distyNotruf ᵖʳᵒ Ascom

Operating Instructions

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Safety instructions

Intended use

This unit is foreseen for communication in a DECT - provided installation.
The user must be instructed on the use of this device.
Do not use the device under extreme environmental conditions.
Use only accessories and replacement parts supplied by us.
Use the charger only with the supplied power supply (see also section 'Charging').

WARNING!
Keep this unit away from your ear!
The sound pressure of the speaker can affect the user's hearing.

Notes on lithium - ion batteries

The device is powered by a lithium - ion battery. For handling with this type of energy source note the following:

- Charge the battery on a regular basis and as completely as possible. Do not leave the battery for a long time in a discharged state.
- Keep the battery away from heat sources such as Heaters and open flames such as Candles. Danger of explosion!
- Do not use charging devices that are damaged in any way.
- Do not disassemble or deform the battery. Your hands and fingers may be injured, or battery fluid may get into your eyes or on your skin. If this happens, rinse the area with a large quantity of water and inform your doctor immediately.

Recycling and Disposal

Your device is delivered in a package. This serves to protect against damage during transportation/storage. Packaging is made from materials that can be disposed of environmentally friendly and supplied to a proper recycling.

Take neither the device nor its accessories, at the end of its life cycle in the normal household waste! Enquire about the options for environmentally- friendly disposal.

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General

To maintain an overview over the position of a stranger or staff in a difficult or dangerous environment at all times, the DECT installation is complemented by a localization function. This requires a mobile unit **distyNotruf pro** that is fastened e.g. to the wrist, belt or the protective helmet.

The control center can initiate a request through a central server in respect of any staff that is equipped with this device. The server will then establish contact with the **distyNotruf pro**; it reports back the current field strength of the base stations whose signals are most strongly received and if necessary, additional information through Beacon service (ASCOM 9LD Locator). The server calculates the position using such transmitted information and shows it in a layout plan at the control center.

This Operating Manual is meant for the administrator of the facility who is well informed about the DECT technology and has the duty of setting and managing this special terminal device.

The device is supplied in a cardboard box along with a User's Manual.

The IPEI is indicated on the label (= 014231011124).

Application
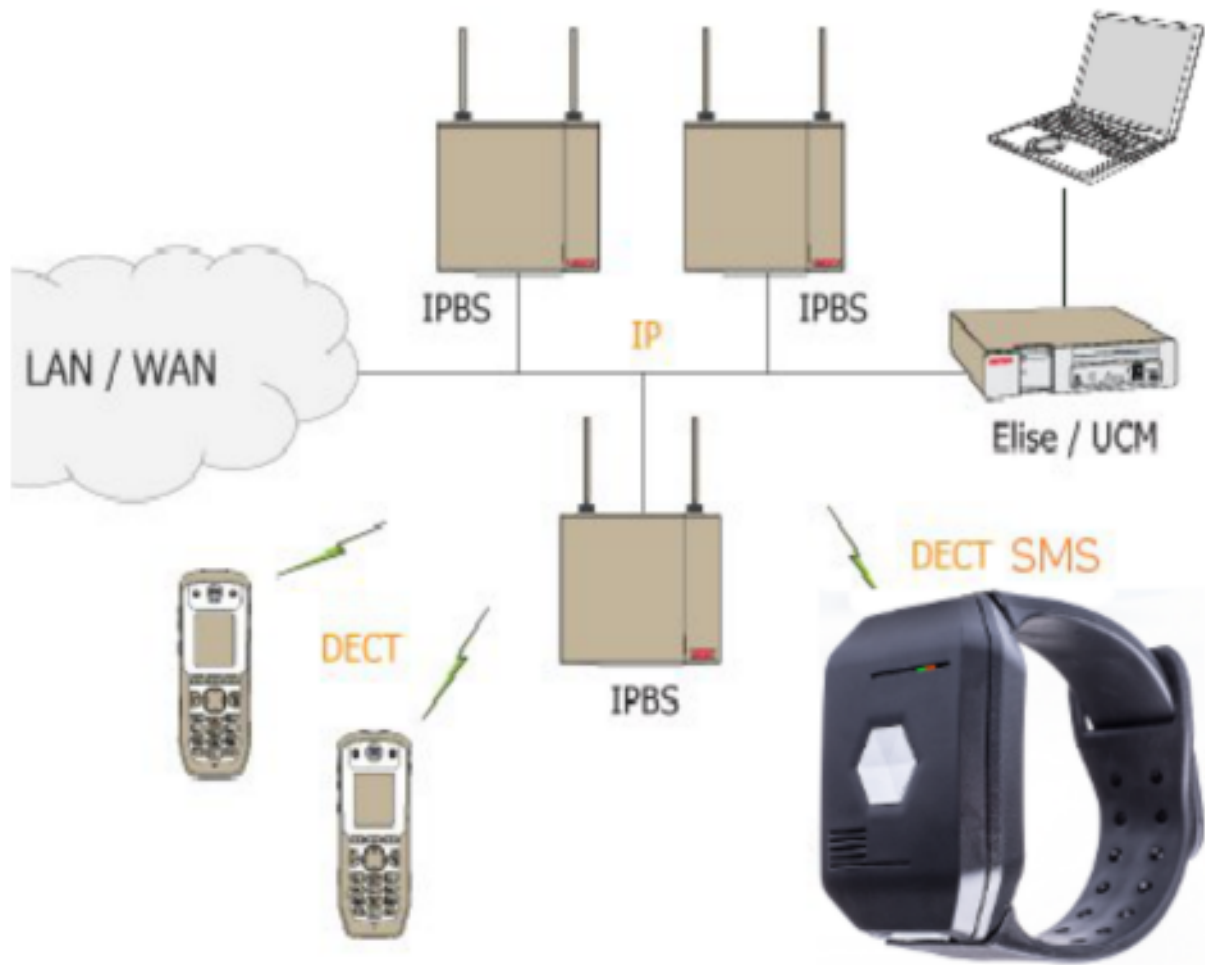
Components of an ASCOM system

