   Equipment for use in audio and video door-entry systems

The installation and wiring instructions contained in this documentation must be heeded. Conformity is indicated by the attached CE label.

The EC conformity statements can be obtained from:

DIVUS GmbH
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1   Introduction

1.1   1.1 PRESENTATION

The OPENDOOR products were designed for VoIP technology, therefore they communicate over Ethernet. The product range contains finished standalone solutions (AUDIOCompact, VIDEOCompact) as also compact modules, which can be mounted into the own design (OD-Sip Plus, OD-Cam). Different accessories like for example an anti-sabotage surveillance is also available. Beside the use with Videophone, the OPENDOOR door stations can also be used in connection with SIP capable telephone installations, VoIP servers of Internet providers with SIP support or the own VoIP server with SIP support; the SIP standard used by the OPENDOOR door stations makes this possible. In the further course of this manual, the individual appliances and components will be explained:

- OD-Sip Plus

- OD-Cam

- OD-Secure

- OD-Keypad

- OD-Transponder

- OD-Presence

- DIVUS Design

- Accessories

Hints for the usage of OPENDOOR with Videophone are marked with the following sign:

General hints are marked with the following sign:

Hint: More information about the Videophone software can be found in the corresponding chapter.

Following scheme shows an example for the application of OPENDOOR with Videophone:
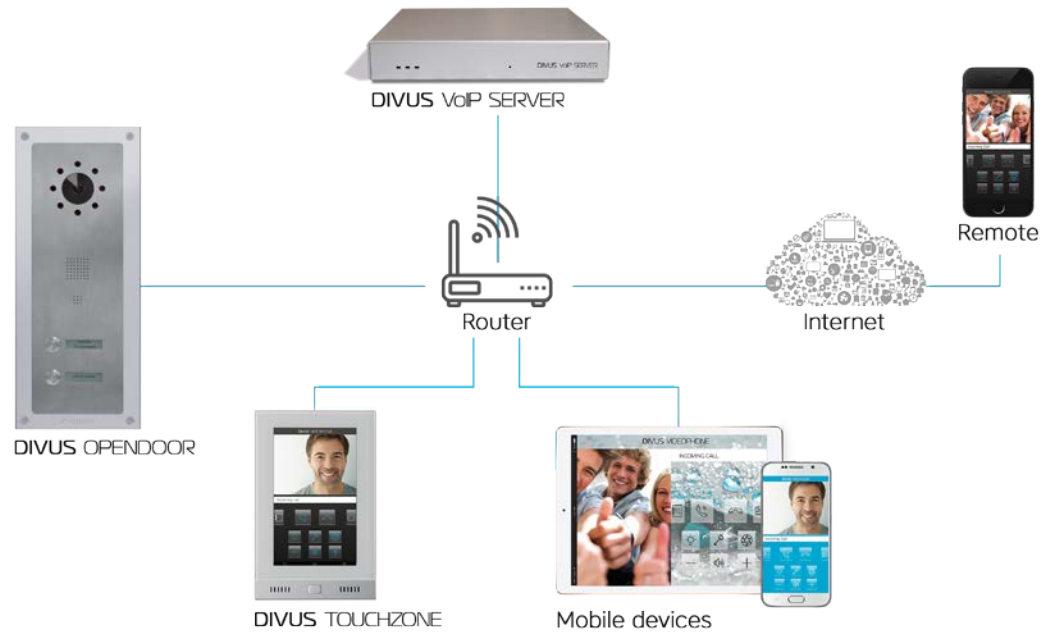
1.2   IMPORTANT TERMS

For better comprehension an explanation of some important terms will follow:

Backend: Main process of the Videophone software. It contains the entire functionality of the software and runs in the background. Only through the "Popup" of the video window and the playback of the bell sound at an incoming call, the backend can be noticed.

Client: A client is a software or a device, which can register on the VoIP server and make so calls to other clients; The Videophone software is such a client. Each client is identified by a treble code (101,102,103...) and reachable under this treble number.

Codec: procedure to encode and decode analogue/digital data or signals, specially audio and video data.

DTMF sounds: „"Dual-Tone-Multi-Frequency", is a standardized procedure for the transmission of the chosen telephone number to the telephone network. Every sign corresponds to a certain sound, which consists of several frequencies and is recognized from standardized telephone centrals and also from the telephone network. OPENDOOR also uses this technology in order to execute an action through the transmitted DTMF sound to activate for example the door opener. Only short sign combinations, but usually only single numbers are used for this purpose. For example the OD-Sip Plus module in his standard configuration will open the door if it receives the digit "2" from the client as DMTF code during the opened speech communication.

Frontend: The frontend of the Videophone software is the integrated "GUI". Over this graphic surface, the user can configure the software and use the functions of the software.

GUI: "Graphical User interface". It's a graphic surface, over which the user can control the software. Also the Videophone software has an integrated "GUI."

Network stream: Essentially a network stream is a data flow, available over the network. In the case of -Cam, the stream is built of single pictures, which are retrieved from the Videophone software as data flow and showed in the main window of the Videophone software as video.

SIP: the "session initiation protocol" is a network protocol for communication sessions between 2 or more participants. Its technical name is RFC 3261 and it is especially used for VoIP installations.

UDP: "User Datagram Protocol". It is a simplified network protocol, over which the backend of the Videophone software can be remote controlled. It can be used to create an individual "GUI" which can be used instead of the Videophone software Frontend. Of course also the Videophone software frontend communicates with the backend over UDP telegrams.

Videophone software: Software for the communication with the video intercom and for showing the picture of the door camera, as well as for the communication of the individual clients among each other.

VoIP server: This server is a software, which administers the telephone calls of the individual devices in the network like a telephone central; the identification of the VoIP servers simply takes place over the IP address of the device, on which the VoIP server is running. In a network also several VoIP server can coexist without problems; it's only important that all devices, which should communicate among each other, uses the same VoIP server.

VoIP: "Voice over IP" is an international standard, which allows speech communication in a network. Developed primarily for internet telephony, this technology is used also in other areas, as for example in telephone centrals or the Videophone system.

2   OD-SIP Plus

2.1   INTRODUCTION

The OPENDOOR Sip Plus module is a very compact SIP phone device. The module was designed for mounting in customized housings like for example mailboxes, columns etc.; it can of course be installed also in the DIVUS design; too. The small dimension and the extensive functionality make this device very flexible and applicable in a wide spectrum. The grommets around loudspeaker and microphone prevent acoustic feedbacks directly on the device; the grommets must bear on the front cover, where the OD-Sip Plus is screwed on totally. With the built-in SIP standard, the device can be integrated in most SIP setups (VoIP servers, IP phone calls, Internet telephony etc.). The configuration takes place comfortably over the built-in web server through an intuitive menu. This makes it possible to maintain the device also from a remote location, if access from outside is granted.

2.2   CONNECTIONS

The OD-Sip Plus module supports PoE (Power over Ethernet) and therefore can be power supplied and connected to the network over the same network cable. The used network switch or router must support PoE for this purpose or a PoE-injector must be used, which injects PoE into a normal Ethernet connection; the normal network connection is connected on the input of the injector and on the output a network connection with PoE is available.

If a power supply over PoE should not be possible, the module can be powered also with a 24V DC. For this purpose the positive pole of the power supply must be connected to "+UB" and the negative pole of the power supply must be connected to "0V". A grounding of the module is possible over "PE."

Connections overview:

Left side	
PE	Grounding
0V	Power supply 24V DC -
+VB	Power supply 24V DC +
Rel1.1	Relay 1 (dooro-pener)
Rel1.2	
Rel2.1	Relay 2
Rel2.2	
+24V	+24V EasyLan
ELAN	Bus EasyLan
GND	GND EasyLan

Right side		
S3B		Switchboard (Main Call)
GND		Switchboard (Main Call) GND
+5V		Ring button / nameplate backlight
LEDB		
Z1		Ring button 1/Matrix
Z2		Ring button 2/Matrix
Z3		Ring button 3/Matrix
Z4		Ring button 4/Matrix
GND		GND

Expansion port

OUTPUT: Network connection with PoE for OD-Cam

INPUT: Network and PoE   (LAN)

If more ring buttons are required, it's possible to connect up to 15 ring buttons through a binary conversion module on "Z1"-"Z4". The binary transformer must generate the 4 bit binary value for each ring button on the connectors "Z1" - "Z4". Bit0 must be connected to "Z1", bit1 to "Z2", bit2 to "Z3" and bit3 to "Z4".

Hint: The cables from the ring buttons to the OD-Sip Plus should not be longer than 0.5m.

Hint: The OD-Sip Plus backlight output can be used also for the OD-Push_LED. Normally there are always +5V on the backlight output. Output "LEDB" can be switched from GND to +24V what changes the backlight colour of OD-Push_LED from green to red.

Hint: If the OD-Sip Plus is power supplied through PoE, it's should be checked, that the used switch/router/PoE-injector does not have a standby or power down mode, where it reduces the PoE power or switch it off totally. It's also important that the used switch/router/PoE-injector has enough power to power supply the OD-Sip Plus. Never connect the 24V DC power supply and PoE power supply at the same time to the OD-Sip Plus!

Hint: If the OD-Sip Plus is power supplied by a 24V DC power supply then on the network connection „Output" there will be PoE power supply injected from the OD-Sip Plus for power supplying a connected OD-Cam.

2.3   STATUS LEDS

2.3.1   POWER SUPPLY

On the backside of the OD-Sip Plus there are two LEDs: „PWR" and „POE", which indicates if the OD-Sip Plus is power supplied by PoE or by a 24V DC power supply:

- **PWR:** this LED is on if the OD-Sip Plus is power supplied; it doesn't matter if the power comes from PoE or from an external power supply; it just indicates, that the OD-Sip Plus is power supplied.

- **POE**: this LED is only on, if the OD-Sip Plus is power supplied by PoE.

2.3.2   STATUS

On the bottom of the OD-Sip Plus there are 4 LEDs, which can be seen through a cut-out in the housing:

- **IN:** shows if a connection to the network is up (data input); if this LED is blinking data is read from the network.

- **OUT:** shows if a connection with the network is up (data output); if this LED is blinking, data is send to the network.

- **LED2 and LED1:**

LED2	LED1	DESCRIPTION
off	off	If OD-Sip Plus is power supplied it is in Idle mode and the connection with the VoIP server is up (OD-Sip Plus is registered on the VoIP server).
on	off	If OD-Sip Plus is power supplied it is in Idle mode and the connection with the VoIP server is not established (OD-Sip Plus is not registered on the VoIP server).
off	on	A call is in progress or a speech communication is up from the OD-Sip Plus to another client. An incoming call is not signalled that way on the OD-Sip Plus.

on	on	Changeover status: (special functions) Factory settings are restored or starting save mode.
on off	off on	Crossover blinking: OD-Sip Plus is in save mode.
off	blinking	Factory settings restored. Jumper can be removed.
blinking	off	Error on restore factory settings or more jumper mounted.

2.4   CONFIGURATION

2.4.1   INTRODUCTION

The configuration simply takes place over a web based menu. In order to start the configuration, open a web browser (for example internet Explorer, Firefox or Google Chrome) and type in the IP address of the OD-Sip Plus into the address bar; the default IP address is 192.168.0.120:
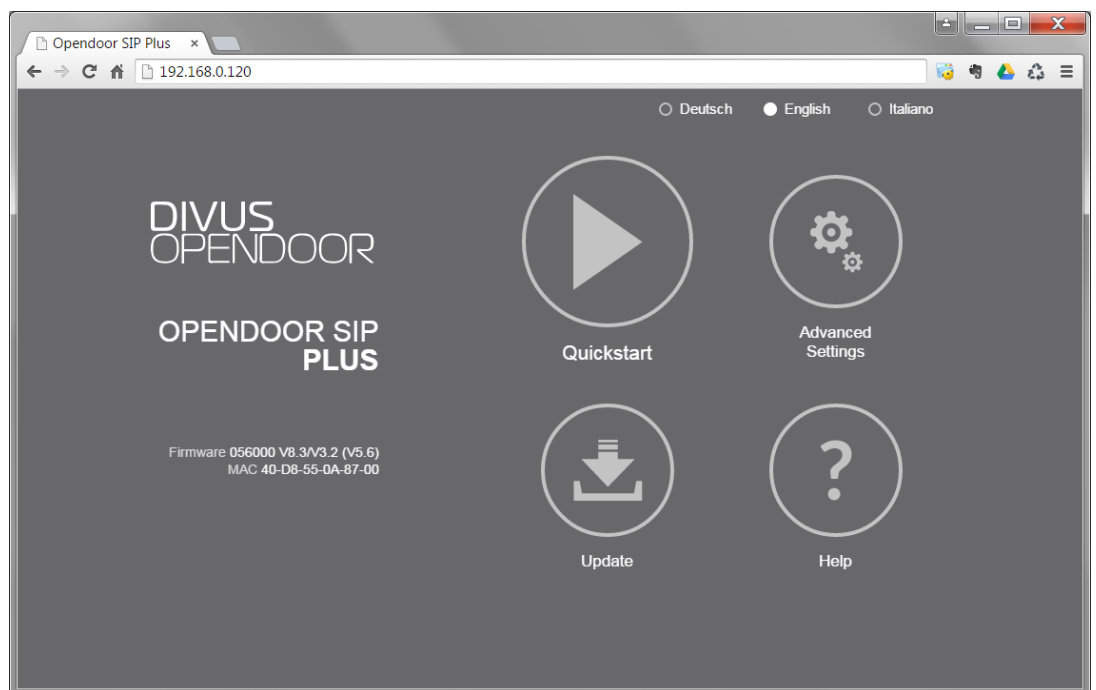
Here you can choose between the languages Deutsch (german), English and Italiano (Italian). If you click one of them, all the textual descriptions are shown in the chosen language.

4 submenus are available:

- Quickstart

- Advanced Settings

- Update

- Help

To reach one of the submenus, click on it and enter the password "1234" in the the appearing input field; confirm the password by clicking on the arrow icon below the input filed to go ahead.
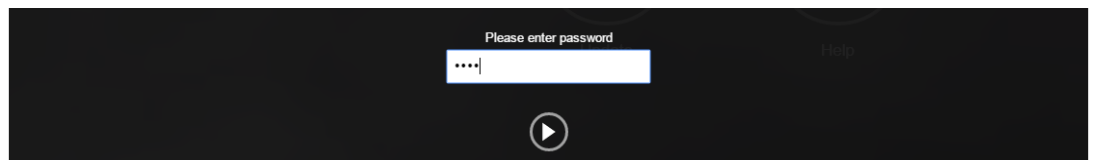
All this submenus will be explained in the following chapters, where all screenshots show the standard settings for the usage with DIVUS Videophone.

Hint: The submenus are only accessible if the OD-Sip Plus has no ongoing call and no call is in progress. So during a call settings can't be changed.

2.4.1.1   QUICKSTART
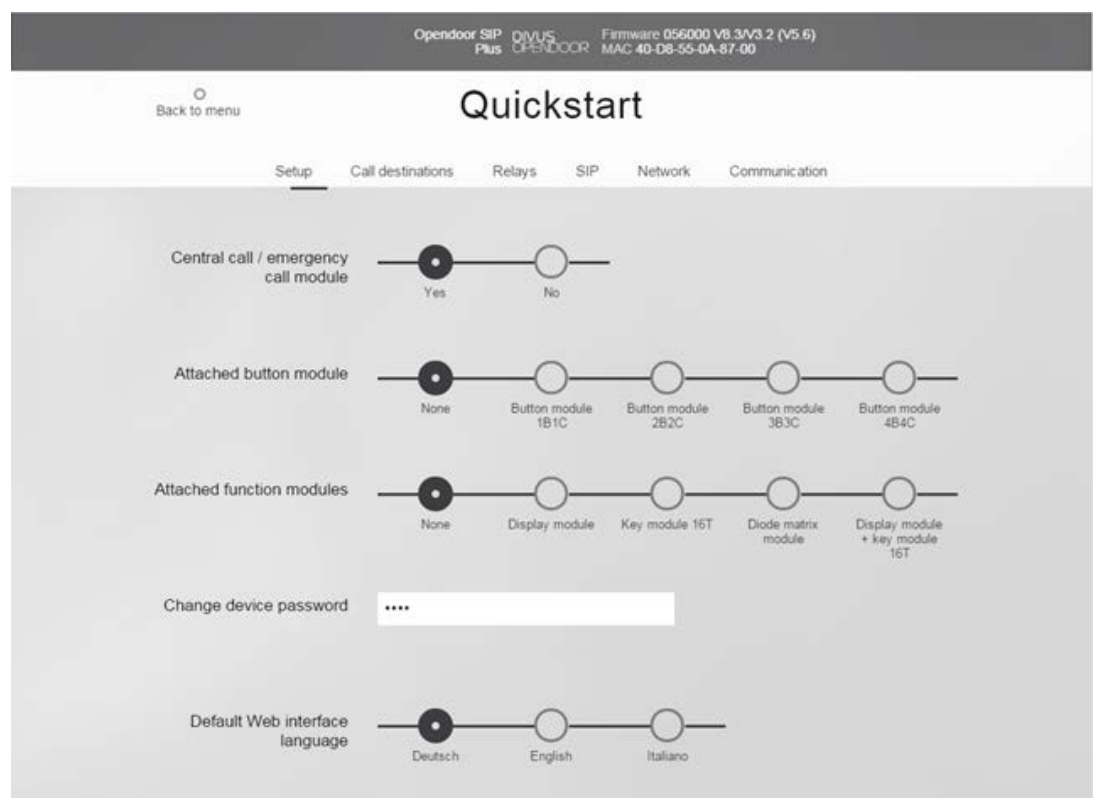
With the Quickstart the OD-Sip Plus can be configured in fast and easy way. The core settings are filtered in convenient way, which in most cases will be sufficient to get a fully working system. The settings are grouped into the following sections:

- Setup

- Call destinations

- Relays

- SIP

- Network

- Communication

2.4.1.2   SETUP

Here are some important settings to configure.

- **Central call/ emergency call module:** To configure whether the central/emergency call function is used or not.

- **Attached button module:** Depending on the OPENDOOR model, choose the button module accordingly.

- **Attached function modules:** Function modules are the ones attached through the small red connection port on the back (see chapter 2.2). Choose accordingly.

- **Change device password:** Change the password (default 1234) needed to reach these configuration pages

- **Default Web interface language:** Change between the available languages for the configuration pages.
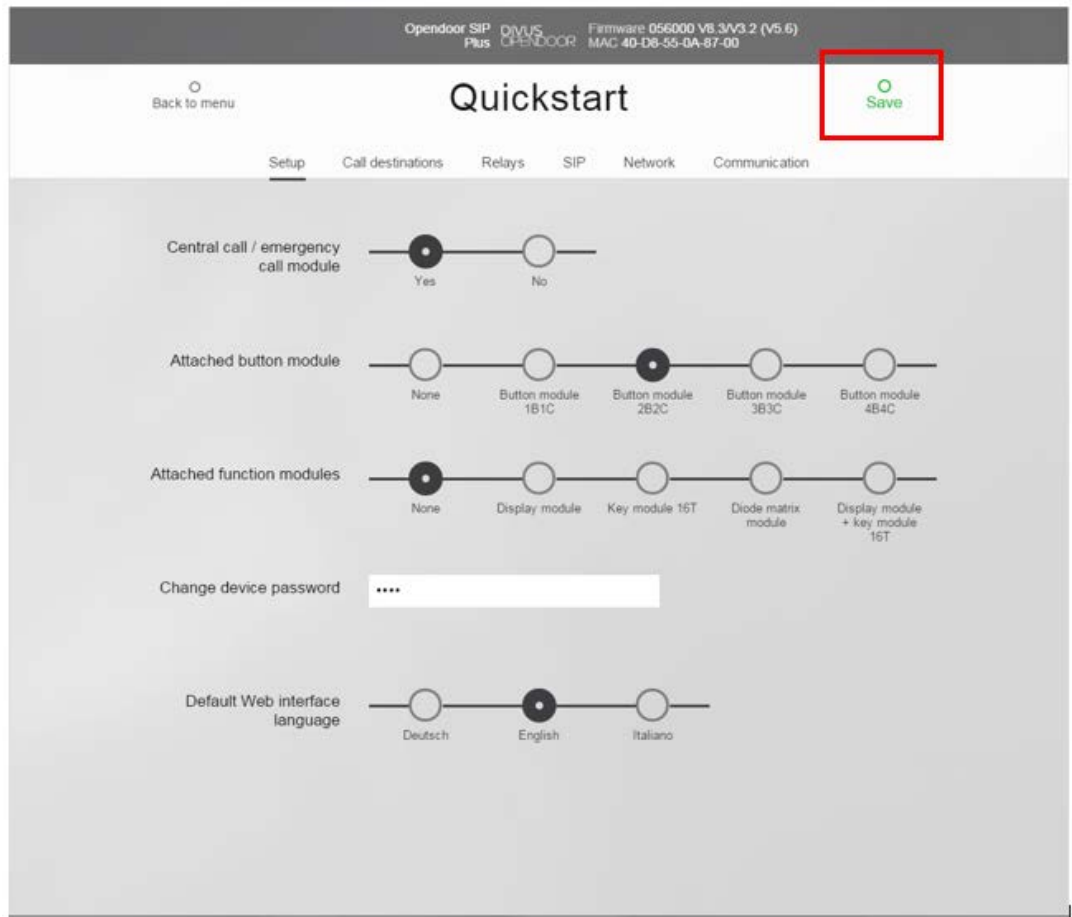
Notice: after a change in the settings there will be a green "Save" appearing in the upper right of the window. Remem-ber to click it to store any changes permanently!

2.4.1.3   CALL DESTINATIONS

The entry call destinations holds the settings for the OD-Sip Plus's behaviour for incoming and outgoing calls as well as for the destinations of the single buttons (if present).

For each button in your setup, you will have a corresponding group of settings like the following:

Name: parameter to identify and/or describe a call destination.

Number: In this field only numbers are allowed. These setting specifies the number to call, when the ring button is pressed. In this case the number „20060501" is entered, which is a group call on the VoIP server of Videophone,

which calls all registered clients. Otherwise it's also possible to call only a single client, by entering e.g. 101 in this field; only the client 101 will then ring when the ring button is pressed.

DTMF-Code: This code specifies with which DTMF code the door opener can be activated (normally Relay 1); up to 4 digits are possible. For being able to recognize the DTMF-Code the OD-Sip Plus must have an ongoing conversation to another client (for example Videophone client).

Relay mask: keep the default value „00000000".

Incoming: These settings define how to handle incoming calls. If a client calls the OD-Sip Plus for the OD-Sip Plus it will be an incoming call. Following options are available:

Reject: the incoming call will be rejected immediately.

Accept: the incoming call will be accepted immediately.

Accept+cheep: the incoming call will be accepted immediately with a short acoustic signal.

Accept+announcement: the incoming call is accepted immediately and the saved announcement is played to the other client; so the first thing the calling client hears is the announcement.

Accept+annoucement+cheep: the incoming call is accepted immediately with a short acoustic signal and the saved announcement is played to the calling client; so the first thing the calling client hears is the announcement.

Signalling: the OD-Sip Plus doesn't accept the incoming call immediately, but plays an acoustic signal to acknowledge that there is an incoming call. The call will be accepted when a ring button is pressed; so the OD-Sip Plus acts like a phone.

Outgoing: Defines how the OD-Sip Plus handles outgoing calls. The option are the following:

Announcement Off: When the called client accepts the call, no announcement is played to it.

Announcement On: When the called client accepts the call the saved announcement is played to the client, so the first thing a called client hears after accepting the call will be announcement until it is finished and only afterwards a speech conversion is possible.

Light: If one of the two relays is configured for function "Light/Camera", this parameter enables this relay to close the contact, when the related "Number" is called by the OD-Sip Plus, or when the client with this "Number" (SIP ID) calls the OD-Sip Plus. It means, that when the defined "Number" (SIP ID), calls the OD-Sip Plus the relay will be switched on until the call is accepted and during the whole communication, premised this parameter is set to "On"; same thing happens when the OD-Sip Plus calls a configured number in the phone book (SIP ID), premised this parameter is set to "On". The relay will switch off, when the call is dropped after the specified time delay.

Group-ID: Each „Number" can be associated to a Group-ID; up to 10 Group-IDs are possible. This settings is only relevant for call chains. If a call chain is activated and a number of for example Group-ID "3" is called and the client doesn't accept the call, then the next number of the same Group-ID is called and so on.

