TC Plus
Operating Instructions

Overview

Display

Turnkey

Terminal
screw cover

Types and Scope of Delivery

TC Plus analog	700 902 000
TC Plus EIB analog	700 903 000
each with	
operating instructions	293 500
quick guide to initial operation	293 516
CD-ROM with PC software	214 017
Connection cord analog	11 000 630
Connection cord RS 232	11 010 705

TC Plus ISDN	700 902 200
TC Plus EIB ISDN	700 903 200
each with	
operating instructions	293 500
quick guide to initial operation	293 516
CD-ROM with PC software	214 017
Connection cord ISDN	11 010 704
Connection cord RS 232	11 010 705

TC Plus GSM	700 902 400
TC Plus EIB GSM	700 903 400
each with	
operating instructions	293 500
quick guide to initial operation	293 516
CD-ROM with PC software	214 017
GSM antenna	290 489
Connection cord RS 232	11 010 705

Accessory (optional)

Handset HS   700 900 042
All given announcements of the TC Plus can
be individually recorded with the handset HS.

Receiver   700 900 094
Pocket dialer   700 900 095
The pocket dialer transmits coded switching
signals per radio to the receiver. The receiver
is inserted into the module of the TC Plus and
activates the alarm inputs 1 to 3.
Patient or seniors SOS calls are typical appli-
cations of the pocket dialer and the receiver.

Uninterruptible Power Supply
NV 2 TC   700 900 039
In case of a power failure, the uninterruptible
power supply NV 2 TC keeps the TC Plus
going for 60 h.

Additional-accumulator for NV 2 TC
     241 008
12 V; 6.5 Ah; in case of a power failure, the
additional accumulator for NV 2 TC keeps the
TC going for 60 h.

Table of Contents

1 General Function

The TC Plus is being offered in different types (analog, ISDN, GSM) with and without EIB module. These operating constructions apply to all types.

The TC Plus is an alarming and remote switching device by which up to 6 conventional devices can be switched via telephone. All settings will be saved in case of a power failure – **except for time and date**. The behavior of the exits in case of a power failure can be set (after return of the power voltage: ON, OFF or restoring the switching state before the power failure). Conventional relays or current-impulse switches can be connected to the switching outputs.

Furthermore, the TC Plus is sending messages to selected participants (cf. phone numbers). These messages are activated by up to 6 contacts (sensors) which are connected to the alarm inputs (N1 to N6). At each of the inputs break or make contacts can be installed.

Additionally, when connected to EIB, up to twenty communications objects can be controlled and up to 6 EIB-alarms can be processed.

Should given messages – send off by the alarm inputs M1 to M6 or by EIB – not be confirmed, then a local alarm exit will be switched.

The controlling will either be performed with a DTMF telephone (DTMF = Dual-tone multi-frequency) or with a DTMF pocket dialer (optional). In case of an answering machine being used at an analog connection (AB mode), either the answering machine or the TC Plus can be addressed. Individual user data are easy to program.

The TC Plus is operated by turnkey. Operation is supported by plain texts on a 20 character 4 line alphanumeric LCD field and also by announcements (cf. pp. 78, 79). The user can choose among 6 display languages for the messages.

The respective software is enclosed in the scope of delivery and supports comfortable configuration. The PC must have a serial interface. Messages are transferred exactly to the selected participants by announcements, SMS, e-mail, or fax. The number of dial attempts (0 to 12) can be set.

The announcements can be individually recorded by the user. In order to do this, the handset (optional) with the 4-way RJ connector has to be inserted in the socket (see figure on page 10). The examples shown in chapter "Function" will explain the operation.

2 Functional Principle of the Three Types

2.1 Operation with the Analog Network (TC Plus analog, TC Plus EIB analog)
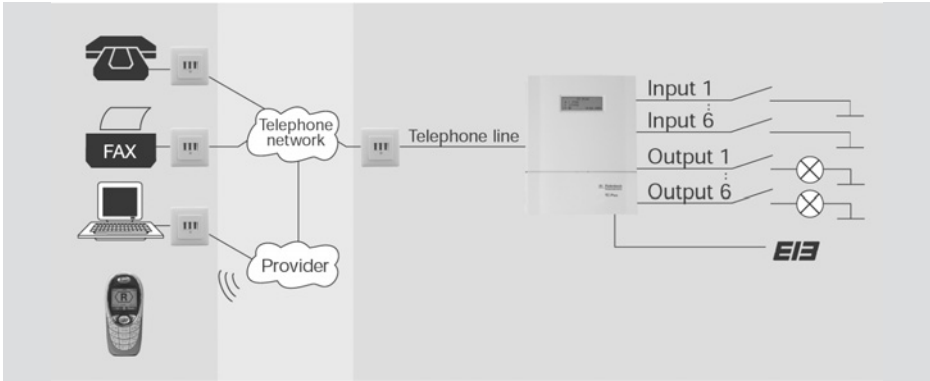
The above scheme shows the use of the TC Plus with the analog telephone network. Alarm messages are transmitted via telephone line to the telephone network and from there, according to message type, forwarded as announcement or fax. There are only the usual phone costs with the network provider. e-mail and SMS are transmitted by a pre-selected provider. Costs will depend on the provider's rates.

2.2 Operation with the ISDN (TC Plus ISDN, TC Plus EIB ISDN)
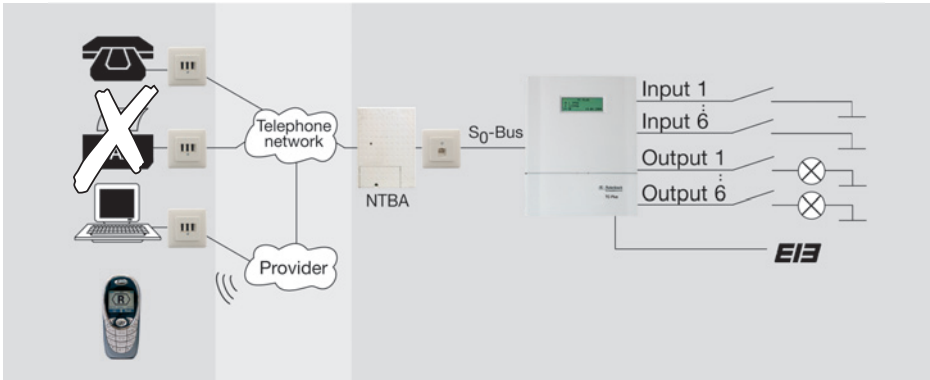
The above scheme shows the use of the TC Plus with the ISDN.
Alarm messages are transmitted via S_0-bus to the telephone network and from there, according to message type, forwarded as announcement to the desired participant.

There are only the usual phone costs with the network provider. e-mail and SMS are transmitted by a pre-selected provider. Costs will depend on the provider's rates.
The TC Plus ISDN as well as the TC Plus EIB ISDN can be operated by an internal S_0-bus of a PABX.

⚠ Please note, that in this mode of operation it is not possible to send an alarm message, because no provider offers this service.

2   Functional Principle of the Three Types

2.3   Operation with the Mobile Network
      (TC Plus GSM, TC Plus EIB GSM)
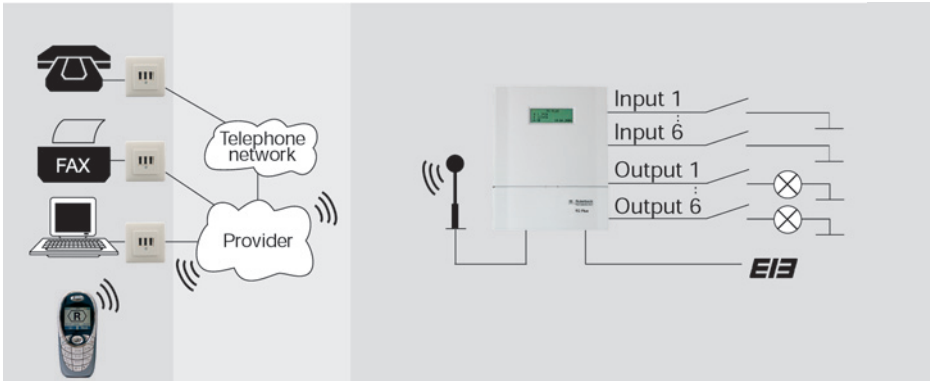
The above scheme shows the operation of the TC Plus with the mobile network.
Alarm messages are transmitted via your SIM card's provider and from there, according to message type, forwarded as announcement to the telephone network or as fax, e-mail, or SMS transmitted via provider. Costs will depend on the provider's rates.

3   Installation

3.1   Wall Mounting

The TC Plus must be installed in dry areas with ambient temperatures between -5 °C and +45 °C. For mounting the TC Plus analog and the TC Plus ISDN there should be a telephone wall socket near-by. Before mounting a TC Plus GSM you should first check with your mobile phone where there ist sufficient radio reception; and then mount the TC Plus there.

The TC Plus will be delivered with two dowels and two screws. Easy wall mounting is, therefore, possible.

1 Mark the drill holes perpendicular adjusted at a distance of 193 mm.
2 Drill two holes (6 mm diameter) and insert the dowels.
3 Tighten the upper screw until its screwhead sticks out about 5 mm.
4 Hang the TC with the upper mounting support onto the screw.
5 Pull down the terminal screw cover.
6 Tighten the lower screw in the terminal screw area.

3 mm distance min.

103

27

193

X1 X2 ABS
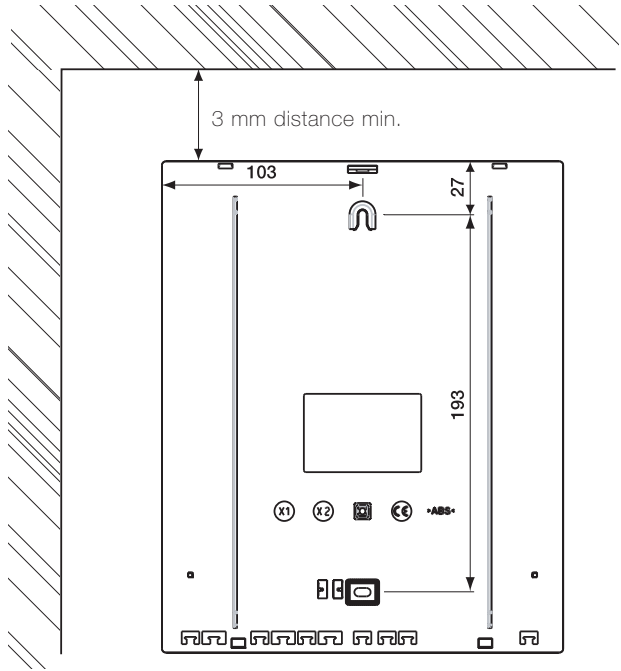
3.2   Connections

3.2.1   Connection of Power Supply

Alternative connection to power supply by screw terminals (e. g. using an uninterruptible power supply)

1 In case of an alternative power supply (12 V DC) of the TC Plus by scew terminals the plug power supply must not be inserted.
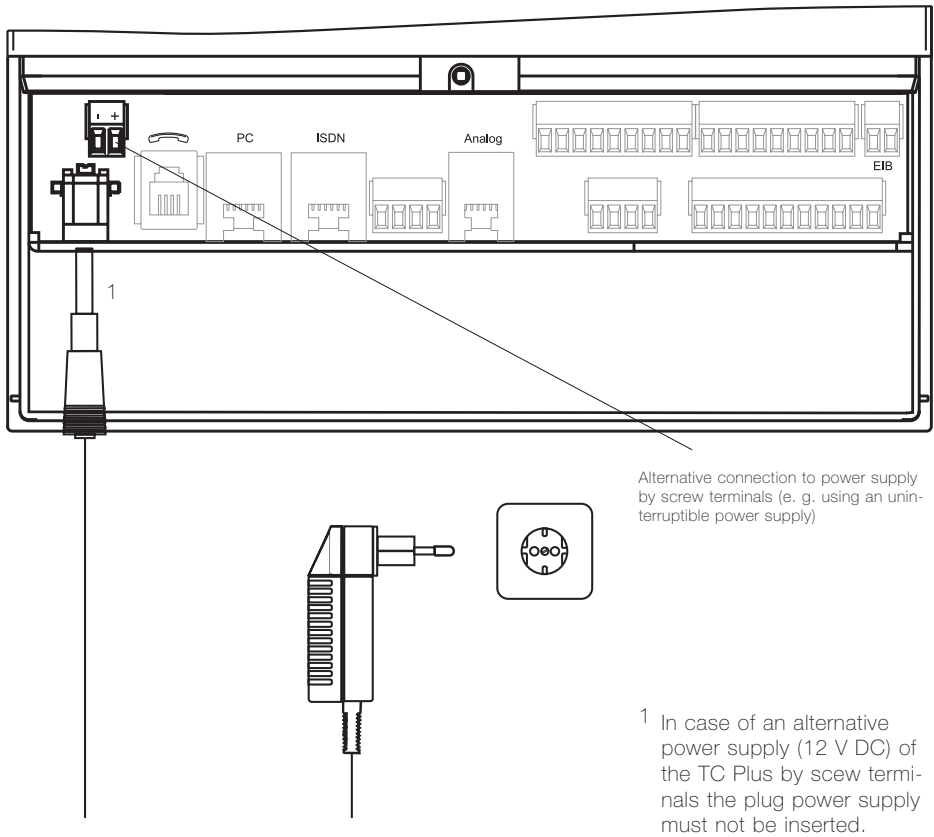
3.2.2 Connection to Network Provider

3.2.2.1 Connection to the Analog Network

Handset (optional)

RS 232

alternative connection to the telephone line

PC

telephone

answering machine
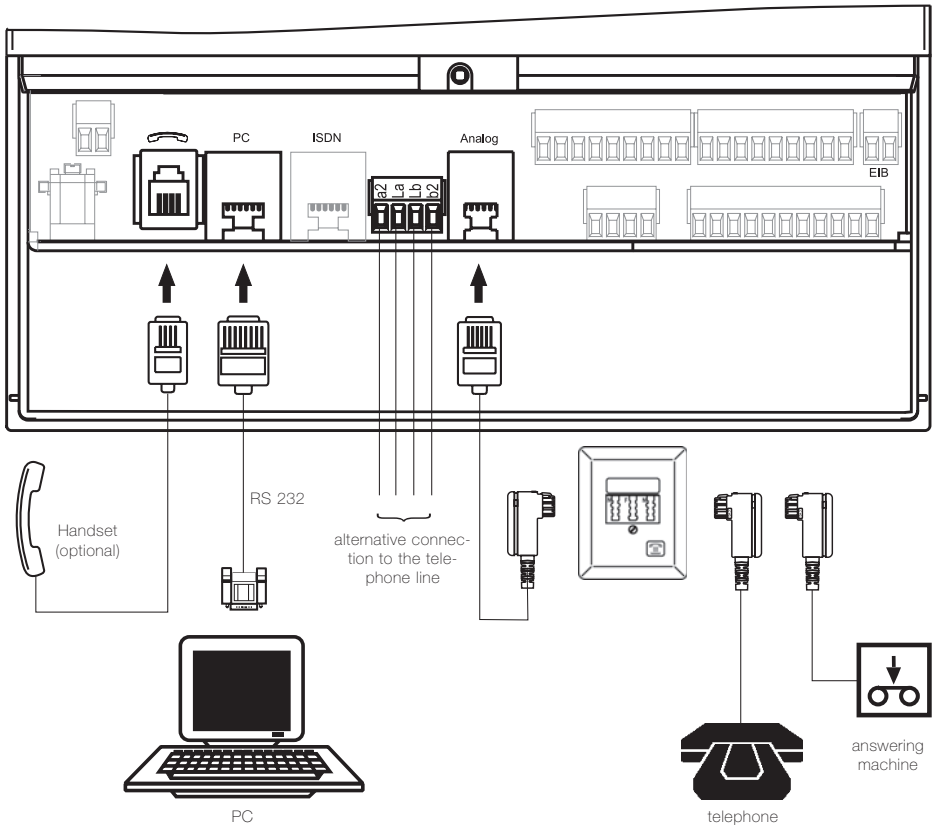
3.2.2 Connection to Network Provider

3.2.2.2 Connection to ISDN

to plug connection
(alternative)

S_0-Bus

telephone
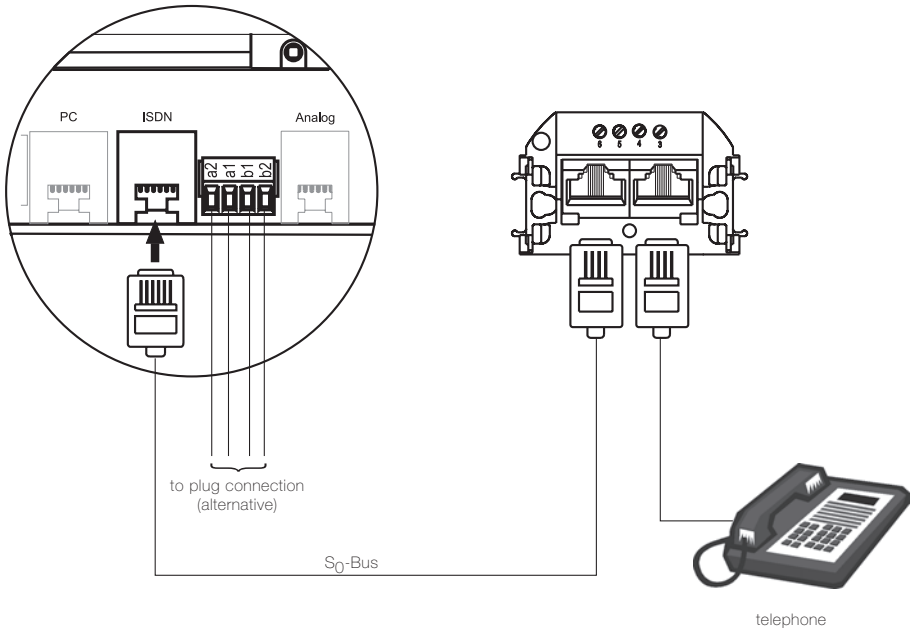
3.2.2 Connection to Network Provider

3.2.2.3 Connection to the Mobile Network (GSM)
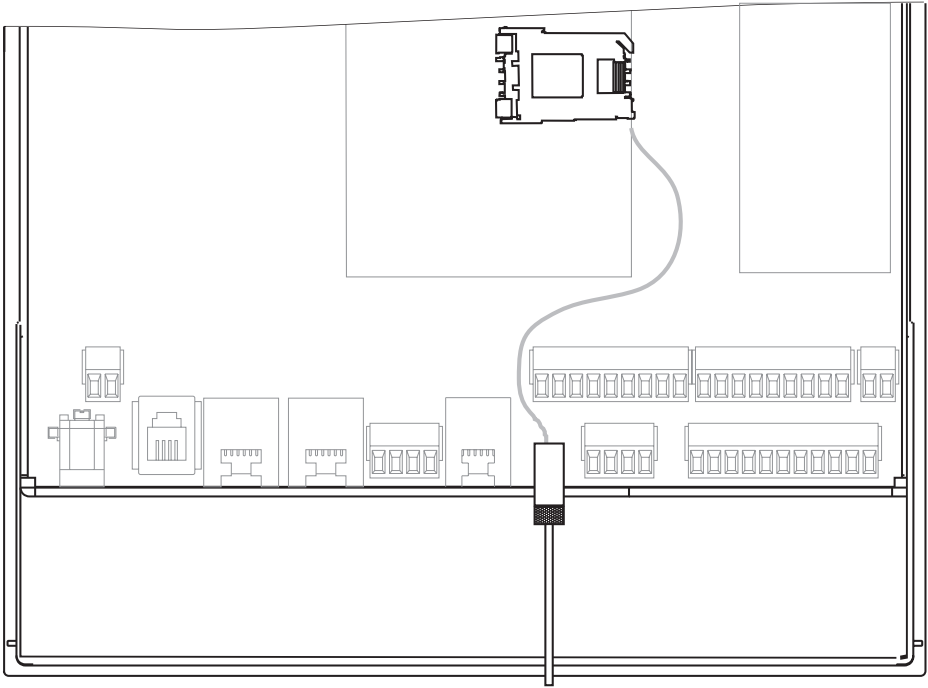
To operate the GSM type the following steps are necessary:

1 Separate the TC Plus GSM from the power supply and remove the case cover.

2 Connect the antenna to the appropriate socket (figure 1, white circle).

3 Open the lid of the SIM card holder (figure 2) on the module of your TC Plus GSM by moving the snap-fit (arrow) to the left.

