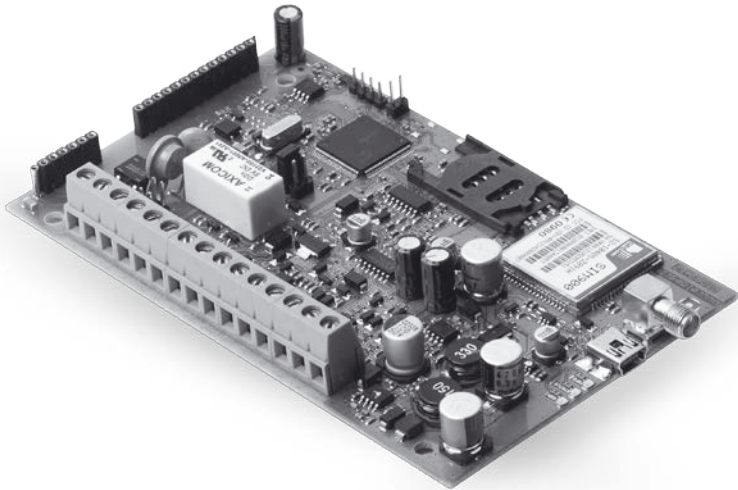


*eldes*




GSM/GPRS COMMUNICATOR


**ET082**



## Safety instructions


Please read and follow these safety guidelines in order to maintain safety of operators and people around:


- GSM/GPRS communicator ET082 (further referenced as system, device or communicator) contains a radio transceiver operating in GSM850/900/1800/1900 bands.
- DO NOT use the system where it can interfere with other devices and cause any potential danger.
- DO NOT use the system with medical devices if this is required in the manual of the medical device.
- DO NOT use the system in hazardous environment.
- DO NOT expose the system to high humidity, chemical environment or mechanical impacts.
- DO NOT attempt to personally repair the system.
- System labelling sticker is at the bottom of the device.

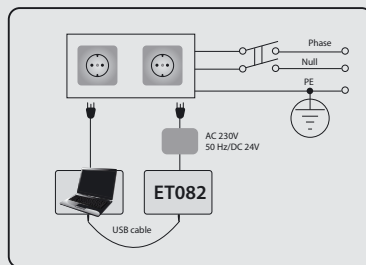
 System ET082 is a device mounted in limited access areas. Any system repairs must be done only by qualified, safety aware personnel.


 Mains power must be disconnected before any installation or tuning work starts. The system installation or maintenance must not be done during stormy conditions.


 The system must be powered by main 10-24V  300mA power supply which must be approved by LST EN 60950-1 standard and be easily accessible.


 Any additional devices linked to the system ET082 (computer, sensors, relays etc.) must be approved by LST EN 60950-1 standard.

 External power supply can be connected to AC mains only inside installation room with automatic 2-pole circuit breaker capable of disconnecting circuit in the event of short circuit or over-current condition. Open circuit breaker must have a gap between connections of more than 3mm and the disconnection current is 5A.



 Fuse F1 model - miniSMDC 500mA. Blown fuse cannot be replaced by the user and the replacement fuses have to be exactly the same as indicated by the manufacturer.

 The device is fully turned off by disconnecting 2-pole switch off device of the external power supply or any other linked device that the system ET082 is powered from.

 The WEEE (Waste Electrical and Electronic Equipment) marking on this product (see left) or its documentation indicates that the product must not be disposed of together with household waste. To prevent possible harm to human health and/or the environment, the product must be disposed on in an approved and environmentally safe recycling process. For further information on how to dispose of this product correctly, contact the system supplier, or the local authority responsible for waste disposal in your area.

## Limited Liability

The buyer must agree that the system will reduce the risk of fire, theft, burglary or other dangers but does not guarantee against such events. "ELDES UAB" will not take any responsibility regarding personal, property or revenue loss while using the system. "ELDES UAB" responsibility according to local laws does not exceed value of the purchased system. "ELDES UAB" is not affiliated with GSM operators providing cellular services, therefore is not responsible for network services, coverage or its operation.

## Manufacturer Warranty

The system carries a 24-month warranty by the manufacturer "ELDES UAB".

Warranty period starts from the day the system has been purchased by the end user. The warranty is valid only if the system has been used as intended, following all guidelines listed in the manual and within specified operating conditions. Receipt with purchase date must be kept as a proof.

The warranty is voided if the system has been exposed to mechanical impacts, chemicals, high humidity, fluids, corrosive and hazardous environment or other force majeure factors.

## Package Content

1. ET082..... qty. 1
2. User manual..... qty. 1
3. GSM antenna..... qty. 1
4. Jumpers..... qty. 4
5. Plastic standoffs..... qty. 7

## About User Manual

This document describes only basic operation and installation of ET082 device. It is very important to read the user manual before starting to use the system.

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# 1. General Information

Communicator ET082 is a device for transmitting data from alarm system to monitoring station via:


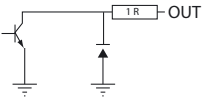
- PSTN (telephone landline);
- Voice Calls (GSM audio channel);
- Voice Calls (GSM audio channel) and/or to users via SMS message;
- GPRS network;
- CSD (fax line).

## **ET082 main applications & features:**

- Property security;
- Data re-transmission to monitoring station via GSM/GPRS/CSD and/or to preset user via SMS;
- Backup connection for PSTN;
- PSTN status monitoring in case it is cut-off or disconnected;
- Alarm system remote configuration via DTMF.

