Introduction

The GSM alarm module is a GSM alarm modem which is easy to install and to use. It is suitable for low-cost remote control in industrial and private facilities management, e.g., in order to monitor heating and air conditioning and cooling systems, lifts and escalators.

It is also possible to control machines and various types of devices. Using the GSM alarm module, it is possible to monitor two digital inputs and switch a relay by means of a normal mobile phone.

Up to 5 further telephone numbers can be stored in the GSM alarm module by means of the Administrator. These numbers receive an SMS message from the GSM alarm module if a fault occurs or if the inputs are activated.

The device can be configured and commissioned simply and without any software tools or programming knowledge.

Apart from the GSM alarm module you only need an activated SIM card from any network operator (e.g., T-Mobile D1, Vodafone D2, E-Plus, O2).

Types of device

This documentation contains the operating instructions and technical information with regard to device types GSM alarm module Version 1 (V1, HW issue 1.2, SW issue 1.08) and GSM alarm module Version 2 (V2, HW issue 1.2, SW issue 1.03).

GSM alarm module V2 contains an internal NiMH rechargeable battery as an addition. This means that the GSM alarm module V2 is able to send an SMS if the power supply fails or to report a power supply failure.

Warning: The internal rechargeable battery of the GSM alarm module V2 is empty when it is delivered to the customer. Connect the GSM alarm module V2 to the power supply for charging for 24 hours when you first receive it.

Chapters and notes which only apply to the GSM alarm module V2 are identified accordingly.

Use for the intended purpose

The use for which the device is intended is remote inquiry of the inputs and generation of SMS messages following activation of the inputs. It is also possible to switch the GSM alarm module relay contact on and off by remote control via the GSM network. Any other uses than those just described are not permissible and are not for the intended purpose. The GSM alarm module may not be used for safety and security control tasks due to the availability of the GSM telephone network.

Connections and LED displays

Fig. 1

Connections

As can be seen in Fig. 1 the GSM alarm module has 4 pairs of screw-type terminals:

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Clamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>1, 2</td>
</tr>
<tr>
<td>DI1</td>
<td>3, 4</td>
</tr>
<tr>
<td>DI2</td>
<td>5, 6</td>
</tr>
<tr>
<td>DO</td>
<td>7, 8</td>
</tr>
</tbody>
</table>

Power supply connection
Opto-decoupled digital input 1
Opto-decoupled digital input 2
Relay contact

The GSM antenna is inserted in the antenna socket (MMCX/m connector).

LED Display

If the device is connected to the mains power supply, the LED "Power" lights up. As soon as the module is logged in to the GSM network, the LED "GSM" will wink every 2 seconds.

The LEDs "DI1" and "DI2" signal the state of the digital inputs.

The LED "DO" lights up if the relay is activated.

Meaning of the LED "Err":

<table>
<thead>
<tr>
<th>On</th>
<th>Booting or error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blinks 1 second on / 1</td>
<td>No AN yet (see page 3 configuration)</td>
</tr>
<tr>
<td>2 x short on</td>
<td>No SIM-Card inserted or not locked into GSM.</td>
</tr>
<tr>
<td>3 x short on</td>
<td>Wrong PIN</td>
</tr>
<tr>
<td>Off</td>
<td>GAM ready</td>
</tr>
</tbody>
</table>
Initial Use

Instructions

The operating instructions supplied on CD contain important information on the initial use and handling of the GSM alarm module. Please read them carefully before using the GSM alarm module!

If damage arises which is caused by not complying with the operating instructions, no claim shall be accepted under the warranty!

We do not accept liability for any consequential damages which may result.

We will not accept any liability if damage is caused to property or injury to persons because of inappropriate handling or disregarding the safety instructions. No claim under the warranty whatsoever shall be accepted in such cases.

The GSM alarm module is fitted with highly integrated modules. These electronic components are very sensitive to discharges of static electricity because of their technology.

Please ensure that you are earthed when inserting the SIM card if possible. Avoid touching the pins of components on the printed circuit board.

While the GSM alarm module is operating, depending on the application, GSM text messages (SMS) can be sent automatically, as a consequence of which you may incur charges – depending on your GSM network operator.

Inserting the SIM card

You need an enabled SIM card from a GSM network operator to use the GSM alarm module. The PIN must be set to "1234". Use a normal mobile phone in order to set the PIN. Please see the operating instructions of your mobile phone on how to change the PIN.

