Email-to-SMS (e-2-s) Gateway







Table of content

1. Quick start

2. Global Settings

- 2.1 General Settings
- 2.2 Email Server Mode
- 2.3 Email Client Mode
- 2.4 Security Settings
- 2.5 Email Settings
- 2.6 Heartbeat SMS Settings

3. Recipients

3.1 Recipient Directory

4. Rule-Based-Alarming

- 4.1 Rule Based Alarming
- 4.2 Recipient Settings
- 4.3 Text Settings
- 4.4 Email Subject Definition
- 4.5 Valid email subject examples

5. Keyword-Based-Alarming

- 5.1 Group Based Settings
- 5.2 Group Settings 1-20

6. Backup/Restore Database

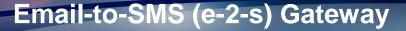
- 6.1 Backup Database
- 6.2 Backup Global Settings
- 6.3 Restore Database & Global Settings

7. Additional interfaces for sending SMS

- 7.1 SMS via Webinterface
- 7.2 SMS via Telnet/SSH-session
- 7.3 SMS via HTTP API
- 7.4 SMS via AT-commands over TCP-session

8. Setting up a POP3 mailbox on an Exchange Server

9. Technical parameters of e-2-s gateway









This manual describes how to use the Email-2-SMS (e-2-s) Gateway.

Generally, the e-2-s gateway is able to convert Emails to SMS.

There are 2 working modes, which are able to work parallel simultaneously:

• Email-Server mode

In this working mode, the e-2-s gateway acts like an email-server. The e-2-s gateway can be contacted from any email-client and get emails from the client. After getting the email, the e-2-s gateway evaluates the email-subject and processes that information to create SMS, according to the user-specific configuration (details see points 4 and 5).

• Email-Client mode

In this working mode, the e-2-s gateway collects emails from an existing mailbox (for example mailbox on MS Exchange server) via POP3 or POP3-SSL in definable intervals. After collecting the email, the e-2-s gateway evaluates the email-subject and processes that information to create SMS, according to the user-specific configuration (details see points 4 and 5).

Additionally the e-2-s gateway is able to convert SMS to Email.

It is also possible to send Heart-Beat SMS, to be able to regularly monitor the e-2-s gateway itself, the sim-card and the provider.





1. Quick start

- Insert the SIM-card by pushing the black button (to the right of the sim-slot 1).
- Connect the delivered antenna to port "ANT".
- Connect the power-supply to port "PWR".
- Connect your PC via Ethernet cable on port "ETH0".
- Change the network settings on your PC to 192.168.1.2 (255.255.255.0).
- The e-2-s gateway can be configured via WEB browser. The web interface can be accessed via the following access parameters:

Address: http://192.168.1.1

Username: root Password: root

- Immediately change the default password after the first login, due to security reasons!
 You can do that in the menu "Administration" → "Change Password".
- Enter the PIN of the SIM-card (in the e-2-s gateway menu "Configuration" → "Mobile WAN" → "PIN"). If the PIN is disabled, leave the field empty.
- If necessary, change the IP-address of the e-2-s gateway according to your local network (in the e-2-s gateway menu "Configuration" → "Lan" → "Primary").
- Choose the right pre-configuration for your use-case in the menu "Administration" ->
 "Change Profile":
 - o Profile: Standard (default)
 - e-2-s gateway works via LAN, without 2G/3G mobile-data-connection. The e-2-s gateway connects to the POP3 mailbox via the Ethernet/LAN.
 - Profile: Alternative 1
 - e-2-s gateway works via 2G/3G mobile-connection, without LAN. The e-2-s gateway connects to the POP3 mailbox via the Mobile Connection of your SIM card. Attention, data-traffic of your SIM card must be activated.

U S E R M A N U A L Email-to-SMS (e-2-s) Gateway



2. Global Settings

To configure the converting-settings of the e-2-s gateway, please use the webinterface under "Customization" → "User Modules" → "Email To SMS Gateway".