# 2. Technical Specifications

## 2.1 Electrical & Mechanical Specifications

Power Supply	10-24V  300mA max
Peak Current Consumption	700 mA max.
Current Used in Standby Mode	120mA max
GSM Modem Frequency	850/900/1800/1900 MHz
Communications	Voice Calls, SMS, GPRS, CSD
Supported Protocols	Ademco Contact ID®, 4+2, Scancom, EGR100, Kronos, SIA IP
Maximum Number of Users Receiving Alarm System Events by SMS Message	5
Maximum Number of Users for Input/Output Control	3
Number of "Low" Level (Negative) Digital Inputs	3
Allowable Input Values Voltage	0... 1.45V; current: 0.8... 0.6mA
Input Type	NO (normally open)
Number of Outputs	3
Output C1 - C3 Circuit	 <p>Open collector output. Output is pulled to COM when turned on.</p>
Maximum Commuting Output Values	Voltage: 30V ; current: 50 mA
Dimensions	130 x 73 mm
Operating temperature range	-20...+55°C
Generated Phone Line Values	Voltage: 18V; current: 25mA; impedance: 600Ω
Dial Tone Frequency of Generated Phone line	350 Hz

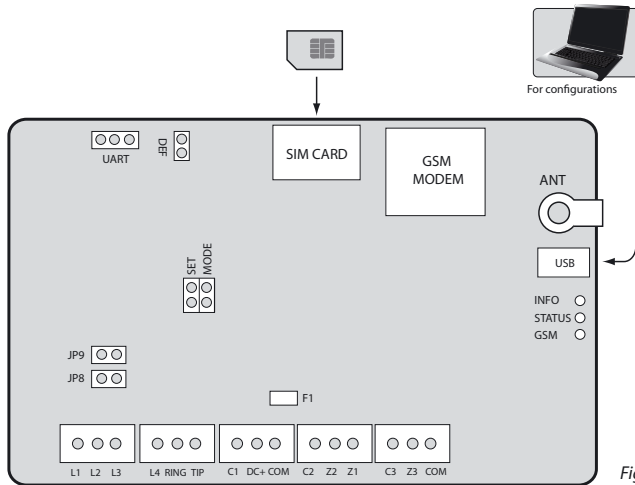


Fig. No 2

## 2.2 Main Unit, Connector, Pin & LED Functionality

### 2.2.1 Main Unit Functionality

GSM MODEM	GSM network 850/900/1800/1900 MHz modem
SIM CARD	SIM card slot / holder
ANT	GSM antenna SMA type connector
F1	Fuse model – miniSMDC 500mA
USB	Mini USB port

### 2.2.2 Connector Functionality

Labelling	Description
L1 - L4	Landline or PBX contacts (according to backup mode)
RING	RING contact
TIP	TIP contact
C1 - C3	Outputs
DC+	Positive power supply contact
COM	Negative power supply contact / Common contact
Z1 - Z3	Inputs

### 2.2.3 Pin Functionality

Labelling	Description
DEF	For restoring factory default settings
SET	For communication method of <i>Basic</i> mode set up
MODE	For communication method of <i>Basic</i> mode set up
JP8, JP9	For direct data transmission via PSTN with status monitoring
UART	For retrieving debug log

### 2.2.4 LED Functionality

Labelling	Description
INFO	Operation activity status
STATUS	Device status
GSM	GSM network strength

### GSM Signal Strength Indication

GSM signal strength is indicated by **GSM** LED. To ensure the best quality of the network adjust the position of GSM antenna and find the strongest possible signal by observing the **GSM** LED indications.

GSM LED Indication	GSM Signal Strength
Off	No connection
Flashing every 3 seconds	The connection is not reliable
Flashing every 1 second	Satisfactory
Flashing several times per second	Good
On	Excellent

## Device Activity Indication

STATUS LED Indication	Description
Off	No power supply or some fault is present
Flashing several times per second	SIM card is not inserted / insterted improperly
On	Device is operating and ready for use

## Working Mode Indication

INFO LED Indication	Description
Off	Device is in standby mode
Flashing several times per second	Device retransmits the data sent from alarm system to the monitoring station (this indication is possible when device is operating in communication mode 1)
On	Device is decoding data to user-understandable text format.

## 2.3 Connection Circuit

COM connectors of ET082 and alarm system unit must be connected.

ET082 inputs Z1 - Z3 are connected to PGM outputs of alarm system unit if PGM output is implemented as open collector circuit or any other circuit and if it commutes with COM. It is also possible to connect motion sensor or any other sensor to ET082 Z1 - Z3 inputs.

ET082 C1 - C3 outputs can be connected to the input of electrical appliances if it commutes with COM. This connection allows to control heating, lighting, gates, blinds, water pump etc.

**ATTENTION:** Before connecting ET082 power supply to alarm system's auxiliary output (AUX), please, make sure that the output is able to maintain peak current consumption of up to 700mA max. Otherwise, please, use an external power supply for ET082.

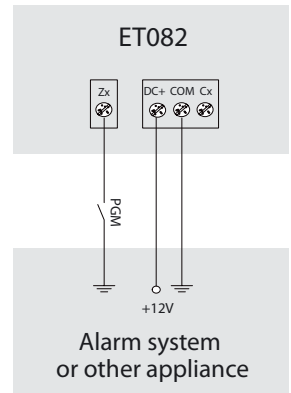


Fig. No 3

### 3. Installation

The system can be installed in a metal or non-flammable plastic enclosure together with alarm system unit. When the metal enclosure is used it is necessary to ground the enclosure using yellow/green colour cable. For the connection use 0.50 mm<sup>2</sup> 1 thread cable. For the device connection to input/output connectors use 0.50 mm<sup>2</sup> 1 thread cable of up to 100 meters length.

1. Place the SIM card into the card holder and make sure that PIN code request is disabled. The PIN code can be disabled by inserting the SIM card into a mobile phone and following proper menu steps. There must be no SMS messages stored in the memory.

**ATTENTION:** The system is NOT compatible with pure 3G SIM cards. Only 2G SIM cards and 3G SIM cards with 2G profile enabled are supported. For more details, please, contact your GSM operator.

2. Connect the GSM antenna to SMA connector. It is not recommended to turn on the device without GSM antenna connected.

**NOTE:** It is recommended to install the GSM antenna away from the alarm system to ensure better quality of the audio signal. It is not recommended to install the antenna inside the metal enclosure.