ASCOM – Protocol (DECT location service per SMS)

Legends:
— Request to SSD
— Response from SSD
— DECT location

ASCOM - Beacon - service

Various ways to wear the tag

The **distyNotruf pro** can be worn or fastened to your body in three different ways.

Possibility 1: Fastening at the wrist:

The two spring bars must be put through the holes of the wrist band and then inserted into the side holes of the tag as illustrated. Place one side of the spring bar into the hole and press the other side with your finger tip so that you will be able to place the opposite top of the spring bar into the opposite hole.
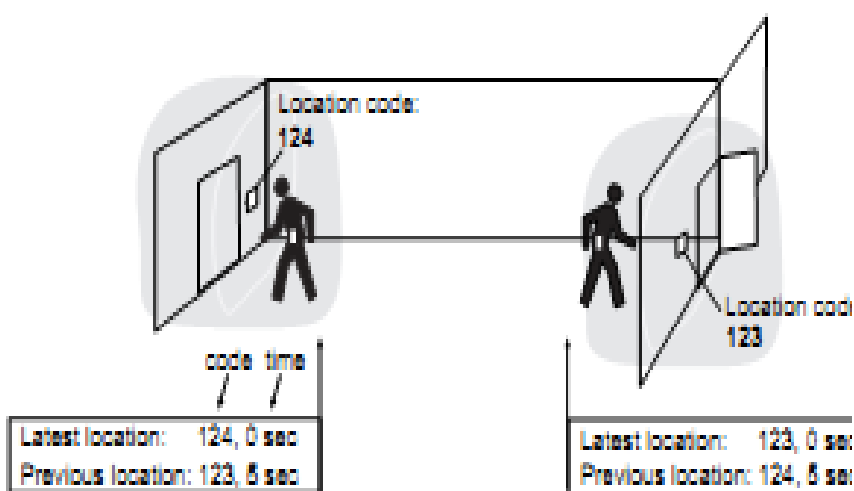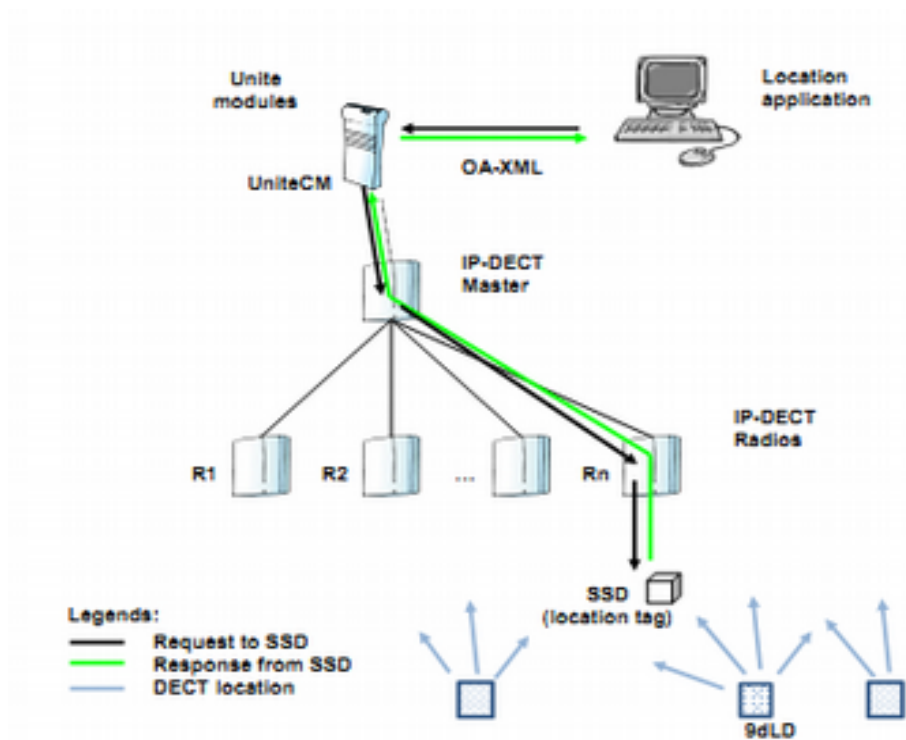
In case of dismounting press a small stick, like a paper clip, into the outside of the hole from the tag so that the spring bar can be removed.

