USER GUIDE

GSM500.VND
GSM500.VND.R
GSM500.VND.NP

Adapter for the connection
of analogue telephones to
the GSM network.
With serial data interface

ROCOM

Content

General

The GSM500.VND gateway is an adapter which enables the connection of exitsing or new installed analogue telephone devices, like emergency phone system, door phones or PBX with analogue trunks, to the GSM network. The device to connected to the analogue port must be TBR21 compliant. A connection to the pubblic network is not possible. Further the device provides also a data connectivity using RS232, RS485 and CANBus interfaces.

Description

The GSM500.VND simulates a standard analogue telephone extension line (FXS). All PBXs with analogue telephone trunks and analogue telephones with DTMF dial can be connected to the GSM500.VND gateway. The adapter generates the normal dial tone as used in the specific country.
The level of the received GSM network signal is showed any time with the green LED. A new random generated PIN code is programmed the first time the device will be activated to ensure that the SIM is locked for no other use.
The device has an integrated emergency power supply using NiMH batteries. Those are tested every two weeks. If an error will be found an alarm is raised using SMS or the attached ECII FLEX emergency phone system. The GSM500.VND can be deliverd in three different versions:
- GSM500.VND with data interface, batteries and power supply unit;
- GSM500.VND.R with data interface, batteries, power supply unit and relay for the signalling of missing GSM network signal (i.e. to switch off the lift);
- GSM500.VND.NP with data interface, without batteries and power supply unit (for installations where emergency power is supplied by an external source)

Package content

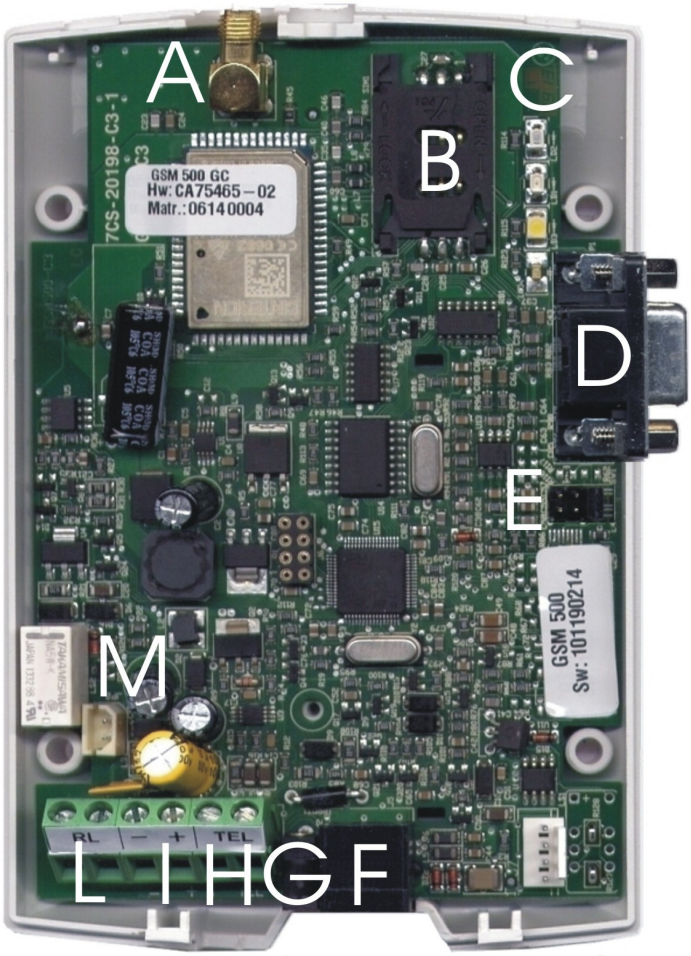
The GSM500.VND package includes:
- Device with plastic case
- This user guide
- RMA retour instruction an error description leaflet
- GSM antenna
- Installation screws
- Power supply unit 230 Vac (not with GSM500.VND.NP)
- Telephone line cable RJ11/open
- NiMH battery pack (not with GSM500.VND.NP)

Features

- Simulates an anlogue telephone extension line (FXS)
- Dial tone generator
- GSM network signal level survelliance
- Automatic random generated PIN code programming
- Integrated emergency power supply
- Automatic periodical battery test with failure alarm over SMS or ECII FLEX emer gency phone (not with GSM500.VND.NP)
- Local programming using ECII FLEX emergency phone or analogue telephone device with DTMF dial
- Remote programming using SMS

- CLIP
- Roaming support
- Programmable transmit and receiving speech signal level
- Data transmission using RS232, RS485 and CAN-bus interface
- LED indicator for GSM networg signal level
- LED indicator for device status
- LED indicator for line a data interface status
- LED indicator for power supply status
- Automatic device reset if GSM signal is lost for a longer time
- Programmable end-of-dial waiting time
- Immediate end-of-dial using # digit
- Programmable administrator telephone number
- Programmable password
- Programmable min. power failure standby time
- SMS and Email sending using RS232 and CANBus
- Programmable data transmission speed and handling
- CANBus address filtering
- Selectable CANBus and RS485 termination resistance
- Driver contact can be activated using DTMF tone or SMS (only with GSM500.VND.R)
- Programmabel relay for alarm output contact (instead of the driver contact) for GSM signal loss or power failure or GSM signal loss and power failure/battery fault
- 5 programmabel speed dial numbers