3. Connect the circuit according to desired communication method. For more details, please, refer to chapters **2.3 Connection Circuit & 5.1 Wiring Diagrams**
4. The system should start in less than a minute. GSM LED indicator should be blinking or be ON indicating successful connection to GSM network.

**NOTE:** It is highly recommended to choose the same GSM cellular provider both for users and for ET082 communicator in order to assure fast and reliable SMS message delivery and phone call connection.

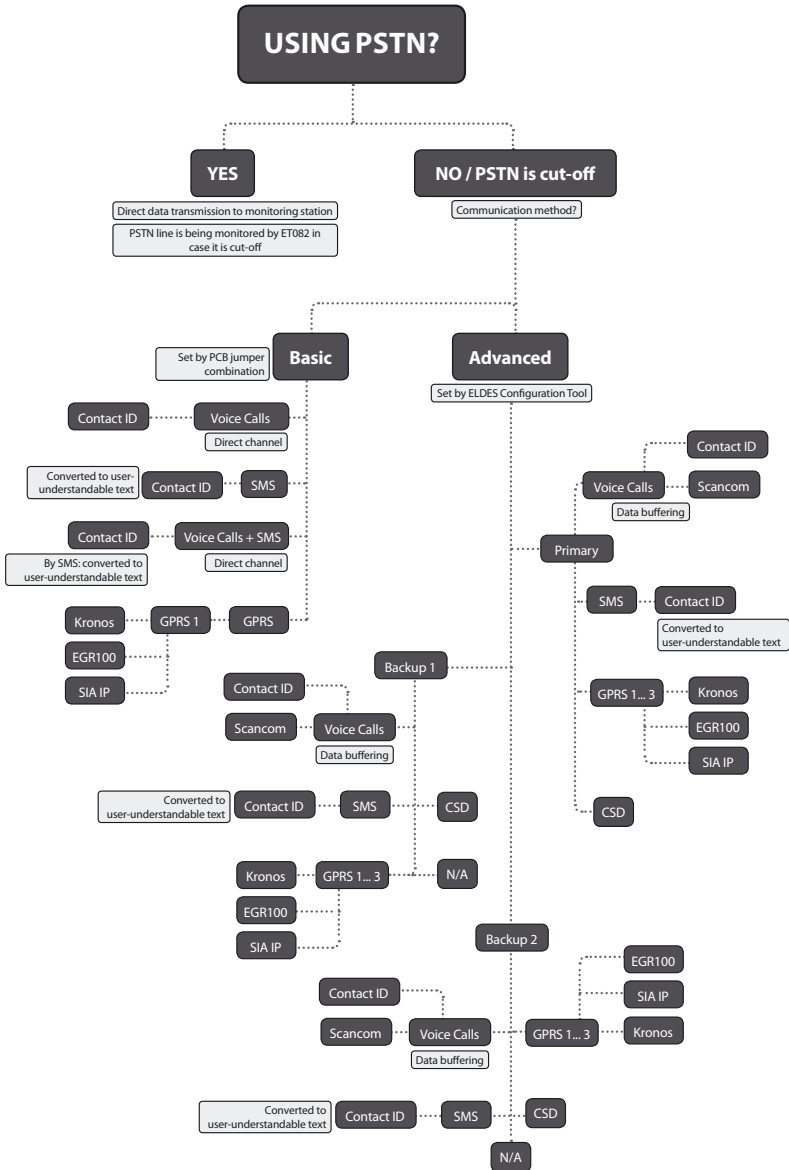
**NOTE:** To ensure maximum system operation reliability we recommend not to use pay-as-you-go SIM cards. If the balance is insufficient the system will not be able to inform users by SMS or send data messages.

**IMPORTANT:** Power supply at alarm system must be disconnected before any installation or tuning work.



# 4. Operation Description

ET082 communicator is a GSM/GPRS device transmitting data from alarm system to monitoring station and/or preset user phone number. The following diagram indicates communication modes & methods supported by the device:



For more details, please refer to chapter 5. **Communication Methods & Modes.**

## 4.1 PSTN Line and GSM Connection Status Monitoring

The device can also be used for direct data transmission from alarm system to monitoring station via PSTN. This feature allows to monitor the PSTN status and notify monitoring station and/or preset user in case of PSTN loss/restore events. Depending on the set up communication method and configuration, ET082 can notify by:

- sending an SMS message to a preset user (SMS method);
- transmitting a data message to monitoring station via GSM audio channel (*Voice Calls* method);
- transmitting a data message to monitoring station via GPRS network (*GPRS* method);
- transmitting a data message to monitoring station via fax line (*CSD* method).

In case of PSTN failures, the communicator switches to the set up communication method and backs up PSTN until it is restored. In addition, the PSTN loss/restore event can also be indicated by SMS message sent to up to 3 preset users or by any output of ET082 device.

In case of PSTN or GSM connection failure, the device can turn the output (-s) ON and turn it OFF after the PSTN or GSM is restored. For more details, please refer to *ELDES Configuration Tool* software's HELP section.

ET082 can also detect temporary service suspension by the service provider for technical or billing reasons even if a dial tone is still present as "busy" tone. This feature requires an additional audio module which must be requested in advance.

## 4.2 Inputs & Outputs

ET082 communicator has 3 built-in digital inputs (NO - normally open) for connection to PGM outputs of alarm system or any sensor connection. In case of input alarm/restore event, the communicator sends an SMS message to up to 3 preset user (-s).

Built-in open collector outputs allow to connect and control up to 3 electrical appliances. The outputs can be controlled either by SMS message from user who knows the correct SMS password, either automatically in case of PSTN or GSM connection loss/restore event. The outputs can provide control over heating, lighting, gates, blinds etc.

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.

## 4.3 Remote Configuration of the Alarm System via DTMF

ET082 supports a two-way communication providing a possibility for alarm system remote configuration via DTMF. DTMF dialing mode must be supported and enabled in alarm system.