4 Insert the SIM card into the lid in such a way that the contact surfaces are visible
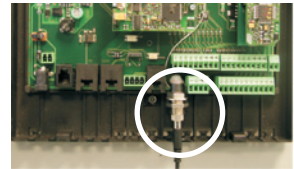
Figure 1
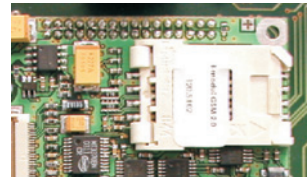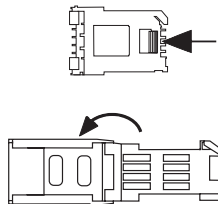
Figure 2

3.2.2 Connection to the Provider

3.2.2.3 Connection to the Mobile Network (GSM)

and that the belevelled corner points to the upper left corner (figure 3).
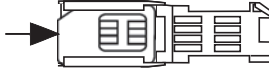
5 Close the lid (figure 4) and move the snap-fit to the right (arrow).
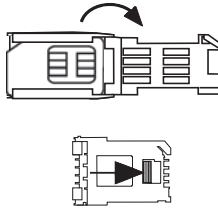
Figure 3

6 Connect the TC Plus GSM to the power supply. The blinking message "Please wait" will appear on the display.

Figure 4

Please wait
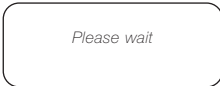
Further steps will depend on whether you have already entered the correct PIN number or whether the default PIN number is still saved.
According to status, follow the respective directions (7.1, 7.2 or 7.3) on the following page.

Explanation of the symbols used on the following page (see also p. 36, "Configuration by turnkey")

Turn the turnkey until the desired display is reached.

Press the turnkey once the cursor is in the right position.

3.2.2 Connection to Network Provider

3.2.2.3 Connection to the Mobile Network (GSM)

7.1 You have already saved the correct PIN number:
After app. 30 s initialization time the display of the TC Plus GSM changes and you can go on with step 8 of this chapter.

7.2 You have entered a wrong PIN number:
In case of a wrong PIN number the following display is shown:

```
PIN number is wrong
Please press push-button
```

Then you can enter the PIN number again. After the third attempt the display will read:

```
SIM card is blocked
```

It must be de-blocked via mobile phone using the PUK number which has been enclosed by your provider.

7.3 You have not entered the PIN number of your SIM card yet:
After app. 30 of initialization time you will be asked to enter the PIN number for your SIM card. This number can have 4 to 8 digits:

```
PIN NUMBER
   ▮
save          cancel
```

```
PIN NUMBER
   _
save          cancel
```

```
PIN NUMBER
   1
save          cancel
```

```
PIN NUMBER
   1_
save          cancel
```
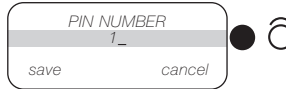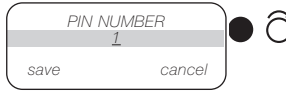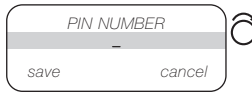
Now enter the remaining digits of your PIN number in the same way and select "save".

```
PIN NUMBER
   12345678
save          cancel
```

```
PIN NUMBER
   12345678
save          cancel
```
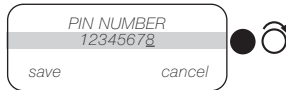
In case the PIN used for your SIM card has not been activated yet on you mobile phone, the PIN number will not be requested by the TC Plus. Continue with step 8 of this chapter.

8 After having entered or changed your PIN number the display will read:

```
        TC Plus      ⌅ 56
  O
  I
00:04        Sa 27.11.04
```

Now check the field strength using the display. It is shown next to the antenna symbol in the upper right corner of the display. The 2-digit value can range between 00 and 99 (maximum). This value

changes in steps of 4 when adjusting the antenna. Faultless functioning is already guaranteed at a field strength of 04.
The field strength is being determined once a minute and displayed.
It can also be requested by pressing the turnkey.

```
        TC Plus      ⌅ 00
  O
  I
08:14        Sa 27.11.04
```

```
        TC Plus      ⌅ 56
  O
  I
08:16        Sa 27.11.04
```

If there is no SIM card in the card holder when switching on the GSM type the following message appears on the display: "No SIM card".
After having inserted the SIM card you have to reset the TC Plus.
If the SIM card is being removed during operation the TC Plus shows the message "No SIM card" and the local alarm is sent off. The state display of the inputs and outputs will be kept.

⚠ Older 5-V SIM cards will not be accepted by the TC Plus.

⚠ When connecting the antenna, observe that the antenna wire of the adapter is very sensitive and may break easily.

3.2 Connections

3.2.3 Assignment of the Inputs

as M1

potential-
free con-
tacts for
alarm inputs
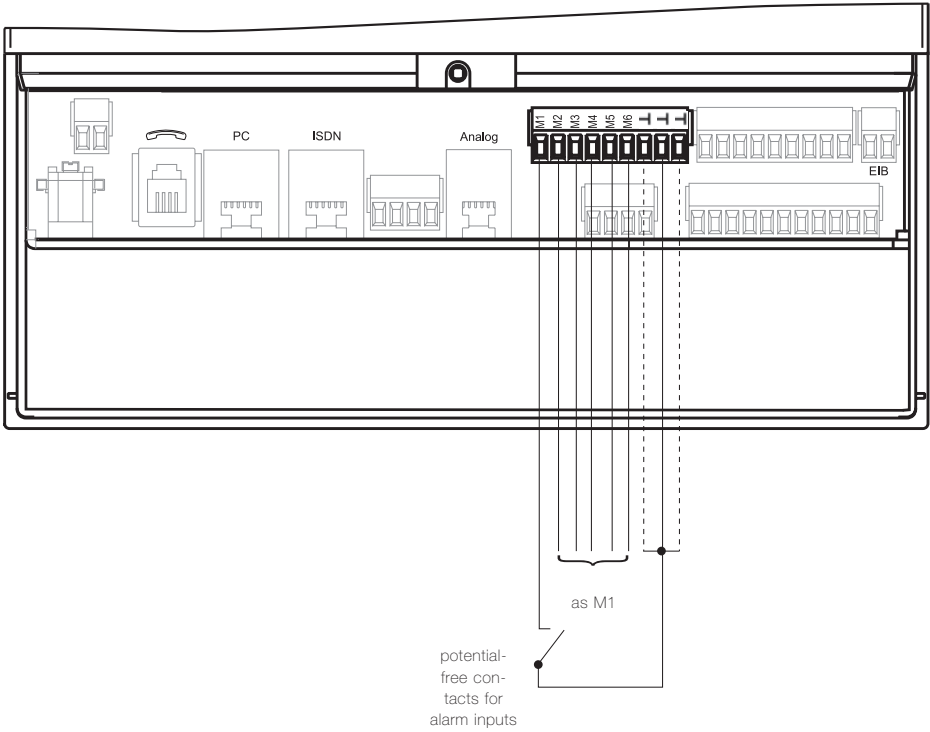
Between the connecting terminals M1 and ⊥ (mass potential) the desired switching contact is being connected. The voltage of the alarm input M1 in idle mode is 3.3 V. If the input is configurated as make contact, the desired action will be performed by the TC Plus when making the contact. If the input is configurated as break contact, the desired action will be performed by the TC Plus when breaking the contact.

3.2 Connections

3.2.4 EIB Assignment

to installationbus EIB
(EIB type only)
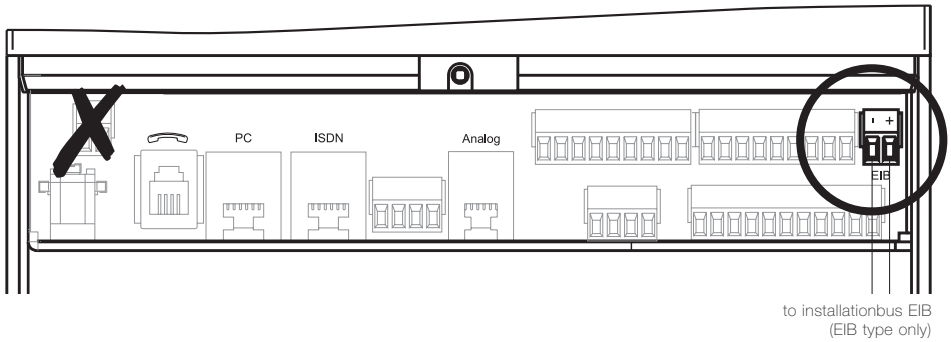
⚠ Please note, that the installation bus EIB is connected at the screw termi- nals marked with EIB. When connecting the EIB at the screw terminals of the power supply, a protection diode is destroyed and the TC Plus is no longer functioning.

3.2.5 Connection to External Alarm Confirmation Push-Button

external alarm confir-
mation push-button
(optional)
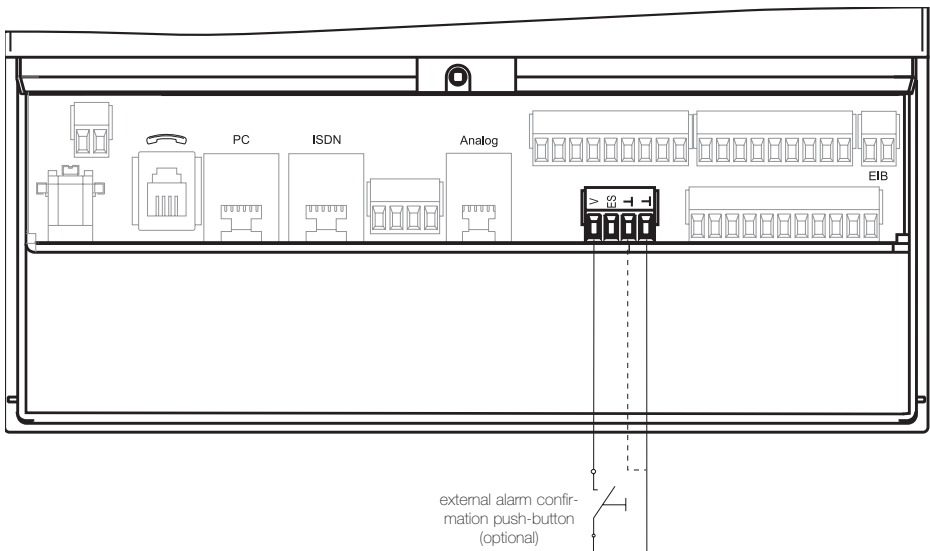
Using the external alarm con- firmation push-button you can locally reset the alarm, i. e. the alarm message can be stopped manually. By pressing the external alarm confirmation push-button all alarms having occurred so far will be confir- med.

3.2   Connections

3.2.6   Transparent Switching

potential-free switch
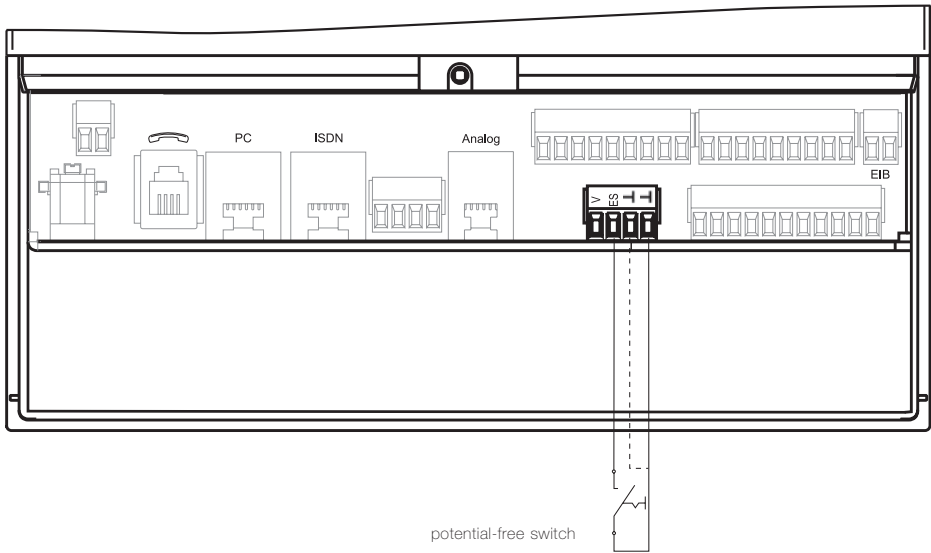
By closing an external potential-free switch the TC Plus is switched transparent, i. e. without function. It has neither the function of remote switching nor the function of alarming.

The message "Switched off" will appear on the display of the TC Plus. The state of the active inputs and outputs will stay on the display.

3.2 Connections

3.2.7 Switching Output Assignment

conventional device (230 V)

relay 12 V DC (100 mA)

as A6
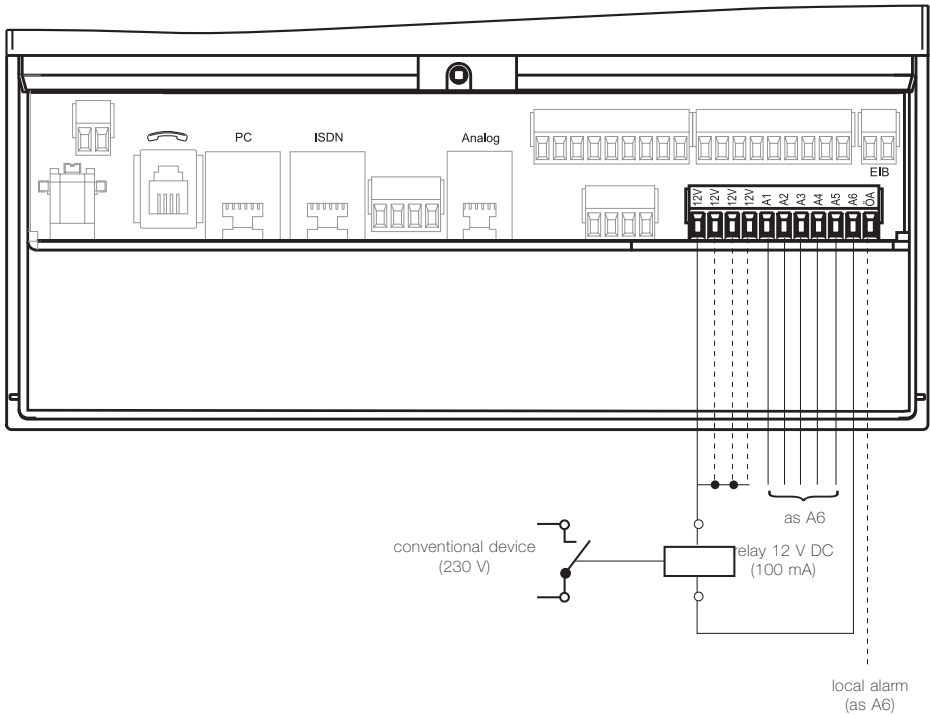
local alarm (as A6)

The TC Plus provides 6 outputs with 12 V DC. Via relays 6 conventional devices and, additonally, 1 local alarm detector can be connected. Using the enclosed plug power supply (15 W; 1.25 A) these relay outputs are able each to carry 200 mA at the maximum and they are short-circuit proof. Current consumption of the control relay should not exceed 100 mA. In idle mode current consumpti-

on of the TC Plus amounts to app. 150 mA.
The outputs consist of open-collector outputs of transistors. Between the terminal screws +12V and A1 a relay coil is switched on. When switched on, the output A1 is connected to ground. When switched off, it has an undefined potential.

When switching the outputs, please observe that the provided plug power supply has a maximum performance of 1.25 A.

