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GSM/GPRS - Alarmmodem

Documentation

Version 2.0.010

FAQ www.lobix.de

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1. General Description of Functions

The LobiX provides comprehensive configuration possibilities for messaging services.
The LobiX can be online permanently. It checks and maintains the connection once established. No costs arise, except the fixed monthly charge. Depending on the M2M tariff, a certain data volume for sending messages is also included.

The LobiX provides the following functions:

- Values from a machine/plant can be written to a data logger (server) on the Internet at regular intervals.
- At the same time, the current data can be requested from the data logger.
- No permanently installed fixed-network te lephone connection is required.
- Alarms via SMS, fax, voice and/or e-mail
- Freely configurable message sequence with 8 target numbers per input
- Worldwide teleservicing and remotemonito ring of the machine/plant via the serial con sole ("Transparent" mode)
- Wireless and transparent data transfer to a serial interface at the machine/plant
- The LobiX is protected against attacks from the Internet.
- Additional alarm service functions via GSM for reporting via SMS, fax, e-mail and/or voice in case of faults on the GPRS line.
- The IE-GPRS-I/O can be accessed perma nently via the GSM connection.
- Straightforward configuration via a serial in terface using a web browser; no special configuration software required.
- Teleservice and remote configuration via analog/GSM modem connection.

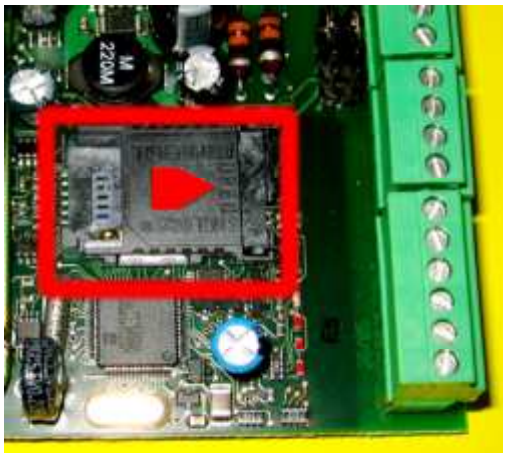
2. prepare the appliance

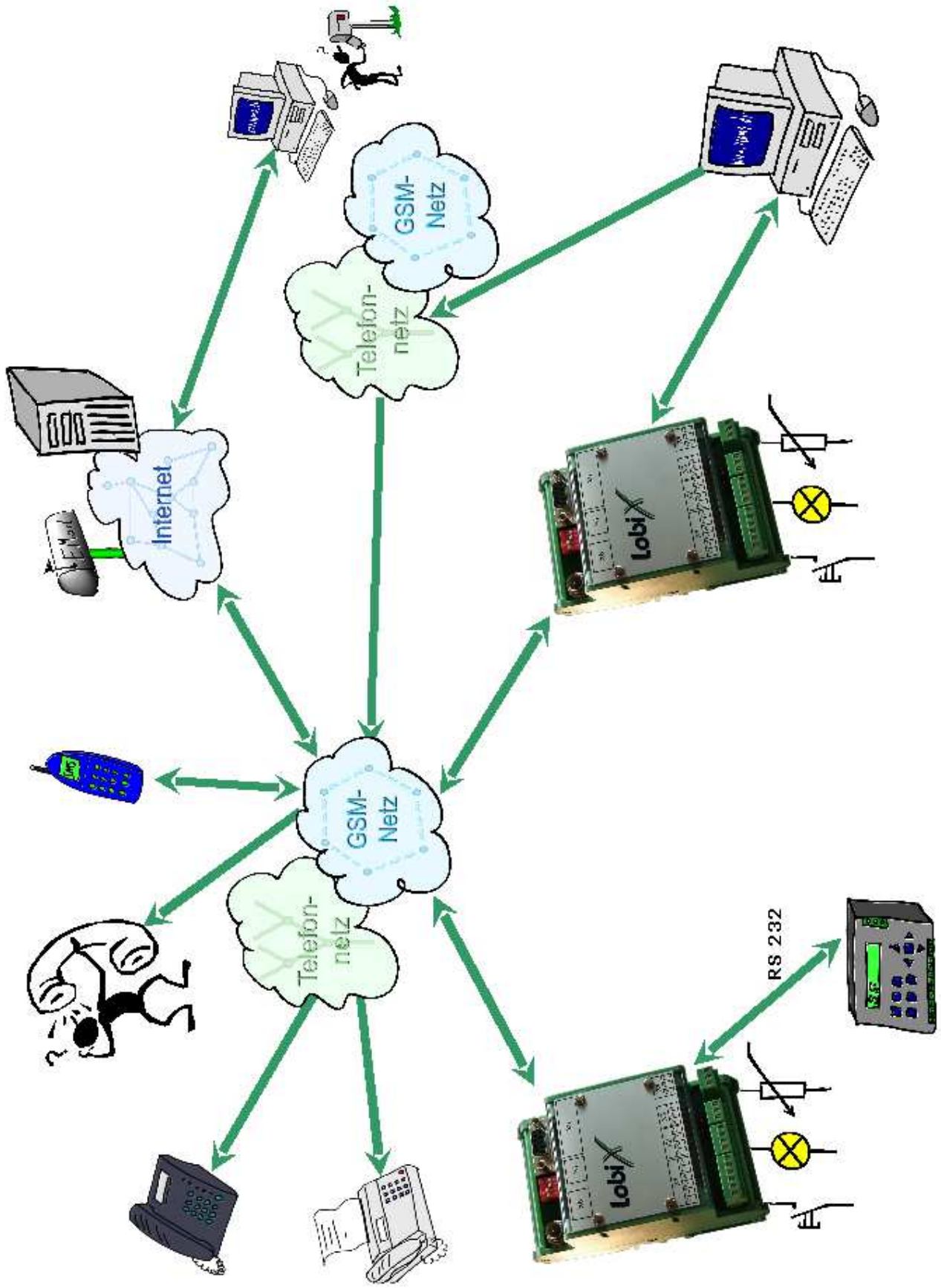
2.1 SIM-Card

A SIM card is used to set the selected tariff and the possible communication services for the LobiX. The availability of the services fax, e-mail and voice depends on the chosen tariff and on the enabling of the SIM card used, see SIM card agreement.
For the case that the virtual GPRS line is interrupted, alarms can be issued additionally via the GSM network using the configurable services SMS, e-mail, fax and voice messaging

Older 5V SIM cards cannot be used !

Before you insert the SIM card, first turn off the device !




GSM-
Netz
Telefon-
netz
Internet
Lobi
GSM-
Netz
Telefon-
netz
RS 232
Lobi

2.2 prepare the configuration

To start up your LobiX, it must be configured first. The individual steps for starting up will be explained in the present chapter

The communication is realised via a serial connection.
To display the HTML user interface of the LobiX, Microsoft Internet Explorer, version 5.5 or higher is required. Javascript must be enabled in the security settings.

The Lobix has to connected to a PC via the RS 232 interface.
The provided cable should be used

In the Windows operating system, set up the Lobix as a long-distance data transmission connection ("Dial-Up Networking")

Setting up the virtual modem and the longdistance data transmission connection	DFUE-Win98-en.pdf DFUE-WinXP-en.pdf DFUE-Win2000-en.pdf

2.3 Making the settings

- Disconnect the operating voltage.
- Set the DIP switch Options on the LobiX for the configuring mode to 1-0-0-0 (ON-OFF-OFF-OFF).
- Connect the serial interconnecting cable (1 : 1).
- Reconnect the operating voltage and wait until the Power LED lights green and the DI1-LED flashes red.
- Open the long-distance data transmission connection either by double-clicking on the shortcut LobiX you have created on the desktop or use Start - Settings - Dial-Up - Networking – LobiX to establish the connection. LobiX stands for the name of the connection.
- Enter the default user name 12345 - if not stored.
- Enter the default password 12345 - if not stored.
- Start the long-distance data transmission connection.
- In your browser, type http://215.0.0.1/index.htm. (hint: set bookmark)
- If you have not changed the default settings, the integrated web server of your LobiX will be started. The browser will create a dynamic web site from the configuration data of your LobiX.
  It will take a few seconds until the page is displayed.

DIP-Schalter

Über 4 DIP-Schalter des S1 werden verschiedene Betriebszustände (Programmiermodus, Diagnose, Reset ...) eingestellt.
DIP-Schalter-Belegung (S1)

1	2	3	4	Funktion
off	off	off	off	**im Betrieb als Meldesystem**
on	off	off	off	Vor-Ort-Programmiermodus / Konfigurationsmodus **(Werkseinstellung)**
off	**on**	off	off	bei Anlegen der Betriebsspannung wird der **Diagnosemodus** aktiviert
on	**on**	off	off	Zurücksetzen **sämtlicher Voreinstellungen** bei Anlegen der Betriebs-spannung. Warten, bis alle roten Eingangs-LEDs aus sind, dann ist Werkseinstellung hergestellt!

Die DIP-Schalter 3 und 4 werden für die werksmäßigen Einstellungen benötigt.

The appearance and contents of the windows depend on the firmware version installed. The appearance may deviate from the illustration shown here. Furthermore, the screen display is influenced by the browser and its settings.

Function keys in the menus:

Save — **Save setings**
Before switching to another menu, it is imperative to wait until **Finished** is displayed in the status line of the browser.