IMPORTANT: Special characters like ü, €, &, and so on, will be deleted from every input field in the web interface after pressing the "Apply" button. This is a restriction of current firmware version of e-2-s gateway. But special characters in the email subject can be read by the e-2-s gateway and also sending of SMS with special characters is supported (UTF-8 character set).

The e-2-s gateway is able to send about 20 SMS per Minute. This value depends on some other circumstances as well (telco-provider, time for getting emails, ...).

2.1 General Settings

		General Settings	
Enable Module	▽		

<u>Enable Module:</u> The gateway functionality will be enabled if the checkbox is checked.

2.2 Email Server Mode

Settings for the e-2-s gateway to act like an email-server.

The e-2-s gateway can be contacted from any email-client via SMTP protocol and get emails from the client. After getting the email, the e-2-s gateway evaluates the email-subject and processes that information to create SMS.

	Email Server Mode	
Enable Server Mode		
Email Server Port	25	
Email Server Debug Enabled		
Description	Email Server Mode the Email-to-SMS-Gateway acts like an SMTP server at the given port. nail subjects will get sent to the given number in the address. dress needs to be in the form of number@ip/domain (eg: +4367612345678@e2s.at or +4367612345678@192.168.1.1)	

Enable Server Mode: The Email-Server functionality will be enabled if the checkbox is

checked. We recommend using the Email-Server-Mode in your internal network only. Using Email-Server-Mode on a public IP-network requires the activation of the Email-2-SMS Gateway

firewall.

Email Server Port: The IP-port, on which the e-2-s gateway listens for incoming

SMTP-connections from email-clients.

Email Server Debug Enabled: If enabled, more detailed information can be found in the system-

log of the e-2-s gateway ("Status" → "System Log"). Enable this feature only in case of communication problems with the email-

client.

Email-to-SMS (e-2-s) Gateway



The email-address-recipient in your email-client needs to be in the following format: recipient-number@ip/domain

For example:

<u>+43676123456@e2s.at</u> +4367612345678@192.168.1.1

Example SMTP-configuration from any email-client:

Email Settings	
NAME	VALUE
SMTP Server	192.168.1.1
SMTP Port	25
Authentication	
Secure TLS mode	
Username	
Password	
Importance	Normal •
FROM	e2s@e2s.at
Subject	Subject, which will be converted to SMS
ТО	+4367612345678@e2s.at





2.3 Email Client Mode

Settings for the email account, where e-2-s gateway gets emails from.

In this working mode, the e-2-s gateway collects emails from an existing mailbox (for example mailbox on MS Exchange server) via POP3 or POP3-SSL in definable intervals. After collecting the email, the e-2-s gateway evaluates the email-subject and processes that information to create SMS.

	Email Client Mode
Enable Client Mode	
Server Protocol	POP3
Email Server URL	pop.server.com
Email Server Port	110
Email Username	username@server.com
Email Password	
Retrieval Interval	31 sec

Enable Client Mode: The Email-Client functionality will be enabled if the checkbox is checked.

If disabled, no emails will be collected from the mailbox.

<u>Server Protocol:</u> Defines the protocol of the connection to your email server:

POP3: unsecured plain text connection

POP3-SSL: ssl secured connection

Email Server URL: The URL of your email server.

Email Server Port: The Port of your email server.

<u>Email Username:</u> The username to log into the email server.

Email Password: The password to log into the email server.

To initially set or change the password, type a new password in the input field. The password will not be visible in the input field after saving with

"Apply" button.

Retrieval Interval: Polling interval for the POP3 Mailbox, to define how often the emails will

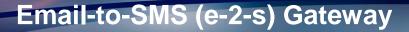
be collected.

Important: If you use a huge amount of emails together with a lot of recipients, you have to set a higher interval. The minimum interval is 30

seconds.