3.2   Connections

3.2.8   Operation with Current-Impulse Switches

conventional device
(230 V)

current-
impulse
switch
12 V DC

as A1

push-button for
manual switching
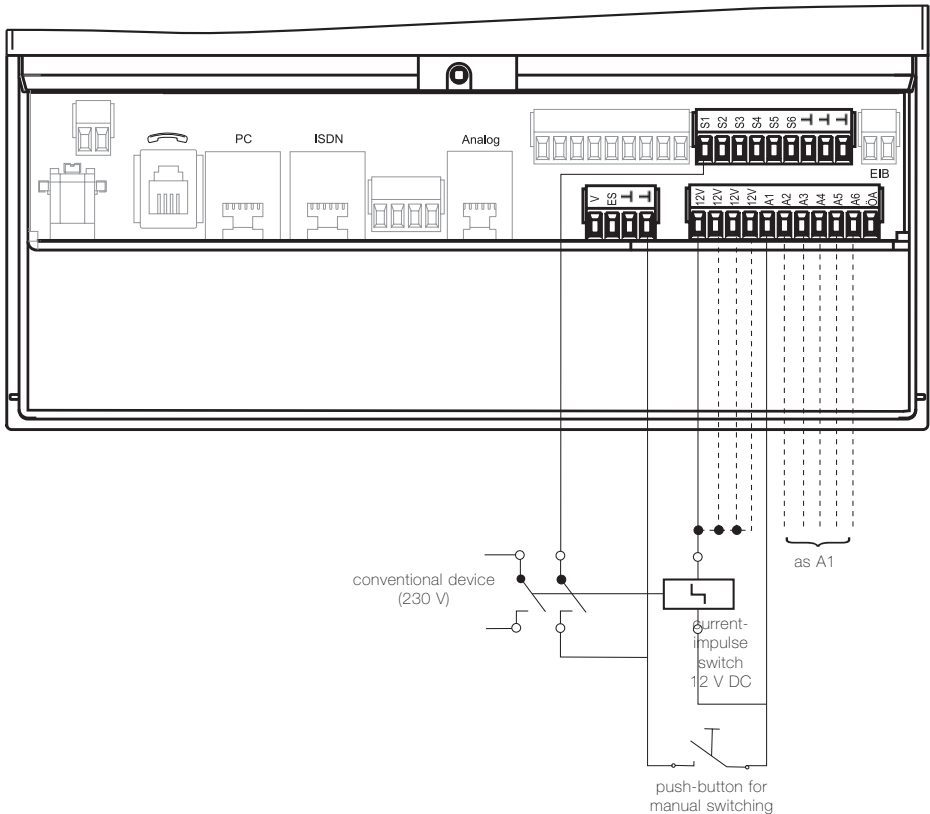
The TC Plus is drafted for switching electrical devices by telephone. Each switching process by telephone is saved in the TC Plus. And on request, the announcement is made, whether the connected devices are switched on or off.
For some applications the installation of an additional local switching possibility is usefull or even necessary. For example, a motion detector at a vacation home can be switched on by telephone from the distance and at arrival at the home switched off by pushing the (locally) installed external alarm push-button.
By appropriate settings in the menu, the switching outputs A1 to A6 are configurated as current-impulse outputs. Current-impulse switches with 2 make contacts or change-over contacts should be used in order to transmit the present switching state of the current-impulse switches to the input by way of these make contacts or change-over contacts. The inputs S1 to S2 render the correct switching state of the current-impulse switches. This is important because the announcements are referring to the respective states of the inputs (S1 to S6) and not directly to the states of the switching outputs (A1 to A6).

3   Installation

3.3   Initial Operation

⚠ Before working on the installation, unplug the power supply. Changes at the TC Plus are only possible if done within the limits and according to the description in this manual. The installation must be carried out professionally. Please take into account, that the performance of the TC Plus with PABXs can be improved, in case of a power failure, if the TC Plus is installed before the PABX or if there is an uninterruptible power supply guaranteed.

1   Connect the conventional devices (A1 to A6 and ÖA), according to the diagram on page 18.

2   For operation by current-impulse switches connect the devices to the outputs (see p. 14) and configurate the outputs in the menu as described on pp. 35, 49.

3.1 In case of analog phone operation insert the plug of the telephone line into the telephone wall socket.

3.2 In case of ISDN operation insert the plug into the assigned outlet (socket RJ 45).

3.3 In case of GSM operation connect the antenna and insert the SIM card, as described on pp.12, 13.

4   Plug power supply into 230 V outlet or connect the external power supply to "+" and "-". After having plugged in the power supply the message

```
        Please wait
```

will appear on the display. The display is blinking for some seconds and then it will change to:

```
          TC Plus
   O
   I
  00:00      Sa 27.11.04
```

Now the TC Plus is ready for operation.
When using a TC Plus EIB the connection of the EIB component can be seen from the respective provider's manual and from the chapter "Configuration of the EIB".

4   Settings

4.1   Operating Element

The performance features of the TC Plus can be adjusted as desired. All settings (except for time and date) will be restored in case of a failure of the 230 V network.
Before initial operation a few necessary parameters are to be programmed:
The setting is done by turnkey. By turning the turnkey the parameter which is supposed to be set changes its value or its position. By pressing the turnkey the changed parameter is fixed or the setting is confirmed.
In case of ON/OFF settings the value changes each time the turnkey is pressed.
By pressing the turnkey you can also confirm a reported alarm.

4.2   Display

The user guide of the TC Plus is supported by a 4 line 20 character display.
There the following informations can be read:

```
        TC Plus      ⌇56
   O 12       1
   I    4           678  0
  08:15        Sa 27.11.04
```

- First line:
  device digit
  state massage (e. g. "line failure")
  In case of a TC Plus GSM: additionally, the field strength between "00" and "99"

- Second line:
  switched outputs (A) in the following sequence:
  conventional devices (1 to 6)
  space
  EIB outputs (1 to 10)
  inactive outputs are not being displayed

- Third line:
  switched inputs (E) in the following sequence:
  conventional devices (1 to 6)
  space
  EIB outputs (1 to 10)
  inactive outputs are not being displayed

- Fourth line:
  time, day and date

4.3   Default Settings

The TC Plus will be delivered with the following settings:

- Amount of dial attempts: 12
- Code number: 0000
- 1st to 5th CLIP number: none
- Amount of ringing signals: 2
- Line access number: x (= none)
- Dial tone recognition: Off
- Pause: 0
- EIB module: Off*
- Display language: English
- Answering machine mode: Off
- Announcement texts: are given (see page 78 and 79)

The TC Plus analog, in addition, has the following default setting:
- Dialing method: DTMF

The TC Plus GSM, in addition, has following default setting:
- PIN number: 0000

---

*   For the types TC Plus EIB the default setting is "EIB module On".

This chapter shows the menus for the user guide of the TC Plus. It is supposed to help you find certain setting elements.
In general, all settings can be performed on the PC (see p. 45) and can be transmitted to the TC Plus via the serial interface.
The procedures described below are suited for small changes performed locally or in case there is no PC available.

A summary of all possible setting items you will find at the end of this chapter (see pp. 34, 35).
The menu is being activated by turning the turnkey in either direction.

TC Plus

SETTINGS	
Initial settings	s. page 23
back	
Announcements	s. page 30
Inputs	s. page 31
PC programming	s. page 43
Switching outputs	s. page 32
Alarm memory	s. page 33
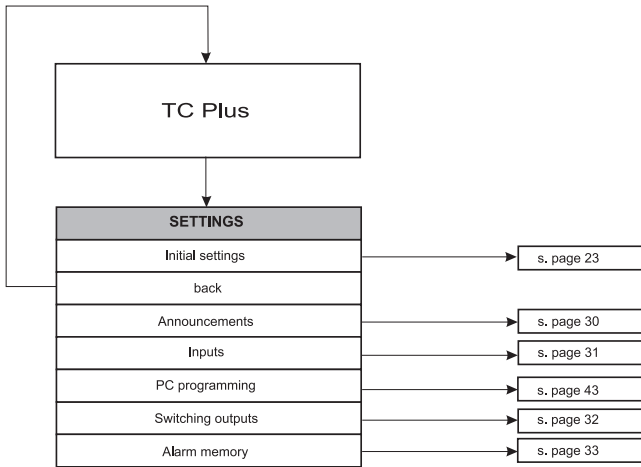
5   Display Menu Guide

5.1   Initial Settings

```
┌─────────────────────────────────┐
│                                 │
│           TC Plus               │
│                                 │
└─────────────────────────────────┘
```

```
┌─────────────────────────────────┐
│           SETTINGS              │
├─────────────────────────────────┤
│         Initial settings        │
└─────────────────────────────────┘
```

INITIAL SETTINGS	
Answ.mach.mode On/Off	→ Changing of the mode
back	
Dial attempts	→ Setting of amount
Code number	→ Setting of a 4-digit code number
CLIP number	→ Setting of 5 CLIP numbers
Ringing signals	→ Setting of ringing signals
Provider list	→ s. page 24-25
Factory defaults	→ Loading of factory defaults
Telephone options	→ s. page 26-28
Time/Data	→ s. page 29
EIB-module On/Off	→ Changing of the mode
Display language	→ Selection from 6 languages

5.1 Initial Settings

5.1.1 Provider for Analog and ISDN Telephone Mode

```
                    ┌──────────────────────────┐
                    │                          │
                    │        TC Plus           │
                    │                          │
                    └──────────────────────────┘

                    ┌──────────────────────────┐
                    │        SETTINGS          │
                    ├──────────────────────────┤
                    │      Initial settings    │
                    └──────────────────────────┘

                    ┌──────────────────────────┐
                    │    INITIAL SETTINGS      │
                    ├──────────────────────────┤
                    │          back            │
                    ├──────────────────────────┤
                    │      Provider list       │
                    └──────────────────────────┘

                    ┌──────────────────────────┐
                    │        PROVIDER          │
                    ├──────────────────────────┤
                    │      Provider 1          │
                    ├──────────────────────────┤
                    │          back            │
                    ├──────────────────────────┤
                    │      Provider 2          │
                    ├──────────────────────────┤
                    │      Provider 3          │
                    ├──────────────────────────┤
                    │      Provider 4          │
                    └──────────────────────────┘
```

After having selected a provider, the name of the provider will be displayed instead of "Provider x"

```
                    ┌──────────────────────────┐
                    │   PROVIDER SELECTION     │
                    ├──────────────────────────┤
                    │     No Provider          │
                    ├──────────────────────────┤
                    │          back            │
                    ├──────────────────────────┤
                    │     D1 T-Mobile          │
                    ├──────────────────────────┤
                    │     D2 Vodafone          │
                    ├──────────────────────────┤
                    │     E Plus               │
                    ├──────────────────────────┤
                    │  T-Com Festnetz SMS      │
                    ├──────────────────────────┤
                    │     KPN                  │
                    ├──────────────────────────┤
                    │     Swisscom             │
                    ├──────────────────────────┤
                    │     Anny Way             │
                    └──────────────────────────┘
```

More information about the up-to-date provider list you will find in the www or calling the hotline.

5.1 Initial Settings

5.1.2 Provider for GSM Mode

```
┌─────────────────────────────────┐
│                                 │
│            TC Plus              │
│                                 │
└─────────────────────────────────┘

        ┌──────────────────────┐
        │      SETTINGS        │
        ├──────────────────────┤
        │   Initial settings   │
        └──────────────────────┘

        ┌──────────────────────┐
        │   INITIAL SETTINGS   │
        ├──────────────────────┤
        │        back          │
        ├──────────────────────┤
        │  Provider selection  │
        └──────────────────────┘

        ┌──────────────────────┐
        │      PROVIDER        │
        ├──────────────────────┤
        │ E-mail index number  │
        ├──────────────────────┤
        │        back          │
        ├──────────────────────┤
        │  Fax index number    │
        └──────────────────────┘

              ┌──────────────────────┐
              │    INDEX NUMBER      │
              ├──────────────────────┤
              │    save/cancel       │
              └──────────────────────┘
```
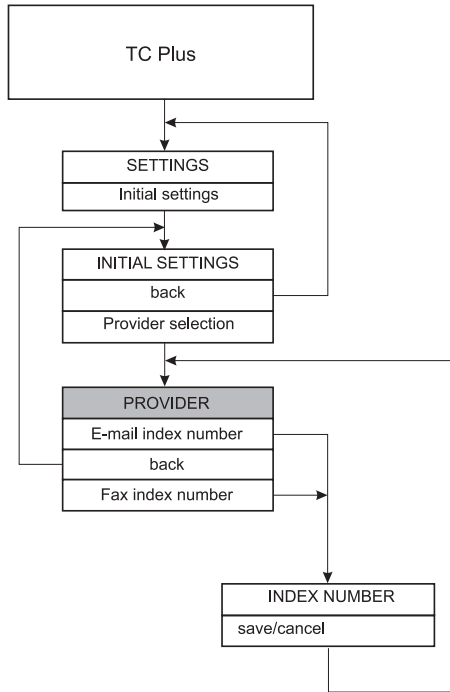
5.1 Initial Settings

5.1.3 Telephone Options for Analog Mode
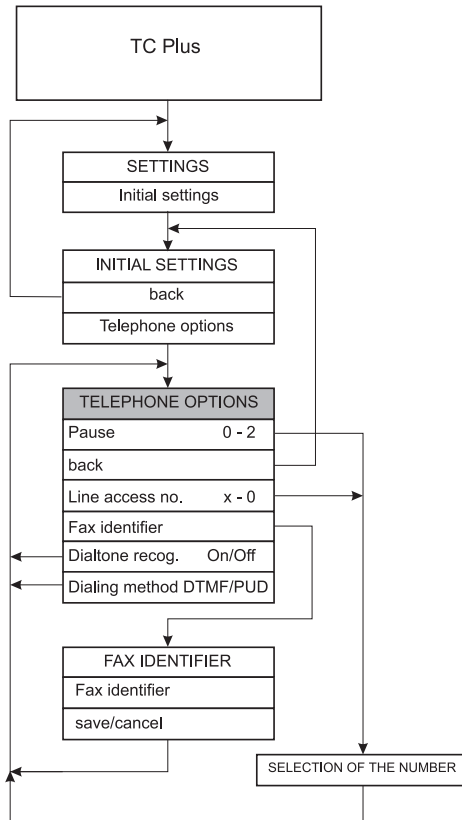
5.1   Initial Settings

5.1.4   Telephone Options for ISDN Mode

```
                    ┌─────────────────────────────┐
                    │                             │
                    │          TC Plus            │
                    │                             │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │          SETTINGS           │
                    ├─────────────────────────────┤
                    │       Initial settings      │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │      INITIAL SETTINGS       │
                    ├─────────────────────────────┤
                    │            back             │
                    ├─────────────────────────────┤
                    │      Telephone options      │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │      TELEPHONE OPTIONS      │
                    ├─────────────────────────────┤
                    │  Pause              0 - 2   │
                    ├─────────────────────────────┤
                    │  back                       │
                    ├─────────────────────────────┤
                    │  Line access no.    x - 0   │
                    ├─────────────────────────────┤
                    │  MSN number                 │
                    └─────────────────────────────┘
                                  │
                    ┌─────────────────────────────┐
                    │        MSN NUMBER           │
                    ├─────────────────────────────┤
                    │  save/cancel                │
                    └─────────────────────────────┘
```
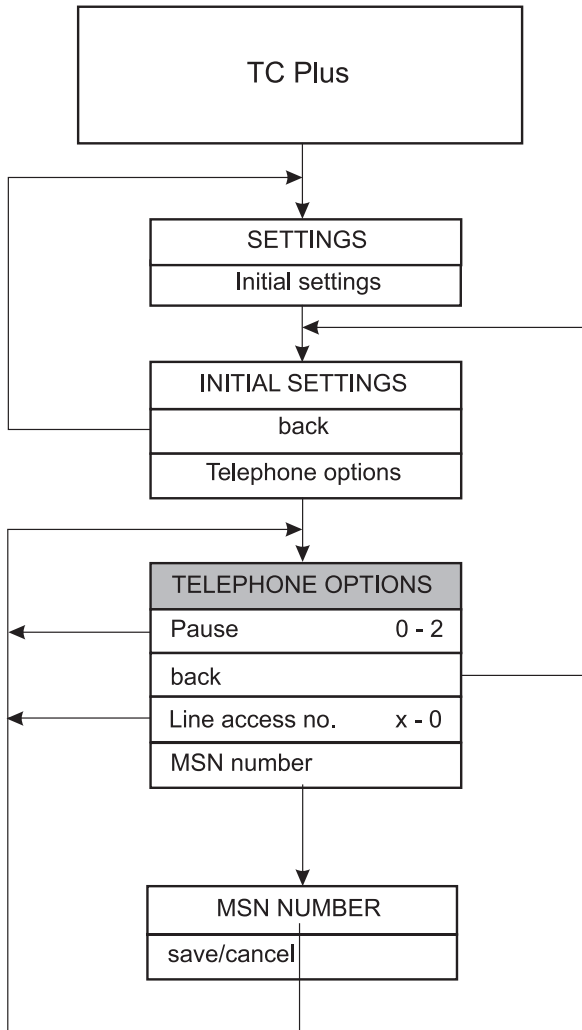
5.1 Initial Settings

5.1.5 Options for GSM Mode

```
┌─────────────────────────────────┐
│                                 │
│            TC Plus              │
│                                 │
└─────────────────────────────────┘
            │
            ▼
   ┌──────────────────┐
   │    SETTINGS      │
   ├──────────────────┤
   │  Initial settings│
   └──────────────────┘
            │
            ▼
   ┌──────────────────┐
   │ INITIAL SETTINGS │
   ├──────────────────┤
   │      back        │
   ├──────────────────┤
   │ Factory defaults │
   └──────────────────┘
            │
            ▼
   ┌──────────────────┐
   │   PIN NUMBER     │
   ├──────────────────┤
   │   save/cancel    │
   └──────────────────┘
```
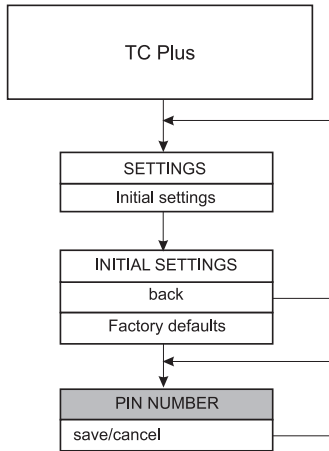
5.1 Initial Settings

5.1.6 Set Time/Date
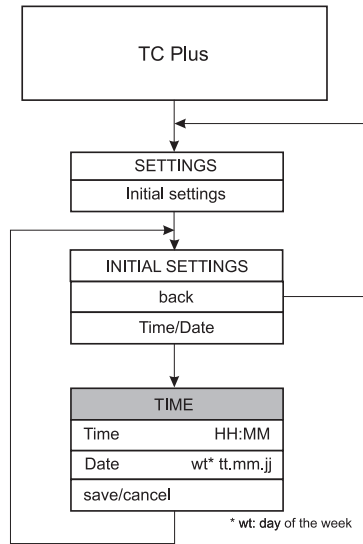
5 Display Menu Guide

5.2 Edit Announcements

```
                    ┌─────────────────────────────────┐
                    │                                 │
              ┌─────────────────────────┐             │
              │         TC Plus         │             │
              │                         │             │
              └─────────────────────────┘             │
                          │                           │
              ┌─────────────────────────┐             │
              │        SETTINGS         │             │
              ├─────────────────────────┤             │
              │          back           │             │
              ├─────────────────────────┤             │
              │     Announcements       │             │
              └─────────────────────────┘
                          │
              ┌─────────────────────────┐
              │     ANNOUNCEMENTS       │
              ├─────────────────────────┤
              │     Input announc.      │
              ├─────────────────────────┤
              │          back           │
              ├─────────────────────────┤
              │     Output announc.     │
              ├─────────────────────────┤
              │     General announc.    │
              └─────────────────────────┘
```