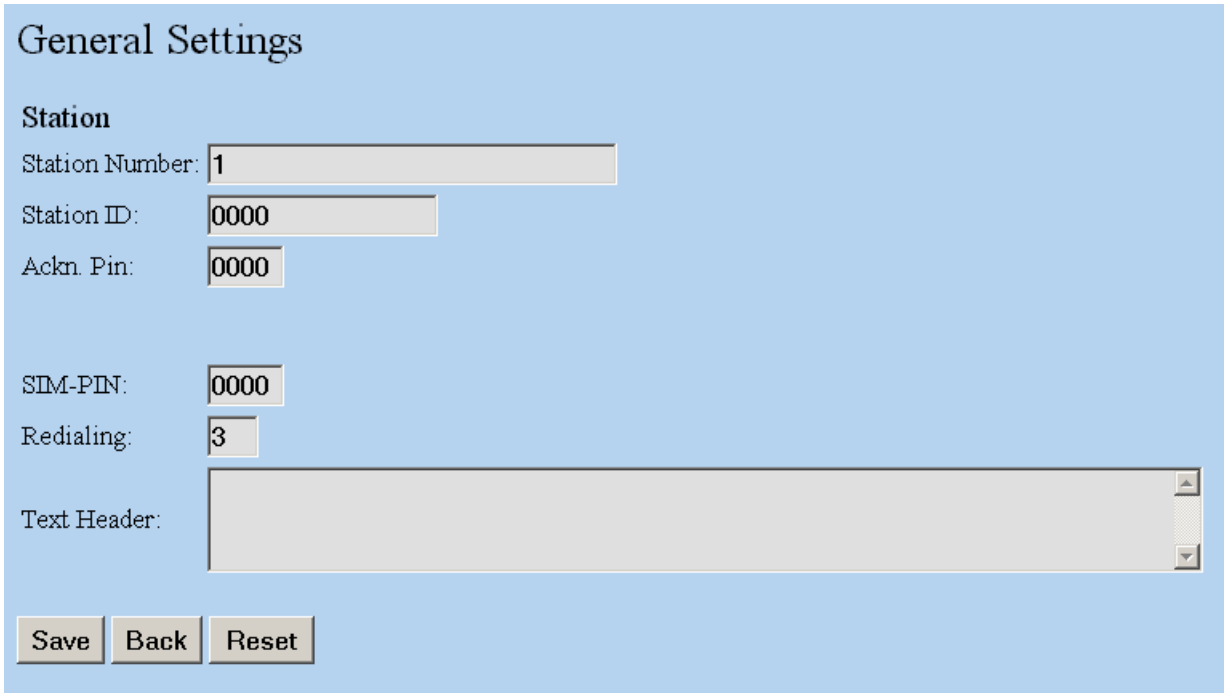
Apply — **Accept saved settings immediately**
Is only important if you make settings via a modem connection. Only settings that have been saved are accepted.

Back — **Back to higher-level menu**

Reset — **Restores the factory settings for the menu concerned.**
After a reset, the page must be refreshed with so that the changes become visible.

2.3.1 General Settings

The general settings apply for the device as a whole.



1. Station number
   Dialling number used to call the station; is supplied with your SIM card when the contract is concluded with the mobile telephone provider. A number must always be entered.
   If you are uncertain, "1" can be left for the time being, and you can change the number later (also remotely).
   This number is transmitted where appropriate, e.g. in the fax identification.
   (Max. 30 characters)

2. Station ID
   An identifier that identifies the station in question unambiguously. With some messaging services (fax, e-mail, voice), the identifier is included in the message.
   Letters and digits can be entered, but only the digits are announced in the voice message, i.e. if "abc12de345" is entered, for example, "12345" is announced.
   This field must not be left empty; if no identifier is needed, either leave or re-enter 0000.
   (Max. 16 characters)

3. Ackn. Pin
   4-digit sequence of digits which is used to acknowledge SMS and voice messages.
   Acknowledgement must be enabled in the menu Messages with a , i.e. acknowledgement of the messages is imperative
   Only digits may be used.
   If 0000 is entered, you can use any numeric key of your telephone; in this case, only one key must be pressed.
   (Always 4 digits)

4. SIM PIN
   4-digit number which is supplied with your SIM card
   It is imperative to configure the SIM PIN if the SIM card requires a PIN.
   If you have set your SIM card such that no PIN is required, 0000 must be entered to allow the device to log into the GSM network without SIM PIN.
   Make sure that you enter the correct SIM PIN; an incorrect PIN, however, will not usually block your SIM card (max. 2 attempts are accepted to enter the PIN); but this cannot be guaranteed.
   If your SIM PIN is not properly configured, no message can be triggered and thus no remote access to the device is possible.
   (Always 4 digits)

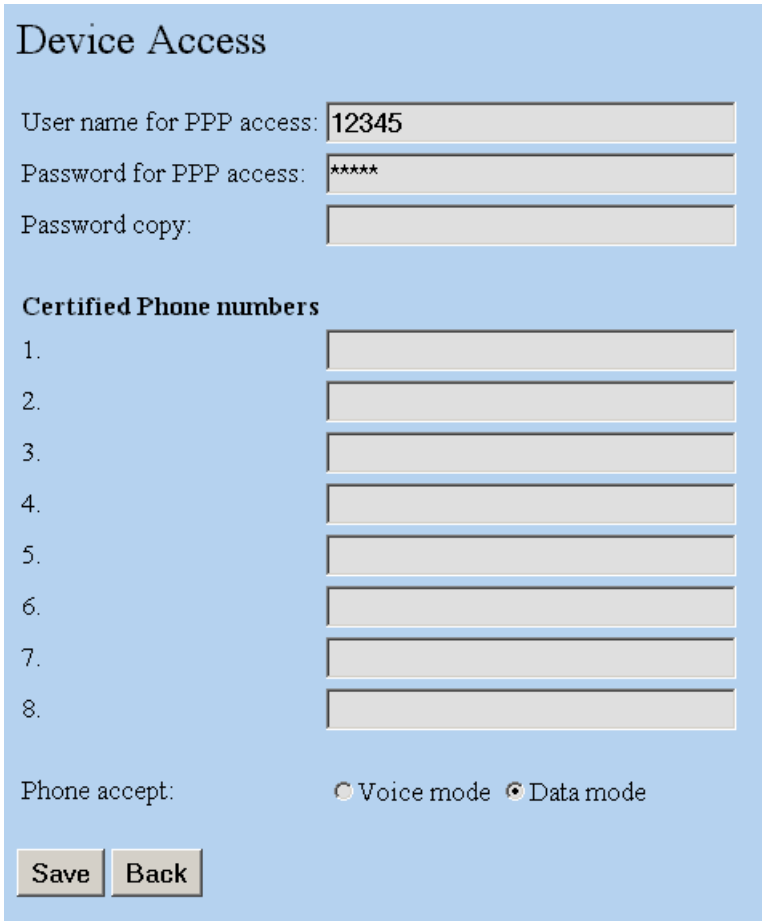
5. Redialling
   Number of further attempts made by the device when a message is to be sent if a target number cannot be reached or an error has occurred.
   1 automatic redial means max. 2 attempts.
   If a message is sent as an SMS with receipt acknowledgement, the number of automatic redials applies first for the SMS and then once more for the acknowledgement.
   The next recipient in the messaging chain is only processed after the maximum number of automatic redials is reached.
   Automatic redialling may also occur if the message has reached the recipient, but, for example, an error has occurred in the final phase of the message.

6. Text Header
   Here you can enter a text that can be inserted in the message texts using the text block #HEAD#.
   For example, the name of the plant or the name of the company can be entered, or a description of the states of the digital I/Os.
   (Max. 80 characters)

2.3.2 Device Access

These settings control the access to the device.

When making these settings, proceed very carefully; otherwise, access to the device may no longer be possible without undue difficulties. This would pertain both to local and remote access.



1. User name for PPP
   User name used to connect via "Dial-Up Networking, whether remotely or locally
   (Max. 30 characters)

2. Password for PPP choice
   User name used to connect via "Dial-Up Networking", whether remotely or locally, if the device is to be accessed via voice.
   (Max. 30 characters)

3. Password repetition
   Repetition of your password to verify the password for PPP dialling

4. Certified dialling numbers
   Dialling numbers of fixed/mobile telephones and modems from which a remote access is to be granted to the device.
   8 access numbers are possible.
   If no numbers are entered, access is possible from any dialling number.
   The dialling number must have the format +49123456789; no blanks or special characters are allowed.
   If one or several numbers are entered here, access to the device can only be realised from one of these numbers. It should always be tested whether your dialling number is transmitted. If the dialling number is suppressed by the telephone or by the provider, no remote access to the LobiX is possible from this device.
   NO remote access to the device will be possible in case of incorrect settings or incorrect entries for the numbers.

5. Call accept
   - Data mode
     If you use a SIM card that does not possess a data number, it is nevertheless possible to accept the call in the data mode if this feature is set. Call acceptance in the "Data" mode, however, requires that the data mode is enabled for incoming calls for your SIM card by the mobile telephone provider.
   - Voice mode
     If the call is accepted in the "Voice" mode, it is possible to accept the next call in the "Data" mode via telephone using the key 9 provided that you have dialled successfully in the "Voice" mode (temporary data mode)