Overview



GSM500.VND.R open case

A	SMA connector for external antenna
B	protected SIM card slot
C	Status LEDs: GSM network signal level (green), device status (red), line and data interface status (white), power supply status (blue)
D	DB9 female connector for serial data interface
E	Jumpers for CANBus and RS485 termination resistance
F	RJ11 plug for the connection of an analogue telephone device or PBX trunk (FXS)
G	Plug for the external 230 VAC power supply unit
H	Screw connector for of an analogue telephone device or PBX trunk (in parallel to the RJ11 plug)
I	Screw connector for external 12 VDC power (as alternative to the power supply unit)
L	Contact output relay (only GSM500.VND.R)
M	Connector for the NiMH battery pack

Installation place

The installation place for the device must be:

- inside a dry room;
- free from dust, heat and direct sun radiation;
- free from liquids and chemical aggressive substances.

Before the installation please follow these advices:

- The device must be powered only using the voltage as indicated in the type lable.
- If a liquid gets into the device please disconnet immediatly the device from the power supply. The device can be repaired only by qualified personnel.
- Static discharges may damage the device. Please ensure that you are staticaly discharged using a power grounding before handling the device.

Security advices

Please read carefully this user guide before you install the device. Follow all security advices. Not following the rules may be against existing law or cause dangerous situations.
The GSM500.VND is a low power radio transmission device, when it is powered it will send and receive radio waves.
The device generates a magnetic field and must be used away from magnetic media (like discs, tapes, and similar).
The use of the device near to electrical of electronical devices like radio, TV, phone-sand PC may generate disturbances.

Radio disturbances
As any other wireless device the GSM500.VND may be disturbed by radio waves.

Use in a car
Do not use the device while driving. If you plan to use the device in a car please ensure that all installed device are protected against radio disturbances. Never use or install the device near to an airbag or within the action radius of an airbag.

Use in a airplan
In an airplan the GSM500.VND must be switched off. The use of GSM device in an airplan is forbidden by law.

Use within an hospital
Switch the GSM500.VND off if you are close to any electromedical apparature. Please take care that disturbances may affect the use of cardiological and acoustical devices. As the GSM500.VND ist not a mobile device it is not intended for a use in contact with human body. The use of the device within an hospital or any other health facility is only possible if the security advices are followed with the highest attention. Wherever the use of GSM devices is forbidden also the use and the instal-lation of a GSM500.VND is not permitted.

Use close to explosive material
The GSM500.VND may not be used or installed within fuel depots, chemical facilities or within areas where explosive gas is present or used. The installation and use of this device within such enviroments can be done only following the highest security advices.

Usage
Do not use the GSM500.VND in contact with human body. Do not touch the antenna during opertation if not specifically required. Use only original and approved spare parts.

Installation

Ensure that at the installation location a power plug in available nearby. For the wall installation you can use the screws delivered with the unit.
It is very important that the GSM500.VND unit has all time the best GSM signal to avoid disturbances during operation time. Before you install the device at his final position be sure that it is the best spot you can find. To do this use an mobile phone with a SIM card of the same provider that you are going to use with the GSM500.VND and try at the spot you are going to use to setup a communication. If during the conversation you will notice disturbances or interruptions you will have to look for a better position.

SIM card installation

For the installation of the SIM card be sure that the devices is **SWITCHED OFF**! The SIM card has to be placed into the specific slot. The card should have the PIN code disabled. If a PIN code is required then you have to program it, using a mobile phone, with the code "0000". After installation and frist activation the device will change the PIN code with a new, random generated one.

PLEASE NOTE!
If you change the SIM card switch all time the POWER OFF!

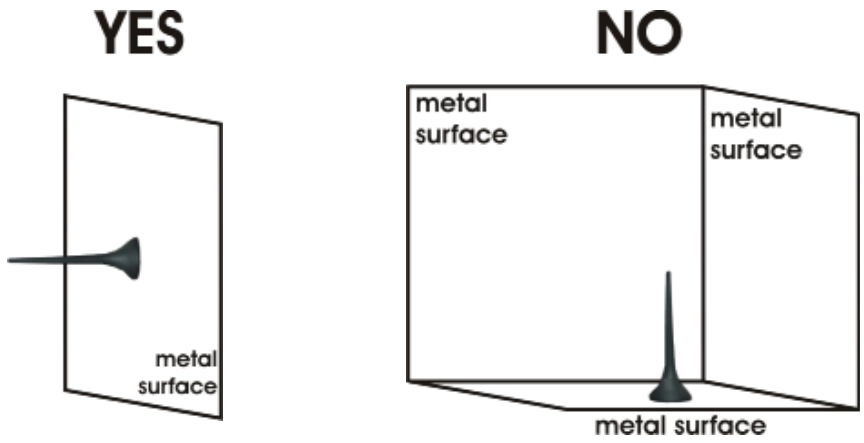
Ensure hat the PIN code of the SIM card is disabled or changed to "0000" with a mobile phone BEFORE you install it into the device.

