Installation and Operation Manual

Integrated Message Server, IMS/IP-WiFi

Contents

1 Introduction

This document describes the installation and configuration of IMS/IP-WiFi, the Integrated Message Server for the VoWiFi system.

The IMS/IP-WiFi is a message server based on the ELISE hardware. It acts as a messaging gateway and controls messaging and alarm between Ascom messaging systems and the VoWiFi handsets in the VoWiFi System. The IMS/IP-WiFi also enables creation of messaging groups in the VoWiFi System and messages can be sent to the VoWiFi handsets via a browser with an integrated Messaging Tool.
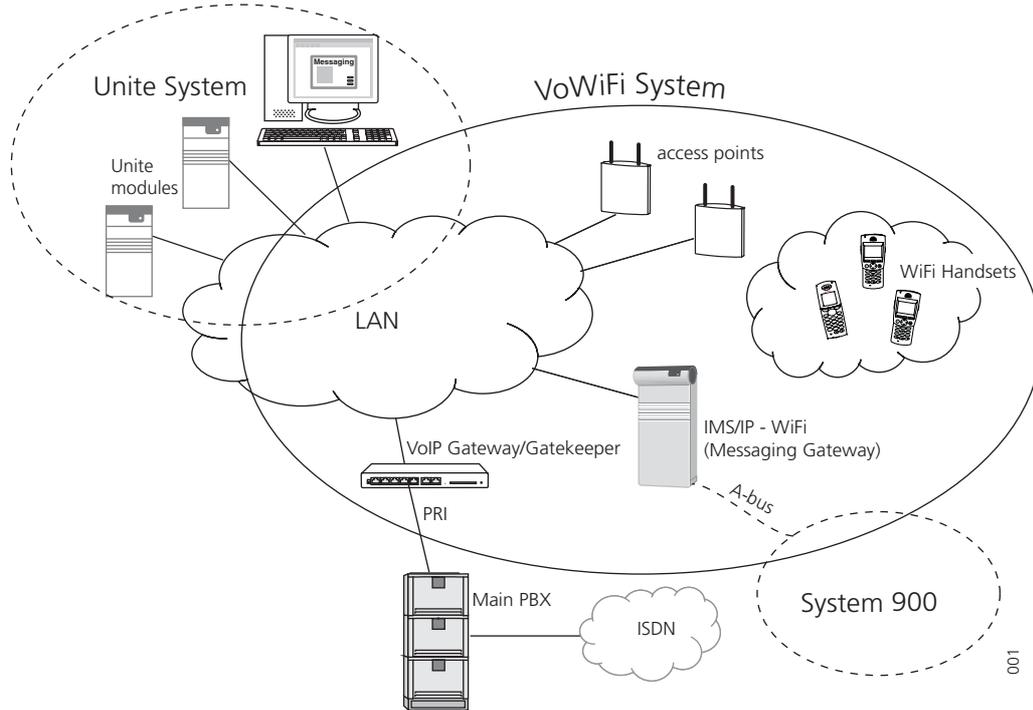
Figure 1. IMS/IP-WiFi connected to the LAN

IMS/IP-WiFi communicates with the Unite System via the LAN and with System 900 via the A-bus. The Central Unit in System 900 normally acts as the communication controller on the A-bus, but if IMS/IP-WiFi is configured to control the communication on the A-bus, then the Central Unit can be excluded.

An application called Basic Alarm Manager is included in the IMS/IP-WiFi. This application makes it possible to send messages to Pocket Units in the system, or activate outputs in the system as a reaction to activated inputs, or alarm or user data from Pocket Units in the system.

A phonebook that can be accessed from the VoWiFi handsets is also included in the IMS/IP-WiFi.

Phonebook Service is delivered along with the IMS/IP-WiFi. The service gives the same functionality as the IMS/IP-WiFi Phonebook and is needed for large phonebooks.

Client applications can communicate with the IMS/IP-WiFi over the Local Area Network (LAN) with help of the Open Access Protocol (OAP).

1.1 Requirements

- Microsoft Internet Explorer 6.0™ or later
  (only used for installation, administration and IMS/IP Messaging Tool)

Basic licence for IMS/IP

IMS for VoWiFi licence

Additional licences for IMS/IP

OAP licences:

- Basic messaging (acknowledge included)
- Basic messaging, interactive messaging, and user data
- Basic messaging and alarm
- Basic messaging, interactive messaging, user data, and alarm

2 Installation (ELISE2)

This chapter is a complement to *Installation Guide, ELISE2*, *TD 92232GB*.
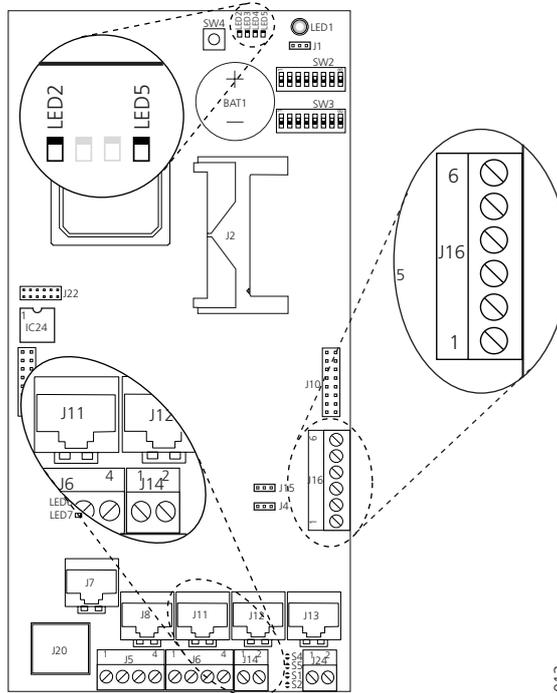
Figure 2. Board description with components described in this chapter.

2.1 Description of LED Indications

There are a number of LEDs on ELISE that indicate the status of the software, see figure 2. These status indications are software dependent and are described in this chapter. For information regarding indications by other LEDs, see the *ELISE2 Installation Guide*.

LED #	LED status	Indication
LED5	ON	The IMS/IP applications are up and running.
	OFF	Problems when starting the applications, check the log files on the IMS/IP Administration web page for more information.
LED2	ON	Paging waiting in queue to A-bus
	OFF	No paging in queue to A-bus

2.2 Internal Inputs and Outputs

The IMS/IP has two internal inputs and two open-collector outputs (J16, see figure 2 above), that can be used by the Basic Alarm Manager.