Possibility 2: Fastening with the belt clip

To mount the belt clip, the bracelet has to be dismounted as described above. Remove the spring pins from the bracelet and insert one spring pin on the side of the charging plug. Press the middle tab of the clip through the clamp and push it under the mounted spring bar. Insert the second spring pin into the opposite end of the clip. Move the clip to the approximate end position, as shown above. Insert the one side of the spring bar into the hole provided for this purpose. Press the other side of the spring pin towards the clip, locking the clip into the final position.

The belt clip is designed in such a way that, when the clamp is pulled too strong, the tab slips out of its mounting.
This prevents breakage or damage to the belt clip! To restore the function, lift the clamp and insert the tab under the spring pin again.

Possibility 3: Fastening with the Neckband

Mount the belt clip as described above and connect the snap hook through the hole of the clip. Close the lock and it should now look like the picture on right hand side.

The lock will open automatically, if the neckband is pulled with too much force. This will prevent the user from being hurt, should the device accidentally stick to an obstacle.

Putting into operation

Charge the **distyNotruf pro** by using the power supply until the red LED turns off.

Subscription

There is an in-built algorithm to accelerate the login process in such a way that the **distyNotruf pro** begins by searching for the strongest base station. It is therefore of paramount importance to ensure that the terminal device is logged-in in the proximity of a base station!

The preset authentication code (AC) is 0000.

The **distyNotruf pro** is prepared through the following procedure. The process functions only if the device is not subscribed. See chapter on "Factory setting".

The device is plugged into the CS. Press the key within the next 5 seconds and wait 10 sec for the green LED to light up. Now let go off the key.

The function has now been activated. The green LED begins to flash. This indicates that the **distyNotruf pro** is searching for the base station that is ready for subscription.

The DECT base station is activated for the subscription process. Ensure that no other base station / DECT system has activated subscription readiness.

You will hear a "Beep" after successful subscription and the device will restart to accept the data. The subscription process is thus completed and the **distyNotruf pro** can be removed from the charger station. The device begins to search for the base station and register itself. It switches to the "Stand-by state" (= idle locked) after successful synchronization.

The green LED will now flash up briefly once in every 10 seconds.

ASCOM system/multi - cell system

Normally, the **distyNotruf pro** is subscribed as described in the previous chapter. The system has already been activated for subscription. The system administrator enters the new terminal device into the system.

Is the **distyNotruf pro** required to function in a specific facility? If yes, please follow the following instructions.

Subscription using PARK

RFPI/ PARI (= Channel element / Base station) is the default on which subscription is performed. This information can be found in ASCOM as System Administrator under DECT/ Radio/ RFPI 9014BC1008 (<- Example!).

The process is described as follows. This is performed with the help of the programming station (Function 'set PARK', manual entry).

- `c_31_9014_bc10_08`   Set the RFPI of the channel element that is
to be used for subscription.

(Please observe hexadecimal entry!)

The **distyNotruf pro** is subscribed as described above.

Subscription using SARI

In case of huge systems (integrated systems), affiliation is regulated through a SARI. This number will be disclosed to the system administrator and the new terminal device set-up in the system.

The system is activated for subscription; the administrator has disclosed the SARI used (e.g. 3111111111115) and the new terminal device set-up in the system. The SARI is entered in the device through the programming station (PS, see chapter on "Requesting / Setting parameters and functions") (*Function 14*). Subscription is now performed as described above.

Configuration

Some settings were made in the device during production, which shall be adapted to the respective purpose of application. For this purpose, see the section on *"Requesting / Setting parameters"* as well as *"Configuration data"*.

It is necessary to configure the device accordingly depending on application. This is easiest when done with the aid of the programming adapter and programming software..

It is advisable to restart the **distyNotruf pro** after changing parameters.

Unsubscription

The logical disconnection of the **distyNotruf pro** and the DECT base station is done by deleting the DECT subscriber in the base station. This process also includes the removal of relevant data in the **distyNotruf pro** through the DECT protocol as long as the function is supported by the base station.

Process: see "Factory setting".

This is the last step required by the system administrator to delete the subscription data of the **distyNotruf pro** from the system and thus unsubscribe the device.

Subscription data are deleted also by resetting to the default status (Factory setting).

After a maximum of 3 minutes, the **distyNotruf pro** switches to the sleeping mode: no LED lights up, DECT activity is halted.

Factory setting

The following operating procedure is performed to reset to delivery status factory setting (default), which will work only when the device is subscribed.

- Set **distyNotruf pro** to CS. Red LED illuminates as confirmation and acoustic "beep" signal is heard.
- Press the alarm key latest after 5 seconds and hold for 10 seconds
- Green LED illuminates
- Let go of alarm key before LED switches off (2 seconds time)
- A (450 Hz) tone is heard and red LED illuminates
- Remove **distyNotruf pro** from charging cable
- **distyNotruf pro** switches to power down (every function switches off)

All values return to basic setting. The device is now ready for subscription again.

