

Operating instructions  
REODATA Type GSM 01/02  
Control unit for remote maintenance

REO ELEKTRONIK AG  
Brühler Straße 100  
D-42657 Solingen  
Tel. +49 212 8804-0  
Fax +49 212 8804-188  
[www.reo.de](http://www.reo.de)  
email: [sales@reo.de](mailto:sales@reo.de)

**REODATA**

Automation technology

## Safety Instructions for the user

This description contains the information required for correct use of the products described in it. It is intended for technically qualified personnel.

Qualified personnel are persons who, because of their training, experience and instruction, as well as their knowledge of applicable standards, regulations, health and safety requirements and operating conditions, have been authorized by those responsible for the safety of the equipment to carry out required activities at any time, and who can recognize and avoid possible hazards in the course of these activities (definition of qualified employees according to IEC 364).

### Danger warnings

The following instructions are provided for the personal safety of operating staff and also for the safety of the products described and connected equipment.



#### **Warning!**

Hazardous Voltage!

Non-observance can lead to death, or cause serious injury or damage.

- Isolate from the mains before installation or dismantling work, as well as for fuse changes or post-installation modifications.
- Observe the accident prevention and safety rules applicable for the specific application.
- Before putting into operation, check if the rated voltage for the unit conforms with the local mains supply voltage.
- Emergency stop devices must remain effective in all operating modes. Release of the emergency stop devices must not cause any uncontrolled restart.
- **Electrical connections must be covered!**
- **Protective earth connections must be checked for correct function, after installation!**

### Specified use

The units described here are classed as electrical equipment for use in industrial plants.  
Not to be used in private households.

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## 1.0 General

### First steps and setting up the connection to the PC

The **REODATA GSM-01** unit is programmed and configured via the **GSMModuIVB** PC program.

#### 1.1

All basic settings have already been made in the factory, i.e. the user has only to fit the **SIM card** (see below).

When the unit is powered up after the SIM card is fitted, the LED (on the side of the unit) should start to flash, "short on – long off", after a while. This indicates that the unit is logged in and that the card has been activated (in addition, note the setting of parameters P1-P5 at the unit, as described later).

**Note:** Activation of SIM cards can take different times depending on the provider.

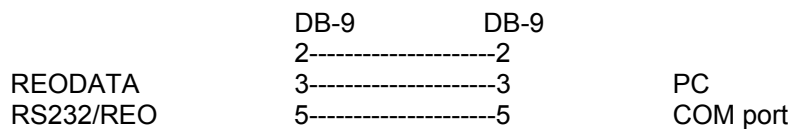
**Switch the REODATA GSM-01 unit off again.**

#### 1.2

Install the **GSMModuIVB** program on your PC or laptop.

#### 1.3

Connect the **REODATA GSM-01** unit to the PC via a serial connecting cable with DB-9 connectors (no crossing!)