See chapter 6 *Basic Alarm Manager* on page 11, for more information about the Basic Alarm Manager, and the *ELISE2 Installation Guide* for information about how to connect inputs and outputs.

2.3 Function Indicator and Error Relay Output

Function indicator
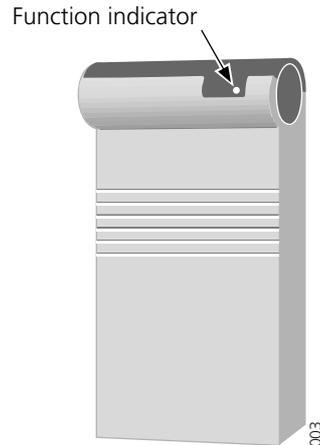
Figure 3. The function indicator that indicates the status of the IMS/IP

The function indicator and the error relay indicate the status of the IMS/IP. The indication is dependent of whether the IMS/IP is connected to the A-bus or not, and also whether there is a Central Unit connected to the A-bus. Which mode the IMS/IP uses is set on the IMS/IP administration pages, see chapter 3.2.1 *System 900 Interface* on page 8 for more information. The function indicator and error relay indications are described below.

IMS/IP connected to A-bus with a Central Unit

Status	Function Indicator	Error Relay
Communication with the Central Unit.	Green	Operates
No communication with the Central Unit.	Flashing orange (100ms ON/100 ms OFF)	Released
Shut down	Flashing red (1000ms ON/3000 ms OFF)	Released
Restart or reboot	Flashing orange (100ms ON/800 ms OFF)	Released

IMS/IP connected to A-bus without a Central Unit, or A-bus not connected

Status	Function Indicator	Error Relay
A-bus connection or no A-bus connection. (Connected or not, it does not change the indication.)	Green	Operates
Shut down	Flashing red (1000ms ON/3000 ms OFF)	Released
Restart or reboot	Flashing orange (100ms ON/800 ms OFF)	Released

For information about other LED indications, see *Installation Guide, ELISE2, TD 92232GB*.

2.4 Addressing of the IMS/IP

If the IMS/IP is connected to an A-bus with a Central Unit, the address must not be set to 00 nor to the same address as any other module. In other modes, i.e. connected to A-bus without Central Unit or no A-bus, the address should be set to 00.

2.5 Licence

All IMS/IP units must have a valid licence. The licence is preprogrammed, and does not need to be entered at installation.

2.5.1 Unlicensed Mode

When needed, the IMS/IP can be started in unlicensed mode. Unlicensed mode is indicated by the Function Indicator with an orange light (3000 ms ON/100 ms OFF). For details on the LED characteristics, see the *ELISE Installation Guide.*

The IMS/IP has full functionality in unlicensed mode for 2 hours. After that, it must be restarted, either physically from the unit or from the IMS/IP Administration web page.

How to set the IMS/IP in unlicensed mode is described in *Installation Guide, ELISE2, TD 92232GB*.

3   Configuration

This chapter covers the parameters that can be altered on the IMS/IP Administration pages. The address to the administration pages is *xxx.xxx.xxx.xxx/admin*.

There are two types of users for the IMS/IP administration pages:

- Technicians, first time set up commissioning (sysadmin)
  Full access right.
- Administrators (admin)
  Limitation in troubleshooting (no access to view complete log).

User account	Default password
admin	changeme
sysadmin	setmeup

3.1   WLAN Interface

3.1.1   Handset Registration

To be able to register to the IMS/IP, each VoWiFi handset must be programmed with the IP address of the IMS/IP used, refer to the Configuration Manual for respective VoWiFi handset.

3.1.2   Shared Phones

When using shared phones it is recommended that all VoWiFi handsets authenticates with individual passwords. The IMS/IP can retrieve these passwords from a User Server. Another possibility is to use the handset´s call number as password.

If a User Server is used the operating mode for the UNS must be set to "forwarding" and the User Server (the ESS which has the users defined) must be specified as the forwarding destination. The ESS must also be identified as User Server as described in 3.3.3 *User Server* on page 10.

Note: Shared phones requires, besides the User Server (ESS), a PDM System version for management.

3.1.3   Message Distribution

The WLAN Interface has distribution lists that define where incoming data from handsets, for example alarms and user data, should be sent. The following information is supported:

- Alarm
  - Personal alarm from VoWiFi handsets.
  The IMS/IP-WiFi adds the handset´s MAC address[1].

- Mobile Data
  - User data sent from VoWiFi handsets.
  The IMS/IP-WiFi adds the handset´s MAC address[1].

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1. The MAC address is added as extended information in the original sender (USD). In for example the AMS, the MAC address is found as service address in the source address.

- Availability Info
  - Change of status of the VoWiFi handsets.
   (The status can be changed from the IMS/IP GUI or from the VoWiFi handset).

  When an alarm or user key data message is received from a PP, the PP MAC address shall be added as extended information in the original sender (USD) when the message is distributed on UNITE.

The addressing of the receivers is described in *Installation Guide, ELISE2*, *TD 92232GB*.

3.1.4   Interface Groups

Interface Groups is used when one message should be sent to several VoWiFi handsets. The group handler has 30 groups with 15 handset addresses and one group with 50. The first group in the list is the large group.

The groups are defined in the administration pages. Each group is given an address, either a name or a number, and then the addresses of the handsets that should be included in the group are added.

Note: Only VoWiFi handsets can be included in the groups in the group handler. Messages will not be sent to any other types of Pocket Units.

Note: If it shall be possible to send messages from a VoWiFi handset or from the A-bus to the group address, the address must be numeric.

3.1.5   Handset Administration

Handset Administration gives the possibility to list all handsets that are registered in the system, search for a specific handset, or a range of handsets.

It is possible to customize the pages by changing the language and number of handsets shown on the search result list. See 8 *Handset Administration* on page 22.

3.1.6   WLAN System

WLAN system handles the VoWiFi handset relogin time and authentication. Call diversion display text and Extended activity logging is also enabled in this view.

The time before a handset must relogin to the IMS/IP is set in minutes and when this time is exceeded the handset will be considered unreachable. This is the maximum time it takes for a handset to reconnect after installing a new IMS/IP, or updating an IMS/IP.
Note that a short relogin time implies a higher service/security but it also loads the system.