INPUT ANNOUNC.		OUTPUT ANNOUNC.		GENERAL ANNOUNC.	
Alarm 1		Device 1	On	TC Plus	
back		back		back	
Alarm 2		Device 1	Off	Code number	
⋮		⋮		Wrong Code number	
EIB-Alarm 10		EIB device 10	Off	Device number	
				Alarm confirmed	

ANNOUNCEMENT
Play
back
Record

Return to starting menu

Time bar running, press push-button to stop

5 Display Menu Guide

5.3 Configurate Alarm Inputs


```
                    ┌─────────────────────┐
                    │      TC Plus         │
                    └─────────────────────┘

                    ┌─────────────────────┐
                    │     SETTINGS         │
                    ├─────────────────────┤
                    │       back           │
                    ├─────────────────────┤
                    │      Inputs          │
                    └─────────────────────┘

                    ┌─────────────────────┐
                    │      INPUTS          │
                    ├─────────────────────┤
                    │      Input1          │
                    ├─────────────────────┤
                    │       back           │
                    ├─────────────────────┤
                    │      Input1          │
                    │        ⋮             │
                    │      EIB10           │
                    └─────────────────────┘
```

INPUT
- Input announc.
- back
- 1. Dial attempt
  ⋮
- 4. Dial attempt
- Text message
- Make/Break contact
- save for all inputs (in.1 only)

ANNOUNCEMENT
- Play
- back
- Record

Time bar running, press push-button to stop

Copying of settings

Input of texts

PARAMETER INPUT
- Phone number
- back
- Type of message
- Next message   On/Off
- Dial attempts   On/Off
- use line ac. no.   On/Off

PHONE NUMBER
- 0235582
- save/cancel

MESSAGE TYPE
- Fax   (On)
- back
- Speech output   (On)
- Provider 1   (On)
  ⋮
- Provider 4   (On)
- E-mail   (On)

5   Display Menu Guide

5.4   Set Switching Outputs

```
                    ┌──────────────────────────────┐
                    ↓                              │
         ┌──────────────────────────┐              │
         │                          │              │
         │         TC Plus          │              │
         │                          │              │
         └──────────────────────────┘              │
                    │                              │
    ┌───────────────┤                              │
    │    ┌──────────────────────────┐              │
    │    │       SETTINGS           │              │
    │    ├──────────────────────────┤              │
    │    │         back             │              │
    │    ├──────────────────────────┤              │
    │    │   Switching outputs      │              │
    │    └──────────────────────────┘              │
    │               │                              │
    │    ┌─────────────────────────────┐           │
    │    │   SWITCHING OUTPUTS         │           │
    │    ├─────────────────────────────┤           │
    │    │   Output 1                  │────┐      │
    │    ├─────────────────────────────┤    │      │
    └────│   back                      │    │      │
         ├─────────────────────────────┤    │      │
         │   Output 2                  │    │      │
         │        ⋮                    │────┤      │
         │   Output 6                  │    │      │
         └─────────────────────────────┘    │      │
                                            │      │
              ┌────────────────────────────────────┐│
              │         ┌─────────────────────────────┐
              │         │      OUTPUT                 │
              │         ├─────────────────────────────┤
              │         │  Announc. output      On    │
              │         ├─────────────────────────────┤
              │         │   back                      │
              │         ├─────────────────────────────┤
              │         │  Announc. output      Off   │
              │         ├─────────────────────────────┤
              │         │  Cur. imp. mode     On/Off  │
              │         ├─────────────────────────────┤
              │         │  Init condition   On/Off/XXX│
              │         │  (not active if current-impulse│
              │         │  mode is „On")              │
              │         └─────────────────────────────┘
    ┌─────────────────────────────┐
    │     ANNOUNCEMENT            │
    ├─────────────────────────────┤
    │   Play                      │────┐
    ├─────────────────────────────┤    │
    │   back                      │    │
    ├─────────────────────────────┤    │
    │   Record                    │────┤
    └─────────────────────────────┘    │
                          ┌─────────────────────────┐
                          │ Time bar running, press │
                          │ push-button to stop     │
                          └─────────────────────────┘
```
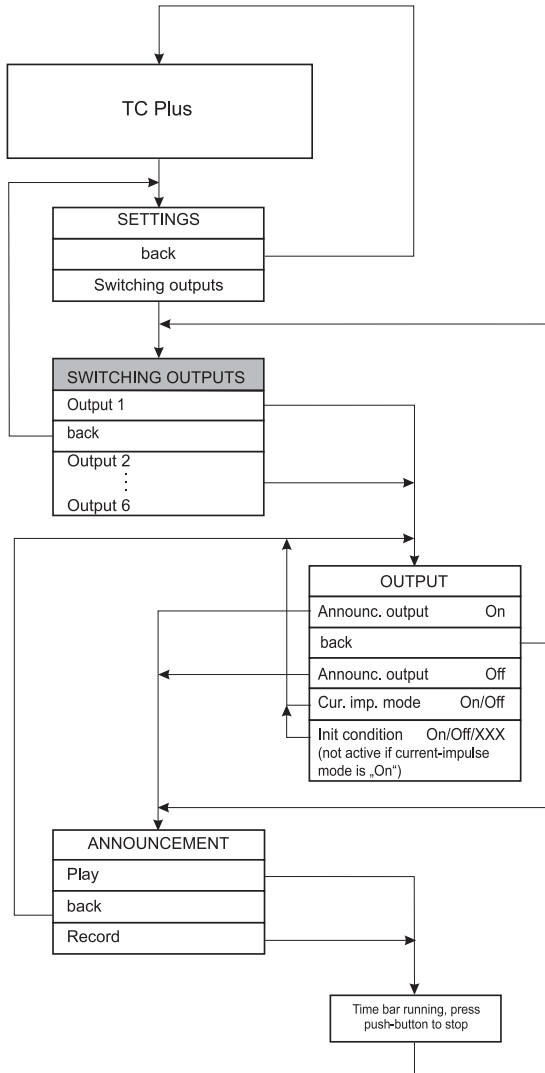
5 Display Menu Guide

5.5 Display Alarm Memories

```
                    ┌─────────────────────────┐
                    │                         │
                    ▼                         │
        ┌───────────────────────────┐         │
        │                           │         │
        │         TC Plus           │         │
        │                           │         │
        └───────────────────────────┘         │
                    │                         │
                    ▼                         │
          ┌───────────────────────┐           │
          │      SETTINGS         │           │
          ├───────────────────────┤           │
          │        back           │───────────┘
          ├───────────────────────┤
          │     Alarm memory      │
          └───────────────────────┘
                    │
                    ▼
     ┌─────────────────────────────────────┐
     │           ALARM MEMORY              │
     ├─────────────────────────────────────┤
     │ 15:30  03.07.01      02       2     │
     │ (Time   Date         Input    confirmed
     │                               Dial attempt)
     ├─────────────────────────────────────┤
     │              back                   │
     ├─────────────────────────────────────┤
     │ 17:52  04.08.01      01       1     │
     └─────────────────────────────────────┘
```
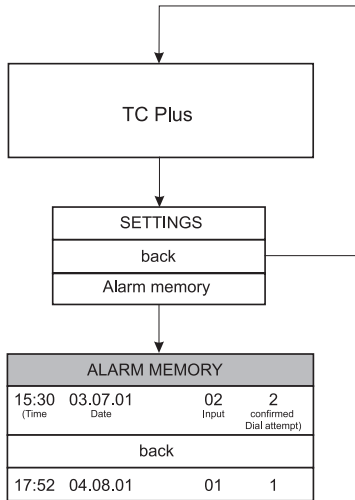
5   Display Menu Guide

5.6   Summary of Menu Items

Answering machine mode:	Initial Settings		Analog
Amount of dial attempts:	Initial Settings		
Code number:	Initial Settings		
1st to 5th CLIP number:	Initial Settings	→ CLIP number	
Amount of ringing signals:	Initial Settings		

Provider settings

Provider 1 to 4:	Initial Settings	→ Provider selection	Analog/ISDN
Fax identifying number:	Initial Settings	→ Provider selection	GSM
E-mail function number:	Initial Settings	→ Provider selection	GSM
Dial tone recognition:	Initial Settings	→ Telephone options	Analog
Pause:	Initial Settings	→ Telephone options	Analog/ISDN
Line access number:	Initial Settings	→ Telephone options	Analog/ISDN
Fax identifier:	Initial Settings	→ Telephone options	Analog
Dialing method:	Initial Settings	→ Telephone options	Analog
MSN number:	Initial Settings	→ Telephone options	ISDN
PIN number:	Initial Settings		GSM
Time:	Initial Settings		
Date:	Initial Settings		
EIB module On/Off:	Initial Settings		
Display language:	Initial Settings		

Announcements for
Alarm 1 to 6:	Announcements	→ Input announc.
EIB alarm 1 to 10:	Announcements	→ Input annoounc.
Device 1 to 6 On/Off:	Announcements	→ Output announc.
EIB device 1 to 10 On/Off:	Announcements	→ Output announc.
Announcement texts:	Announcements	→ General announc.

Settings for inputs
Phone number:	Inputs	→ Input 1-6	→ Dial attempt 1-4
Type of message:	Inputs	→ Input 1-6	→ Dial attempt 1-4
Next message:	Inputs	→ Input 1-6	→ Dial attempt 1-4

5 Menu Guide for the Display

5.6 Summary of Menu Items

Dial attempts On/Off:	Inputs →	Input 1-6 →	Dial attempt 1-4
Use Line access no. On/Off:	Inputs →	Input 1-6 →	Dial attempt 1-4
Text message:	Inputs →	Input 1-6	
Make contact/Break contact:	Inputs →	Input 1-6	
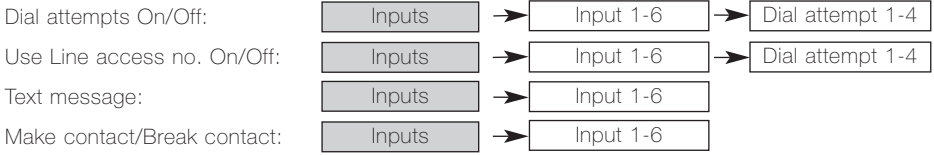
**Settings of switching out-
puts**

Current impulse mode On/Off:	Switching outputs →	Output 1 bis 6
Init condition On/Off/XXX:	Switching outputs →	Output 1 bis 6
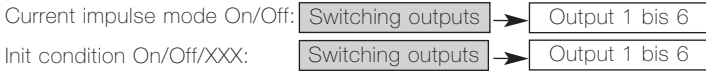
6.1   Configuration by Turnkey

The TC Plus can be programmed by turnkey as well as by PC.

The more comfortable method is by PC. In order to download the configuration from or to the PC, turn the turnkey on the TC Plus to "PC programming".

Single parameters can be easily adjusted by turnkey.

When entering texts you will find the small letters by turning left/counter-clockwise and the capital letters by turning right/clockwise, digits and symbols you will find in between.

..'<>*+,-./ABC...XYZ   abc...xyzäöüß0123..
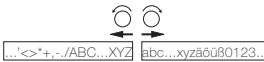
In the following paragraphs all menu items which can be programmed directly on the PC are described. The sequence of decription will follow that of the display.

You will reach the SETTINGS MENU by turning the turnkey in either direction. From there you will get to the INITIAL SETTINGS MENU.

A present summary of your (individual) settings you can get using the copy master which is also enclosed on the delivered CD-ROM.

6.1.1.1 Set Number of Dial Attempts

The number of dial attempts carried out by the TC Plus can be set from 0 to 12 (maximum). The dial attempts will be performed in sequence until the set number of dial attempts is reached or until the alarm has been confirmed.

A detailed description of all the message types you will find on p. 42 in chapter "Alarm Input Menu".

In case the number of dial attempts is set to 0, the TC Plus can only be used as remote switching device.

6.1.1.2 Set Code Number

The code number is requested if you call your TC Plus from the distance by phone in order to determine the state or to control devices. It protects your TC Plus from unauthorized access.

You can change the default setting of the code number 0000 any time. However, 4 digits for the code number are mandatory.

For higher access protection of your TC Plus it is recommended that you change the code number at least once a month.

After 3 attempts entering a wrong code number the connection will be automatically disconnected by the TC Plus.

Display   Operation

Display   Operation

Legend:

 Turn turnkey to select desired display.

 Press turnkey to confirm selection.

6.1.1 Initial Settings Menu

6.1.1.2 Set Code Number

6.1.1.3 Set CLIP Numbers

Display **Operation**

```
   CODE NUMBER
      1200
 save          cancel
```
● ↻

```
   CODE NUMBER
      1230
 save          cancel
```
● ↻

```
   CODE NUMBER
      1230
 save          cancel
```
● ↻

```
   CODE NUMBER
      1234
 save          cancel
```
● ↻

```
   CODE NUMBER
      1234
 save          cancel
```
●

```
   INITIAL SETTINGS
  Answ.mach.mode   ON
 > back
  Dial attempts
```

CLIP stands for Calling Line Identification Presentation. It enables you to see the caller's phone number on your phone display - if the caller allows this.

The TC Plus analyzes the CLIP numbers in order to offer you additional access protection when remote switching.

You can set up to 5 phone numbers which are then authorized to remote requests and remote switching of the TC Plus. The phone number of the caller will be shown on the display and will be compared to the pre-set ones. It has to be identical to a given phone number in every single character and also in the number of characters.

You can de-block certain phone number bundles, too, by setting a "✱" instead of digits, e. g. for several extensions of a PABX. You enter "0114711✱✱" and thus permit all extensions with numbers ending in 00 to 99 to have access to your TC Plus.

Only when the caller's CLIP number is transmitted it is possible to display and analyze the phone number.

Note: If the TC Plus is installed to a PABX, the CLIP function has to be transmitted in order to use this performance feature.

Display **Operation**

```
   INITIAL SETTINGS
  Answ.mach.mode   ON
 > back
  Dial attempts
```
↻

Display **Operation**

```
   INITIAL SETTINGS
  Code number
 > CLIP number
  Ringing signals
```
●

```
   CLIP NUMBER
  1. CLIP number
 > back
  2. CLIP number
```
↻

```
   CLIP NUMBER
  5. CLIP number
 > 2. CLIP number
  back
```
●

```
   CLIP NUMBER
 _
 save          cancel
```
● ↻

```
   CLIP NUMBER
 0
 save          cancel
```
● ↻

```
   CLIP NUMBER
 0_
 save          cancel
```
● ↻

Continue until the number is completed.

```
   CLIP NUMBER
 0234
 save          cancel
```
● ↻

```
   CLIP NUMBER
 0234
 save          cancel
```
●

```
   CLIP NUMBER
  1. CLIP number
 > back
  2. CLIP number
```

Enter 2nd to 5th number (or as many as desired) in the same way.

```
   CLIP NUMBER
  1. CLIP number
 > back
  2. CLIP number
```
●

```
   INITIAL SETTINGS
  Answ.mach.mode   ON
 > back
  Dial attempts
```

6.1.1.4 Set Number of Ringing Signals

With this parameter you can determine how many ringing signals there should be until the TC Plus accepts the call. A number of 9 ringing signals (maximum) can be programmed. Up to this point in time it is possible to request the call on a phone which is installed at this connection (TC Plus analog and TC Plus ISDN only). If you have programmed "0" as number of ringing signals, no call will be accepted. The setting of ringing signals will be ignored if the TC Plus is being operated in the ANSWERING MACHINE mode (TC Plus analog only).
In order to analyze a CLIP number the number of ringing signals has to be set at least to 2. Otherwise, the TC Plus cannot exactly recognize the phone number and display it.

Display   **Operation**

INITIAL SETTINGS
Answ.mach.mode   ON
> back
Dial attempts

INITIAL SETTINGS
CLIP number
> Ringing signals
Provider selection

RINGING SIGNALS
0
save   cancel

RINGING SIGNALS
5
save   cancel

RINGING SIGNALS
5
save   cancel

INITIAL SETTINGS
Answ.mach.mode   ON
> back
Dial attempts

6.1.1.5 Select Provider

For analog and ISDN operation you will need a provider in order to send e-mails and SMS's. You can select from a list of providers, however, you must observe that the provider will match the phone numbers you have entered in the TYPE OF MESSAGE MENU. The parameters will set themselves automatically.
For TC Plus GSM operation you can set identifiers for fax machine or e-mail.

Display   **Operation**

INITIAL SETTINGS
Answ.mach.mode   ON
> back
Dial attempts

INITIAL SETTINGS
Ringing signals
> Provider list
Factory defaults

PROVIDER
Provider 1
> back
Provider 2

PROVIDER
Provider 4
> Provider 1
back

PROVIDER SELECTION
No Provider
> back
D1 T-Mobile

PROVIDER SELECTION
D2 Vodafone
> E-Plus
T-Com Festnetz SMS

PROVIDER
E-Plus
> back
Provider 2

In the same way you can set more providers.

6.1.1.6 Set Telephone Options

When programming phone numbers you can also save specific features of your PABX.
These are – according to the respective mode of operation:

	Analog	ISDN	GSM
Line access no.	x	x	-
Pause	x	x	-
Fax identifier	x	-	-
Dialing method	x	-	-
Dial tone recog.	x	-	-
MSN number	-	x	-
PIN number	-	-	x

Table 1

In case the dial tone recognition is set active the dialing will be cancelled if no dial tone can be recognized. This performance feature can only be programmed if the TC Plus is connected directly to the subscriber line.

Set line access number:

Display   **Operation**

INITIAL SETTINGS
Answ.mach.mode   ON
> back
Dial attempts

INITIAL SETTINGS
Provider selection
> Telephone options
Time/Date

TELEPHONE OPTIONS
Pause   0
> back
Line access no.   X

TELEPHONE OPTIONS
back
> Line access no.   X
Fax identifier

6.1.1 Menu of Initial Settings

6.1.1.6 Set Telephone options

Display	Operation

```
TELEPHONE OPTIONS
  back
> Line access no.        9
  Fax identifier
```
●

Set fax identifier (with TC Plus ISDN not possible):

Display	Operation

```
TELEPHONE OPTIONS
  Pause                   0
> back
  Line access no.         9
```
↻

```
TELEPHONE OPTIONS
  Line access no.         0
> Fax identifier
  Dial tone recog.      Off
```
●

```
     FAX IDENTIFIER
 Fax identifier

 save              cancel
```
●

Enter the desired fax identifier and save by pressing the turnkey.

