

eldes®

ET083

2G/3G COMMUNICATOR

EN



User Manual v1.1

Valid for ET083 v01.00.00 and up

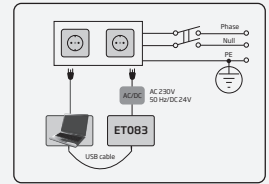
SAFETY INSTRUCTIONS

Please read and follow these safety guidelines to safeguard yourself and others:

- 2G/3G communicator ET083 (later referred to as "the device" or "the communicator") contains a built-in radio transceiver operating in the following bands: EU-band model: 2G 900/1800MHz, 3G 900/2100MHz bands; US-band model: 2G 850/1900MHz, 3G 850/1900MHz; Multi-band model: 2G 850/900/1800/1900MHz, 3G 800/850/900/1900/2100MHz
- DO NOT use the device where it can cause potential danger and interfere with other devices – such as medical devices.
- DO NOT use the device in hazardous environment.
- DO NOT expose the device to high humidity, chemical environment or mechanical impact.
- DO NOT attempt to repair the device yourself – any repairs must be carried out by fully qualified personnel only.

! Please, use the 10-24V 300 mA DC power supply unit that meets the EN 60950-1 standard. Any additional device you connect to the device, such as a computer, must also be powered by an EN 60950-1 approved supply. When connecting the power supply to the device, mind the polarity terminals. DO NOT switch the polarity terminals places.

! 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 (0.12in) and the disconnection current 5A.



! Disconnect the mains power before installing. Never install or carry out maintenance during stormy weather. The electric socket that powers the device must be easily accessible.

! To switch the device off, unplug the external electric power supply or any other linked equipment that the device is powered from.

! A blown fuse cannot be replaced by the user. The replacement fuse has to be of the kind indicated by the manufacturer (fuse F1 model – MINISMDC050F 0.5A).

! If you use a computer for the device configuration, it must be earthed.

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TERMS OF USE

The following terms and conditions govern use of the ET083 device and contains important information on limitations regarding the product's use and function, as well as information on the limitations of the manufacturer's liability. Please carefully read these terms and conditions. For more information on your product, please visit eldesalarms.com

TECHNICAL SUPPORT

In order to ensure continuous and proper operation of the ET083 device and uninterrupted service, it is the responsibility of the User to make sure that: (I) the product is properly installed, and (II) there is constant internet or 2G/3G connection and electrical supply (low battery must be replaced in time).

If you experience difficulty during the installation or subsequent use of the system, you may contact ELDES, UAB distributor or dealer in your country/region. For more information see eldesalarms.com

WARRANTY PROCEDURES

Warranty and out of warranty service should be obtained by contacting the system integrator/dealer/retailer/e-tailer or distributor where the customer purchased the product. When requesting for service, the proof of purchase and the product serial number must be provided. The return of the defective product should be strictly through the original route of purchase, and the customers shall pack the product appropriately to prevent the returned product from suffering in the transportation.

MANUFACTURER WARRANTY

ELDES provides a limited warranty for its products only to the person or entity that originally purchased the product from ELDES or its authorized distributor or retailer and only in case of defective workmanship and materials under normal use of the system for a period of twenty four (24) months from the date of shipment by the ELDES, UAB (Warranty Period). Warranty obligations do not cover expandable materials (power elements and/or batteries), holders and enclosures. The warranty remains valid only if the system is used as intended, following all guidelines outlined in this manual and in accordance with the operating conditions specified. The warranty is void if the system has been exposed to mechanical impact, chemicals, high humidity, fluids, corrosive and hazardous environments or force majeure factors.

If a hardware defect arises and a valid claim is received within the Warranty Period, at its own discretion, ELDES, UAB will either (a) repair a hardware defect at no charge, using new or refurbished replacement parts, or (b) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (c) refund the purchase price of the product.

LIMITED LIABILITY

The buyer must agree that the system will reduce the risk theft, burglary or other dangers but does not provide guarantee against such events. ELDES, UAB will not assume any responsibility regarding personal or property, or revenue loss while using the system. ELDES, UAB is not affiliated with any of the Internet providers, therefore, it shall not be responsible for the quality of Internet service.

ELDES, UAB shall also assume no liability due to direct or indirect damage or loss, as well as unreceived income when using the system, including cases, when the damages arise due to the above mentioned risks, when due to breakdown or malfunction the user is not informed in a timely manner about a risk which has arisen. In any case, the liability of ELDES, UAB, as much as it is allowed by the laws in force, shall not exceed the price of acquisition of the product.

CONSUMER PROTECTION LAWS

FOR CONSUMERS WHO ARE COVERED BY CONSUMER PROTECTION LAWS OR REGULATIONS IN THEIR COUNTRY OF PURCHASE OR, IF DIFFERENT, THEIR COUNTRY OF RESIDENCE, **THE BENEFITS CONFERRED BY THIS WARRANTY ARE IN ADDITION TO ALL RIGHTS AND REMEDIES CONVEYED BY SUCH CONSUMER PROTECTION LAWS AND REGULATIONS.** This warranty grants upon you specific legal rights, and you may also have other rights that vary by country, state or province.

DISPOSAL AND RECYCLING INFORMATION



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 of 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.

Dear Customer,

Thank you for choosing to purchase the 2G/3G communicator ET083. Your thoughtful decision will ensure reliable solution for many years as all ELDES products are manufactured to meet the highest standards.

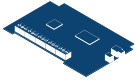
We are confident that you will be completely satisfied with your product. However, in the unlikely event that you do experience a problem, please contact the dealer from whom you made your purchase.

ELDES UAB

eldesalarms.com

Contents of Pack

1 x



1 x



1 x



Not included



miniUSB cable –
can be obtained
from your local
distributor.



SIM card – we
recommend you
get a contract
SIM, not Pay As
You Go.

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It is strictly forbidden to copy and distribute information in this document or pass to a third party without an advanced written authorization from ELDES UAB. ELDES UAB reserves the right to update or modify this document and/or related products without a warning. Hereby, ELDES UAB declares that the 2G/3G communicator ET083 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The declaration of conformity may be consulted at eldesalarms.com



1. GENERAL INFORMATION

ET083 is a micro-controller based device intended to replace the third-party PSTN/non-2G/3G alarm panel communication method via the 2G/3G and IP-based networks.

Examples of using the system:


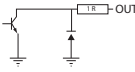
- Property security.
- Non-2G/3G/PSTN alarm panel communication replacement by 2G/3G, SMS, 2G/3G, CSD or Ethernet communication methods.
- Backup connection for PSTN (land line).
- Any electrical appliance control: lighting, watering, heating etc.
- Remote reboot of the "frozen" systems, such as computer network or a server.