Characteristic	Factory setting	Personal setting
Emergency call	Not active[1]	
Ring tone volume	3	
DECT radio activity	Not active	

1 Stored number will not be erased during factory reset.

Shock sensor	Not active	
Hospital	Not active	
Authentication code (AC) (up to eight digits)	0000	
PIN	0000	
Beacon-service (ASCOM location device 9dLD)	Not active	
Special location alarm (Beacon-service)	Not active	
SMS on low battery	Not active	
Ring tone	Active	
Personal alarm (Alarm button acts as on a ASCOM-Handset and sends a SMS)	Not active	

Note: Alternatively, default status can be established through the programming station.

Requesting/Setting parameters & Functions

Parameters can be configured in the **distyNotruf pro** using the programming adapter that can be ordered as accessory.

The following is a description of the handling.

With the power supply *programming function* (PS), the battery of the **distyNotruf pro** can either be charged or some settings modified through data transmission.

A PC with USB connection is required to use the PS for the setting of parameters.

The PS will now be connected to the PC through a USB cable and a programming adapter.

Note: If applicable, the installation of a driver (= Virtual Com-Port) may be required (CDC driver, *USBLadestation.inf*).

The **distyNotruf pro** is not plugged during installation.

The programming tool ('disty Programmer App') can be downloaded from the homepage of the company Disty. Save it in a folder of your choice and activate it. A window will appear with the question: *Execute* or *Cancel.* Clicking on *Execute* will open up the operating program.

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The App has the sheet "PC-COM" selected. This is the default after start of the program. On this sheet the appropriate COM port should be selected via the drop-down list.

With the upper left button the APP starts into programming mode. The lower line, which shows the hint and/ or status gives the command to insert the **distyNotruf pro**.

After the PS has recognized the **distyNotruf pro**, the communication begins and the LEDs of the tag will be turned on. The status line will light up in green color.

The tool is ready for use!

Now you can choose the function or value you want to change.

As an Example: alarm number:

- go to sheet 'Configuration 1'

- write the appropriate number, which shall be dialed by pressing the alarm button, into the field 'Alarm number'

- initiate the transmission by clicking the 'write' button

Now the LEDs again start blinking to indicate the ongoing communication. At the end of transmission we see the green status line.

In this way several parameters can be set to your needs.

In the end you stop the mode by pressing the upper left button.
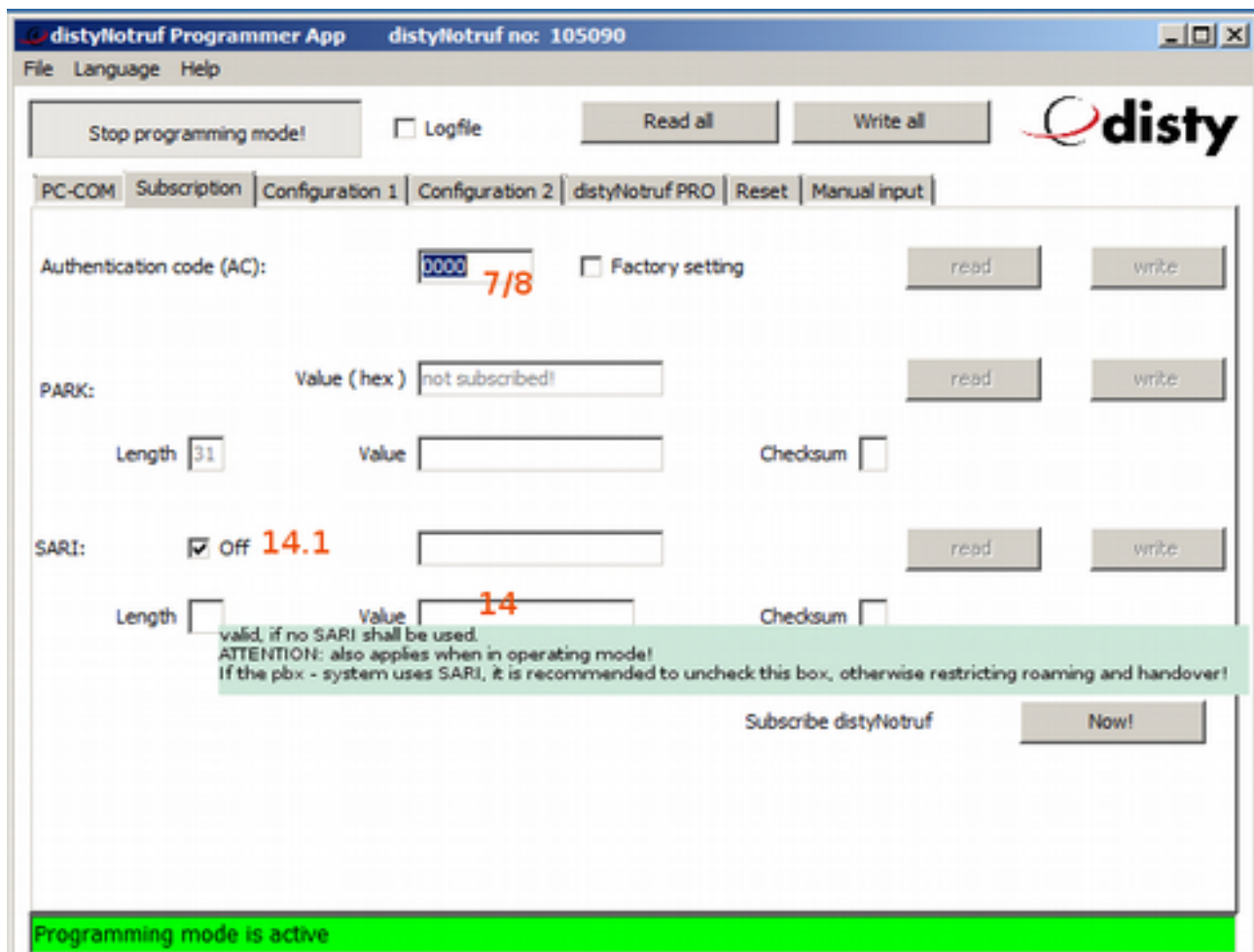
Performance characteristics (features)