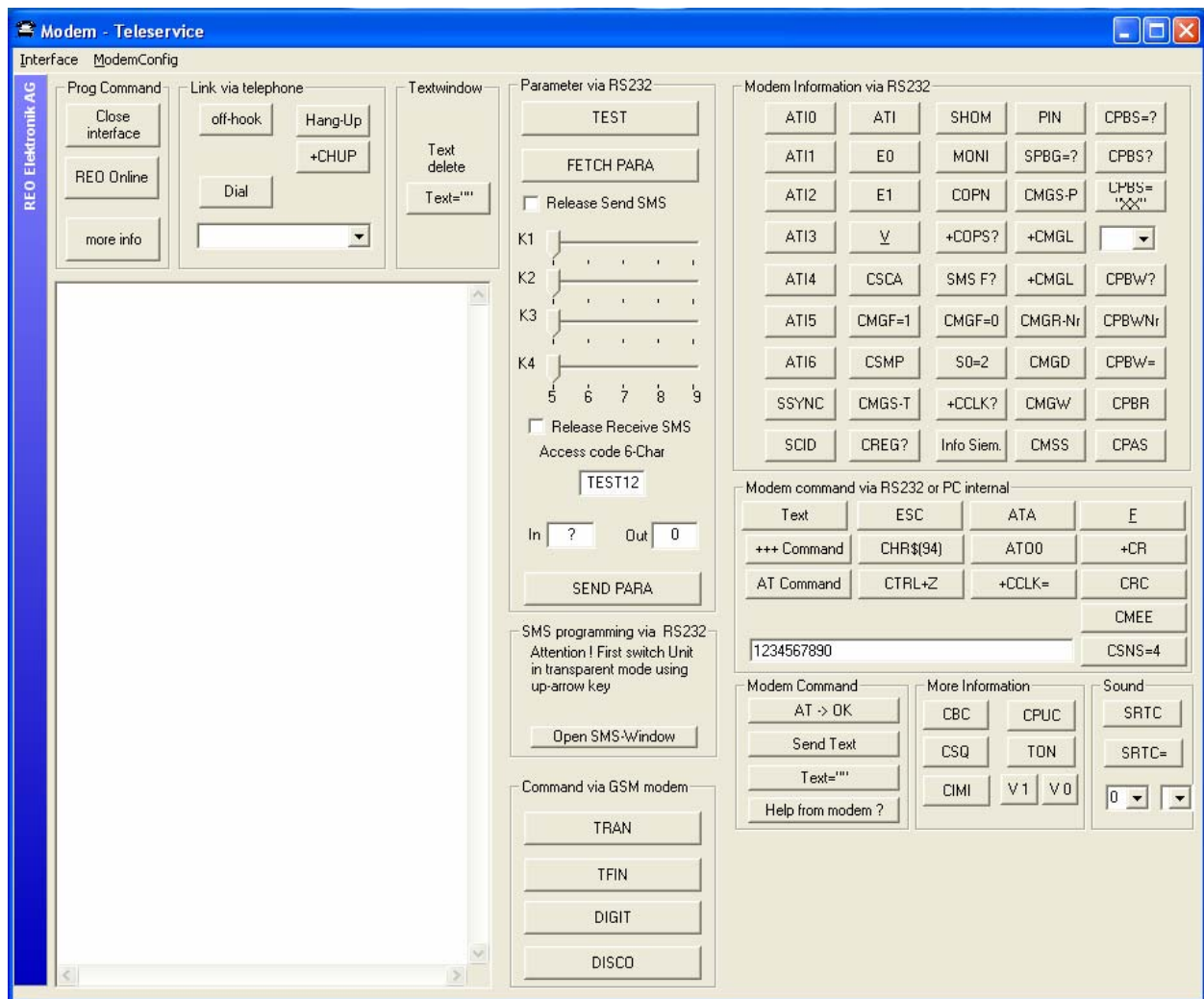
#### 1.4

Start the **GSMModuIVB** program.

Click on the "ModemConfig" option in the **GSMModuIVB** program and click to set the check mark next to "enabled".

Now click the "More info" button.

You should now see the program view on the monitor as shown on the next page.



### 1.5

Click on "Interface" in the **GSMModulVB** program. Now use your mouse to select the corresponding COM port (interface) that is connected to the **REODATA GSM-01**.

### 1.6

Switch the **REODATA GSM-01** unit on again.

### 1.7

The REODATA logs on to the provider and then sends the "**GSM module start OK**" message to the PC. This is displayed in the program in the text field.

### 1.8

Click the "**TEST**" button in the program on the "Parameter via RS232" table. "**TEST**" is displayed in the text window of the PC program and the unit confirms with the "**CPU module OK**" message.

The connection between the PC and the **REODATA GSM-01** is therefore established.

## 2.0 Function

### 2.1 Programming the SMS messages

Now that there is a PC – REODATA connection, the SMS messages can be programmed.

#### 2.1.1

Press the “Up arrow” key on the **REODATA GSM-01**.

The “**GSM module transparent manual**” message is displayed in the text window of the PC.

This means you are now directly connected to the modem.

#### 2.1.2

Click the “**Open SMS window**” button in the program in the “SMS programming via RS232” table.

A new “**SMS Programming**” window opens.

#### 2.1.3

Up to 9 SMS messages and their associated numbers are displayed in the new window.

The first four SMS messages cannot be programmed (they are used internally by the unit).

Click the “**Read SMS Memory**” button and wait until all SMS messages are read (approx. 20 secs).

#### 2.1.4

Now enter the messages (max. 140 characters) and the telephone numbers in the empty fields.

**Note:** Always enter the telephone number with the international dialling code and the + sign. For example, +49 for Germany and then the telephone number without the initial 0.

Example: 0170 123456 is entered as +49170123456

#### 2.1.5

When all the messages have been programmed, click the “**Write SMS Memory**” button and wait until all SMS messages have been saved on the SIM card. Wait until “Finished” appears in the text line below the SMS messages.

Close the SMS window.