Main features

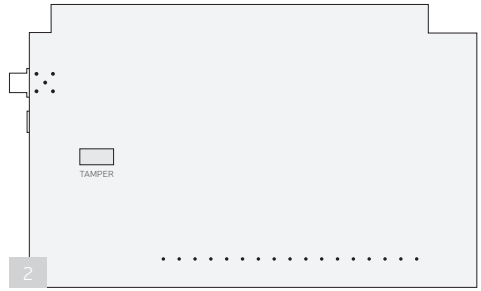
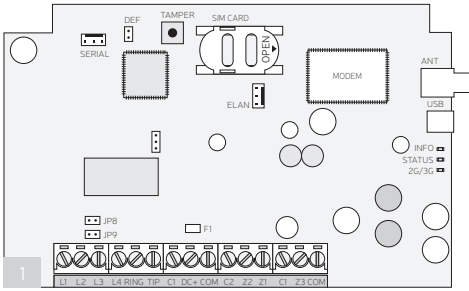
- Configuration by PC and SMS text message.
- Supported communication methods: PSTN, Voice Calls (direct channel or data buffering via 2G/3G audio), SMS, CSD, 2G/3G network and Ethernet via ELAN3-ALARM device.
- PSTN line state supervision.
- Supported communication protocols: Ademco Contact ID, 4+2, EGR100, Kronos, SIA IP.
- Alarm panel wiring via PSTN (RING/TIP terminals), keybus or serial interface.
- 3 inputs customizable as NO (normally-open) or NC (normally-closed) with customizable alarm/restore Contact ID code and text for monitoring station notification and user by SMS text message respectively.
- 3 open-collector outputs for electrical appliance control, non-2G/3G alarm panel arming/disarming (keyswitch) or alarm/restore event report.
- Manual output control by free of charge phone call and SMS text message.
- Automatic output control in accordance with a specified event.
- Up to 3 users for minor device configuration by SMS text messages, acceptance of input alarm SMS text messages, output control by SMS text message and free of charge phone call.
- Up to 5 users for SMS text message containing Contact ID data converted into user-understandable text acceptance.
- Up to 2 administrators for remote device configuration initiation.
- Event log indicating communication activity in real-time.
- Periodic self-test notification to monitoring station.
- Automatic device restart.
- 2 on-board tamper switches

2. TECHNICAL SPECIFICATIONS

2.1. Electrical and Mechanical Characteristics

Supply voltage	10-24V  300mA max
Peak current	Up to 700mA
Current used in idle state	Up to 120mA
2G/3G modem frequency	EU-band model: 2G 900/1800MHz, 3G 900/2100MHz bands; US-band model: 2G 850/1900MHz, 3G 850/1900MHz; Multi-band model: 2G 850/900/1800/1900MHz, 3G 800/850/900/1900/2100MHz
Number of "low" level (negative) digital inputs	3
Input type	dry contact
Number of outputs	3
Output C1 - C3 circuit	Open collector output. Output is pulled to COM when turned ON. 
Maximum commuting output values	3 x 30V; 50mA
Generated phone line values	Voltage: 25V; current: 25mA; impedance: 270Ω
Dial tone frequency of generated phone line	425 Hz
Dimensions	129x86x18mm (5.08x3.39x0.71in)
Operating temperature range	-20...+55 °C (-4... +131°F)
Humidity	0-90% RH @ 0... +40°C (0-90% RH @ +32... +104°F) (non-condensing)

2.2. Main Unit, LED Indicator and Connector Functionality



Main Unit Functionality

SERIAL	Serial interface pins for 3rd party alarm panel connection (ONLY for Paradox alarm panels).
DEF	Pins for restoring default settings
TAMPER	Switches for enclosure state supervision
SIM CARD	SIM card slot / holder
MODEM	2G/3G modem
ANT	2G/3G antenna SMA type connector
ELAN	Interface pins for ELAN3-ALARM connection
USB	Mini USB port
INFO	Light-emitting diode indicating data transmission/conversion activity
STATUS	Light-emitting diode indicating micro-controller status
2G/3G	Green light-emitting diode indicating 2G/3G signal strength
JP8 – JP9	Pins for PSTN state supervision set up
F1	0.5A fuse

Connector Functionality

L1 – L4	Terminals for connection to PSTN/PBX
RING – TIP	Terminals for connection to alarm panel's RING/TIP interface
C1 – C3	Open-collector output terminals
DC+	Positive power supply terminal
COM	Common terminal
Z2	Input terminal / DATA terminal for alarm panel connection via keybus interface
Z1	Input terminal / CLOCK terminal for alarm panel connection via keybus interface
Z3	Input terminal

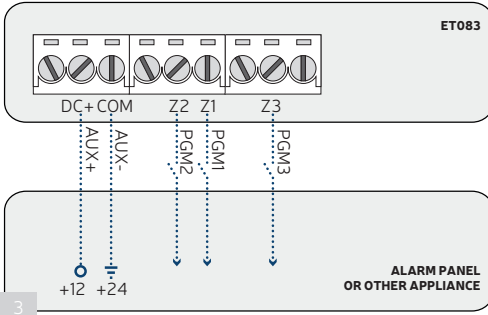
2.3. LED Indicator Functionality

INFO indication	Description
OFF	ET083 is in Idle state - events are not transmitted to MS at the moment
Steady ON	ET083 receives events from security panel
STATUS indication	Description
OFF	No mains power / micro-controller fault
Flashing several times per sec.	SIM card not present / PIN code enabled
Steady ON	Device operating successfully
2G/3G indication	2G/3G signal strength
OFF	No 2G/3G signal
Flashing every 3 sec.	Poor
Flashing every 1 sec.	Medium
Flashing several times per sec.	Good
Steady ON	Excellent

! While all events are transmitted to MS, every attempt is followed by LED indication. In case of successful attempt to transmit an event to MS, LED indicators will light up for 1 sec. and return to their primary state afterwards. In case of unsuccessful attempt to transmit an event to MS, LED indicators will turn off for 1 sec. and return to their primary state afterwards.

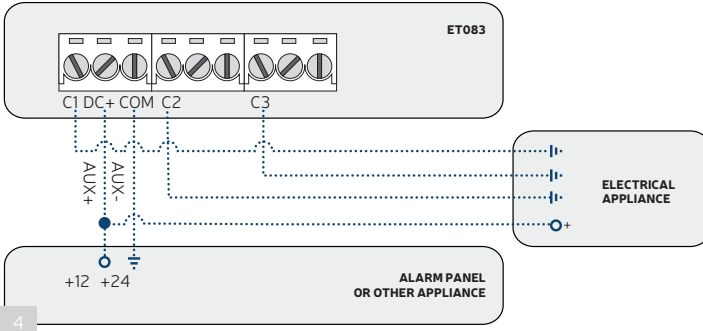
2.4. Wiring Diagrams

2.4.1. General Wiring



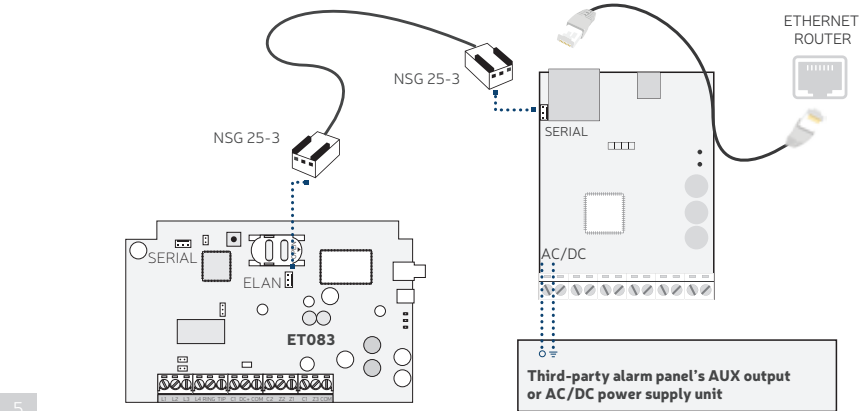
! When connecting ET083 power supply terminals to alarm panel's auxiliary output (AUX), ensure that the output is able to maintain peak current consumption of up to 700mA. Otherwise, please use an external power supply unit for ET083.

2.4.2. Output Wiring



2.4.3. ELAN3-ALARM

For more details on ELAN3-ALARM device, please refer to its user manual located at eldesalarms.com

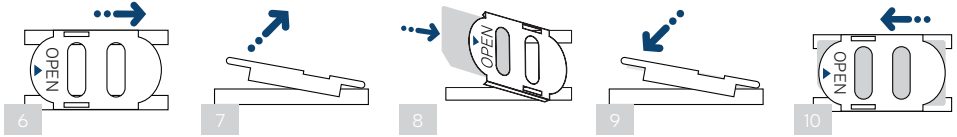


3. INSTALLATION

- The device can be installed in a metal or non-flammable cabinet only.
- The device should be installed indoors, in stationary environment ONLY.
- For terminal connection, use 0.50 mm² (0.02in²) thread unshielded cable of up to 100m (328.08ft) length.