Basically, the **distyNotruf pro** is conceived in such a way that an event is transmitted to a central instance as an SMS message or speech connection is established with a preset number. Both actions can also be combined. This depends on one hand, on the application and the infrastructure.

An event in this sense means press the button, insertion into/ remove from charger or an incident due to the acceleration sensor.

For setting or activation through 'disty Programmer App', see preceding chapter.

Exchange of messages via SMS and the Beacon service are possible only during operation with ASCOM facilities.

Emergency call (default: disabled)

If the button is pressed for longer than 3 seconds in a normal state, a link will be established with a programmed number; the red LED flashes. That is a speech connection.

This can be terminated only by pressing the button again.

If a **distyNotruf pro** is called, which has no emergency number set, then it stores the callers identity (CLIP[2]) as emergency number.

Announcement (Call)

If a call is made through any random number, the **distyNotruf pro** builds-up the connection immediately. The loudspeaker and the green LED are switched on and a brief tone informs the bearer that an audio connection has been established with the caller.

Volumes

Following volumes can be adapted:

- loudspeaker 8 steps
- ringing tone 4 steps
- bell tone 4 steps
- microphone 16 steps

2 CLIP = Calling Line Identification Presentation

DECT Activity (default: disabled)

DECT remains switched off during charging. This can be modified through the configuration data in such a way that the device remains switched on also during charging (see *Function 24.2*)

Moreover, the event "Set in CS" or "Remove from CS" can be set to be transmitted as SMS to the OAPT interface (format, see **SMS – messages**).

Note: The alarm – functionality of the key is enabled 5 sec after inserting the device into the charger!

Shock sensor/Motion alarm (default: disabled)

Performance characteristics serve the purpose of recognizing an accident on the part of the bearer e.g. fainting, non-usage of the device or touching of a secured object.

If the acceleration values of the sensor fall short of a specific value (= threshold) for a specific amount of time (= time out), alarm will be triggered (Mode "Quiescence" / 'man down alarm')
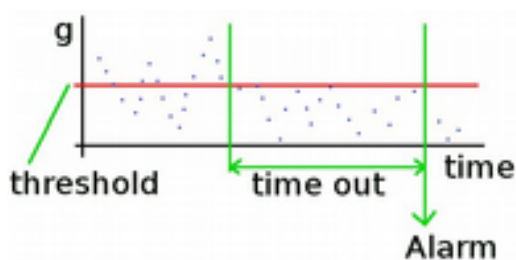
Mode "Quiescence" / man down
Alarm is reported in the mode "active" (/ 'moved after timeout') if motion is detected after a specific period in which no vibrations have been detected.
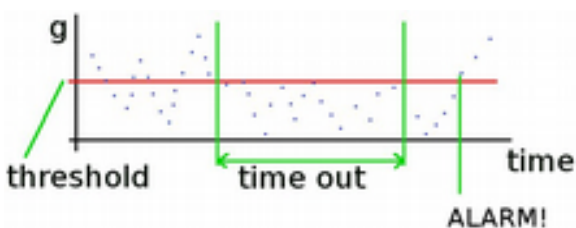
Mode "Active" / motion detection

This is done in the form of an SMS message transmitted to the central OAPT interface as a call to the preset emergency number.

The values for "threshold" and "time out" can be set through configuration.

The profile can be adapted to needs by varying parameters and timeout.

Timeout time can be set in this case, between 20 and 254 seconds.

The 'man down' variation will then be active in the basic setting.

It will be set to 'motion detection' by setting the checkbox.

If an event is triggered, i.e. an SMS transmitted / speech connection established, this will be shown through a brief flashing of the red LED.

Performance characteristic is switched off in the CS.

Examples of setting the functions:

a) Function "Man Down", Timeout = 240 seconds

    Alarm time of 4 minutes must be set through configuration.

    If the device is not moved for a minimum of 4 minutes, the respective SMS will be displayed at the OAPT interface. The precise format is listed further behind (*MD*).