Text specified in the "Call Diversion Display Text" text field is, if enabled, added to the display text when a call diversion takes place. By entering the character "%", the original call ID will be included in the display text on the place where the character is entered. Note that all characters are not possible to display.

Enable *Extended Activity Log* for intermediate logs, for more information refer to the *Function Description, Activity Logging in Unite*, *TD 92341GB*.

The very first time a VoWiFi handset logs in to the IMS/IP, it must authenticate itself to the IMS/IP with a password. The password is then stored in the handset for future authentication. The IMS/IP has three authentication alternatives; "Common password", "User server" and "Number as password".
A common password can be specified in the IMS/IP, and this password is then used for all VoWiFi handsets in the system. If the common password field is left empty, the handset must send an empty password for authentication.

If individual passwords is needed, for example for shared phones, passwords can either be specified in a User Server or the individual call numbers can be used, refer to *3.1.2 Shared Phones*.

Forced login allows a user to login with a call number that already is in use. The handset that already is logged in will then be unregistered.
The function is only valid when the authentication method is set to "Common password" or to "Number as password".

3.1.7   Messaging Tool

The title on the IMS/IP Messaging Tool web page can be changed.

3.1.8   Phonebook

Included in the IMS/IP is the possibility to access and search for phone numbers in a phonebook, from a VoWiFi handset. The phone numbers can be searched for in a local database or in an LDAP server. Refer to chapter *7 IMS/IP Phonebook Configuration* on page 15 for configuration instructions.

3.2   900 Interface

This chapter handles settings for the connection to the System 900 A-bus. If the A-bus is not connected, the bus operating mode should be set to 'No A-bus'. All other parameters only needs to be set when the IMS/IP is connected to a Central Unit in the System 900, or controlling the communication on the A-bus in systems without a Central Unit.

3.2.1   System 900 Interface

- *Bus operating mode*
  - A-bus with Central Unit: The IMS/IP is connected to a system with a Central Unit.
  - A-bus without Central Unit: The IMS/IP controls the communication on the A-bus.
  - According to DIP switch: If the IMS/IP address DIP switch is set to 00, it is controlling the communication on the A-bus. If the address is set to 01-FF the Central Unit is controlling the communication on the A-bus.
  - No A-bus connected: The A-bus connection is not used. If the IMS/IP expects an A-bus with Central Unit, the IMS/IP will indicate "starting up".
- *Module Priority*

  This is the IMS/IP priority on the A-bus. This parameter is only used when the IMS/IP is connected to an A-bus with Central Unit.
- *Number of message transmissions*

  This is how many times a paging is transmitted in the System 900. This parameter is only used when the IMS/IP is connected to an A-bus with Central Unit.
- *Configuration of parameters below*

  When the IMS/IP is connected to an A-bus with Central Unit, the parameters in the Central Unit can be used and this parameter can be set to "automatic". If the IMS/IP is controlling the communication on the A-bus, the parameters have to be configured manually.
- *Number of digits in call number*

  This is the number of digits in the pocket unit addresses in the system. If the IMS/IP is controlling the communication on the A-bus, this parameter has to be set manually. See *System Planning, On-site Paging System*, *TD 90202GB* for more information.
- *Prefix and call number range*

  This is the prefix that is used in the system. The prefix has to be the same as for the other modules in the system. If the IMS/IP is controlling the communication on the A-

bus, this parameter has to be set manually. See *System Planning, On-site Paging System*, *TD 90202GB* for more information.

- *Send module status from A-bus to Unite*

  The IMS/IP can send module status received from the A-bus to the Unite system. This also means that if IMS/IP is connected as slave it will subscribe for module status from the central unit in system 900.

- *Call diversion display text*

  Text specified here is added to the display message at a call diversion. The originating Call ID can be included by writing a "%" character where the Call ID shall be inserted in the text.

3.2.2   Message Distribution

The 900 Interface has distribution lists that define where incoming data from the Pocket Units in the System 900 and the System 900 modules should be sent. The receivers are addressed in the same way as for the DECT Interface that is described in *Installation Guide, ELISE2*, *TD 92232GB*. The following information is supported:

- Alarm
  - Personal alarms with location information from Pocket Units.
- Mobile Data
  - Data sent from Pocket Units.
- Input activity
  - An input on an Alarm Module has been activated.
- Location
  - Special Location[1] information from Pocket Units.
- Availability Info
  - Includes absence information, i.e. if a Pocket Unit is placed in Charging/Storage Rack.

Pagings that are received from the A-bus will be transmitted to the destination that corresponds to the address in the UNS.

3.3   Other Parameters

3.3.1   Status log

The Status log messages have their own distribution list that can be reached from System Setup > Other > Logging > Status log. The status log messages include information about errors in applications or modules, for example module status from Fixed Units on the A-bus. For information about how to address the receiver of the Status log messages, see *Installation Guide, ELISE2*, *TD 92232GB*.

3.3.2   System Activity log

The System Activity log messages have their own distribution list that can be reached from System Setup > Other > Logging> System Activity log. For information of system activity log messages, see *Function Description, Activity Logging in Unite*, *TD 92341GB*. For information about how to address the receiver of the System Activity log messages, see *Installation and Operation Manual, Enhanced System Services, ESS*, *TD 92253GB*.

1.The Special Location can be sent every time a pocket unit gets a new location from a locator in the system. This requires configuration both in the handset and in the locator. Also called "Immediate Alarm Transmission".

3.3.3 User Server

IMS/IP can use an ESS as a user server for authentication of portables, see 3.1.6 *WLAN System* on page 7.

1   Select System Setup > User Server on the IMS/IP administration page.

2   Enter the IP address of the ESS which has users defined and click "Activate".

4   IMS/IP Connected to the A-bus without Central Unit

To be able to connect the System 900 modules to the VoWiFi System without using a Central Unit, the IMS/IP can control the communication on the System 900 A-bus. This can be used when, for example, an Alarm Module or Output Module is connected to the system.

5   Absence Handling

The IMS/IP keeps track of all handsets that have reported absence status. The handset can report unavailable if it is set in Manual Absent mode from the IMS/IP GUI, see 8.2 *Change the Handset Absent Status* on page 23, or from the Profiles menu in the Handset, see the User Manual for the handset.

When a message is sent to an absent handset, the sending module can get information from the IMS/IP that the handset is absent. Changes in the handset status, which include availability information, can also result in a message to modules in the distribution list, see 3.1.3 *Message Distribution* on page 6.