Hint: „DTMF-Code" should be set to   „2" and the   „Group-ID" should be set to "None". All other settings can be set as whished. Numbers for group calls on the VoIP server of Videophone are 20060101, 20060201, 20060301, 20060401, 20060501, 20060601, 20060701, 20060801, 20060901 and 20061001; a group call makes all clients ring in the default configuration of Videophone. Detailed information about group calls can be found in the Videophone configuration guideline.

Depending on the settings you chose under setup, the call destinations window will look differently:

As soon as you start adding a name, the other fields are activated and may be edited:
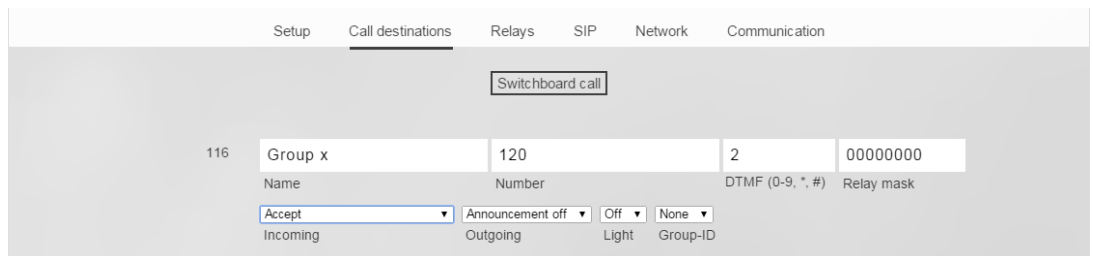
The Switchboard call contains the settings for the ring button connected to the switchboard connectors - the first two of the right terminal block on the back of the OD-Sip Plus (see chapter 2.2).

If you chose a button module under Setup, an additional section becomes visible under call destinations to configure those buttons; the procedure is almost identical to the one described for the switchboard call.

Below an example for an OPENDOOR door station with one ring button:
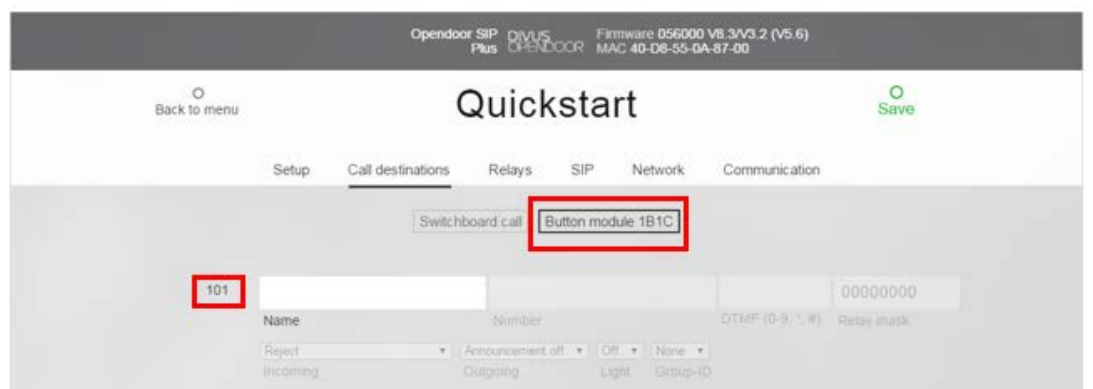
Note that in the Quickstart settings row "101" is automatically chosen for you; the row numbers correspond to the internal memory enumeration for the single inputs, where "101" is related to input "Z1".

Usually you can hold on to this simple rule: use the upper button for calling the entry labelled 101 and the following buttons (if present) like described in this table:

BUTTON	ROW	CORRESPONDING BUTTON MODULE(S)
1. button (or only)	101	all
2. button	102	Button modules 1B1C, 2B2C, 4B4C
3. button	104	Button modules 3B3C, 4B4C
4. button	108	Button module 4B3C

An example for a OD-Sip Plus with 4 buttons follows:
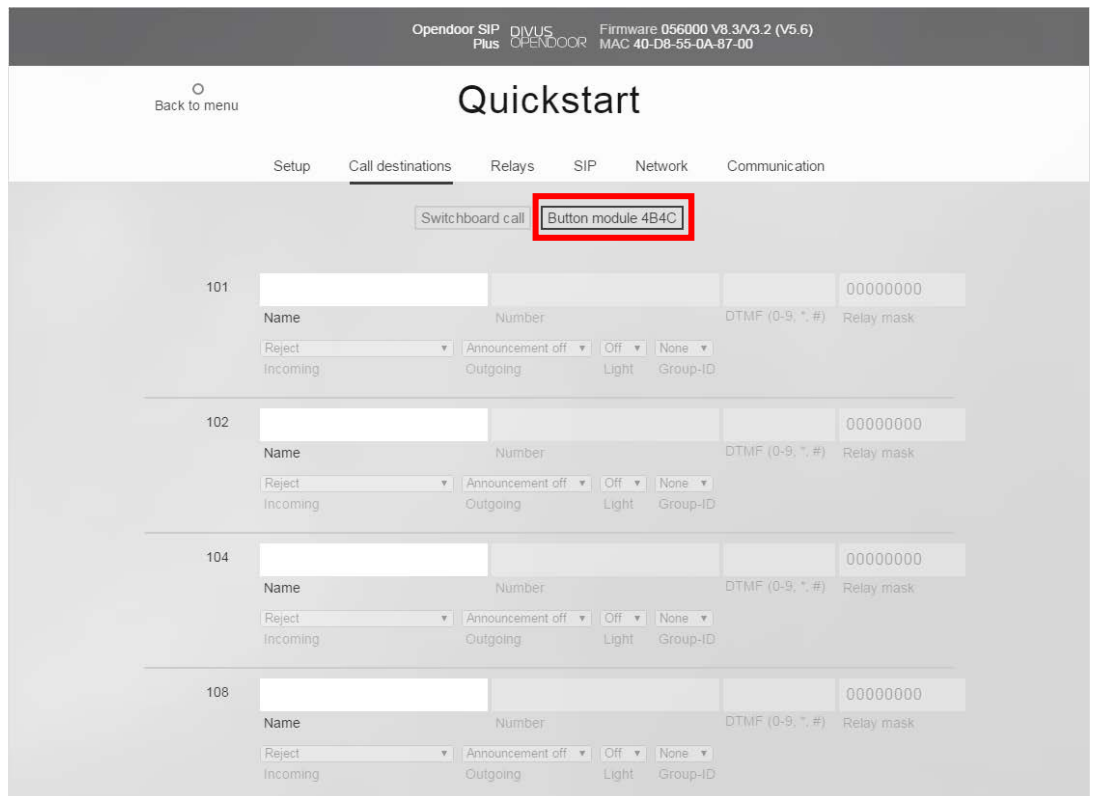
Additionally there's a third section which may become visible under call destinations if you chose a function module under Setup. Depending on your choice, you may have up to 100 or 115 rows for call destinations, which you may freely configure to call single clients or groups with your OPENDOOR door station.

2.4.1.4 RELAYS
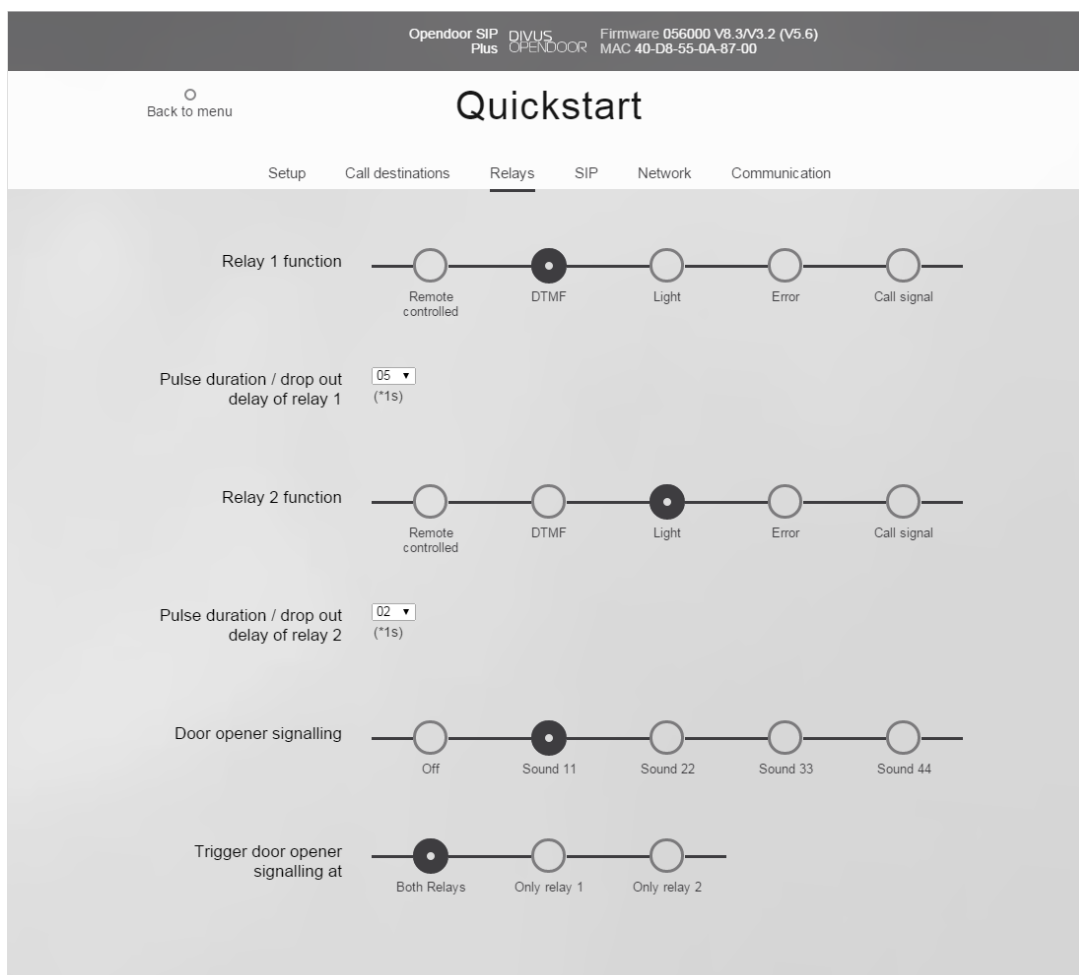
- **Relay 1 / 2 function:** Determines which function Relay 1 / 2 will have on OD-Sip Plus. The available options are:

  o **Remote controlled:** the relay can be controlled by remote over UDP telegrams without being influenced by internal functions.

  o **DTMF:** If the remote station sends the right DTMF code, the relay is activated and a connected door opener could open the door.

  o **Light:** The relay will be activated during the whole communication for switching on an external illumination or a camera; premised the "Relay" setting in the phone book was enabled for the calling/called number (SIP ID or IP address).

  o **Error:** The relay contact is closed as long as the OD-Sip Plus is OK. If there is a fault detected, the contact will be released (registration at the VoIP server without success, power supply missing).

  o **Call signal:** This option activates the relay for the defined timeout, when the switchboard call is started. A third party system can be informed in this way or a second bell can be controlled.

- **Pulse duration/Drop out delay of Relay 1 / 2:**   Specifies the pulse time and the drop out time for relay 1 or relay 2 (0 – 99 seconds).

- **Door opener signalling:** Defines if a short melody is played on the remote station to acknowledge that the door opener has been activated or not; 4 sounds are available.

- **Trigger door opener signalling at:** Allows to choose for which relay the signalling for triggered door opener   should be active.

2.4.1.5   SIP

Here you'll find the main settings for the VoIP communication over the SIP protocol:

SIP registration: Defines whether the OD-Sip Plus should register on a VoIP server or not. If the registration is disabled only IP to IP calls are possible, so only IP addresses can be called; without registration on a VoIP server no call numbers can be called any more, SIP clients can be called only through their IP addresses.

SIP Server: The IP address or URI of the VoIP server you are using.

Port: UDP port for the SIP protocol.

SIP User ID: This is the ID which identifies the OD-Sip Plus inside the SIP domain. On an incoming call on the OD-Sip Plus the identification of the caller is made through this User ID which is transmitted inside the SIP protocol as   <ID>@<sipdomain>.

SIP authentication PIN: Password for the registration on the VoIP server.

Display name: The name in this field is only for information and has no special function. The default use is to repeat the user ID here, thus making it simple to understand wherever it appears.

Hint: Please setup your SIP configuration like shown above. The following values may differ:

- SIP Server: default IP address is 192.168.0.101 but you may have to change this setting according to your network configuration

- SIP User ID, SIP authentication PIN and Display name should all contain the same 3-digit number. This number should be one of the following because those 10 are pre-configured in the DIVUS VoIP server: 901, 902, ..., 910.

2.4.1.6 NETWORK

The Network settings page inside Quickstart allows to change the basic network settings of the OD-Sip Plus:

DHCP: If set to "On" all other settings are retrieved through your local DHCP service and the following fields are hidden. If set to "Off" all other fields are active and can be filled out manually.

IP Address: Tthe IP address for the OD-Sip Plus

Netmask: The subnet mask of your network. Default value is 255.255.255.0.

Gateway: Insert your network router's (or modem/router) address here if you use one. Needed to reach resources outside of your LAN (e.g. web pages, emails etc.)

Hint: if you need advanced network settings go back to the main menu and switch to "advanced settings" or have a look at chapter 2.4.3.1 of this manual.

2.4.1.7   COMMUNICATION

This menu contains the essential parameters to configure the audio volumes and call options. The window is divided into the sections Audio and Call Options. Advanced settings regarding audio can be found under "Advanced settings Communication" like explained in chapter 2.4.3.6 of this manual.

Audio

- Microphone level: Regulate the microphone level

- Speaker level: Regulate the speaker volume

Call Options

- Max. call duration: Duration in minutes to restrict the single calls; the countdown starts when a call is accepted. The call is ended after the given time. When set to "00" the call duration is not restricted (endless).

- Timeout connection attempt: When the OD-Sip Plus is calling a client or a group of clients and no one answers, this timeout will limit the time for the connection attempt. The timeout begins to count down as soon as the call starts. When the time is over OD-Sip Plus stops calling and returns to idle mode.

2.4.2   ADVANCED SETTINGS

If the settings in the Quickstart menu should not cover all required configurations, you'll find all available parameters in the advanced settings. In this chapter only the additional settings, which are not available in the Quickstart, will be explained. If you are not confident with the Quickstart please read chapter 2.4.2 before you go ahead.

2.4.2.1   NETWORK

The network settings additional to them in the Quickstart are:

- **DNS:** whether the OD-Sip Plus should get its DNS server settings through DHCP or manually. The following fields; Primary DNS/Secondary DNS are shown or hidden depending on this choice.

- **Primary DNS:** IP address of the primary DNS server.

- **Secondary DNS:** IP address of the secondary DNS server (optional).

- **Layer 3 Qos:** this setting regards the „quality of service" on the network and should only be changed by network administrators because it sets the priority of data packets on the network.

- **Layer 2 Qos:** see previous.

2.4.2.2   CALL DESTINATIONS

In advanced settings all 116 call destinations are freely editable.

The main use of call destinations is to configure the buttons connected to the connectors Z1 – Z4 (see chapter 2.2); those inputs are evaluated as 4 bit binary value. A pressed button will result in value "1", if not pressed in value "0". If for example only the button connected to input "Z1" is pushed the resulting 4 bit binary value will be

"0001"; the uppermost value corresponds to the rightmost digit of the value. The single rows in this table are related to this binary value starting from "101". If 4 ring buttons shall be connected, they can be connected directly to Z1-Z4. The configuration will be done in the corresponding rows:

- for ring button 1 in row "101"

- for ring button 2 in row "102"

- for ring button 3 in row "104"

- for ring button 4 in row "108"

All rows in between the above mentioned should be kept empty to ensure, that if two or more ring buttons are pressed in parallel no call is started.

The following scheme show this graphically with 4 ring buttons connected to Z1-Z4, where the button on the top is connected to Z1
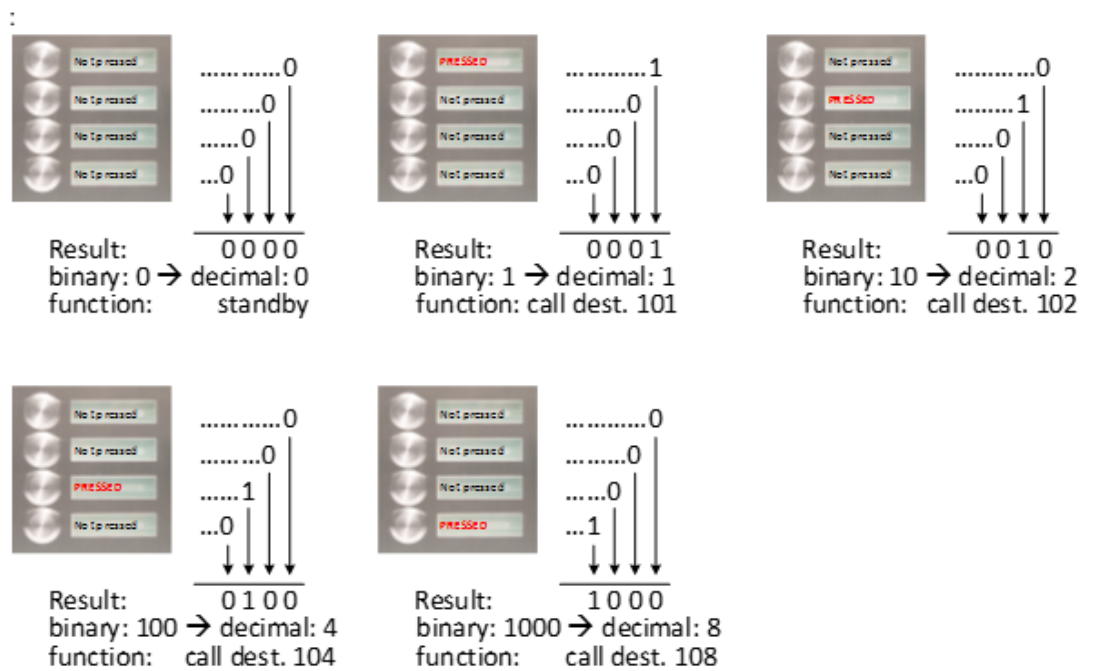
In Quickstart only the codes corresponding to the selected number of ring buttons is shown.

Detailled information about the configuration of a single call destination can be found in chapter 2.4.2.2 of this manual.

2.4.2.3 RELAYS

The configuration is the same as in Quickstart already explained in chapter 2.4.2.3 of this manual.

2.4.2.4 SIP

The additional settings here are:.

SIP domain: similar to the domain of email addresses, it is needed to identify and distinguish users and is used in combination with the SIP user IDs to build communication connections over the network. Without the SIP domain you may still make direct calls over the IP addresses, but calls over the call number (i.e. User ID) are not available! You may enter the IP address instead of the name of the SIP server.

SIP Server as outbound proxy: If your server supports this feature, you may use this setting to configure the SIP server as proxy for outbound calls, allowing to call through a NAT-Firewall.

Use DNS server: whether to use the DNS server to identify participants of the SIP domain.

SIP Auth ID: username for the registration at the VoIP server.

See chapter 2.4.2.4 for the other fields already available in Quickstart.

Hint: Insert the IP address oft he VoIP server as SIP domain.

2.4.2.5   SIP ADVANCED

These settings should only be changed by expert users/administrators because they may affect the functionality of the SIP protocol and must be adapted to the VoIP server and to the clients in use.

The settings are divided into three sections:

- Advanced SIP settings

- Unknown user

- Call Options

Advanced SIP settings:

DTMF mode: defines the method, with which the DMTF codes are sent to the client:

Inband Audio: DTMF tones are transmitted as audio data

Outband (RFC 2833): DTMF codes are transmitted over the RTP protocol

SIP Info: DTMF codes are transmitted using the SIP protocol

Support PRACK (RFC3262): If this option is activated, specific signallings are saved inside the SIP protocol.

DTMF Payload Type: This settings should be left on the respective default values.

Required Proxy features: Properties, which the Proxy server must be able to handle.

NAT Traversal: If the OD-Sip Plus is placed behind a NAT firewall or a router, this setting defines how the OD-Sip Plus gets its public IP address. This can be done through a fixed IP address by selecting "Use NAT IP" or by getting the public IP address from a STUN server by selecting "Use STUN server" (dynamic IP address). If the OD-Sip Plus is used only in a local network, this option can be disabled.

Local SIP Port: Through this port the SIP protocol manages the VoIP communication on the device.

Local RTP Port: The real-time transmission of the audio data is done through this port.

SIP Registration - Timeout: This setting specifies the interval for which the registration on the SIP server is valid; every time the interval is timed out the registration must be renewed by the device.

SIP Registration - Keep Alive Interval: Specifies in which time interval an empty RTP packet is sent to the VoIP server for keeping open the RTP port in a NAT firewall or a router.

UNKNOWN CALLER

You hardly ever will insert all clients as call destinations on the relative page, if not absolutely necessary.   If e.g. you are using DIVUS Videophone, you'll usually have group calls which as call numbers only exist on the VoIP server and have no corresponding physical device in the network.

The OD-Sip Plus can't be called by such num-bers. Therefore you have the possibility to set the parameters also for calls which are not stored in your "call destination". This setting is defines how the OD-Sip Plus behaves on incoming calls, where the ID of the callee is unknown to the OD-Sip Plus.

E.g. the number 20060101 is used as group call by Videophone. If a Videophone client with number (ID) 101 calls the OD-Sip Plus, the number is not in the call destinations list and therefore unknown. If, on the other hand, you press a button programmed to call 20060101, also client 101 will be reached (and ring) because the number 20060101 is a group call including all available Videophone clients (by default).

CALL OPTIONS

The parameters for a generic call and a call's setup can be found here:

Max. call duration: Duration in minutes to restrict the single calls; the countdown starts when a call is accepted. The call is ended after the given time. When set to "00" the call duration is not restricted (endless).

Timeout connection attempt: When the OD-Sip Plus is calling a client or a group of clients and no one answers, this timeout will limit the time for the connection attempt. The timeout begins to count down as soon as the call starts. When the time is over OD-Sip Plus stops calling and returns to idle mode.

Redial attempts: If a redial function is needed, you may set the number of attempts here.

Delay between redial attempts: If the redial function is active and the callee should be occupied or not available, the OD-Sip Plus waits for this time (seconds) before the next attempt.

Mute time after DTMF detection: When a second DTMF tone is detected, the speaker of the OD-Sip Plus is muted. If the DTMF code is entered correctly, the speaker is activated again after the acknowledgement. If a wrong DTMF code is sent to the OD-Sip Plus the speaker remains muted until the mute time is over.

Call chain cycles: When in the call destinations list the entries are grouped using the group ID field, calls inside the group are handled using call chains. All numbers with the same group ID belong to the same call chain group: if the number called is currently not available/occupied, the next number in the chain group is called. The chain is interrupted when one participant answers or when all participants were called. If you set this number to a value

bigger than 1, the whole chain is repeated that number of times. See next page for a flow chart of this call chain mechanism.

Length of ID announcement: When the communication connection was set up successfully, the audio communication is cut for the time entered here and the callee hears the announcement – as long as this option is checked under call destinations for the respective ID/number. After this time the voice communication is restored. If the announcement is longer than the time entered in this setting, it will be interrupted after that time.

