



**Dear customer,**  
**this is a short description to give you some basic informations about the GSM modem you purchased.**

**Informations to the AT commands you will find on the CD as a PDF file. As well informations can be downloaded from our website [www.coniugo.com](http://www.coniugo.com). Those documents can be read and printed with the Adobe Acrobat Reader.**

## Introduction / Declaration of Conformity

Thank you for buying the ConiuGo GSM/GPRS-modem. This product was produced according to the latest technology. It is a device suited for data transmission in GSM networks

The manufacturer is:  
ConiuGo® GmbH  
Berliner Strasse 4A  
16540 Hohen Neuendorf

This product is labelled with the CE-mark according to following standards:

EU-guidelines 73/23/EWG of February 19th 1973, EU-guidelines 89/336/EWG of May 3rd 1989 (EMV-guideline) changed by EU-guidelines 91/263/EWG, 92/31/EWG, 93/68/EWG, EU-guidelines 89/392/EWG of June 14th 1989 changed by EU-guidelines 91/368/EWG, 93/44/EWG, 93/68/EWG

EN 61000-6-4/01 German basic standard for RF-emission for industrial application,  
EN 61000-6-2/05 German basic standard for RF-immission for industrial application

This product is manufactured according to the quality standard DIN EN ISO 9001.

This product includes a GSM transceiver unit from a third-party manufacturer. It is CE-certified by it's own manufacturer.



**To ensure a safe operation of the modem, please read this manual carefully before taking it into operation**

Hohen Neuendorf, August 2015

# Table of contents

- 1. Limited Warranty / Limitation of Liability .....4
- 2. Use as agreed.....5
- 3. Safety notes.....6
- 4. Description of the modem.....7
- 5. Installation of the modem .....7
- 6. Electrical installation .....8
- 7. Insert the SIM- card.....8
- 8. USB driver installation (USB- version only).....10
- 9. First modem settings.....12
- 10. Troubleshooting.....13

# 1. Limited Warranty / Limitation of Liability

ConiuGo GmbH warrants its product to be free from defects in materials and workmanship under normal use and service for a period of two years from the date of delivery, if no other agreement was made. The warranty is limited to the repair or replacement, at ConiuGo's sole option. The costs of parts and labour are covered in case of a repair. Costs for mounting and de-mounting, as well as for return transport to ConiuGo GmbH are not covered.

This limited warranty will apply only to ConiuGo GmbH products that exhibit normal use and service and will not cover any damages resulting from any misuse, modification, disassembly or alteration. Proof of purchase must accompany the product returned for consideration under this warranty.

Any use of the modem is carried out at your own risk. In no event shall ConiuGo be liable for incidental or consequential damages, including, without limitation, loss to property other than the ConiuGo GmbH product, loss of the use of the ConiuGo GmbH product or other property, or other economic loss.



**Damages resulting from neglect of this manual are not covered by the warranty. ConiuGo GmbH is not liable for any consequential damage.**



**ConiuGo is not liable for damages to property or personal injuries resulting from improper use or neglect of the safety warnings. Such events are not covered by the warranty.**

## 2. Use as agreed

The modem is designed for use in Germany and the European Community. According to the rules of CE-conformity, it is not allowed to distribute this device without a manual in the national language. The manual has to be authorised by the manufacturer. Any distributor has to make sure that the user of the device is capable to understand the manual as regards the content and the language.



**The modem has to be installed and put into operation by competent technicians.**

The modem is designed according to the valid GSM standards. At the use of this modem all safety precautions necessary for GSM devices have to be taken into account. It is not allowed to switch on the modem in airplanes or hospitals. Please check carefully any possible influences the modem may have on other technical and electronic devices.

The modem has to be installed and put into function by technical experts. All notes and information of this manual have to be read carefully and followed strictly. In case of doubt don't put the device into function but consult the manufacturer or your authorised distribution agent.

GSM devices are able to ignite explodable or inflammable gases by electromagnetic radiation. The use of the modem in an environment with a potential for these conditions must be definitely excluded.

Because of the RF-radiation of a GSM device the modem has to be used with a suitable GSM antenna for the RF band of 900 MHz (or 1800 MHz depending of the type of the chosen GSM network). The antenna cable has to be free from any damages.

The manufacturer provides a product for integration in a technical assembly. The product is tested carefully according to the CE-certification to meet the standards mentioned in the Declaration of Conformity. Nevertheless, the electromagnetic behaviour of the modem is depending on the conditions of mounting and environment.