3. Remote servicing

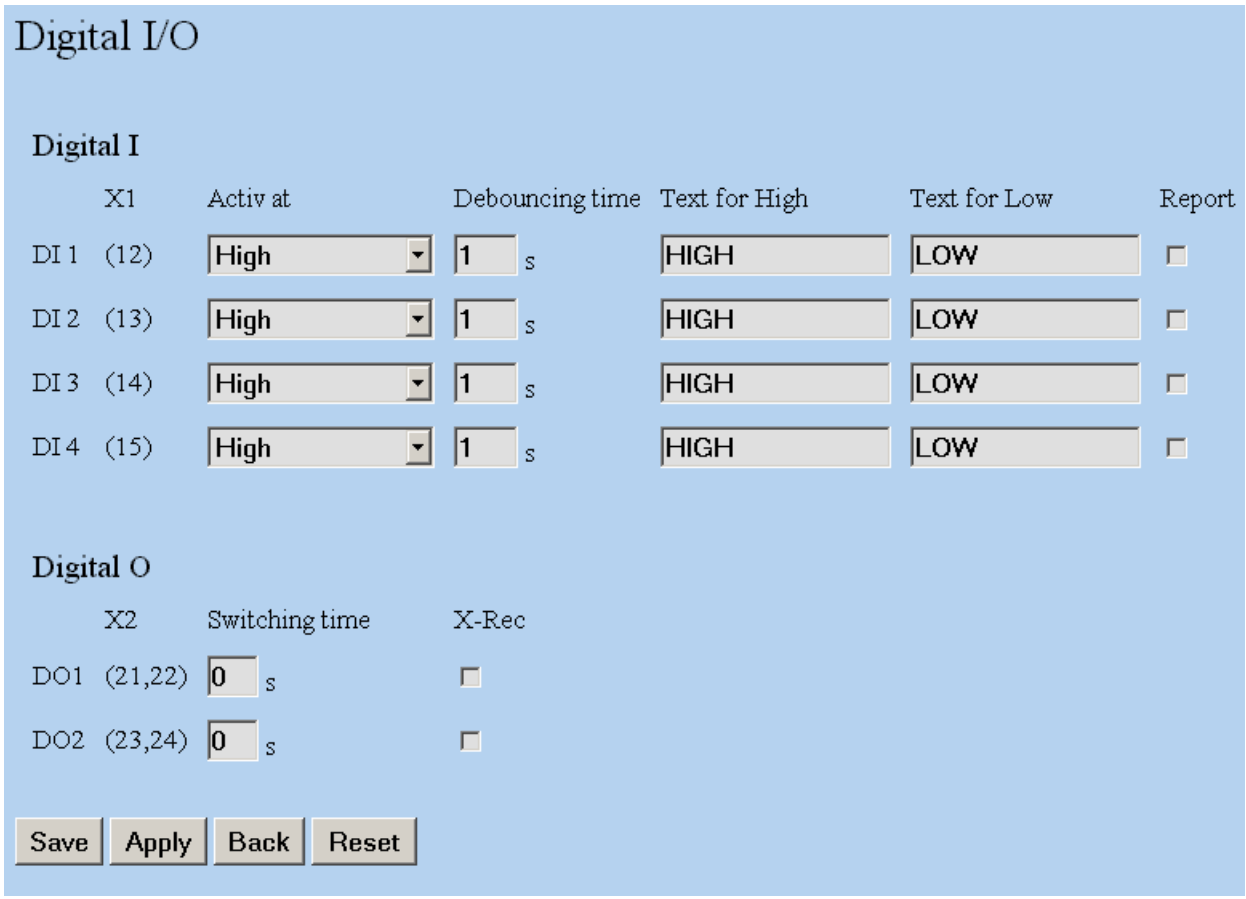
It is possible to make all settings for the LobiX from a remote
PC. To do so, you will need an analog modem.
The connection to the LobiX is again established via "Dial-Up Networking".
In "Properties" of "Dial-Up Networking", set the analog modem as the transfer device.
Enter the number of your LobiX as the dialling number; the
dialling number is indicated in your SIM-card agreement.
After establishing the connection, you can configure your LobiX as described.

4. Messaging

4.1 events

The following events can be selected to trigger a message

4.1.1 Digital inputs



Digital inputs

1. Active on
   - High: A message can be triggered if a voltage in the range 12 ... 24 V is present at the input.
   - Low: A message can be triggered if a voltage of 0 V is present at the input.
   - Level change: A message can be triggered if the input voltage changes from 0 V to 12 ... 24 V or vice versa.

   The input voltage must NOT lie within the range of 4 ... 10 V. In this voltage range, no reliable status detection is provided.

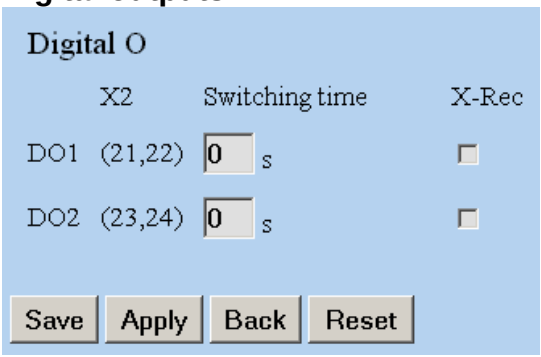
2. Debouncing time
   The relevant input signal must have been present without interruption for at least the set debouncing time for a message to be triggered; shorter disturbances cannot trigger a message.

3. Text for High
   A text that can be inserted into the message block using the text block #VAL# or #DI1#...; thus, it is possible to modify the message text dynamically, depending on the particular event.
   (Max. 16 characters)

4. Text for Low
   A text that can be inserted into the message block using the text block #VAL# or #DI1#...; thus, it is possible to modify the message text dynamically, depending on the particular event.
   (Max. 16 characters)

5. Report
   If you wish a message to be triggered via an input, it is imperative that the appropriate input be set by

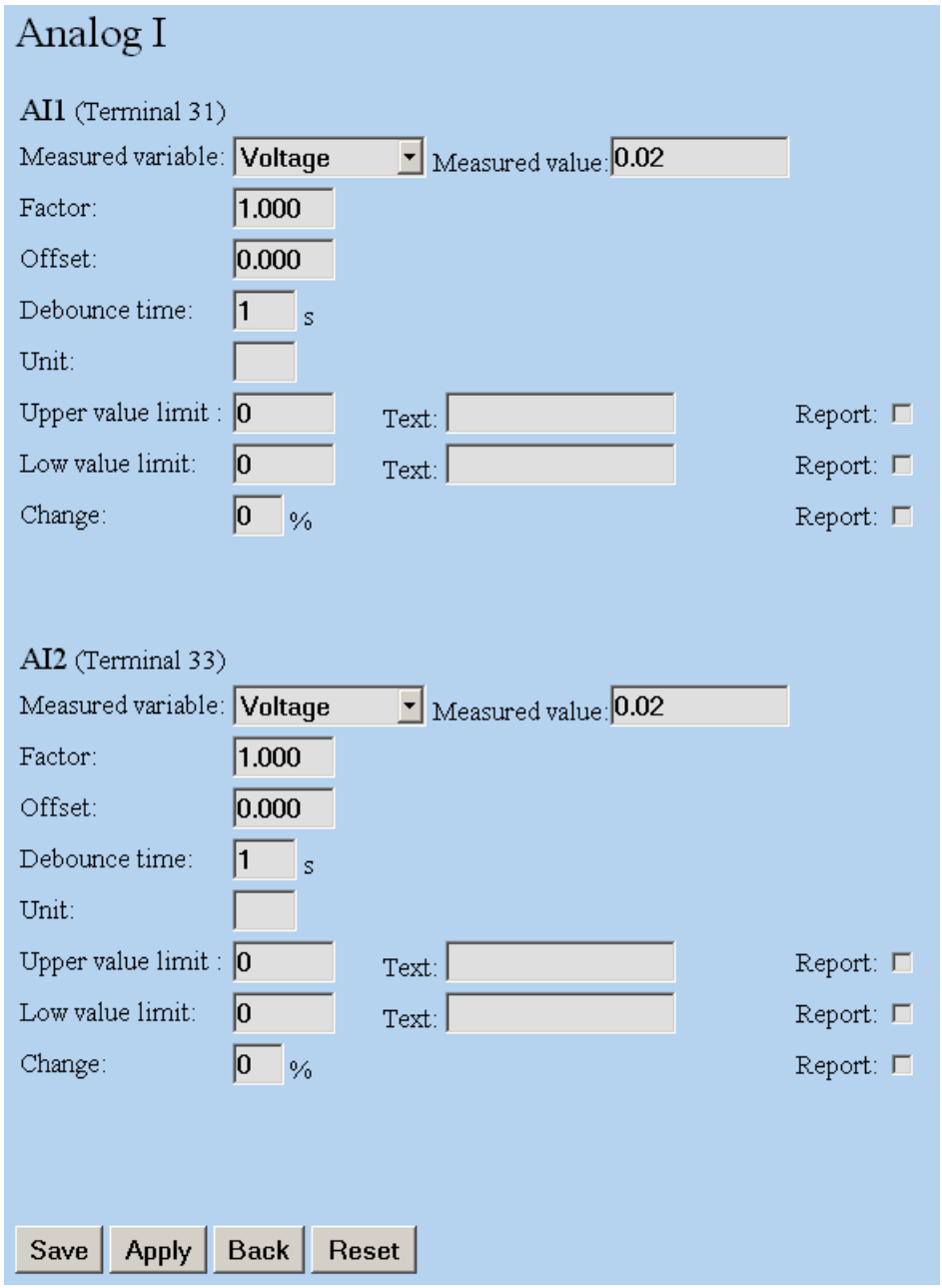
Digital outputs



1. Switching time
   The digital outputs can be switched by events (Section Alarm Message) "Switch if" and Section Function control "Switch if".
   Switching time in seconds for which the output remains closed after an event has occurred and before it reopens automatically
   The switching time is not effective when switching the digital outputs remotely via telephone.

2. X-Rec
   Remote-switching by a digital input of another LobiX in a group of LobiXs
   Two LobiXs are included in a group.
   Connects the LobiX as the receiving device of the group to the digital input of the sending LobiX.
   In all cases, inputs and the outputs with the same number are connected; linking is only possible for the digital inputs 1 .. 2.

4.1.2 Analog inputs



1. Measured variable
   Selection of the analog measurement unit:
   - Voltage
   - Current
   - Temperature

2. Measured value
   This field displays the measured value of the inputs.
   Clicking on the field refreshes the measured values of the two analog inputs.

3. Factor
   It is possible to scale the measured value with a factor.
   In this case, the calculation is performed as follows: (Factor *measured value) + offset, i.e. the slope of the measurement characteristic is not changed so that the displayed measured value can be matched to the physical measurement quantity.

   Example: Assumed 0 ... 10 V is to correspond to a water level of 0 ...100 cm, the factor to be set is 10.

4. Offset
   It is possible to shift the measured value using an offset.
   In this case, the calculation is performed as follows: (Factor * measured value) + offset, i.e. the zero of the measurement characteristic is offset.

5. Debouncing time
   The measured value must have been either higher or lower than the appropriate limit value for at least the set debouncing time for a message to be triggered.

6. Display unit
   A unit, e.g. "V", which is inserted into the text block #AI1#, #AI2#, together with the measured value.
   (Max. 3 characters)

7. Upper limit value
   If the measured value exceeds the upper limit value, a message can be triggered.
   Further messages can only be triggered if the measured value has fallen below the lower limit value and has then again risen above the upper limit value.

8. Text for upper limit value
   A text that can be inserted into the message text using the text block #VAL#; thus, it is possible to modify the message text dynamically, depending on the particular event
   (max. 16 characters)

9. Report
   If this field is checked, a message is triggered when the upper limit value is exceeded. Lower limit value. If the measured value is lower than the lower limit value, a message can be triggered.
   Further messages can only be triggered if the measured value has risen above the upper limit value and has then again fallen below the lower limit value.