The SMS messages are now programmed..

## 2.2 Activating the SMS messages

As the SMS messages are now programmed, we can now activate them.

### 2.2.1

Press the “Down arrow” key on the **REODATA GSM-01**.

The “**GSM module CPU**” message is displayed in the text window of the PC.

This means you are now connected to the internal microprocessor.

### 2.2.2

The settings for Send SMS can now be made in the program in the “Parameter via RS232” table.

Sliders K1 — K4 can be used to assign the digital inputs 1 — 4 to a corresponding SMS message to be sent. For this, use the mouse to move the slider above the corresponding SMS identification 5 — 9.

In the **Release Send SMS** field, release the send for all SMS messages corresponding to the digital inputs. This means that if a voltage change (ramp-up only) occurs at a digital input, the unit transmits an SMS message.

In the **Release Receive SMS** field, release the receive for all SMS messages (for setting or polling the relay outputs).

The 6-figure code for Receive SMS is entered in the “**Access code**” text field.

The SMS is only accepted and, where applicable, the relay outputs set or reset, if this code matches the code in the received SMS.

Only the A — X and 0 — 9 characters may be used for the code.

### 2.2.3

When all the settings have been made, click the “**SEND PARA**” button.

The parameters are now saved in the microprocessor EEPROM.

You can read the parameters back as a check with the “**FETCH PARA**” button.

### 2.3 Example for SMS messages to manipulate the relays

The status of the relays in the **REODATA GSM-01** can be polled from any mobile phone.

#### 2.3.1 What must be noted ?

The mobile phone must transmit its own telephone number incl. +49 with the SMS (must be enabled in the mobile phone).

The **Release Receive SMS** must be enabled in the unit.

The 6-figure **access code must be correct.**

#### 2.3.2 What does the SMS look like ?

Examples:

The access code is "REO123", the sequence of the channels is 0000 = K4,K3,K2,K1

**a)**

REO1231000

The last 4 places mean => 1000 >

Channel 1=0 Off

Channel 2=0 Off

Channel 3=0 Off

Channel 4=1 On

Channel 4 is switched on, all the others are switched off.

**b)**

REO1230000

The last 4 places mean => 0000 >

Channel 1=0 Off

Channel 2=0 Off

Channel 3=0 Off

Channel 4=0 Off

All channels are switched off.

**c)**

REO1232222

The last 4 places mean => 2222 >

Channel 1 = poll status only

Channel 2 = poll status only

Channel 3 = poll status only

Channel 4 = poll status only

The status (on or off) of all channels is polled.

Note: A 1 means switch the channel on, a 0 means switch the channel off, and a 2 only polls the status of a channel.

### 2.3.3 How does the unit reply to an SMS ?

When the **REODATA GSM-01** has received an SMS, it sends an SMS with the status of its inputs and outputs back to the sending mobile phone.

The SMS from the **REODATA GSM-01** has the following format:

#### **IxxxxOxxxxOK**

This means    "I" = inputs (digital inputs)  
                  "O" = outputs (relay outputs)  
                  "OK" = SMS end identification

The "x"s stand for the status of the inputs and outputs.  
x =1 input or output switched on  
x =0 input or output switched off

### 2.4 Requesting and topping up the telephone credit via PC connection

The "Mobile phone credit" can be checked with the PC program.

#### 2.4.1

Press the "Up arrow" key on the **REODATA GSM-01**.

The "**GSM module transparent manual**" message is displayed in the text window of the PC.

This means you are now directly connected to the modem.

#### 2.4.2

In the text line in the "Modem command via RS232 or PC internal" table, enter the text

**D\*100#;** ( D and \* and 100 and # and ; (semicolon))

Press the "AT command" button in the same table.

#### 2.4.3

Your current credit is displayed in the text window after a while.

#### 2.4.4

To top up your account, enter the following text in the text line in the "Modem command via RS232 or PC internal" table:

**D\*101\* XtraCash-Nummer #;** ( D and \* and 101 and \* and number and # and ; (semicolon))

Press the "AT command" button in the same table.

**2.5 Functions that can be set on the REODATA GSM-01 unit**

When you press the “P” key on the **REODATA GSM-01**, the functions P1 — P5 are displayed one after the other in the 7-segment display.

The choice of whether the corresponding function is switched on =1, or off =0 is made with the “Arrow keys”.

