



CellularNetwork User Guide

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2 PRODUCT LIABILITY

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3 Overview

This user guide describes the feature of the license **Cellular Network** for the data loggers

- blue PiraT2
- blue PiraT2 5E
- blue PiraT Mini
- blue PiraT Remote

of MAGNA Telemotive GmbH.

This user guide describes the configuration and usage of this feature. The general configuration is described in the user guides of the used data logger as well as the Telemotive System Client, which is valid together.

This document refers to **firmware version 03.04.01** and the **Telemotive System Client** from **version 3.4.1**. Some features depending on model and feature license or may not be available in older versions.

Software updates and user guides for other, optional, licensed enhancements are available in the Telemotive ServiceCenter. (Please find the address under Contact at the last page.)

To ensure the most reliable operation of your system as possible, please make sure to use always current firmware and software versions.

Current supported UMTS sticks:

- 4G Systems | XS Stick P14

Current supported mobile networks

- Vodafone.de
- Telekom.de

Note:

The PIN of the SIM card must be deactivated mandatory. When pluggin in the device the XS manager will be installed automatically which offers the possibility for removing the pin. A manual is enclosed to the stick.

Note:

Please take care that the UMTS stick is connected directly to the logger and not to a interconnected HUB.

4 System requirements

Control Unit

A Windows based Laptop or PC is needed to configure the devices by **Telemotive System Client**. It also allows to save the recorded data and to use them offline later.

Telemotive System Client

The software client is used for configuring the data logger as well as downloading the recorded data or convert these into your needed file format. A firmware update can be performed by the **Telemotive System Client** too to ensure that your devices are always up to date.

blue PiraT2 / blue PiraT2 5E / blue PiraT Mini

The communication between bus systems and control units is monitored and relevant data can be recorded very precisely with the data logger. The collected data are stored to the logger and can be downloaded via Ethernet to a PC.

The **blue PiraT2** is our top-class all-in-one data logger. Seven models cover a wide range of interfaces.

Additionally, the **blue PiraT2 5E** offers improved power management and power backup, five integrated Ethernet ports and super-fast start-up behavior. The blue PiraT2 can be flexibly expanded via [Telemotive System Link](#).

The **blue PiraT Mini** is smallest data logger in the world with an outstanding functional scope. It offers a wide range of interfaces, stable temperature behavior, very low energy consumption, four GBit Ethernet ports, and much more. Different blue PiraT Mini can be flexibly expanded to one cluster and therefore handled very easily by using [Telemotive System Link](#).

Remote Control Touch (optional)

Operate your blue PiraT Mini or blue PiraT2 data loggers safely and comfortably from the driver's or passenger seat. Via Telemotive System Link our new remote control becomes part of your logger network. One remote control can handle all connected loggers.

blue PiraT Remote (optional)

While Remote Control Touch is just a control unit for handling unique devices or a TSL network, the blue PiraT Remote additional has logger functionality by offering internal storage and some interfaces.

License

For some additional features an installed license is required. Settings for licensed features can be performed with a valid license only.

If you need a license for your logger, please contact our sales department (please find the address under contact at the last page).

4.1 Further manuals

Beside this user guide we offer the main manuals for our client as well as for the different data logger generations in our ServiceCenter at <https://sc.telemotive.de/bluepirat>.

User manual for the Telemotive System Client

https://sc.telemotive.de/4/uploads/media/TelemotiveSystemClient_UserManual.pdf

User manual for blue PiraT2 / blue PiraT2 5E

https://www.telemotive.de/4/uploads/media/blue_PiraT2_UserManual.pdf

User manual for blue PiraT Mini

https://www.telemotive.de/4/uploads/media/blue_PiraT_Mini_UserManual.pdf

User manual for Remote Control Touch

https://sc.telemotive.de/4/uploads/media/RCTouch_UserGuide.pdf

User manual for blue PiraT Remote

https://sc.telemotive.de/4/uploads/media/blue_PiraT_Remote_UserGuide.pdf

For having an easy access if necessary, the most important manuals are linked in the client under the menu item [Help] and are reachable easily from there.