10. Text for lower limit value
    A text that can be inserted into the message text using the text block #VAL#; thus, it is possible to modify the message text dynamically, depending on the particular event

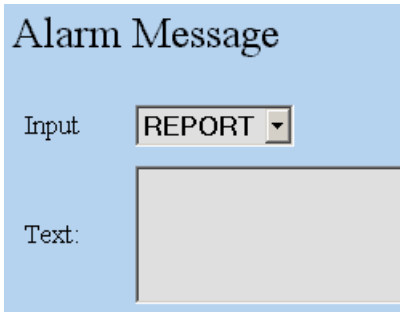
(Max. 16 characters)

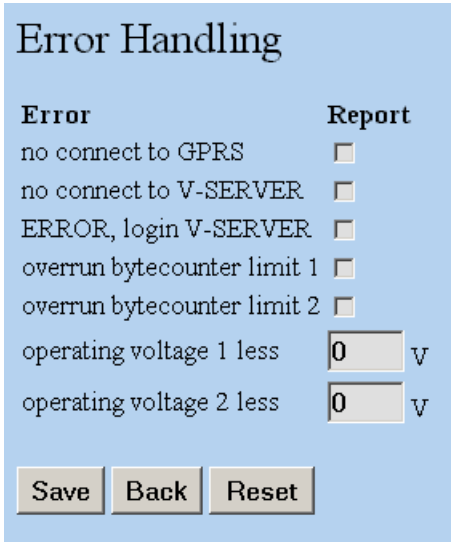
11. Report
    If this field is checked, a message is triggered when the measured value falls below the lower limit value.
    Signalling when the measured value is lower/greater than a limit value. If the measured value falls below the lower limit value or exceeds the upper limit value, a message is triggered.
    Further messages can only be triggered after the measured value has fallen below or exceeded the corresponding other limit value.

12. Change
    Signals when a measured value changes.
    A message can be triggered if a measured value changes by a certain amount.
    The appropriate change is specified as a percentage and refers to the measuring range of the input, e.g. voltage 0 ... 10 V; 10 % corresponds to a change of 1 V.
    If a measured value is monitored for changes, the debouncing time is not considered, meaning that a message is triggered immediately if the measured value changes accordingly.

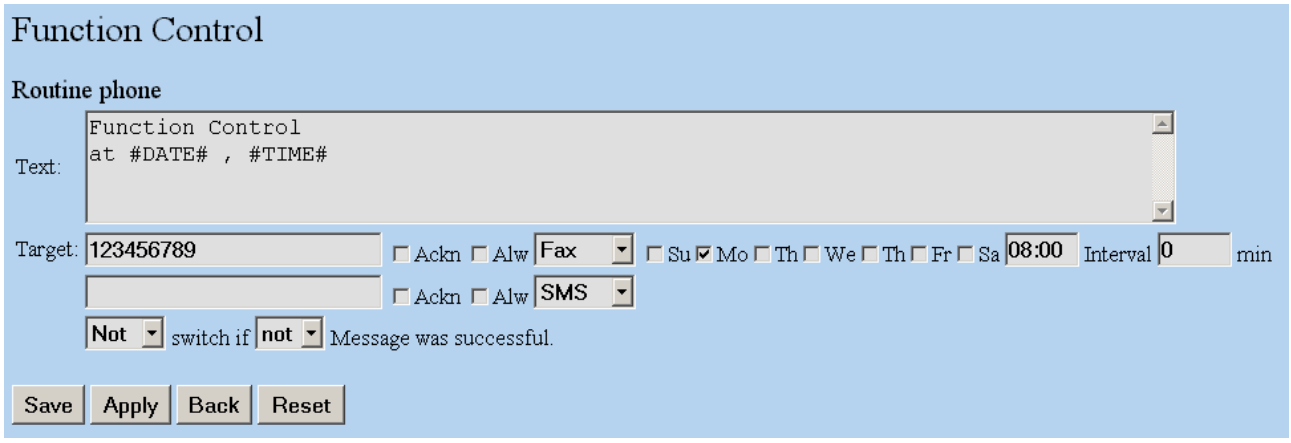
4.1.3 Report

Errors can be selected to trigger a message





4.1.4 Function control



The LobiX can issue a cyclic message (sign of life) as a function monitoring signal.

1. Text
   Enter the text you wish to be displayed in the message in the text field, for example "Function control: Pump1".
   The maximum length permitted, including all text blocks, is 160 characters. Longer texts are truncated.

   It is possible to use text blocks to create a message text dynamically, see Section Alarm Message.

2. Target
   Two targets can be specified.
   Enter the appropriate target mobile telephone number for short messages (SMS).
   Enter the appropriate target e-mail address for e-mails, etc.

3. Sun – Sat
   Enter the day of the week, time 00:00 and interval 0 min here.
   The message is sent on the weekday set and at the time set.
   If an interval > 0 has been set, a message is issued at the interval as specified in minutes.
   This process ends at midnight of the set weekday.

4. ACKN
   If acknowledgement is possible for this messaging service (menu option "Messaging services"), this feature can be activated here.

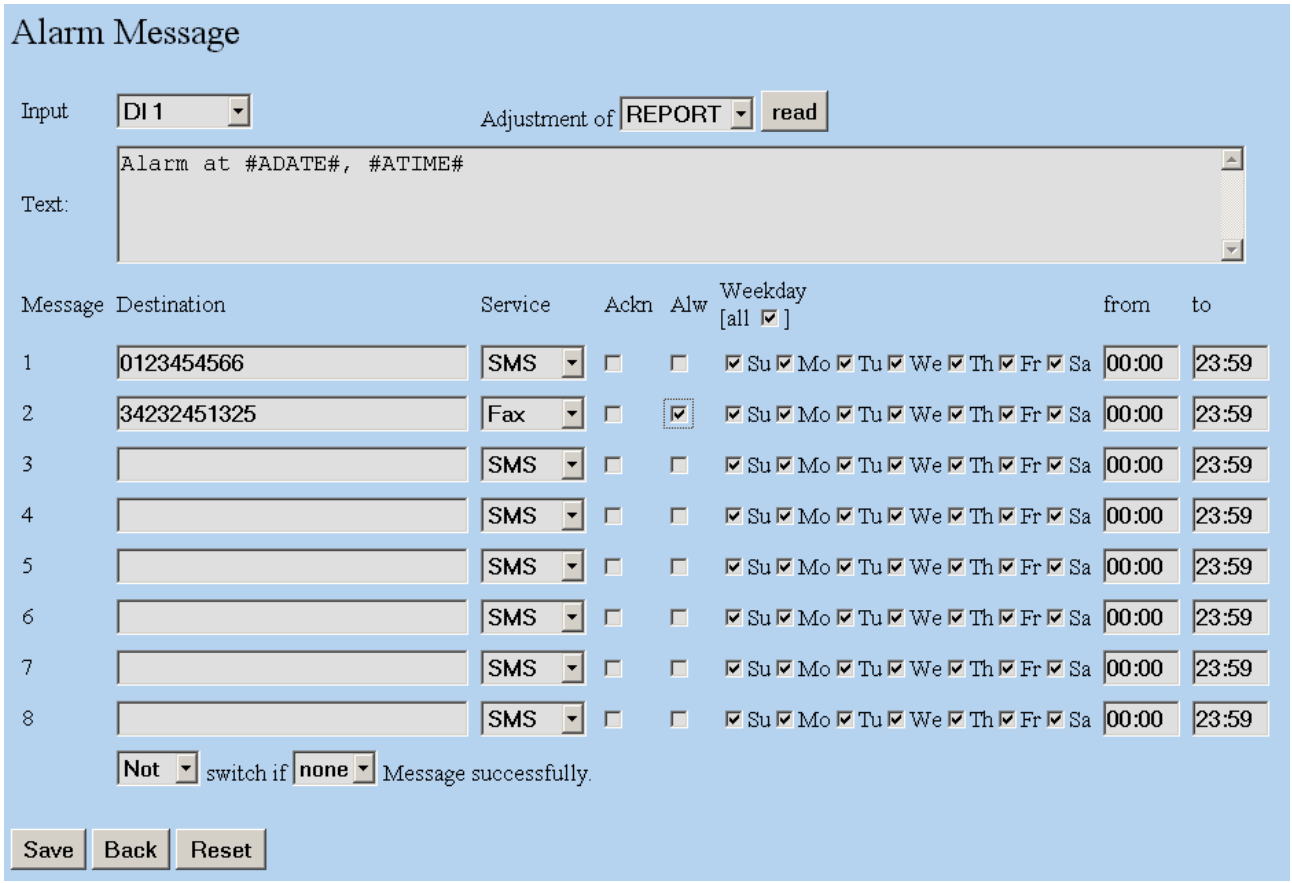
5. ALW
   The message targets form a message sequence, in other words:
   If a target of this sequence was informed successfully (including acknowledgement), the message sequence is cancelled.
   If, however, a message target is to be informed in all cases, this

target can be marked under "ALW".
Message targets that are marked with "ALW" have no influence on the message sequence. In other words: Even if such a message target was informed successfully, this does not end the message sequence.

6. Switch if ... Message was ...
   Here you can specify that one of the two digital outputs is to be switched if:
   - No message target was informed successfully.
   - One message target was informed successfully.
   - All message target were performed successfully.

   Message targets marked with an "ALW" are ignored.

4.2 Alarm Message



1. Input
   The following events can be selected to trigger a message:
   - REPORT An error has occurred, e.g. faulty (menu option "Error Handling")
   - DI1 ... DI4 (menu option "Digital I/O")
   - AI1 ... AI2 (menu option "Analog I“)
   - EI1 ... EI16 Signal inputs, serial, via the TUP protocol

2. Text
   Enter the text you wish to be displayed in the message in the text field, for example "Fault: Pump".
   The maximum length permitted, including all text blocks, is 160 characters. Longer texts will be truncated.
   The following text blocks can be used to create a message text dynamically:
   - #HEAD# Inserts the header (menu option "General").
   - #DATE# Inserts the sending date of the message.
   - #TIME# Inserts the sending time of the message.
   - #VAL# Inserts the text for the input belonging to the message, depending on its value at the time when the message was

triggered.
- #DI1# ... DI8# Inserts the text for the digital input belonging to the message, depending on its value at the time when the message was triggered.
- #AI1# ... AI4# Inserts the measured value and its unit for the analog input, depending on its value at the time when the message was triggered.
- #ATIME# Time when the message is triggered
- #ADATE# Date when the message is triggered

3. Message Target
   To configure the appropriate message sequence:
   8 message targets can be defined per input.
   The message targets are contacted one after the other until a message has been sent successfully;
   this makes sense, for example, with graduated standby services.
   Enter the appropriate target mobile telephone number for short messages (SMS).
   Enter the appropriate target e-mail address for e-mails, etc.