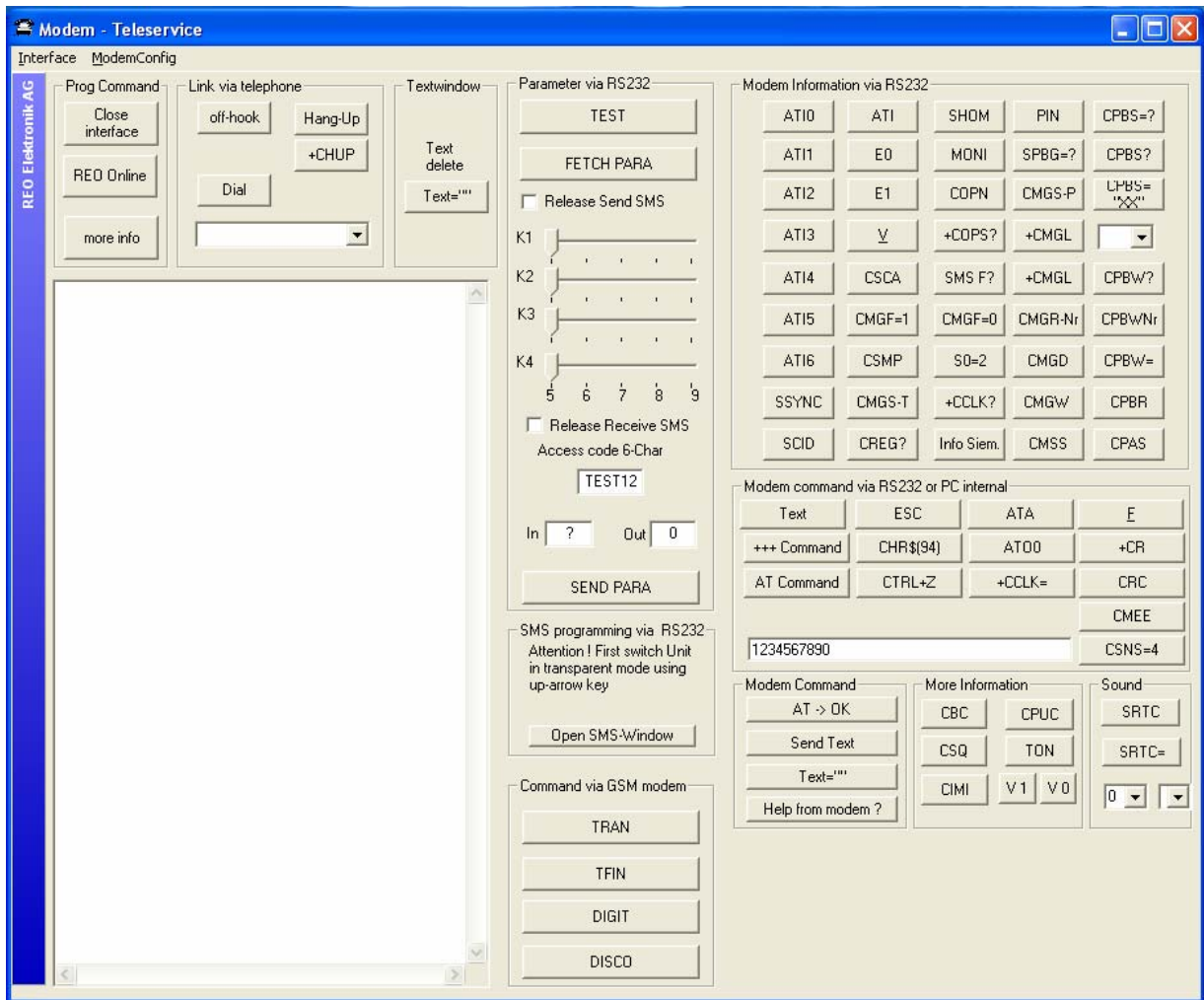
The details of the functions are:

- |    |   |   |
|----|---|---|
| P1 | = | 0=> there is a PC on the “RS232/REO” interface<br>1=> there is another device on the “RS232/REO” interface<br>e.g. PLC or terminal  |
| P2 | = | 1=> a special REO protocol is running on the “RS232/REO”<br>interface.<br>0=> open protocol (transparent 1:1)   |
| P3 | = | 1=> a modem is connected to the “Modem ext.” port.<br>Only if no internal modem is fitted.<br>0=> normal setting internal modem   |
| P4 | = | 1=> automatic log in into the network (default)<br>0=> no automatic log in (for test purposes only)   |
| P5 | = | 1=> after “Pick up receiver” the unit automatically switches to<br>transparent mode<br>0=> transparent mode must be switched on via a command.  |
| P6 | = | 0=> default = no action<br>1=> the current Xtra credit is requested and shown in the display<br>after a while. The displayed value is hidden after approx. 7 seconds.<br>(Note: P6 automatically goes back to 0 again, but the other values of<br>P1-P5 are not saved / adopted). |