Set dial tone recognition:

Display	Operation

```
TELEPHONE OPTIONS
  Pause                   0
>back
  Line access no.         9
```
↻

```
TELEPHONE OPTIONS
  Fax identifier
>Dial tone recog.       Off
  Dialing method      DTMF
```
●

```
TELEPHONE OPTIONS
  Fax identifier
>Dial tone recog.        On
  Dialing method      DTMF
```
↻

Set dialing method:

Display	Operation

```
TELEPHONE OPTIONS
  Dial tone recog.        On
>Dialing method      DTMF
  Pause                   0
```
●

```
TELEPHONE OPTIONS
  Dial tone recog.        On
>Dialing method      PUD
  Pause                   0
```
↻

Set dialing pause:

Display	Operation

```
TELEPHONE OPTIONS
  Dialing method      PUD
> Pause                  0
  back
```
● ↻

```
TELEPHONE OPTIONS
  Dialing method      PUD
> Pause                  2
  back
```
●

```
TELEPHONE OPTIONS
  Pause                   2
> back
  Line access no.         9
```
●

```
  INITIAL SETTINGS
  Answ.mach.mode    ON
> back
  Dial attempts
```

6.1.1.7 Activate EIB Module

The installation and programming of the EIB bus coppler is done by a special EIB-tool software (EIS). More information about this you will find in chapter "Configuration of the EIB" on p. 55. In the ETS the TC Plus is to be found in the following product family:

Symbol:

```
┌──────┐
│ EIB  │
│╲     │
│  ╲   │
│   ╲  │
│ TNA  │
└──────┘
```
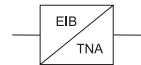
Product family: communication

Product type: modem

If there is no EIB module, activating the EIB module will have no effects.

6.1.2 Announcements Menu

6.1.2.1 Select Display Language

You can select the language of the display messages. The following languages are available: German, English, French, Spanish, Italian and Netherlands.
You will find the DISPLAY LANGUAGE MENU item in the INITIAL SETTINGS MENU.
Note: The language of the announcements is not affected by this selection.

Display   **Operation**

```
  INITIAL SETTINGS
 Answ.mach.mode    OFF
> back
  Dial attempts
```

```
  INITIAL SETTINGS
 EIB Module        ON
> Display language
  Answ.mach.mode   OFF
```

```
  DISPLAY LANGUAGE
 back
> English
 Italiano
```

```
  DISPLAY LANGUAGE
 Nederlands
> Deutsch
 back
```

```
  DISPLAYSPRACHE
 Nederlands
> Deutsch
 zurück
```

```
  DISPLAYSPRACHE
 Deutsch
>zurück
 English
```

```
 GRUNDEINSTELLUNGEN
 AB-Betrieb        OFF
> zurück
  Wahlversuche
```

6.1.2.2 Answering Machine Mode

If in the INITIAL SETTINGS MENU the Answering machine mode item is set to ON (same procedure as dial tone recognition, see p. 39) the TC Plus does not switch on in case of an incoming call, so that a connected answering machine may request the call. If a caller hangs up after the first ringing signal, waits at least for 10 s, and then calls again within 60 s, the TC Plus switches on again after the first ringing signal. In this way, either a connected answering machine or the TC Plus can be addressed (see also p. 74).
The set number of ringing signals will be ignored in this operating mode.

6.1.2.3 Call up Announcements

The default state of the TC Plus has all necessary announcements and alarm messages given. In order to adjust them to your individual requirements you have the possibility to record your own text messages. In order to do this you need a handset, which you connect as described on p. 10.
You can adjust all the announcement texts or only some of them. For each of the messages the available recording time is 6 s. The display will show a bar diagramm which decreases when recording or playing and thus telling you how much time is left.
You start and stop the recording with the turnkey. Then you can check your announcement. On pp. 78, 79 you will find a list of suggested texts you can use for recording.
The procedure for recording and playing is as follows:

Display   **Operation**

```
  ANNOUNCEMENT
 play
> back
 record
```

```
  ANNOUNCEMENT
 back
> record
 play
```

```
      TIME
 ████████████████
 press push-button
    to stop
```

```
  ANNOUNCEMENT
 play
> back
 record
```

6.1.2 Announcements Menu

6.1.2.4 Edit Input Messages

Input messages are being sent off if alarms 1 to 6, and EIB alarm, respectively, have been activated. In order to record individual texts for these announcements, select the INPUT ANNOUNC. item in the ANNOUNCEMENTS MENU and there the respective alarm which you want to edit or check. Then follow the procedure described under "Call up Announcements", p. 40.

6.1.2.5 Edit Alarm Messages

This term defines the states (On/Off) of the connected devices. For the conventional devices 1 to 6, and for the EIB devices 1 to 10 individual announcements can be recorded.
If you want to check or record new texts select the OUTPUT ANNOUNC. item in the ANNOUNCEMENTS MENU and then select the respective device.

6.1.2.6 Edit Message Texts

Instead of the given voice user guide you can also use your own announcements, e. g. to tell your name or your phone number when answering the phone. The procedure is the same as described for input and output messages. You will find this item in the ANNOUNCEMENT submenu of the GENERAL ANNOUNC. MENU.

6.1 Configuration by Turnkey

6.1.3 Alarm Inputs Menu

You can programm the 6 conventional inputs and the 10 EIB inputs each with up to 4 destinations (dialing attempts) to which incoming alarms should be re-directed (e. g. security company or your own mobile phone).
For each dial attempt you can select among 4 message types:
• announcement by phone,
• SMS,
• e-mail or
• fax machine.
For these methods you can determine the appropriate phone numbers or addresses, and the type of message (text message or voice message/announcement).
For each input you can also determine if the alarm should be activated by a make contact or by a break contact.
When using the message types SMS, e-mail, or fax machine you should set the menu item NEXT MESSAGE to On, in order to send off the defined voice message, because with these methods the confirmation is effected after transmitting to the provider or to the fax machine, and it is not ensured that the message has been read.
If there is no confirmation, a local alarm will be sent off and on the display of the TC Plus the text "Dial attempt not successful" will appear.
If there is no phone number programmed, the local alarm is being switched on immediately and the display will read "No phone number".
For a detailed example of the steps of an alarm memory see p.71 (chapter "Function").

Display   **Operation**

```
     SETTINGS
   Announcements
 > Inputs
   PC programming
```
●

```
     INPUTS
   Input 1
 > back
   Input 2
```
↻

```
     INPUTS
   Input 6
 > Input 1
   back
```
●

```
     INPUT
   Input announc.
 > back
   1. Dial attempt
```
↻

```
     INPUT
   back
 > 1. Dial attempt
   2. Dial attempt
```
●

```
   PARAMETER INPUT
   Phone number
 > back
   Type of message
```
↻

```
   PARAMETER INPUT
   back
 > Type of message
   Next message      Off
```
●

```
   MESSAGE TYPE
   Fax
 > back
   Speech output
```
↻

```
   MESSAGE TYPE
   back
 > Speech output    On
   SMS
```
●

```
   MESSAGE TYPE
   Fax
 > back
   Speech output    On
```
↻

```
   MESSAGE TYPE
   Fax
 > back
   Speech output    On
```
●

```
   PARAMETER INPUT
   Phone number
 > back
   Type of message
```
↻

```
   PARAMETER INPUT
   Use line ac.no.    On
 > Phone number
   back
```
●

Enter your phone number as described, e. g. under CLIP number (see p. 37).
Then continue entering the parameters in the PARAMETER INPUT MENU. By setting the USE LINE AC. NO. item to On you switch active the line access number and the dialing break which have been entered in the TELEPHONE OPTIONS MENU.

Display   **Operation**

```
   PARAMETER INPUT
   Type of message
 > Next message     Off
   Dial attempts    OffF
```
↻

```
   PARAMETER INPUT
   Type of message
 > Next message      On
   Dial attempt      Off
```
● ↻

```
   PARAMETER INPUT
   Next message      On
 > Dial attempt      Off
   Use line ac.no.   Off
```
●

```
   PARAMETER INPUT
   Next message      On
 > Dial attempt      On
   Use line ac.no.   Off
```
● ↻

```
   PARAMETER INPUT
   Dial attempt      On
 > Use line ac.no.   Off
   Phone number
```
● ↻

```
   PARAMETER INPUT
   Dial attempt      On
 > Use line ac.no.   Off
   Phone number
```
(↻)

```
   PARAMETER INPUT
   Phone number
 > back
   Type of message
```
●

```
     INPUT
   Announcements
 > back
   1. Dial attempt
```
●

```
     INPUT
   save
 > Announcements
   back
```
●

```
   ANNOUNCEMENTS
   play
 > back
   record
```
●

6.1 Configuration by Turnkey

6.1.3 Alarm Inputs Menu

For playing or recording announcements continue as described under "Call up announcements" (see p. 40). For the message types fax machine and SMS the same procedure applies as described under "Call up announcements". Here, too, the appropiate phone number has to be entered. Instead of an announcement you can compose a message under GENERAL ANNOUNC. which can have 160 characters at the maximum. In case of an alarm, the message will be forwarded via fax or sent as SMS.

Note: Please observe that the e-mail address (phone number with the message type "e-mail") has to be included into the number of characters allowed. And furthermore, a provider must be set supporting e-mails.

In case you want to make the same entries for all inputs you can, after having configurated input 1, select the SAVE FOR ALL INPUTS MENU item and your data will be automatically copied to the remaining alarm inputs.

6.1.4 PC Programming Menu

All menu items can also be programmed by PC more comfortabely.

To download the present settings from or to the PC, the TC Plus must be set to "PC programming".

For detailed directions see chapter "Configuration by PC (see p. 45).

Display   **Operation**

```
      TC PLUS

00:00        Sa 27.11.04
```

```
      SETTINGS
  Initial settings
> back
  Announcements
```

```
      SETTINGS
  Inputs
> PC programming
  Switching outputs
```

```
  PC PROGRAMMING

Press push-button to stop
```

6.1.5 Switching Outputs Menu

For outputs 1 to 6 you can hear or record the appropriate announcements of the switching states On or Off. Moreover, you can set the CURRENT IMPULSE MODE and define the INIT CONDITION, i. e. you determine which state the device is supposed to have when restoring the line voltage after a power failure.

The EIB outputs can be set by ETS (software), and the announcements can be set in the ANNOUNCEMENT MENU.
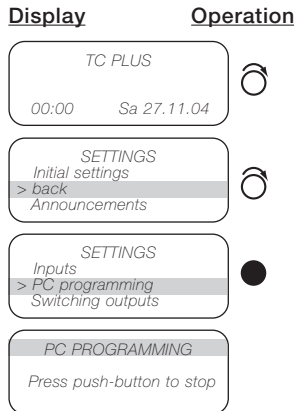
6   Configuration

6.1.6   Alarm Messages Menu

The last 20 alarm messages will be saved and displayed. The list will start with the last message.
The message has the following format:

```
    ALARM MESSAGES
  08:16   01.06.04   01   5
>back
  07:31  12.05.04    06   3
```

From left to right in each line you can read the follwing:
Time, date, number of input which has been activated, if and where the dialing attempt was confirmed.
Explanation of symbols being used:
0:     not confirmed
1- 4: first dial attempt, which has confirmed
5:     confirmed on the TC Plus.

6.2 Configuration by PC

6.2.1 General

The provided CD also inclu-
des the PC program. The CD
includes the software, an ani-
mation, the operating con-
structions, the EIB product
data base, and brochures.
The respective directories are
named accordingly.
For installation start the Setup
file in the Software directory
and then follow the instructi-
ons on the screen.
On your hard disk a folder
named "TC Plus" will be crea-
ted, there the entire TC Plus
software will be saved.

⚠️ To delete this directory
exclusively use the de-
installation routine of
the windows operating system
of your PC.
During installation, an icon
"TC Plus" will automatically be
generated on your desktop.
Thus, you can start the confi-
guration program directly by
clicking the icon.
With this program you can
download data from the TC
Plus as well as save new data
in the TC Plus. The TC Plus,
in any case, must be con-
nected to the PC by the provi-
ded serial cable and must be
set to the respective serial in-
terface (see connection of the
PC as described on p. 10).

6.2.2 System Requirements for the PC Program

- Intel Pentium processor

- Microsoft Windows 95, Windows 98 Second Edition, Wind-
ows Millennium Edition, Windows NT 4.0 with Service Pack
6, Windows 2000 with Service Pack 2, Windows XP Profes-
sional or Home

- 32 MB RAM (64 MB recommended)

- 5 MB free hard-disk memory

- serial interface RS 232

- resolution 800 x 600 Pixel (minimum)

6.2 Configuration by PC

6.2.3 Screen Description
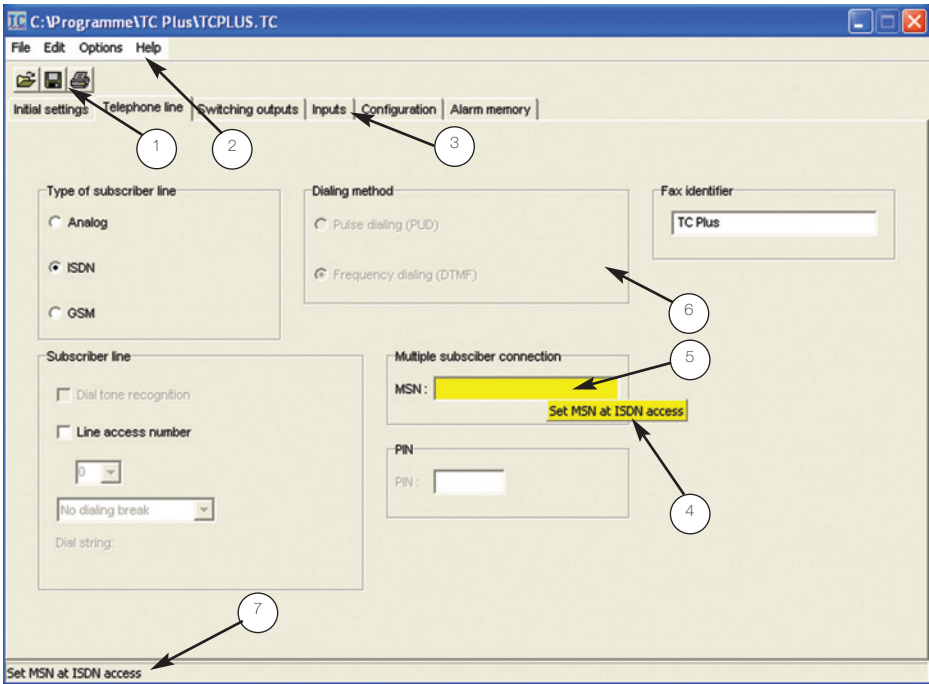
1 The menu bar is structured as known from Windows applications and can be used accordingly.
2 The HELP menu item offers support editing the TC Plus software. The context help menu you can call up by pressing the F1 key on your PC keyboard. Make sure your cursor points to the respective topic.
3 You can set the features for your individual configuration on the following index cards:
    • initial settings
    • telephone line
    • switching outputs
    • alarm inputs

    • TC Plus configuration
    • alarm memory
4 If you keep the cursor on a menu item for some seconds, a context menu will appear, which offers you detailed explanations to the selected item. This performance feature you can set to ON or OFF in the Options menu.
5 Editable fields which have been selected will appear shaded yellow.
6 According to the set mode of operation (analog, ISDN, or GSM), specific performance features may not be configurated. This is recognizable on the outlined depiction of the menu

items which cannot be selected.
7 The explanations of the context help you will also find in the lower status line on the screen.

6.2   Configuration with the PC

6.2.4   Initial settings
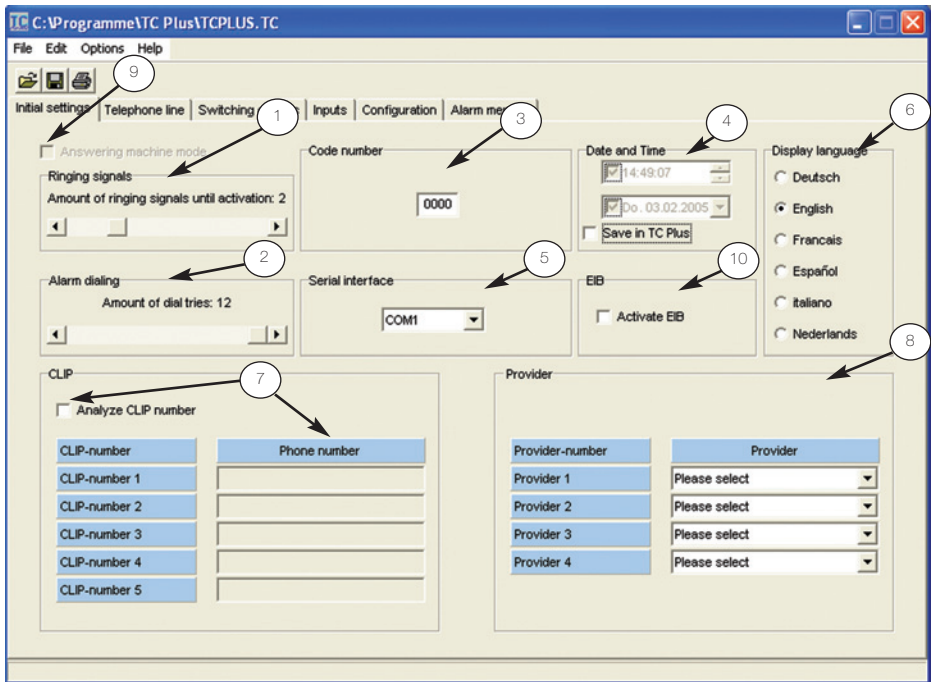
In the INITIAL SETTINGS menu you can program the following features:

1 **Number of ringing signals**
Number of ringing signals until activation (maximum 9).

2 **Alarm dialing**
Number of dial attempts to the programmed destinations which are carried out in case of an alarm (maximum 12).

3 **Code number**
Here you can change the default code number (4 digits). It will be requested for incoming calls.

4 **Date and Time**
Display of date and time from the PC; adopted when saving the configuration in the TC Plus if "Save in TC Plus" is activated.

5 **Serial interface**
PC interface to which the PC is connected.

6 **Display language**
You can select from 6 languages in which the configuration program and the display texts will be shown.

7 **CLIP numbers**
Setting and analyzing of CLIP numbers for remote switching and remote requests if "Analyze CLIP number" is activated. Otherwise, no number can be entered. Only if the phone number of the caller matches exactly the programmed CLIP number the TC Plus will accept the call. "✱" stands for any character.

8 **Provider**
List of popular providers for text messages (see also pp. 6, 7).

9 **Answering machine mode**
If set to ON calls are only accepted by the answering machine; the possibility to set the number of ringing signals is not active. The TC Plus can only be addressed by a special procedure (see. p. 74).