    Alternatively, a call is put through to the preset number.

b) Function "Motion Detection", Timeout = 180 seconds.

    The function as well as the alarm time of 3 minutes must be set through configuration.

    If the device has not been moved for 3 minutes and is then moved once again, an SMS will be transmitted to the OAPT interface.

    Alternatively, a call will be put through to the preset number.

Announcement tone off (ring tone, default: disabled)

When you get a call there is an audible indication in the form of a short "beep".
The locator options setting can be changed so that this sound is not heard.

Performance characteristics "Hospital" (default: disabled)

The feature is described as follows:
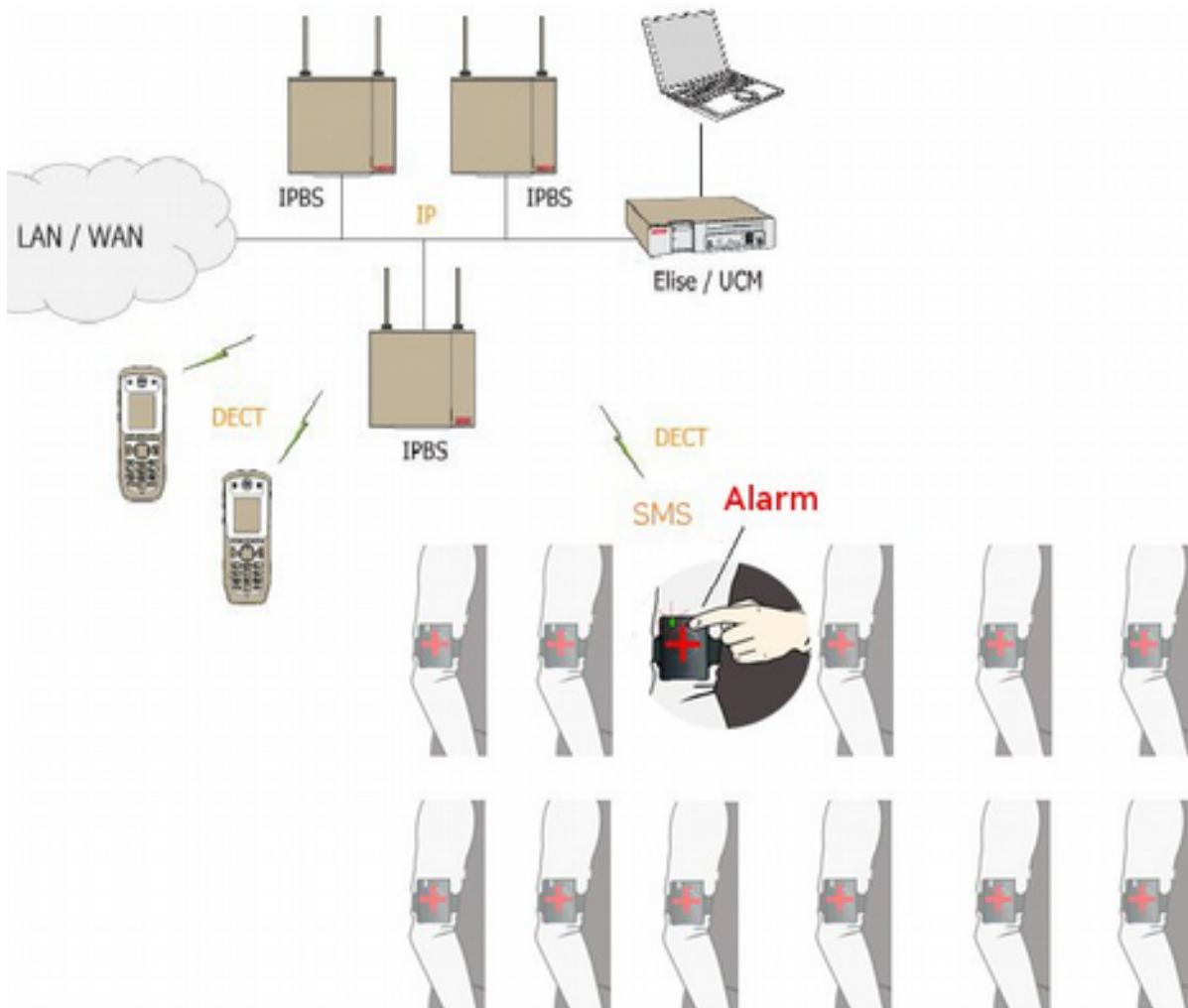
Alarm case

- Patient presses button→ **distyNotruf pro** is switched on for at least 10 minutes and dispatches a SMS message (→ Alarm & Coordinates, depending on configuration)
- Patient receives visual and acoustic feedback
- Nurse is informed through her handset and can gets back to patient
- After 10 minutes, the device switches off again and is ready for new alarm

The following parameters are used as setting:

- Emergency number
- Locator options

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Call setup (with OAPT – interface)

Call setup SMS: if a SMS with the content `(PTP)CS;A=12345;S=0` is sent to the **distyNotruf pro**, it calls the subscriber 12345.