The factory setting is:

P1=0 , P2=0 , P3=0 , P4=1 , P5=0 , P6=0

**2.6 Introduction to the GSMModulVB program**



The individual functions are sub-divided into various “Tables” in the program window. Each “Table” belongs to one of the various connection modes for the REODATA GSM-01 unit. For example, all “Tables” with the ending RS232 are used for direct connection of a PC to the REODATA GSM-01.

An explanation of which “Table” is used with which connection is given below.

Assignment of the “Tables” to the connections:

### 2.6.1

Direct PC connection via RS232 (serial interface) to configure the unit:

In "CPU" mode

Tables: "Parameter via RS232"

In "Transparent" mode

Tables:

"SMS programming via RS232"  
 "Modem information via RS232"  
 "Modem Command via RS232 or PC internal"  
 "More information"

In all modes

Tables: "Prog Command"

### 2.6.2

Link via GSM (telephone)

In "CPU" mode

Tables: "Command via GSM modem"

In "Transparent" mode

Tables: New window with "REO online" button  
 (only with a REO controller on the RS232)

## Explanation of the individual "Tables"

### "Command via GSM modem"

This table is used after a connection is set up to a REODATA GSM-01 unit via a telephone link.

The individual buttons have the following function:

TRAN =	switches the unit into transparent mode
TFIN =	switches transparent mode off
DIGIT =	displays the current status of the inputs and outputs at the unit (only in non-transparent mode)
DISCO =	Ends the link to the unit (only in non-transparent mode)

All button commands are confirmed by the GSM device and displayed in the program in the text window.

After pressing "DISCO", you must wait until "NO CARRIER" is displayed in the text field (this ensures that the link was ended).

### "Parameter via RS232"

The individual buttons and fields have the following function:

TEST	=	test the serial interface
FETCH PARA	=	read the parameter set from the unit
SEND PARA	=	write the parameter set to the unit

The individual functions were also described earlier under the "Activate SMS messages" item.

### “SMS programming via RS232”

This function is also described earlier under the “Programming SMS messages” item.

### “Prog Command”

The individual buttons and fields have the following function:

Close interface =	closes the current serial interface (direct to the unit (RS232) or to the mobile phone (COM1, COM2) or internal modem card)
Less info =	reduces the window size (e.g. when online with REO units)
REO online =	opens a new window in order to edit the special parameters of <b>REO control systems (only if GSM link is present).</b>

**Note:** “REO online” must only be activated if the system has first been switched to transparent mode with the “TRAN” button in the “Command via GSM modem” table, and a GSM link is present.

### “Modem information via RS232”

This “Table” contains general modem commands and is only needed for special setup of the unit.

No entries should be made here.

This “Table” is only for specialists.

All buttons are explained by means of an active help function.

### “Modem Command via RS232 or PC internal”

As for “Modem information via RS232”, however, the account status can be requested here. (See earlier description under “Requesting and topping up the telephone credit via PC connection”)

The internal time of day of the unit can be set as well with the “+CCLK=” button.

The form of the entry is displayed when you move over the button with the mouse.

## 3.0 Inserting the SIM card

### Make the unit dead !

Unscrew the four screws on the side fitted with the LED.

Press the yellow button on the card-holder and take out the housing.

Lay the SIM card in the housing and push the housing back into the card-holder again.

Retighten the screws on the unit.

## 4.0 Technical Data

Type	REODATA GSM 01
Nominal voltage:	95 - 240 V, AC, 50/60 Hz
Nominal current:	0.1 A
Digital inputs:	4 x, each 24 V
Relay outputs:	4 x, each 1 A / 230 V
Equipment:	serial interface, switchable to transparent mode SIM card (3 V) dual-band GSM module membrane keypad 7-segment LED display for status indication switched mode power supply 95 -240 V AC

**Declaration of conformity**

We declare that these products conform with the following standards and directives: EN 50081-2 and EN 50082-2 in accordance with the requirements of Directive 89/336/EEC.

**5.0 View of unit**