4. Service
   Select the appropriate transmission method,
   SMS = Send SMS via the GSM network
   E-mail = Send e-mail to the specified address, etc. ...
   The messaging service must correspond to the target! For example, you cannot sent an SMS to an e-mail address.

5. ACKN
   If acknowledgement is possible for this messaging service (menu option "Messaging services"), this feature can be activated here.

6. ALW
   Message targets that are always to be informed irrespective of the message sequence.

   The message sequence is interrupted if a target of this sequence was informed successfully, including acknowledgement.
   If a message target is to be informed in any case, irrespective of its position in the message sequence, the message targets must be marked additionally with "ALW".

   Example: Shift schedule in a sequence of 3 and additionally a fax to the exchange centre, which is always to be sent.
   Message targets that are marked with an " ALW " have no influence on the message sequence, i.e. even if such a message target was informed successfully, the message sequence is not quit.

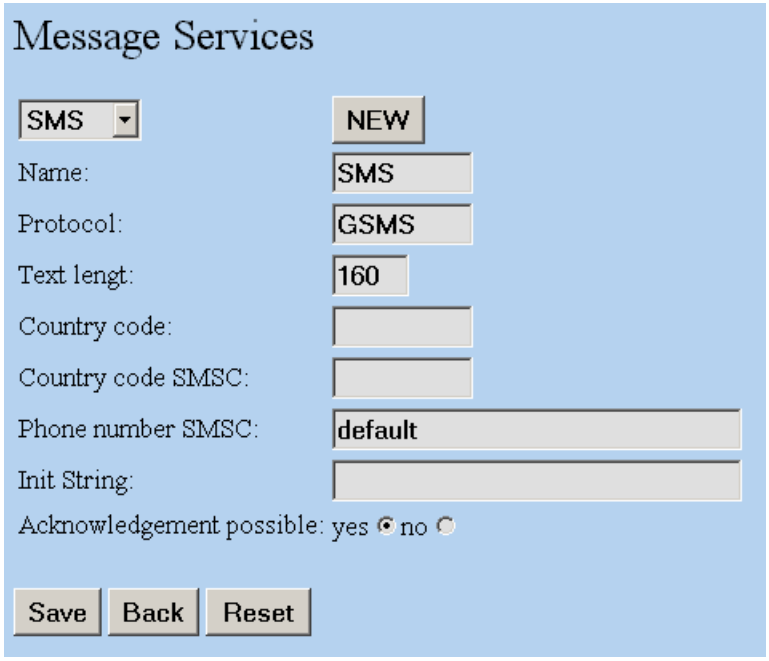
7. Weekday
   The relevant message is only sent on the marked days of the week; thus, a simple shift schedule can be realised.

8. from – to
   The message is sent during the time "from - to".
   If the time period passes midnight, the message is still sent even if the second day of the week is not marked,
   for example, from = 07:00 p.m. to = 08:00 a.m. Mon
   Tue is marked.
   If the input is now triggered on Wednesday at 07:50 a.m., the message is sent even though Wed is not marked.

9. Switch if
   Here you can specify that one of the digital outputs can be switched:
   - If no message target was informed successfully.
   - If one message target was informed successfully.
   - If all message targets were informed successfully.
   Message targets marked with "ALW" are ignored.

Save your settings before switching to a different input!

4.3 Message Services



1. List box "Messaging services"
   SMS
   FAX
   E-mail
   VOICE

2. NEW
   Use the NEW button to create a new messaging service
   An unambiguous name must be specified

3. Name
   The name of the messaging service can be changed.
   Max. 8 characters (no letters with accents).

4. Protocol
   Transfer protocol
   Max. 8 characters

5. Text length
   Maximum length of the message text
   Max. 160 characters; for pagers only 80 characters permitted.
   If the field is empty, no check is performed to determine whether a message text has actually been configured (e.g. for voice messages).
   (1 ... 160)

6. Country code
   A prefix placed in front of the actual target number of the recipient for this messaging service.
   Leading zeros in the number of the recipient are omitted, for example, country code = 0049 target number = 0171 1234567; in this case, the message is sent to 0049171 1234567.
   It is recommended to use the syntax 0049, 0041...
   The country prefix can also be entered directly in the target number of the recipient (menu option "Messages").
   (Max. 8 characters)

7. Country code SMSC
   A prefix placed in front of the actual SMSC dialling number for this messaging service.
   Leading zeros in the number of the recipient are omitted, for example, country prefix SMSC = 0049 SMSC dialling number = 01770610000; in this case, the short message is sent to 004901770610000.
   It is recommended to use the syntax +49, +41... .
   (Max. 8 characters)

8. Phone number SMSC
   Various messaging services require that an SMSC (Short Message Service Centre) is involved; this centre is used, for example, to send the SMS.
   This dialling number is provider-dependent.
   An incorrect SMSC may be the cause for an SMS not reaching the recipient.
   (Max. 30 characters)

9. Init String
   Additional information which can be transmitted in addition to the relevant messaging protocol.
   (Max. 30 characters)

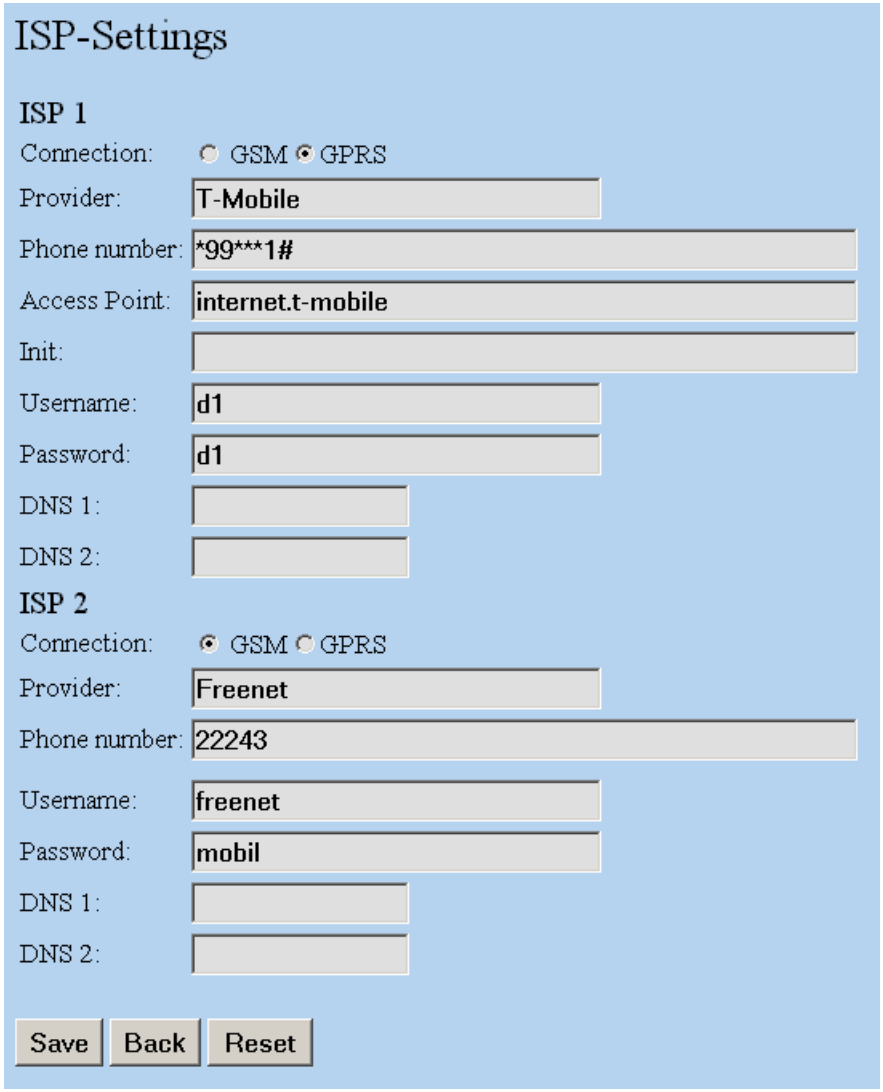
10. Acknowledge if possible
    With various messaging services, an additional acknowledgement call is possible, with others not (e.g. fax, e-mail).
    (yes/no)

11. additional Settings
    If additional Settings required, a link is displayed to another menu option where you can make further settings required for this messaging service.

4.4 E-Mail Settings

4.4.1 Internet access

The messaging service "E-mail" requires an provider for the Internet access



An e-mail is always sent via the Internet. To this end, an Internet Service Provider must be configured through which access to the Internet is possible from a mobile wireless device.
There are call-by-call providers allowing this access; furthermore, all mobile service providers offer their own Internet access (see your Mobile Service Agreement).

ISP1

1. Connection
   GPRS or GSM
   For functions that are permanently online, no GSM should be used (excessive costs)

2. Provider
   name for the provider can be selected freely
   It should be visible whether GSM or GPRS is used
   (Max. 16 characters)

3. Call number
   The number at which the provider is to be reached.
   (Max. 50 characters)

4. Access Point
   Required for connection to the GPRS network.
   (Max. 50 characters)

5. Init
   Additional initialisation commands (AT commands)
   Could be necessary for GPRS, but is generally not required
   (Max. 50 characters)

6. User name
   The name with which the user is to be logged into the ISP.
   (Max. 30 characters)

7. Password
   The password which is to be used when logging into the ISP.
   (Max. 30 characters)

8. DNS1
   Optional DNS (Domain Name Server)
   Syntax: e.g. 217.237.151.97
   Normally, no entry is necessary, since the settings are transferred by the ISP.
   Even if a DNS is received by the ISP, it is not this entry which is used, but that of the ISP.