## 5. Communication Modes & Methods

ET082 communicator supports *Basic* and *Advanced* modes & methods providing a variety of communication protocols. *Basic* mode is recommended when only one communication method is required while *Advanced* mode is recommended to use when one or more backup communication methods are required. Please note, that some protocols are not supported in *Basic* mode and vice versa.

COMMUNICATION MODES & METHODS			
Basic Mode		Advanced Mode	
Method	Protocol	Method	Protocol
Voice Calls (GSM audio - direct channel)	Ademco Contact ID®, 4+2	Voice Calls (GSM audio - data buffering)	Ademco Contact ID®, Scancom
SMS (up to 5 users)*	Ademco Contact ID® (converted to user-understandable text)	SMS (up to 5 users)*	Ademco Contact ID® (converted to user-understandable text)
GPRS (1 destination IP address)	EGR100, Kronos, SIA IP	GPRS (up to 3 destination IP addresses)	EGR100, Kronos, SIA IP
Voice Calls (GSM audio - direct channel) + SMS (up to 5 users)*	Ademco Contact ID® (by SMS: converted to user-understandable text)	CSD (fax line)	

\* SMS messages are sent to the preset user phone number (-s) set in *ELDES Configuration Tool* software.

### 5.1 Wiring Diagrams

**ATTENTION:** Before connecting ET082 power supply to alarm system's auxiliary output (AUX), please, make sure that the output is able to maintain peak current consumption of up to 700mA max. Otherwise, please, use an external power supply for ET082.

Before configuring communication methods, the user must decide whether direct data transmission from alarm system to monitoring station via PSTN and PSTN status monitoring is required or not. This is defined by a respective circuit wiring and jumper presence on **JP8/JP9** PCB pins.

**NOTE:** PSTN is always a primary (master) connection and it cannot be set as backup when used.

### 5.1.1 No PSTN Connection

With this wiring the communicator retransmits data from alarm system to monitoring station by the selected communication method.

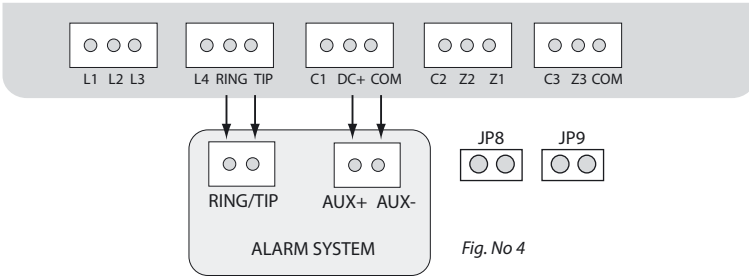


Fig. No 4

1. Connect the circuit as indicated in Fig. No. 4– connect telephone contacts of the alarm system **RING/TIP** to **RING/TIP** contacts of the communicator.
2. Connect power supply to **DC+/COM** contacts. Power supply is usually used as **AUX-** and **AUX+** output of alarm system.
3. NO jumpers have to be set on **JP8/JP9** pins.

### 5.1.2 With PSTN Connection

With this wiring the communicator retransmits data from alarm system to monitoring station via landline (PSTN).

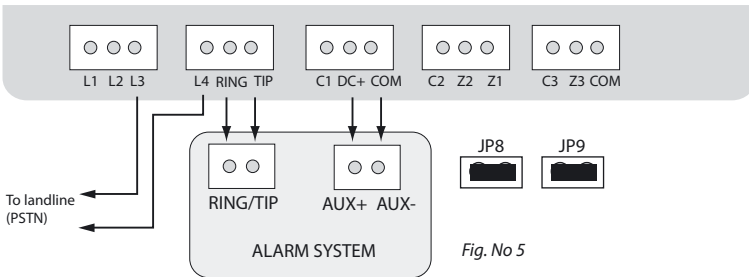


Fig. No 5

1. Connect the circuit as indicated in Fig. No. 5 – connect telephone contacts of the alarm system **RING/TIP** to **RING/TIP** contacts of communicator.
2. Connect **L3/L4** contacts to landline (PSTN).
3. Connect power supply to **DC+/COM** contacts. Power supply is usually used as **AUX-** and **AUX+** output of alarm system.
4. Set the jumpers on **JP8** and **JP9** pins.

### 5.1.3 With PSTN Connection through PBX

## FOR ADVANCED USERS ONLY!

With this wiring the communicator retransmits data from alarm system to monitoring station via landline (PSTN) through private branch exchange station (PBX).

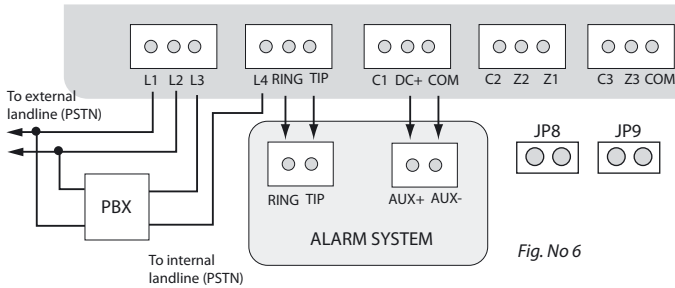


Fig. No 6

1. Connect the circuit as indicated in Fig. No. 6 – connect telephone contacts of the alarm system **RING/TIP** to **RING/TIP** contacts of communicator.
2. Connect **L1/L2** contacts to external landline (PSTN).
3. Connect **L3/L4** contacts to internal landline (PSTN) of PBX.
4. Connect power supply to **DC+/COM** contacts. Power supply is usually used as **AUX-** and **AUX+** output of alarm system.
5. NO jumpers have to be set on **JP8/JP9** pins.

## 5.2 Basic Mode

The communication method of *Basic* mode is selected by jumper position on **SET/MODE** PCB pins. *Basic* mode features the following communication methods:

- Voice Calls;
- SMS;
- Voice Calls + SMS;
- GPRS.