DIAGRAM OF THE CALL CHAIN FUNCTION:

```
                        ┌─────────┐
                        │  START  │
                        └────┬────┘
                             │
                             ▼
                         ◇─────────◇
                        ╱  Valid    ╲        no      ┌─────────┐
                       ◇    entry    ◇────────────▶ │  BREAK  │
                        ╲           ╱               └─────────┘
                         ◇─────────◇
                             │ JA
                             ▼
                        ┌──────────┐
                        │Call loop +1│ ◀──────────────────────┐
                        └────┬─────┘                          │
                             │                                │
                             ▼                                │
                     ┌──────────────┐                        │
                     │Get first number│                      │
                     │   of group    │                        │
                     └──────┬───────┘                         │
                            │                                 │
                            ▼                                 │
                     ┌─────────────┐    ┌──────────────┐     │ Ja
                     │ Dial number │◀───│Next number in│     │
                     └──────┬──────┘    │    group     │     │
                            │           └──────┬───────┘     │
                            ▼                  │ no           │
                      ◇──────────◇             │              │
                     ╱Connection  ╲            │              │
                    ◇  and         ◇           │              │
                     ╲acknowledgment╱          │              │
                      ◇─obtained?──◇           │              │
                            │ no                │              │
                            ▼                   │              │
                      ◇──────────◇   no  ◇───────────◇        │
                yes  ╱  Attempt   ╲─────▶╲Last number ╱        │
               ◀────◇   redial?    ◇     ◇ in group? ◇         │
                     ╲            ╱       ╲          ╱          │
                      ◇──────────◇         ◇────────◇           │
                            │ yes              │ yes            │
                            ▼                  ▼                │
                     ┌─────────────┐    ◇──────────◇           │
                     │Wait for pause│   ╲ More loops╱──────────┘
                     │    time      │   ◇          ◇
                     └─────────────┘     ╲        ╱
                                          ◇──────◇
                        ┌─────────┐   no      │
                        │   END   │◀──────────┘
                        └─────────┘
```
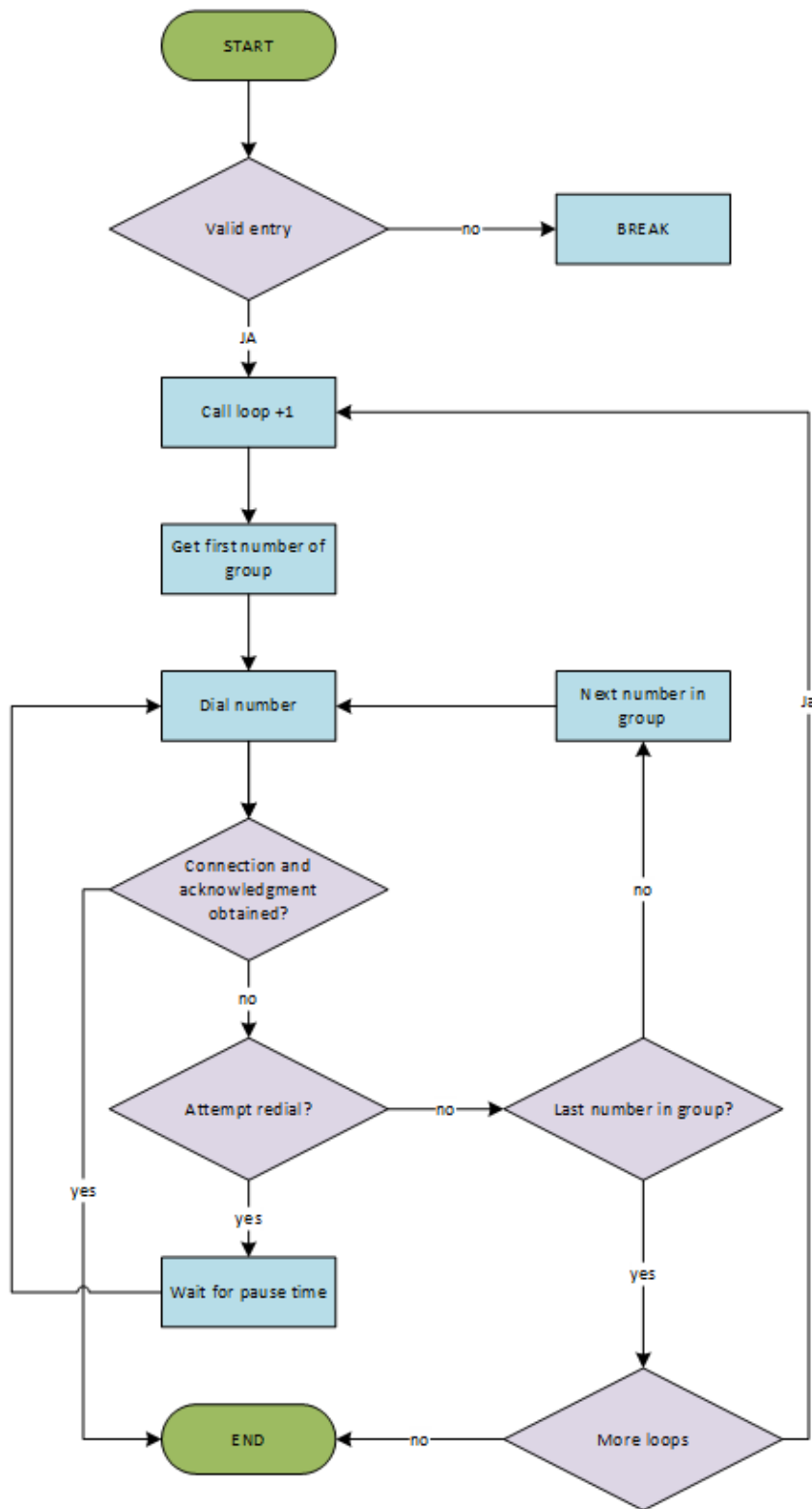
Hint: Call chains and redial attempts should be configured with care and only used where they certainly make sense.

2.4.2.6 COMMUNICATION

You will find 2 sections here:

- Codecs

- Audio settings.

CODECS

The VoIP technology uses so called speech codecs for communication. Codecs compress the speech in data packets, which can be sent over the network. Which codecs should be used by OD-Sip Plus with which priority can be defined in this section. The following codecs are available:

PCMU (G.711 μ-Law) is a standard codec for digital communication in Europe. It has a good speech quality, but also higher data volume: about 80 to 100 kbit/s.

PCMA (G.711 A-law) is a standard codec for digital communication in America. It has a good speech quality, but also higher data volume about 80 to 100 kbit/s.

G.726-32 has a data volume about 32 kbit/s with moderate speech quality.

GSM 6.10 comes from mobile telephony. This codec has really low data volume, but the speech quality is not that good, is barely acceptable.

iLBC (Internet Low Bitrate Codec) was designed especially for Speech transmission through IP networks. The data volume of this codec is about 14 kbit/s (20msec frame size) or 16 kbit/s (30msec frame size) and is really stable, also when data packages are lost.

Speex is optimized for transmitting speech and the data rate is very scalable. The standard setting 8 kbit/s should be enough for an understandable conversion. Also the loss of data packets causes no problems.

Hint: The setting for "iLBC Frame size" and "Speex Rate" should be changed only by system administrators.

Hint: Only "PCMU" as primary and "PCMA" as secondary codec should be selected. In all other fields select "None".

Hint: For the usage with DIVUS TOUCHZONE the parameter "Audio Frames per Tx" must be set to "2".

AUDIO SETTINGS

The settings here are:

- **Speaker level:** Regulate the speaker volume

- **Microphone level:** Regulate the microphone level

- **Ringtone volume:** Specifies the volume level of the acoustic ringtone emitted by the OD-Sip Plus speaker on an incoming call.

- **Volume of Signal tones in speaker:** Specifies the volume of the signal tones emitted by the speaker of the OD-Sip Plus for quit tones, button tones, melody on start-up, melody for door opener activation etc.

- **Volume of signal tones to remote peer:** Specifies the volume of all tones send to the remote station, like the melody when the door opener is activated (if defined), DTMF tones etc.

- **Microphone attenuation:** Attenuation of the microphone level of the door station when one of the following conditions is met:

- **Apply attenuation when:** defines when the attenuation should take place.

- **Switching threshold (PCD-off):** if the set threshold is exceeded by the voice of the callee, the change detector for the audio path is activated. Thus the echo suppression can be adapted to changed conditions (e.g. changing position of persons/objects in front of the OD-Sip Plus)

- **Delay between PCD-off and PCD-on:** Delay time before the deactivation of the change detector, once the level has re-entered the range of allowed values. A delay time of 0 means the change detector is always active.

⚠️ **Attention**: Deactivating the change detector, the OD-Sip Plus will enter half-duplex mode during speech pauses. Then at least 5 seconds of continuous speaking are needed to switch back to full-duplex mode.

2.4.2.7 SYSTEM

All system settings can be changed here.

Status / remote

- Code for remote authentication: this authentication code must be contained in UDP commands for them to be accepted by the OD-Sip Plus. Allowed symbols are "0-9", "∗" and "#".

- IP address UDP status messages: address to send status notifications to. If you want to send notifications to all devices on the network, you may use the broadcast address "255.255.255.0".

- Status port (transmit): UDP port for outgoing status notifications. The receiving pc must use the same port.

- Remote port (receive): port to be used to send remote commands to the OD-Sip Plus

- Status: activate/deactivate status notifications

- Remote control: activate/deactivate status notifications

Expansion port

- Keypad option: Define which expansion module is connected on the expansion port:

- Matrix module: if you need a matrix module because you need more than 15 buttons

- Keypad: if you're going to use a keypad module instead

General

- Language: Allows to switch the user interface to one of those languages.

- Change device password: changes the password needed to reach these configuration pages

- Restart device: Allows to reboot the OD-Sip Plus. Remember to save any unsaved changes before!

Hint: The status notifications should be deactivated if you don't need them. This helps to keep the network load low.

2.4.3   UPDATE
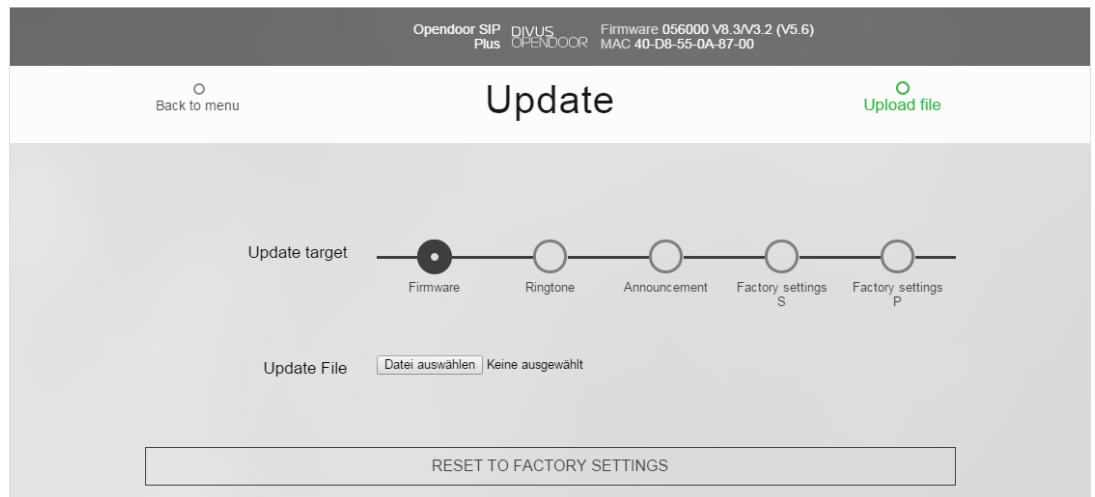
In this submenu the OD-Sip Plus firmware can be updated and other files can be uploaded to OD-Sip Plus depending on which option is chosen:

- **Firmware:** If the firmware of the OD-Sip Plus must be updated this option must be chosen. Click on "Browse ..." and select the new firmware file with the ending „.bin". Afterwards click on "Start Upload" and wait until the OD-Sip Plus reboots.

- **Ring Tone:** A specific ringtone can be uploaded to OD-Sip Plus. The procedure is the same as for the firmware update with the only difference that the option "Ringtone" must be selected. The files for the ringtone are audio files with the ending ".dat". They must be created in a special format; how to do this can be reviewed in the appropriate chapter.

- **Announcement:** For uploading announcements the same procedure as for uploading ringtones takes places, with the only difference, that the option „Announcement" is chosen. Also the Announcement files are sound files with the ending ".dat" and they must be formatted in a special way; how to create an announcement can be read in the related chapter.

- **Factory S:** Upload setup files.

- **Factory P:** Upload phone book data (i.e. call destinations).

Hint: If an update should be necessary it will be delivered by DIVUS! The usage of update files not delivered by DIVUS is not recommended and can cause damage to the device!

Attention: Never unplug the power supply of OD-Sip Plus while the update is in progress!

RESET TO FACTORY SETTINGS

<div style="border:1px solid #ccc; text-align:center; padding:10px;">RESET TO FACTORY SETTINGS</div>

In the update page you will also find the button to reset your OD-Sip Plus to its factory settings. This procedure erases all your settings. A dialog therefore asks to confirm your choice. An additional dialog offers to save your call destinations (the "phone book") before resetting.

Notice: The network configuration is also changed by a reset. The OP-Sip Plus may be reached at the IP address 192.168.1.200 after a reset. See chapter 2.4.8 for more detailed information about this.

2.4.4   HELP

The help page contains a link to the DIVUS-Homepage www.divus.eu, where you can always find the latest version of this manual for download as well as other helpful resources.

2.4.5   UDP STATUS MESSAGES AND REMOTE CONTROL

If the status messages are activated the OD-Sip Plus sends UDP telegrams over the configured port to the configured IP address. The status messages have the following pattern:

<Sequence number>#<Status>@<Parameter bytes><Checksum>

In detail:

Sequence number: The sequence number is the number of the sent UDP telegram. On every sent UDP telegram this number is increased by 1; once the number reaches 255 it begins from 0. The sequence number is the first 2 Byte hexadecimal number in the status message for example „01"

Status: The status Byte shows the actual status of OD-Sip Plus. It is a 2 Byte hexadecimal number

Parameter bytes: The parameter bytes contains detailed information about the status of OD-Sip Plus. Their length is 24 characters in ASCII format; not used characters are replaced by a blank sign

Checksum: The checksum is for checking if the data has reached the target without data loss. The Checksum is a 2 Byte hexadecimal value at the end of the message and it is calculated through an Addition Modulo 256 over all data bytes.

STATUS BYTE	PARAMETER BYTE	DESCRIPTION
0x0A	<empty> or <XY>	Idle mode(IDLE) XY = Firmware version (2 Bytes Hex)
0x01	Number of the caller	Incoming call
0x05	Number of the remote station	Connection is up (speaking is possible)
0x06	<empty>	dialling
0x07	Number of the remote station	Call in Progress (connection attempt)

0x14	Send identification	Max. 24 characters of the optional username (SIP settings) are sent
0x4C	Byte 0 = 0x31	Login on VoIP server successful

On the other side is also possible to control the OD-Sip Plus from remote over UDP commands, if the remote control is enabled in the OD-Sip Plus. The software which remote controls the OD-Sip Plus must send the UDP commands over the right UDP port (defined in OD-Sip Plus) on the IP address of the OD-Sip Plus. The UDP commands must have the following structure:

<Protocol><Sender IP><Seq. Nr.><Output Nr.><Duration><Password><Checksum>

In detail:

Protocol: Identification of the Protocol „BSREM" (5 characters ASCII)

Sender IP: Contains the IP address of the device from where the UDP command comes as hexadecimal; 192.168.0.2 would be „C0A80002".

Seq. Nr.: Also for the commands every new UDP command has a sequence number increased by one. The sequence number starts at 0 and goes up to 255; once reached 255 it begins from 0. The sequence number should avoid, that commands are valuated more than once. The sequence number is a 2 Byte hexadecimal number.

Output Nr.: Number of the output, which should be controlled by the UDP command; values from 1 to 4 are allowed. The output number is a 1 Byte hexadecimal number:

1: Door opener relay (relay 1)

2: Light relay (relay 2)

3: camera IO 1

4: camera IO 2

Duration: Determinates how long the selected output is (2 Byte hexadecimal number):

0: Permanent Off

1: Permanent On

2-255: for the specified time in second.

Password: This authentication code must coincide with the authentication code configured in OD-Sip Plus. It is made always of 4 signs; not used digits must be filled with "F". Allowed are only DTMF signs (0,1,2,3,4,5,6,7,8,9,#,*).Checksum: The Checksum is calculated with the Addition Modulo 256 over all data bytes of the command and is added at the end of the command as 2 Byte hexadecimal number.

For example from IP address 192.168.0.100 the door opener of OD-Sip Plus should be activated for 10 seconds through remote control. The resulting UDP data is the following:

- BSREM

- C0A80064 (192 = "C0", 168 = "A8", 0 = "00", 100 = "64" by converting decimal to hexadecimal).

- 00 (sequence number 0= „00" as hexadecimal number)

- 1 (relay 1 door opener)

- 0A (duration of 10 seconds, converted in hexadecimal it will be „0A")

- 1234 (standard authentication „1234")

The result is „BSREMC0A800640010A1234" and the Checksum is calculated as follows:

The ASCII code value of each character must be summed:

B = 66
S = 83
R = 82
E = 69
M = 77
C = 67
0 = 48
A = 65
8 = 56
0 = 48
0 = 48
6 = 54
4 = 52
0 = 48
0 = 48
1 = 49
0 = 48
A = 65
1 = 49
2 = 50
3 = 51
4 = 52

Sum = 1275

Then divide the sum through 256:

1275/256 = 4

Then calculate the rest of this division:

1275 − (4 x 256) = 251

This rest must be converted into a 2 byte hexadecimal number:

251 = FB

This 2 byte hexadecimal number is the Checksum and is added at the end of the UDP data (behind the authentication password):

BSREMC0A800640010A1234FB

Alternatively the OPENDOOR UDP Calculator can be used to calculate the UDP commands with Checksum in an easy way; the OPENDOOR UDP calculator can be downloaded together with the documentation.

2.4.6   CREATE ANNOUNCEMENTS AND RINGTONES

Announcements and ringtones can be created with audio editing software like Audacity (http://audacity.sourceforge.net/); important is the format of the audio file. The audio samples must be converted into a compatible format (WAV) and afterwards into a binary file, which can be uploaded onto the OD-Sip Plus and saved in its flash memory. In the following description we use the software freeware Audacity:

1. **Create a sample:**
    Create the sample by recording an announcement or ringtone directly with Audacity. Connect a microphone to the PC, click on the record button and record the announcement or ringtone; click the stop button when you are done. Of course you can copy parts of ringtones or announcements in Audacity and mix them, without recording through a microphone, too.
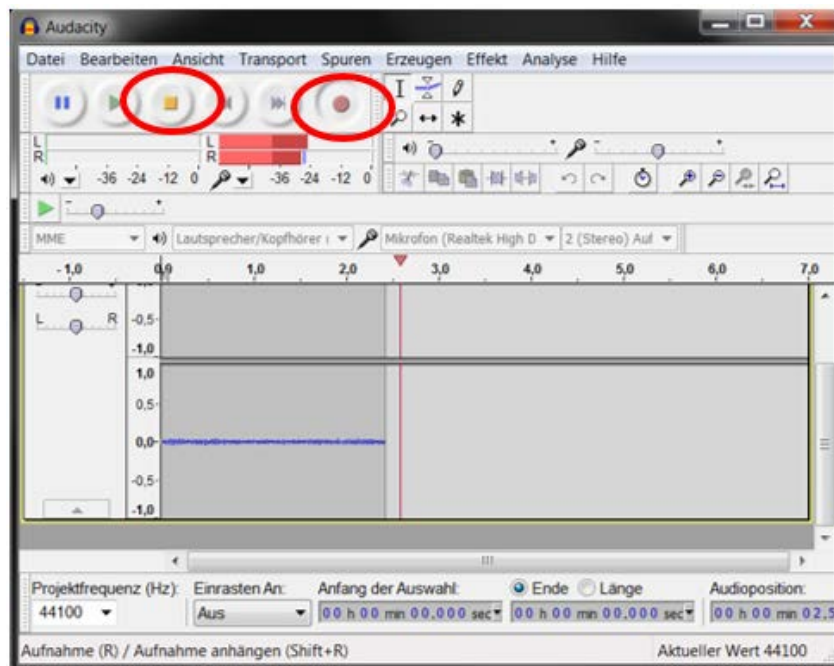
2. **Convert the sample in the right format:**
    Click on "File" and then on "export". Choose "WAV" as data type and select the whished folder where to save the new file; the name of the file should not be longer than 8 characters. Save the file in the folder containing Wac2Dat.exe!

3. **Convert to binary format:**
    Open the command prompt and go into the folder, where the executable „Wav2Dat.exe" is located („Wav2Dat.exe" can be found on the product CD). Then enter the following command into the command prompt:

    Wav2Dat the_sample.wav holdmusic.dat
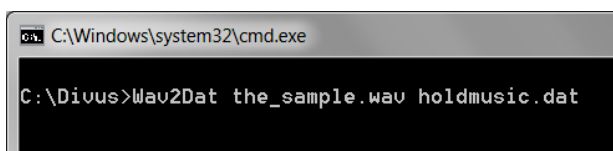
The previously created sample „the_sample.wav" will be converted to „holdmusic.dat" and saved in the same location; Only the newly created file "holdmusic.dat" can be uploaded to the OD-Sip Plus.

For creating a ringtone the procedure is the same, with the only difference that the name of the final binary file must be „ringtone.dat" instead of „holdmusic.dat".

2.4.7   RESET TO FACTORY SETTINGS

If the IP address of the OD-Sip Plus should be forgotten, it is possible to reset the OD-Sip Plus to factory settings:

IP address: 192.168.1.200

Subnet mask: 255.255.255.0

Password: 1234

The procedure is the following:

- Power off the OD-Sip Plus

- Set the small switch „J3" to position „LF" (Load Factory); the switch is accessible through the cut-out on the left side of the OD-Sip Plus:
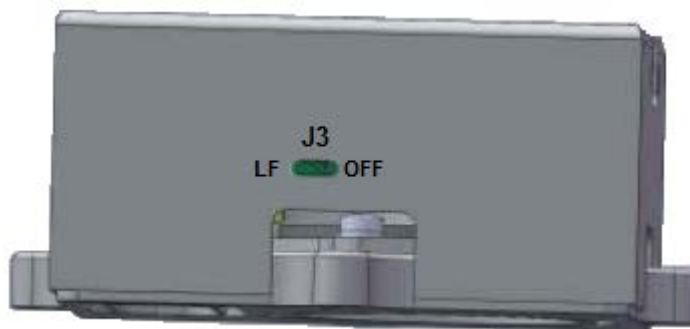
- Power on the OD-Sip Plus

- Wait until OD-Sip Plus has booted and the automatic start sequence is finished.

- Acknowledge sound and LED 1 + 2 (red/yellow) are on

- Afterwards LED2 (red) is on and LED1 (yellow) is blinking

- Switch „J3" to position „OFF". The OD-Sip Plus will automatically reboot and the procedure is finished.

Hint: The reset to factory settings can also be done through software like explained in chapter 2.4.4.1.