5.1   Absence List

If a search is performed from the IMS/IP GUI (*WLAN interface > Handset Administration)* a list indicating the handsets status is presented. Different status criteria can be used in the search. Another possibility is to list all handsets and then sort in the search result list with desired status.

6 Basic Alarm Manager

A Basic Alarm Manager that can trigger on alarms and data sent from VoWiFi handsets are included in the IMS/IP. Activated inputs on the IMS/IP or a module on the A-bus can also be triggered. The Basic Alarm Manager can send messages to Pocket Units as a reaction to the incoming information. It is also possible to activate outputs on the IMS/IP or modules on the A-bus.
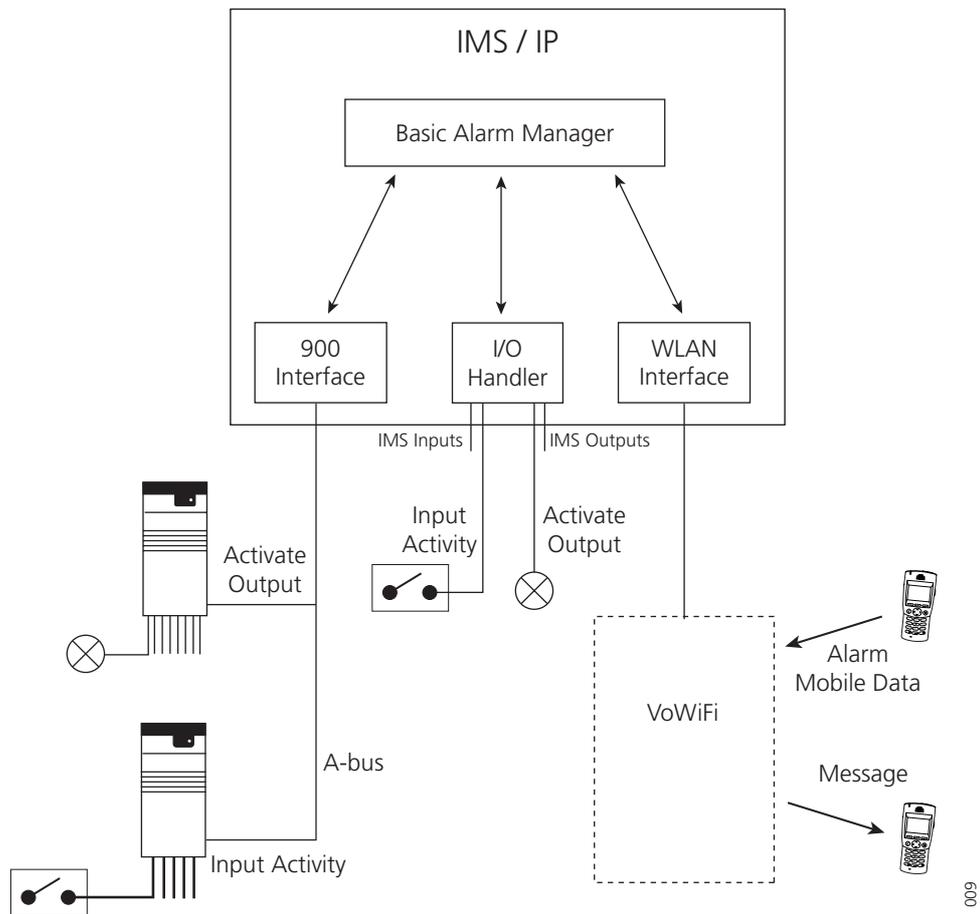

Figure 4. Communication flow for the Basic Alarm Manager and external systems.

6.1 Nomenclature

Input   An input on the IMS/IP or an input on an Alarm Module connected to the A-bus.

Output   An output on the IMS/IP or an output on an Output Module connected to the A-bus.

Trigger   A set of conditions that detects whether an input has been activated, or an alarm or data has been sent from a VoWiFi handset.

Action   Sending a message to a Unite Call ID for example Pocket Unit address included in the UNS or activating an output.

Event   A set of triggers that starts one or several actions.

6.2 Technical Specification

Max. No. of triggers:	250
Max. No. of triggers / event:	10
Max. No. of defined inputs:	250
Max. No. of actions:	250
Max. No. of actions / event:	10
Max. No of defined outputs:	250
Alarm Module requirements:	Software version 4.00 [1]

6.3 Parameter Setup

When the IMS/IP is delivered, the 900 Interface is configured to send all Input Activity information to the Basic Alarm Manager. The interface is configured to send all Alarms and User Data from the handset to the Basic Alarm Manager. These settings can be changed when the IMS/IP parameters are restored from file, i.e. check that the settings are as described below.

Configuration of Input Activity

1   Open the IMS/IP administration pages and click "Message Distribution" for the 900 Interface.

2   Click "Input Activity", see figure 5.

Figure 5. Setting up the Message Distribution list for the 900 Interface to send information to the Basic Alarm Manager.

1.From this version the Alarm Module can be configured to send Input Activity information both when the input is opened and closed. Previous versions have no support for this.

3   Enter the address *127.0.0.1/BAM* in one address field. Click the "Activate" button.

Configuration of Alarm and User Data

1   Open the IMS/IP administration pages and click "Message Distribution" for the WLAN Interface.

2   Click "Alarm", see figure 6.

WLAN System Distribution

Alarm
Mobile Data
Availability Info

Figure 6. Setting up the Message Distribution list for the WLAN Interface to send information to the Basic Alarm Manager.

3   Enter the address *127.0.0.1/BAM* in one address field. Click the "Activate" button.

4   Click "Message Distribution" for the WLAN Interface.

5   Click "Mobile Data".

6   Enter the address *127.0.0.1/BAM* in one address field. Click the "Activate" button.

6.4   Configuration

The Basic Alarm Manager can be reached from the left menu in the IMS/IP administration pages and also from the direct link *http://xxx.xxx.xxx.xxx/bam*, where *xxx.xxx.xxx.xxx* is the IP address. The user that has access to these pages is called *admin* and the default password is *changeme*.

6.4.1   Define Inputs and Outputs

Before an input or output can be used in the configuration, it has to be defined with a name and address.

IMS/IP inputs[1]

The IMS/IP has two inputs that can be used by the Basic Alarm Manager. These inputs are predefined in the Basic Alarm Manager at delivery. The states that can be detected are open and close.