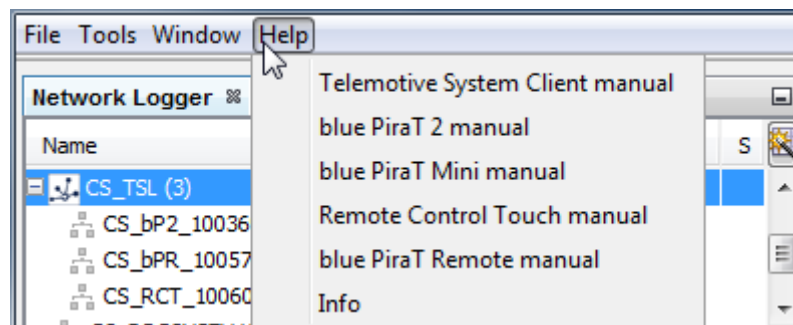


Figure 4.1: links to the manuals

Our licensed enhancements have own manuals which are stored in the ServiceCenter too. You will find a list of these enhancements in the user manuals in the chapter **Additional features by optional licenses**.

5 Configuration

The license **Cellular Network**, gives the devices the option of actively sending status messages via SMS or e-mail, thereby prompting the user promptly with feedback on events or errors. The functionality is implemented via an extension of the complex triggers.

The termination of the information on the cellular network can be initiated via all events which are possible for complex triggers too.

These events, which can be configured as triggers, are selectable as triggers for the following actions:

- Send SMS
- Send E-Mail

Attention: For reasons of cost and spam protection, an SMS or e-mail can only be sent every 60 seconds.

A detailed description about configuring the events can be found in the manual for the Telemotive System Client.

https://sc.telemotive.de/4/uploads/media/TelemotiveSystemClient_UserManual.pdf

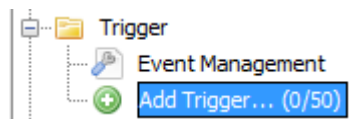


Figure 5.1: creating a new trigger

5.1 Entering a recipient

For sending an SMS / E-Mail, the **[Send SMS]** or **[Send E-Mail]** option must be configured as an action.

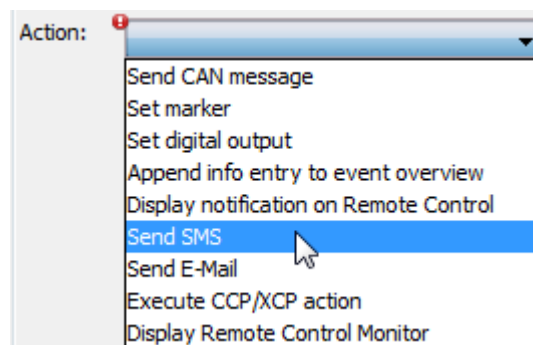


Figure 5.2: choosing the action

Figure 5.3: Entering a recipient

A recipient has to be specified at first. For sending a SMS, a valid telephone number including country code, for sending an E-Mail, a valid e-mail address must be entered.

5.2 Inserting text or elements

In the next step, the text to be sent can be entered. Here, normal text can be used or certain signals can be inserted from the logger using the **[Insert Element]** button. A total of 1500 characters (SMS) are available. For a simpler analysis, it is recommended to describe the selected elements.

E.g. For the [Logger_Status], the result is e.g. Only * OK * or * ERROR *. For a faster overview, this can be inserted with: **Logger_Status: [Logger.Status]** and then appears in the message as: **Logger_Status: OK**

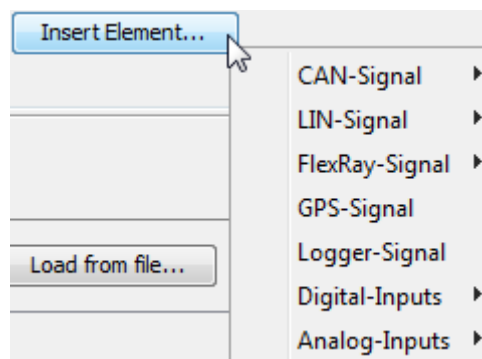


Figure 5.4: Inserting elements

Note:

When sending e-mails, you can't use as many characters in the text field as via SMS. Depending on the mobile phone provider a different numbers of characters can be used (round about 566). In addition, when sending an e-mail, the recipient(s) is written to the beginning of the message and therefore has also to be subtracted from the transferable length.