2.5   TECHNICAL INFORMATION

2.5.1   DIMENSION
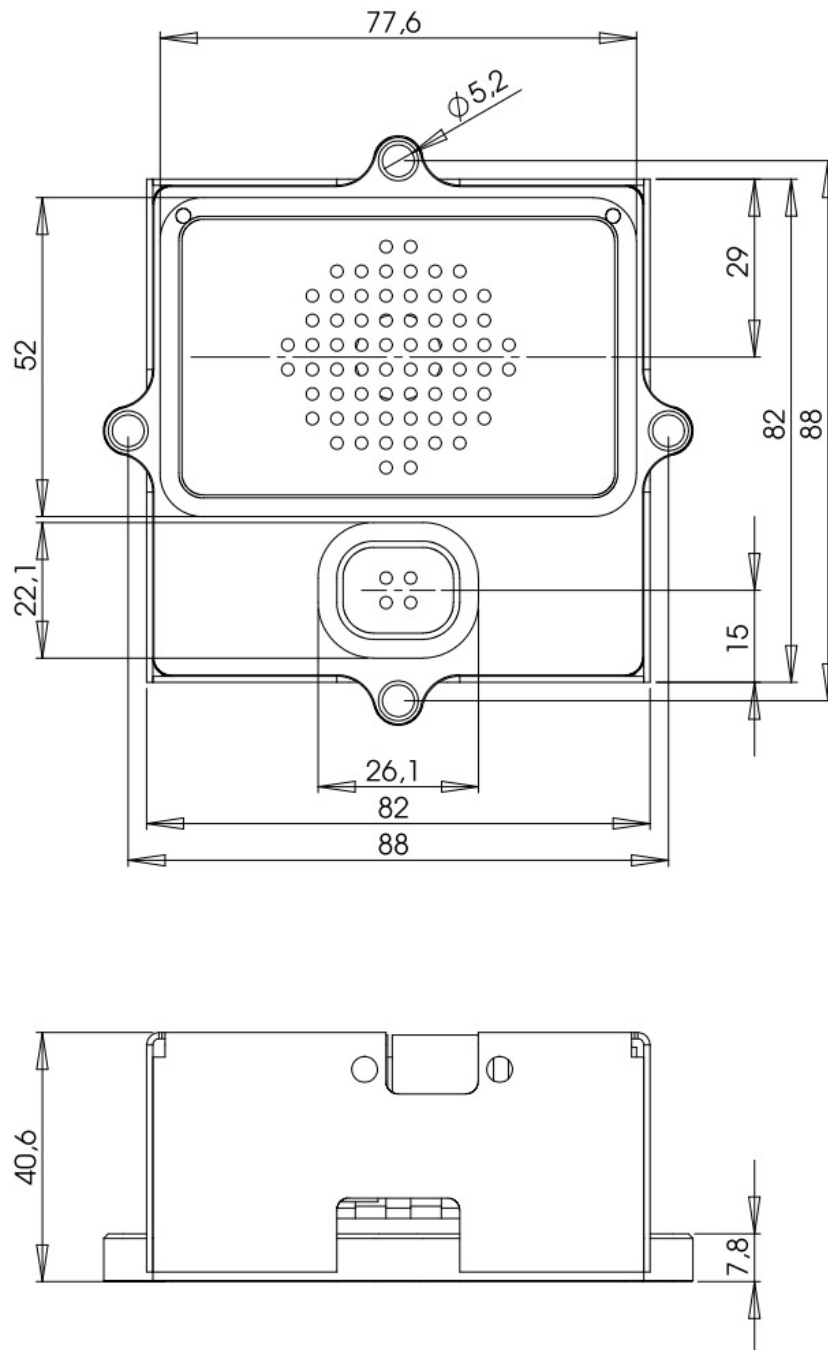
2.5.2   EXAMPLE FOR COVER CUT-OUT
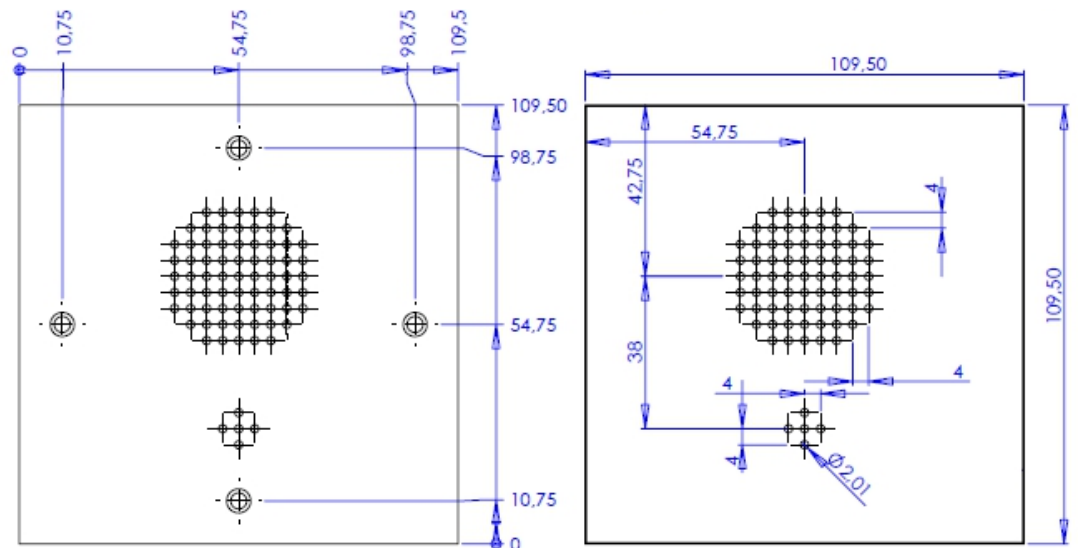
2.5.3   COMPATIBLE VOIP PROVIDER AND VOIP SERVER

Following products are compatible:

- Divus Videophone
- SipGate.de
- 3CX Free Edition
- Asterisk
- accessVoIP
- Asterisk-Cluster
- FOXFON
- EasyPBX
- Swix
- Siemens HiPath
- Octopus NetPhone
- Open Office E+ME
- Open Scape
- Auerswald Compact 5010 VoIP
- Starface
- Agfeo

2.5.4 GENERIC INFORMATION

CONNECTIONS	1x Ethernet with PoE over RJ45 (input)
	1x Ethernet with PoE over RJ45 for OD-Cam (output)
	Removable screw terminal for 24V DC power supply
	2 relays with contact NO (door opener + additional function)
	Ground
	Direct call keys input
	switchboard key input (max. cable length 0.5m)
	Backlight output for LED backlights
	Flat cable connector for expansion modules
CE-SIGN	EMV 2004/108/EG, EN50081-1 / EN55022
TEMPERATURE	-20 °C to +50 °C (-20 °C after 15 min. power)
PROTECTION CLASS	IP65 if combined with an appropriate housing
POE POWER SUPPLY	Class 2, Endspan or Midspan
POWER SUPPLY VOLTAGE	24 VDC if PoE not used
POWER CONSUMPTION	Idle 2.2W, voice transmission 4W
MATERIAL	Aluminium housing
DIMENSIONS	95 x 95 x 40 mm
WEIGHT	320 g
SIP STANDARDS	RFC 2833 (DTMF), RFC 2976 (SIP Info)

3 OD-cam

3.1   INTRODUCTION

The OD-Cam is a high compact IP camera. The OD-Cam was designed for mounting in custom housings like mailboxes, columns etc. and fits also in the DIVUS Design. The small dimension and the functionality of the OD-Cam leads to a high flexibility of this module. The whole configuration is done over the built in web server through a very intuitive menu; therefore remote maintenance of the OD-Cam is very easy.

Hint: The OD-Cam can be used by several users contemporaneously. So it's possible to show the video stream on several PCs at the same time. The contemporaneous accesses on the OD-Cam are limited to 10. If more than 10 users try to access the OD-Cam pictures or video stream, not all of them will see the video or the pictures of the OD-Cam.

3.2   CONNECTIONS

The OD-Cam supports only PoE power supply. The OD-Cam can so be power supplied and connected with the network with the same Ethernet cable. The installed router or switch must be PoE capable of course, or a PoE-injector must be used for power supplying the OD-Cam. In combination with the OD-Sip Plus the OD-Cam can be connected directly to the "Output" Ethernet port of OD-Sip Plus which is PoE capable independent if the OD-Sip Plus is power supplied by PoE or by a 24V DC power supply. Additionally connections are not available.

3.3   CONFIGURATION

3.3.1   INTRODUCTION

The configuration is done through a web based menu. Open a Browser and enter the IP address of the OD-Cam in the address bar of the browser for reaching the main menu (standard IP address „192.168.0.121"):

4 submenus are available:
* Configuration
* Camera image
* Help
* System Info

While the latter three links will be freely accessible, the configuration menu will prompt for user credentials to avoid undesired access. Default username is "admin" and password is "1234".

The submenus will be explained in detail in the following chapters, where the screenshots will show the default settings for use with Divus Videophone.

Hint: As soon as you change a setting the green "Save"-label appears. Make sure to activate this function at the end of your setup session or before testing – only after that will store all your changes. Refreshing the browser window will cause your changes to be lost!
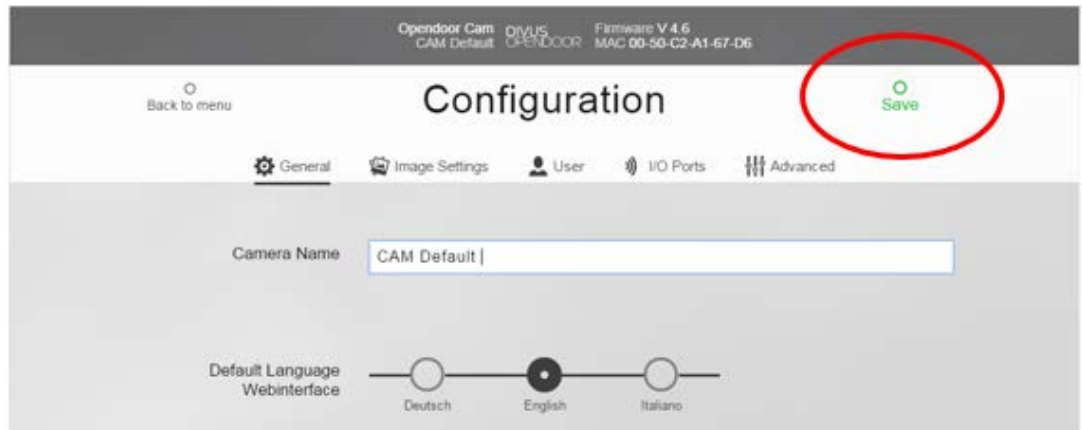
3.3.2   CONFIGURATION

The configuration parameters of the OD-Cam are divided into the following sections:

- General

- Image settings

- User

- I/O Ports

- Advanced

3.3.2.1 GENERAL

Here you can set network and general configuration parameters.

- **Camera name:** You may give your camera a custom name. This might be useful if your setup contains multiple cameras.

- **Default Language web interface**: allows to switch to one of the languages shown, and set the default language for web clients

- **DHCP:** Allows to change between DHCP ON (you will get all network parameters from your local DHCP server) or DHCP OFF (this makes the input fields visible to configure your network settings manually)

- **IP address:** default is !192.168.0.121".. May be changed to comply with your local network.

- **Netmask:** default is "255.255.255.0".

- **Gateway:** the gateway address is usually that of your network's router. Defaults to "192.168.0.1".

- **DNS:** You may insert a DNS server here (e.g. "8.8.8.8")

- **User authentication required for video access:** If you set this to On, the OD-Cam will not allow any access to its images/videos without authentication. You may achieve an authenticated access using only the web address path using this syntax:

  http://user:password@IPADDRESS/pathtoimageandfilename

    (e.g. "http://user:password@192.168.0.121/jpg/imahe.jpg").

- It is generally advised to not activate this option.

- **Restart device:** This option allows to shut down and restart your OD-Cam. Remember to save any unsaved changes before starting a reboot!

Hint: The setting "User authentication required for video access" must be disabled, so that the picture of the OD-Cam can be shown correctly.

3.3.2.2   IMAGE SETTINGS

Here you may change the image settings to meet your (client's) needs. Remember that images with higher resolution cause higher data load, which again leads to lower network transfer rates. Therefore you should try to find the combination of settings giving the optimal compromise between quality and speed/smooth playing.

Hint: Note that the last setting on this page is for loading presets ("default" and "IR Reg. opt") which comprise most settings of the page itself. Selecting such a preset will overwrite your current image settings. You should there-fore first load a preset – if needed – and only after that make additional changes to the image settings.

- Image resolution: sets the resolution at which the single images of the camera are captured.

- Frames per second (Sensor):   Determinates how many pictures the OD-Cam takes in 1 second with the camera sensor. Should be 15 for VGA (640x480) or 20 with quality set to 40.

- Displayed images (video): this setting regards the mjpg-stream of the OD-Cam because the still image is updated every 400ms. Depending on how smooth the stream should be and how high the network data load is allowed to be, you may change this parameter accordingly. If e.g. the OD-Cam is capturing 25 frames per second and you choose to use each 2nd frame for the video stream, this will produce a frame rate of about 12 frames per second.

- Zoom: Although the OD-Cam cannot be rotated, you have the possibility to focus on a smaller part of the visible frame using the zoom factor. The picture is digitally zoomed. The function is available only for resolutions smaller than VGA.

- Image Displacement: The picture can be moved along the X- and Y-axis when the image resolution is smaller than VGA (640x480) and the zoom factor is bigger than 1. Wrong combinations are automatically reset. See the explanation below for details.

- Quality (JPEG compression): The quality of the pictures depends on the compression of the JPEG pictures. The higher the quality than lower the compression and vice versa; if a lower data rate is needed, the quality may be decreased resulting in more compressed JPEG pictures with smaller size.

- Picture rotation (Web IF only): This allows to change the image rotation for the video shown in the web interface.

- Select presets: If heavy light spots are present near the OD-Cam, the Infrared-View functionality of the camera can be optimized for such a special situation by setting this parameter to "IR Reg. opt."

Hint: In this picture you see the OD-Cam module from behind. To mount the module correctly, be aware that the "UP" direction is considered to be the one used to plug the Ethernet cable into the LAN interface.
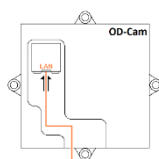

Hint: The setting „Image resolution" should be set to „QVGA (320x240)" for showing the camera pictures in best way.
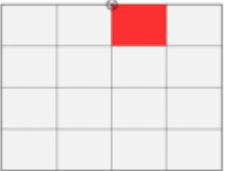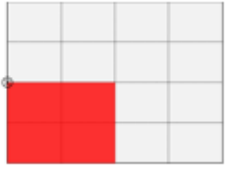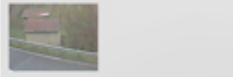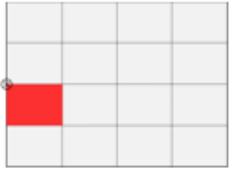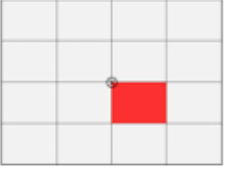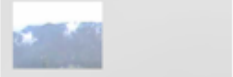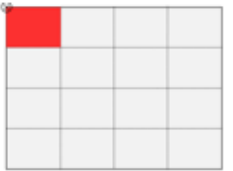
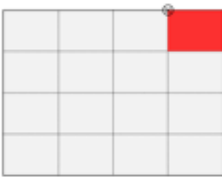**EXAMPLES EXPLAINING THE ZOOM AND IMAGE DISPLACEMENT SETTINGS:**

In the following image you see the maximal available image size. Notice how the coordinate system is oriented (origin is the upper left corner). The values for the image displacement are the coordinates of the upper left corner.
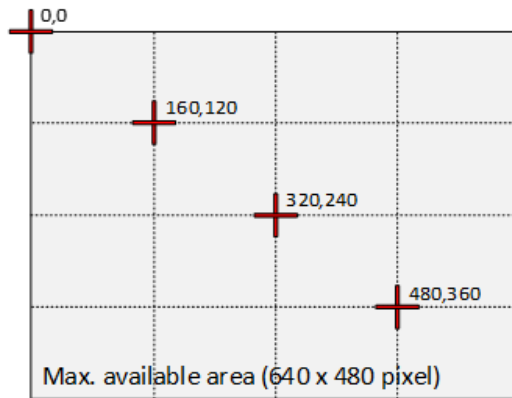
The graphics in the following table show the single images where the depicted area is colored red; "n/a" means the given setting is an impossible combination of parameters.

	640 x 480	320 x 240	160 x 120
Zoom 1x X: 0 Y: 0			
Zoom 2x X: 0 Y: 0	n/a		

	640 x 480	320 x 240	160 x 120
Zoom 2x X: 320 Y: 0	n/a		
Zoom 2x X: 0 Y: 240	n/a		
Zoom 2x X: 320 Y: 240	n/a		
Zoom 4x X: 0 Y: 0	n/a	n/a	
Zoom 4x X: 480 Y: 0	n/a	n/a	

	640 x 480	320 x 240	160 x 120
Zoom 4x X: 0 Y: 360	n/a	n/a	
Zoom 4x X: 480 Y: 360	n/a	n/a	

3.3.2.3 USERS

The OD-Cam may have multiple users with different access rights. In this section you can manage existing users and add or remove users.
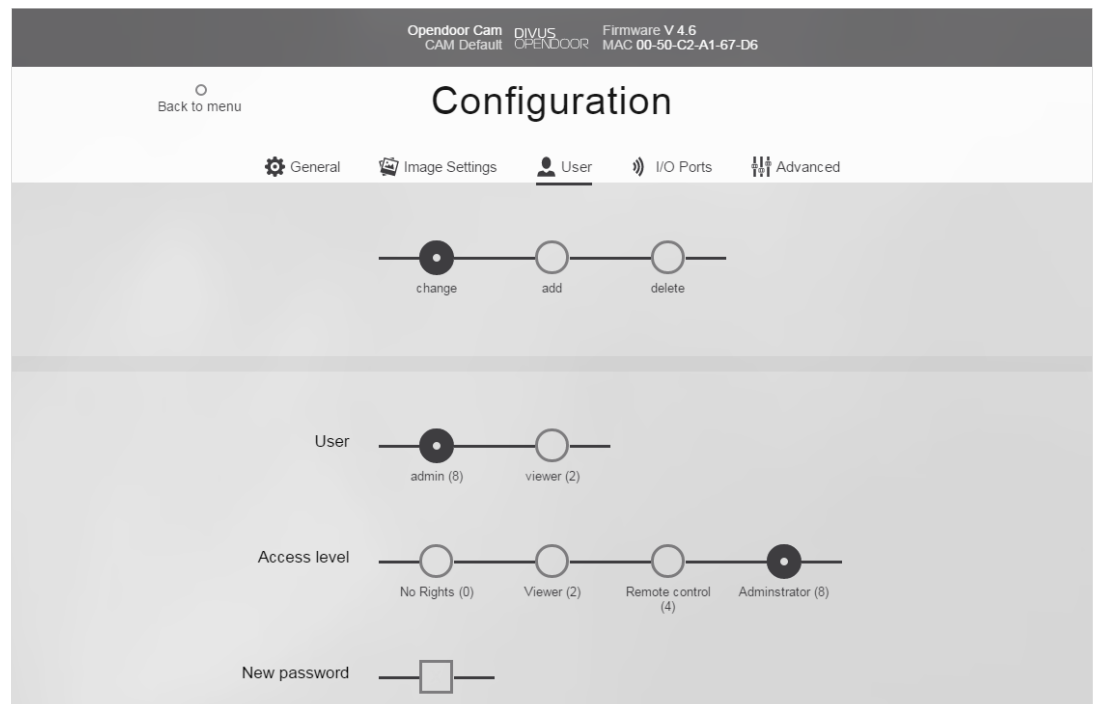
The first function on this page allows to choose the desired action to perform: change, add or delete a user. The default view is the one you see here. When you make your choice, the following options change accordingly. Existing users (admin and viewer are there by default) may be given a different access level, or their password may be changed.

The access levels are:

- **No rights:** The user is deactivated. Corresponds to the value 0. (the access level as numeric value is shown in brackets after each access level name.)

- **Viewer**: This user access level allows to access image and video data. Such a user (named "viewer") is available by default. Value 2.

- **Remote control:** This level offers the same rights as the viewer level plus access to remote control. Value 4.

- **Administrator:** This level has no access limitations. The default user "admin" belongs to this access level (default password is "1234"). Value 8.

Additional users may be added. Just insert the new user's name, access level and password (repeated twice). The password requires a minimum length of 4 characters. Finally confirm the action with the green save function!

And finally, to delete an existing user, simply select the "delete"-action and the user to delete. Then confirm with the save button, as usual.

Attention: Please note that you should always have at least one user with administrative access level. So never delete the last administrative user without having created a new one.

3.3.2.4 I/O PORTS

The OD-Cam has two I/O ports which can be connected through the Ethernet cable with external mod-ules like for example the OD-Sip Plus. The actual state of the I/O ports is shown on this page. The state "HIGH (24V)" means that the I/O port is switched on if used as output or if used as input as not pulled down to GND (open "binary 0"). The state OFF means that the I/O port is switched off if used as output or is pulled down to GND (closed "binary 1") if used as input.

The I/O ports can be switched manually off, on, or on for a definable duration of time in seconds.

3.3.2.5   ADVANCED

In this section there are three sub-sections about Camera, Ports and System containing advanced settings

CAMERA

The IR (infrared) lighting allows the camera to capture pictures with good contrast and sharpness also at night or in bad lighting conditions.

IR Lighting Setup: The IR Lighting can be enabled always, disabled always, set to automatic (will be turned on only when the ambient light is not enough) or can be controlled by the OD-Cam I/O ports.

Options – IR Automatic Mode: If the IR Lighting is in automatic mode, here you can specify whether the IR LEDs can be controlled additionally by the OD-Cam I/O ports by overriding the automatic mode control. If the defined I/O port is pulled to GND, the automatic mode will be ignored and the defined command („On" or „Off") will be executed on the LEDs and remain until the I/O port is released and turns to 24V.

Options – IR Controlled by I/Os: If the IR Lighting is controlled by the OD-Cam I/Os, then it is possible to invert the signal here.

IR mode threshold (Shutter value): This is the limit of ambient light for IR Lighting activation.
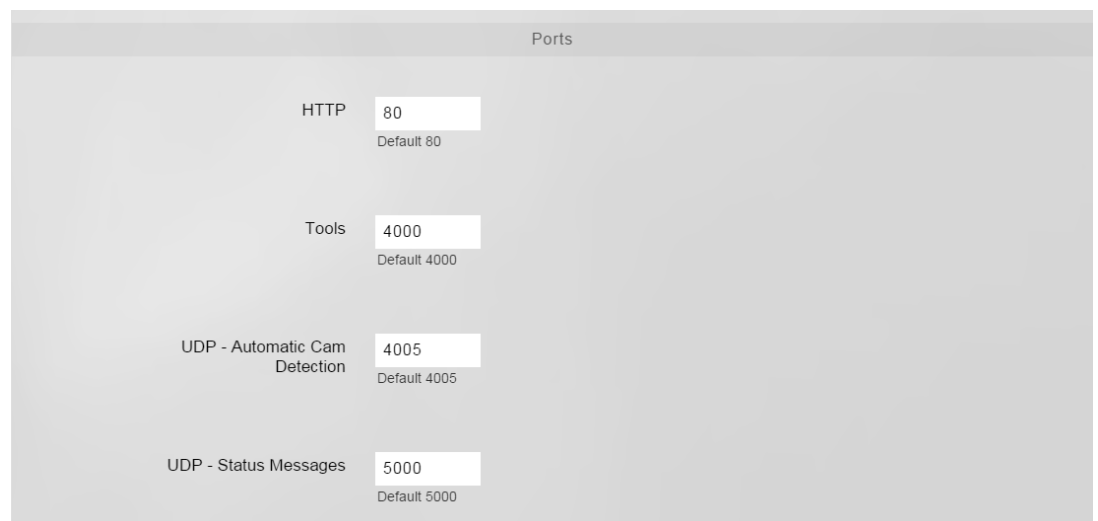
Hysteresis: To prevent the IR LEDS from switching on and off continuously a hysteresis for the switching can be defined here. Once the ambient light shutter value is lesser than the defined threshold the IR LEDs are turned on. The IR Lighting will be turned off again, when the ambient light becomes brighter than the threshold + the hysteresis.

Switch On Delay: When the ambient light shutter value is less than the defined threshold, the IR LEDs are turned on after the delay specified here.

Switch Off Delay: When the ambient light shutter value is higher than the defined threshold, the IR LEDs are turned off after the delay specified here.

B/W in IR/Nightvision mode: Here it can be defined if the camera picture switches from color to monochrome when the IR LEDs becomes active, because this brings more contrast and sharpness to the picture

PORTS

Here you can find out and change the ports used by your OD-Cam for the network communication.

- **HTTP:** The default port for accessing the web management application is 80.

- **Tools:** UDP port for tools (see below)

- **UDP - Automatic Cam Detection:** UDP port for automatic detection of OD-Cam. OD-Cam sends its name over this port. Defaults to 4005.

- **UDP – Status Messages:** The UDP port over which the OD-Cam sends status messages to the network. Default is port 5000.