With an additional parameter only the microphone is enabled. No optic/acoustic indication will be observed at the **distyNotruf pro**, when a SMS with this parameter setting is sent. Please use with caution!

- `(PTP)CS;A=12345;S=0 -> normal`
- `(PTP)CS;A=12345;S=1 -> silent (microphone only)`
- `(PTP)CS          -> release call`

Setting through DTMF

Different parameters can be alternatively set with the help of the DTMF technology. Speech contact is first established with the **distyNotruf pro** for this purpose and the remote subscriber sends the respective sign.

After recognizing the desired setting, in this case the introductory sign '**9', a one-minute countdown begins for the modification of the desired parameter.

Following successful programming, a positive acknowledgment tone will sound and the connection will be terminated.

Only one parameter can be modified.

- Authentication Code (AC) `'* * 9 pin 5 <ac> #'`

          `( ac = 0..9, 4-/ 8- digits )`

- Volume of loudspeaker   `'* * 9 pin 1 <Volume value> #'`

          `( Volume value = 1 .. 5 )`

- Volume of ringing tone   `'* * 9 pin 4 <Volume value> #'`

          `( Volume value = 1..2 )`

- Emergency call number   `'* * 9 pin 2 <Calling number>`[3] `#'`

          `( Calling number max. 20 digits )`

- Shock sensor[4]   `'* * 9 pin 3 <Value> #'`

           `( Value = 0: Off,`

                 `1: Man down alarm,`

                 `2: Moved after timeout )`

        `pin: 4 digits. Required only if it is not 0000.`

---

3   1st number = * → internal, = # → external number
4   Timeout = 2 minutes

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To avoid disturbing noises during transmission, it is advisable to switch off the microphone of the transmitting device.

Configuration via microphone

To configure a **distyNotruf pro** without programming station, it is possible to adjust the parameter sent by DTMF tones through the microphone. This may be necessary if the base station uses an AC, which differs from the default setting.
As a prerequisite the **distyNotruf pro** must be unsubscribed.
The function is activated by pressing the alarm button. Both LEDs are illuminated.
Now the device will record the DTMF-tones via the microphone for the next 30 seconds.
For example, the setting of an AC = 0627 would be as follows: ** 9 5 0 6 2 7 #.

To generate those sounds, there are various possibilities. This can be done with a tone generator, a telephone, mobile phone or a PC - program. In the case of a telephone a connection is made to any subscriber. Then place the **distyNotruf pro** near the earpiece or speaker of the phone, push the button on the **distyNotruf pro** and now select the above-described combinations of numbers on the push button at the telephone.
The successful programming is indicated by a positive acknowledgment tone.
If you want to change other parameters, this procedure must be repeated accordingly.

Battery warning as SMS (default: disabled)

If the battery reaches its low limit of capacity, a corresponding text message is sent to the control panel (format, see **SMS – messages**).

Personal Alarm (default: disabled)

If this feature is enabled, the function of the key is changed. The **distyNotruf pro** responds as the alarm button at a ASCOM - handset:
long press → 'Test - alarm', two short pressures → 'User - alarm'.
The messages of the alarm button and the shock sensor will be transmitted as SMS - message.
For more details on the protocol, please refer to the german version of this document!

Special Location Alarm (default: disabled)

Works together with ASCOM locator device 9dLD. Sends an alarm, when it detects such beacon.

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SMS - messages (@ OAPT, 2011-12-05)

For a complete overview of the implemented protocol, please refer to the documents

- SSD – Ascom IP-DECT concept (B).pdf
- SSG-Bedienungsanleitung.pdf
- SSG-COTA.pdf (COTA = Configuration Over The Air)

Locate Request/ Locate Query (handling of coordinates)

The following text will be sent to our **distyNotruf pro** as a SMS:

```
(PTP)LQ;Z=1
```

The device answers with a response message 'Locate Response'.

Locate Response

```
<?xml version="1.0" encoding="UTF-8"?>
<OAP-request id="9b8a01c3" version="4.0">
  <Header>
    <Port>1322</Port>
    <From>34</From>
  </Header>
  <Body service="OA-XML">
    <service version="1.0">
      <User_data>
        <Data>(PTP)LR;Z=01;B=9014BC2009:54;C=0002:1259</Data>
      </User_data>
    </service>
  </Body>
</OAP-request>
```

`Z=01` is the reference number to follow up the dialog.