Please also note, that not every mobile phone provider offers the necessary service "sms2email" (o2 for example, does not offer this service).

5.2.1 Inserting CAN / LIN / FlexRay signals

A data base must be consigned for **CAN, LIN and FlexRay** signals in order for select these signals.

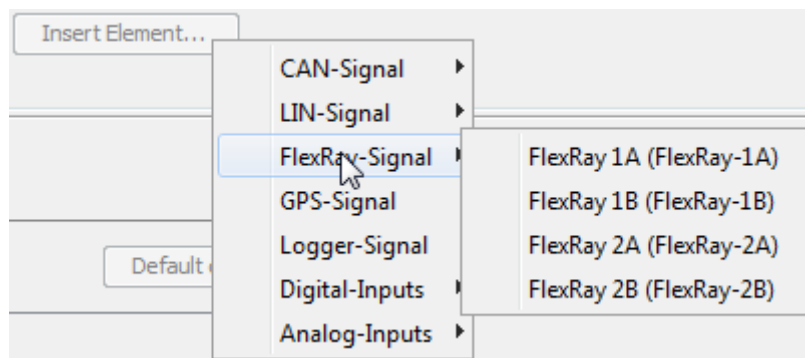


Figure 5.5: Inserting CAN / LIN / FlexRay signals

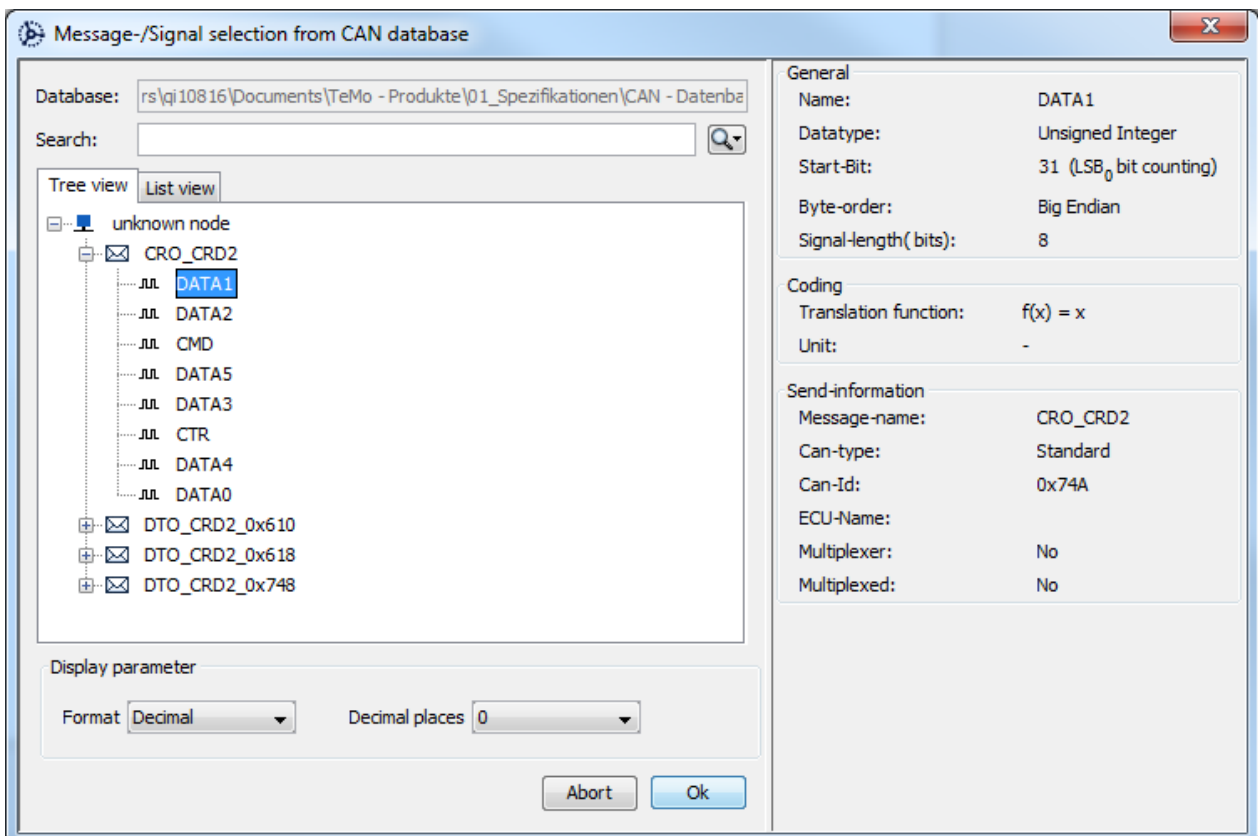


Figure 5.6: Inserting elements

5.2.2 Inserting GPS signals

For inserting **GPS signals**, the available signals are listed. They can be marked and accepted via [OK].

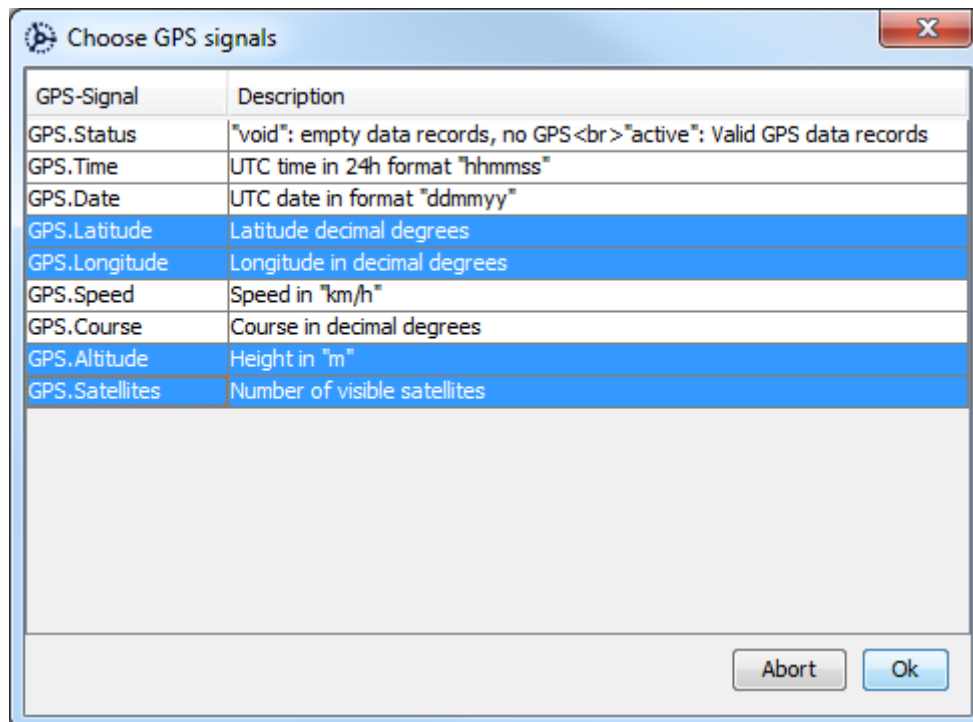


Figure 5.7: Inserting GPS signals

5.2.3 Inserting logger signals

In the same way you can select directly **logger signals**.