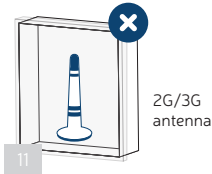
1. Disable the PIN code of the SIM card by inserting it into a mobile phone and following the proper menu steps. Ensure that the additional services, such as **voice mail, call forwarding, report on missed/busy calls ("call catcher")** are disabled on the SIM card. For more details on how to disable these services, please contact your 2G/3G operator.

2. Once the PIN code is disabled, place the SIM card into the SIM CARD slot of the device.



3. Place the device inside the metal enclosure.

4. Connect the 2G/3G antenna. Based on the type of the 2G/3G antenna supplied with ET083 device, follow the recommendations for the antenna installation:



Never install in the following locations:

- inside the metal cabinet
- closer than 20cm (7.87in) from the metal surface and/or power lines

5. Wire up ET083 device power supply and communication terminals to the third-party alarm panel (see **2.3. Wiring Diagrams** and **6. COMMUNICATION WIRING METHODS** for more details).

6. Power up the device and wait until indicator STATUS lights up.

7. The device starts up in less than a minute. Indicator STATUS should be steady ON indicating successful micro-controller operation.

8. The illuminated or flashing indicator 2G/3G indicates that the device has successfully registered to the 2G/3G network. To find the strongest 2G/3G signal, place the 2G/3G antenna and follow the indications provided by 2G/3G indicator (see **2.2. Main Unit, LED Indicator and Connector Functionality** for more details).

9. Select and configure the communication mode and method (see **7. COMMUNICATION MODES AND METHODS** for more details).

! When connecting ET083 power supply terminals to alarm panel's auxiliary output (AUX), ensure that the output is able to maintain peak current consumption of up to 700mA. Otherwise, please use an external power supply unit for ET083.

! For maximum device reliability we recommend you do NOT use a Pay As You Go SIM card. Otherwise, in the event of insufficient credit balance on the SIM card, the device would fail to make a phone call or send messages.

! We advise you to choose the same 2G/3G SIM provider for your device as for your mobile phone. This will ensure the fastest, most reliable SMS text message delivery service and phone call connection.

! Even though ET083 installation process is not too complicated, we still recommend to perform it by a person with basic knowledge in electrical engineering and electronics to avoid any device damage.

4. GENERAL OPERATIONAL DESCRIPTION

ET083 communicator is used with third-party PSTN/non-2G/3G alarm panels as a communication gateway via 2G/3G and IP-based networks for data transmission from the alarm panel to monitoring station and/or listed user phone number by SMS text message.

The device comes equipped with PSTN line state supervision feature that in case of PSTN line loss would result in switching to a pre-configured communication method, such as 2G/3G, SMS, until the PSTN line is restored followed by notifying the monitoring station and/or listed user phone number by SMS text message. The device can detect a physical PSTN line cut-off.

ET083 has 3 on-board digital inputs (normally closed or normally open) for alarm device's PGM output or detection device connection, such as magnetic door contact. By connecting the input to a non-2G/3G alarm panel's PGM output, up to 3 listed user phone numbers will be able to receive an SMS text message as well as to notify the monitoring station regarding arming/disarming and other events depending on the alarm panel configuration. In addition, the on-board 2 tamper switches are intended for enclosure state supervision in case it is illegally opened or detached from the wall.

The device comes equipped with 3 open-collector outputs allowing up to 3 listed user phone numbers to turn ON or OFF the electrical appliances, such as heating, lighting, lift the gates, blinds by free of charge phone call or SMS text message. Alternatively, the outputs can be controlled automatically based on the associated ET083 input alarm/restore event. The outputs can also be used for PSTN or 2G/3G connection loss indication as well as for arming/disarming by connecting an output to one of the alarm panel's zones pre-configured as a keyswitch.

The device will ignore SMS requests and phone calls coming from non-listed phone numbers.

5. CONFIGURATION METHODS

5.1. SMS Text Messages



!!! In this user manual the underscore character "_" represents one space character. Every underscore character must be replaced by a single space character. There must be no spaces or other unnecessary characters at the beginning and at the end of the SMS text message.

SMS

In order to configure and control the device by SMS text message, send the text command to the ET083 device phone number from one of the listed administrator phone numbers. The structure of SMS text 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 e. g. STATUS. The variables are indicated in lower-case letters, while a valid parameter value range is indicated in brackets.

5.2. ELDES Utility Software



Configuration by USB cable and ELDES Utility software does not require the external power supply to be connected to the device. However, the device will NOT fully function when USB-powered.

Eldes Utility

Software ELDES Utility is intended for ET083 communicator configuration locally via USB port or remotely via 2G/3G network or Ethernet connection (ELAN3-ALARM device required). This software simplifies system configuration process. Before starting to use ELDES Utility software, please read the user guide provided in the software's documentation (HINTS).

5.2.1. Administrator Phone Numbers

The device supports 2 administrator phone numbers identified as Admin 1 and Admin 2. When the phone number is set, the administrator will be able to initiate remote configuration session by SMS text message.

The supported phone number format is the following:

- **International (with plus)** – The phone numbers must be entered starting with plus and an international country code in the following format: +[international code][area code][local number], example for UK: +44170911XXXX1.
- **International (with 00)** – The phone numbers must be entered starting with 00 and an international country code in the following format: 00[international code][area code][local number], example for UK: 0044170911XXXX1.
- **Local** – The phone numbers must be entered starting with an area code in the following format: [area code][local number], example for UK: 0170911XXXX1.

Set administrator phone number

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.



The administrator phone numbers are used for remote configuration session initiation ONLY. Admin 1/Admin 2 phone numbers CANNOT be used for output control or input alarm/restore SMS text message acceptance.

5.2.2. Remote Connection



The system will NOT transmit any data to monitoring station while configuring the system remotely via 2G/3G network or Ethernet connection. However, during the remote connection session, the data messages are queued up and will be transmitted to the monitoring station after the configuration session is over.

ELDES Utility software provides remote system configuration ability via Internet using one of the following methods:

- ELDES proxy server (recommended). The connection can be established on the system via 2G/3G network or Ethernet using ELAN3-ALARM communicator.
- Running TCP/IP server on ELDES Utility (advanced). The connection can be established on the system via 2G/3G network or Ethernet using ELAN3-ALARM communicator.
- Direct connection via Ethernet using ELAN3-ALARM communicator.

In order to start using the remote configuration feature, please run the step-by-step wizard and follow the steps provided in the start page of ELDES Utility software. Please, note that based on the selected method, it might be necessary to send an SMS text message to the system's phone number in order to initiate the remote connection. By following the steps you will be instructed on what text must be sent to the system's phone number in such case.

Start the connection

SMS text message content:`ssss_STCONFIG`**Value:** ssss – 4-digit aSMS password.**Example:** 1111_ENDCONFIG

Ending the Configuration Process

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

- Click Disconnect or Stop button and close ELDES Utility software;
- The session will automatically expire in 20 minutes. Before the last 5 minutes, the software will offer the user to extend the session for another 20 minutes.
- Alternatively, the connection with the server can be terminated at any time by sending an SMS text message.

Terminate the connection

SMS text message content:`ssss_ENDCONFIG`**Value:** ssss – 4-digit aSMS password.**Example:** 1111_ENDCONFIG

Once the session is expired or terminated, the system will reply with an SMS text message confirming the end of the session.