**NOTE:** The jumper position on **SET/MODE** PCB pins becomes ineffective as soon as *Advanced* mode is enabled.

### 5.2.1 Voice Calls Method

**ATTENTION:** DTMF phone number dialing mode must be enabled on alarm system, activated *Ademco Contact ID®* or 4+2 data transmission protocol and monitoring station phone number set with international code, i.e. For UK London 20xxxxxxx or 004420xxxxxxx. The *plus* character is not allowed.

By this method the communicator receives *Ademco Contact ID®* or 4+2 protocol data sent from alarm system and transmits it to monitoring station via GSM audio – direct channel.

NO jumpers have to be set on **SET/MODE** pins in order to select *Voice Calls* method. See Fig. No. 7.



Fig. No 7

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *Voice Calls* method,
- notifies monitoring station about PSTN failure,
- continues transmitting data to monitoring station via GSM audio – direct channel until the PSTN is restored.

**NOTE:** By default, notification about PSTN loss/restore is disabled and has to be enabled if required using *ELDES Configuration Tool* software. For more details, please, refer to software's HELP section.

### 5.2.2 SMS Method

**ATTENTION:** It is necessary to set monitoring station phone number on alarm system for *SMS* method. In such case you can use any number (one digit is enough).

By this method the communicator receives *Ademco Contact ID®* protocol data sent from alarm system and converts it to user-understandable text which is sent to preset user (-s) by *SMS* message.

1. Set the jumper on **MODE** pins in order to select *SMS* method. See Fig. No. 8.
2. Add user phone number (-s) to the communicator using *ELDES Configuration Tool* software.
3. Configure *Ademco Contact ID®* data message structure using *ELDES Configuration Tool* software if required.

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.



Fig. No 8

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *SMS* method,
- notifies the preset user (-s) by *SMS* message about PSTN failure,
- continues sending the converted *Ademco Contact ID®* by *SMS* message to preset user (-s) until the PSTN is restored.

**NOTE:** By default, notification about PSTN loss/restore is disabled and has to be enabled if required using *ELDES Configuration Tool* software. For more details, please, refer to software's HELP section.

### 5.2.3 Voice Calls + SMS Method

**ATTENTION:** DTMF phone number dialing mode must be enabled on alarm system, activated *Ademco Contact ID*® data transmission protocol and monitoring station phone number set with international code, i.e. For UK London 20xxxxxxxx or 004420xxxxxxxx. The *plus* character is not allowed.

By this method the communicator receives *Ademco Contact ID*® protocol data sent from alarm system and transmits it to monitoring station via GSM audio – direct channel. In addition, the data is converted to user-understandable text which is sent to preset user (-s) by SMS message.

1. Set the jumper on **SET** pins in order to select *Voice Calls + SMS* method. See Fig. No. 9.
2. Add user phone number (-s) to the communicator using *ELDES Configuration Tool* software.
3. Configure *Ademco Contact ID*® data message structure using *ELDES Configuration Tool* software if required .

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.



Fig. No 9

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *Voice Calls + SMS* method,
- notifies monitoring station about PSTN failure,
- notifies the preset user (-s) by SMS message about PSTN failure,
- continues transmitting data to monitoring station via GSM audio – direct channel until the PSTN is restored,
- duplicates and converts data and sends it to preset user (-s) by SMS message until the PSTN is restored.

**NOTE:** By default, notification about PSTN loss/restore is disabled and has to be enabled if required using *ELDES Configuration Tool* software. For more details, please, refer to software's HELP section.

## 5.2.4 GPRS Method

**ATTENTION:** It is necessary to set monitoring station phone number on alarm system for *GPRS* method. In such case you can use any number (one digit is enough).

By this method the communicator receives *Ademco Contact ID®* protocol data sent from alarm system, converts it to *EGR100*, *Kronos* or *SIA IP* protocol data message and transmits it to monitoring station via GPRS network.

1. Set the jumper on **SET** and **MODE** pins in order to select *GPRS* method. See Fig. No. 10.



Fig. No 10

2. Set the following ET082 *GPRS 1* section parameters using *ELDES Configuration Tool* software:
  - **APN** – Access-point-name provided by GSM operator;
  - **User Name** – User name provided by GSM operator;
  - **Password** – Password provided by GSM operator;
  - **Server IP** – Public IP address of the computer (router) running *Kronos/EGR100* software.
  - **Port** – Forwarded TCP/UDP port number for the computer running *Kronos/EGR100* software.
  - **Protocol** – Format of the data message transmitted from ET082 to monitoring station by *GPRS* method. Available protocols:
    - *Kronos* – *Kronos LT/Kronos NET* monitoring station software data format;
    - *EGR100* – *EGR100 GPRS* software data format;
    - *SIA IP* – *SIA/IP* data format complying with ANSI/SIA DC-09-2007 standard.
3. Set the following parameters in *EGR100* software:
  - **TCP/UDP Server Port** - Forwarded port for communication with the device via GPRS connection.

**NOTE:** Port must be set the same both on the communicator using *ELDES Configuration Tool* and in *EGR100* software.

For more details, please, refer to *EGR100* or *Kronos LT/Kronos NET* and *ELDES Configuration Tool* software's HELP section for more details.

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to GPRS 1... 3 method,
- notifies monitoring station about PSTN failure,
- continues transmitting data to monitoring station via GPRS network until the PSTN is restored.

**NOTE:** By default, notification about PSTN loss/restore is disabled and has to be enabled if required using *ELDES Configuration Tool* software. For more details, please, refer to software's HELP section.



## 5.3 Advanced Mode

The communication method (-s) of *Advanced* mode is selected by *ELDES Configuration Tool*. *Advanced* mode features the following communication methods:

- Voice Calls;
- SMS;
- GPRS;
- CSD.

*Advanced* mode supports 1 primary and up to 2 backup connections. All of the aforementioned communication methods can be set up as primary or backup in any sequence order.