Alarm Module inputs

The number of inputs that can be used in the Basic Alarm Manager can be extended by using an Alarm Module connected to the A-bus. The Alarm Module input is defined by a name, the module address[2] on the A-bus, and the input number. The states that can be detected are open and close.

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1. The IMS/IP has two inputs. When the input is activated, it is called 'close' in the Basic Alarm Manager. For more information about the inputs, see the ELISE Installation Guide.
2. Every module that is connected to the A-bus has a two digit hexadecimal address that is set with a DIP switch.

IMS/IP outputs[1]

The IMS/IP has two outputs that can be used by the Basic Alarm Manager. These outputs are predefined in the Basic Alarm Manager at delivery. The initial state, i.e. high or low, for the output can also be set from the Basic Alarm Manager.

Output Module outputs

The number of outputs that can be used in the Basic Alarm Manager can be extended by using an Output Module connected to the A-bus. The Output Module output is defined by a name, the module address on the A-bus, and the output number. The initial state, i.e. high or low, for the output can also be set from the Basic Alarm Manager.

6.4.2 Define an Event

An Event consists of one or several trigger conditions that leads to one or several actions. It is indicated in the left menu how many triggers and actions that has been configured. See also configuration examples in *Appendix B*.

Triggers

A trigger is a set of conditions that have to be fulfilled, for example that an input has to be open for a certain time period or that an alarm has been sent from a handset.

Several triggers can be defined for each Event. The actions in the Event will be carried out when any of the triggers is fulfilled.

Actions

The actions that can be carried out by the Basic Alarm Manager is to send a message to a Pocket Unit in the system or activate an output. The UNS will be used to get the destination address corresponding to the address entered in the "Handset No." field. Several actions can be carried out for each event. The actions can be repeated at a regular time interval as long as an input is active.

6.5 Backup and Restore

The Basic Alarm Manager can be backed up and restored from the Basic Alarm Manager user interface. The configuration of the Basic Alarm Manager will also be included in the backup that is created from the IMS/IP administration pages.

Note: When the IMS/IP is restored from the administration pages, the Basic Alarm Manager will also be restored, i.e. all changes that have been made since the last backup will be discarded.

It is also possible to clear the complete configuration from the Basic Alarm Manager user interface.

1.The IMS/IP has two outputs of open-collector type. When the output is active, it is called 'low' in the Basic Alarm Manager. For more information about the outputs, see the ELISE Installation Guide.

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7 IMS/IP Phonebook Configuration

This chapter describes the configuration of the internal IMS/IP Phonebook. For information about installation and configuration of the Phonebook Service, see *10 Phonebook Service and Route2ELISE* on page 25.

The internal IMS/IP Phonebook gives the possibility to search for phone numbers in a local database or in an LDAP server.

If the search is to be forwarded to an LDAP server, the LDAP parameters need to be configured as described in *7.5 LDAP Parameter Setup* on page 19.

7.1 Technical Specification

The local database has defined limitations while most of the limitations for the LDAP server depends on the LDAP server used, see table below.

	Local Database	LDAP Server
Max. No. of phonebook entries:	500	Server dependent
Max. No. of characters in family name:	20	Server dependent
Max. No. of characters in first name:	20	Server dependent
Max. No. of digits in phone number:	20	Server dependent
Max. No. of returned entries / request:	25	25
Handsets that can access the phonebook:[1]	VoWiFi handsets in the VoWiFi system	

7.2 Phonebook address

The default Call ID in the UNS is 999999 for phonebook access.

When the UNS in the IMS/IP is set to forwarding mode, the phonebook Call ID must exist in the module that the requests are sent to. Any change of the Call ID and/or IP address must be made in that module. If the default address is used, no changes are needed.

When the UNS in the IMS/IP is set to stand-alone mode, do as follows to change the address:

1   Open the IMS/IP administration pages and click UNS > Alias / Call ID.

2   Click "999999" in the list.

3   Enter the new Call ID for the phonebook, i.e. the Call ID the handsets are using to access the phonebook. Check that the Call ID does not conflict with any of the handsets in the system.

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[1]. See also documentation for the handset.

7.3 Phonebook Setup

Phonebook

Search Result
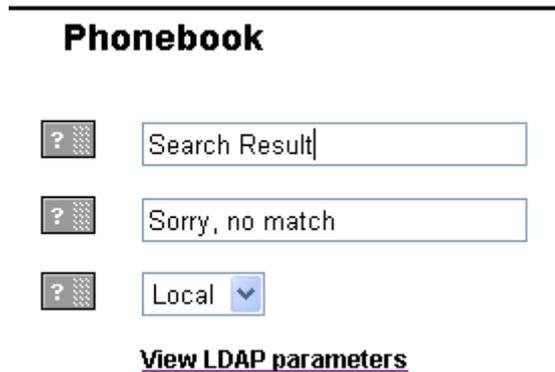
Sorry, no match

Local

View LDAP parameters

Figure 7. IMS/IP Phonebook

7.3.1 Enter Search result texts

When a request is sent to the phonebook, a text is included in the response that is sent to the handset. These texts can be customized, for example translated.

1   Open the IMS/IP administration pages and click "Phonebook".

2   Enter the texts that should be included in the search result, see table below for more information about the different texts and when they are used.

Default text	Description
Search result	Included in a successful request before the entries that matched the request
Sorry, no match	Sent when there were no match for the sent request.

7.3.2 Select Phonebook Database

Select which database to use for phone numbers; "Local" database, or "LDAP" server.

- If the default local database is selected, continue below in chapter *7.4 Local Phonebook Administration*.
- If LDAP server is selected, continue in chapter 7.5 *LDAP Parameter Setup* on page 19.

7.4 Local Phonebook Administration

The local phonebook database is administrated from a web browser. The administration can be reached from the page *xxx.xxx.xxx.xxx/user*, where *xxx.xxx.xxx.xxx* is the IMS/IP address. A special user with login name *user* has access to this page. It is also possible to change the password for this user from this page.

7.4.1 Update the Local Database

The phonebook entries can be created from any CSV file and also from the web interface.

Import a CSV file

The CSV file can be created using Microsoft Excel or any leading spreadsheet or relational database, and should have the following format:

> First name 1;Family name 1;Phone number 1
> First name 2;Family name 2;Phone number 2

The CSV file is imported as described below.