9. DNS2
   Optional DNS (Domain Name Server)
   Notification: e.g. 217.237.151.97
   Normally, no entry is necessary, since the settings are transferred by the ISP.
   Even if a DNS is received by the ISP, it is not this entry which is used, but that of the ISP.

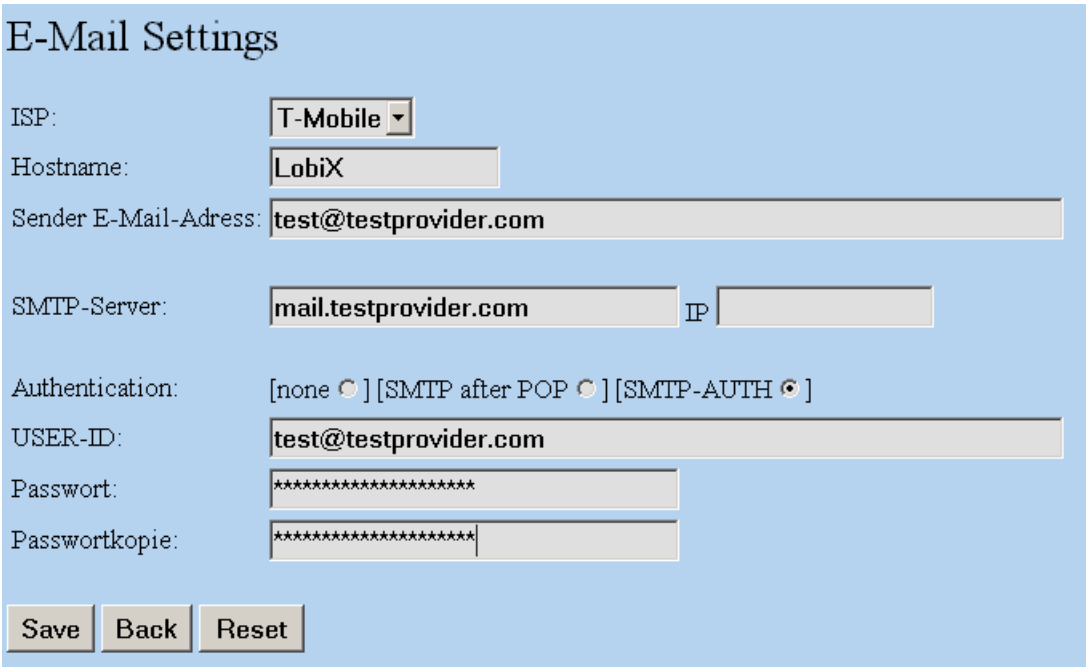
Two ISPs can be configured, e.g. one for GPRS and one for GSM.
Thus, if GRPS is not available, it is nevertheless possible to send

an e-mail as an error message.

ISP2

ISP2 is the backup connection for ISP1. Status messages via e-mail are sent via IPS1 and GPRS by default. In case of failure of this connection, an error message, e.g. via e-mail, is sent via the connection configured under ISP2. Thus, alternative sending is possible via GSM.

4.4.2 Email Account



1. ISP
   For selecting an Internet service provider which has been set up under ISP settings

2. Host name
   A name that identifies the device; can be selected freely.

3. Sender's e-mail address
   The e-mail address that belongs to the e-mail account

4. SMTP server/IP
   Server via which the e-mail is to be sent
   This server is bound to the e-mail account.
   Either a server name or an IP address can be specified; syntax: aaa.bbb.ccc.ddd, for example 213.165.64.20
   These data are provided by your e-mail provider.
   This server can be compared with the posting box used to send

conventional letters.

5. Authentication
   Most e-mail providers require an authentication to send e-mails via an SMTP server.
   Selection:
   - none
     No authentication is required, or the authentication is provided via the senders and often via the recipient's e-mail address
     In other words: Only e-mails with certain addresses can be sent.
   - SMTP after POP
     An authentication procedure which is supported by many e-mail providers.
     Before sending an e-mail, the user must access his e-mail inbox (see below) using his password and his user name.
     Subsequently, he is left a defined time window of, for example, 15 minutes, within which he may send e-mails via SMTP. Thus, the successful POP authentication serves as an authentication for sending via SMTP.
   - SMTP AUTH
     An authentication method which is supported by many e-mail providers.
     With a user name and password, a user is entitled, for example, to send e-mails via the above-specified
     SMTP server.

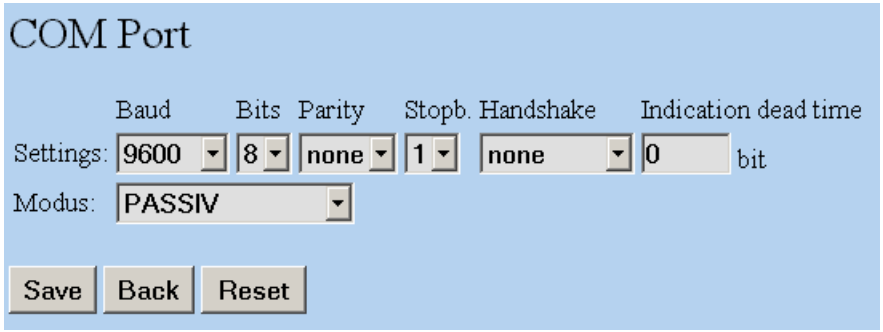
6. POP Server IP
   Inbox server of your e-mail account
   This server can be compared with the letter box for receiving conventional letters.

7. User ID
   The user name or, for example, the customer number of your e-mail account.

8. Password
   The password that is used for access to the inbox or for the SMTP authentication.

9. Password confirmation
   A confirmation (input repetition) of your password to avoid incorrect inputs.

5. COM port

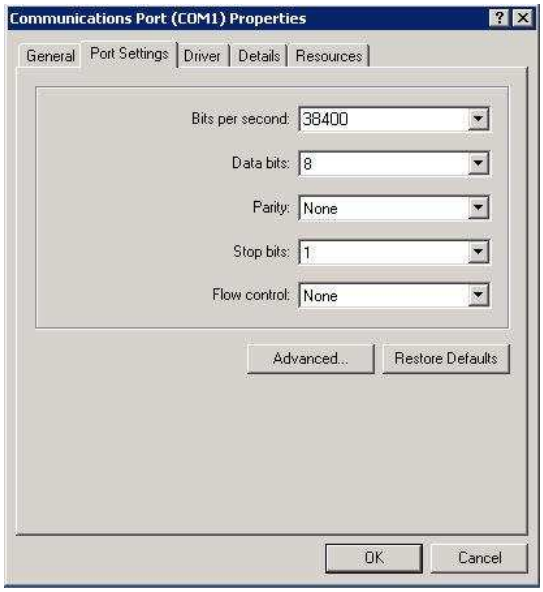


Settings for the serial interface for the data traffic with connected devices.
The serial interface is activated in the DIP switch position 1-0-0-0 in the "Configuring" mode.
In the "Diagnostic" mode 0-1-0-0 , it is set to 38,400 Baud as a fixed transfer rate.

5.1 Diagnosis using a terminal program

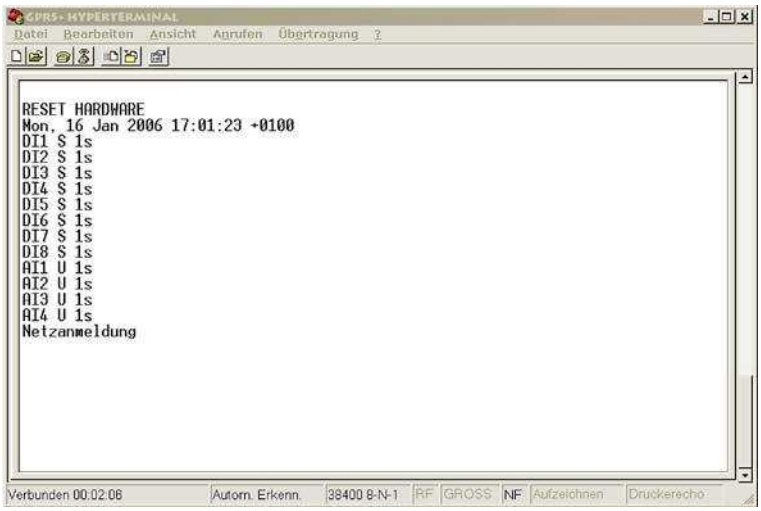
If Windows HyperTerminal is used, previous activities, which may also have arisen from other communication instances, are displayed outside the visible window but can be viewed in the full- screen mode. You should therefore set the view in the Terminal window in the View menu to Fit to Window Size.

- Set and configure the serial interface to be used for the terminal program:

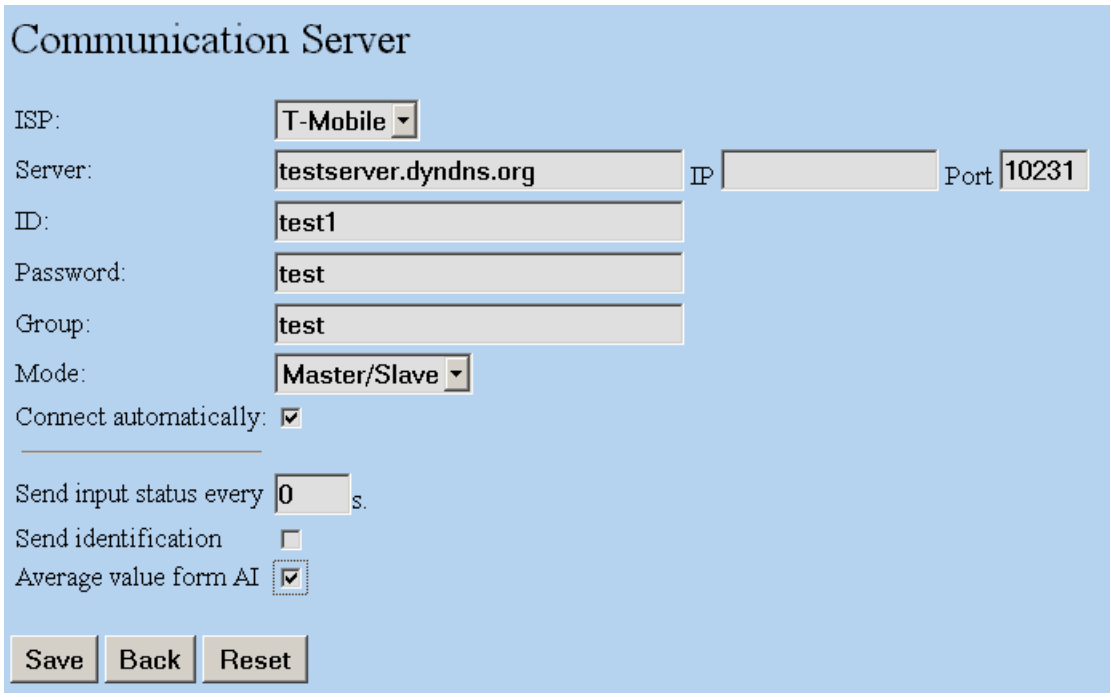


- Disconnect the operating voltage.
- Set the DIP switch on the IE-GPRS-I/O to 0-1-0-0.