**Safety hints have to be regarded!**

### 3. Safety notes

The modem corresponds to broadly valid GSM standards. At the use of a GSM transceiver for the mobile communication, certain safety precautions have to be made.



**GSM products can ignite explosive or inflammable gases.**

The use of the modem in an environment with a potential for these conditions must be definitely excluded.



**The system must be switched off in airplanes or hospitals.**

The use of the modem in these areas must be avoided.



**Before connecting the product, possible interference of the modem on your existing technical equipment has to be inquired.**

The manufacturer provides a product for integration in a technical assembly. The product is tested carefully according to the CE- certification to meet the standards mentioned in the Declaration of Conformity. Nevertheless, the electromagnetic behaviour of the GSM modem is depending on the conditions of mounting and environment.



**The electromagnetic behaviour of the modem depends on the environmental not controlled by the manufacturer. Any liability for eventual electronic misbehaviour is excluded.**



**Because of the RF-radiation of the GSM unit the modem has to be used with a suitable GSM antenna for the RF band, depending on the type of the chosen GSM network). The antenna cable has to be free from any damages.**

## 4. Description of the modem

The modem is a GSM modem for data-, fax- and SMS- transfer in GSM networks. From the moment the modem is booked into the provider's network the device behaves like a standard modem or a fax modem. The configuration of the system is carried out via the V.24 serial port resp. the USB-connection. For programming the standard AT-commands according to ETSI-standards (ETSI 07.07 or ETSI 07.05) are used.

The modem is dedicated to applications several GSM networks and depends on the core module that is indicated on the product label (Dualband: 900/1800 MHz, Quadband: 850/900/1800/1900 MHz, UMTS: with 2100 MHz).

## 5. Installation of the modem

The modem must be installed only in dry places. The allowed range of temperature is  $-30$  to  $+60$  °C. The common regulations for electrical installations have to be regarded.

The modem is allowed to be run according to the following conditions:

- Ambient temperature:  $-30$  to  $+60$  °C
- Indoor use only, max. 70% RH
- SIM-card with appropriate service subscription (e.g. for data transmission: subscription for data transmission).
- Settings for modems with serial interface: data frame: 8n1

Data rate (recommended and pre-set by producer):

LTE: 115.200 bps

UMTS: 115.200 bps

GSM/GPRS: 57.600 bps

## 6. Electrical installation

### Power supply

This information is given by the product label.

### Connection

RS 232- or USB- Port according to the product label.

## 7. Insert the SIM- card

At delivery the modem is prepared for inserting a SIM-card.

Put the modem into operation as follows:

1. Make sure that you have a SIM-card activated for all required services (e.g. CSD data call with a separate calling ID)
2. Note that the contacts of the SIM card have to be placed upside. Do not touch the connectors of the SIM card with your fingers. It can lead to contact problems or damage from static discharges.

If you use the modem in the **Industry housing**, please insert the SIM- card in the card-connector as follows:





If you use the modem version in the **professional version** of the **industry housing**, you have to open the device in order to insert the SIM card:



When using the **housing for 32 mm DIN- rail** the SIM- card- connector is positioned on the right side of the device.

This kind of housing provides two LED on the front side in order to indicate the **power supply** and the **Function**, that is indicated. The LED can be configured user-defined by AT-commands. Please have a look at the manual of AT-commands, where this function is described. (AT#GPIO for the Status LED).



## 8. USB driver installation (USB- version only)

Modems with RS232- port do not need any driver. They are used as a “standard modem” or directly at a suited COM- Port.

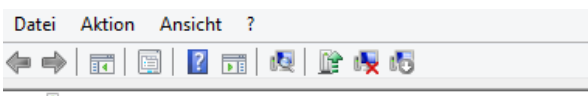
Modems with USB- Port need a driver that **has to be installed before connecting the modem** at the USB- port. You will find the installation file on the CD or at the ConiuGo website.



**Please note that the GSM modem is delivered with different modem modules for LTE, UMTS or GSM/GPRS. For a correct installation it is necessary that the driver files are chosen according to the modem module that is used.**

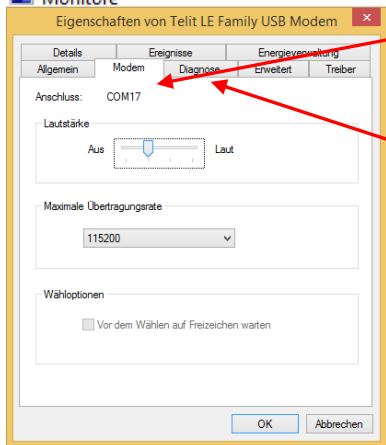
If the PC does not register the modem you have to restart the PC.