If the SIM card is changed ensure that the new card has the PIN code disabled or changed to "0000". If the new card has the PIN "0000" you have to restart the device with factory default data using the reset button to ansure a new random code is programmed.
Keep the PIN and PUK number for the SIM card available during this procedure.

If you change the SIM card with a new one and you are using data connectivity you must unregister and reregister the device to the VNDNET Server.

GSM antenna

The antenna provided is connected to the device with the proper connector outside the case. If you notice problems in getting a proper GSM network signal you may change the antenna. Specific antennas may solve the problem. Ask the technical support for more informations,



GSM500.VND Proper antenna positioning

PLEASE NOTE!
Never power the GSM500.VND WITHOUT connected antenna. The radio transmission engine may be damaged.

Connection of the analogue telephone device

The analogue telephone device (phone, PBX, emergency phone, etc.) is connected to the RJ11 plug (see also picture on page 4). Use the provided RJ11 cable to connect devices without proper plug. The connection of analogue modem and fax is not possible.
As alternative to the RJ11 plug you can use alse the screw connectors TEL (see also picture on page 4).

Connection of the external power supply

The device is designed for statical installation and external power supply with 230 VAC. If required also a 12 VDC power voltage can be used. The device has an internal NiMH battery for emergency power supply if external power is missing.
The external power supply and battery status is show by the blue LED (see also ***LED indicators***).

PLEASE NOTE!
While you are handling with the 230 VAC power be aware to fullfill all national and international security standards as required.
If you need to switch off the device it is not enough to unplug the external power supply unit, as in this case it will be still powered by the internal battery. To complete switch off the unit you have to unplug the external PSU and the internal battery.

Putting into service

After connection of the external power supply the device will first check the SIM card. If no card has been installed, or if it is broken or cann't be recognized by the unit, the red LED will start to flash quickly. In this case the SIM card has to be changed.

If everything is OK the device will start the initialisation procedure and login to the provider. This can take some time about 30 to 60 seconds. During this time the red LED will flash quickly. After succesful login the red LED will flash slowly.

PIN code

For normal use we suggest to use SIM cards without PIN code. In this case deactivate the PIN code for the specific SIM card using a mobile phone before you install it into the GSM500.VND. If required also the following PIN code handling can be used.

Program using a mobile phone the PIN code to "0000" on the SIM card you are going to use. Install now the SIM card into the GSM500.VND.
The device will now reprogram the PIN code automatically with a random generated code and overwrite the old one, locking this way the SIM card with the device.

PLEASE NOTE!
Read also *SIM card Installation*!

Battery

The bulid in NiMH battery is continously tested by the GSM500.VND. If it will deinstalled or fail the device will rise an appropiate alarm. A battery error is also showed by the blue LED. Furhermore this status is also indicated by a special dial tone. Every 30 seconds the device will check if the battery is connected or not. Also the battery capacity is tested by a discharging procedure. The first time this procedure will take place 15 days after first activation. During the procedure the battery will be discharged over a load for 3 hours. If after the test the battery capacity will be below a defined level an appropiate alarm is rised. The discharging test will not take place or will be interrupted if the device is missing the external power supply. Furthermore the battery is protected against deep discharge. The battery should be changed anyway all 2 to 4 years depending on the installation enviroment and usage. In case of substitution only the same or a equivalent battery must be used to avoid damage on the product. The remaining capacity which should be recognized by the device after a discharging procedure is programmable. As default this value is 4 hour emergency power stand by time. This value can be changed in eight steps between 1 and 7 hours.

PLEASE NOTE!
The battery capacity can vary a lot depending from the working temperature. If the GSM500.VND is going to be installed in location where temperature below -5° C the threshold value should be reduced to avoid unnecessary battery alarms.

Programming

For a normal usage no specific programming is required. But changes and functional details can be changes this way. If data connectivity is required a specific programming will be necessary. This is done by SMS using the VNDNET client software you can download it from our webside (see www.rocom-gmbh.com for the download).

The programming is done using the ECII FLEX emergency phone dial pad, a standard DTMF phone or by SMS. Following can be programmed:

- Idle state telephone line voltage;
- End-of-dial time out;
- Country identification (international access and country code);
- Roaming service;
- Telephone number for SMS notifications;
- Administrator telephone number;
- Password programming;
- Battery test;
- Speech channel receiving level;
- Speech channel transmitting level.

PLEASE NOTE!
During programming the time between the dial of two digits should be not longer then 10 seconds. After 10 seconds without digits input you will hear a warning tone, after this you must hang up and terminate the programming session.

After each programming you will hear an acknowledge tone if the programming was correct or an error tone if it was wrong. In any case a dial tone will follow and you can proceed with the programming or dial a telephone number.

The programming can be done also if the devices is not logged on with the GSM network. In this case after every acknowledge or error tone a missing GSM network tone will follow. Now you can proceed with the programming or hang up.