**NOTE:** The jumper position on **SET/MODE** PCB pins becomes ineffective as soon as *Advanced* mode is enabled.

### 5.3.1 Voice Calls Method

**ATTENTION:** DTMF phone number dialing mode must be enabled on alarm system, activated *Ademco Contact ID*® or *Scancom* data transmission protocol and monitoring station phone number set with international code, i.e. For UK London 20xxxxxxxx or 004420xxxxxxxx. The *plus* character is not allowed.

By this method the communicator receives *Ademco Contact ID*® or *Scancom* protocol data sent from alarm system, saves it to memory buffer and transmits it to monitoring station via GSM audio channel.

Set the following ET082 parameters using *ELDES Configuration Tool* software:

1. Switch to *Advanced* mode by enabling **Backup Enabled** parameter.
2. Select **Voice Calls** method as *Primary* connection.
3. Set *Backup 1* and *Backup 2* connections if required.
4. Select **Contact ID** or **Scancom** protocol. By default, **Contact ID** is selected.

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *Voice Calls* method,
- notifies monitoring station about PSTN failure,
- continues transmitting data to monitoring station via GSM audio channel with data buffering until the PSTN is restored.

**NOTE:** In case of *Voice Calls* method failure the communicator switches to *Backup 1* and *Backup 2* connections (if set) respectively and attempts to continue transmitting data to monitoring station until the previous connection (-s) is restored.

### 5.3.2 SMS Method

**ATTENTION:** It is necessary to set monitoring station phone number on alarm system for *SMS* method. In such case you can use any number (one digit is enough).

By this method the communicator receives *Ademco Contact ID*<sup>®</sup> protocol data sent from alarm system and converts it to user-understandable text which is sent to preset user (-s) by *SMS* message.

Set the following ET082 parameters using *ELDES Configuration Tool* software:

1. Switch to *Advanced* mode by enabling **Backup Enabled** parameter.
2. Select **SMS** method as *Primary* connection.
3. Set *Backup 1* and *Backup 2* connections if required.
- 4.. Add user phone number (-s).
5. Configure *Ademco Contact ID*<sup>®</sup> data message structure if required.

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *SMS* method,
- notifies the preset user (-s) by *SMS* message about PSTN failure,
- continues sending the converted *Ademco Contact ID*<sup>®</sup> by *SMS* message to preset user (-s) until the PSTN is restored.

**NOTE:** In case of *SMS* method failure the communicator switches to *Backup 1* and *Backup 2* connections (if set) respectively and attempts to continue transmitting data to monitoring station until the previous connection (-s) is restored.

### 5.3.3 GPRS Method

**ATTENTION:** It is necessary to set monitoring station phone number on alarm system for *GPRS* method. In such case you can use any number (one digit is enough).

**NOTE:** *GPRS* method of *Advanced* mode supports up to 3 different monitoring station server IP addresses for backup purposes. The IP addresses are set in *GPRS 1... GPRS 3* sections respectively.

By this method the communicator receives *Ademco Contact ID®* protocol data sent from alarm system, converts it to *EGR100*, *Kronos* or *SIA IP* protocol data message and transmits it to monitoring station via GPRS network.

Set the following ET082 parameters using *ELDES Configuration Tool* software:

1. Switch to *Advanced* mode by enabling **Backup Enabled** parameter.
2. Select **GPRS 1... 3** method as *Primary* connection.
3. Set *Backup 1* and *Backup 2* connections if required.
4. Set the following *GPRS 1... GPRS 3* section parameters referring to *GPRS 1... 3* method selected respectively in steps 2 and 3:
  - **APN** – Access-point-name provided by GSM operator;
  - **User Name** – User name provided by GSM operator;
  - **Password** – Password provided by GSM operator;
  - **Server IP** – Public IP address of the computer (router) running *Kronos/EGR100* software.
  - **Port** – Forwarded TCP/UDP port number for the computer running *Kronos/EGR100* software.
  - **Protocol** – Format of the data message transmitted from ET082 to monitoring station by *GPRS* method. Available protocols:
    - *Kronos* – *Kronos LT/Kronos NET* monitoring station software data format;
    - *EGR100* – *EGR100* GPRS software data format;
    - *SIA IP* – *SIA/IP* data format complying with ANSI/SIA DC-09-2007 standard.
5. Set the following parameters in *EGR100* software:
  - **TCP/UDP Server Port** - Forwarded port for communication with the device via GPRS connection.

**NOTE:** Port must be set the same both on the communicator using *ELDES Configuration Tool* and in *EGR100* software.

For more details, please, refer to *EGR100* or *Kronos LT/Kronos NET* and *ELDES Configuration Tool* software's HELP section for more details.

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *GPRS 1... 3* method,
- notifies monitoring station about PSTN failure,
- continues transmitting data to monitoring station via GPRS network until the PSTN is restored.

**NOTE:** In case of *GPRS* method failure the communicator switches to *Backup 1* and *Backup 2* connections (if set) respectively and attempts to continue transmitting data to monitoring station until the previous connection (-s) is restored.

### 5.3.4 CSD Method

**ATTENTION:** It is necessary to set monitoring station phone number on alarm system for *CSD* method. In such case you can use any number (one digit is enough).

By this method the communicator receives *Ademco Contact ID*<sup>®</sup> protocol data sent from alarm system, converts it to *CSD* protocol data message and transmits it to monitoring station via *CSD* connection.

Set the following ET082 parameters using *ELDES Configuration Tool* software:

1. Switch to *Advanced* mode by enabling **Backup Enabled** parameter.
2. Select **CSD** method as *Primary* connection.
3. Set *Backup 1* and *Backup 2* connections if required.
- 4.. Set *CSD* monitoring station phone number.

For more details, please, refer to *ELDES Configuration Tool* software's HELP section.

If PSTN connection is used, the communicator also monitors the voltage (dial tone monitoring optional) on the PSTN and in case the PSTN is unavailable, disconnected or cut off (voltage drops below 4V), ET082:

- switches to *CSD* method,
- notifies monitoring station about PSTN failure,
- continues transmitting data to monitoring station via *CSD* connection until the PSTN is restored.