How to use Microsoft Exchange Server as POP3 Mailbox:

Detailed information can be found at point 7) later in this document.





2.4 Security Settings

	Security Settings
Auth Token	1234
Description	An auth token will be validated otherwise no SMS will get send. Value 0 disables this feature.

Auth Token:

There can be a security token (4 numbers) within the email-subject, which will be checked by the e-2-s gateway. If this token is not present in the email-subject, the SMS will not be sent. If the field "Auth Token" is empty or set it to 0, the feature is deactivated and the e-2-s gateway will not check for a token in the email-subject. If the token is active (4 digits) then the feature works in both alarming modes (rule-based and keyword-based).

2.5 Email Settings

The e-2-s gateway can not only get emails, but also send emails for the following 3 reasons:

- Convert SMS to email
- Send alarm email, if the e-2-s gateway was not able to send out one of the SMS
- Send log-file email with the historic SMS-sending activities

	Email Settings
SMS to Email	recipient@domain.com
Description	Email address that should receive message texts of incoming SMSs. Value "@" enables dynamic recipient parsing in SMS Text. An empty field disables this feature.
SMS-Error email	recipient@domain.com
Description	Email address that gets notified in case of an SMS error. An empty field disables this feature.
Log destination email	recipient@domain.com
Description	Email address that the log files should get sent to. An empty field disables this feature.
SMTP Configuration	Configure Email SMTP Server
Description	General Email (SMTP) configuration is necessary for sending out log/error emails.

SMS to Email:

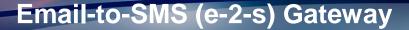
Email address, where the information about incoming SMS will be sent to. The email contains the full content of the SMS and the sender-mobile-number (within the email-subject and the email-body).

If there is a word containing the sign "@" within the received SMS (and the word is a valid email-address) the email will additionally be sent to this email-address (dynamic recipient parsing).

Only dynamic-recipient-parsing for incoming SMS is active, if the sign "@" will be written to the field "SMS-Error email".

Leave the field empty to deactivate the feature.

Special characters like ü, €, &, and so on, are currently not supported by the feature "SMS to Email".





Note: The feature "SMS to Email" only works on UR5i-V2L hardware platform

(ER75i-V2B platform is not supported).

The feature "SMS to Email" only works, in case of deactivated feature

"Services"->"SMS"->"Enable remote control via SMS".

SMS-Error email:

Email address, where the information about failure in SMS sending will be sent to. The e-2-s gateway will try 3 times to send the SMS. If the third try also fails, e-2-s gateway will send an email to the predefined Email address (defined in the field "SMS-Error email"). Leave the field empty to deactivate the feature.

Note: If the used SMS-receive-telephone-number is wrong, the e-2-s gateway is not able to detect this situation and so there will no SMS-Error-email be sent. The e-2-s gateway is only able to detect problems

in the communication with the telco-provider!

<u>Log destination email:</u> Email address, where the history log files should be sent to.

The history-log-file will be created automatically and it stores every

SMS-activity which will be done by the e-2-s gateway.

The file will be sent automatically, if it reaches 60 kilobytes in size. The file will reside in the gateway (/var/data/email2sms/history.log) until it reaches the file size limit – then it will be sent to the given email address. Leave the field empty to deactivate the feature (in this case, the log file resides on the e-2-s gateways file system and will get reset

when the file reaches 60 kilobytes in size).

<u>SMTP Configuration:</u> To be able to send out emails, you need to configure a SMTP-Server.

By using the link "Configure Email SMTP Server" you will be redirected

to the page for entering the SMTP-Server information.





2.6 Heartbeat SMS Settings

The e-2-s gateway is able to send periodic SMS (heartbeat SMS) to one recipient number, to show that the device is still powered up and working correctly.