6. COMMUNICATION WIRING METHODS

ET083 communicator supports one of the following communication wiring methods:

- **RING/TIP interface** – The alarm panel is linked up with ET083 communicator via the RING and TIP terminals simulating the connectivity of the PSTN line. For more details, please refer to **6.1. RING/TIP Interface**
- **Keybus or Serial interface** – The alarm panel is linked up with ET083 communicator via the keybus or serial interface just like the alarm panel accessory, such as keypad. For more details, please refer to **6.2. Keybus and Serial Interfaces**

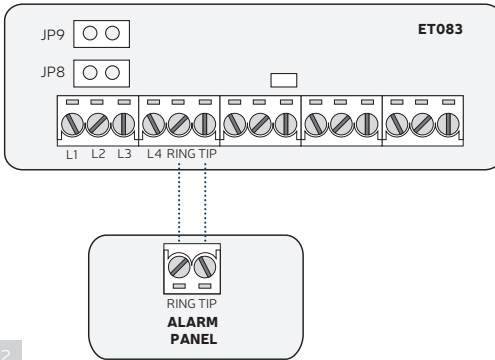


Only one of the aforementioned methods is supported at a time.

6.1. RING/TIP Interface

Using this communication wiring method, the communicator simulates the PSTN line presence for the alarm panel. Depending on the PSTN line accessibility in the installation area and user requirements, the communicator can be wired to the alarm panel using one of the following diagrams:

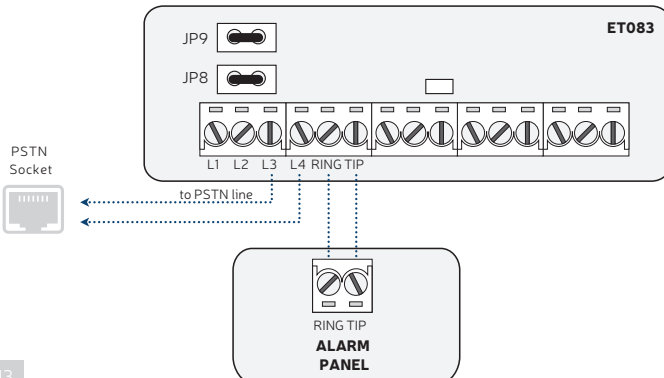
- **No PSTN line** – The communication link between the alarm panel and the monitoring station is established using ET083 device in the middle. The communicator retrieves data from the alarm panel and transmits it to the monitoring station via the pre-configured communication method. PSTN line is completely excluded from the communication process.



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1. Connect the communicator's RING and TIP terminals to the alarm panel's RING and TIP terminals respectively.
2. DOT NOT set any jumpers on the communicator's JP8 and JP9 pins.

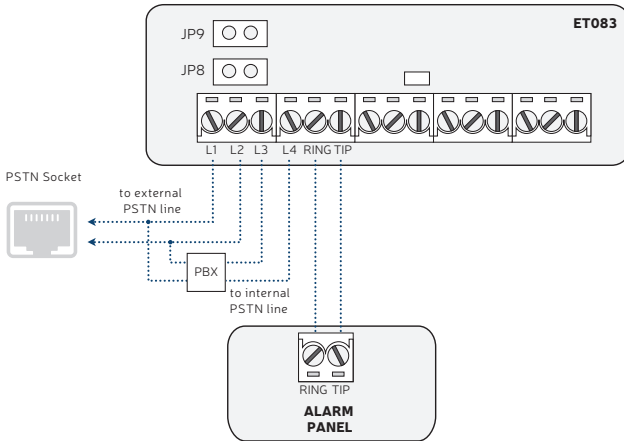
- **With PSTN Line Supervision** – The communication link between the alarm panel and the monitoring station is established directly via PSTN line adding PSTN state (terminals L3 and L4) supervision provided by ET083 communicator. The communicator is not involved in the communication process while PSTN connectivity is available. In case of PSTN loss (terminals L3 and L4), the communicator will take over the communication link and continue data transmission via the pre-configured communication method as described in **No PSTN Line** until PSTN connectivity is restored.



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1. Connect the communicator's RING and TIP terminals to the alarm panel's RING and TIP terminals respectively.
2. Connect L3 and L4 terminals to the PSTN socket.
3. Set the jumpers on the communicator's JP8 and JP9 pins.

- **With External PSTN Line Supervision** – The communication link between the alarm panel and the monitoring station is established directly via PSTN line connected via PBX (private branch exchange) adding external PSTN state (terminals L1 and L2) supervision provided by ET083 communicator. The communicator is not involved in the communication process while PSTN connectivity is available. In case of external PSTN loss (terminals L1 and L2), the communicator will take over the communication link and continue data transmission via the pre-configured communication method as described in **No PSTN Line** until PSTN connectivity is restored. In case of internal PSTN loss (terminals L3 and L4), the PSTN connectivity would remain present.

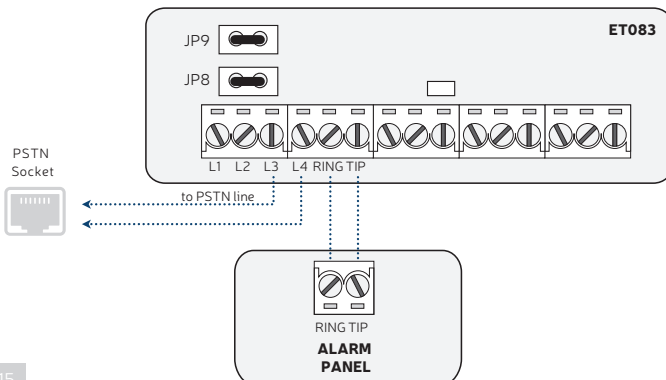


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1. Connect the communicator's RING and TIP terminals to the alarm panel's RING and TIP terminals respectively.
2. Connect the communicator's L1 and L2 terminals in parallel to the external PSTN line of the PBX connected to PSTN socket.
3. Connect L3 and L4 terminals to the internal PSTN line of the PBX.
4. DOT NOT set any jumpers on the communicator's JP8 and JP9 pins.

For more details on how the PSTN loss is detected and managed by the communicator, please refer to **15. PSTN CONNECTION STATE SUPERVISION**.

- **With PSTN line supervision when Advanced KissOFF mode is enabled** - The communication link between the alarm panel and the monitoring station could be established via all available communication channels. PSTN line could be configured as Primary, Backup1 or Backup2 method. The communicator is involved in the communication process while PSTN connectivity is available. In case of PSTN loss (connect PSTN line to terminals L3 and L4, and set the jumpers on the communicator's JP8 and JP9 pins), the communicator will take over the communication link and continue data transmission via next pre-configured communication method until PSTN connectivity is restored. For more details on how the Advanced KissOff mode operates, please refer to **19. ADVANCED KISSOFF MODE**.



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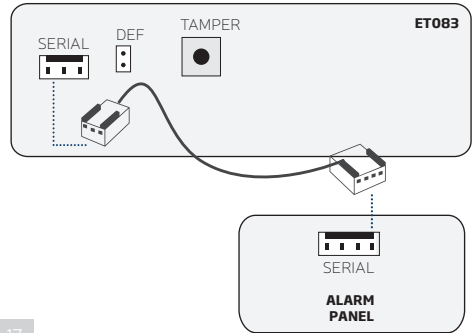
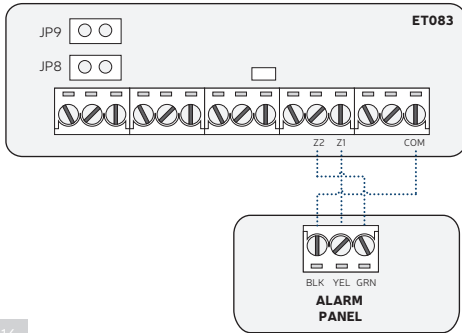
6.2. Keybus and Serial Interfaces

! When using one of the following communication wiring methods, PSTN connectivity is supported only if Advanced communication is enabled

Using Keybus communication wiring method Z1 and Z2 terminals convert into keybus interface for alarm panel connection. In such case Z1 and Z2 terminals cannot be used as digital inputs.