Before you insert the SIM card to the GAM, please check whether you can send and receive SMS with a normal mobile phone.

If you have any problems to send or receive SMS, please contact your provider for this issue.

If you have inserted a SIM card with a different PIN than "1234", the GSM alarm module will use a "wrong" PIN each time it switches on, which means that your PIN will be blocked after three attempts.

If this happens, you must assign a new PIN to your SIM card using the Super-PIN (PUK). Please read the relevant section of your mobile phone operating instructions for setting the PIN or for resetting a blocked PIN with the PUK.

If you want to make use of a SIM card without a PIN, this is also possible. The GSM alarm module recognises such cards and behaves accordingly.

Insert the SIM card before installing the device into a distribution board and applying the supply voltage.

Open the front cover with a screwdriver. Then lay the SIM card into the SIM card holder of the GSM alarm module (see Fig. 2).

Push the cover of the SIM card holder slightly and open it up. Push the SIM card into the cover, hinge it shut and slide to lock. Please comply with the orientation of the SIM card, especially the position of the angled corner.

Close the front cover of the GSM alarm module, noting the installation direction.

Fig. 2

Antenna connection

Insert the GSM antenna in the MMCX antenna socket.

Position the antenna at a location where you have a good GSM radio reception.

Tip: You can check the quality of the radio reception with a normal mobile phone. The phone SIM card must be from the same network provider.

Power supply

Connect the device to the power supply. The LED "GSM" lights up permanently afterwards. The GSM alarm module will now automatically try to log into the GSM network. As soon as the GSM alarm module is logged into the GSM, the LED "GSM" winks around every 2 seconds.

The LED "Err" blinks every second.
Configuring the GSM alarm module

Notation
Meaning of the different text styles:

Normal : Explanatory text.

*Bold italics* : Text to be used to the GSM alarm module in a SMS.

Bold : Response of GSM alarm module, received by SMS.

: Important information.

1 Please note :
All commands to the GSM alarm module must be ended with a semicolon (;)

Configuration SMS

On delivery the GSM alarm module has to be configured by the configuration SMS after connecting up the power supply. The GSM alarm module stores the SMS call number automatically and sends future events to this number.

The entire GSM alarm module is therefore configured for simple applications with a single SMS during which it makes a note of the call number. You do not need any additional software, computer or programming knowledge!

Sent the following SMS to the GSM alarm module: *AN;*

The LED “Err” stops blinking and turns off permanently. The GSM alarm module responds with the current status: GAM 1 DI1:0 DI2:0 DO:0  (GAM 2 DI1:...)

You can now operate the GSM alarm module by SMS from the "known" mobile phone.

The *AN;* command can only be executed again after Resetting to factory default (see page 4 and 5).

None of the commands are "case sensitive", i.e. all commands can be sent in upper or lower case.

Tip: We recommend that you store the call number of the GSM alarm module in the telephone book of your mobile phone.

Please note: The “incognito" function on your telephone must be switched off, so that the GSM alarm module can identify the correct number.

Setting the output

Send the following SMS in order to set the DO digital output: *DO:1;*

The DO output is switched on and the LED “DO” lights up.

Send the following SMS in order to reset the DO digital output: *DO:0;*

The DO output is reset and the LED “DO” goes out.

Please note the difference between the letter “O” and the number “0”.

Receiving Alarm SMS

Connect digital input DI1 to a 24V power supply for one second. Please follow the connection diagram, Fig. 1 on Page 1! Following this, GSM alarm module sends an alarm SMS to your mobile phone.

Receipt: GAM 1 DI1:1 Alarm Input 1      (GAM2 DI1:...)

Please note that it takes around 6 seconds to send an SMS.

The time delay between triggering of the event and receipt of the SMS is due to the GSM network.

Status inquiries

Sent the following SMS to the GSM alarm module: *ST;*

The GSM alarm module responds with the current status: GAM 1 DI1:0 DI2:0 DO:0    (GAM 2 DI1:...)

Power Off Message

The Power Off message is only sent with the GSM alarm module V2!

Disconnect the GSM alarm module V2 from the power supply. The GSM alarm module V2 has a rechargeable battery which powers the device if the external power supply fails (e.g. in case of a power cut). As soon as the GSM alarm module V2 recognises such a condition it begins to send a Power Off message.

You will receive the following message to your mobile phone: *GAM 2 Power Off*:

The GSM alarm module V2 switches off after sending the SMS.