SYSTEM
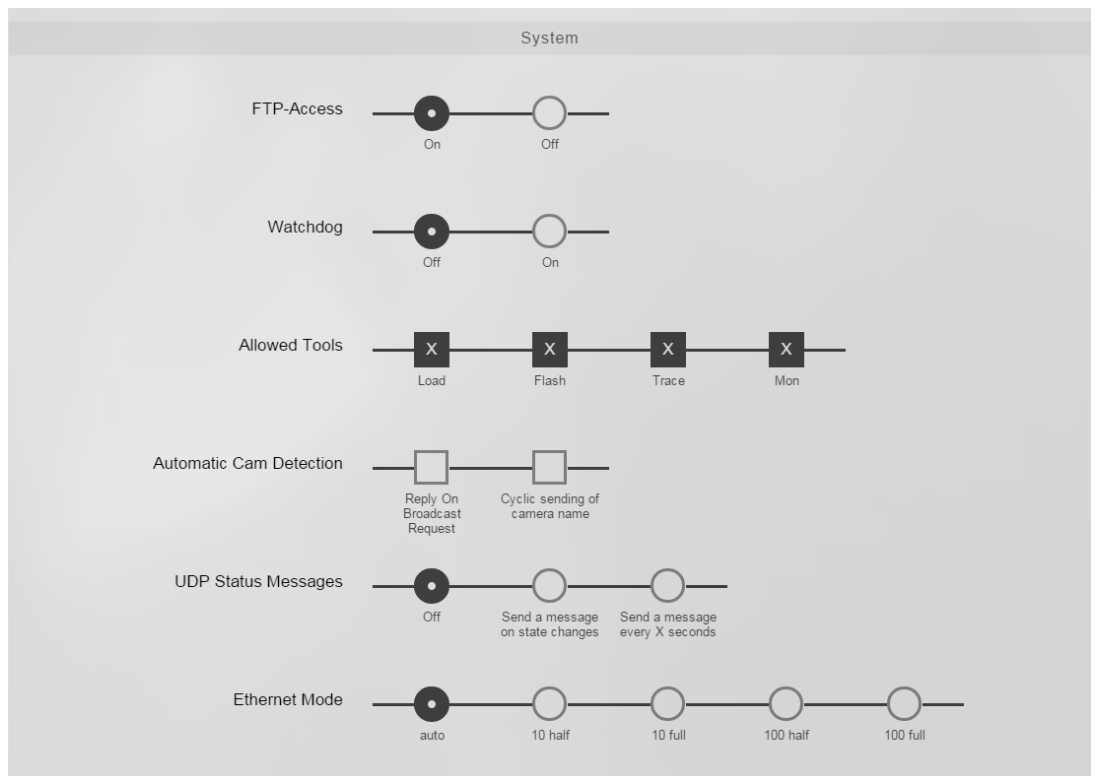
- **FTP-Access:** The access to the integrated ftp server can be enabled/disabled here.

- **Watchdog:** The hardware watchdog function can be managed here.

- **Allowed tools:** The tools „Load", „Flash", „Trace" and „Mon" can be enabled/disabled here.

- **Automatic Cam Detection**: The OD-Cam can send its name over UDP. Here you can define if the name will be sent only on request, periodically or if it should not be sent at all.

- **UDP Status messages:**   The status of the OD-Cam can be monitored over these status messages. The port configured above is used. You have the following options:

- **Off**: no status messages are sent.

- **On state change**: after any state change (e.g. i/o ports) the respective state is sent.

- **Every X seconds:** the state of the OD-Cam is sent in a loop every X seconds.

- **Ethernet Mode:** The network transfer rate may be changed here if needed. It should generally be set to "auto".

3.3.3   CAMERA IMAGE
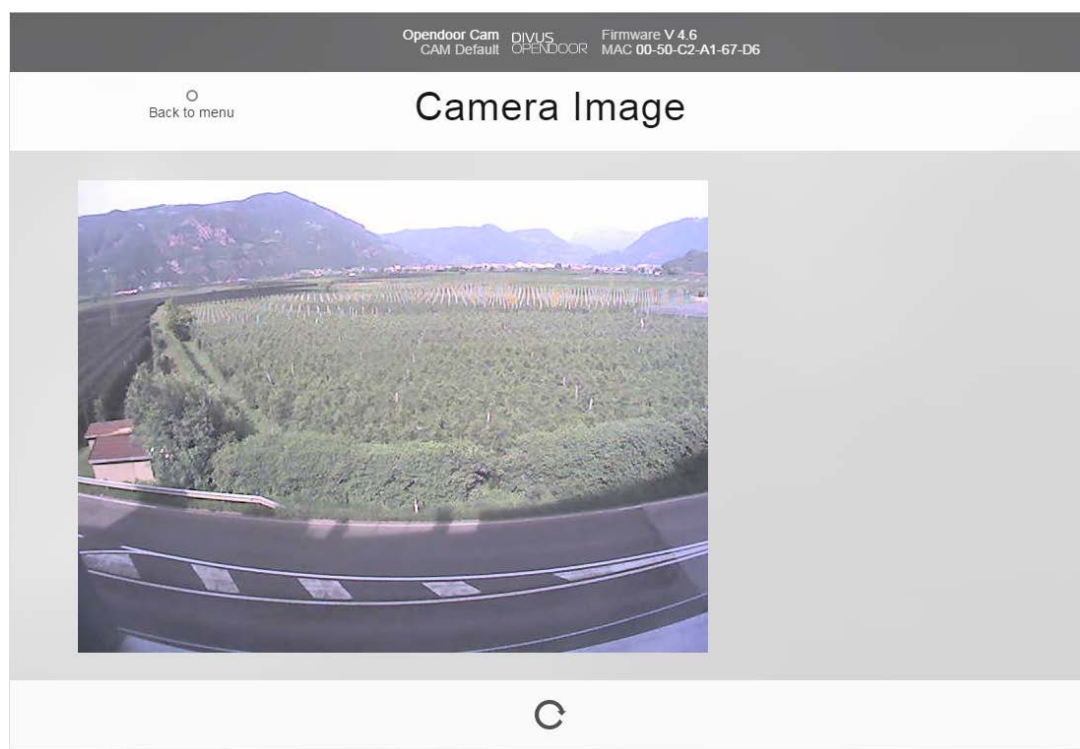
The image / video of the camera can be checked and watched here. If the View should be wrongly rotated, you may change the rotation in 90 degree steps with the arrow-icon in the white bar at the bottom of the page.

3.3.4   HELP
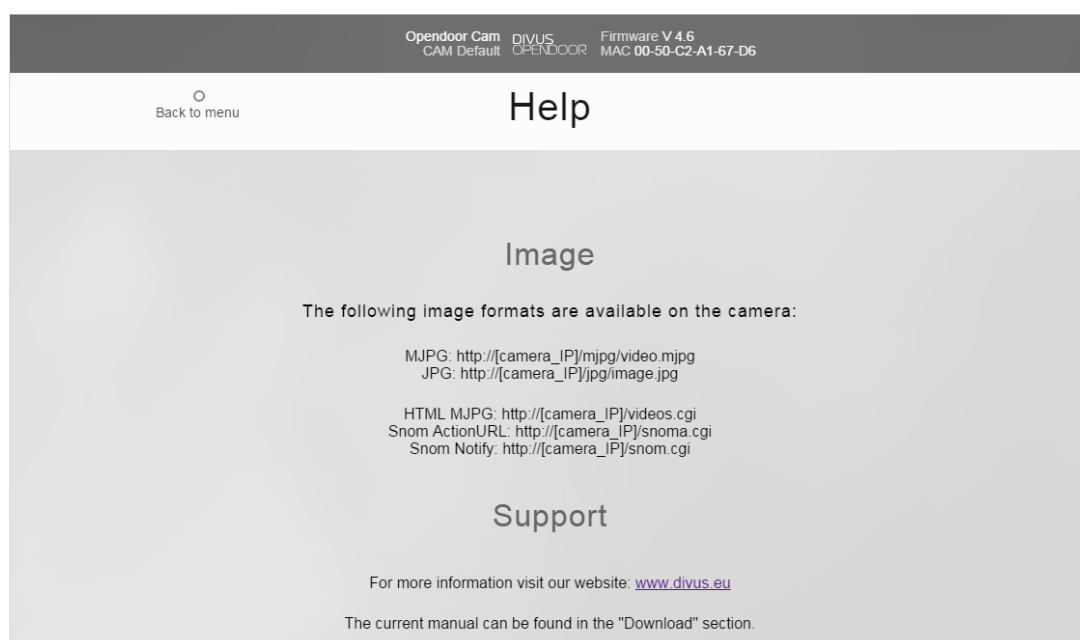
In the help page you'll find the URLs to the camera's pictures / video. There are multiple addresses because the device you use for the visualisation might have restriction with one or more of the available data types.

For support requests or to download the latest version of this manual, you'll also find the web link to our homepage www.divus.eu.

3.3.5   SYSTEM INFOS
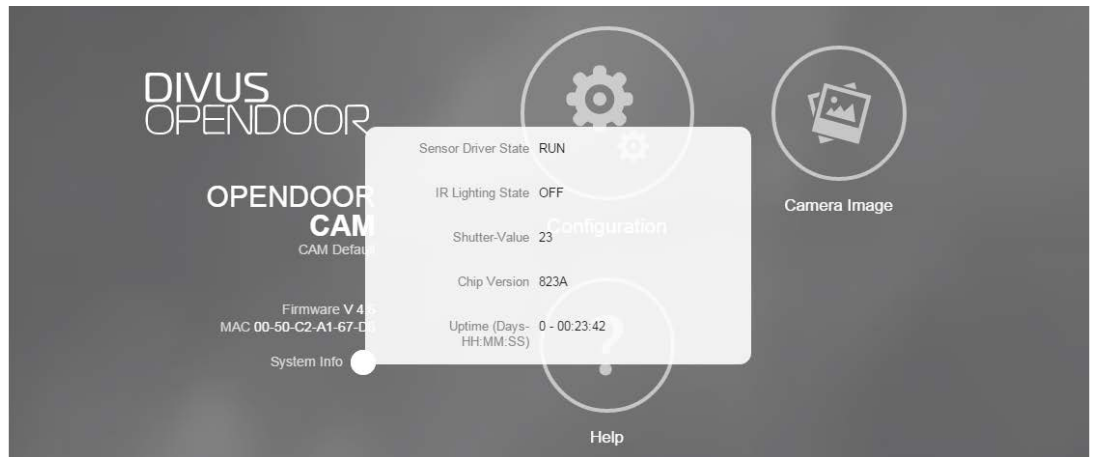
This small window contains some useful information regarding the current state of the OD-Cam:

- **Sensor driver state:** Shows the sensor driver state

- **IR Lighting state:** Shows if the IR light is on or off

- **Shutter-value:** current value of the built-in light sensor (Shutter value is changed automatically

- **Chip version:** Hardware version number

- **Uptime:** Shows the time counted since the last reboot (or power loss)

3.4   TECHNICAL INFORMATION

3.4.1   DIMENSION
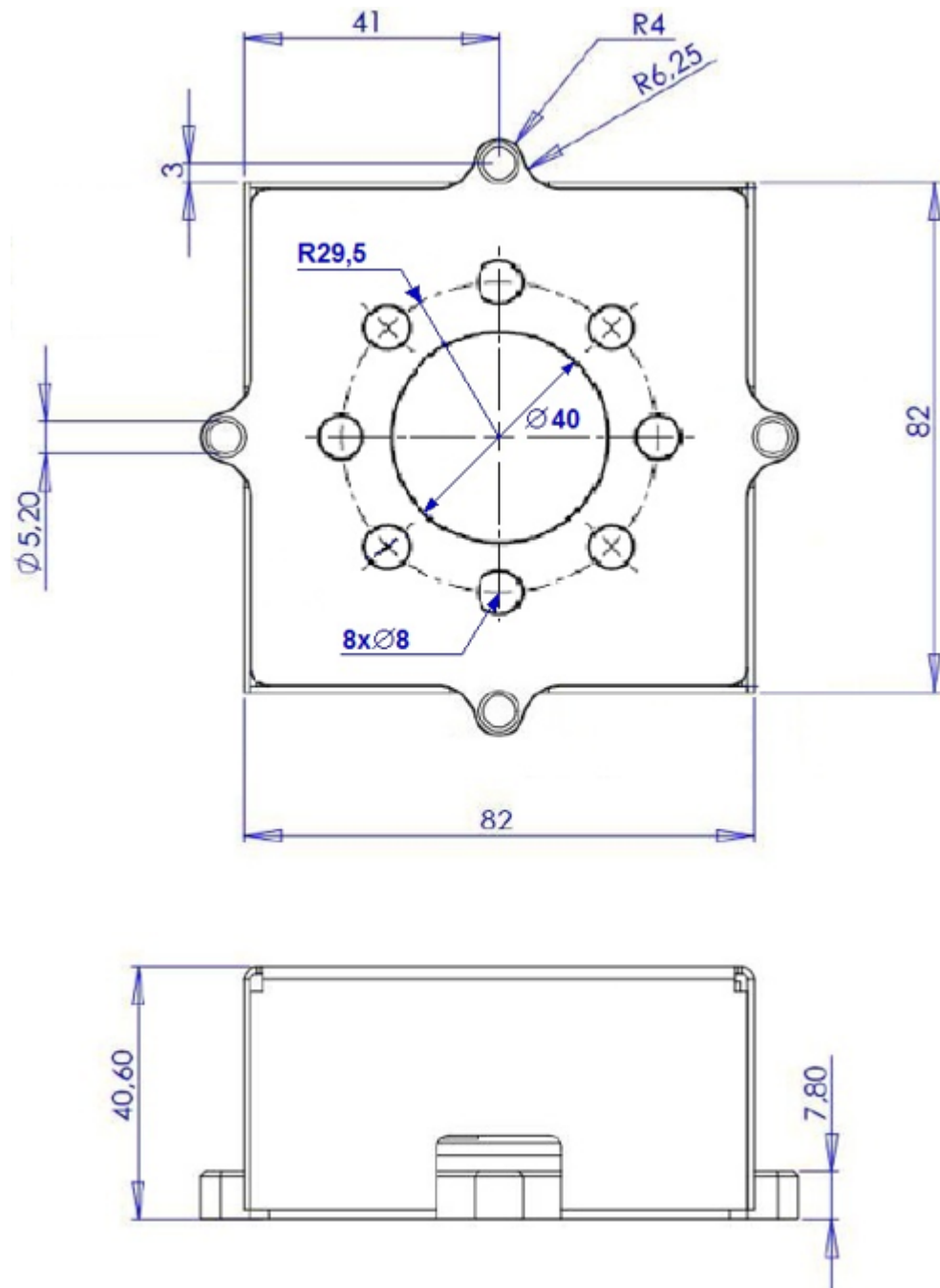
3.4.2   EXAMPLE FOR COVER CUT-OUT

3.4.3   GENERIC INFORMATION

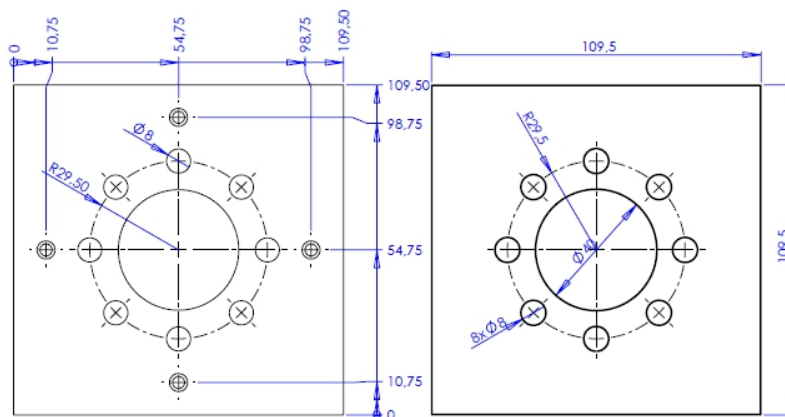|	
VIEWING:	Does not need any plugins in newer browsers supporting HTML5. Single jpg-pictures can be retrieved from the camera through http protocol. Multiple access possible up to 10 users contemporaneously.
CONFIGURATION:	The configuration takes place through a browser after user authentication.
NIGHTVISION:	Automatic activation of the IR LEDs, when the ambient light falls below a settable limit.
UDP STATUS:	Status messages over UDP for popup software.
CAMERA:	VGA Colour CMOS Image Sensor
LENS:	2.5 mm f1:2.0 with fixed blind 2.0, focus range 20 cm to endless, viewing angle horizontal ca. 83°, vertical ca. 65°, diagonal ca. 111°.
IMAGE RESOLUTION:	Colour image scalable up to 640 x 480 (VGA). Hardware based JPEG compression with max. 25 frames per second with QVGA resolution.
NETWORK:	100BaseTX Ethernet interface.
CONNECTIONS	1xEthernet RJ45
CE-SIGN	EMV EN55011 und EN500082-1
TEMPERATURE	-20 °C to +55 °C (-20 °C after 15 min. power).
PROTECTION CLASS	IP65 in combination with an appropriate housing
POE POWER SUPPLY	Class1, Endspan (power supply is connected through the 4 data wires). Midspan (power supply is connected through the free wires) is not compatible.
POWER SUPPLY	PoE only

| POWER CONSUMPTION	max. 3 VA
MATERIAL	Aluminium housing
DIMENSION	96 x 96 x 40.5 mm

4   OD-Secure

4.1   INTRODUCTION

The OD-Secure avoids external hacking of the local network through the network connection of the OPENDOOR door station. A micro sabotage switch checks if the housing of the OPENDOOR door station is closed or opened. If this sabotage switch detects, that the housing was opened, OD-Secure cuts the OPENDOOR door station physically from the network. Once the sabotage switch has caused OD-Secure to cut the network connection, also by pressing the sabotage switch manually the network connection will not be reconnected. Only by pressing the reset button on the OD-Secure it will restore the network connection.

But the OD-Secure does not only cut and restore the network connection, it has a 24V DC output, which is disabled on a sabotage detection and enabled by pressing the reset button. So it's possible to power down the whole door station on a sabotage detection. This can be used to prevent manipulation of the electrical door opener. If the switched 24V DC is used to actuate the electrical door opener, once the OD-Secure has detected a sabotage and switched off the 24V DC power supply output it's not possible any more to actuate the electrical door opener on the OPENDOOR door station by bridging the screws of the relay connected to the door opener; just because the OPENDOOR door station is no more power supplied and the door opener, too.

The power supply will be re-stored by pressing the reset button on the OD-Secure.
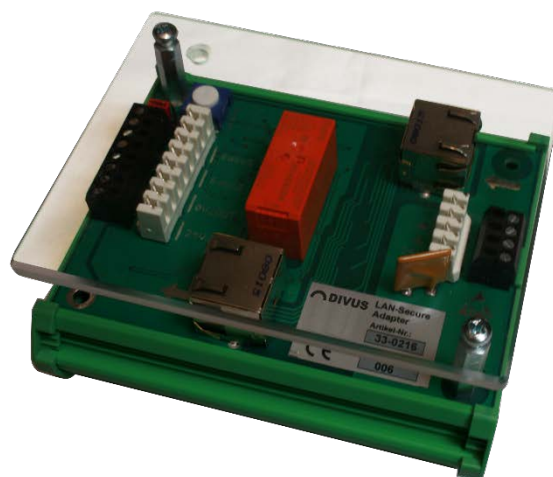
4.2   CONNECTIONS

All connections are made through removable screw terminals or through the additional knife connectors. The OD-Secure needs a 24V DC power supply and can handle up to 2 sabotage switches.
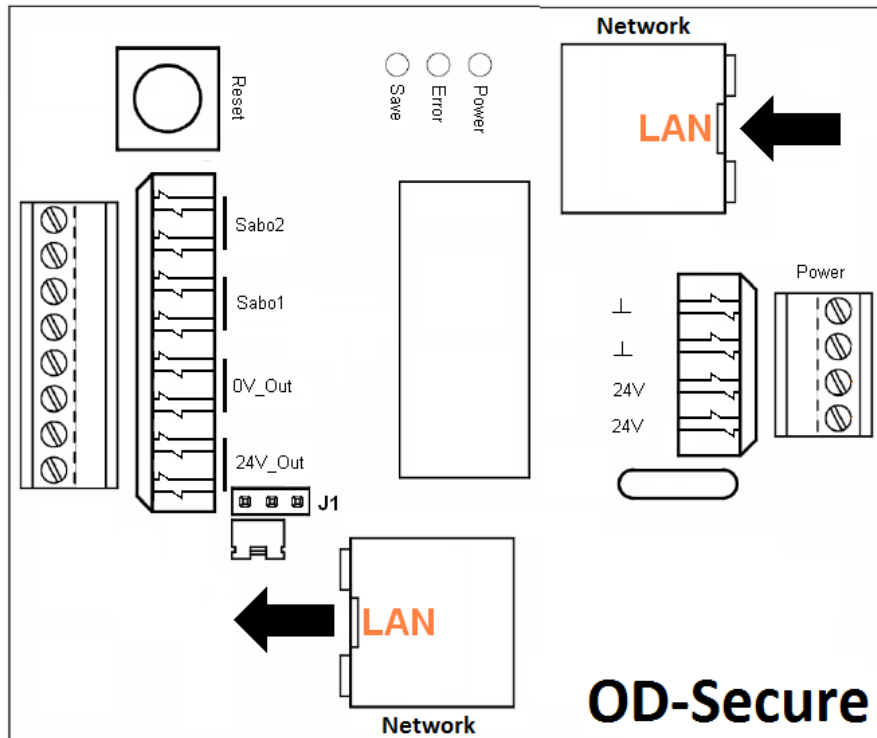
LEFT SIDE

SABO2.1		
SABO2.2	Sabo2	Sabotage switch 2
SABO1.1		
SABO1.2	Sabo1	Sabotage switch 1
0V_OUT.1		0V output switched
0V_OUT.2	0V_Out	0V output switched
24V_OUT.1		24V DC output switched
24V_OUT.2	24V_Out	24V DC output switched

RIGHT SIDE

| ⊥	0V input power supply (GND)
⊥	0V input power supply (GND)
24V	24V DC input power supply
24V	24V DC input power supply

If a sabotage switch is used, then it must be connected to „Sabo2". If two sabotage switches are used, then the second sabotage switch must be connected to the connections „Sabo1" and the jumper „J1" must be moved to enable the second sabotage switch input „Sabo1" .

On delivery OD-Secure is config-ured for only 1 sabotage switch on "Sabo2". The configuration options of jumper "J1" are:

If the jumper is located at the left side only one sabotage switch on „Sabo2" is enabled".
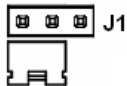
If the jumper is on the right Side, also a second sabotage switch on "Sabo1" is enabled.
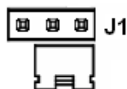
4.3   DISPLAY, CONTROLS AND ACCESSORIES

4.3.1   STATUS LEDS

The OD-Secure has 3 Status LEDs, which shows the actual status of OD-Secure:

Power: The green power LED shows if the OD-Secure is power supplied.

Save: The yellow save LED indicates a normal function of the OD-Secure; no sabotage detected.

Error: The red error LED shows that a sabotage is detected.

4.3.2   RESET BUTTON

The reset button is located at the upper right corner of the OD-Secure. Once a sabotage is detected the OD-Secure cuts the network connection to the OPENDOOR door station and switches off the 24V DC out-put, to power off a connected OPENDOOR door station or other devices. By pressing the reset button, the network connection is restored and the 24V DC output is switched on to power on a connected OPEN-DOOR door station or other devices again; the OD-Secure returns in normal function mode.

If the reset button is pressed, when the OD-Secure is working in normal function mode (no sabotage is detected), the 24V DC output is switched off until the reset button is released. In this way the OPEN-DOOR door station or other devices, power supplied by the switched 24V DC output of the OD-Secure, can be hardware reset from the OD-Secure.

4.3.3   SABOTAGE SWITCH

OD-Secure is delivered with a sabotage switch, which must be mounted inside the OPENDOOR door sta-tion, so that the contact is closed, when the housing is closed (the housing must pull down the contact arm). If the housing is opened, the contact of the switch is opened too and the OD-Secure detect sabo-tage. The GND contact (bottom) must be connected with the GND of the switched 24 V DC output of OD-Secure.
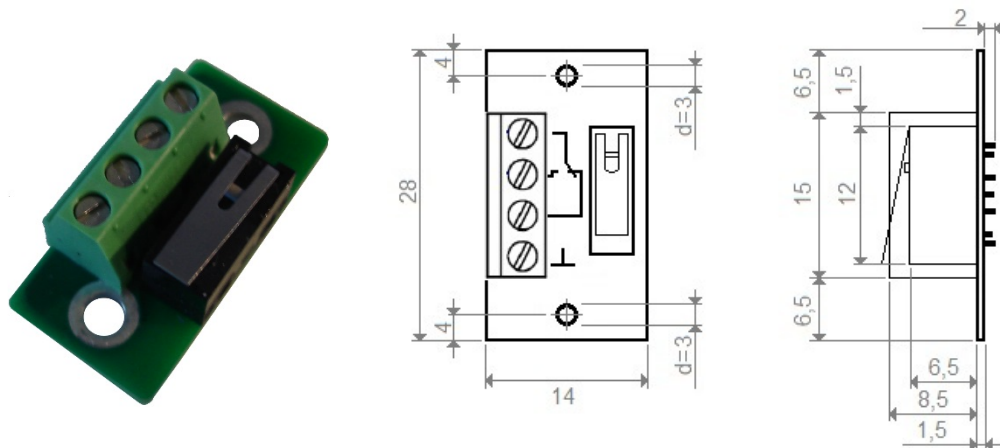
4.4   TECHNICAL INFORMATION

4.4.1   GENERIC INFORMATION

CONTROLS	Status through 3 coloured LEDs Reset button
CONNECTIONS	2 x Ethernet RJ45 port (input and output, marked by arrows) Power supply 24V DC Removable screw terminals and knife connectors for all connections and Power supply. Up to 2 sabotage switches and a switched 24V DC output for power supplying door station (2,5A max.)
CE-SIGN	EN55011, EN50081-1
TEMPERATURE	0 to 55° C
POWER SUPPLY	24VDC +/- 20%
CURRENT CONSUMPTION	max. 100 mA
MOUNTING	DIN bar

DIMENSION	110,0 x 85,0 x 50,0 mm
WEIGHT	150 g

5   OD-Keypad

5.1   INTRODUCTION

The OD-Keypad extends the OD-Sip Plus to a SIP phone, since it allows to dial every number directly, like on a normal SIP phone. For installation with one door station and a lot of internal units the OD-keypad is a good alternative to single ring buttons, because on a very small sized door station all internal units can be called by dialling the right number; by using ring buttons a lot of space would be needed to install all the needed ring buttons.