In order to start using Serial communication wiring method, please obtain a cable adapter from your local supplier.

In both cases, the communicator retrieves serial data from the alarm panel and transmits it to the monitoring station via the pre-configured communication method.



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1. a) **Keybus interface connection:** Connect the communicator's Z2 and Z1 terminals to the alarm panel's GRN and YEL terminals respectively.
 b) **Serial interface connection:** Connect the communicator's SERIAL interface to the alarm panel's SERIAL interface using the cable.
2. **Keybus interface connection:** If the communicator is powered from the external power supply unit, connect the communicator's COM terminal to alarm panel's BLK (on some alarm panel models GND) terminal.
3. Select the alarm panel model from the list of the third-party alarm panels supported by the communicator:
 - Paradox SP*
 - Paradox EVO192*
 - DSC 1616/1832/1864**
 - DSC PC585**
4. Set up the Account number, which reflects individual alarm panel's partition on the communicator.

To manage the aforementioned parameters, please refer to the following configuration parameter.

Select third-party alarm panel model

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility* software.

* Supported by Serial interface connection.

** Supported by Keybus interface connection.

7. COMMUNICATION MODES AND METHODS

ET083 communicator supports several communication methods and protocols:

Method	Protocol
Direct Voice Calls (direct channel via 2G/3G audio. No backup channels are available if this method selected)	Ademco Contact ID
Voice Calls (2G/3G audio with data buffering. This method is available in case Advanced KissOff mode is disabled)	Ademco Contact ID
SMS (up to 5 user phone numbers)	Ademco Contact ID (converted to user-understandable text)
IP (2G/3G/Ethernet via ELAN3-ALARM)	EGR100, Kronos, SIA IP
CSD	Ademco Contact ID
PSTN (This method is available when Advanced KissOff mode is enabled. PSTN is available as the very last backup connection in the entire communication sequence)	Ademco Contact ID

* Supported only when ET083 is linked up with the alarm panel via RING/TIP interface (see **6.1. RING/TIP Interface**). Does NOT support notifications to the listed user by SMS text message and data report to the monitoring station regarding PSTN line loss/restore events (see **15. PSTN CONNECTION STATE SUPERVISION**).

** Can be used simultaneously with any communication method of Advanced mode (see **7.2.2. SMS**).

*** By default, PSTN method is available for Primary communication ONLY. When Advanced KissOff mode is enabled, PSTN line is available as the very last backup connection in the entire communication sequence (see **19. ADVANCED KISSOFF MODE**).

7.1. Direct Voice Calls Method

Using this method the communicator retrieves Ademco Contact ID or 4+2 data from the alarm panel and transmits it to the monitoring station via 2G/3G audio direct channel without influencing the data itself. Before proceeding with any further configuration, please complete the steps provided in **6.1. RING/TIP Interface**.

To set the communicator to transmit data using this communication method, please proceed as follows:

1. On alarm panel: Enable Ademco Contact ID or Ademco 4+2 mode.
2. On alarm panel: Set valid Account number.
3. On alarm panel: Set the monitoring station phone number (-s) in one of the following formats:
 - **International (with 00)** – The phone numbers must be entered starting with 00 and an international country code in the following format: 00[international code][area code][local number], example for UK: 0044170911XXXX1.
 - **Local** – The phone numbers must be entered starting with an area code in the following format: [area code][local number], example for UK: 0170911XXXX1.
4. If required to override the Account number set on the alarm panel, please use Voice Calls communication method provided by Advanced mode (see **7.2.1. Voice Calls Method**). In addition, please refer to **10. MONITORING STATION PHONE NUMBER AND ACCOUNT REPLACEMENT**.

! In the event of failure using this communication method, please refer to **8. 2G/3G MODEM SETTINGS** or use Voice Calls communication method provided by Advanced mode (see **7.2.1. Voice Calls Method**).

7.2. Voice Calls Method

Based on the communication wiring method that is being used, using this method the communicator:

- **RING/TIP interface** – Retrieves Ademco Contact ID data from the alarm panel, saves it to the memory buffer (the data may be stored for up to 10 seconds) and transmits it to the monitoring station via 2G/3G audio channel. Before proceeding with any further configuration, please complete the steps provided in **6.1. RING/TIP Interface**.
- **Keybus or Serial interface** – Retrieves serial data from the alarm panel, converts it into Ademco Contact ID data followed by transmission to the monitoring station via 2G/3G audio channel. Before proceeding with any further configuration, please complete the steps provided in **6.2. Keybus and Serial Interfaces**.

To set the communicator to transmit data using this communication method, please proceed as follows:

1. On alarm panel*: Enable Ademco Contact ID mode.
2. On alarm panel*: Set valid Account number..
3. On alarm panel*: Set the monitoring station phone number (-s) in one of the following formats:
 - **International (with 00)** – The phone numbers must be entered starting with 00 and an international country code in the following format:

00[international code][area code][local number], example for UK: 0044170911XXXX1.

- **Local** – The phone numbers must be entered starting with an area code in the following format: [area code][local number], example for UK: 0170911XXXX1.
4. On ET083: Connect the device to the computer via USB cable and run *ELDES Utility* software.
 5. On ET083**: Open **System** → **Security Panel Settings** and set the monitoring station phone number.
 6. On ET083: Open **System** → **Settings** section and proceed as follows: set **Voice Calls** as **Primary** connection. In addition, **Backup 1** and **Backup 2** connections can be set under this section.
 7. On ET083: Open **Voice Calls Settings** section and select protocol:
 - **Contact ID** – Ademco Contact ID data format.
 8. On ET083: Open **Events Log** section to monitor the activity.
 9. On ET083***: If required, the Account number set on the alarm panel can be overridden under **System** → **Security Panel Settings** section. For more details, please refer **9. MONITORING STATION PHONE NUMBER AND ACCOUNT REPLACEMENT**.
- * Necessary only when using RING/TIP interface communication wiring method.
- ** Necessary only when using Keybus interface communication wiring method. When using RING/TIP interface communicates wiring method, it might be useful to replace the monitoring station phone number retrieved from the alarm panel.
- *** Useful only when using RING/TIP interface communication wiring method.
- For more details on the parameters located under **Voice Calls Settings** section, please refer to *ELDES Utility* software's documentation (HINTS).

7.3. SMS Method

Based on the communication wiring method that is being used, using this method the communicator:

- **RING/TIP interface** – Retrieves Ademco Contact ID data from the alarm panel, converts it into user-understandable text and delivers it up to 5 listed users by SMS text message. Before proceeding with any further configuration, please complete the steps provided in **6.1. RING/TIP Interface**.
- **Keybus or Serial interface** – Retrieves serial data from the alarm panel, converts it into Ademco Contact ID data followed by conversion into user-understandable text and delivery to up to 5 listed users by SMS text message. Before proceeding with any further configuration, please complete the steps provided in **6.2. Keybus and Serial Interfaces**.