- Either select an existing connection from the saved connections or create a new connection and select it.
- The terminal window remains empty.
- Once the connection has been established successfully, the message Connected is displayed at the lower margin.
- Connect the supply voltage.
- The diagnostic data are transmitted to the terminal.



6. Communacation Server



The server is a relational database which can be accessed externally via SQL queries.
Interconnection between two or several LobiXs to one another can only be provided via the exchange server.
The exchange server performs the data transfer from one LobiX to the other LobiX or within a group of several LobiXs.
All LobiXs log into the exchange server with a password, a code and a group. Several LobiXs of a group can communicate with each other; the LobiXs of different groups, however, cannot communicate with each other.
LobiXs may be master, slave or master/slave.
A master sends data to all slaves and master/slaves of a group, not to other masters. The master receives data from all slaves and master/slaves of a group, but not from other masters.
A slave sends data to all masters and master/slaves of a group, not to other slaves. The master receives data from all masters and master/slaves of a group, but not from other slaves.

1. ISP
   Internet service provider via which the IE-GPRS-I/O establishes connection to the exchange server
   GPRS should be set as the service used (ISP settings for the Internet access)

2. Server
   Server name Can be resolved via DNS
   or Server IP address

If both are entered, an attempt is made first to reach the server via its server name.

3. ID
   Each IE-GPRS-I/O must contain an unambiguous name for identification within a group.
   Observe use of uppercase/lowercase letters!

4. Password
   Password for identification
   Observe use of uppercase/lowercase letters!

5. Group
   Communication group to which the IE-GPRS-I/O is to belong.
   Observe use of uppercase/lowercase letters!

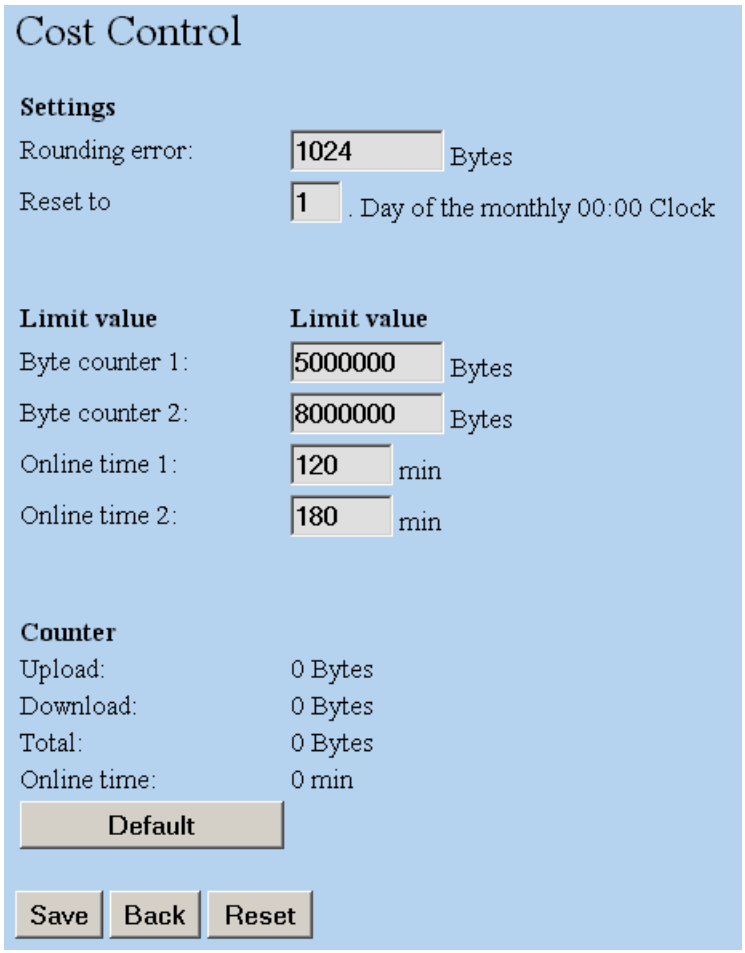
6. Mode
   Master:
   Master IE-GPRS-I/O talks -> all slaves listen
   Slave:
   Slave IE-GPRS-I/O talks -> only the master listens
   Master/slave:
   Listens ant talks to everybody

7. Connect automatically
   If Connect automatically is enabled, the LobiX attempts to establish the connection to the exchange server automatically after a reset.

8. Send input status every
   Time interval at which the IE-GPRS-I/O sends its input status to the exchange server
   0 means that the input status is sent not cyclically.

7. Cost control

The IE-GPRS-I/O monitors the data volume for GPRS connections and the online time for GSM connections.



1. Rounding error
   Each time a connection is established to the GPRS network, the provider debits a certain data volume from you at a flat rate. The amount of this value depends on the appropriate mobile subscriber agreement. It is recommended to use ALWAYS a tariff model with a rounding error as low as possible.

2. Reset to
   Date on which the counters are reset to 00:00 o'clock

3. Limit value
   Byte counter
   The following limit values can be set for two graduated report messages.
   Example:
   If a volume tariff of 10 MB/month was agreed with the mobile

service provider, with byte counter1 = 5 MB, a report message is issued when half of this volume has been used, and with byte counter2 = 8 MB again at 80 %. The setting is made in the menu Messages"

4. Online time
   Due to technical reasons, the counter can only provide a rough overview (guide value) of the actually used volume.

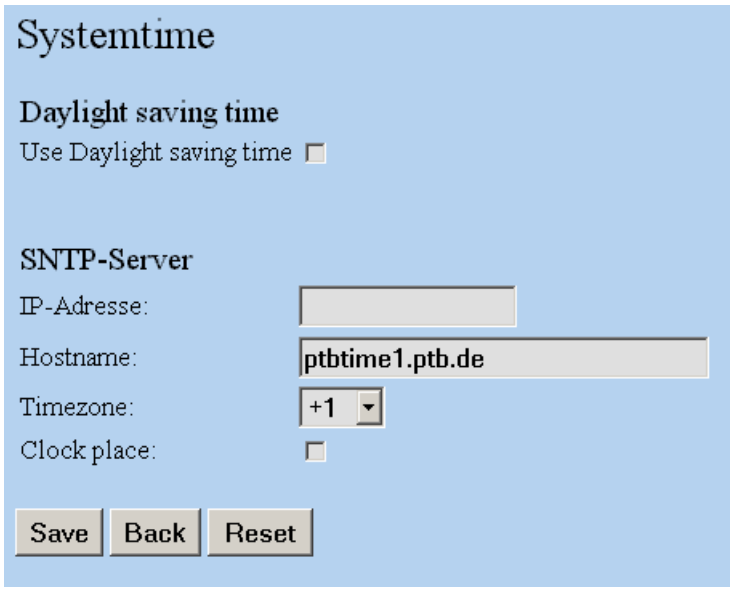
   Example:
   Necessary repetitions when sending data which cannot be protocolled by the IE-GPRS-I/O
   Different protocol overheads when sending

5. Counter
   Current counts
   The displayed values apply with reservation and serve only as guide values to provide an overview.
   No guarantee can be given for the correctness of the above-mentioned counter values, as the invoicing procedures of the individual providers may differ.
   The invoices of the provider are binding.

8. Logfile

The LobiX manages a logfile where important events, messages etc. are entered.
Max. 255 entries are possible. If this number is exceeded, the oldest entries are overwritten. The entries can be viewed and deleted under the menu option "Logbook". Normally, the log file need not be reset.
The entries are displayed in the form "Weekday", "Date", "Time", "Event" and "Error code".

9. Systemtime



When the IE-GPRS-I/O starts an Internet connection (e.g. for sending an e-mail), it can match its system clock with a time server (SNTP server) on the Internet.

1. Daylight saving time
   Daylight saving time is observed when setting the clock.

2. SNTP server
   IP address or host name of the time server
   Default setting: Time server 1 of PTB in Braunschweig
   Time zone in which the IE-GPRS-I/O is located (Germany +1)
   If "Set clock" is set, the time match is performed when the Internet connection is first established.

The internal clock is backed up for approx. 75 hours. If the IE-GPRS-I/O remains without operating voltage for longer, the clock must be reset via the time server.