Hint: The OD-Keypad can only be used in combination with OD-Sip Plus. The OD-Keypad can't be used as standalone keypad.

5.2   FUNCTION

Button overview

BUTTON	DESCRIPTION
✳	Asterisk(∗). Used as point for entering IP addresses.
#	Confirm
.	Start entering quick dial number

	Dial switchboard (main call)
	Start entering code for actuating door opener
	Start entering number, accept incoming call, abort call

The OD-keypad has the following functions:

- Dial pad for dialling call numbers

- Access control through entering a code for the door opener defined in the phone book of the connected OD-Sip Plus.

DIAL PAD

On the OD-Keypad call numbers of SIP clients can be entered directly. If no VoIP server is installed than it's also possible to enter an IP address of another SIP client on the OD-Keypad for an IP to IP SIP con-nection. The dial procedure is the following:
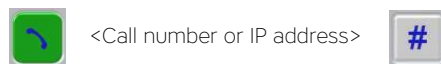
<Call number or IP address>   #

An IP address can only be dialled if the connected OD-Sip Plus is configured to not register on a VoIP server. The point "." in the IP address must be dialled by pressing asterisk „*" on the OD-Keypad.

A call without entering any numbers is also possible. By pressing the switchboard (main call) button, the number is called which is defined in the connected OD-Sip Plus under „switchboard" (main call).

Another possibility is to use quick dial numbers; "00" to "59" are possible. The quick dial numbers are related to the section "Call destinations" of the connected OD-Sip Plus, where the quick dial number in-creased by "1" gives the index of the corresponding entry. This means if the quick dial number "05" is dialled, the call number defined in the connected OD-Sip Plus in the line with index number 05 + 1 = 6 will be dialled; the index number is shown at the beginning of each line. The dialling pattern is the following:

<quick dial number>
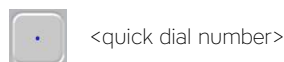
ACCESS CONTROL

The OD-Keypad recognizes each code, which was defined in the connected OD-Sip Plus. If one of these codes is entered on the OD-Keypad, the door opener is actuated. The door opener code must be entered as follows:

<Code>   #

For preventing the hacking of the access codes the OD-Keypad has a blocking timeout, which blocks every enter-ing of a new code if the code was entered 4 times wrong in 3 minutes. How long the timeout is depends from the blocking level. If the blocking timeout was once activated and there are not passed 60 minutes since them, the blocking level is increased by 1 until reaching level 4. If a blocking timeout is active on each further action on the OD-Keypad the timeout and the timeout for reset of the blocking level (60 minutes) is restarted.

BLOCKING LEVEL	BLOCKING TIMEOUT [MIN]
1	3
2	5
3	10
4	20

A reset of the blocking level affects when for 60 minutes there are no buttons pressed on the OD-Keypad.A reset of the blocking timeout and the blocking level is done also on a power off/on reset

Here an example:

On the OD-Keypad the code was entered wrong 4 times in 3 minutes and since the last blocking timeout more than 60 minutes has passed. The blocking timeout will start and last for 3 minutes; for this time no code will be accepted by the OD-keypad. If after the 3 minutes the code is entered other 4 times wrong, the blocking timeout will start again, but this time last for 5 minutes..

Hint: For the configuration „OPENDOOR" a DTMF code „2" must be configured in the OD-Sip Plus call destination. Since this a very unsecure code for the door opener on OD-Keypad, will be better to use a longer code. For this the configuration file of Videophone „aviax.cfg" must be adapted. Open the file with the Windows WordPad, scroll down to the „[opendoor]" section and change the „2" to the new longer code, which was configured in the OD-Sip Plus call destination.

5.3   TECHNICAL INFORMATION

5.3.1   GENERIC INFORMATION

CONTROLS	Dial buttons and function buttons
CONNECTIONS	Flat cable for connection to OD-Sip Plus
DIMENSION	96,0 x 96,0 x 38,0 mm
WEIGHT	345 g

5.3.2   DIMENSION
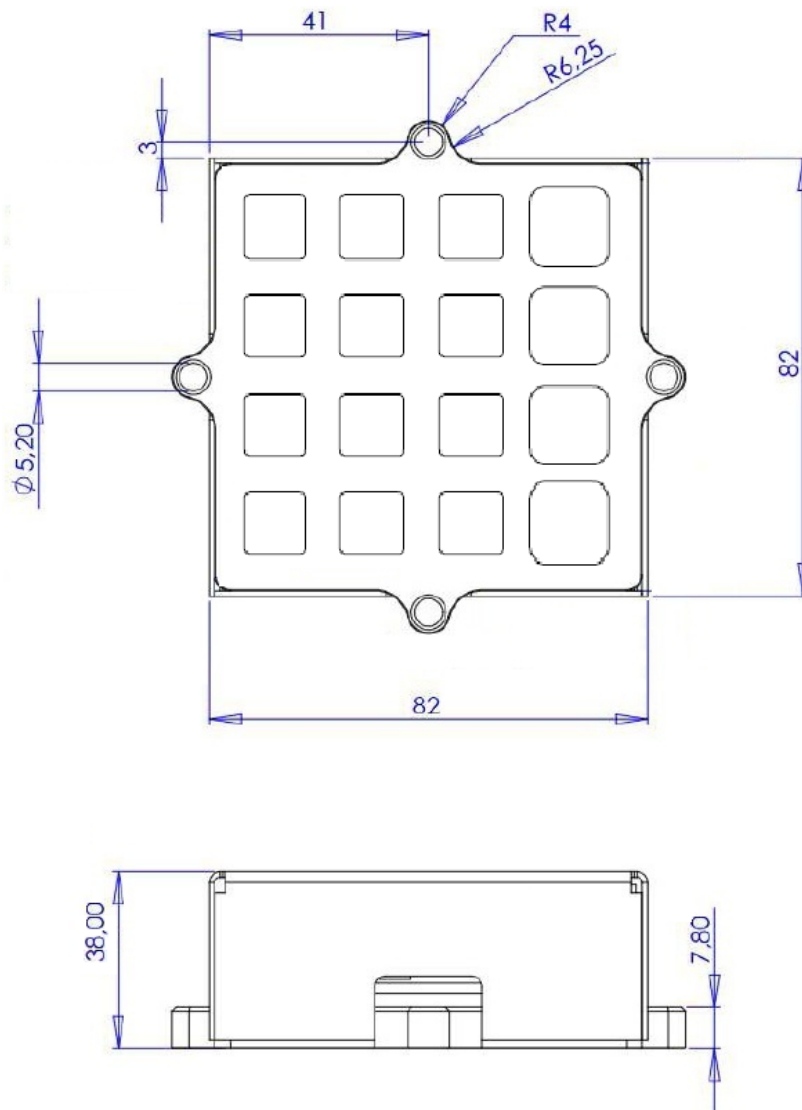
5.3.3   EXAMPLE FOR COVER CUT-OUT
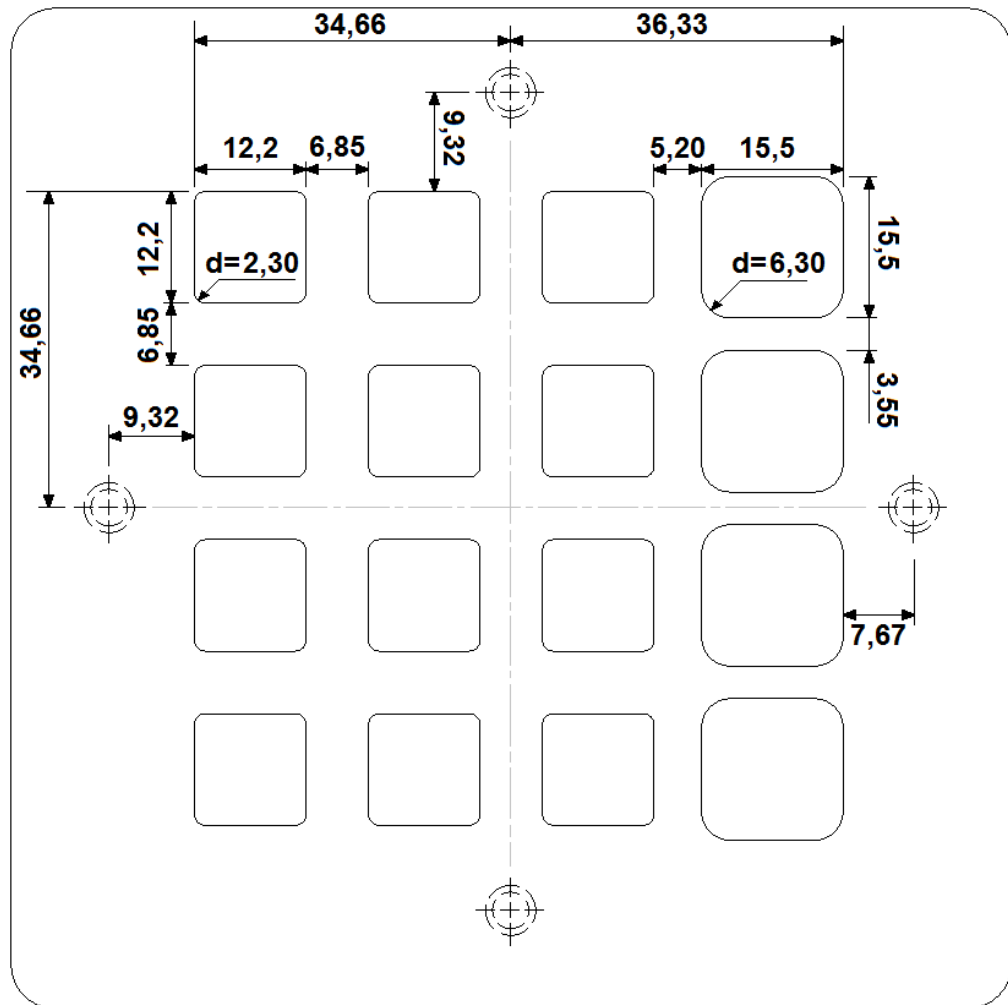
6   OD-Transponder

6.1   INTRODUCTION

The OD-Transponder is a standalone transponder reader designed for access control of small buildings. There is no Bus connection needed nor a configuration device requested for installation. The whole con-figuration is done through program keys called "badge". The OD-Transponder is delivered with

One transponder for access called „user badge"

One red delete-badge to delete the related user badge

One program badge

Is possible to get additional user badges and their delete-badges by ordering the OD-Kit_Badges; one package contains 5 user badges and 5 delete-badges.

Hint: The delete-badges and program badges should be kept in a secure place, because they are very im-portant. If a user badge get lost, the only possibility to delete it from the OD-Transponder is through the related delete-badge. If the lost user badge is not deleted from the OD-Transponder, everyone who finds the lost user badge can access through OD-Transponder.

6.2   CONNECTIONS

The OD-Transponder needs a 24V DC power supply and offers a relay contact and a open collector out-put to signalize, when a user badge was recognized.

| NUMBER	CONNECTION	DESCRIPTION
1	24V	24 V DC, power supply +
2	Bus	Bus connection (without any function)
3	GND	24V DC, power supply -
4	OC	Open Collector Output, pulls down to GND for some seconds, when a user badge has been recognized.
5	Sabotage	Without any function
6		
7	Relays 1	Contact is closed for some seconds if a user badge has been recog-nized
8		
9	Relays 2	Without any function
10		

6.3   PROGRAMMING

The OD-Transponder is shipped with a user badge (black), with a related delete-badge (red) and a pro-gram badge (red). Each badge is identified by a number or short description on it.

For programming User badges in the OD-Transponder the program mode must be entered by holding the red program badge on the OD-Transponder until an acknowledge sound (sound upwards) can be heard and the LEDs starts to blink red alternately (when the upper LED is off, the bottom LED is on and vice versa). Afterwards take away the program badge from the OD-Transponder and hold the whished user badge to the OD-Transponder until an acknowledge tone (sound upwards) can be heard and the two LEDs are blinking red 3 or 4 times synchronic; remind, that if a user badge has already been pro-grammed this step will end with a acknowledge sound (sound downwards) and the user badge will be deleted from the OD-Transponder. If other user badges shall be programmed repeat this step for each user badge to program. Once all badges are programmed exit the program mode by holding the program badge again near the OD-Transponder until a acknowledge sound (sound downwards) can be heard and the two LEDs stop blinking and stay on both red.
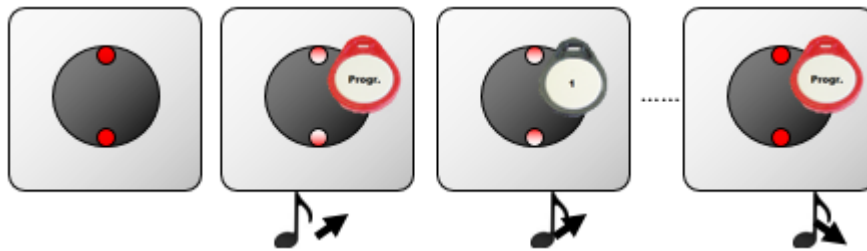
For deleting an already programmed badge from the OD-Transponder enter in program mode by holding the program badge near the OD-Transponder until an acknowledge sound (sound upwards) can be heard and the two LEDs are blinking red alternately. Afterwards take away the program badge from the OD-Transponder and hold the user badge on the OD-Transponder, which shall be deleted from it until a acknowledge sound (sound downwards) can be heard and the two LEDs are blinking red 3 or 4 times synchronic. If there are other user badges to delete, repeat this step for each user badge. Once all whished user badges are deleted exit the program mode by holding the program badge on the OD-Transponder until an acknowledge sound (sound downwards) can be heard and the two LEDs stop blink-ng and stay on both red.
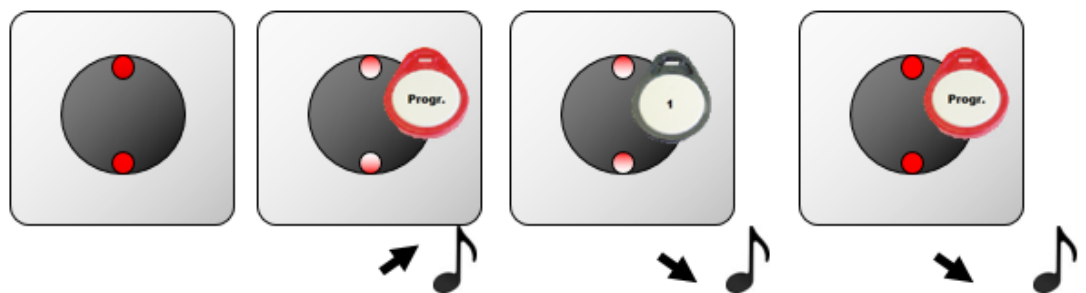
But how delete a user badge from OD-Transponder if it was lost. In this case the delete-badge of the lost user badge must be used. Hold the delete-badge on the OD-Transponder until an acknowledge sound (sound upwards) can be heard and the two LEDs start blinking red alternately. Take away now the delete-badge for some seconds and hold it again on the OD-Transponder until a acknowledge sound (sound downwards) can be heard and the two LEDs stop blinking and stay on both red. Afterwards the user badge related to the delete-badge is deleted from the OD-Transponder.

**Hint:** When the user badges are programmed, remind that when a user badge is hold on OD-Transponder a second time it will be deleted, because is the same thing as doing the delete procedure. So on pro-gramming it's important to listen to the acknowledge sound, when a user badge is hold on OD-Transponder: an upwards sound means, that the user badge was programmed, while a downwards sound means, that the user badge was deleted.

6.4   USAGE

To access hold the user badge on OD-Transponder. If the user badge is recognized by OD-Transponder an acknowledge sound (sound upwards) can be heard and the two LEDs are lighting both green for some seconds; at the same time the relay 1 will close his contact for some seconds and the open collector output will be pulled down to ground for some seconds.
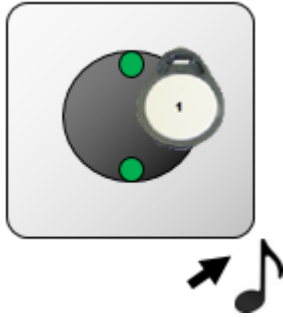
If the user badge is not recognized by the OD-Transponder an acknowledge sound can be heard (neutral sound, nor upwards, nor downwards) and the two LEDs are switched off for about a second. The relay 1 and the open collector output doesn't do any action in this case. Afterwards the LEDs return to lighten red.
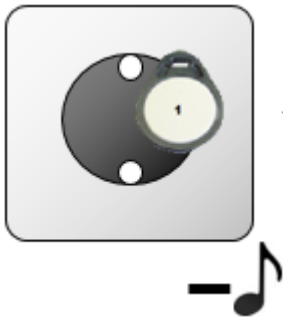
6.5   TECHNICAL INFORMATION

6.5.1   GENERIC INFORMATION

CONTROLS	The whole configuration and controlling is done over badges (transponder)
CONNECTIONS	• 1 open collector output (80V, 15W) • 1 internal relay (80V, 1A, 20W), presence
SIGNALLING	• 2 multicolour LEDs (red-green/ red-green (yellow)) • Acoustic feedback
POWER SUPPLY	12 - 24VDC, 2VA
DIMENSION	82,0 x 82,0 x 45,6 mm
WEIGHT	345 g

6.5.2   DIMENSION
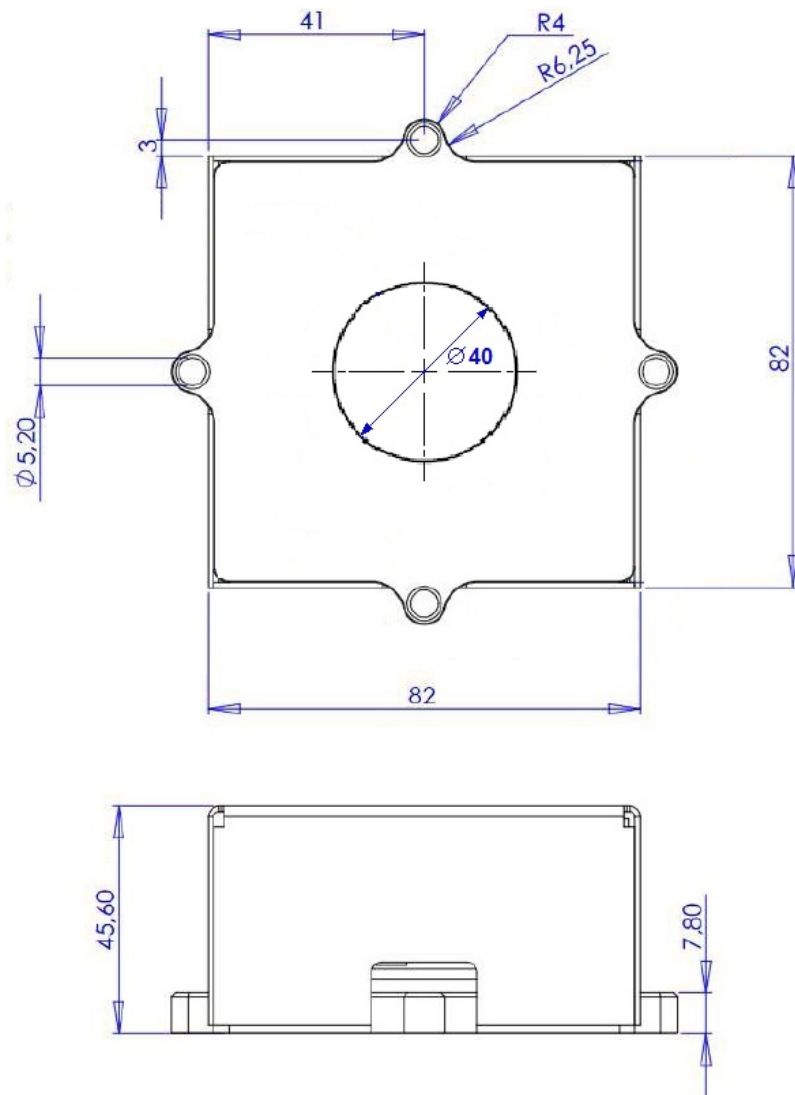
7   OD-Presence

7.1   INTRODUCTION

The OD-Presence is a standalone motion detector, which operates through radar waves. With the radar technology the OD-Presence can also be mounted behind materials like wood, glass etc., because the radar waves are able to pass through these materials. Additionally the OD-Presence has a twilight sensor incorporated on his front, which can be used to enable and disable the motion detection only when it's dark enough; the twilight sensor can also be totally deactivated.

7.2   CONNECTIONS

The OD-Presence has a removable screw termina on his back:

- **Schirm:** here the shield of the used cable can be connected.

- **GND:** Here the ground of the 24V DC power supply can be connected (-).

- **Relay contact:** The relay contact is closed, when the OD-Presence detects motion; it's a normally opened contact. This contact can be used to tell third party devices that motion was detect or to switch simply a light on and off.

- **+24V:** Here the 24V DC power supply can be connected (+)
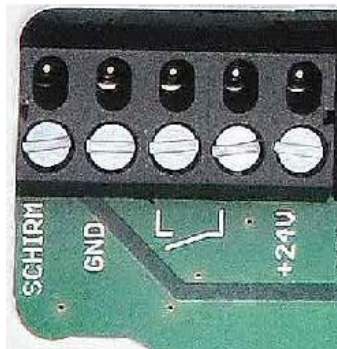
7.3   SETTINGS

All settings are made directly on the back of the device through potentiometers or jumpers. On the back of the OD-Presence there are 3 status LEDs, which shows the actual status of the device, too.
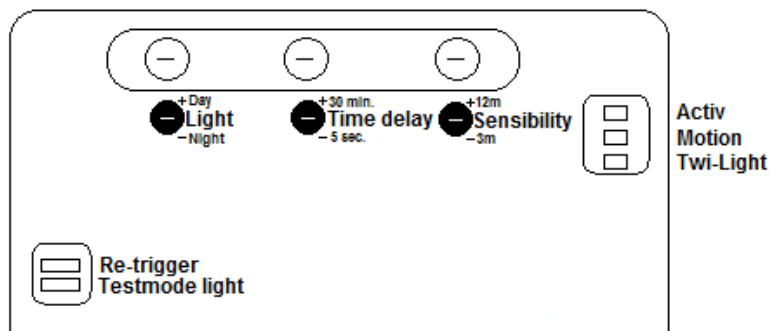
Light

Determinates the threshold of ambient brightness for enabling or disabling the relay contact for motion detection; the brightness is measured by the integrated twilight sensor. Than more the potentiometer is set to "-Night", than darker it must be for enabling the relay contact of the OD-Presence for signalling motion detection. If the potentiometer is set to the maximum "+Day" the twilight sensor has no more influence on the relay contact and it will react on every motion detection.

Time Delay

Determinates how long after a motion detection the relay contact shall be closed, for example to switch on a light. If the potentiometer is rotated in clockwise direction the time delay is increased. This time delay will only start if the twilight sensor has enabled the relay contact; if the twilight sensor is not used it will start on every motion detection. The time delay can be defined between 5 seconds and 30 minutes.