Idle state telephone line voltage

With this programming the idle state voltage on the telephone line which is applied on the RJ11 plug and the TEL screw connectors can be changed to mach the requirement of the connected devices. As default the line voltage is 52 VDC. To change this value:

DTMF

✱✱61✱ <X> #

SMS

RO-IG5*<Password (default "0")>****#61****<X>****#***

Where <X> can have the value 0 for 36 VDC line voltage and 1 for 52 VDC line voltage.

Example DTMF (36 VDC line voltage)
⑧⑧⑥①⑧⓪#

Example SMS (36 VDC line voltage)
RO-IG5*0#61*0#

End-of-dial timeout

The end-of-dial timeout is the max. time the device will wait between two dialled digits to recongnized that the dial is ended. As a alterantive you can use also the digit # to terminate the dial immediately. As default this time is set to 5 second. To change this value:

DTMF
⑧⑧⑧⑧ <X> #

SMS

RO-IG5*<Password (default "0")>****#8****<X>****#***

Where <X> can have the value ⓪ for 10 seconds and a value between ① to ⑨ for 1 to 9 seconds.

Example DTMF (timeout 10 seconds)
⑧⑧⑧⑧⓪#

Example SMS (timeout 10 seconds)
RO-IG5*0#8*0#

Country identification (international access and country code)

This programming will define the country where the GSM500 has been installed. This will activate specific values for that country like the call progress tones and the suppression of the international code for national caller on the CLIP.

International access code
The international access code is the first part of the international country code which defines that a international call is been made. For example the internationl access code in Germany is 00, and the complete international country code is 0049. As default this code is set to 00. To change this value:

DTMF
⑧⑧⓪⑧⑧ <XXXXX> #

SMS
RO-IG5*<Password (default "0")>****#08****<XXXXX>****#***

Where <XXXXX> is the value of the local international access code with max. 5 digits.

Country code
The country code is the second part of the interantional country code of your country. In example the country code for Germany is 49 and the complete international country code is 0049. As default this code is set to 49. To change this value:

DTMF
✱✱0 9✱ <XXXXX> #

SMS

RO-IG5*<Password (default "0")>****#09****<XXXXX>****#***

Where <XXXXX> is the value of the local international country code with max. 5 digits.

Example DTMF (Austria)
✱✱0 9✱ 4 3 #

Example SMS (Austria)
RO-IG5*0#09*43#

Roaming service

This programming will define if the roaming service will be active or not. If the roaming service is deactivated the GSM500.VND will not place calls if not the specified provider is registred. In this case you will get the following special dial tone:

As default the roaming service is activated. To change this value:

DTMF
✱✱5 ✱0✱ <XXX><YYY> #

SMS

RO-IG5*<Password (default "0")>****#5*0****<XXX><YYY>****#***

Where <XXX> is the MCC (Mobile Country Code) and <YYY> the MNC (Mobile Net-

work Code) of the desired provider.

Please note!
The MCC-Codes and MNC-Codes for some provider in UK and Ireland are:

	UK		Ireland	
Provider	**MCC**	**MNC**	**MCC**	**MNC**
BT Group	**234**	**76**		
Vodafone	**234**	**27**	**272**	**01**
O2	**234**	**11**	**272**	**02**
Orange	**234**	**34**		
eircom Ltd			**272**	**07**

More MCC/MNC codes can be found under www.mcc-mnc.com.

To reactivate the roaming service:

DTMF
✱✱5✱1#

SMS
RO-IG5*<Password (default "0")>****#5*1#***

Example DTMF (only provider BT UK)
✱✱5✱0✱2347⑥#

Example SMS (only provider BT UK)
RO-IG5*0#5*0*23476#

Telephone number for SMS notifications

This programming enables you to define the telephone number where the notification SMS are to be send to (i.e. answer to the SMS status interrogation for battery, and network and/or the SMS alarms for battery failure, empty battery and power failure). As default no value is set here. To change this value:

DTMF
✱✱40✱ <telephone number> ✱ <telephone number> #

SMS
RO-IG5*<Password (default "0")>****#40****<telephone number>*<telephone number>#***

Where < telephone number > is the required telephone number and his repetition as acknowledge.

To delete the telephone number:

DTMF

⑊⑊④⓪#

SMS

RO-IG5*<Password (default "0")>**#40#***

Administrator telephone number

Normaly the SMS programming is accepted from any phone which is able to send SMS. Defining an administrator telephone number only this phone will be able to change values using an SMS. As default no value is set here. To change this value:

DTMF

⑊⑊①⑧⑊ <telephone number> ⑊ <telephone number> #

SMS

RO-IG5*<Password (default "0")>**#18****<telephone number>****<telephone number>**#*

Where < telephone number > is the required telephone number and his repetition as acknowledge.

Please note!
The telephone number of the administrator MUST be complete with the international country code (i.e. for Germany 0049)

To delete the telephone number:

DTMF

⑊⑊①⑧#

SMS

RO-IG5*<Password (default "0")>**#18#***

Password programming

This programming will change the password. As default the password "0" is set. To change this value:

DTMF

⑊⑊①⑨⑊ <XXX> ⑊ <XXX> #

SMS

RO-IG5**<Password (default "0")>**#19**<XXX>*<XXX>#

Where <XXX> is the new max. three digits long password and his repetition as acknowledge.