	Heartbeat SMS S	Settings	
Heartbeat Interval	weekly •		
Hour of Day	Hours. [0-23]		
Minute of Hour	Minutes. [0-59]		
Day of Week	Day [1-7, Sunday = 1]		
Mobile Number	+4367612345678		
SMS Text	All OK! The email2sms gateway is up and running		
Description	If enabled a heartbeat SMS gets sent in the specified interval.		

<u>Heartbeat Interval:</u> It is possible to send heartbeat SMS periodically:

daily

weekly

monthly

Hour of Day & Minute of Hour: Define the time for receiving heartbeat SMS.

<u>Day of Week / Month:</u> Define the day-of-week / day-of-month for receiving heartbeat

SMS.

Mobile Number: Define the recipient number for heartbeat SMS.

SMS Text: Define the text for heartbeat SMS.

The current system-time of e-2-s gateway can be seen under "Status" \rightarrow "General" \rightarrow "System Information" \rightarrow "Time".

The e-2-s gateway can synchronize its system-time with external NTP-servers, which can be configured under "Configuration" \rightarrow "Services" \rightarrow "NTP" \rightarrow "Synchronize clock with NTP server".

Automatic switching for Daylight-Saving-Time is implemented in the e-2-s gateway.

U S E R M A N U A L Email-to-SMS (e-2-s) Gateway



3. Recipients

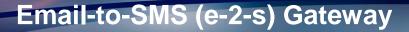
In the recipients tab you can create your own telephone book. These telephone book entries can be used in both alarming methods (Rule Based Alarming & Keyword Based Alarming). It is possible to store up to 50 entries in the telephone book.

3.1 Recipient Directory

		Red	cipients	
Recipient 1	Name	John Smith	Phone Number	+436712341373
Recipient 2	Name	Max Mustermann	Phone Number	06643312996
Recipient 3	Name	Chuck Norris	Phone Number	+436645312862
Recipient 48	Name		Phone Number	
Recipient 49	Name		Phone Number	
Recipient 50	Name		Phone Number	
Apply				

Recipients: Enter the name and the phone-number of the different SMS recipients.

Format of the number: +4366412345678 or 066412345678.





4. Rule Based Alarming

Rule-Based-Alarming is recommended for alarming to single or only a few telephone numbers. In this method the telephone-number of the recipient and also the SMS-text can be a part of the email subject. For Rule-Based-Alarming it is necessary to be able to create your own email subject. If your system can only send predefined emails, it's recommended to use Keyword-Based-Alarming (see point 5).

4.1 Rule Based Alarming

	Rule Based Alarming
Enable Rule Based Alarming	

Enable Rule Based Alarming:

The Rule-Based-Alarming functionality will be enabled if the checkbox is checked.

If disabled, the email-subjects of incoming emails will not be checked against the rules of Rule-based-alarming (see point 4.4.).

4.2 Recipient Settings

			Recipient Settings
Recipient 1	Herbert Huber	default 🗹	
Recipient 2	Hermann Maier	default 🔻	
Recipient 3	Chuck Norris	default 🖪	
Recipient 9		default 🗆	
Recipient 10		default 🔳	

Recipient: The recipient, to which a SMS will be sent if the rule matches. The recipient can

be deleted by pressing the |x| Button next to the input field.

<u>default:</u> Marks the current recipient as default recipient. There can be more than one default recipients at the same time. The default recipient will be chosen, if there is

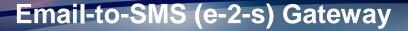
no recipient defined in the email subject.

4.3 Text Settings



<u>Text:</u> The predefined SMS texts 1-10, which can be used for the rules (T1 - T10).

<u>default:</u> Marks the current text as default text. The default text will be chosen, if there is no text defined in the email subject. There can only one default text at the same time.





4.4 Email Subject Definition

The email subject defines the recipient and the text of the SMS.

There are 2 working-methods of the Rule-Based-Alarming: static and dynamic

In the static mode you can define recipients that are pre-configured (see 4.2) by inserting R(number, ...) where number refers to a configured recipient.