9. Fehlercodes

Ausgabe der Fehlercodes im Logfile in folgender Form:
FEHLER: XXYY

XX = Fehlergruppe (hexadezimal)
YY = Fehlernummer (hexadezimal); 00 = kein Fehler

Fehlergruppe	Fehler		evtl. Ursache
00 (Modemfehler)	00	kein Fehler	
	01		
	02		
	03	keine Verbindung zur Gegenstelle	falsche Rufnummer, defektes Telefonkabel, Telefonanlage (z.B. Nummern gesperrt)
	04	kein Wählton	defektes Telefonkabel, Telefonanlagenproblem
	05	besetzt	falsche Rufnummer; falsche Vorwahl, Telefonanlage (z.B. Amtholung)
	06		
	07		
	08		
	09	SIM PIN	SIM-PIN falsch
	0A	SIM PUC	Karte gesperrt PUK erforderlich
	0B		
	0C		
	0D		
	0E	Modem meldet Error	
	0F		
	10	Zeitüberschreitung	

01 (Faxfehler)	00	kein Fehler	
	00 bis 0F	Fehler im Faxprotokoll	inkompatibles Faxgerät

02 (SMS-Fehler)	00	kein Fehler	
	01 bis 03	Fehler im SMS-Protokoll	falsche SMSC-Nummer, SMS-Dienst der SIM-Karte gesperrt, kein Guthaben, kein GSM-Netz verfügbar, Fehler beim SMSC

04 (Voice-Fehler)	00	kein Fehler	
	01	PIN-Fehler	falsche Quittungspin eingegeben, Quittungspin wurde von LobiX nicht erkannt (evtl. zu schlechte Übertragungsqualität)
	02	PIN-Timeout	vergeblich auf Quittungspin gewartet, Quittungspin nur teilweise erkannt s.o.
	03	Break	Verbindung abgebrochen oder aufgelegt

05 (E-Mail-Fehler)	00	kein Fehler	
	01	keine Verbindung zu SMTP	kein oder falscher SMTP-Server eingetragen, Internetproblem (evtl. routing)
	02	keine SMTP-IP	Es konnte keine SMTP-IP ermittelt werden (evtl. DNS-Problem)
	03 bis 0B	Fehler im SMTP-Protokoll	
	0C	Timeout	
	0D	Authentifizierungsfehler	Falscher Username, Falsches Passwort, Authentifizierungsmethode nicht unterstützt

07 (Einstellungsfehler)	00	kein Fehler	
	06	keine SMSC-Nummer	
	07	keine Zielnummer	
	08	keine Sendernummer	
	09	kein Text	
	0B	außerhalb der Sendezeit	Meldung muss an diesem Wochentag oder dieser Uhrzeit nicht versendet werden

0D (Fehler bei Serververbindung)	00	kein Fehler	
	01	Verbindung konnte nicht geöffnet werden	
	02	Verbindungsaufnahme fehlgeschlagen	
	03	Server-IP	falscher Servername, Server-IP, evtl. DNS-Problem
	04	Verbindung geschlos-sen	
	05	Timeout	
	06	IP-Port nicht verfügbar	

3. Technische Daten

Betriebsspannung	10 ... 30 V DC
Stromaufnahme	max. 150 mA bei 24 V DC, **ca. 7mA (Standby)**
CPU	ARM7-CPU max. 60 MHz
Speicher	128/256 kB Flash, 16 kB RAM
Schnittstellen	1x RS232
Modem	GSM/GPRS Dualband (UMTS in Planung)
Digital I/O	4 – 36 Eingänge, 2 – 10 Ausgänge
Abmessungen (BxHxT)	75 x 120 x 60 mm
Gehäuse	Hutschienengehäuse für die 35mm-DIN-Schiene
	Schraubklemmenanschlüsse
Betriebstemperatur	-20 bis + 60 ℃, bis 90% Luftfeu chte nicht betauend

4. Zubehör

Folgende Zubehörteile (nicht im Lieferumfang enthalten) können separat geordert werden:

Antennen und Kabel	Bestellnr.
Magnetfußantenne D-/E-Netz, 3 DB, 2,5m Kabel, FME-Buchse	15806
Rundstrahlerantenne D-/E-Netz, für Automaten-Montage, 2,5 DB, 3m Kabel, FME-Buchse	15809
Verlängerung für Antenne 3m Low-Loss-Kabel, FME-Buchse/ FME-Stecker, 3m	15810
Verlängerung für Antenne 5m Low-Loss-Kabel, FME-Buchse/ FME-Stecker, 5m	15811
Verlängerung für Antenne 8m Low-Loss-Kabel, FME-Buchse/ FME-Stecker, 8m	15814
Programmierkabel 9-pol. Sub-D-Stecker mit Gehäuse für RS232/ RS485-Schnittstelle, 1,8m Länge	15306

Netzteile	Bestellnr.
Eingangsspannung 230 / 115 V AC, Welligk. < 3%, Arbeitstemp.-30/+80℃, nicht kurzschlussfest, DIN-Schienenmontage, 55*75*110mm (BxHxT)	
PSLC242: Ausgangsspannung 24 V DC, Ausgangsstrom 1,5 A, Leistung 36 W	11001
PSLC122: Ausgangsspannung 12 V DC, Ausgangsstrom 3,0 A, Leistung 36 W	11002
PSLC282** Ausgangsspg. 28 V DC, Ausgangsstrom 1,0 A, Leistung 28 W	11005
PSLC172** Ausgangsspg. 17 V DC, Ausgangsstrom 1,8 A, Leistung 31 W	11000
** nur in Verbindung mit Laderegler LDR	

Laderegler	Bestellnr.
LDR 2417 Accupack mit Laderegler 24VDC-1.7Ah, Maße (BxHxT): 100*75*110mm	11009
LDR 1234 Accupack mit Laderegler 12VDC-3.4Ah, Maße (BxHxT): 100*75*110mm	11010

5. Haftungseinschränkung

Wir versuchen, unsere Software so fehlerfrei wie möglich zu halten. Aber es gilt allgemein: Keine Software ist fehlerfrei und die Anzahl der Fehler steigt mit der Komplexität des Programms. Deshalb können wir keine Garantie dafür übernehmen, dass diese Software in jeder Umgebung, auf jedem Rechner und mit jeglichen anderen Anwendungen zusammen fehlerfrei läuft. Jegliche Haftung für direkte wie indirekte Schäden wird hiermit ausgeschlossen, soweit dies gesetzlich zulässig ist. In jedem Fall jedoch ist die Haftung auf den Kaufpreis der Software bzw. des Gerätes beschränkt. Wir haften auch insbesondere nicht für entstandene Kosten durch mehrfach abgeschickte telefonische Meldungen.

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Diese Hinweise dienen einerseits als Leitfaden für die am Projekt beteiligten Personen und andererseits der Sicherheit vor Beschädigung des beschriebenen Produktes oder angeschlossener Geräte.

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Das Gerät darf nur für die im Handbuch und in der technischen Beschreibung vorgesehenen Einsatzfälle und nur in Verbindung mit von LUCOM GmbH empfohlenen bzw. zugelassenen Fremdgeräten und Komponenten verwendet werden.

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Weiter ist zu beachten, dass

- der einwandfreie und sichere Betrieb des Produktes sachgemäßen Transport, sachgerechte Lagerung, Aufstellung und Montage sowie sorgfältige Bedienung voraussetzt.
- das Automatisierungsgerät spannungsfrei sein muss, bevor es montiert, demontiert oder der Aufbau verändert wird.
- die Systeme nur durch eine Fachkraft installiert werden dürfen. Dabei sind die entsprechenden Vorschriften nach DIN und VDE zu berücksichtigen.

Hinweise zur Projektierung und Installation des Produktes

- Die im spezifischen Einzelfall geltenden Sicherheits- und Unfallverhütungsvorschriften sind zu beachten.
- Bei 24V-Versorgung ist auf eine sichere elektrische Trennung der Kleinspannung zu achten. Nur nach IEC 364-4-41 bzw. HD 384.04.41 (VDE 0100 Teil 410) hergestellte Netzgräte verwenden.

Verhütung von Sach- und Personenschäden

- Die angegebenen Spannungswerte dürfen weder unterschritten noch überschritten werden, da dies zu Fehlfunktionen bzw. zur Zerstörung der Geräte führen kann.
- Überall dort, wo in der Automatisierungseinrichtung auftretende Fehler große Sachschäden oder sogar Personenschäden verursachen können, müssen zusätzliche externe Sicherheitsvorkehrungen getroffen oder Einrichtungen geschaffen werden, die auch im Fehlerfall einen definierten Betriebszustand gewährleisten bzw. erzwingen (z. B. durch unabhängige Grenzwertschalter, mechanische Verriegelungen usw.)

6. Blitzschutz

Es wird dringend empfohlen, das Gerät gegen Überspannungen durch entsprechende Schutzgeräte zu sichern.

7. Gewährleistung

Gewährleistungszeit: 6 Monate, bei sachgemäßer Behandlung.

Änderungszustand

Version	Datum	Name	Änderungen
1.1 006	30.03.05	Pfüller	Vorabversion
1.1 007		Galsterer	Details ergänzt
1.1 008	09.12.05	Bücherl	Details ergänzt
2.0 001	12.12.05	Bücherl	Änderungen
2.0 002	23.12.05	Bücherl	Details ergänzt
2.0 003	06.09.06	Dierking	Änderungen
2.0 004	08.09.06	Nohr	Details ergänzt
2.0 005	08.09.06	Galsterer	Details ergänzt
2.0.006	15.09.06	Dierking	Details ergänzt
2.0.007	08.02.07	Dierking	Details ergänzt
2.0.008	27.02.07	Dierking	Details ergänzt
2.0.009	30.05.07	Dierking	Details ergänzt
2.0.010	06.07.07	Dierking	Details ergänzt

3.5.1 Fernschalten mit SMS

Um mit einer SMS einen Ausgang zu betätigen muß die SMS folgendes Format haben

PASS=12345 DO1=1,15 A

PASS= Schlüsselwort für Passwort

12345 Diese Einstellungen steuert den Zugang zum Gerät. Das

	Passwort muß mit dem im Menüpunkt Gerätezugang auf Seite 12 übereinstimmen.
DO1=	Schlüsselwort für Digitalausgang (DO1 oder DO2 möglich)
0	Wird eine 0 (Null) angegeben, schaltet der Digitalausgang aus. Bei AUS wird keine Schaltzeit beachtet.
1	Schaltet den Digitalausgang für die angegebene Zeit (in Sekunden) ein.
,15	15 Sekunden Schaltzeit. Die Obergrenze liegt bei 3600 Sekunden (0 bedeutet dauernd an)
A	Lobix sendet eine Quittungs-SMS mit Statusinformationen zurück. Die Option A muss nicht angegeben werden.

Status abholen:
PASS=12345 GET

PASS	Schlüsselwort für Passwort
12345	Passwort aus dem Menüpunkt Gerätezugang
GET	Schlüsselwort zur Anforderung einer SMS mit Statusinformationen

String an COM senden:
PASS=12345 COM="hallo" A

PASS	Schlüsselwort für Passwort
12345	Passwort aus dem Menüpunkt Gerätezugang
COM	COM Schlüsselwort zum senden an COM
“String”	String in "" geklammert
A	ACK-SMS Erwünscht (Status aller Ein-Ausgänge)