Please note!
Ensure to WRITE DOWN somewhere the new password. If it is missed the device can be reseted only at factory.

Battery test

If battery test is active the GSM500 will test the battery continously. Durind the test the battery will active discharged using a specific load the the measured levels will be compared to predefined values. If the battery doesn't match this values the device will set a battery alarm using an SMS or the ECII FLEX emergency phone. A new alarm is also send when the battery will match again the defined values, i.e.after it has been replaced. Furthermore an alarm, only by SMS, can be send if the battery is close to be discharged. The internal battery can deliver up to 8 hour in stand-by and up to 1 hour in active status. As default the battery test is activated, to deactivate it:

DTMF
⑧⑧⑤①#

SMS
RO-IG5**<Password (defaul "0")>**#51#

To reactivate this feature:

DTMF
⑧⑧⑤⓪#

SMS
RO-IG5**<Password (deafult "0")>**#50#

A further programming is the minimum stand-by time the battery must support. If during the battery test the device will recognize that the battery capacity is below this minimum required time a battery failure alarm using SMS or the ECII FLEX emergency phone will be raised. As default this value is set to 4 hour. To change this value:

DTMF
⑧⑧⑤②⑧ <X> #

SMS
RO-IG5**<Password (default "0")>**#52<X>#***

Where <X> can have the following values:

0	1	2	3	4	5	6	7
7h	6:30h	6h	5:30h	4h	2:30h	1:30h	1h

Please note!
The battery capacity is very dependent form the enviromental temperature. The above mentioned time are considering a working tempertaure of about 20°C. If you can expect at the installation site temperature which may very differ from this value (i.e. below -10°C or higher then 40°C) we suggest to set this value to 6 (1:30h) or 7 (1h) as otherwise you will get in winter or summer time unnecessary battery alarms.

Please note!
If you activate the device the first time without conneting the battery you will get a battery alarm after 30 seconds. After connecting the battery it can take up to 15 days before the battery alarm will be set back.

Speech channel receiving level

You can change the speech receiving level if required. As default it is set to -2dB. To change this value:

DTMF

⑊⑊①①⑊ <X> ⑋

SMS

RO-IG5*<Password (default "0")>****#11****<X>****#***

Where <X> can have the following values:

1	2	3	4	5
-8dB	-6dB	-4dB	-2dB	0dB

Please note!
This value are defined for the optimal interworking with te ECII FLEX emergency phone, please change this only if required.

Speech channel transmitting level

You can change the speech sending level if required. As default it is set to -2dB. To change this value:

DTMF

⑊⑊①⓪⑊ <X> ⑋

SMS

RO-IG5*<Password (default "0")>****#10****<X>****#***

Where <X> can have the following values:

1	2	3	4	5	6	7
-2dB	0dB	+4dB	+6dB	+9dB	+11dB	+12dB

Please note!
This value are defined for the optimal interworking with te ECII FLEX emergency phone, please change this only if required.

Relay function (only for GSM500.VND.R)

In the GSM500.VND version .R there is an optinal relay installed. These can be used to activated a driver function from the telephone line or using SMS (i.e. controller reset) or to signal an alarm status to an external device. From factory the driver contact function is activated.

The following alarm state can be signalled:

- 230 V power supply failure
- GSM signal loss or failure
- Battery empty

To activate this function:

DTMF

⑧⑧⑨④⑧ <X> ⑧

SMS

RO-IG5*<Password (default "0")>****#94****<X>****#***

Where <X> can have the following values:

⓪ relay is used as driver contact
① relay is switching off with external power failure
② relay is switching off with GSM failure
③ relay is switching off with external power failure and GSM failure
④ relay is switching on with external power failure
⑤ relay is switching on with GSM failure

⑥ relay is switching on with external power failure and GSM failure
Please note!

With the functions ① to ③ the relay will switch off also with battery empty after a power failure.

Please note!
If the GSM network is controlled together with the relay activation/deactivation after network restoring als an SMS will be sent to the programmed administrator ("GSM network restored").

If you are using the relay for driver function you can select between monostable or bistable working way. From factory the relay is monostable with 1 s avtivation time. To change this value:

DTMF

✱✱⑨③✱ <XX> #

SMS

RO-IG5*<Password (default "0")>**#93****<XX>#***

Where <XX> can have the following values:

⓪⓪ relay is bistable (on/off switching)
⓪① to ⑨⑨ relay is monostable with activation time from 01 to 99 seconds

Please note!
The max. contact load is 24V an 1A.

To activate the relais:

DTMF

✱✱⑨②✱ <X> #

SMS

RO-IG5*<Password (default "0")>**#92****<X>#***

Where <X> can have the following values:

⓪ relay is off (only with bistable working way)
① relay is on

You can interrogate the relais status using a SMS:

SMS
RO-IG5*<Password (default "0")>**#92#***
You will get the follwing answer:

RO?IG5*<Password (default "0")>**#92***<X>**#***

Where <XX> can have the following values:

0 relay is off
1 relay is on

Speed dial numbers

In the GSM500.VND has the capability the overwrite dialled numbers, or speed dial codes, with other preprogrammed numbers. Up to 5 replacement, or speed dial numbers can be programmed.