You can define a text which is configured in the settings (see 4.3) by its number Tnumber. If you don't include any recipient definition in the email subject then the SMS will be sent to all configured default recipients.

If you don't include any text definition in the email subject then the SMS will contain the configured default text.

In the dynamic mode you can use a text TDtext and a recipient RD(phonenumber) in your email-subject that doesn't have to be configured in the settings. Both methods are working parallel and can be used together.

Marker Definition	Name	Description	Required	
A nnnn	Auth Token	nnnn 4 digits	yes if not 0	
R(n[,n]*)	Recipient List	n[,n]* 1 or more of the configured recipients (1-10)	no	
Tn	Text number	n number of configuredSMS text	no	
RD(n)	Dynamic Recipient Input	n a single phone number	no	
TDx*	Dynamic Text input	x* text characters of the SMS text (max 150 chars)	no	

Legend:

* ... repeat

[] ... optional

4.5 Valid email subject examples:

static:

• A1234_R(1,2)_T1 send text 1 to recipients 1 and 2 if auth token is 1234

A 1234_R(4)_T5 send text 5 to recipient 4 if auth token is 1234

• A1234_R(1,2) send default text to recipient 1 and 2 if auth token is 1234

send **default** text to recipient **1** and **2** if **auth token** is **0**

send text 3 to **default** recipients if **auth token** is **1234**send **default** text to **default** recipients if **auth token** is **1234**

any send **default** text to **default** recipients if **auth token** is **12**. send **default** text to **default** recipients if **auth token** is **0**

arry

dynamic:

A1234_RD(+43123456)_TDhello world
 ANY_RD(+43123456)_TDhello world
 send "hello world " to +43123456 if auth token is 1234 send "hello world " to +43123456 if auth token is 0

static & dynamic:

• ANY R(1) TDhello world

send "hello world "to recipient 1 if auth token is 0

USER MANUAL Email-to-SMS (e-2-s) Gateway Technik, d



5. Keyword Based Alarming

Keyword-Based-Alarming is recommended for alarming to a group of telephone numbers. In this method it is only necessary to find a match between a keyword in the email subject and the predefined keyword in the group settings. For the Keyword-Based-Alarming it's NOT necessary to define your own email subject. You only need to know one keyword from your email subject.

5.1 Group Based Settings

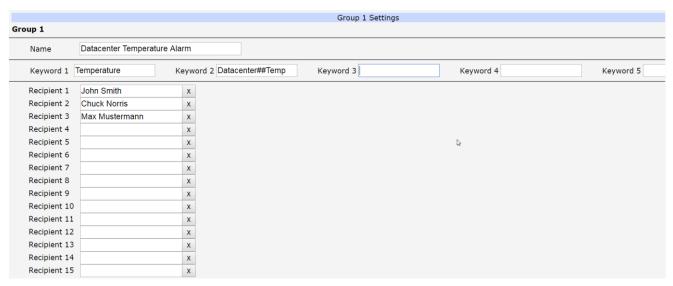
		Group Base Settings
Enable Keyword Based Alarming	V	
		Advice:
For Further settings see menu items "Group 1" - "Group 20"		

Enable Keyword Based Alarming:

The Keyword-Based-Alarming functionality will be enabled if the checkbox is checked.

If disabled, the email-subjects of incoming emails will not be checked against the keywords, which are defined in the groups of Keyword-based-alarming (see point 5.2.).

5.2 Group Settings 1-20



It is possible to define 5 keywords for each of the 20 groups. If the email-subject contains one of these keywords, the subject (its first 160 characters) will be sent as SMS to the recipients of this particular group. If the auth token is configured as a 4 digit number then the auth token must part of the email. If the auth token is configured as 0, only the keyword has to match.

Email-to-SMS (e-2-s) Gateway



Name: The name of the group.

It does not have any effect on the functionality.