Inserting into charger

```
<?xml ...>
    <User_data>
      <Data>(PTP)AI;Z=57;B=9014BC1008:50;F=2</Data>
    </User_data>
  <...>
```

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Removing from Charger

```
<?xml ...>
    <User_data>
      <Data>(PTP)AI;Z=58;B=9014BC1008:50;F=1</Data>
    </User_data>
  <...>
```

Acceleration detection (motion detection)

```
<?xml ...>
    <User_data>
      <Data>(PTP)PA;Z=33;B=9014BC2009:50;D=3</Data>
    <...>
```

Man Down

```
<?xml ...>
    <User_data>
      <Data>(PTP)PA;Z=88;B=9014BC1008:51;D=2</Data>
    <...>
```

Alarm (button, Personal Alarm, user initiated)

```
<?xml ...>
    <User_data>
      <Data>(PTP)PA;Z=77;B=9014BC300A:47;D=1;C=01C7:0001;C=0002:99</Data>
    <...>
```

Testalarm (button, Personal Alarm, test)

```
<?xml ...>
    <User_data>
      <Data>(PTP)PA;Z=66;B=9014BC1008:47;D=0;C=0045:197</Data>
    <...>
```

Special location alarm (Trigger via 9dLD)

```
<?xml ...>
    <User_data>
      <Data>(PTP)LI;Z=55;B=9014BC2009:50;C=0002:1;C=0E23:65535</Data>
    </User_data>
  <...>
```

Battery low

```
<?xml ...>
    <User_data> <Data>(PTP)DS;Z=44;B=9014BC1008:63;H=1;C=002A:20</Data>
    </User_data>
  <...>
```

It is allowed, to send the protocol element ‚H' together with other SMS – messages.

The range of the reference numbers = 01..99, decimal notation.

The Beacon – Id is transmitted as a 4 - digit semi decimal number.

The range of the Beacon – timer in seconds = 0..65535, decimal notation.

All characters are capital letters.

RSSI – values of the base station = 00..63, decimal notation.

Charging

Charging takes approximately 4 hours for a complete charging cycle.

Power supply plug:

- 5 VDC, 500 mA (Type Europlug KA 1504001)

- Operating temperature: 0 °C to + 35 °C

- Storage temperature: - 20 °C to + 60 °C

Operating display

Operating status can be read on the LEDs.

	Mode	LEDs / Acoustic
1	Plug into power supply	"Beep" tone, red LED illuminates once
2	Remove from power supply	Abort charging: red LED goes off
3	Charging (DECT activity on)[5]	Red LED flashes during charging and turns off when charging is completed (Flash rhythm: every second) Green LED as in 6) / 7) / 8)
4	Charging (DECT activity off)	Red LED flashes during charging and turns off when charging is completed (Flash rhythm: every second) Green LED is off
5	Charge status low	Red LED flashes once in every 30 seconds and beep tone[6]
6	Subscribed, registered	Green LED flashes once in every 10 seconds
7	Subscribed, out of range / searching for base station	Red LED flashes every second
8	DECT connection	Green LED is switched on
9	Alarm	Red LED flashes once in every 0.5 seconds
10	Range (Limit)	Red LED flashes fast. Warning tone
11	Status on delivery (Default), Press of button	Red and green LED on
12	Programming through DTMF	Green LED flashes

5 depending on setting
6 Tone stops after 5 min.

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It is fixed in factory settings that DECT activity turns off when the **distyNotruf pro** is in the CS.

If the device is configured in such a way that DECT operation is continuously active, the meaning of the green LED during charging as stated in the above table will be maintained. Moreover, the respective SMS is then sent to the control center (UCM/Elise) while plugging into the CS or removing from the CS.

If DECT activity is off, DECT operation will be stopped during charging. Moreover, no SMS will be sent as described above.

The LEDs have a different meaning if operated during a programming session.

Mode	LEDs
Device is plugged in the programming station and is ready for data transmission	Green and red LED illuminate

Package list

The following items will be found together with the **distyNotruf pro** in the box.

- **distyNotruf pro Ascom**
- two spring bars (*mounted*)
- Bracelet (*mounted*)
- Belt clip
- Neckband
- Users brief manual
- Card box
- Power Supply and Cable

(example!)

Technical Data

- DECT – GAP, EN 300 444 (Frequency range & Output power: compliance with EU/EFTA and AUS)

- Plastic housing, 57 mm x 42 mm x 15 mm

- Weight is approximately 30 g

- Protection class IP 65

- Stand-by time > 120 hours[7]

- Talk time: > 4 hours

- Charging/ Programming method: Power supply and cable

- Motion sensor

- Loudspeaker for acoustic signaling or speech output

- Button for emergency call and operation

- LEDs for operative display (2 colors)

- Microphone

- Lithium ion battery, Capacity: 450 mAh, 3,7 V,

  Charging time: about 4 hrs. for a complete charging cycle

- Operating temperature: - 10 °C bis + 40 °C[8]; Storage temp.: - 10 °C bis + 60 °C

Product approval/ $C \epsilon$ mark

Disty communications GmbH hereby declares that the **distyNotruf pro** conforms to the fundamental requirements and other relevant regulations stated in Directive 1999/5/EU (Radio and Telecommunication Terminal Equipment, R&TTE). Conformity is declared by the CE mark.

The full declaration of conformity can be viewed on our website: http://www.disty.de.

---

7 In environment temperature of + 20 °C
8 Charging up to max. environment temperature of + 35 °C!
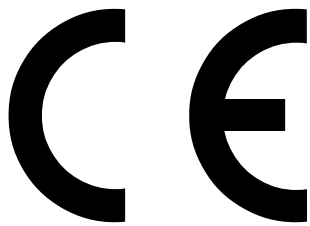
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