1 The Power On/Off Message will be sent to each phone number listed in the device (AN,TN1..TN5 compare page 7).
Power On Message

After this, reconnect it to the power supply. You will receive the following message to your mobile phone:

**GAM 1 Power On DI1:0 DI2:0 DO:0**
(GAM 2 Power...)

Resetting to factory default

Disconnect the GSM alarm module from the power supply. Press the RESET button, keep it pressed down and reconnect the power supply. Keep the RESET button pressed down for at least 18 seconds.

When the reset is triggered the LED "Err" lights up for around 6 seconds.

The GSM alarm module returns to the basic settings. The LED "Err" starts blinking once per second.

The GSM alarm module can be newly configured by sending the configuration SMS.

Pressing the RESET button during operation does not trigger a reset to factory default!

A SIM card must be inserted in order to trigger a reset.

Extended configurations

The GSM alarm module can be configured very flexibly via SMS for more complex tasks, e.g. configuration of several authorised users for sending and receiving messages, changing standard texts, setting password protection and a whole series of further parameters.

All commands are described in detail, along with examples, in the SMS Command Table.

None of the commands are "case sensitive", i.e. all commands can be sent in upper or lower case. All commands are given in upper case in the examples. Each command must be ended with the semicolon (;

Several commands can also be sent in one SMS. Please note that not more than 160 characters can be sent in one SMS and that no spaces are allowed between the semicolon and the (following) parameter.

Extended example:

**DVTXT:myGAM;HB:60;POTXT:activated;**

Effect: Sets the device name to "myGAM"; the heartbeat to 60 min and the Power On Text to "activated".

The GSM alarm module will send the message "myGAM activated DI1:x DI2:x DO:x" on powered on and will send a status message every 60 minutes. (see chapter SMS-Commands)

**SMS-Commands**

**Command Table**

<table>
<thead>
<tr>
<th>Command</th>
<th>Syntax</th>
<th>Text</th>
<th>Description</th>
<th>Basic settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AN</strong>;</td>
<td><strong>A</strong></td>
<td><strong>a</strong></td>
<td>Administrator Number</td>
<td>-</td>
</tr>
<tr>
<td><strong>DITD</strong>;</td>
<td><strong>D</strong></td>
<td><strong>i</strong></td>
<td>Digital Input Time Delay</td>
<td>-</td>
</tr>
<tr>
<td><strong>DITB</strong>;</td>
<td><strong>D</strong></td>
<td><strong>i</strong></td>
<td>Digital Input Blocked</td>
<td>-</td>
</tr>
<tr>
<td><strong>DITXT</strong>;</td>
<td><strong>D</strong></td>
<td><strong>i</strong></td>
<td>Digital Input Text</td>
<td>-</td>
</tr>
</tbody>
</table>

**Example: AN**;

Response: **GAM 1 DI1:0 DI2:0 DO:0**

**Example: DITD1:10**;
Alarm SMS is sent if the digital input is activated for 10 seconds

**Example: DITB1:3600**;
Alarm SMS are sent a maximum of every 3,600 seconds.

**Example: DITXT1:Open front gate;**
From now on the GSM alarm module will respond with: **GAM 1 DI1:1** when digital input 1 is switched on.
## Operating instructions GSM Alarm Module

### Basic settings

<table>
<thead>
<tr>
<th>Command Syntax</th>
<th>Text</th>
<th>Description</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIS1;x</td>
<td>Digital In 1</td>
<td>Switch in order to deactiviate automatic transmission of an SMS when there is an input on Digital In 1. This means that the pure inquiry function can be used.</td>
<td>x = 1</td>
</tr>
<tr>
<td>DIS2;x</td>
<td>Digital In 2</td>
<td>Switch in order to deactiviate automatic transmission of an SMS when there is an input on Digital In 2. This means that the pure inquiry function can be used.</td>
<td>x = 1</td>
</tr>
<tr>
<td>DO;x</td>
<td>Digital Out</td>
<td>Sets relay output.</td>
<td>x = 0</td>
</tr>
<tr>
<td>DOP;x</td>
<td>Digital Out Polarity</td>
<td>Defines the standard polarity of the digital output. (relay contact)</td>
<td>x = 0</td>
</tr>
<tr>
<td>DOTT;x</td>
<td>Digital Out Time</td>
<td>Setting possibility for automatic reset</td>
<td>x = 0</td>
</tr>
<tr>
<td>DVTXT;</td>
<td>Device Text</td>
<td>Setting of device name. This command is useful if you use several GSM alarm module devices and want to differentiate between them.</td>
<td>x = 0</td>
</tr>
</tbody>
</table>

### Description

- **DIS1:** Switches automatic SMS transmission off when DI1 is activated.
- **DIS2:** Switches automatic SMS transmission on when DI2 is activated.
- **DO:** Switches automatic SMS transmission on/off when DI2 is activated.
- **DOP:** Switches standard polarity of digital output.
- **DOTT:** Setting possibility for automatic reset.
- **DVTXT:** Setting of device name.