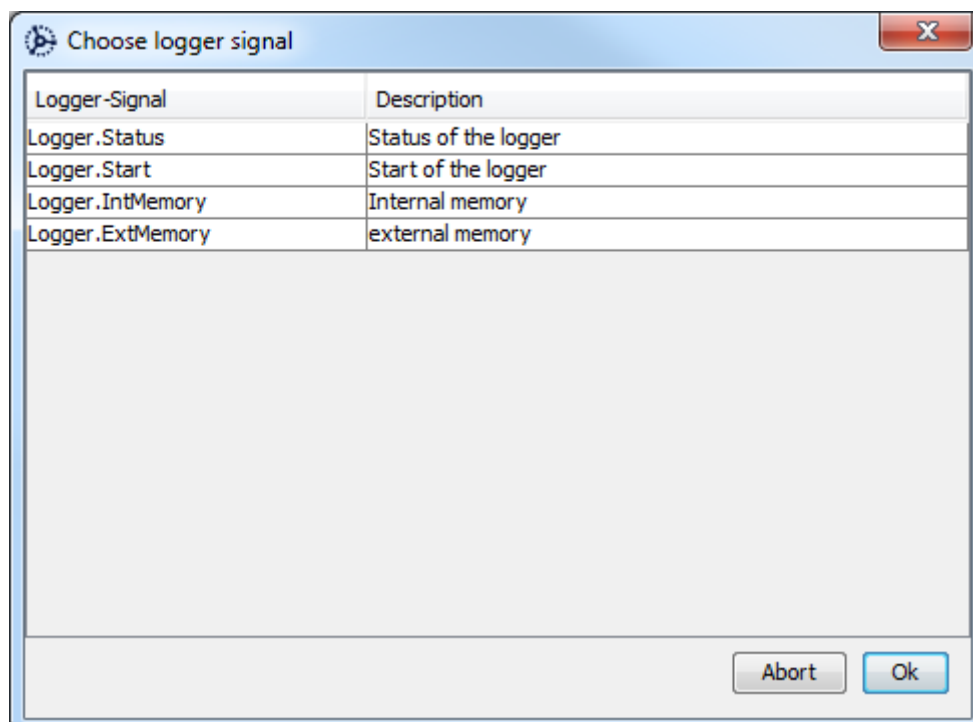


Figure 5.8: Inserting logger signals

The following signals are available for the logger status:

Signalname	Type	Description
Logger.Status	„ok“ „warning“ „mem“ „ring“ „error“	No incidents There are warnings Internal memory is full, logging is stopped Ring buffer is full, old traces are deleted Logger in fault condition
Logger.IntMemory	Double (0..100)	Fill level of the internal memory HDD, SSD, Flash
Logger.ExtMemory	Double (0..100)	Fill level of the external Speicher CF-Flash, SD-Card
Logger.Start	Bool	Logger is started The value 1.00 indicates that the logger is started
Logger.Timer	64Bit Integer	Past time in seconds since logger start or configuration change. The counter is reset to 0 after each restart or configuration change.

Table 5.1: Logger Status Signals

Here is a sample e-mail configured in the text field of a trigger.

For these logger status messages, it is useful to have a description inserted, see below.

Text:

```

Logger Status: [Logger.Status]

Logger started: [Logger.Start]

Fill level of the internal memory: [Logger.IntMemory]

Fill level of the external memory: [Logger.ExtMemory]

Past time in seconds since logger start or configuration change: [Logger.Timer]
  
```

Figure 5.9: Configured logger signals in the trigger text field

E-Mail:

```

Logger: bPMini_4
S/N: 1007419
Status: Ring
Disk: 100%
  
```

```

Logger Status: Ring
Logger started: 1.00
Fill level of the internal memory: 100.00
Fill level of the external memory: 97.00
Past time in seconds since logger start or configuration change: 13.00
  
```

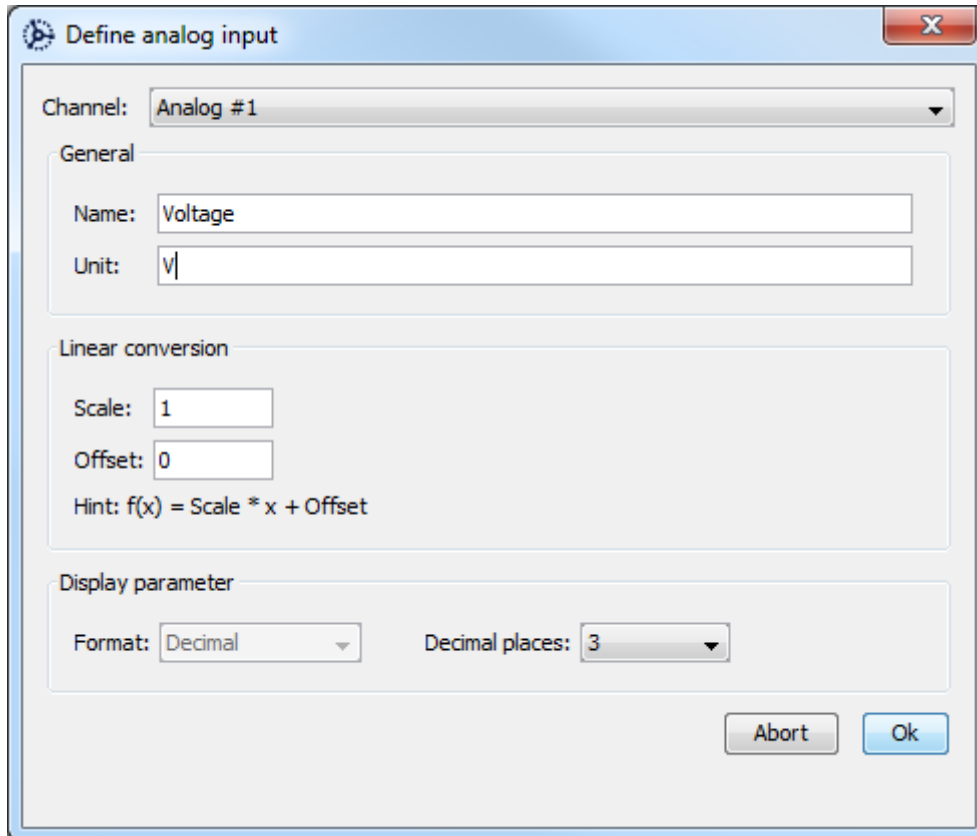
Figure 5.10: Content of a status message e-mail