To set the communicator to transmit data using this communication method, please proceed as follows:

1. On alarm panel*: Enable Ademco Contact ID mode.
 2. On alarm panel*: Set random Account number.
 3. On alarm panel*: Set random monitoring station phone number; single digit is sufficient.
 4. On ET083: Connect the device to the computer via USB cable and run *ELDES Utility* software.
 5. On ET083: Open **System** → **Settings** section and proceed as follows: set SMS as Primary connection. In addition, **Backup 1** and **Backup 2** connections can be set under this section.
 6. On ET083: Open **Messaging Settings** section and proceed as follows:
 - a. Set up to 5 user phone numbers that will be permitted to receive the data converted into user-understandable text by SMS text message. The supported phone number formats are the following:
 - **International (with plus)** – The phone numbers must be entered starting with plus and an international country code in the following format: +[international code][area code][local number], example for UK: +44170911XXXX1.
 - **International (with 00)** – The phone numbers must be entered starting with 00 and an international country code in the following format: 00[international code][area code][local number], example for UK: 0044170911XXXX1.
 - **Local** – The phone numbers must be entered starting with an area code in the following format: [area code][local number], example for UK: 0170911XXXX1.
 - b. Manage SMS text message content reflecting the Ademco Contact ID data message structure.
 - c. Based on the alarm panel's documentation, ensure that all CID event codes supported by the alarm panel are added under the Messaging Settings section, otherwise the communicator will be unable to deliver a certain event.
 7. On ET083: Open **Events Log** section to monitor the activity.
- * Necessary only when using RING/TIP interface communication wiring method.
- For more details on the parameters located under **Messaging Settings** section, please refer to *ELDES Utility* software's documentation (HINTS).

7.4. IP Method

Based on the communication wiring method that is being used, using this method the communicator:

- **RING/TIP interface** – Retrieves Ademco Contact ID data from the alarm panel, converts it into EGR100, Kronos or SIA IP protocol and transmits to the monitoring station via 2G/3G network or Ethernet connection using ELAN3-ALARM device. Before proceeding with any further configuration, please complete the steps provided in **6.1. RING/TIP Interface**.

- **Keybus or Serial interface** – Retrieves serial data from the alarm panel, converts it into Ademco Contact ID followed by data conversion to EGR100, Kronos or SIA IP protocol and transmission to the monitoring station via 2G/3G network or Ethernet connection using ELAN3-ALARM device. Before proceeding with any further configuration, please complete the steps provided in **6.2. Keybus and Serial Interfaces**.

To set the communicator to transmit data using this communication method, please proceed as follows:

1. On alarm panel*: Enable Ademco Contact ID mode.
 2. On alarm panel*: Set random Account number.
 3. On alarm panel*: Set random monitoring station phone number; single digit is sufficient.
 4. On ET083: Connect the device to the computer via USB cable and run *ELDES Utility* software.
 5. On ET083: Open **System** → **Settings** section and proceed as follows: set **IP1, IP2 or IP3** as **Primary** connection. In addition, **Backup 1** and **Backup 2** connections can be set under this section.
 6. On ET083: Based on the configuration set up in step #5-b), open **IP / CSD Settings** → **IP Settings** → **IP1/2/3** section and set the following parameters:
 - **Server IP** – Public IP address of the machine running EGR100/Kronos/SIA IP-based software.
 - **Port** – Forwarded TCP/UDP port number of the machine running EGR100/Kronos/SIA IP-based software. Kronos and SIA IP-based software require communicates via TCP port, while EGR100 supports both – TCP and UDP. UDP is highly recommended for EGR100 in order to reduce the data traffic consumption.
 - **Protocol** – Format of the data message transmitted from ET083 to the monitoring station's IP address. Available protocols:
 - **EGR100** – ESR100 digital receiver and EGR100 middleware data format.
 - **Kronos** – Kronos LT/Kronos NET monitoring station software data format.
 - **SIA IP** – SIA/IP data format complying with ANSI/SIA DC-09-2007 and ANSI/SIA DC-09-2013 standards.
 7. On ET083: If EGR100 is selected, it is MANDATORY to change the default **Unit ID** number, which is 0000, to any other 4-digit number.
 8. On ET083: Select one of the following ways of data transmission:
 - **2G/3G** – 2G/3G connection using the SIM card with active mobile internet (data) service.
 - **ELAN3-ALARM** - Ethernet (LAN) connection using ELAN3-ALARM device.
 9. On ET083: If 2G/3G is selected, please set the following parameters:
 - **APN** – Access-point-name provided by 2G/3G operator.
 - **User Name** – User name provided by 2G/3G operator.
 - **Password** – Password provided by 2G/3G operator.
 10. On ET083: If a ping signal is required in order to periodically verify the online status of the device, set the **Test Period**. For SIA IP protocol, please enable **Contact ID Ping** parameter and change the CID event code (by default - 602) if required.
 11. On ET083: Open **Events Log** section to monitor the activity.
 12. On ET083**: If required, the Account number set on the alarm panel can be overridden under **System** → **Security Panel Settings** section. For more details, please refer **10. MONITORING STATION PHONE NUMBER AND ACCOUNT REPLACEMENT**
- * Necessary only when using RING/TIP interface communication wiring method.
 ** Useful only when using RING/TIP interface communication wiring method.

For more on the parameters located under **IP / CSD Settings** → **IP Settings** section, refer to *ELDES Utility* software's documentation (HINTS).

For detailed step-by-step instructions on how to establish the communication between ETO83 communicator and EGR100 middleware, please refer to the middleware's HELP file.

7.5. CSD Method

Based on the communication wiring method that is being used, using this method the communicator:

- **RING/TIP interface** – Retrieves Ademco Contact ID data from the alarm panel, converts it to CSD data protocol and transmits to the monitoring station via CSD connection. Before proceeding with any further configuration, please complete the steps provided in **6.1. RING/TIP Interface**.
- **Keybus interface/Serial interface** – Retrieves serial data from the alarm panel, converts it to Ademco Contact ID followed by data conversion to CSD data protocol and transmission to the monitoring station via CSD connection. Before proceeding with any further configuration, please complete the steps provided in **6.2. Keybus and Serial Interfaces**.

To set the communicator to transmit data using this communication method, please proceed as follows:

1. On alarm panel*: Enable Ademco Contact ID mode.
2. On alarm panel*: Set valid Account number.
3. On alarm panel*: Set random monitoring station phone number; single digit is sufficient.
4. On ET083: Connect the device to the computer via USB cable and run *ELDES Utility* software.

5. On ET083: Open **System** → **Settings** section and proceed as follows: set **CSD** as **Primary** connection. In addition, **Backup 1** and **Backup 2** connections can be set under this section.
6. On ET083: Open **IP / CSD Settings** → **CSD Settings** section and set the following parameters and set up to 3 monitoring station phone numbers. The supported phone number format is the following:
 - **International (with plus)** – The phone numbers must be entered starting with plus and an international country code in the following format: +[international code][area code][local number], example for UK: +4417091XXXX1.
7. On ET082: Open **Events Log** section to monitor the activity.
8. On ET082*: If required, the Account number set on the alarm panel can be overridden under **System** → **Security Panel Settings** section. For more details, please refer **10. MONITORING STATION PHONE NUMBER AND ACCOUNT REPLACEMENT**.
 - * Necessary only when using RING/TIP interface communication wiring method.
 - ** Useful only when using RING/TIP interface communication wiring method.

For more details on the parameters located under **IP / CSD Settings** → **CSD Settings** section, please refer to *ELDES Utility* software's documentation (HINTS).

8. 2G/3G MODEM SETTINGS

Voice Calls communication method might partly or completely fail with some alarm panel models due to the audio level differences. In the event of failure or corrupted data delivery to the monitoring station, it is recommended to configure the Microphone Gain and Speaker Level parameters. Recommendations:

- **"Handshake" signal error** – In the event of error it is recommended to gradually increase Speaker Level parameter by value of 20-25 and repeat the data transmission. If the error persists when testing with the maximum parameter value of 100, try decreasing the value by value of 10-15 until a successful "Handshake" signal is achieved.
- **"Kissoff" signal error** – In the event of error it is recommended to gradually increase Microphone Gain parameter by value of 2-3 and repeat the data transmission. If the error persists when testing with the maximum parameter value of 15, try decreasing the value by value of 1-2 until a successful "Kissoff" signal is achieved.