### Syntax

- **DIS1:**
  - Syntax: DIS1;x
  - Text: Digital In 1
  - Description: Switch in order to deactiviate automatic transmission of an SMS when there is an input on Digital In 1. This means that the pure inquiry function can be used.
  - Example:
    - DIS1;0: Switches automatic SMS transmission off when DI1 is activated.
    - DIS1;1: Switches automatic SMS transmission on when DI1 is activated.

- **DIS2:**
  - Syntax: DIS2;x
  - Text: Digital In 2
  - Description: Switch in order to deactiviate automatic transmission of an SMS when there is an input on Digital In 2. This means that the pure inquiry function can be used.
  - Example:
    - DIS2;0: Switches automatic SMS transmission off when DI2 is activated.
    - DIS2;1: Switches automatic SMS transmission on when DI2 is activated.

- **DO:**
  - Syntax: DO;x
  - Text: Digital Out
  - Description: Sets relay output.
  - Example:
    - DO;0: Closes the relay contact. The LED "DO" goes off.
    - DO;1: Opens the relay contact. The LED "DO" goes on.

- **DOP:**
  - Syntax: DOP;x
  - Text: Digital Out Polarity
  - Description: Defines the standard polarity of the digital output. (relay contact)
  - Example:
    - DOP;0: Defines the standard polarity of the digital output. (relay contact) 0 = output relay contact is open after switching on GSM alarm module (LED "DO" off). The relay contact is closed again after this time.
    - DOP;1: Defines the standard polarity of the digital output. (relay contact) 1 = Output relay contact is closed after switching on GSM alarm module (LED "DO" on). The relay contact is opened again after this time.

- **DOTT:**
  - Syntax: DOTT;x
  - Text: Digital Out Time
  - Description: Setting possibility for automatic reset
  - Example:
    - DOTT;0: If the output is set to 0 the output remains permanently set and is only reset after the device has been switched on again or with the DO; command.
    - DOTT;10: If the output is switched with DO:1; (at DOP:0) it is automatically reset after 10 seconds.

- **DVTXT:**
  - Syntax: DVTXT;x
  - Text: Device Text
  - Description: Setting of device name.
  - Example:
    - DVTXT:myGAM; sets device to "myGAM".

### Example

- **Example:**
  - DIS1;0: Switches automatic SMS transmission off when DI1 is activated.
  - DIS1;1: Switches automatic SMS transmission on when DI1 is activated.

### Notes

- If one of the inputs is activated during the output is switched on, an alert is sent via SMS. This sending of the SMS can enlarge the DOT time (to up to 6 seconds).

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**Division Automation and Drives**

**Geschäftsbereich Electrical Installation Technology**

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Änderungen vorbehalten

Update: [http://www.siemens.de/installationstechnik](http://www.siemens.de/installationstechnik)

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**BETA Modular Installation Devices**

**Operating instructions GSM Alarm Module**

September 2006

**GSM Alarm Module**

<table>
<thead>
<tr>
<th>Command Syntax</th>
<th>Text</th>
<th>Description</th>
<th>Syntax</th>
</tr>
</thead>
<tbody>
<tr>
<td>HB:xxxx;</td>
<td>Heart Beat</td>
<td>Automatic cyclic transmission of a Status SMS</td>
<td>x = 0</td>
</tr>
<tr>
<td>DOTXT0;</td>
<td>Digital Out Text DO:0</td>
<td>Alternative text in order to switch the output to 0. (relay open)</td>
<td>&lt;text&gt; = OFF</td>
</tr>
<tr>
<td>DOTXT1;</td>
<td>Digital Out Text DO:1</td>
<td>Alternative text in order to switch the output to 1. (relay closed)</td>
<td>&lt;text&gt; = ON</td>
</tr>
<tr>
<td>DVTXT;</td>
<td>Device Text</td>
<td>Setting of device name. This command is useful if you use several GSM alarm module devices and want to differentiate between them.</td>
<td>&lt;text&gt; = GAM 1 (GAM 2)</td>
</tr>
</tbody>
</table>