10 **EIB**
Activation of EIB module, default setting with EIB types.

6.2   Configuration by PC

6.2.5   Telephone Line
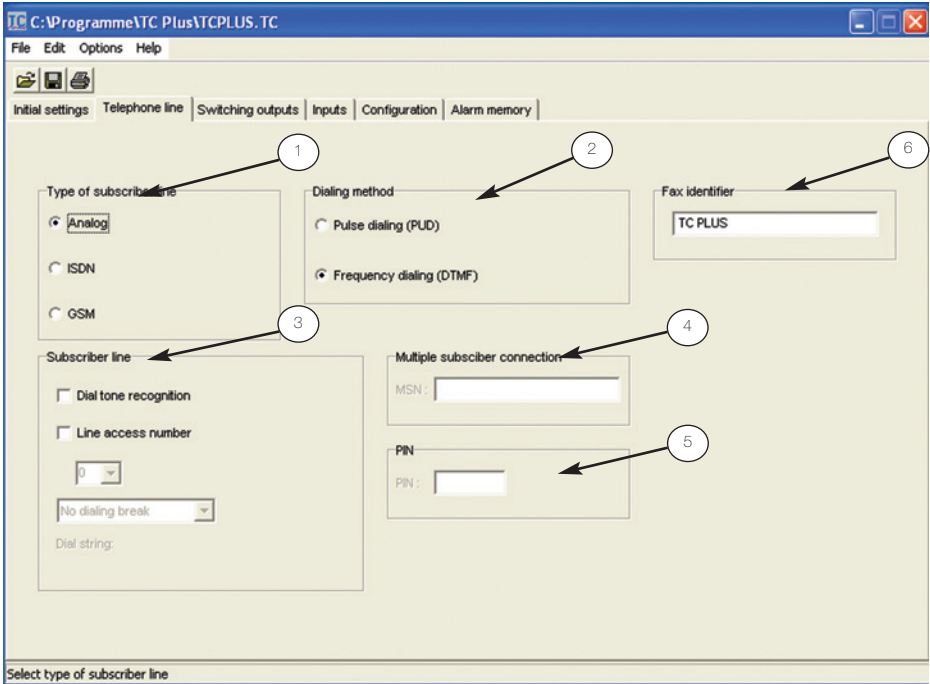
The configuration of the telephone line consists of the following features, specific to the installation of your PABX:

1 **Type of subscriber line**
   Selection among analog, ISDN or GSM. After having made your selection, there are various extended configuration possibilities
2 **Dialing method** (analog type only)
   Selection between PUD and DTMF
3 **Subscriber line** (analog type and ISDN type only)
   Selection of line access number and dialing break with PABX's and dial tone recognition with analog type

4 **Multiple subscriber selection** (ISDN type only)
   Here you enter the multiple subscriber selection number
5 **Personal identification number** (GSM type only)
   Here you enter your PIN
6 **Fax identifier**
   Text which will appear on the top line of the fax describing the sender (20 characters maximum).

After having determined the mode of operation for the subscriber line, you can now go on with further settings.

6.2   Configuration by PC

6.2.6   Switching Outputs
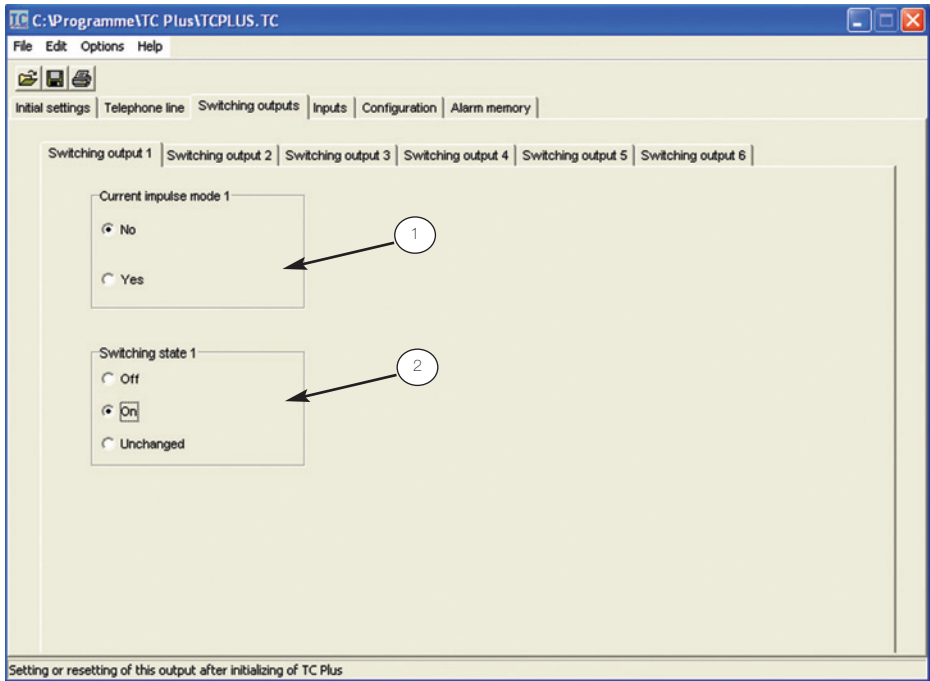
Here you can set the following features, separately for each of the 6 switching outputs:

1 **Current-impulse mode**
   Here you switch ON or OFF the mode of operation

2 **Switching state**
   Here you can define which state the output is supposed to have after restoration of the line voltage. This is only possible if the current-impulse mode is set to NO. Saving a switching state configuration into the TC Plus is effective to the outputs not before the line voltage has been restored after a power failure.

6.2   Configuration by PC

6.2.7   Inputs
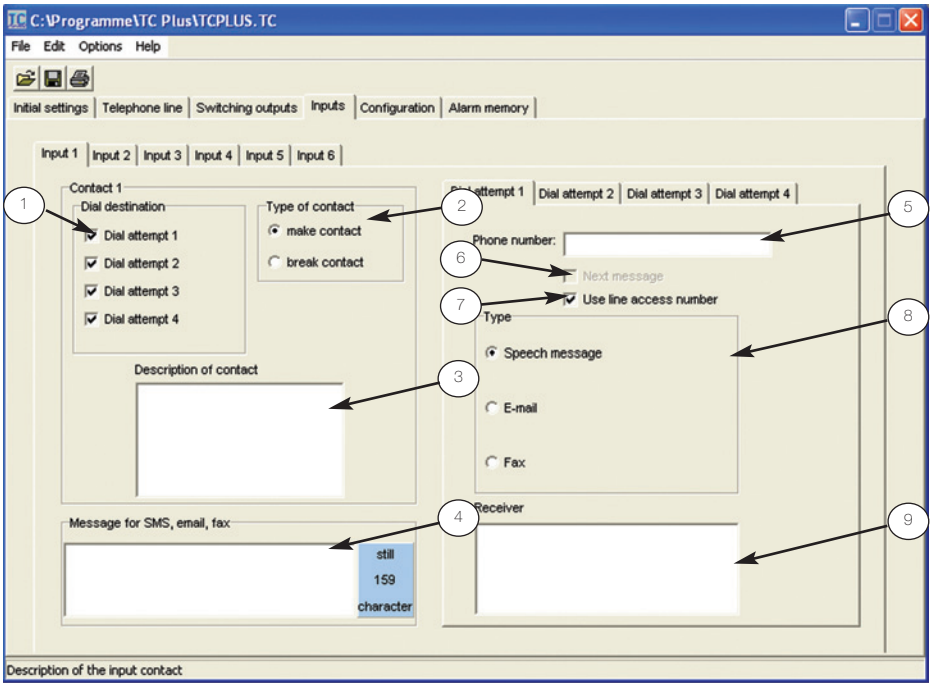
For the alarm inputs and the EIB inputs you can define the contacts. And to each contact you can define 4 destinations to which alarms should be sent. You can also define the type of message.

1   **Dial destination**
    How many and which destinations are supposed to be dialled.

2   **Type of contact**
    Setting for "make contact" or "break contact".

3   **Description of contact**
    When and how has the alarm been activated? This is only a note for the documentation.

4   **Message for SMS, e-mail, fax**

Entering the message (max. 160 characters) for SMS, e-mail, and fax. If the text will be sent as e-mail the maximum length is shortened by the number of characters which are necessary for the e-mail address. The text for the voice message can not be defined here (see p. 40)

Each phone number can be defined by the following:

5   **Phone number**
    Here you enter the phone number for voice message, fax, SMS, or e-mail address.

6   **Next message**
    Inspite of an alarm confir-

mation the next message is supposed to be sent off in order to inform different message types about the failure or to reach further terminals or persons.

7   **Use line access number**
    Prefix number of the set line access number for phone numbers which do not belong to the PABX.

8   **Message type**
    Defines the message output as announcement, SMS, e-mail, or fax.

9   **Receiver**
    More information about the receiver of this message (e. g. name, address).

6.2   Configuration by PC

6.2.7   Inputs

Note: Information concerning contact (3) or receiver (9) is only saved in the configuration file and not in the device.

6.2   Configuration by PC

6.2.8   TC Plus Configuration
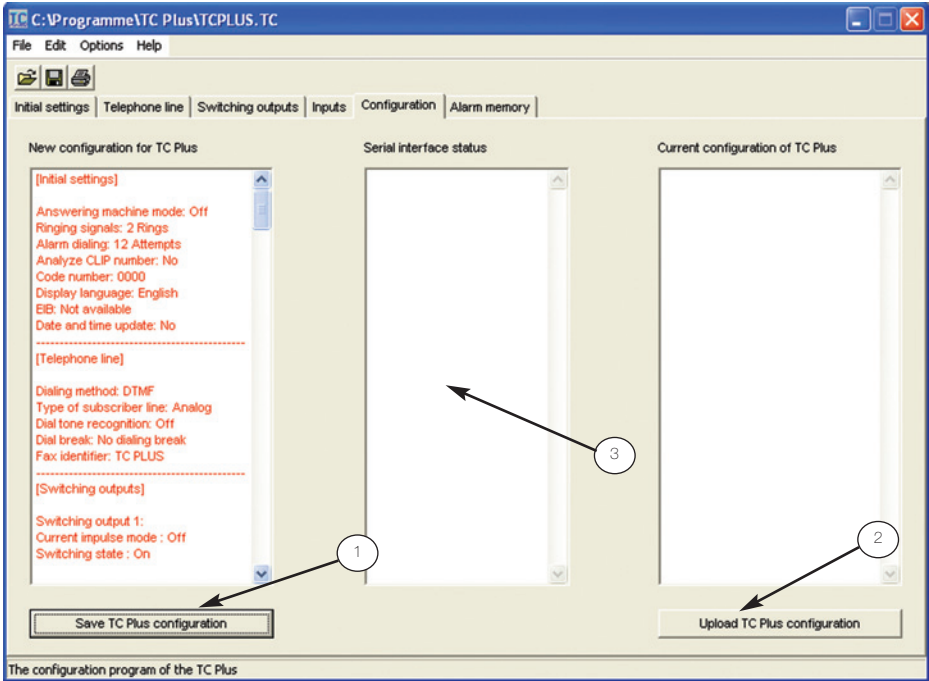
The following settings can be made in the TC Plus configuration:

1   **Save TC Plus configuration**
    Saves the changed or the new configuration in the TC Plus

2   **Upload TC Plus configuration**
    Transfers the current TC Plus configuration to the PC

3   After having selected 1 or 2 you will be asked to call up the PC programming menu on the TC Plus. There you will receive the message "The TC Plus has been re-initialized"

6.2 Configuration by PC

6.2.9 Alarm Memory

The last 20 messages will be saved in the alarm memory. These messages indicate date, time, alarm input and type of confirmation.

6.3 EIB Configuration

6.3.1 Assign physical address

It is possible to connect the TC Plus to an EIB bus line by a bus coppler.

In order to put the device into operation, you have to assign the physical as well as the logical address (group address). Moreover, the functioning of the bus coppler has to be defined by downloading the application program. The application program is available as VD2 file and, thus, can also be used by ETS 2 and ETS 3.

- Connect a PC with EIB software (ETS) to the EIB bus line via the EIB-RS-232 interface.
- Press the programming button (1) at the bus coppler; the yellow LED is lit (2).
- After having programmed the physical address, the yellow LED will be off.
- With a permanent pen mark the number of the physical address on the label on the lower case cover.
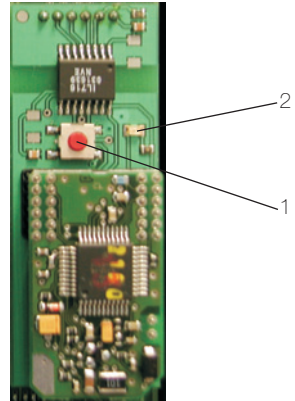
6.3.2 Initial Operation

After having switched on the power supply it takes about 1 min until the TC Plus has read all EIB device states. Only after this initialization time the TC Plus can be used with the EIB.

6.3   Configuration of the EIB

6.3.3   ETS Parameters

There are 3 different types of ETS parameters:
* 1-Bit object,
* 1-Byte object and
* 2-Byte object.

The different types are differentiated according to EIS (EIB Interworking Standard).
EIS 1 belongs to the 1st category.
EIS 6 absolute, EIS 6 relative and EIS with sign belong to the 2nd category.
EIS 5, EIS 10 with sign, and EIS 10 without sign belong to the 3rd category (see also table 3 on p. 59).
You can use the EIS types for inputs and outputs.
Please observe that devices with the same group address will use the same EIS types.
For the inputs you can set threshold values (except for EIS 1) in the ETS which will activate an alarm when reached. If the switch-on value is reached at the inputs the PC Plus reports this value via telephone line. In order to report a new alarm, this value has to fall below the switch-off value and then the switch-on value has to be reached or exceeded again.
The output values you put on the bus via telephone line when switching.
When switching off the EIB output 1 the set value for this output will be issued. In the same way the switching-on values are issued. Since the outputs are monitored also by the TC Plus, a reaction occurs only, as with the inputs, in case of exceeding the input values or in case of falling below the output values. So, when requesting the output state always the last threshold value is displayed.
Moreover, you can set impulse times. If you use this function, then after switching on the output – after the set time has elapsed – the output value is being sent again.
Additionally, you can set a "switching state" ("Send values" or "No action").
In case of "Send values" – after switching on the TC Plus – the set values of the outputs will be put on the EIB. The switch-on/off value can be sent.

6.3 EIB Configuration

6.3.4 Function of the EIS Types

Object type	Type	EIB function	Transmission	Comment
1 Bit	EIS 1	switching	0, 1	
1 Byte	EIS 6 absolute	integer (number)	0 to 255	
1 Byte	EIS 6 relative	relative value	0 % to 100 %	5 % steps
1 Byte	EIS 14	account	-127 to +127	
2 Byte	EIS 5	number with decimal fraction	-670 760.96 to +670 760.96	different decimal fraction; value range dissected into grid
2 Byte	EIS 10 with, without sign	integer value	-32 767 to +32 767	integer value
2 Byte	EIS 10 without sign	integer value	0 to 65.535	

Table 2

6.3.4 Function of the EIS Types

6.3.4.1 Input Parameters for a 1-Bit Object
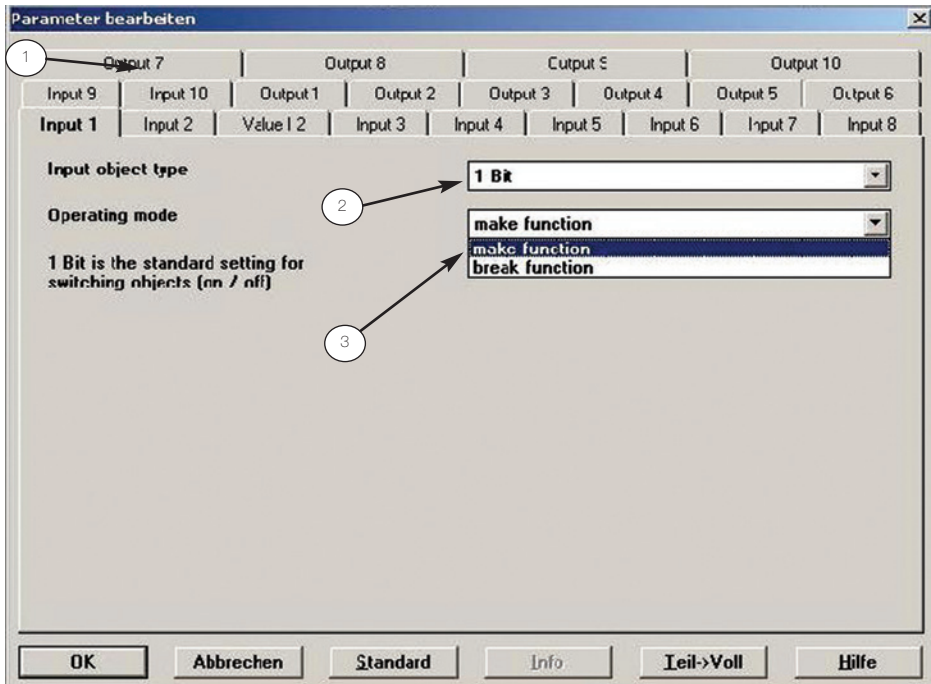
1   You can select by the index card tab if an output or an input or its values are supposed to be set.
2   The screen shot shows input 1 being used as 1-bit object.
    With this EIS type the states On (1) and Off (0) can be transmitted.
3   The example shows input 1 being used in the operation mode "make contact function".
    A selecting procedure will be started if an On tele-gram is being received. The input can also be used in the mode "break contact function", so that a selecting procedure will be started if an Off tele-gram is being received.