Please note!
As soon one of the number is programmed no further normal direct dialling can be done on the device. If the dialled number doesn't match with the programmed number to be replaced the frist replacement number will be used all time (hot line function).

For example. The following speed dial and replacement number hev been programmed:

Position	Dialled number	Replacement number
1	100	017112345678
2	200	017187654321
3	300	017112345678
4	400	017187654321
5	500	017112345678

If you dial now 300 the device will call on the GSM network the telephone number 017112345678.
If you dial 200 the device will call on the GSM network the telephone number 017187654321.
If you dial any other number the device will always call the telephone number 017112345678.

To programm the replacement numbers:

DTMF
✱✱26✱ <PW> ✱ <P> ✱ <RN> ✱ <RN> #

SMS

***RO-IG5**<Password (default "0")>**#26**<PW>*<P>*<RN>*<RN>#*

Where <PW> is the actual device password ("0" default).
Where <P> is the position in the list from 1 to 5.
Where <RN> is the number to be dialled on the network. You have to insert it twice for enhanced security.

To delete one replacment number:

DTMF

✱✱26✱ <PW> ✱ <P> #

SMS

***RO-IG5**<Password (default "0")>**#26**<PW>*<P>#*

Where <PW> is the actual device password ("0" default).
Where <P> is the position in the list from 1 to 5.

To delete all replacment number:

DTMF

✱✱26✱ <PW> ✱#

SMS

RO-IG5**<Password (default "0")>**#26**<PW>#*

Where <PW> is the actual device password ("0" default).

To programm the dialled numbers, or speed dial codes:

DTMF

✱✱25✱ <PW> ✱ <P> ✱ <KN> ✱ <KN> #

SMS

***RO-IG5**<Password (default "0")>**#25**<PW>*<P>*<KN>*<KN>#*

Where <PW> is the actual device password ("0" default).
Where <P> is the position in the list from 1 to 5.
Where <KN> is the number to be replaced by the replacement number. You have to insert it twice for enhanced security.

To delete one replacment number:

DTMF

✱✱25✱ <PW> ✱ <P> #

SMS
RO-IG5*<Password (default "0")>****#26*****<PW>*<P>#***

Where <PW> is the actual device password ("0" default).
Where <P> is the position in the list from 1 to 5.

To delete all replacment number:

DTMF
✱✱25✱ <PW> ✱#

SMS
RO-IG5*<Password (default "0")>****#26*****<PW>*#***

Where <PW> is the actual device password ("0" default).

Reset to factory default

You can reset the device to factory default using the following programming:

DTMF
✱✱99#

SMS

RO-IG5*<Password (default "0")>****#99#***

Restart

You can anytime restart the device without switching off the power using the following programming:

DTMFV
✱✱98#

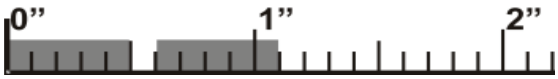
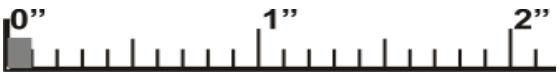
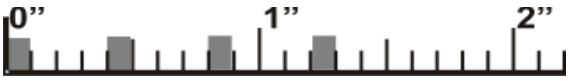
SMS
RO-IG5*<Password (default "0")>****#98#***

Read the actual GSM network signal level

Further to the LED indicator you can anytime read out the actual GSM networking signal using this programming:

DTMF
✱✱30#

You will get the following tone feedback:

Tone	GSM signal quality
	No GSM signal
	Poor signal (25%)
	Average signal (50%)
	Good signal (75%)
	Very good signal (100%)

SMS
RO-IG5*<Password (default "0")>**#30#***

You will get the following feedback as SMS:

RO?IG5*<Password default "0")>**#30*** <X> ***#***

Where <X> can have the following values:

0	No GSM signall
1	Poor signal (25%)
2	Average signal (50%)
3	Good signal (75%)
4	Very good signal (100%)

Read the actual battery status

Further to the LED indicator you can anytime read out the actual battery status using this programming:

DTMF
✱✱9 1 #

You will get the following feedback as SMS:

Battery <X>

SMS
RO-IG5*<Password (default "0")>****#91#***

You will get the following feedback as SMS:

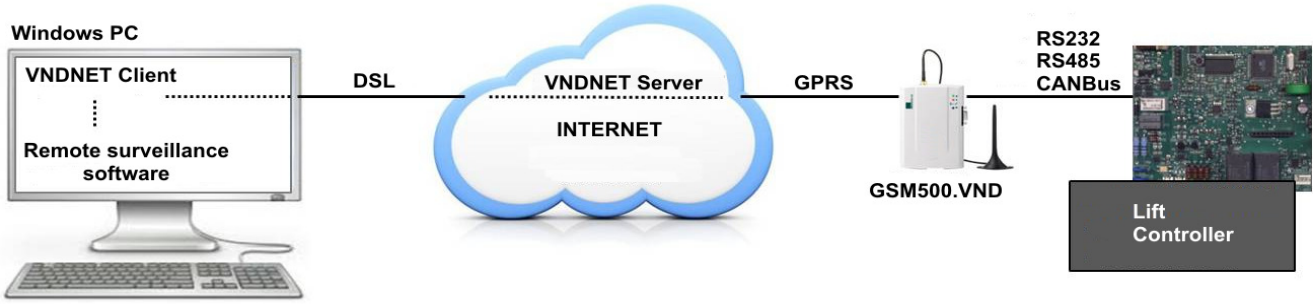
RO?IG5*<Password (default "0")>****#91*** <X> ***#***