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**5TT7110-0**

**5TT7120-0**

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2514304110 *02*
### Operating instructions GSM Alarm Module

#### September 2006

### GSM Alarm Module

<table>
<thead>
<tr>
<th>Command Syntax</th>
<th>Text</th>
<th>Description</th>
<th>Basic settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCM:x;</td>
<td>Free Call Mode</td>
<td>The GSM alarm module offers the opportunity to trigger an action through calling up the inserted SIM alone. Because the GSM alarm module does not pick up and no actual connection is established, this procedure does not cost you anything. Please make sure that the answering machine is deactivated in the SIM inserted in the GSM alarm module, or do not let it ring long enough until it is answered, as otherwise your network operator will charge you for the call. Please note, that the telephone which is calling up has to communicate its call number. After recognizing a Free Call the GSM alarm module will hang up the phone immediately. You will only hear one ringtone if Free Call is successful.</td>
<td>x = 0</td>
</tr>
<tr>
<td>PIN:xxxx;</td>
<td>PIN Change</td>
<td>Changing the SIM card PIN number.</td>
<td>x = 1234</td>
</tr>
<tr>
<td>PW:&lt;text&gt;;</td>
<td>Password</td>
<td>Changing the password.</td>
<td>x = ABCD</td>
</tr>
<tr>
<td>POTXT:</td>
<td>Power On Text</td>
<td>This text is sent when the GSM alarm module is switched on, if the Power On SMS (POE) is activated.</td>
<td>Activated or deactivated of Power On SMS</td>
</tr>
<tr>
<td>PFTXT:</td>
<td>Power Fail Text</td>
<td>This text is sent when the GSM alarm module is switched off, if the Power Fail SMS (PFE) is activated.</td>
<td>Activated or deactivated of Power Fail SMS</td>
</tr>
</tbody>
</table>

#### Syntax

- **Syntax**: FCM:x; PW:<text>; POTXT:<text>; PFTXT:<text>; PIN:xxxx; POTXT:POE:x; PFTXT:PFE:x; PIN:xxxx;
- **Command**: 5TT7110-0, 5TT7120-0

#### Basic settings

- **Basic settings**: x = 0
- **Basic settings**: x = 1

---

### Further information

- **Example**:  
  - PIN:9876;  
  - POTXT:activated;  
  - Example: TN1:074851810;  
  - Example: TN1:+4916012345678;  
  - Example: PW:Dcba;

---

### Landline numbers

- Landline numbers can also be used in conjunction with FreeCall. These must be entered into the telephone book by means of TN1.<TNS>. You can discover the correct number by calling a device which can show the incoming call number from the desired landline telephone. Normally <Dialing code><Telephone number> can happen with some telephone systems that a leading "0" is discarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded. It can happen with some telephone systems that a leading "0" is disregarded.

- **Example**: Landline number: TN1:074851810; Mobile phone number: TN1:+4916012345678;
### Command Syntax | Text | Description | Basic settings
--- | --- | --- | ---
**PWE:** | x; | **Password Enable** | x = 0
(x = 0|1)

**Warning:** Make sure that you know the password which has been set when you activate password protection. Further commands can only be given if the password is entered! The password must stand at the start of every further SMS, followed by a semicolon.

If you have forgotten the password, the only solution is to reset with the **RESET** button! (page 4)

Example: PWE:1; Activation of password protection

**PWE:** | 0; | **Deactivation of password protection**

Example: Set DO if PWE=1 and PW=ABCD:

**ST:** | | **Inquires the status of GSM alarm module.**

Example: ST; Response: GAM 1 DI1:0 DI2:0 DO:0 (GAM 2 DI1:...)

**RESET:** | | **Resets the GSM alarm module to factory default.**

Example: RESET;

**Remark:** The saving of the parameters of the GAM takes about 5 seconds. Do not cut power lines during that time!

### Inquiry commands

As the GSM alarm module can be configured in a very individual way, there is a possibility of inquiring with regard to settings. Send one of the following commands and the GSM alarm module responds with an SMS with the content stated below in the "Response" column. It is **not** possible to inquire the **PW** and **PIN** settings for reasons of security.