Keyword 1-5: The keyword that needs to be in the email-subject. The keyword is *case*

sensitive! Due to fact, that it is not possible to enter special characters on the webinterface of email-2-sms gateway, it is necessary to use ## as wildcard for 1 or more characters! So, it is also possible to separate 2 words by ## in one

keyword.

If you want to convert all incoming emails (without any keyword-checking) into

SMS, then you can use only ## as the keyword.

If all keywords are empty, the group is deactivated and no SMS will be sent.

Recipient 1-15: The recipient that will receive the SMS. The recipient can be selected from the global recipient-list-window, which appears when you click into the recipient-field. The recipient can be deleted by pressing the |x| Button next to the input

field.

USER MANUAL Email-to-SMS (e-2-s) Gateway Technik, die verbindet!



6. Backup/Restore Database

After finishing the configuration of your e-2-s gateway, it would make sense to back up the settings and keep it for later usage.

The database file contains all settings besides the "Global Settings".

6.1 Backup Database

Is it possible to download the database file at the menu "Status" → "Backup Database".



6.2 Backup Global Settings

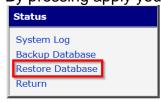
The global settings can be backuped by using the main-menu at "Administration" → "Backup Configuration".



6.3 Restore Database & Global Settings

Restoring the database file can be done at the menu "Status" → "Restore Database". After clicking the "Restore Database" menu item, you are able to click the "Choose File" button and choose a database file, which was saved in former days.

By pressing apply you replace the current database file with the just uploaded file!



The global settings can be restored by using the main-menu at "Administration" → "Backup Configuration" → "Restore Configuration".

USER MANUAL Email-to-SMS (e-2-s) Gateway BellEquip Technik, die verbindet!

7. Additional interfaces for sending SMS

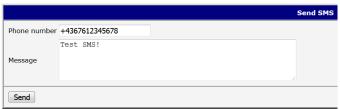
Besides the functionality of converting emails to SMS, there are some other possibilities to trigger the sending of SMS.

The following interfaces are provided:

7.1 SMS via Webinterface

For testing purpose (to try if your simcard is able to send SMS) it is the best to use the Web-GUI of e-2-s gateway.

This can be done at the main-menu under "Administration" \rightarrow "Send SMS".



7.2 SMS via Telnet/SSH-session

Login to e-2-s gateway via Telnet or SSH using your login-credentials, which you also use on the webinterface.

Use the command gsmsms +4367612345678 "SMS Text" for sending SMS.

7.3 SMS via HTTP API

It is possible to use http-get command for sending SMS. A description of the http-API can be downloaded here: http://download.bellequip.at/HTTP_API_ab_Firmware_5.3.1.pdf

7.4 SMS via AT-commands over TCP-session

It is possible to use AT-commands over TCP-session for sending SMS. A description can be found here:

http://download.bellequip.at/SMS_AT_commands_over_TCP_session.pdf

A very similar way is to use AT-commands over virtual COM interface: http://download.bellequip.at/SMS_AT_commands_over_TCP_session_virtual_COM.pdf



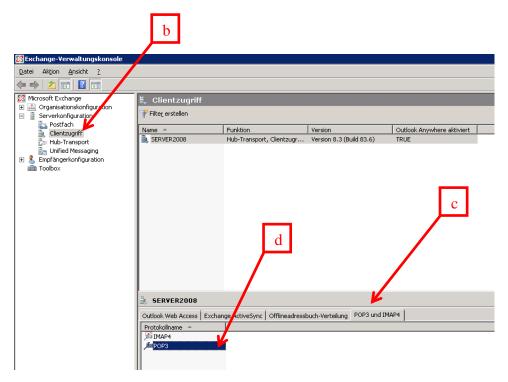


7. Setting up a POP3 mailbox on an Exchange Server

INFO: The screen shots and settings were made on a "Windows Small Business Server 2008 (German)". Your settings may differ.