1   Open the page: *http://xxx.xxx.xxx.xxx/user.*
    Log on with *user*. The default password is *password*.

2   Click the *Administrate IMS/IP Phonebook* link.

3   Click the "Import/Export" button.
    The window shown in figure 8 will appear.

Figure 8. Importing a CSV file.

4   Click "Browse" to locate the CSV file in the file system. Click "Import file".

Update the local database from the web interface

1   Open the page: *http://xxx.xxx.xxx.xxx/user.*
    Log on with *user*. The default password is *password*.

2   Click the *Administrate IMS/IP Phonebook* link
    The window shown in figure 9 will appear.

Figure 9. Web interface for updating the phonebook database.

3   Click "Add new entry". Enter "First name", "Family name", and "Number". If the field is not filled in or if the entered value is not valid, the field is coloured yellow.

4   When all entries have been added, click "Save changes".

5   Click the "Edit" button to return to the window in figure 9.

7.4.2 Export the Local Database

The phonebook database can be exported to a CSV file for editing and backup reasons.

1   Open the page: *http://xxx.xxx.xxx.xxx/user.*
Log on with *user*. The default password is *password*.

2   Click the *Administrate IMS/IP Phonebook* link.
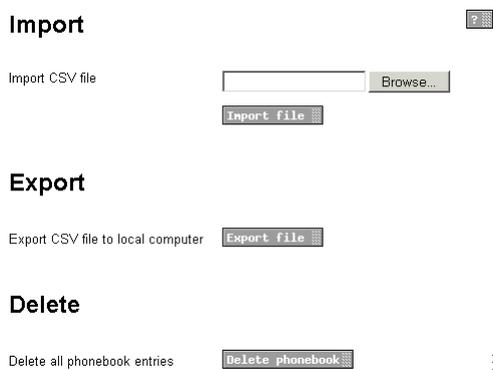The window shown in figure 10 will appear.

Figure 10. Exporting a CSV file.

3   Click "Export file". Select "Save this file to disk". Enter a file name and the location where the file should be stored and click "Save".

7.4.3 Delete the Local Database

1   Open the page: *http://xxx.xxx.xxx.xxx/user.*
Log on with *user*. The default password is *password*.

2   Click the *Administrate IMS/IP Phonebook* link.
The window shown in figure 10 will appear.

3   Click "Delete phonebook". Click "OK" in the dialogue window that appears.

7.5 LDAP Parameter Setup

The Lightweight Directory Access Protocol (LDAP) is an application protocol for querying and modifying directory services running over TCP/IP. The IMS/IP starts an LDAP session by connecting to an LDAP server. The IMS/IP then sends operation requests to the server, and the server sends responses in return.

An LDAP directory is a tree of directory entries and follows the structure below:

- An entry consists of a set of attributes.
- An attribute has a name and one or more values.

An entry can look like this:

    dn: cn=John Ericson,dc=company,dc=com
    cn: John Ericson
    givenName: John
    sn: Ericson
    telephoneNumber: +1 888 555 6789

    dn is the name of the entry; it is not an attribute nor part of the entry. "cn=John Ericson" is the entry's RDN, and "dc=company, dc=com" is the DN of the parent entry. The other lines show the attributes in the entry. Attribute names are typically mnemonic strings, like "cn" for common name, "dc" for domain component, "mail" for e-mail address and "sn" for surname. See 7.6 *Examples of Settings* on page 20.

1   Click on the *View LDAP parameters* link.

2   Enter the IP or DNS address to the LDAP server in the *LDAP Server Address* field.

3   Enter the port number used by the LDAP server in the *Port Number* field.

4   Select how to authenticate to the LDAP server in the *Authentication Method* drop down list.

Note: If the authentication method "SASL/DIGEST-MD5" is selected, the IP address for primary DNS server must be entered in the DNS server field on the Network. Otherwise it is not possible to authenticate with the LDAP directory Microsoft Active Directory 2003.

5   Enter the user name used for logging on to the LDAP server in the *User name* field.

6   Enter the password used for logging on to the LDAP server in the *Password* field.

7   Enter the user entries' parent DN in the *Search Base DN* field.
(The distinguished name for all users common entry.)

8   Enter the name of the attribute that holds the phone numbers in the *Number attribute* field.

9   Select the appropriate option in the *Type of Name Attribute(s)* drop down list.

The option depends on if the name is stored in a single attribute or if it is splitted into two different attributes.

10   Enter name(s) of the attribute(s) containing first name and family name in the *Name Attribute(s)* field. If two attributes are used, enter the first name on the first line and the family name on the second line.

11   Enter an error message to be sent as an answer to a phonebook query that was unsuccessful in the *Error message* field.

7.6   Examples of Settings

• LDAP directory in VoIP Gateway

Figure 11. Settings for the LDAP directory in the VoIP Gateway

• Active directory 2003

Figure 12. Settings for Active directory 2003

• Cisco CallManager

Figure 13. Settings for Cisco CallManager

7.7 Operation

The user accesses the phonebook by sending a message from the handset. The message includes a search query containing part of the first name and/or the family name, or phone number, see below.

You want to search for:	Text to be entered:
First name or Family name	<Part of name>
First and Family name	<Part of first name><space><Part of family name>
First name only	<Part of first name><space>
Family name only	<space><Part of family name>
Telephone number	<Part of number>

By part of name means the first characters of the name and by part of number means the last digits of the number. If no message text is entered, the 25 first entries in the database will be returned.

1   Enter the text and send it to the phonebook with the specified address (number).

    The search result is sent back to the handset as an message. If more than one number that matches the query is found, the result is displayed as a list of names.

2   Select a name and press the Call key to dial the number. See also the documentation for the handset that is used.

Search examples

You want to search for:	Text to be entered:	Search result:
First name or Family name	S M	All names that start with *Sm*, both first names and family names.
First and Family name	L ⌴ B	All entries where the first name starts with L and the family name starts with B.
First name only	A N ⌴	All first names that starts with *An.*
Family name only	⌴ A N	All family names that start with *An*.
Telephone number	2 0 0	All telephone numbers that end with 200.