**NOTE:** In case of *CSD* method failure the communicator switches to *Backup 1* and *Backup 2* connections (if set) respectively and attempts to continue transmitting data to monitoring station until the previous connection (-s) is restored.

## 6. Configuration & Control

**ATTENTION!** In this user manual the underscore \_ character represents one *space* character. There must be no *spaces* or other characters at the beginning and at the end of the message. **XXXX** – 4-digit SMS password.

**ATTENTION!** The inputs & outputs can be configured / controlled by any user who knows the correct SMS password. This feature is permanently enabled.

The system configuration and control can be performed by sending SMS messages to ET082 phone number, via USB connection locally or via GPRS connection remotely using *ELDES Configuration Tool* software which is recommended for quick and convenient system configuration.

### 6.1 Ways of System Configuration



In order to configure and control the system by SMS message, send the text command to the ET082 system phone number from one of the preset user phone numbers. The structure of SMS message consists of 4 digit SMS password (the default SMS password is **0000** – four zeros), the parameter and value. For some parameters the value does not apply, i.e. **STATUS**.



Software *ELDES Configuration Tool* is intended to work directly with ET082 system, which can be connected to the computer via USB port or via GPRS connection remotely. This software simplifies system configuration process by allowing to use a personal computer in the process. Before starting to use *ELDES Configuration Tool*, please read user guide available in the software's HELP section. *ELDES Configuration Tool* is freeware and can be downloaded from ELDES website at: [www.eldes.it](http://www.eldes.it)

### 6.2 Remote System Configuration via GPRS Connection



**ATTENTION!** The system will NOT send any data to monitoring station while configuring the system remotely via GPRS network. However, during the configuration session, the data messages are queued up and transmitted to the monitoring station after the configuration session is over.

**Before configuring ET082 remotely via GPRS connection, make sure that:**

- SIM card is inserted into ET082 device.
- Mobile internet service is enabled on the SIM card.
- Power supply is connected to ET082.
- Default SMS password is changed to a new 4-digit password;
- At least *User1* phone number is set up.

## 6.2.1 Establishing Remote Connection Between ET082 System and Configuration Server

### Initiate the Connection to ELDES Server

In order to activate a remote GPRS connection between ET082 system and ELDES configuration server please, send the following SMS message from user phone number. Upon the successful SMS message delivery, the system establishes a connection session for 20 minutes. An SMS reply, containing device IMEI number and confirming a successful connection establishment, is sent shortly.



#### SMS text:

XXXX\_STCONFIG

**Example:** 1111\_STCONFIG

### Initiate the Connection to Third-Party Server

In case it is necessary to establish a connection between ET082 system and a third-party configuration server, send the following SMS message.



#### SMS text:

XXXX\_STCONFIG:IPaddress:Port or XXXX\_STCONFIG:HostName:Port

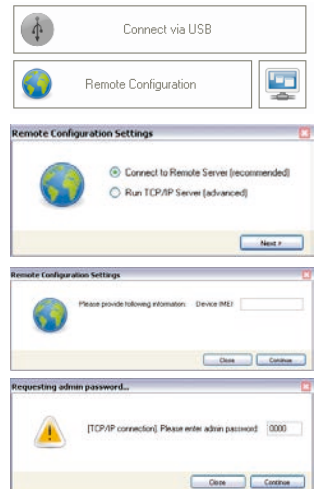
**Value:** Ipaddress – public IP address of third-party configuration server; Port – port number of third-party configuration server, HostName - public host-name of third-party configuration server.

**Example:** 1111\_STCONFIG:62.80.115.102:4522

**NOTE:** Public IP address (host-name) and port number are necessary when connecting to a third-party-server for the first time only. When connecting to the server next time, *XXXX\_stconfig* is enough as the IP address (host-name) and port number are saved in the device memory after the first successful connection.

## 6.2.2 Connecting to ELDES Configuration Server using ELDES Configuration Tool Software

- 5.3.2.1 Run *ELDES Configuration Tool* software.
- 5.3.2.2 Press **Remote Configuration** button.
- 5.3.2.3 In the next window, select **Connect to Remote Server (recommended)** and press **Next** button.
- 5.3.2.4 Enter the received IMEI number in **Device IMEI** entry.
- 5.3.2.5 Press **Continue** button.
- 5.3.2.6 Upon the successfully established connection, the system prompts for an administrator password.
- 5.3.2.7 By entering a valid administrator password, the system grants access to full configuration remotely.
- 5.3.2.8 **Remote Configuration Management** window displays all performed configuration actions.



### 6.2.3 Ending the Configuration Process

#### Shut down the Connection with the Server

After the system configuration is complete, use one of the following methods to end the configuration process:

- Press **Disconnect** button and close *ELDES Configuration Tool* software;
- Wait for the system to reply with an SMS message confirming the end of the session;
- Shut down the connection with the server at any time by sending an SMS message.



#### SMS text:

XXXX\_ENDCONFIG

**Example:** 1111\_ENDCONFIG

### 6.3 Configuration Parameter Set (SMS)

#### Status

SMS report indicating information on system input and output status.



#### SMS text:

XXXX\_STATUS

**Example:** 1111\_STATUS

#### Set SMS Password

The 4-digit SMS password intended for system configuration and control by SMS messages. By default, the SMS password is **0000** (four zeros) which is recommended to change.



#### SMS text:

0000\_PSW:XXXX

**Value:** XXXX – new 4-digit SMS password.

**Example:** 0000\_PSW:1111

#### Set User Phone Number

The system supports up to 3 phone number entries allowing to receive input alarm and restore texts by SMS. *User 1* phone number is mandatory while other phone number entries are not necessary. All numbers must be entered starting with international country code e.g. 44[area code][local number]. The *plus* symbol is not necessary.