The values of the fill level of the internal and external memory are percentages.

5.2.4 Inserting digital / analog signals

From the **Digital input**, the current status 0 or 1 will be submitted.

The input signal from the **Analog input** can be configured by the following mask:



Define analog input

Channel: Analog #1

General

Name: Voltage

Unit: V

Linear conversion

Scale: 1

Offset: 0

Hint: $f(x) = \text{Scale} * x + \text{Offset}$

Display parameter

Format: Decimal

Decimal places: 3

Abort Ok

Figure 5.11: Define analog inputs

At last, the configuration must be sent to the logger and is directly active. As soon as the configured event occurs, the information is sent.

5.2.5 Status messages of the logger

For each sent SMS or e-mail, the status of the logger and the memory fill level of the internal hard disk are displayed in the header:

Logger: bPMini_4
S/N: 1007419
Status: OK
Disk: 15%

6 Abbreviations

Kürzel / abbreviation	Bedeutung / meaning
blue PiraT	Processing Information Recording Analyzing Tool
bP	blue PiraT
bP2	blue PiraT2
bP2 5E	blue PiraT2 5E
bPMini	blue PiraT Mini
RC Touch	Remote Control Touch
bP Remote	blue PiraT Remote
A2L	ASAM MCD-2 MC Language
AE	Automotive Electronics
ACK	ACKnowledged
CAN	Controller Area Network
CCP	CAN Calibration Protocol
CF	Compact Flash
CRO	Command Receive Object
DAQ	Data Acquisition
DTO	Data Transmission Object
ECL	Electrical Control Line
ECU	Electronic Control Unit
FIBEX	Field Bus Exchange Format
FW	Firmware
GMT	Greenwich Mean Time
INCA	INtegrated Calibration and Application Tool
LAN	Local Area Network = Netzwerk
LIN	Local Interconnect Network
MAC	Media Access Control
MCD	M ea s ure C alibrate D iagnose
MDX	M eta D ata E Xchange Format
MEP	MOST Ethernet Packet
MOST	Media Oriented Systems Transport (www.mostnet.de)
ODT	O bject D escriptor T able
ODX	O pen D ata E Xchange
OEM	O riginal E quipment M anufacturer

PHY	PHY sical Bus Connect
PW	Passwort
RX	Receiver Data
SD	Secure Digital
SFTP	Secure File Transfer Protocol
SHA	Secure Hash
SSL	Secure Sockets Layer
TCP/IP	Transmission Control Protocol/Internet Protocol
TLS	Transport Layer Security
TMP	Telemotive Packetformat
TSA	Telemotive System Access
TSL	Telemotive System Link
UDP	User Datagram Protocol
USB	Universal Serial Bus
UTC	Universal Time, Coordinated
Wi-Fi	Wireless Fidelity
WLAN	Wireless Local Area Network
XCP	Universal Measurement and Calibration Protocol

Table 6.1: Abbreviations
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