In the following example the **Devicemanager** of a PC with a **USB- LTE- modem with GPS- module** is shown. This generates three virtual Com- ports (including NMEA- port for the GPS) and two modem- connections. Other types of USB- modem show a similar, however less complex structure of virtual COM- ports and modem- ports.



- Android Phone
    - Android Composite ADB Interface - Telit
    - Anschlüsse (COM & LPT)
      - ECP-Druckeranschluss (LPT1)
      - Kommunikationsanschluss (COM1)
      - Telit Serial Diagnostics Interface 0x1201 (COM9)
      - Telit Serial NMEA Interface 0x1201 (COM10)
      - Telit Serial SAP Interface 0x1201 (COM19)
      - USB Serial Port (COM16)
      - USB Serial Port (COM3)
    - Audio-, Video- und Gamecontroller
    - Audioeingänge und -ausgänge
    - Computer
    - Diskettenlaufwerkcontroller
    - Diskettenlaufwerke
    - Drucker
    - Druckwarteschlangen
    - DVD/CD-ROM-Laufwerke
    - Eingabegeräte (Human Interface Devices)
    - Grafikkarte
    - IDE ATA/ATAPI-Controller
    - Jungo
    - Laufwerke
    - Mäuse und andere Zeigergeräte
    - Modems
      - Telit LE Family USB Modem
      - Telit LE Family USB Modem #2
    - Monitore

An Android interface and drei COM- ports are created by the USB-interface.



These serial modem are created by the USB-interface. The corresponding COM- ports are shown in the sub-menue (click the right button). In this example ports 17 and 18 are created. „Diagnostics“ allows a fast and simple functional test.

## 9. First modem settings

The use of the modem is possible with any terminal software. ConiuGo delivers its own terminal software “ConiuGo Modem Terminal” (with limited features) that is available from the product- CD. The full version of this software is also available on request.

Not only software from ConiuGo is possible to be used but also other well-known software like Telix, Hyperterminal or Commlite (also on the product- CD).

The use of the modem is done by AT- commands. The reference- manual of the AT- commands is stored on the CD that is delivered with the modem.

Some simple but often used AT- commands are explained below (all AT- without „ “, AT- commands can be put in by capital letters as well as small letters):

### **Functional test**

After sending “AT” the modem should return “OK”.

### **PIN-number**

Check by “AT+CPIN?” if a PIN-number has been already entered, or enter the PIN-number by using “AT+CPIN=“xxxx””. The PIN has to be typed in with quotation marks!

### **Signal quality**

Check the signal quality by “AT+CSQ”. With this command the physical signal quality is tested. It should be higher than 10, otherwise a data transmission can be unstable despite of a successfully booked in modem.

### **Status question**

By “AT+CREG” and “AT+COPS?” the registration status and the provider name are shown by the device.

## **10. Troubleshooting**

In case the modem still reacts you can load the standard settings of the manufacturer with the command “AT&F”. Then you have to re-start the program and adjust all settings. Please ensure that the COM- port parameters (baudrate, data bits, parity, stop bits) are correct.

Check whether other programs use the COM- port of the computer (PC). E.g., Hot-sync managers can retain control of the port and should be disabled when not in use. Restart the computer and activate only the terminal program.

### **Connection cannot be established:**

Common mistakes that may happen are:

- The modem is run at a fixed baudrate of 57.600 kBit/s (GSM/GPRS) respectively 115.200 kBit/s (UMTS) and baudrate of Terminal does not match.
- The SIM-card is not inserted into the modem.
- The PIN-number is not entered.
- The GSM Modem is not registered in the GSM network.
- The antenna is not connected, not suitable or is damaged.

## **Possible system faults**

- Another connection is active.
- The call is not answered by the receiver.
- The receiver is not a modem.
- The receiver does not support the selected parameters (“no carrier”).
- The receiver is busy.

## **Wrong screen indication**

- Unintended double characters are shown: switch off echo-mode by ATE0.
- Incorrect messages that are received from the modem: The format of the data settings has to be checked. They have to be equal for both the transmitting and receiving modem.



**In case of problems please consult our homepage or send an e-mail to: [support@coniugo.com](mailto:support@coniugo.com)**

**Please give informations regarding the following issues:**

- **Where and when bought?**
- **Which problem do you have?**
- **What was done before?**
- **Which application do you use the modem for?**