#### SMS text:

XXXX\_NRx:3701111111

**Value:** NRx: - user phone number entry, range - [NR1... NR3]

**Example:** 1111\_NR1:3706222222

## Set Input Alarm Text

Each input has an alarm text which is sent by SMS message to a preset user (-s) in case the input is violated. Manufacturer default input alarm text: Z1 - Input 1 TRIGGERED, Z2 - Input 2 TRIGGERED, Z3 - Input 3 TRIGGERED.

This command sets an alarm text for a specified input. Maximum allowed length is 23 characters including *space* characters.



### SMS text:

XXXX\_TZx:ON:NewAlarmText

**Value:** TZx - input number, range - [TZ1...TZ3].

**Example:** 1111\_TZ3:ON:Sensor violated

## Set Input Restore Text

Each input has a restore text which is sent by SMS message to a preset user (-s) in case the input is restored. Manufacturer default input restore texts: Z1 - Input 1 RESTORED, Z2 - Input 2 RESTORED, Z3 - Input 3 RESTORED.

This command sets a restore text for a specified input. Maximum allowed length is 23 characters including *space* characters.



### SMS text:

XXXX\_TZx:OFF:NewAlarmText

**Value:** TZx - input number, range - [TZ1...TZ3].

**Example:** 1111\_TZ3:OFF:Sensor restored

## Disable Input

This command disables a specified input. By default, all inputs are enabled.



### SMS text:

XXXX\_Zx:OFF

**Value:** Zx - input number, range - [Z1...Z3]

**Example:** 1111\_Z3:OFF



## Enable Input

This command enables a specified input.



### SMS text:

XXXX\_Zx:ON

**Value:** Zx - input number, range - [Z1... Z3]

**Example:** 1111\_Z1:ON

## Set Output Name

Each output has a name which is sent by SMS to a preset user (-s). Manufacturer default output names: C1 - *Output1*, C2 - *Output2*, C3 - *Output3*.

This command sets a name for a specified output. Maximum allowed length is 23 characters.



### SMS text:

XXXX\_TCx:NewOutputName

**Value:** TCx - output number, range - [TC1... TC3].

**Example:** 1111\_TC2:Pump

## Turn ON Output

This command turns on a specified output.



### SMS text:

XXXX\_Cx:ON or XXXX\_OutputName:ON

**Value:** Cx - output number, range - [C1... C3]

**Example:** 1111\_Pump:ON

## Turn OFF Output

This command turns off a specified output.



### SMS text:

XXXX\_Cx:OFF or XXXX\_OutputName:OFF

**Value:** Cx - output number, range - [C1... C3]

**Example:** 1111\_C1:OFF

### Turn ON Output by Pulse

This command switches the output ON for a set period of time and switches the output back to OFF after the set period of time is over.



#### SMS text:

XXXX\_Cx:ON:T or XXXX\_OutputName:ON:T

**Value:** T – period of time in seconds, range - [1-9999]

**Example:** 1111\_C3:ON:75

### Turn OFF Output by Pulse

This command switches the output OFF for a set period of time and switches the output back to ON after the set period of time is over.



#### SMS text:

XXXX\_Cx:OFF:T or XXXX\_OutputName:OFF:T

**Value:** T – period of time in seconds, range - [1-9999]

**Example:** 1111\_Pump:OFF:50

### Telephone Line Failure/Restore Delay

The delay period of time between telephone line failure and restore events. If telephone line failure and restore events occur before the set delay period of time is over, the system will not send the SMS report.



#### SMS text:

XXXX\_TELDLY:T

**Value:** T – period of time in seconds, range - [1-250]

### List SMS Message Structure

This command provides a list of SMS message structure examples supported by ET082.



#### SMS text:

XXXX\_HELP

**Example:** 1111\_HELP

# 7. Technical Support

## 7.1 Restoring Default Configuration

To restore the parameters to default values:

1. Disconnect the power supply;
2. Short circuit (connect) DEF pins;
3. Power up ET082 for 7 seconds;
4. Disconnect the power supply;
5. Remove short circuit from DEF pins;
6. Parameters restored to default.

## 7.2 Upgrading Firmware

1. Disconnect the power supply and backup battery.
2. Short circuit (connect) DEF pins.
3. Connect the device via USB cable to the PC.
4. Power up the device.
5. The new window must pop-up where you will find the .bin file. Otherwise open My Computer and look for Boot Disk drive.
6. Delete the .bin file found in the drive.
7. Copy the new firmware .bin file to the very same window.
8. Power down the device.
9. Unplug USB cable.
10. Remove short circuit from DEF pins.
11. Power up the device.
12. Firmware upgraded.

**NOTE:** It is strongly recommended to restore parameters to default values after the firmware upgrade process.

## 7.3 Technical Support

Indication	Possible Reason
GSM LED is off or not flashing	<ul style="list-style-type: none"><li>• No external power supply</li><li>• Circuit not properly connected</li><li>• Blown fuse</li><li>• No GSM network signal</li></ul>
STATUS LED flashing several times per second	<ul style="list-style-type: none"><li>• SIM card not inserted / improperly inserted</li><li>• PIN code enabled</li><li>• SIM card inactive</li></ul>
System does not send any SMS messages	<ul style="list-style-type: none"><li>• SIM card credit limit exceeded</li><li>• Incorrect SMS centre phone number</li><li>• No GSM network signal</li><li>• User phone number is not preset.</li></ul>
Received SMS message "Wrong syntax" or "Command is not correct"	<ul style="list-style-type: none"><li>• Incorrect syntax</li><li>• Extra &lt;space&gt; character is left in SMS message</li></ul>

For product warranty repair service, please, contact your local retail store where this product was purchase. If your problem could not be fixed by the self-guide above, please, contact your distributor or ELDES technical support by email [support@eldes.it](mailto:support@eldes.it). More up to date information about your device and other products can be found at the manufacturer's website [www.eldes.it](http://www.eldes.it)

## 8. Related products



*ET08P plastic enclosure*



*Power supply*