Sensibility

Specifies the range for the motion detection. By rotating the potentiometer in clockwise direction the sensibility is increased, where values from 3 to 12 meters are possible. The range will only have affect if the twilight sensor has enabled the relay contact.

LED „Active"

Fast blinking of this LED it means that the OD-Presence is restarting.

Periodic blinking of this LED it means, that OD-Presence is ready (normal function).

If the LED is still on, it means that motion has been detected and the relay contact is closed.

If this LED is switched off and switched on again fast, during it is still on, it means that another motion was detected and the time delay starts again (Re-trigger).

LED „Motion"

This LED lights up, when motion is detected.

LED „Twi-Light"

This LED stays on, when the twilight sensors detects lesser brightness than configured with the potentiometer „Light".

Jumper 1 „Re-trigger"

If this jumper is set, the OD-Presence will re-trigger the time delay every time another motion is detected. If this jumper is removed, the OD-Presence will close the relay contact for the defined time delay when a motion is detected and open the relay contact again, after the time delay is over; if the OD-Presence detects other motion while the time delay is running it will have no effect.

Jumper 2 „Testmode light"

If this jumper is set in the test mode for testing the setting of the „Light" potentiometer is activated; the settings of the "Light" potentiometer takes effect after 3-5 seconds. If this jumper is removed, changing the setting of the "Light" potentiometer will take about 30 minutes to take effect.

7.4   TECHNICAL INFORMATION

7.4.1   GENERIC INFORMATION

CONTROLS	The whole control is made through potentiometers and jumpers on the back of the device.
CONNECTIONS	• Power supply (8,1V DC to 30V DC) • Relay contact, 24V DC • removable screw terminal
POWER CONSUMPTION	• Idle (no motion in front of OD-Presence): <0,6W • Motion (Motion in front of OD-Presence): <8,85W
SENDING FREQUENCY	24,125 GHz
SENDING POWER	13dBm
SENSOR AREA	Horizontal 80°, vertical 32°
SENSOR RANGE	3-10m (0,5 -12m depending on the environment)
TEMPERATURE	-20 to 55°C
POWER SUPPLY	8,1 - 30VDC
DIMENSION	96,0 x 96,0 x 30,0 mm
WEIGHT	170 g

7.4.2   DIMENSION
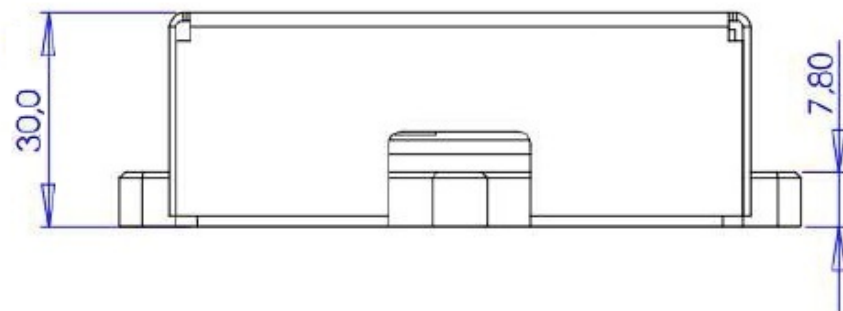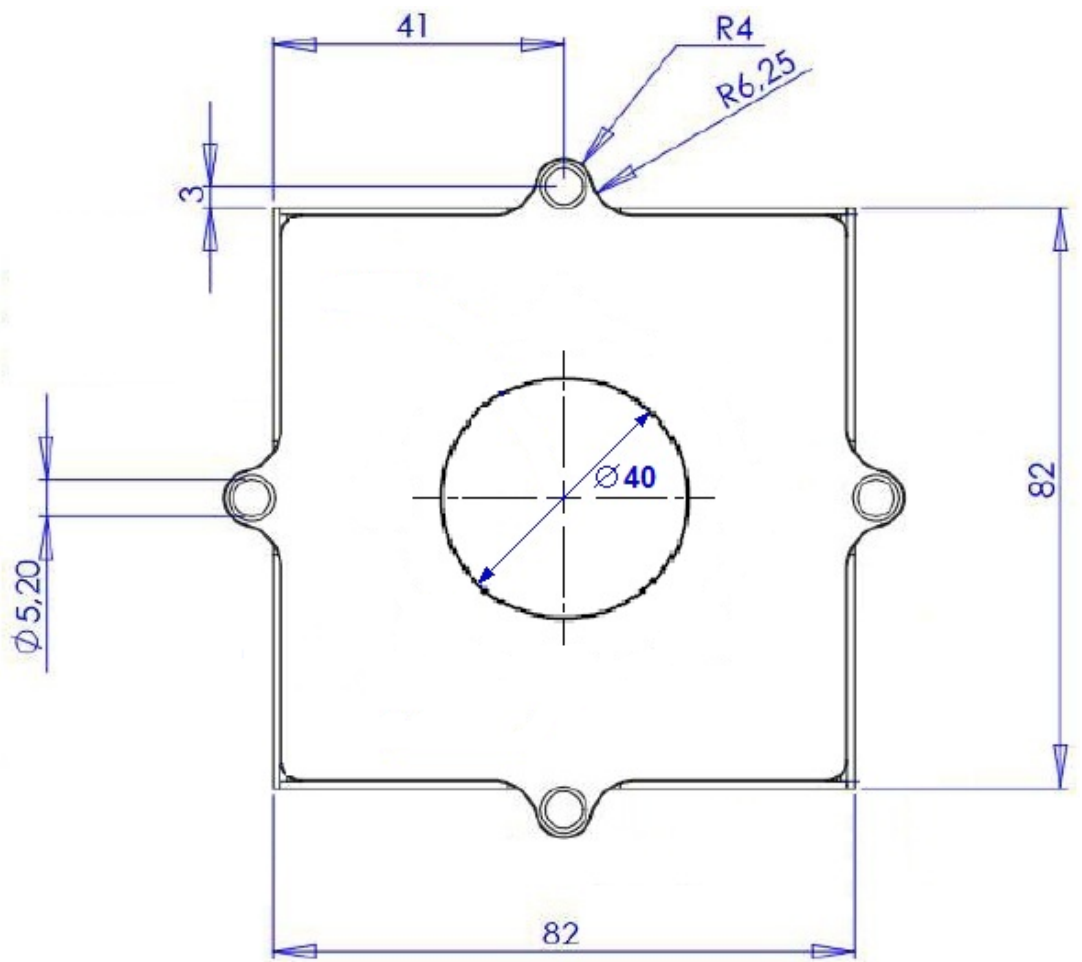
8   DIVUS Design

8.1   INTRODUCTION

The flexibility of the OPENDOOR modules (OD-Sip Plus, OD-Cam etc.) allow endless design variants. Since not each customer wants a special design DIVUS has created an own design, where the single OPENDOOR modules can be mounted. Depending on the requested modules there are different designs available.

The product range contains door stations with OD-Push_LED (1 ring button without nameplate), OD-BellModule2 (2 ring buttons with nameplate) and OD-BellModule4 (4 ring buttons with nameplate). This design variants are all available with prep-aration for OD-Cam or without; the variants without OD-Cam are smaller of course.

It's also possible to integrate additional modules into the single variants of OPENDOOR door stations. The OPENDOOR door stations in DIVUS design can be ordered with assembled OPENDOOR modules of course.

8.2   ASSEMBLY

The assembly of the DIVUS design is composed of the following elements:

- OPENDOOR Frame (frame)

- OPENDOOR Cover (cover plate)

- OPENDOOR MO (mounting unit if necessary).

The OPENDOOR Cover is the main element. Through the threaded bars (M4) mounted on the back of the OPENDOOR Covers the cover can be mounted on the OPENDOOR Frame and the OPENDOOR modules can be mounted on the cover with M4 nuts.

The OPENDOOR Cover is inserted into the OPENDOOR Frame so that frame and cover result in one plate. The whole OPENDOOR door station is then mounted on a wall or on the OPENDOOR MO mount unit through 4 M5 security screws; the needed 4 security screws are shipped with the OPENDOOR Frame.

8.2.1   OPENDOOR FRAME

The OPENDOOR Frames are available for 1, 2, 3 or 4 modules. The OPENDOOR Frame for 1 modules is designed for assembling OPENDOOR modules for standalone purposes (OD_Transponder, OD-Presence, fingerprint).
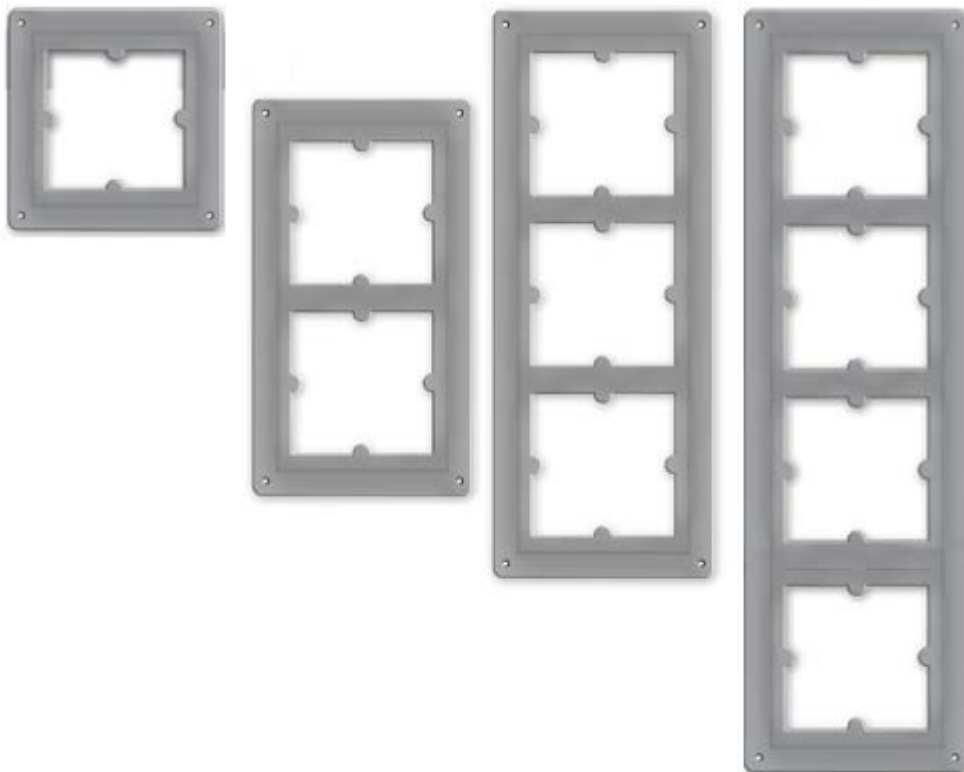
The OPENDOOR Frames for 2 and 3 OPENDOOR modules are the frames used for the OPEN-DOOR door station, depending of what OPENDOOR Cover is chosen (covers with cut-out for OD-Cam or without). The OPENDOOR Frames for 4 OPENDOOR modules are designed to assembly one of the OPEN-DOOR Covers for 3 modules (covers with cut-out for OD-Cam or with cut-out for fingerprint) and addition-al a single cover for an additional module (OD-Transponder, OD-Presence, OD-Keypad, fingerprint) in the fourth cut-out of the OPENDOOR Frame.

The OPENDOOR Frames are made of brushed Aluminium or Al-uminium painted in the whished RAL colour. Through the OPENDOOR Frame the whole door station is mounted on the mount unit or directly on a wall (wood etc.); holes for this purpose are present already on the OPENDOOR Frames. Also holes for mounting the OPENDOOR Cover and the OPENDOOR modules are already present in the OPENDOOR Frames; the whished cover can be put into the frame and be fixed with M4 nuts from the back of the frame.

To prevent damage by water, the OPENDOOR Frame has a grommet on his back (wall side) and on his front (cover side). With the OPENDOOR Frame 4 M5 security screws (OD_S) are delivered together with a security bit insert (OD_SBIT) for being able to screwing in and out the security screws.

The security screws can't be screwed out with normal screw drivers. The special security bit insert (OD_SBIT) is needed for that action and so the OPENDOOR door station is saved from being dismounted from vandals. Which OPENDOOR Frame is to use depends on the chosen OPENDOOR Cover. For all OPENDOOR Covers for door stations with OD-Cam and finger print a frame for 3 modules is needed. For all OPENDOOR Covers without cut-out for OD-Cam a frame for 2 modules is needed.

For each cover of a single module (OD-Presence, OD-Transponder, fingerprint) a frame for 1 module is needed. If a cover for a 3 module frame and a cover for a 1 module frame should be combined in the same frame a frame for 4 modules is needed.

8.2.2   OPENDOOR COVER

The OPENDOOR Covers can be assembled into with the fitting OPENDOOR Frame; cover and frame result in a single surface. The OPENDOOR Cover has all cut-out for mounting the related OPENDOOR modules. The different OPENDOOR Cover variants have of course different cut-outs. Basically 3 variants are available with cut-out for OD-Cam or without:

- Cut-out for OD-Push_LED (1 ring button without nameplate) and OD-Sip Plus

- Cut-out for OD-BellModule2 (2 ring buttons with nameplate) and OD-Sip Plus

- Cut-out for OD-BellModule4 (4 ring buttons with nameplate) and OD-Sip Plus

Additionally there are covers for single modules, which can be combined with OPENDOOR

Frames for 1 module or which can be mounted in the fourth cut-out of an OPENDOOR frame
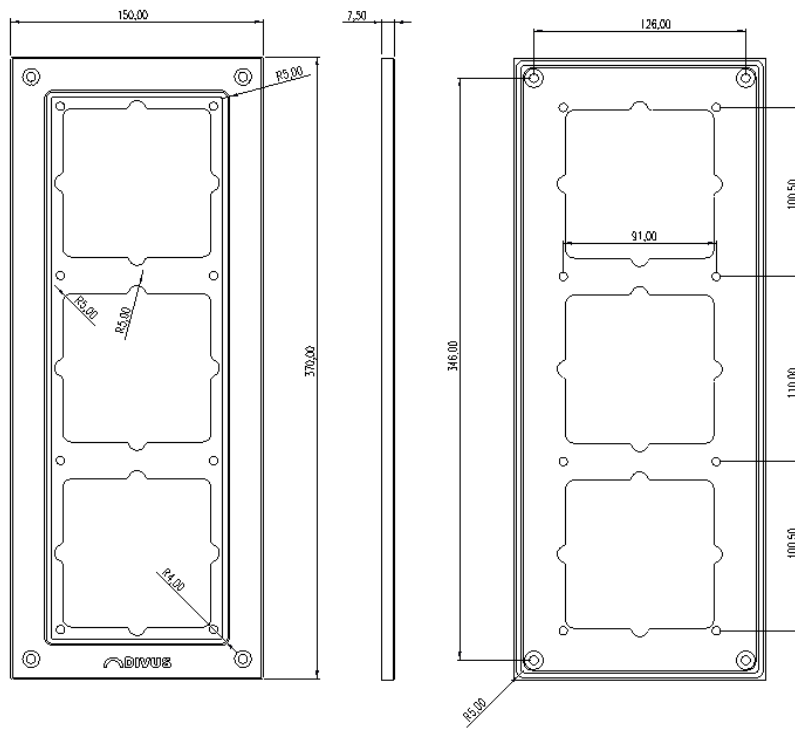
for 4 modules:

- Cut-out for OD-Keypad (Only in combination with OD-Sip Plus)

- Cut-out for OD-Transponder or OD-Presence (it's the same cut-out)

- Cut-out for fingerprint

Finally there is one special cover which has no cut-out for OD-Cam, but needs a frame for 3 modules:

- Cut-out for OD-Sip Plus, OD-Push_LED and fingerprint

The OPENDOOR Cover has on his back M4 threated bars through which it can be mounted into the OPENDOOR Frame. The OPENDOOR Cover are available in stainless steel or in normal steel painted in the whished RAL colour.

The dimension of a frame for 3 modules follows. All other frames have the same dimension, only the height of the frames changes from on to the other by 110mm (1 module: 150mm, 2 modules: 260mm, 3 modules: 370mm and 4 modules: 480mm); also the vertical distance of the holes changes from frame to frame by 110mm (1 module: 126mm, 2 modules: 236mm, 3 modules: 346mm and 4 modules: 456mm).

Since the dimension of the frame for 4 modules is different, an appropriate drawing follows:
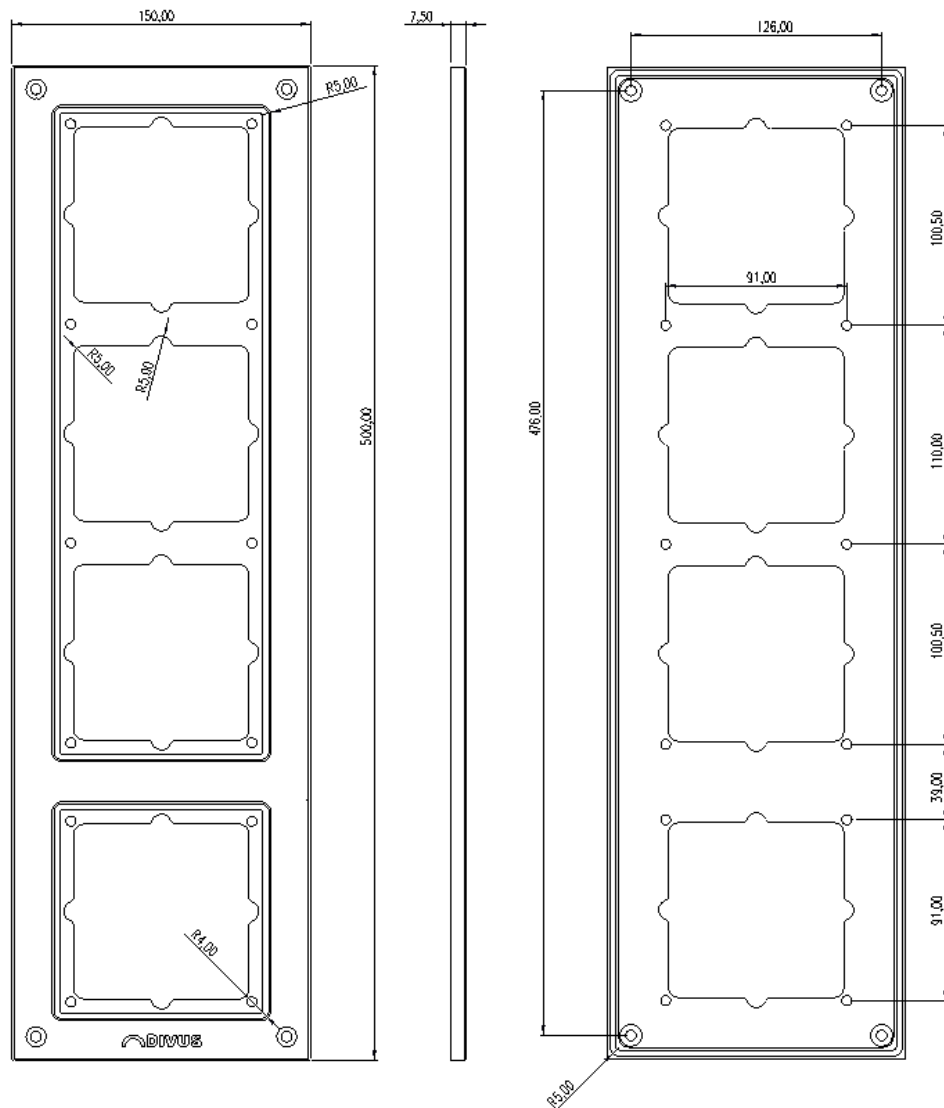
8.2.3   OPENDOOR MOUNT

With the OPENDOOR Mount (mount unit) the OPENDOOR door station can be mounted in a normal wall without problems. For mounting in cavity walls the OPENDOOR Mount must be supported by a construc-tion of wood or something similar. The OPENDOOR Mount is delivered with a thin cover and 4 M5 screws, for being able to close the mount unit, when used for in-wall purposes for keeping clear the inside of the mount unit until the OPENDOOR

door station is finally installed. Depending on how much modules must fit into the mount unit or what OPENDOOR Frame is used, the mount unit is available for 1, 2 (without OD-Cam, place for OD-Sip Plus and desired ring buttons), 3 (place for OD-Sip Plus, OD-Cam and desired ring buttons - respectively OD-Sip Plus, OD-Push_LED and fingerprint), or 4 (place for OD-Cam, OD-Sip Plus, desired ring buttons and additional module).

Beneath the dimension of the mount unit for 3 modules are shown. The dimension are the same for all mount units, where only the height of the mount units changes by 110mm for the whole height (1 mod-ule: 137mm, 2 modules: 247mm, 3 modules: 357mm, 4 modules: 467mm) and the height of the back housing (1 module: 123mm, 2 modules: 233mm, 3 modules: 343mm). On the mount unit for 4 modules the height (487mm) and the height of the back housing (473mm) differs more than 110mm from the scheme beneath.
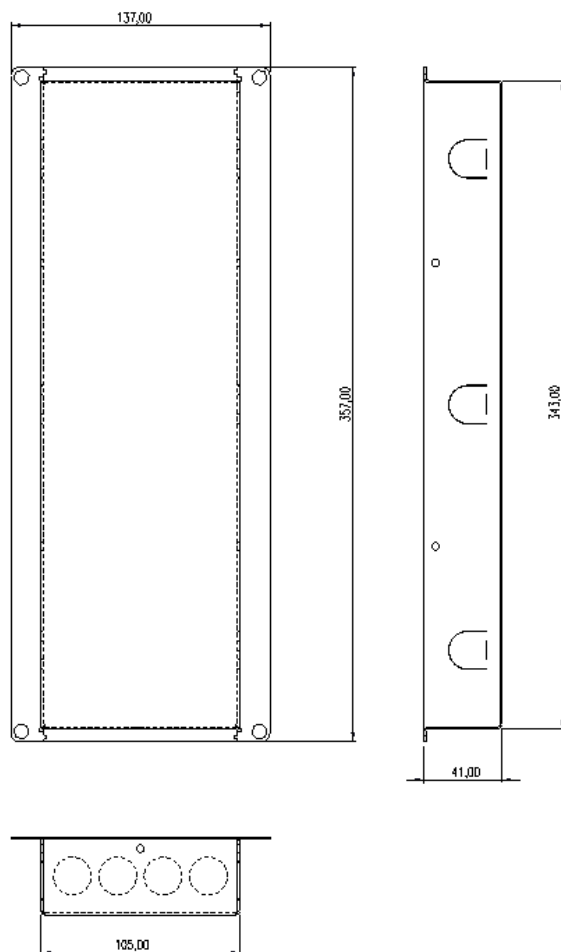
9   Accessories

9.1   INTRODUCTION

To build an OPENDOOR door station some accessories are necessary, for example ring buttons etc.

All accessories fit into the DIVUS design.

9.2   OD-PUSH_LED

This ring button fits only in OPENDOOR Covers with only one ring button without a nameplate (ODC-CAM/SIP/PUSH1, ODC-SIP/PUSH1 and ODC-SIP/PUSH1/Finger). This special ring button has a LED backlight going around the button itself, which can lighten in red or green; through this two colours the status of the connected OD-Sip Plus can be shown.
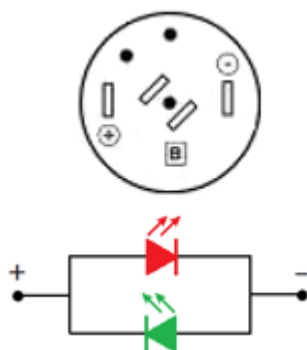
The ring button is made of stainless steel and is fixed with a nut from behind; a grommet is shipped with the button to prevent damage by water.

The OD-Push_LED fits into a hole of 19.2mm diameter and needs 45mm free space for being mounted into a housing.

9.2.1   CONNECTIONS

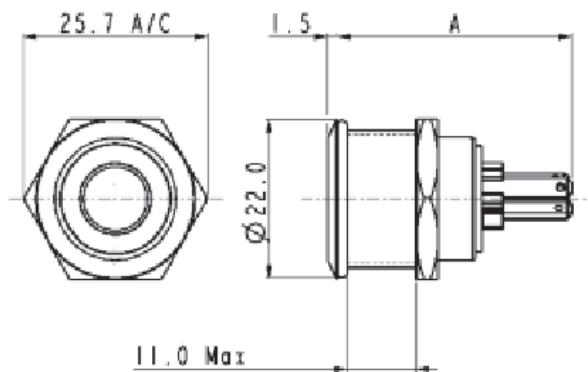The OD-Push LED has 4 soldering lugs on his back:

SOLDERING LUG	
B	Button contact 1
	Button contact 2
-	+5V Duo-LED (20mA)
+	Switching Duo-LED. Is switched from GND to +24 V by the OD-Sip Plus to change colour.