To manage Microphone Gain and Speaker Level parameters, please refer to the following configuration methods.

Select third-party alarm panel model

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility* software.

9. SMS FORWARD

ET083 comes up with a feature, called SMS forward. The system allows user to forward any received message from devices' SIM card to the user's listed mobile phone number (see **12. USER PHONE NUMBERS**). Using *ELDES Utility* software, open **System Parameters** section, where you'll be able to configure and choose further options. There are 4 basic SMS forwarding options:

- *Forward All received SMS* - if this option is enabled, then every single message, coming to devices' SIM card, will be forwarded to the user's listed phone number.
- *Forward All received SMS from unknown users* - allows user to receive only those messages, coming from unlisted phone numbers.
- *Forward All received SMS from registered users with wrong syntax or wrong password* - user will receive only those messages from listed phone numbers, containing "wrong syntax" or "wrong password" notification.
- *Forward All received SMS from specified Phone Number* - allows you to enter one specified phone number and exploit every single message that comes from it to your devices' SIM card.

By default, SMS forward feature is disabled. To enable/disable this feature, please refer to the following configuration method.

Enable/disable SMS forward

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility* software.



If a single forwarded SMS message size exceeds 160 characters, it won't be transmitted properly.



User is able to add the only listed phone number (if one is enough) as a specified phone number (by enabling the option *Forward All received SMS from specified Phone Number*), but none of SMS messages will be forwarded to himself in any case!

10. MONITORING STATION PHONE NUMBER AND ACCOUNT REPLACEMENT

The communicator comes equipped with monitoring station phone number and Account number replacement features useful for RING/TIP communication wiring method.

When using Voice Calls communication method of Advanced mode, the user can override the monitoring station phone number existing on the alarm panel by setting it on the communicator. This feature allows to re-direct data transmission to a different monitoring station phone number. In addition, the user is allowed to override up to four Account numbers, reflecting up to four alarm panel's partitions each, by providing the Account numbers existing on the alarm panel and the new ones.

Typically, monitoring station phone number and Account replacement is used with the alarm panels that have been locked by the previous security service provider/installer.

To manage monitoring station phone number and Account replacement, please refer to the following configuration method.

Manage monitoring station phone number and Account number (-s)

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility* software.

11. SMS PASSWORD

For security reasons, the device uses the following type of password:

SMS password – 4-digit password used for device configuration and output control from up to 3 user phone numbers by SMS text messages, remote configuration initiation from up to 2 administrator phone numbers and logging in to *ELDES Utility* software. By default, SMS password is **0000**, which is RECOMMENDED to change.

Set SMS password

SMS

SMS text message content:

`wwww_PSW:ssss`

Value: `wwww` – 4-digit default SMS password; `ssss` – 4-digit new SMS password; range – [0001..9999].

Example: `0000_PSW:1111`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility* software.

! The device rejects the SMS text messages containing wrong SMS password even from a listed user phone number.

12. USER PHONE NUMBERS

The device supports up to 3 user phone numbers identified as User 1 through 3. When the phone number is set, the user will be able to perform minor configuration and control the outputs by SMS text messages as well as by free of charge phone call (see **14. OUTPUTS**), receive the input alarm/restore and PSTN loss/restore SMS text messages from the device (see **13. INPUTS**).

By default, the device ignores any incoming calls and SMS text messages from a non-listed phone number as well as it rejects the SMS text messages containing wrong SMS password even from a listed user phone number.

The supported phone number format is the following:

- **International (with plus)** – The phone numbers must be entered starting with plus and an international country code in the following format: `+international code][area code][local number]`, example for UK: `+44170911XXXX1`.
- **International (with 00)** – The phone numbers must be entered starting with 00 and an international country code in the following format: `00international code][area code][local number]`, example for UK: `0044170911XXXX1`.
- **Local** – The phone numbers must be entered starting with an area code in the following format: `[area code][local number]`, example for UK: `0170911XXXX1`.

Set user phone number

SMS

SMS text message content:

`ssss_NRu:ttteeellnnuumm`

Value: `ssss` – 4-digit SMS password; `u` – user phone number slot, range – [1.. 3]; `ttteeellnnuumm` – up to 15 digits user phone number.

Example: `1111_NR1:+441709111111`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility* software.

13. INPUTS

The system comes equipped with 3 inputs identified as Z1, Z2 and Z3. The inputs are designed for different detection device connection, such as motion detectors, door contacts and other passive or active digital level sensors. Once the detection device is triggered, the communicator can notify up to 3 listed user phone numbers by SMS text message (see **12. USER PHONE NUMBERS**) as well as the monitoring station via the pre-configured communication method. The inputs can also be used for PGM output connection of non-2G/3G alarm panel.

When ET083 communicator is linked up with the alarm panel using keybus interface communication wiring method (see **6.2. Keybus Interface**), Z1 and Z2 terminals convert into keybus interface and can no longer be used as digital inputs. In such case only Z3 terminal can still be used as digital input.

By default, the inputs are disabled. To enable/disable a certain input, please refer to the following configuration methods.

Enable input	SMS	<p>SMS text message content: <code>ssss_Zn:ON</code></p> <p>Value: ssss – 4-digit SMS password; n – input number, range – [1.. 3]. Example: 1111_Z2:ON</p>
	Eldes Utility	This operation may be carried out from the PC using the <i>ELDES Utility software</i> .
Disable input	SMS	<p>SMS text message content: <code>ssss_Zn:OFF</code></p> <p>Value: ssss – 4-digit SMS password; n – input number, range – [1.. 3]. Example: 1111_Z1:OFF</p>
	Eldes Utility	This operation may be carried out from the PC using the <i>ELDES Utility software</i> .

By default, the inputs are set as NO (normally-open). To set the input as NC (normally-closed) or NO (normally-open), please refer to the following configuration method.

Set input as NC or NO	Eldes Utility	This operation may be carried out from the PC using the <i>ELDES Utility software</i> .
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By default, input alarm and restore notifications delivered by SMS text message are *Input 1.. 3 TRIGGERED* and *Input 1.. 3 RESTORED* respectively. To manage input alarm and restore texts, please refer to the following configuration methods.

Set input alarm text	SMS	<p>SMS text message content: <code>ssss_TZn:ON:in-alarm-text</code></p> <p>Value: ssss – 4-digit SMS password; n – input number, range – [1.. 3]; <i>in-alarm-text</i> – up to 23 characters input alarm text. Example: 1111_TZ3:ON:Input3 violated</p>
	Eldes Utility	This operation may be carried out from the PC using the <i>ELDES Utility software</i> .
Set input restore text	SMS	<p>SMS text message content: <code>ssss_TZn:OFF:in-restore-text</code></p> <p>Value: ssss – 4-digit SMS password; n – input number, range – [1.. 3]; <i>in-restore-text</i> – up to 23 characters input restore text. Example: 1111_TZ1:OFF:Input1 restored</p>
	Eldes Utility	This operation may be carried out from the PC using the <i>ELDES Utility software</i> .

! Colon, dash, comma characters are NOT allowed in the input alarm/restore notification texts.

Input alarm and restore data reports require to set up the Account number that is included in the data report. This Account number is also included in the periodic test data report.

To manage input alarm and restore data reports and set the Account number, please refer to the following configuration method.

Manage input data reports

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

Set Account for input alarm/restore data reports

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

To view current input state (violated/restored), please refer to the following configuration method.