Where <X> can have the following values:

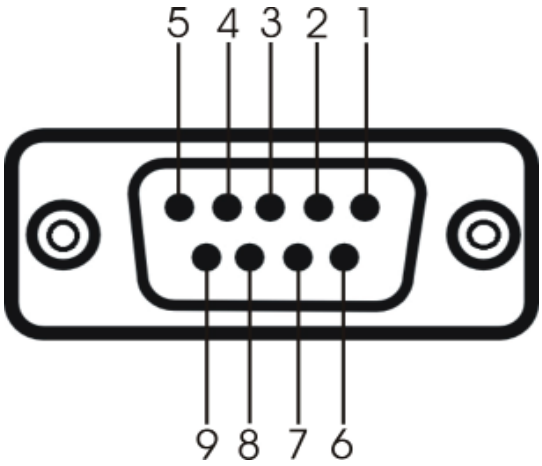
0	No battery installed
1	Poor (25%, ca. 2h standyby)
2	Average (50%, ca. 4h standby)
3	Good (75%, ca. 6h standby)
4	Very good (100%, ca. 8h standby)

Data connection

The GSM500.VND is able to send and receive data between devices with RS232, RS485 and CANbus serial interfaces. This way it is possible to realize a remote data access (like a lift controller) and an audio communication (like a lift emergency phone) using only one single device and the installation of special modems and telephone lines is not more necessary as the data communication in setup using a normal Internet access. The data connection used by the GSM500 is realized using GPRS connectivity (you have to use SIM card which provides a data volume too) and is supported by a specific server (VNDNET.DE) which takes care about the traffic between the client and the data terminal. For more detalis please refer to the user guide for the VDNNet system.



GSM500.VND Server supported data connectivity

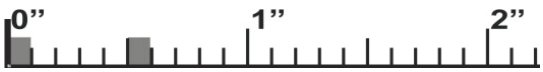
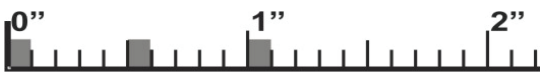
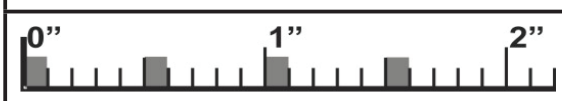


RS232		RS485		CANBus	
TX	PIN2	TXD-	PIN6	CANH	PIN8
RX	PIN3	TSD+	PIN7	CANL	PIN9
GND	PIN5	GND	PIN5	GND	PIN5

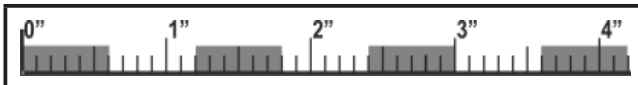
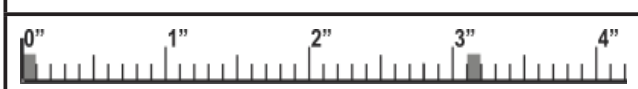
GSM500.VND DB9 data connector (female)

Optical indicators

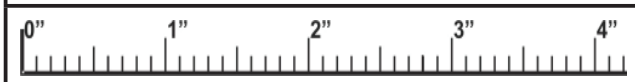
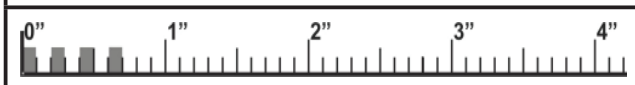
Green LED for GSM signal strenght

	No GSM signal
	Poor signal (25%)
	Average signal 50%)
	Good signal (75%)
	Very good signal (100%)

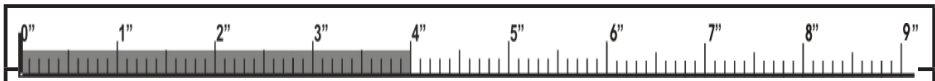
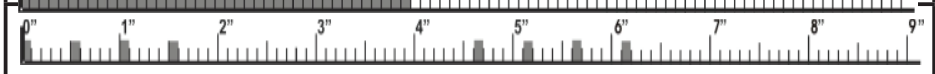
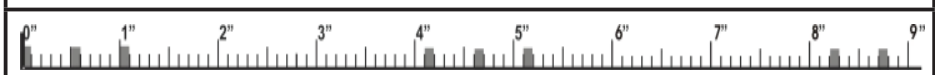
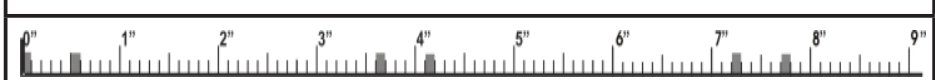
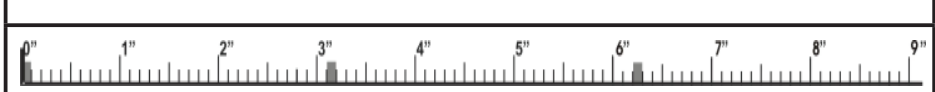
Red LED for device status