6.3.4 Function of the EIS Types

6.3.4.2 Input Parameters for a 1-Byte Object
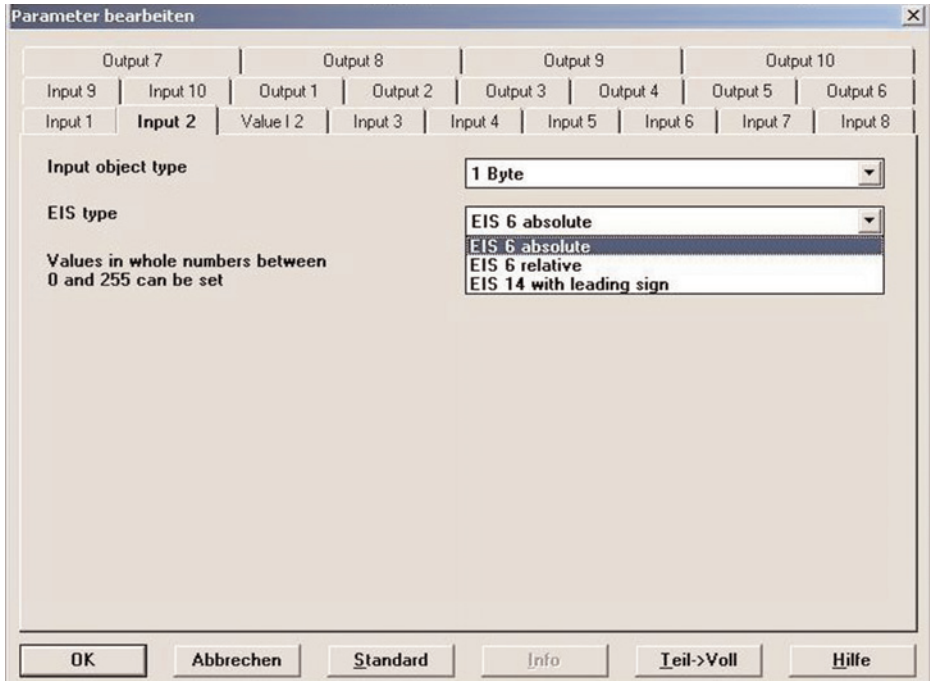
In this example, input 2 is shown as 1-byte object. Thus, the possible selections of the EIS types are "6 absolute", "6 relative", and "14 with sign". Using these EIS types, values can be transmitted which you can set by selecting the index card tab "Values I2".
To each of the selected EIS types you will get a note as to the possible range of values.

6.3.4 Function of the EIS Types

6.3.4.3 Value Parameters for a 1-Byte Object

```
┌─────────────────────────────────────────────────────────────────────┐
│ Parameter bearbeiten                                              [X] │
├─────────────────────────────────────────────────────────────────────┤
│ │ Output 7 │ Output 8 │ Output 9 │ Output 10 │                        │
│ │ Input 9 │ Input 10 │ Output 1 │ Output 2 │ Output 3 │ Output 4 │ Output 5 │ Output 6 │ │
│ │ Input 1 │ Input 2 │ Value I 2 │ Input 3 │ Input 4 │ Input 5 │ Input 6 │ Input 7 │ Input 8 │ │
│                                                                       │
│   Switch -on value          │ Level for the activation of an alarm │  │
│                                                                       │
│   Value (0-255)             │ 200                              [▲▼] │  │
│                                                                       │
│   Switch -off value         │ Level for switching off the alarm state │ │
│                                                                       │
│   Value (0-255)             │ 20                               [▲▼] │  │
│                                                                       │
│                                                                       │
│ [  OK  ] [ Abbrechen ] [ Standard ] [ Info ] [ Teilw. Zugriff ] [ Hilfe ] │
└─────────────────────────────────────────────────────────────────────┘
```

For input 2 the EIS type "6 absolute" is set.

Here, the threshold values for input 2 are defined. If the switch-on value is reached or exceeded an alarm is activated and the respective selecting procedure will be run. Another alarm cannot be started before the value reaches or falls below the switch-off value (see figure: value 20).

Note: Falling below the switch-off value does not stop the selecting procedure.

6.3.4 Function of the EIS Types

6.3.4.4 Input Parameters for a 2-Byte Object
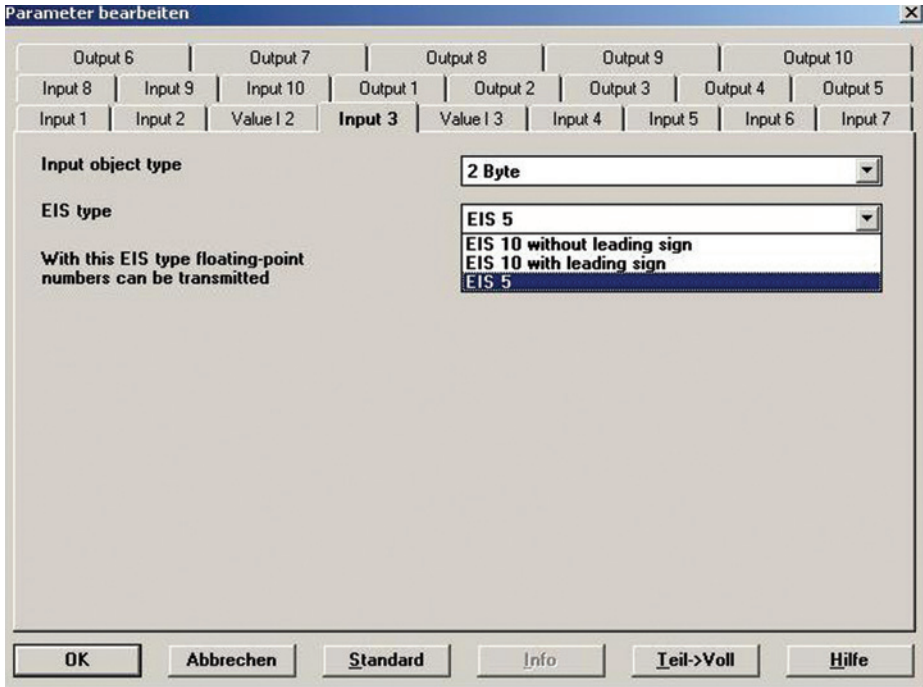
Input 3 has been defined as
2-byte object, so that EIB
types "10 with and without
sign" as well as EIS "6" can
be selected. There are 65.536
values which can be formed
with EIS types "10"; i. e. wit-
hout sign, values from 0 to
65.536 can be transmitted,
and with sign, values from
32.767 to +32.767 can be
transmitted. EIS type "5" is
used for floating-point num-
bers with sign.
Further information on these
EIS types you will find on the
following page.

6.3.4 Function of the EIS Types

6.3.4.5 Value Parameters for a 2-Byte Object

Parameter bearbeiten   ☒

Output 6	Output 7	Output 8	Output 9	Output 10

Input 8	Input 9	Input 10	Output 1	Output 2	Output 3	Output 4	Output 5

Input 1	Input 2	Value I 2	Input 3	**Value I 3**	Input 4	Input 5	Input 6	Input 7

Switch -off value	Level for the activation of an alarm
Leading sign	positive ▾
Basis	0,01 (0,01 - 20,47) ▾
Factor (0-2047)	500 ⇳
Switch -off value	Level for switching off the alarm state
Leading sign	negative ▾
Basis	0,01 (0,01 - 20,47) ▾
Factor (0-2047)	100 ⇳

The switching value is calculated by
multiplication of basis and factor

Negative values get smaller, if they get
larger in amount

OK	Abbrechen	Standard	Info	Teil->Voll	Hilfe

For input 3 the EIS type „5" is
set.
Here, the values of input 3 are
defined. The switch-off value
and the switch-on value have
the same function as with the
1-byte object (see p. 60). The
threshold values in this case
are defined by base and
factor. The actual value is re-
sulting from the product of
both parameters.
In the example given the
switch-on value is "5" (0.01 x
500=5) and the switch-off
value is "-1" (-0.01 x 100=-1).
Please observe with negative
values that the value will get
smaller if their absolute value
gets bigger (-10 is smaller
than -4).

6.3.4 Function of the EIS Types

6.3.4.6 Output Parameters for a 1-Bit Object
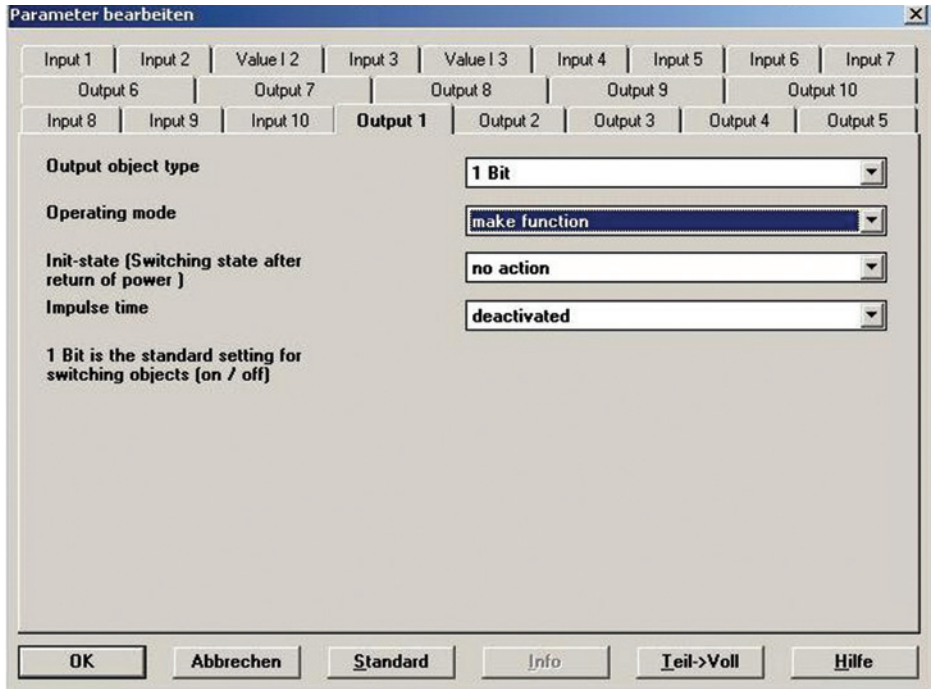
For outputs – as well as for inputs – you can set the object type and the mode of operation. Standard mode is the make contact function, and the break contact function is the inverted mode.
Moreover, you can set the switching state after restoration of the line voltage and the impulse time.

6.3.4 Function of the EIS Types

6.3.4.6 Output Parameters for a 1-Bit Object

Parameter bearbeiten

Input 1	Input 2	Value I 2	Input 3	Value I 3	Input 4	Input 5	Input 6	Input 7
Output 6		Output 7		Output 8		Output 9		Output 10
Input 8	Input 9	Input 10	Output 1	**Output 2**	Output 3	Output 4	Output 5

Output object type — 1 Bit

Operating mode — make function

Init-state (Switching state after return of power) — no action

Impulse time — active

Hours (0-15) — 0

Minutes (0-59) — 1

Seconds (0-59) — 0

1 Bit is the standard setting for switching objects (on / off)

OK   Abbrechen   Standard   Info   Teil->Voll   Hilfe

The 2nd example shows a 1-byte object with set switching state and activated impulse time. After a power failure on the TC Plus or after a bus voltage drop a defined state is restored. In the example given the TC Plus puts an Off telegram onto the EIB.
When switching on the object after 1 min impulse time (e. g. staircase light function) the Off telegram is sent. The impulse time can be set between 0 and < 16 h.

6.3.4 Function of the EIS Types

6.3.4.7 Output Parameters for a 1-Byte Object
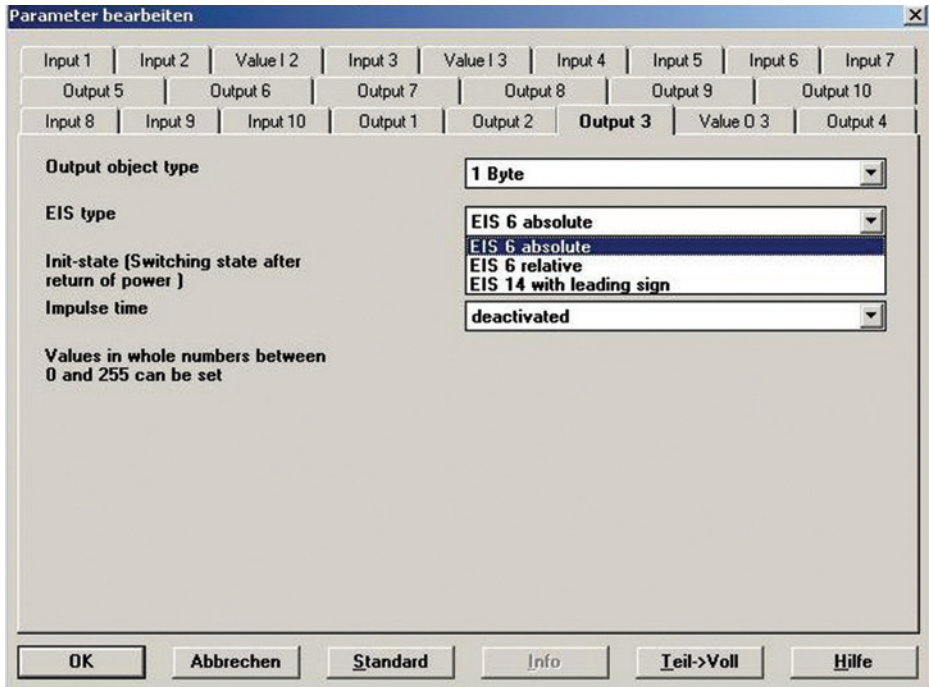
Output 3 has been defined as
1-byte object. As with inputs
you can select the EIS types
"6 absolute", "6 relative", or
"14 with sign".

6.3.4 Function of the EIS Types

6.3.4.8 Value Parameters for a 1-Byte Object

Parameter bearbeiten

Input 1	Input 2	Value I 2	Input 3	Value I 3	Input 4	Input 5	Input 6	Input 7
Output 5		Output 6		Output 7		Output 8		Output 9		Output 10
Input 8	Input 9	Input 10	Output 1	Output 2	Output 3	**Value O 3**	Output 4

Switch -on value	Send to switch on
Leading sign	positive
Value (0-127)	20
Switch -off value	Send to switch off
Leading sign	negative
Value (0-127)	50

Negative values get smaller, if they get larger in amount

[OK] [Abbrechen] [Standard] [Info] [Teil->Voll] [Hilfe]

After having set the object type, you can assign the output values, which are to be put on the bus when switching on or off by selecting the index card tab "Values O3".

In this example for output 3 the EIS type "14" has been selected, thus, making it possible to set values between -127 and +127.

When switching on the output by telephone the value "20" is sent on the bus with the group address of output 3, and when switching off the value "-50" is sent.

6.3.4 Function of the EIS Types

6.3.4.9 Output Parameters for a 2-Byte Object
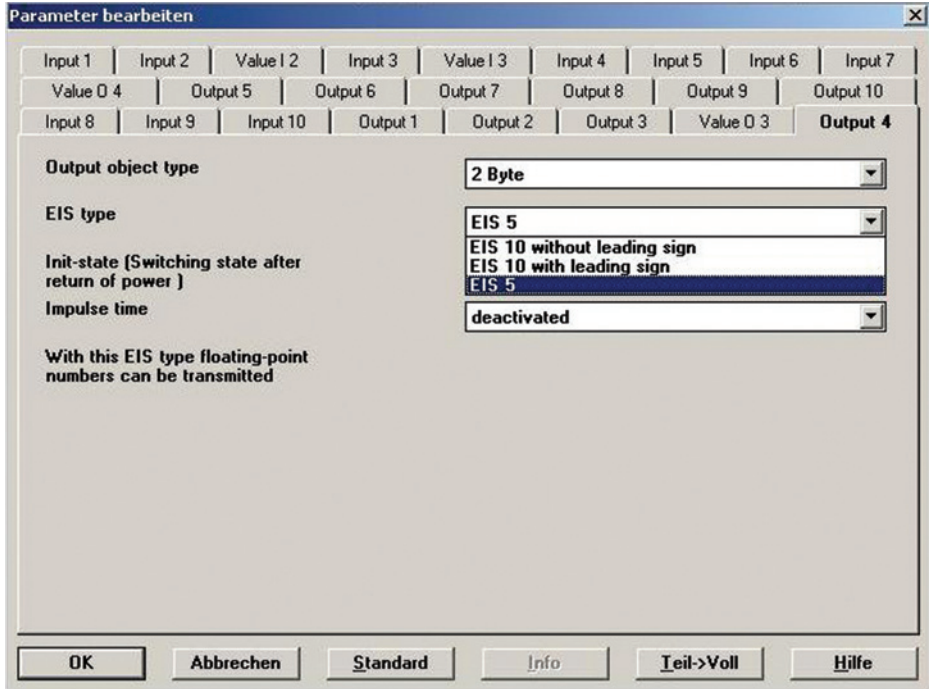
Output 4 has been defined as
2-byte object. As with inputs
you can select here the EIS
types "5" as well as EIS types
"10 with and without sign".

6.3.4 Function of the EIS Types

6.3.4.10 Value Parameters for a 2-Byte Object

After having set the object type, you can assign and calculate the output values which are to be put on the bus when switching on or off by selecting the index card tab "Values O4".

The example shows EIS type "5" having been defined for output 4. The threshold values are resulting from multiplication of base and factor.

The switch-on value is +0,08 x 375=39, the switch-off value is 0,08 x 0=0.

7 Function of the TC Plus

7.1 Switch and Control EIB Devices

The devices connected to the TC Plus can be remote switched or remote controlled via telephone.
For switching and controlling EIB devices, the following principle of DTMF digit codes is being used:

Device digit: X Y Z
X Device type
   0 = conventional device
   1 = EIB device
Y Device number
   1 to 6 (for conv. devices)
   1 to 0 (for EIB devices)
Z Function

   0 = switch off
   1 = switch on
   # = state request
The device digit has 3 digits. The device type (X) differs between conventional device (0) and EIB device (1). The device number (Y) ranges between 1 and 6, or between 1 and 0 (for EIB devices). The last character (Z) defines if the device state is supposed to be switched on or off or if it is a state request (0, 1, or #). For a summary of possible entries see table 5 on p. 77.

Note: While an announcement is being made, the entering of digits will be ignored. Therefore, wait for the end of the voice message before dialing.

Operation	Announcement
Two ringing signals are sent	Here is the TC Plus. Please dial the Code number.
Dial code number 0 0 0 0[1]	Please dial the device number.
Dial digits (e. g. 010)	Device 1 is switched off.

An alarm which is activated while a phone connection is existing, will be sent off not before an existing connection has been disconnected.

---

[1] If the TC Plus is being used within a PABX, it might be necessary to switch the PABX transparent to DTMF-signals, so that the incoming DTMF-signals will not be processed by the PABX. For further details see your PABX operation manual.

7   Function of the TC Plus

7.2   Correcta Wrong Code Number

Operation	Announcement
Two ringing signals are sent	Here is the TC Plus. Please dial the Code number.
Dial code number **1 3 4 5** [1]	The code number is wrong. Please dila the code number.
Dial code number **0 0 0 0**	Please dial the device number.
Dial digits (e. g. **021**)	Device 2 is switched on.

---

[1] After three faulty attempts the connection will be released.

7.3   Send Messages

The 6 conventional inputs and the 10 EIB inputs send off messages automatically to the programmed destinations. The number of messages (dial attempts) and the kind (message type) is depending on the settings made in the respective menu item (see "Configuration by turnkey, p. 36, or "Configuration by PC", p.45).
In case all alarms should be unconfirmed, the local alarm output (ÖA) will be switched and, thus, an alarm detector which is connected to ÖA will be switched on. An alarm can also be confirmed directly on the TC Plus (turnkey or external confirmation push-button).