8   Handset Administration

Handset Administration gives the possibility to list all handsets that are registered in the system, search for a specific handset or a range of handsets

8.1   Search for Registered Handsets

1   Open the IMS/IP administration pages and click "Handset Administration" for the WLAN Interface.
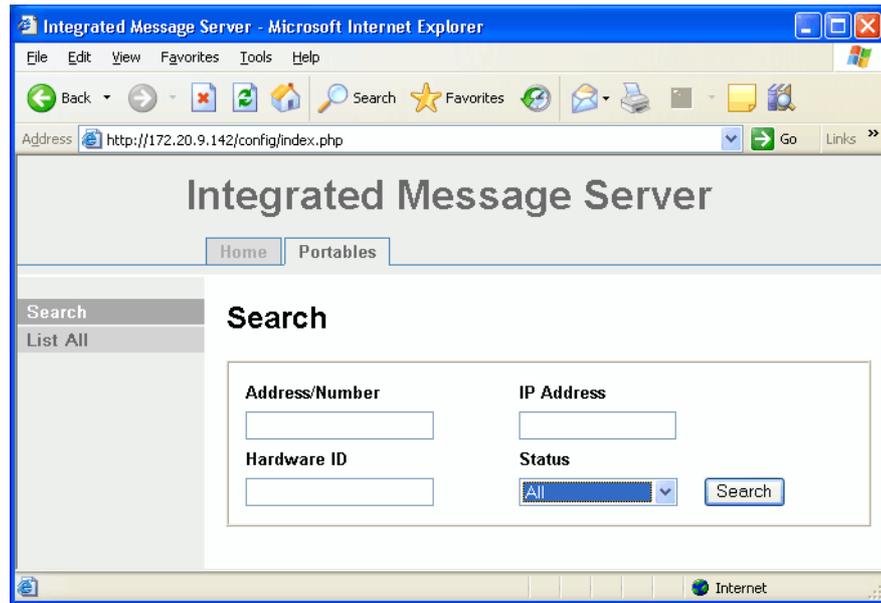
Figure 14. Handset Administration pages.

2   Select "List All" or search with different criteria, for example the "Address/Number", the "IP address", the "Hardware ID" (often the MAC address) or the "Status" of the handset.

A result list is presented.

Figure 15. Search result list.

The search result can be sorted by address/number, IP address, status or last login.

8.1.1   Save the Search Result list

The search result list can be exported to a comma separated file.

1   Click the "Export Result" button.

2   Select "Save this file to disk". Enter a file name and the location where the file should be stored, and click "Save".

8.1.2 Remove IP Address, force a Relogin, or Delete a VoWiFi handset

1   Check the handset(s) checkbox in the search result list, see figure 15 on page 22

2   Click "Remove IP Address", "Force Relogin" or "Delete Selected".

• *Remove IP Address*
Can be used to reset the address of an handset.

• *Force Relogin*
Can be used to check the connection with a handset.

• *Delete Selected*
Can be used to remove numbers not in use.

8.1.3 Show Handset Details

1   Click on the ![icon] icon in the search result list, see figure 15 on page 22. All details of the chosen handset are viewed.

Details

Remove IP	Force Relogin	Delete

Address/Number	IP Address	Current status
456713	0.0.0.0	Manual Absent

Hardware ID	Last login	Manual Absent	
HFGT-26739-HTZ783	2005-02-09 08:35:13	On ▼	Save

Figure 16. Handset details.

8.2 Change the Handset Absent Status

It is possible to change the Manual Absent status on the Handset administration pages.

1   Search for the handset, see 8.1 *Search for Registered Handsets* on page 22.

2   Click on the ![icon] icon to view handset details.

3   Select on/off in the Manual Absent drop-down list, see figure 16 on page 23.

9   Messaging tool

A web-based messaging tool that can be used to send messages to handsets is included in the IMS/IP. The tool is opened when the IP address or DNS name is entered in the browser's address field, and can be used to send messages with predefined priority and beep characteristics to Pocket Units. The figure below describes how to use the messaging tool. The title of the tool can be customized on the IMS/IP administration pages, see 3.1.7 *Messaging Tool* on page 8 for more information.

Figure 17. The IMS/IP messaging tool
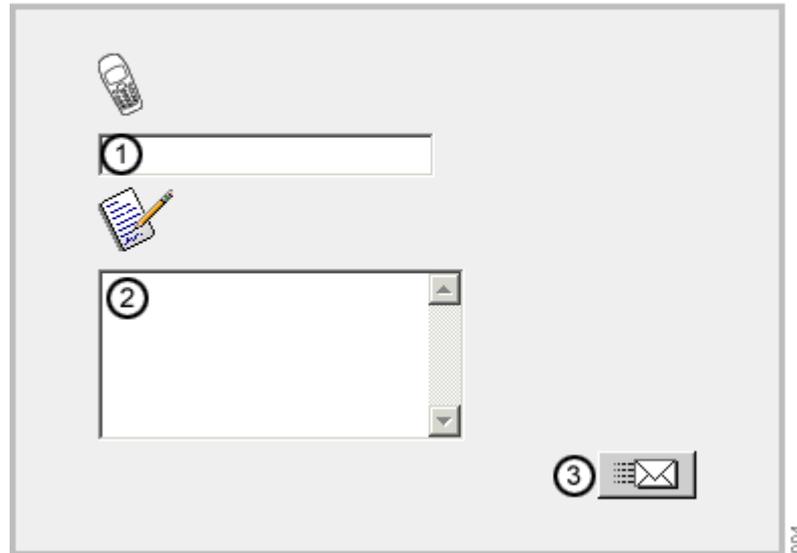
Enter the call number of a Pocket Unit or the address of a group (1). Enter the message text that should be sent to the handset (2). Click the "Send" button (3).

A pop-up window indicates whether the message has been sent or not.

Figure 18. Message sent and not sent.

If the message has not been sent, try to send the message again. Possible errors are:

• No address
• Licence error

10   Phonebook Service and Route2ELISE

A CD with Phonebook Service and Route2ELISE is included in the IMS/IP delivery.

For more information about the Phonebook Service and how to install it, see documentation included on the CD and also *Installation and Operation Manual, Phonebook Service*.

Route2ELISE is used during the installation. See *Installation Guide, ELISE* for more information.

11   Open Access Protocol

The IMS/IP has a server that client applications can use to communicate with the systems that the IMS/IP is connected to, for example the VoWiFi System or System 900. The protocol that is used for communication is called Open Access Protocol (OAP), and therefore the server is called OAP Server.

See *Function Description, Open Access Protocol*, *TD 92215GB* for more information about the protocol and when it can be used.

11.1 Configuration

The Message Distribution lists for the different interfaces have to be configured to send the information to the OAP Server, in order to give the client access to the information. The address of the OAP Server is *xxx.xxx.xxx.xxx/OAP*.