9.2.2   DIMENSION
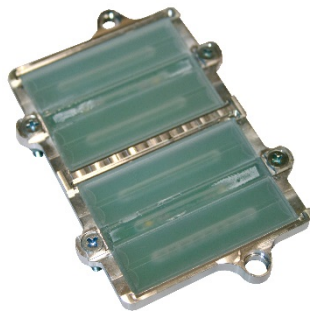

9.3   OD-BELLMODULE

The OD-BellModule is a backlight for the nameplates, which can be pushed inside the module from the side; this module fits into the cut-out of the related OPENDOOR Covers. Up to 4 nameplates can be pushed inside this module and also the OD-Push ring buttons can be connected on the OD-Sip Plus through this modules removable screw terminal. The single ring buttons are connected through the module over soldering lugs or screw terminals. Over the main screw terminal the buttons will then be connected to OD-Sip Plus. The OD-BellModule contains no ring buttons, so the needed number of OD-Push must be ordered additionally.

9.3.2   CONNECTIONS
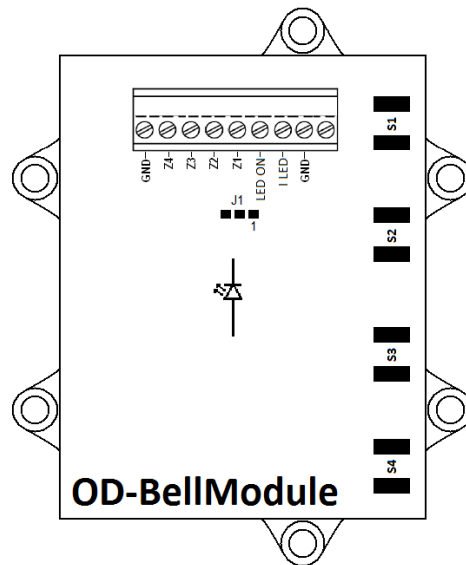
The screw terminal is removable, where the last connector has no connection.

The jumper „J1" determines the source of GND for the OD-BellModule. The module is shipped with a bridge from "1" to "2", since "1" is connected directly to the ground coming from OD-Sip Plus LED backlight output. The backlight will always be on in this case. If it's needed to control the backlight from outside, then the bridge between "1" and "2" must be cut with a knife and a bridge from "2" to "3" must be soldered. This connects the ground of the backlight directly with the connector "LED ON" of the screw terminal through which the ground of the OD-Sip Plus now can be connected over a relay or something for controlling the backlight.

SCREW TERMINAL

GND	Ground
Z1	Connected to soldering lug S1
Z2	Connected to soldering lug S2
Z3	Connected to Soldering lug S3
Z4	Connected to soldering lug S4
LED ON	Switched ground for controlling the backlight (only when J1 is bridged from 2-3 and the standard bridge 2-3 is cut)
I LED	+5V for LED backlight (200mA)
GND	Ground for backlight
	Not connected

The soldering lags „S1" to „S4" can be used to connect the ring buttons to OD-BellModule. This soldering lugs are connected directly to the related connectors on the removable screw terminal. From these connectors the ring buttons can be connected to the OD-Sip Plus; the lower lug is always connected to ground.

9.3.3   DIMENSION AND CUT-OUT

The cut-out shown on the right side is shown from behind (back of OPENDOOR Cover or inner side of mailbox), it means the OD-BellModule would be putted on the cut-out like shown on the left side and fixed with 2 M4 nuts. Before the module can be mounted the plexiglas inlays for the nameplates must be pressed into the cut-outs. The milled elevation must be pushed inside the cut-out; for this purpose the cut-out must be as exact as possible. Once all plexiglas inserts are pushed into the cut-out the OD-BellModule can be mounted.
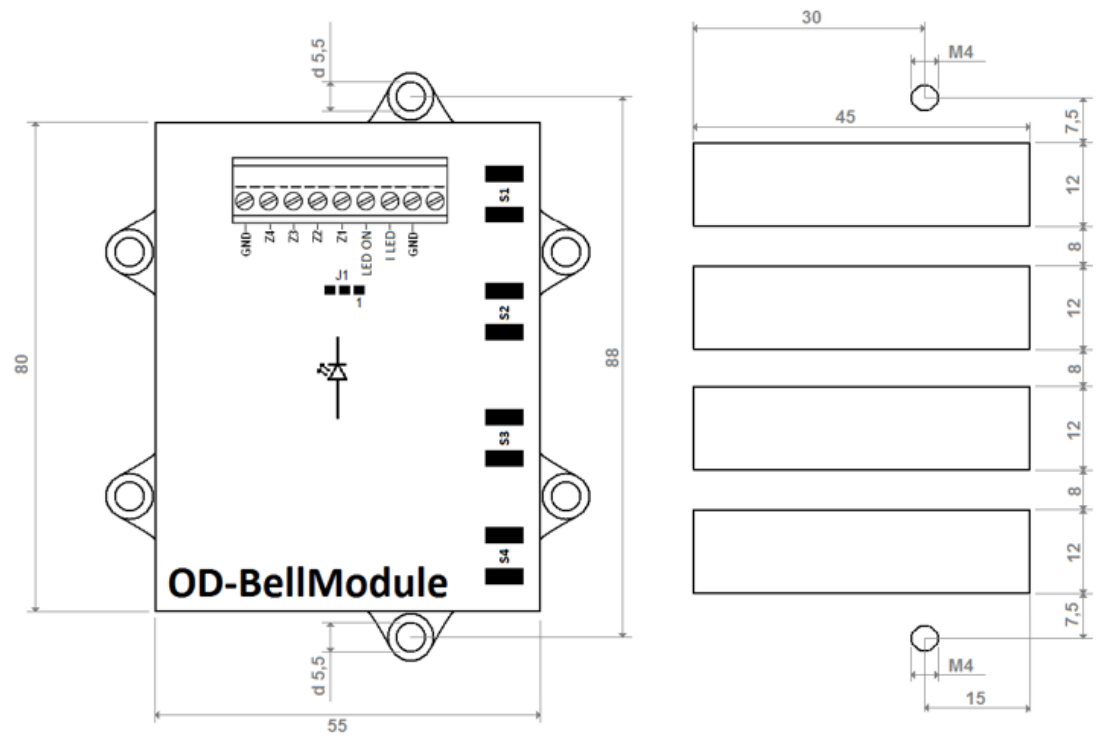
9.4   OD-PUSH

The OD-Push is a ring button, which in the DIVUS design is used in combination with the OD-BellModule. The OD-Push is made of stainless steel and can of course also be used in custom designs. This ring buttons are fixed through a plastic screw joint from behind; a grommet is already present on the buttons on delivery. The needed hole for mounting the OD-Push must have a diameter of 16mm and the whole button needs about 45mm space in the housing behind the plate on which it is mounted. Please take care about the following installation steps:

- Bring the grommet in position under the top of the OD-Push.

- Push the button inside the hole (16mm diameter).

- Fix the OD-Push with the plastic screw joint from behind.

- Push the micro switch from behind in between the two plastic retainers, so that the small naps on the left and right side of the switch latches into the related holes of the plastic retainers.

The micro switch has a changeover contact; with OD-Sip Plus use only the normally opened contact.

11.4.1 DIMENSION
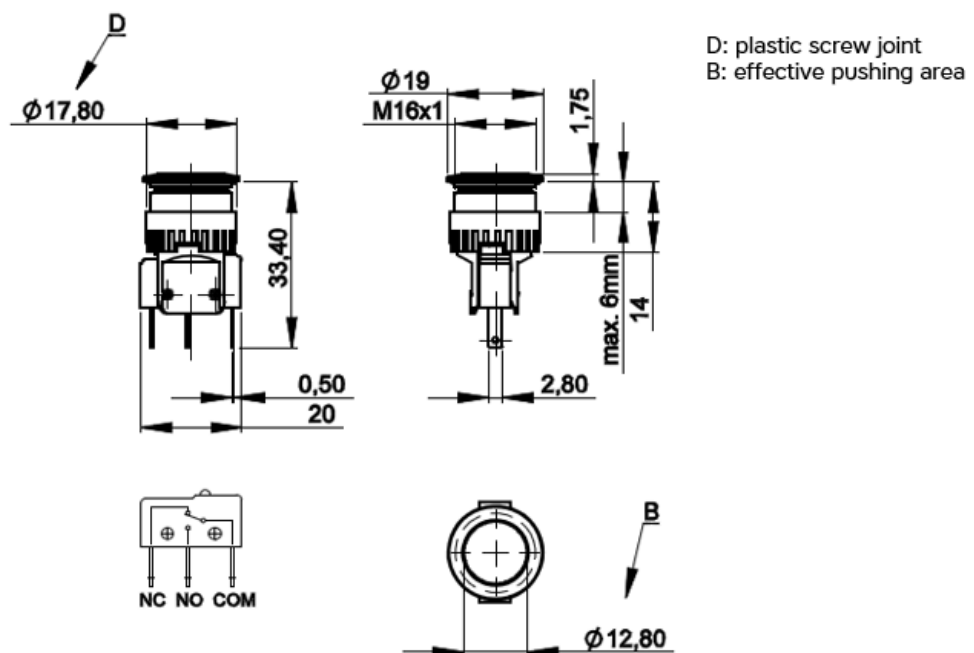
9.5   OD-KIT_BADGE

The OD-Kit_Badge contains 5 black user badges (transponder keys) and 5 red delete-badges; where each user badge has a related delete-badge. The single badges are signed with an identification number to distinguish which delete-badge deletes which user badge from an OD-Transponder. The OD-Kit_Badge is used to expand the number of user badges present on an installation; on delivery the OD-Transponder contains one user badge, the related delete-badge and a program badge for programming the OD-Transponder. It's important, that on every order of additional OD-Kit_Badge is specified the serial number of the OD-Transponder for which they are ordered. Only in that way the enumeration of the badge can be continued without making confusion (double numbers etc.); the enumeration starts by "1".

The delete-badges have the prefix „S", because they do a „selective deleting" of a single user badge on an OD-Transponder.

9.6   OD_S

The OD_S contains 4 security screws made of stainless steel, which needs a special star screwdriver for being screwed in and out. Since a special screw driver is needed and the screws fit totally into the OPENDOOR Frame it becomes very hard for vandals to sabotage the OPENDOOR door station. The screws have a M5 winding and a length of 26mm; the sinking angle of the head is 90°and its diameter is 9mm.

9.7   OD_SBIT

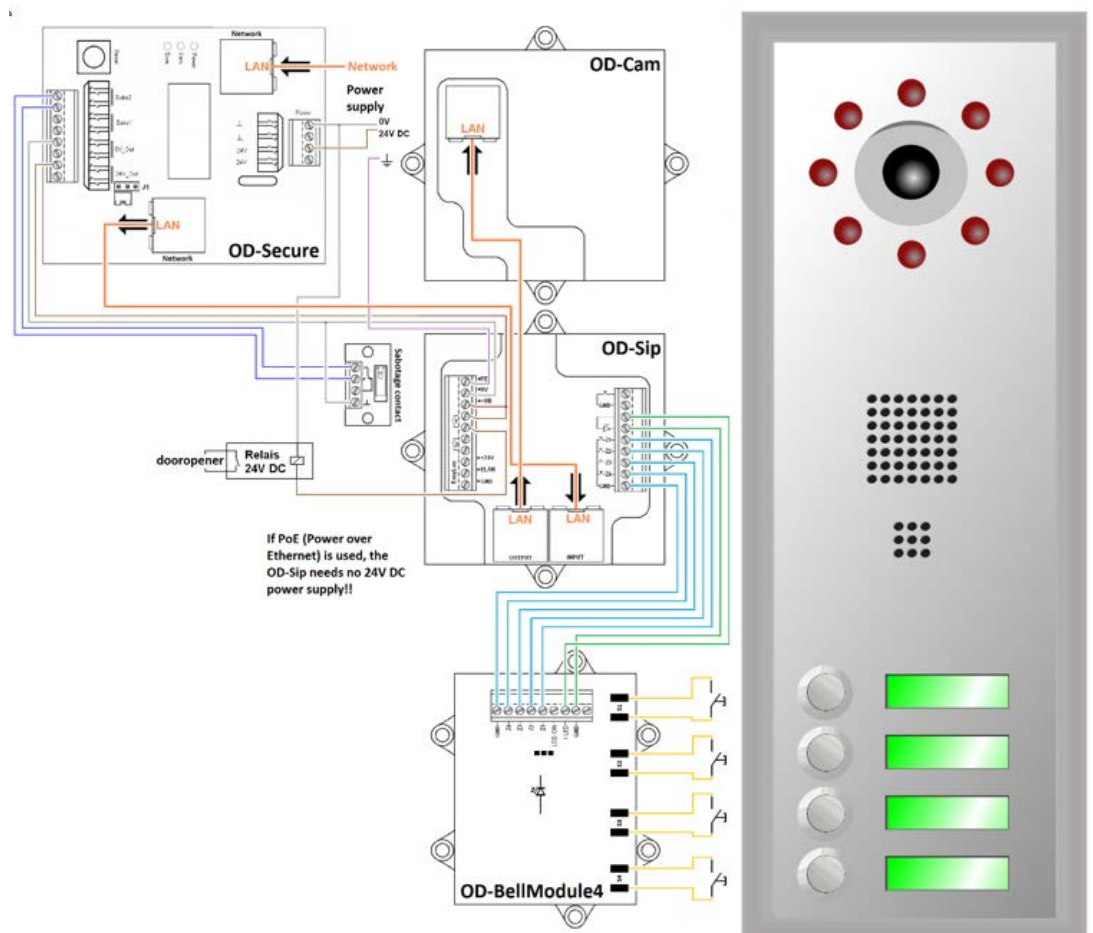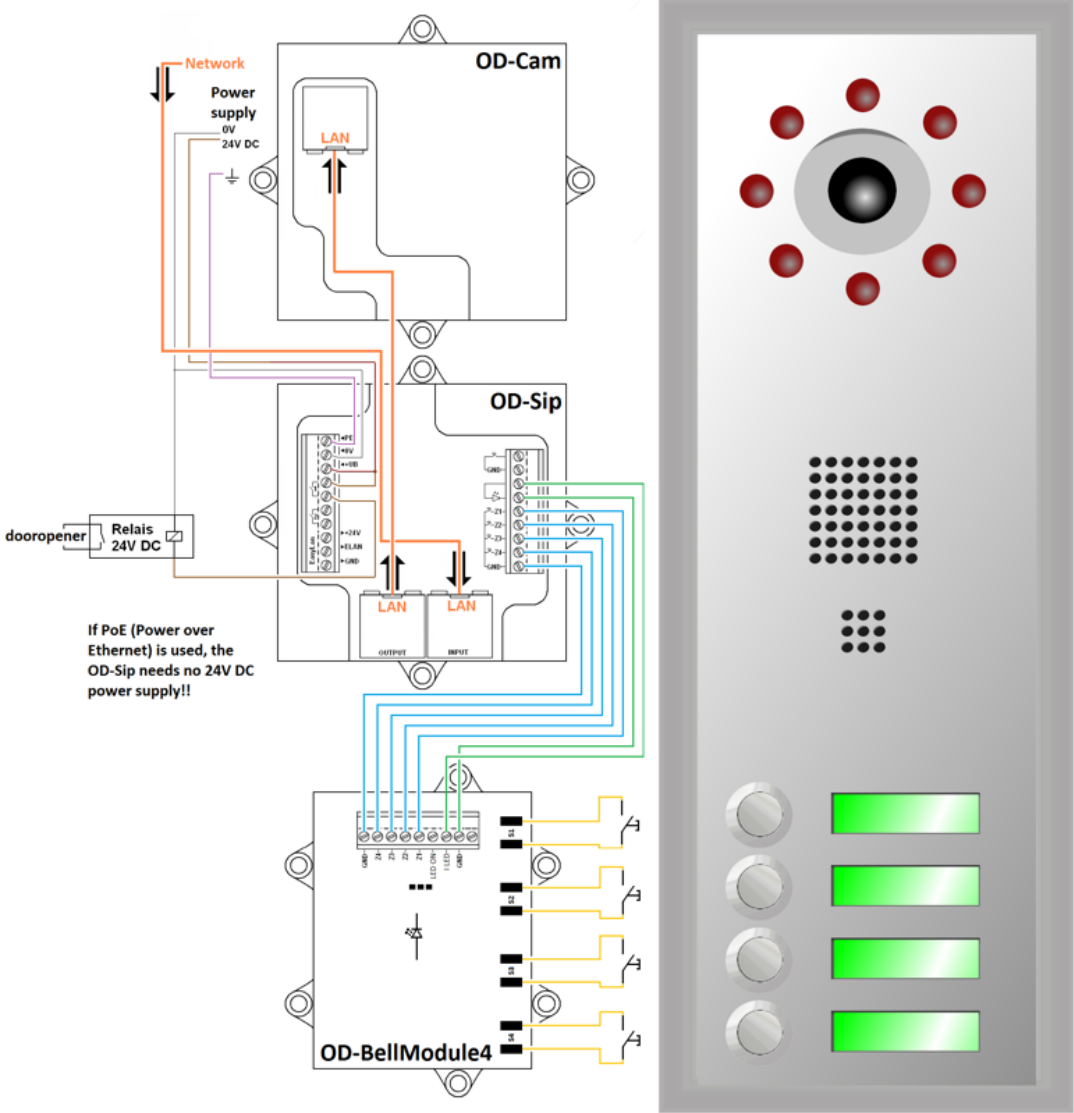The OD_SBIT is a special star bit insert which fits for screwing the OD_S security screws in and out.
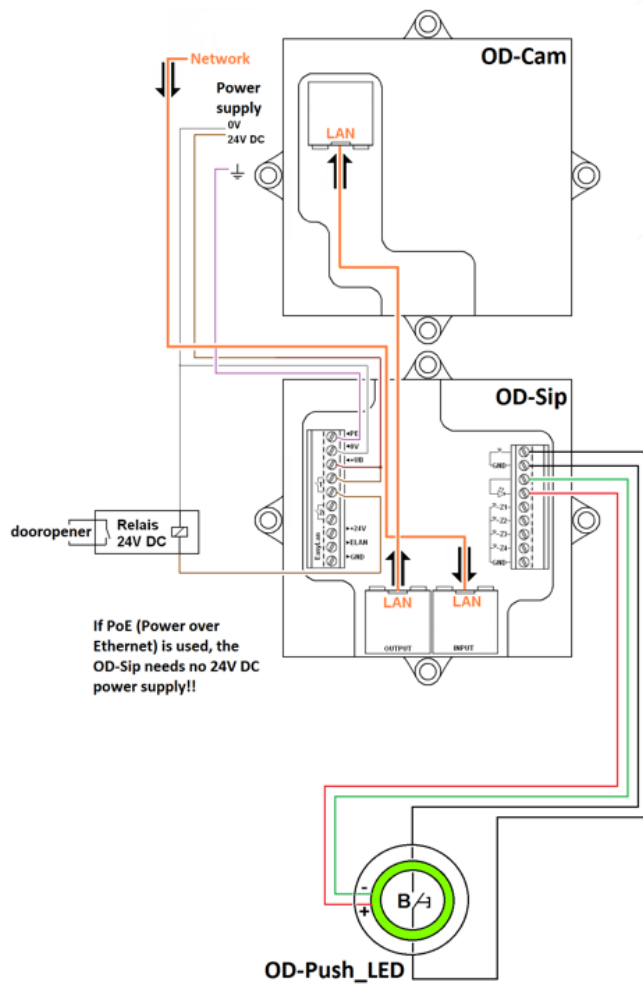
10 APPENDIX

10.1   WIRING SCHEMES

10.1.1   EXAMPLE WITH OD-SECURE

10.1.2   EXAMPLE WITHOUT OD-SECURE

10.1.3   EXAMPLE WITHOUT OD-SECURE WITH OD-PUSH_LED

10.2   RECYCLING INFORMATION

Information on Disposal of Old Electrical and Electronic Equipment (applicable for EU countries that have adopted separate waste collection systems)

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Old electrical and electronic equipment should be recycled at a facility capable of handling these items and their waste by products. Contact your local authority for details in locating a recycle facility nearest to you. Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

Deutsch

Entsorgung von gebrauchten Elektrischen und Elektronischen Geräten (anzuwenden in den Ländern der Europäischen Union und anderen europäischen Ländern mit einem separaten Sammelsystem für solche Geräte)

Das Symbol (durchgestrichene Mülltonne) auf dem Produkt oder seiner Verpackung weist darauf hin, dass dieses Produkt nicht als normaler Haushaltsabfall behandelt werden darf, sondern an einer Annahmestelle für das Recycling von elektrischen und elektronischen Geräten abgegeben werden muss. Durch Ihren Beitrag zur korrekten Entsorgung dieses Produktes schützen Sie die Umwelt und die Gesundheit Ihrer Mitmenschen. Unsachgemäße oder falsche Entsorgung gefährden Umwelt und Gesundheit. Weitere Informationen über das Recycling dieses Produktes erhalten Sie von Ihrer Gemeinde oder den kommunalen Entsorgungsbetrieben.

Italiano

Informazioni sullo smaltimento delle vecchie apparecchiature elettriche ed elettroniche (valido per i paesi europei che hanno adottato sistemi di raccolta separata)

I prodotti recanti il simbolo di un contenitore di spazzatura su ruote barrato non possono essere smaltiti insieme ai normali rifiuti di casa. I vecchi prodotti elettrici ed elettronici devono essere riciclati presso un'apposita struttura in grado di trattare questi prodotti e di smaltirne i loro componenti. Per conoscere dove e come recapitare tali prodotti nel luogo a voi più vicino, contattare l'apposito ufficio comunale. Un appropriato riciclo e smalti-mento aiuta a conservare la natura e a prevenire effetti nocivi alla salute e all'ambiente.

Français

Information sur l'élimination des anciens équipements électriques et électroniques (applicable dans les pays de l'Union Européenne qui ont adopté des systèmes de * collecte sélective)

Les produits sur lesquels le pictogramme (poubelle barrée) est appose ne peuvent pas être éliminés comme ordures ménagères. Les anciens équipements électriques et électroniques doivent être recyclés sur des sites capables de triller ces produits et leurs déchets. Contactez vos autorités locales pour connaitre le site de recyclage le plus proche. Un recyclage adapté et l'élimination des déchets aideront à conserver les ressources et à nous préserver des leurs effets nocifs sur notre santé et sur l'environnement.

Nederlands

Informatie over het weggooien van elektrische en elektronische apparatuur (particulieren)

Dit symbool geeft aan dat gebruikte elektrische en elektronische producten niet bij het normale huishoudelijke afval mogen. Lever deze producten in bij de aangewezen ' inzamelingspunten, waar ze gratis worden geaccepteerd en op de juiste manier worden verwerkt, teruggewonnen en hergebruikt. Voor inleveradressen zie www . nvmp . nl, -~ www . ictmilieu . nl, www.stibat.nl. Wanneer u dit produci op de juiste rnanier als afval inlevert, spaarl u waardevolle hulpbronnen " en voorkomt u potenlièle negalieve gevolgen voor de volksgezondheid en het milieu, die anders kunnen ontstaan door een onjuiste verwerking van afval.

Espanol

Información acerca de la eliminación de equipos eléctricos y electrónicos al final de la vida ùtil (aplicable a los pafses de la Union Europea que hayan adoptado sistemas independientes de recogida de residuos)

Los productos con el sìmbolo de un contenedor con ruedas tachado no podràn ser desechados como residuos domésticos. Los equipos eléclricos y electrónicos al final de la vida ùtil, deberàn ser reciclados en instalaciones que puedan dar el tratamiento >• adecuado a estos productos y a sus subproductos residuales correspondientes. Póngase en contacio con su administración locai para oblener informadón sobre el punlo de recogida mas cercano. Un iralamienlo corredo del redclaje y la eliminación de residuos ayuda a conservar los recursos y evita al mismo tiempo efectos perjudiciales en la saìud y el medio ambiente.

10.3   NOTES