### Command Syntax | Text | Description | Response SMS
--- | --- | --- | ---
**?TN:** | | **Inquiry Telephone Numbers**

Inquires for all telephone numbers. The GSM alarm module responds with the complete contents of the "telephone book".

Example: ?TN;

Response: AN:...;TN1:...;TN2:...;TN5:...

**?DI:** | | **Inquiry Digital Inputs**

The GSM alarm module responds with all settings which affect the digital inputs.

Example: ?DI;

Response: DIS1:...;DIS2:...;DITD1:...;DITD2:...;DITB1:...;DITB2:...;DITXT1:...;DITXT2:...

**?DO:** | | **Inquiry Digital Outputs**

The GSM alarm module responds with all settings which affect the digital outputs.

Example: ?DO;

Response: DOT:...;DOTXT0:...;DOTXT1:...;

**?CONF** | | **Inquiry Configuration**

Returns all usual configuration values to the GSM alarm module.

Example: ?CONF;

Response: DVTXT:...;FCM:...;HB:...;PFE:...;PFTXT:...;POE:...;POTXT:...;PWE:...

**TN:**<number>; | Telephone Number | Sets a telephone number in the telephone number list.

(n = 1...5)

It is possible to establish 5 additional telephone numbers.

In parallel to the Administrator number these telephone numbers receive a status message from the GSM alarm module when an input DI1 or DI2 is activated, or can inquire the status by means of **ST**.

In addition, it is possible to set the DO output and use the preconfigured FCM.

However, the configuration cannot be changed (read only function).

Example: mobile number: TN1:+4916012345678

A mobile number must start + and the country code and may have a maximum 16 digits.

1The **PFE** and **PFTXT** parameters only exist for GSM alarm module V2.

### Rights

The Administrator (AN) on the GSM alarm module can operate all settings and make all inquiries.

Non-Administrators (TN1 – TN5) can only use the commands **ST**; **DO:** and the commands given under DOTXT0 / DOTXT1, as well as the FreeCallMode (FCM) which is currently set.
Troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible cause</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED “Power” remains dark</td>
<td>No supply voltage</td>
<td>Connect to power supply</td>
</tr>
<tr>
<td>LED “GSM” blinks cyclically 2x from the beginning</td>
<td>No SIM card</td>
<td>Insert SIM card</td>
</tr>
<tr>
<td></td>
<td>No contact with SIM card</td>
<td>Clean surface of SIM card</td>
</tr>
<tr>
<td>LED “GSM” blinks cyclically 3x from the beginning</td>
<td>PIN not “1234”</td>
<td>Reset GSM alarm module to factory default (see page 4) and set the PIN of the SIM card to “1234” with a mobile phone.</td>
</tr>
<tr>
<td>LED “Err” blinks every second</td>
<td>No configuration SMS has yet been sent. (factory default)</td>
<td>Send configuration SMS. See page 3 Configuration SMS.</td>
</tr>
<tr>
<td>GSM alarm module does not react to a Configuration-SMS</td>
<td>Wrong number</td>
<td>Check number SET button, reset configuration. (see page 4). Please see page 3 (Configuration)</td>
</tr>
<tr>
<td></td>
<td>AN already registered</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No ( ; ) given</td>
<td></td>
</tr>
</tbody>
</table>

Safety Instructions

When handling products which come into contact with electrical voltage, the currently valid national stipulations must be observed.

Before opening a device, always disconnect from the mains power supply and ensure that the device is not receiving current.

Tools may only be used on devices, components or assemblies if it has been ensured that the devices are disconnected from the supply voltage and that electrical charges, which are stored in the components contained in the device, have been discharged beforehand.

Cables or leads which carry voltage, to which the device, the component or the assembly is connected, must always be investigated for insulation faults or breaks. If a fault is found in the supply line, the device must be taken out of commission immediately until the defective line has been replaced.

When using components or assemblies, users must always be reminded to adhere strictly to the characteristic data for electric magnitudes stated in the relevant description.

If it is not clear to a non-commercial end-user from an existing description, which electrical characteristic data apply to a component or a module, how external wiring is to be undertaken and which external components or additional devices may be connected and which connection values these external components may have, always contact a technical expert for information.

Before commissioning a device, a general check should be made as to whether this device is fundamentally suitable for the application for which it is to be used! If there are any doubts, it is essential to contact trained engineers or technical experts on the devices used! Please note that operating errors and connection faults lie outside our sphere of influence. Understandably, we cannot accept any liability whatsoever for damage/injuries arising as a consequence.