Activate POP3

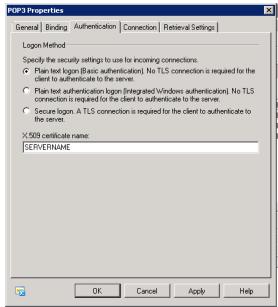
- a. Open the Exchange Management Console
- b. Navigate to Server Configuration → Client Access
- c. Open the tab "Pop3 and IMAP4"
- d. Finally double click on POP3.



Deactivate Authentication

POP3-SSL is fully supported from the "Email2SMS" User-Module. The problem is the Windows POP3-SSL authentication is based on certificates. This authentication type is currently not supported.

- a. Switch to tab "Authentication"
- b. Activate the option number one "Plain text login (Basic authentication)

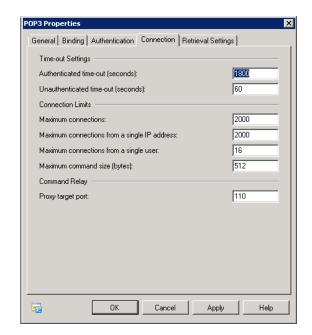


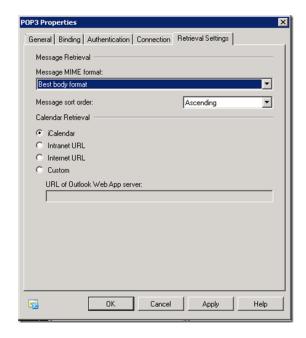
U S E R M A N U A L Email-to-SMS (e-2-s) Gateway Belle



POP3 Properties

Make the remaining Settings based on the following screenshots





Important: All settings in the POP3 properties will only take effect if the service "Microsoft Exchange POP3" is restarted.

Configure Service (Microsoft Exchange POP3)

a. Open the Services (Control-Panel →Administrative Tools →Services)

b. Search for the Service "Microsoft Exchange POP3" and open it with an double-click

c. Change the start-up type to "Automatic".

Configure Mailbox

- Recommended is a Mailbox which is only used by the Email2SMS Service
- In the Mailbox Settings you only have to ensure that POP3 is enabled.
- c. This setting you can find in the "Mailbox Features" tab







8. Technical parameters of e-2-s gateway

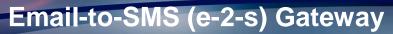
TECHNICAL PARAMETERS

Temperature range	Function Storage	-40° C to + 75°C -40° C to + 85°C
Protection	Freely In switch board	IP30 IP56
Supply voltage		9 to 36 V DC
Consumption	Reception Transmission	2 W 5,5 W
Dimensions	Plastic box Metal box	51 x 87 x 116 mm (DIN 35 mm) 42 x 87 x 113 mm (DIN 35 mm)
Antenna connector		2x SMA – 50 Ohm
User interface	2x ETH	Ethernet (10/100 Mbit/s)
Frequency bands	GSM/GPRS/EDGE: Quad band, 850/900/1800/1900 MHz UMTS/HSDPA/HSUPA/HSPA+: Five band, 800/850/900/1900/2100 MHz	

GATEWAY STATUS LED INDICATORS

PWR green	Blinking On Fast blinking	Gateway is ready Starting of the gateway Updating firmware
GSM red	Blinking	Communication in progress on radio channel
WAN yellow	1x flash per second	Signal strength is from -50 dBm to -69 dBm
	2x flash per second	Signal strength is from -70 dBm to -89 dBm or difference between neighbours cells is exactly 3 dBM
	3x flaxh per second	Signal strength is from -90 dBm to -113 dBm or difference between neighbours cells is smaller than 3 dBm
SIM 1 yellow	On	SIM card 1 is active

Download this documentation as pdf: http://download.bellequip.at/Dokumentation_E2S_Gateway_3G.zip





Space for your NOTES