Configuration Example

The Interface should be configured to send User Data to the OAP Server.

1   Open the IMS/IP administration pages and click "Message Distribution" for the Interface.

2   Click "Mobile Data", see figure 19.

WLAN System Distribution

Alarm
Mobile Data
Availability Info

Figure 19. Setting up the Message Distribution list for the Interface to send information to the OAP Server.

3   Enter the address *127.0.0.1/OAP* in one of the address fields. Click the "Activate" button.

12   Related Documents

Data Sheet, Integrated Message Server IMS/IP - WiFi	TD 92321GB
Installation Guide, ELISE2	TD 92232GB
Function Description, Open Access Protocol	TD 92215GB
Function Description, Activity Logging in Unite	TD 92341GB

Installation and Operation Manual, Phonebook Service	TD 92360GB
Installation and Operation Manual, Enhanced System Services, ESS	TD 92253GB
Installation Guide, T941AM8 Alarm Module	TD 90858GB
Installation Guide, T941AM32 Alarm Module	TD 90854GB
Installation Guide, T942SI Serial Interface	TD 90927GB
Installation Guide, T941OM Output Module	TD 90859GB

System Installation, On-site Paging System	TD 90227GB
System Planning, On-site Paging System	TD 90202GB
System Installation, Personal Security System	TD 90678GB
General Description, PCPAR	TD 90799GB
Installation Guides of Interface Modules included in System 900	

Document History

For details in the latest version, see change bars in the document.

Version	Date	Description
A	2006-02-13	First released version
B	2006-03-06	Authentication information in 3.1.6 *WLAN System* on page 7, and new chapter 3.3.3 *User Server* on page 10.
C	2007-02-14	New chapter 3.1.2 *Shared Phones* on page 6.
D	2007-06-26	• New parameter information; authentication method, forced login and call diversion display text, added to 3.1.6 *WLAN System* on page 7. • Parameter settings for LDAP in 7.5 *LDAP Parameter Setup* on page 19.

Appendix A: IMS/IP and Firewalls

If an application or unit has to communicate through a firewall with the IMS/IP, communication has to be permitted on the ports that are used. The following applies:

Port	Application or unit	Transport protocol
80	Web configuration of the IMS/IP	TCP
123	Network Time Protocol (NTP)	UDP
3217	Other Unite compliant units	UDP
2775	Phonebook Service	UDP
1321	OAP Server	TCP
1322	OAP Server	TCP
10101	Remote connection	TCP
33000	Handset communication	TCP
389	Lightweight Directory Access Protocol (LDAP)	TCP

Appendix B: Basic Alarm Manager Configuration Examples

System Components

1   Alarm Module, 1 inputs has been defined in the Basic Alarm Manager.
Input names: Cold-storage room 1

1   Output Module, 2 outputs have been defined in the Basic Alarm Manager.
Output names: Lamp cold-storage 1, Siren

4   Handsets with push-button, no-movement, man-down, and pull-cord alarms.
Handset addresses: 1440, 1441, 1442, and 1443

The addresses of the handsets are included in the UNS number plan.

Example 1

A push-button alarm (double press) is received from 1440. A message is sent to the other handsets and a siren starts to sound. The alarm is cancelled by sending the data 1440 and then the siren stops.

Two events are created. One that handles the push-button alarm called "Push-button alarm from 1440" and one that handles the cancellation called "Alarm cancellation".

Push-button alarm from 1440

Alarm from Handset Trigger

Handset No.	Type
1440	Push-button double press

Send Message Actions

Handset Address	Message text	Beep code
1441	Alarm from 1440	5
1442	Alarm from 1440	5
1443	Alarm from 1440	5

Activate Output Action

Output	Activation	Duration
Siren	High	–

The duration is not defined which means that the siren will sound until another action is started.

Alarm cancellation

Data from Handset Trigger

Handset No.	Data
–	1440

It doesn't matter which handset that sends the data so the trigger is general when it comes to handset number.

Activate Output Action

Output	Activation	Duration
Siren	Low	–

The output is set to the initial state again.

Example 2

When the door to one of the cold-storage rooms is opened, the input "Cold-storage room 1" is closed. If the door is open longer than 2 minutes a message is sent and lamp above the door is lit. Another message is sent after 10 minutes if the door still is open. After 30 minutes another message is sent and the siren starts to sound. When the door is closed the siren and lamp is turned off.

Cold-storage room 1, door open

Input Trigger

Input	Activation	Activation time (s)	Repetition time (s)	Max. No. of Repetitions
Cold-storage room 1	Close	120	–	100

When the door has been open for 2 minutes (120 seconds), the action is started. The action should not be repeated so the "Repetition time" is not stated, and then the value in the "Max. No. of Repetitions" field has no meaning.

Send Message Actions

Handset Address	Message text	Beep code
1440	Cold-storage room 1, door is open	2

Activate Output Action

Output	Activation	Duration
Lamp cold-storage 1	High	–

The duration is not defined which means that the lamp will be lit until another action is started.

Cold-storage room 1, door open reminder

Input Trigger

Input	Activation	Activation time (s)	Repetition time (s)	Max. No. of Repetitions
Cold-storage room 1	Close	600	–	100

When the door has been open for 10 minutes (600 seconds), another message should be sent.

Send Message Actions

Handset Address	Message text	Beep code
1440	Cold-storage room 1, door still open	4

Cold-storage room 1, door open very long

Input Trigger

Input	Activation	Activation time (s)	Repetition time (s)	Max. No. of Repetitions
Cold-storage room 1	Close	1800	–	100

When the door has been open for 30 minutes (1800 seconds), the message is sent to all handsets and the siren starts to sound.

Send Message Actions

Handset Address	Message text	Beep code
1440	Cold-storage room 1, door still open	6
1441	Cold-storage room 1, door is open	4
1442	Cold-storage room 1, door is open	4
1443	Cold-storage room 1, door is open	4

Activate Output Action

Output	Activation	Duration
Siren	High	–

The duration is not defined which means that the siren will sound until another action is started.

Cold-storage room door closed

Input Trigger

Input	Activation	Activation time (s)	Repetition time (s)	Max. No. of Repetitions
Cold-storage room 1	Open	0	–	100

When the door closes the actions should be started directly.

*Activate Output Action*s

Output	Activation	Duration
Siren	Low	–
Lamp	Low	–

The outputs are set to the initial state again.