Settings in the following example 1 with dial attempts set to 12:

	1st Dial attempt	2nd Dial attempt	3rd Dial attempt	4th Dial attempt
Phone number	4711	01724713	4712	muster@mann.de
Message type	Announcement	D2 Vodafone	Fax	e-mail
Announcement/ text message	The heating system has broken down.	The heating system at the Mustermann's house has broken down.	The heating system at the Mustermann's house has broken down.	The heating system at the Mustermann's house has broken down.
Next message	Off	On	On	On

Table 3

Operation	**Announcement or text**	**Display**
		TC Plus O 123456 I 123456 7890 12:00 Sa 27.11.04
TC Plus starts 1st dial attempt		TC Plus Dialing phone number 4711 12:00 Sa 27.11.04
Subscriber does not confirm the alarm.	Announcement: „Here is the TC Plus of the Mustermann family. The heating system has broken down."	TC Plus Dialing break 12:01 Sa 27.11.04
After about 1 minute: TC Plus starts 2nd dial attempt	SMS: „The heating system at the Mustermann's house has broken down."	TC Plus Send SMS 01724713 12:02 Sa 27.11.04
SMS-Center confirms.		TC Plus Dialing break 12:03 Sa 27.11.04
After about 1 minute: TC Plus starts 3rd dial attempt, because of „Next message On"	Fax: „The heating system at the Mustermann's house has broken down."	TC Plus Send Fax 4712 12:04 Sa 27.11.04

7 Function of the TC Plus

7.3 Sending of Messages

Operation	Announcement or text	Display
Fax was not sent (e. g. because of a busy line). After about 1 minute: TC Plus starts 4th dial attempt	e-mail: „The heating system at the Mustermann's house has broken down."	TC Plus Send e-mail muster@mann.de 12:05 Sa 27.11.04 TC Plus Dialing break 12:06 Sa 27.11.04
e-mail has been confirmed. After about 1 minute: TC Plus repeats 1st dial attempt, because of „Next message ON" (5th dial attempts)	Announcement: Here is the TC Plus of the Mustermann family. The heating system has broken down."	TC Plus Dialing phone number 4711 12:07 Sa 27.11.04 TC Plus Dialing break 12:08 Sa 27.11.04
Subscriber does not confirm. After about 1 minute: TC Plus repeats 3rd dial attempt (2nd was confirmed; 6th dial attempts)	Fax: „The heating system at the Mustermann's house has broken down."	TC Plus Send FAX 4712 12:09 Sa 27.11.04 TC Plus Dialing break 12:10 Sa 27.11.04
Fax was sent successfully. After about 1 minute: TC Plus repeats 1st dial attempt with 6 (max.) further dial attempts, if phone or button did not confirm.	Announcement: Here is the TC Plus of the Mustermann family. The heating system has broken down."	TC Plus Dialing phone number 4711 12:11 Sa 27.11.04 TC Plus Dialing break 12:12 Sa 27.11.04
Subscriber does not confirm. After the 12th dial attempt, at the very most	1st confirmed dial attempt →	Alarm confirmed at 01724713 12:13 Sa 27.11.04 TC Plus O 123456 I 123456 7890 12:14 Sa 27.11.04

7.3   Sending of Messages

If the Next message item was switched to OFF at all dial attempts, the TC Plus would have cancelled the alarm message after the 2nd dial attempt because the transmitting of SMS to the provider is considered a confirmed alarm message.

Example 2:

If none of the dial attempts is being confirmed, the following message will appear on the display

```
    TC Plus
Dialing w/o success

12:00      Sa 27.11.04
```

and the local alarm will be activated.
Example 2 shows the steps of an immediate alarm confirmation by the called participant 4711 with the same settings as in example 1.

Operation

TC Plus starts 1st dial attempt

Subscriber confirms with ∗.

Announcement or text

Announcement: Here is the TC Plus of the Mustermann family. The heating system has broken down."

Display

```
        TC Plus
O 123456
I 123456      7890
 12:00     Sa 27.11.04
```

```
      TC Plus
  Dialing phone number
4711
 12:00      Sa 27.11.04
```

```
   Alarm confirmed
      at 4711
12:13       Sa 27.11.04
```

7.4   Confirm Alarm

Alarm confirmation can be performed directly on the TC Plus by turnkey or by an external confirmation push-button as well as on the phone ∗ on which the alarm has been reported.
In case of a voice message the alarm can be confirmed during the speaking break on the called phone by dialing the DTMF symbol ∗.
In case of a text message, the alarm is considered confirmed if the text message has been

delivered successfully to the provider.
Note: The forwarding of text messages by the provider may be performed with considerable time delay.

⚠ Therefore, this message type, is not suited for sending off security-related alarm messages.

7   Function of the TC Plus

7.5   Answering Machine Mode (AW Mode)

If in the initial settings menu the „Answ.mach." item is set to "OFF", the TC Plus will not answer incoming calls. However, if a caller hangs up after the first ringing signal, waits at least for 10 seconds and then calls again within 60 seconds, the TC Plus switches on again after the first ringing signal. In this way, either a connected answering machine or the TC can be addressed.
Hint: The answering machine mode is active with the TC Plus analog only.

Operation	**Announcement**	**Function**
Ringing signals will be sent.		The TC Plus does not switch on.
The caller hangs up.		
The caller calls again within 60 seconds. Ringing signals will be sent.		
alternatively: The TC Plus subscriber line will be called after this number of ringing signals which is set at the answering machine to switch it on.	Here is the TC Plus. Please dial the code number.	
		The answering machine is answering the phone call.

7.6   Dial Tone Recognition

If the DIAL TONE RECOGNITION item is activated (On) the dialing will be cancelled if no dial tone is recognized. The TC Plus then advances to the next dial attempt.

7.7   Line Control

The TC Plus analog is equipped with a line control. About 40 seconds after an interruption of the telephone line, respectively, 15 seconds after a short circuit of the telephone line, the local alarm output will be set and "Line fault" will appear on the display. The local alarm confirmation push-button will reset the local alarm output and at the same time confirm the local alarm output. The TC Plus GSM controls the signal strength once every minute. If the signal is too weak or does not exits the message "No net available" will be sent and the output ÖA will be switched.
The TC Plus ISDN ist not equipped with a line control.

7.8   Behavior in Case of Power Failure

In case of a power failure of the 230 V net or in case of an unplugged plug power supply the TC Plus does not work. The settings, except for date and time, will be saved and are available after restoration of the line voltage, and after plugging in the plug power supply, respectively.
The behavior of the conventional switching outputs after a power failure can be set in the SWITCHING OUTPUTS MENU selecting the INIT CONDITION item for each output.
Selecting On, the outputs will be switched on after restoration of the line voltage, selecting Off, the outputs will be switched off after restoration of the line voltage, and selecting "xxx" the outputs will be set (to the same state) as before the power failure.
The state of the outputs A1 to A6 will not be changed if the activated current impulse mode is activated.
The behavior of the EIB outputs will be set in the ETS and, in case of bus or power failure, is the same as described for the conventional outputs. After restoration of the line voltage the object states are being requested. If at one EIB input the switch-on value is exceeded it will be processed as alarm and the alarm procedure will be run. If negative switch-on values are set for a group address and no device is connected, then the TC Plus recognizes a "0" and reports an alarm because of exceeding the switch-on value.
By using an uninterruptible power supply, the effects of a power failure can be avoided.

7.9   Send Messages with GSM Network

7.9.1   Send SMS

In order to send SMS by the TC Plus GSM the correct so-called SMS-C number has to be saved on the SIM card. In most cases it will already be put on.
You can check this with your mobile phone, if you, according to the type of your mobile phone (see operating instructions), check in the menus called "Notes", or "Messages", or "News" and there in the items called "SMS Center", or "Service Center", or "Service Center Number" if such a call number has been saved.
The correct SMS-C number you can find out from your provider. A wrong number can be overwritten.
If you are able to send SMS with your mobile phone, then, put the SIM card into the card holder of the TC Plus.

Steps of operation to check the SMS-C number, e. g. with the mobile phone of the type Siemens S55:

MENU
↓
MESSAGES
↓
SETTINGS
↓
SMS
↓
OPTIONS
↓
CHANGE SETTINGS
↓
SERVICE-CENTER
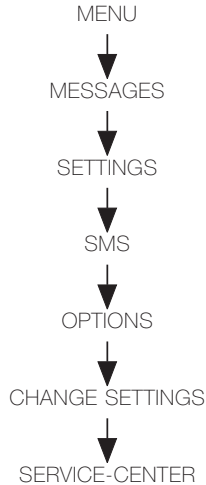
7.9.2   Send E-mails and Faxes

In order to send a SMS as e-mail or fax the appropriate identifier must be saved on the TC Plus GSM. The correct identifiers you can find out from your provider.

⚠️ Not all providers support the sending of SMS as e-mail or fax.

SMS center	Fax identifier	e-mail identifier	Country
D1 T-Mobile +49 171 076 0000	99	8000	D*
D1 Talkline +49 171 076 0345	30	30	
D2 Vodafone +49 172 227 0000	99	3400	
D2 Talkline +49 172 227 0258	30	30	
O2 +49 176 000 0443	329	6249	
E-Plus Germany +49 177 061 0000	1551	7676245	
A1 +43 664 0501	+436646802	+43664680502	A*
T-Mobile +43 676 021	6761	6762	

Table 4

*   D: Germany
A: Austria

8   Hints on Operation

8.1   Summary of the Functions and Function Numbers

State	OFF	ON	Request
Device 1	010	011	01#
Device 2	020	021	02#
Device 3	030	031	03#
Device 4	040	041	04#
Device 5	050	051	05#
Device 6	060	061	06#
EIB function 1	110	111	11#
EIB function 2	120	121	12#
EIB function 3	130	131	13#
EIB function 4	140	141	14#
EIB function 5	150	151	15#
EIB function 6	160	161	16#
EIB function 7	170	171	17#
EIB function 8	180	181	18#
EIB function 9	190	191	19#
EIB function 10	100	101	10#
Complete state request	##		
Confirmation	∗		

Table 5

8 Hints on Operation

8.2 Summary of the given Announcement Texts

Announcement type	Announcement text
TC Plus:	Here is the TC Plus.
Code number:	Please dial the code number.
Wrong code number:	The code number is wrong.
Device select:	Please dial a digit.
Confirmation:	The alarm has been confirmed.
Device-1 on:	The device 1 is turned on.
Device-1 off:	The device 1 is turned off.
Device-2 on:	The device 2 is turned on.
Device-2 off:	The device 2 is turned off.
Device-3 on:	The device 3 is turned on.
Device-3 off:	The device 3 is turned off.
Device-4 on:	The device 4 is turned on.
Device-4 off:	The device 4 is turned off.
Device-5 on:	The device 5 is turned on.
Device-5 off:	The device 5 is turned off.
Device-6 on:	The device 6 is turned on.
Device-6 off:	The device 6 is turned off.
Alarm 1:	The alarm 1 has been activated.
Alarm 2:	The alarm 2 has been activated.
Alarm 3:	The alarm 3 has been activated.
Alarm 4:	The alarm 4 has been activated.
Alarm 5:	The alarm 5 has been activated.
Alarm 6:	The alarm 6 has been activated.
EIB-1 on:	The EIB device 1 is turned on.
EIB-1 off:	The EIB device 1 is turned off.
EIB-2 on:	The EIB device 2 is turned on.
EIB-2 off:	The EIB device 2 is turned off.
EIB-3 on:	The EIB device 3 is turned on.
EIB-3 off:	The EIB device 3 is turned off.
EIB-4 on:	The EIB device 4 is turned on.
EIB-4 off:	The EIB device 4 is turned off.
EIB-5 on:	The EIB device 5 is turned on.
EIB-5 off:	The EIB device 5 is turned off.
EIB-6 on:	The EIB device 6 is turned on.
EIB-6 off:	The EIB device 6 is turned off.
EIB-7 on:	The EIB device 7 is turned on.
EIB-7 off:	The EIB device 7 is turned off.
EIB-8 on:	The EIB device 8 is turned on.
EIB-8 off:	The EIB device 8 is turned off.
EIB-9 on:	The EIB device 9 is turned on.
EIB-9 off:	The EIB device 9 is turned off.
EIB-10 on:	The EIB device 10 is turned on.
EIB-10 off:	The EIB device 10 is turned off.
EIB input 1:	The EIB input 1 has been activated.
EIB input 2:	The EIB input 2 has been activated.
EIB input 3:	The EIB input 3 has been activated.
EIB input 4:	The EIB input 4 has been activated.

8   Hints on Operation

8.2   Summary of the given Announcement Texts

Announcement type	Announcement text
EIB input 5:	The EIB input 5 has been activated.
EIB input 6:	The EIB input 6 has been activated.
EIB input 7:	The EIB input 7 has been activated.
EIB input 8:	The EIB input 8 has been activated.
EIB input 9:	The EIB input 9 has been activated.
EIB input 10:	The EIB input 10 has been activated.

9   Troubleshooting

Fault	Help/Measure
The TC Plus cannnot call	The phone line is not or is wrongly plugged in. The TC Plus is operated within a PABX and • the dial tone recognition is switched on • the line access number is not activated • the connection has no subscriber line authorization. The account on the SIM card has been used up (TC Plus GSM). Dial attempt set to „0". External switch (ES) is activated.
The TC Plus cannnot send SMS	The wrong provider has been selected (e. g. D2 for T-Mobile or D1 for Vodafone). The line access number has not been set. The account on the SIM card has been used up (TC Plus GSM). The prefix number clusters "0193" or „0900" are blocked and „Telekom Festnetz-SMS", or „Annyway" as provider has been selected. (Both providers are using these two number clusters for their SMS Center).
The TC Plus does not accept a call	The phone line is not or is wrongly plugged in. The number of ringing signals is set to "0". CLIP number has been activated, but no CLIP number was set (1 number is sufficient). AB operation (answering machine mode) is activated.
EIB functions are not active	The initialization time of about 1 min has not yet elapsed, i. e. not all the device states have been requested yet. The EIB has not been activated in the initial settings.
The EIB outputs cannot be switched via telephone	The EIB bus has not been connected. The EIB bus has not been activated in the initial settings.
When switching on the TC Plus, an EIB alarm is activated in spite of no device being connected	The switch-on value is set negative. The TC Plus has been sent a value of "0" since no device has been connected and "0" is bigger than the negative switch-on value.
The states of the EIB objects are not being adopted after a reset	The remote stations are not connected. The „reading flag" of the sensors/actors has not been set (ETS setting).
The 3rd and 4th dial attempt have not been carried out	Dial attempt set to 2. Both dial attempts have been de-activated. After the 2nd dial attempt there has been a confirmation. The call number has not been activated.

Dimensions

L x W x H (in mm):	251 x 204 x 49
Weight:	700 g
Color:	RAL 7035
Material:	ABS
Temperature	
Operation temperature:	-5 °C to 45 °C
Storage temperature:	-25 °C to 70 °C
Protection class:	IP 30 according to EN 60 529

Plug power supply

Weight:	160 g
Input voltage	
Input:	100-240 V AC, 47-63 Hz, 400 mA
Output:	12 V DC, 1.25 A
Length of power supply cord:	2 m
Protection class:	IP 41 according to EN 60 529
Class:	II according to EN 60 536

Outputs

6 conventionel outputs:	12 V DC, 100 mA*
1 local alarm output:	12 V DC, 100 mA*
(all short circuit proof and surged with 200 mA)	
General capacity of the switching outputs:	< 700 mA

Current consumption of the TC Plus

all outputs in idle mode

Current:	150 mA
Voltage:	12 V
Power consumption:	1.8 W

all outputs with full load

Current:	850 mA (TC Plus idle mode+6 convent. outputs+1 loc. alarm)
Voltage:	12 V
Power consumption:	10.2 W

* using the plug power supply

10   Technical Data

Inputs
6 conventional inputs: for potential free contacts (activation time > 50 ms)

Telephone connections
Analog: CTR 21
ISDN: CTR 3
GSM 900 MHz, 1800 MHz: CTR 31, CTR 32
Length of subscriber line (analog and ISDN):   each 3 m

EIB: Bus Interface Modul BIM 113

RS 232
Lenght of the Telephone cord
RS 232:   3 m

11 Explanations to the Product

11.1 Manufacturer's warranty

We guarantee the perfect function of the TC Plus for 2 years after date of purchase (receipt) assuming that it was professionally installed and operated.
In case of a malfunction consult the expert who installed the TC Plus.
For repairwork send the TC Plus to the following address:

Rutenbeck Service-Center
Gewerbegebiet
Im Meilesfelde 5
99819 Marksuhl
GERMANY

Phone +49 36925 90091
Fax   +49 36925 90092

11.2 Service

Please notice:
In case of service, the default settings will be programmed. Individual programmed phone numbers and announcements should be written down, since they will be set back to the default settings during service.

11.3 Manufacturer's Declaration

We (Wilhelm Rutenbeck GmbH & Co. KG) declare, that the TC Plus is in accordance with "Basic requirements" and other relevant regulations of the "Directive 1999/5/EC of the European Parliament and the Council of 9th March 1999 on radio equipment and telecommunications equipment and the mutual recognition of their conformity" (R&TTE).
The TC Plus is being manufactured within a comprising quality assurance system according to ISO 9001:2000 with registration number 000886QM.
The testing of the "Basic requirements" of the R&TTE directive regarding EMC and safety regulations take place in the certified Rutenbeck testing laboratory (Q812412N) registered by CETECOM ICT Services GmbH (notified body with EC identification number 0682).
The required conformity assessment processes for the TC Plus have been carried out. The complete declaration of conformity can be found under www.rutenbeck.de in the download-sector.

11.4 EIB Approval

The TC Plus is certificated by EIBA sc
No. **73/6598/04**.

11.5 Important information regarding rules for disposal of electronic waste

There is a collection point in each community for the disposal of electronic equipment once it has reached the end of its useful life. Please consult your local authorities.
You should never dispose of this device in general unsorted garbage.
Improper disposal of electronic waste can introduce dangerous substances into the environment and affect public health.
Please do your part to protect the environment by properly recycling this equipment at the end of its useful life. The recycling system will be financed after August 13, 2005 by manufacturers of electrical and electronic equipment.

Rutenbeck

Fernmeldetechnik

Niederworth 1-10
58579 Schalksmühle
GERMANY
Phone +49 2355 82-0
Fax   +49 2355 82-105

www.rutenbeck.de
mail@rutenbeck.de