Devices which are operated using a voltage > 35 Volt, may only be connected by a trained engineer.

Scope of delivery

The following items are included in the delivery:

- GSM alarm module V1 or GSM alarm module V2
- Operating instructions on CD

Accessories:

- GSM/GPRS antenna (MMCX/m Connector)
  - Magnetic mount antenna 5TT7908-1
  - Stickable patch antenna 5TT7908-2
- Power pack, 230VAC / 24VDC

* Following connection of the supply voltage, GSM alarm module needs approximately 3 seconds in order to start the GSM Modem. Following this, the LED “GSM” is continuously lit up. After around another 15 seconds, error evaluation, reset (page 4) or login take place.
Operating Conditions

- Where devices have an operating voltage >35 Volt, final assembly may only be undertaken by an expert and it must comply with national stipulations.
- When installing the device, ensure that the connection cables have an adequate cable cross-section.
- If condensate forms, it is necessary to wait for an acclimatisation period of up to 2 hours.
- Liquids, chemicals etc. must be kept away from the device.
- The device is intended for use in dry, clean rooms.
- Protect the device from moisture, sprayed water and the effects of heat.
- Do not expose the device to strong vibrations.
- Do not use the device in an environment where there is an impermissible level of electromagnetic force.
- Do not operate the device in an environment in which combustible gases, vapours or dust are present or could be present.
- The device may only be repaired by an expert.

Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>5TT7110-0</th>
<th>5TT7120-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply Ue</td>
<td>DC V 10-30</td>
<td>DC V 10-30</td>
</tr>
<tr>
<td>Power consumption Ps</td>
<td>W 3,5</td>
<td>W 4,5</td>
</tr>
<tr>
<td>Digital inputs</td>
<td>V DC 24</td>
<td>V DC 30</td>
</tr>
<tr>
<td>Signal voltage, 0* for inputs</td>
<td>V DC 0-2</td>
<td>V DC 0-2</td>
</tr>
<tr>
<td>Signal voltage, 1* for inputs</td>
<td>V DC 8-30</td>
<td>V DC 8-30</td>
</tr>
<tr>
<td>Max. contact load (cos φ = 1)</td>
<td>AC V/A 250/5</td>
<td>AC V/A 30/5</td>
</tr>
<tr>
<td>EMC acc. EN 61000-6-2 and EN 61000-6-3</td>
<td>observed</td>
<td>observed</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>°C -20 to +50</td>
<td>°C -20 to +50</td>
</tr>
<tr>
<td>Ambient temperature extended range</td>
<td>°C -20 to +75</td>
<td>°C -20 to +75</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>°C -40 to +85</td>
<td>°C -40 to +85</td>
</tr>
<tr>
<td>Wave band</td>
<td>E-GSM900 / GSM1800</td>
<td></td>
</tr>
<tr>
<td>Power Class</td>
<td>GSM 900-4 (2W) / GSM 1800-1 (1W)</td>
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</tr>
<tr>
<td>GPRS Class</td>
<td>Multistand class B, operation mode class B, HSCSD, SAT</td>
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</tr>
<tr>
<td>Terminals</td>
<td>+/−</td>
<td>+/−</td>
</tr>
<tr>
<td>Screws</td>
<td>Pozidriv size 1</td>
<td>Pozidriv size 1</td>
</tr>
<tr>
<td>Conductor cross sections</td>
<td>mm² rigid min. 1.5 max. 4</td>
<td></td>
</tr>
<tr>
<td>Conductor cross sections</td>
<td>mm² flexible with sleeve min. 1 max. 2.5</td>
<td></td>
</tr>
<tr>
<td>Humidity, 40 °C</td>
<td>% 0 to 95</td>
<td>% 0 to 95</td>
</tr>
</tbody>
</table>

1 The extended range is defined from -30°C to -20°C and +55°C to +75°C. Operation in these temperature extremes is according to basic minimal performance criteria defined as follows:

- Extended operation in this range shall not cause permanent damage to the device.
- The device shall be capable of registering with the network and making a call under -85dBm signal conditionals on a high percentage of attempts (>90%).
- The Transceiver and Transmitter shall not violate GMS requirements for spurious emissions, maximum transmit power levels, frequency error, and occupied bandwidth while operating in the extended temperature ranges.
- Reduced Transmit output power and reduced receiver sensitivity are possible during operation at these extremes.