	Device is trying to register into the GSM network
	Device is registred a ready to use
	Device is busy

White LED for line status

	Line is busy (speech or data transmission)
	Line is free
	Incoming call

Blue LED for power status

	Power OK
	Power OFF Battery 100%
	Power OFF Battery 75%
	Power OFF Battery 50%
	Power OFF Battery 25%

Outgoing call

1) Size the line going off hook or sizing the trunk of the connected PBX.

2) You will get dial tone from the GSM500 or special dial tone if the battery is broken or the device is using another provider (roaming tone).

3) Dial a telephone number.

4) If the called party is busy or the GSM network has problems (i.e overload) you will get a busy tone until you hang up.

5) If the telephone line is opened, i.e. going on hook, the GSM500 will terminate the network connection and will be ready for another call within few seconds. If the called party hangs up first you will get busy tone until you release the line as well.

Incoming call

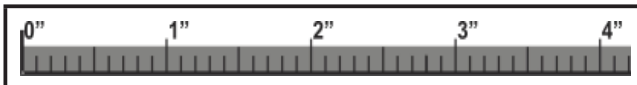
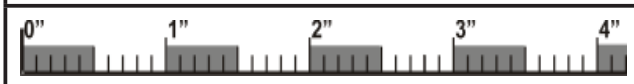
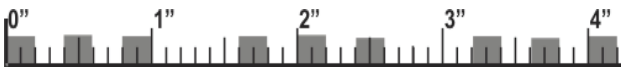
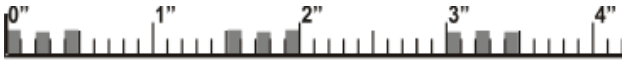
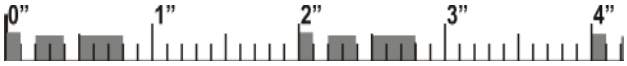
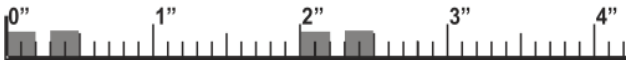
1) To call the GSM500 gateway just dail the telephone number of the used SIM card.

2) If the GSM500 gateway is switched off or not reachable the network will send you an appropiate message.

3) The incoming call is send to the connected analogue device using a ring voltage. Getting off hook the call will be answered.

4) If the telephone line is opened, i.e. going on hook, the GSM500 will terminate the network connection and will be ready for another call within few seconds. If the called party hangs up first you will get busy tone until you release the line as well.

5) Data calls can be send only using the VNDNET Server. A direct data call is not possible due to security reasons.

	Dial tone
	Busy tone
	Warning tone
	Acknowledge tone (only during programming)
	Error tone (only during programming)
	Roaming tone

Trouble shooting

GSM500 gateway is not initialising, the red LED is always blinking fast
Check the following:
1. Is the SIM card correctly installed
2. Is the SIM card in order to work?
3. Did you disabled the PIN code or did you have programmed the PIN code 0000?

GSM500 gateway is not initialising, the green LED is off
Check the following:
1. Do you have network signal recepiton?

The PBX or emergency phone connected to the GSM500 are not able to dial external numbers
Check the following:
1. Does your PBX or emergency phone have a dial tone detection?
2. Have you activated the appropiate dial tone programming the right country code?

During call setup you are getting a special dial tone
1. Your battery is empty or faulty and it must be changed.
2. You device is logged in a provider which is not your original one (roaming tone).

The dial of the connected phone is not recognized by the gateway
Check the following:

1. Is your phone able to dial DTMF tones?
2. Did you have programmed the right idle state line voltage for your phone?

Tecnichal support
Please contact the telephone number, fax numbere or e-mail address as indicated on the last page for further support.

Technical data

Power supply:	10 to 17 Vdc, 230 Vac with provided PSU
Consumption:	40 mA (10 V) to 60 mA (12 V) in standby 90 mA (17 V) to 105 mA (12 V) during Operation
Battery:	niMH 650 mA high temperature
Battery backup time:	up to 8 hour standby, 1 hour operation
Indicators:	four LED
Idle state line voltage:	36 or 52 Vdc programmable
Dial receiver:	DTMF
Programming:	using DTMF or SMS
Dimensions HxLxD:	140 x 96 x 28 mm
Weight:	220 g with battery
Operational temperature:	-20° to +50°C
Humidity:	30 to 90% relative humidity degree w/o condens-ing
Casing:	ABS
Protection degree:	IP20
GSM engine:	Dual band 900/1800 Mhz. external 50 Ohm an tenna with SMA connector
Specification reference:	EN60950-1; EN50385; EN301489-1; EN301489-7; EN12015; EN12016; EN301511
Type approvals:	R&TTE, CE

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