View input states

SMS

SMS text message content:

`ssss STATUS`

Value: ssss – 4-digit SMS password.

Example: `1111 STATUS`

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

14. OUTPUTS

The system comes equipped with 3 open collector outputs identifies as C1 through C3 designed for electrical appliance connection. Normally, the outputs can be used to arm/disarm a non-2G/3G alarm panel that has a zone configured as key-switch. The output can also be used to open/close garage doors, activate lights, heating, watering and much more. When output turns ON, the device triggers any equipment or relay connected to it.

For more details on how to wire the output, please refer to **2.3. Wiring Diagrams**.

14.1. Output Names

Each output has a name that can be customized by the user. Typically, the name specifies a device type connected to the output, for example: *Lights*. By default, the output names are *OUTPUT1... 3*. To rename a certain output, please refer to the following configuration methods.

Rename output

SMS

SMS text message content:

`ssss_TC:out-name`

Value: *ssss* – 4-digit SMS password; *o* – output number, range – [1.. 3]; *out-name* – up to 23 characters output name.

Example: `1111_TC:Pump`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

View output names

SMS

SMS text message content:

`ssss_STATUS`

Value: *ssss* – 4-digit SMS password.

Example: `1111_STATUS`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.



Colon, dash, comma characters are NOT allowed in the output names.

14.2. Output Control by SMS Text Message

By default, all outputs are turned OFF. To instantly turn ON/OFF an individual output, please refer to the following configuration methods.

Turn ON output

SMS

SMS text message content:

`ssss_Co:ON` or `ssss_out-name:ON`

Value: *ssss* – 4-digit SMS password; *o* – output number, range – [1.. 3]; *out-name* – up to 23 characters output name.

Example: `1111_C2:ON`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

Turn OFF output

SMS

SMS text message content:

`ssss_Co:OFF` or `ssss_out-name:OFF`

Value: *ssss* – 4-digit SMS password; *o* – output number, range – [1.. 3]; *out-name* – up to 23 characters output name.

Example: `1111_Pump:OFF`

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

To instantly turn ON an individual output for a determined time period and automatically turn it OFF when the time period expires, please refer to the following configuration method.

Turn ON output for time period

SMS

SMS text message content:

`ssss Co:ON:time` or `ssss out-name:ON:time`

Value: `ssss` – 4-digit SMS password; `o` – output number, range – [1.. 3]; `time` – time period; range – [1... 9999] seconds; up to 23 characters output name; `out-name` – up to 23 characters output name.

Example: `1111_C3:ON:335`

To instantly turn OFF an individual output for a determined time period and automatically turn it ON when the time period expires, please refer to the following configuration method.

Turn OFF output for time period

SMS

SMS text message content:

`ssss Co:OFF:time` or `ssss out-name:OFF:time`

Value: `ssss` – 4-digit SMS password; `o` – output number, range – [1.. 3]; `time` – time period; range – [1... 9999] seconds; up to 23 characters output name; `out-name` – up to 23 characters output name.

Example: `1111_Pump:OFF:56`

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

View output status

SMS

SMS text message content:

`ssss STATUS`

Value: `ssss` – 4-digit SMS password.

Example: `1111_STATUS`

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.



PGM output can be turned ON for a determined time period only when it is in OFF state.



PGM output can be turned OFF for a determined time period only when it is in ON state.



In case of complete device shut down, the output will always stay turned OFF on the device startup regardless of the last output state.

14.3. Output Control by Event

The device comes equipped with output control by event feature allowing to assign a certain output to operate based on a specific event occurrence in the device.

Output Actions

The action of the determined output can be set as follows:

- **Turn ON** – Turns ON the output and keeps it in this state regardless of the associated event recurrence.
- **Turn OFF** – Turns OFF the output and keeps it in this state regardless of the associated event recurrence.
- **Turns ON (Pulse)** – Turns ON the output for a determined time period and automatically turn it OFF when the time period expires (pulse) regardless of the associated event recurrence.
- **Turns OFF (Pulse)** – Turns OFF the output for a determined time period and automatically turn it ON when the time period expires (pulse) regardless of the associated event recurrence.
- **Toggle** – Turns ON the output and keeps it in this state until the associated event reoccurs.

Device Events

The aforementioned output actions can be associated with the following events that have occurred in the device:

- **Tel. Line Lost** – The output action will be carried out in case the PSTN line connectivity is lost. For more details on PSTN line supervision, please refer to **16. PSTN CONNECTION STATE SUPERVISION**.
- **Tel. Line Restored** – The output action will be carried out in case the PSTN line connectivity is restored. For more details on PSTN line supervision, please refer to **16. PSTN CONNECTION STATE SUPERVISION**.
- **2G/3G Lost** – The output action will be carried out in case the 2G/3G connection is lost. For more details on 2G/3G connection supervision, please refer to **17. 2G/3G CONNECTION STATE SUPERVISION**.

- **2G/3G Restored** – The output action will be carried out in case the 2G/3G connection is restored. For more details on 2G/3G connection supervision, please refer to **17. 2G/3G CONNECTION STATE SUPERVISION**.
- **User 1... 3 Calls** – The output (-s) can be controlled by dialling the device's phone number from the specified listed user phone number (see **12. USER PHONE NUMBERS** for phone number management). The phone call is free charge as the system rejects it and carries out the associated output action. If there is more than one listed caller dialling to the system at the same time, the system will accept the incoming call from the caller who was the first to dial while other caller (-s) will be ignored.
- **Input Violated** – The output action will be carried out in case a specified device's input is violated. For more details on input management, please refer to **13. INPUTS**.
- **Input Restored** – The output action will be carried out in case the 2G/3G connection is restored. The output action will be carried out in case a specified device's input is restored. For more details on input management, please refer to **13. INPUTS**.
- **Ethernet Data Link Lost** – The output action will be carried out in case the Ethernet connection is lost. For more details on Ethernet connection supervision, please refer to **18. PERIODIC DATA LINK STATE SUPERVISION**.
- **Ethernet Data Link Restored** – The output action will be carried out in case the Ethernet connection is restored. For more details on Ethernet connection supervision, please refer to **18. PERIODIC DATA LINK STATE SUPERVISION**.
- **2G/3G Data Link Lost** – The output action will be carried out in case the 2G/3G connection is lost. For more details on 2G/3G network connection supervision, please refer to **18. PERIODIC DATA LINK STATE SUPERVISION**.
- **2G/3G Data Link Restored** – The output action will be carried out in case the 2G/3G connection is restored. For more details on 2G/3G network connection supervision, please refer to **18. PERIODIC DATA LINK STATE SUPERVISION**.
- **Event from panel** – The output action will be carried out in case the alarm panel provides an occurred event matching the specified event code.
- **Restore from panel** – The output action will be carried out in case the alarm panel provides a restored event matching the specified event code.

Manage output control
by event

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

15. TAMPERS

ET083 comes equipped with 2 built-in tamper switches intended for enclosure supervision:

- one located on the front side of the PCB supervising the front cover in case it is illegally opened (see fig. #1).
- the other one located on back of the PCB supervising the back side of the enclosure in case the ET083 is illegally detached from the wall (see fig #1).

Once the enclosure of ET083 is tampered, the tamper switch will become triggered. This action might be followed by tamper alarm event, resulting in sending an SMS text message and notifying the monitoring station (by default - disabled). The SMS text message contains the violated tamper name.



This section is relevant only when ET083 is installed with the plastic enclosure.

16. PSTN CONNECTION STATE SUPERVISION



Notifications to the user phone number by SMS text message and data reports to the monitoring station regarding PSTN line loss/restore events can be used in both - Basic and Advanced communication modes, while the data report to the monitoring station regarding this event can be used in Advanced mode only (see **7.2. Advanced Mode**).



This section applies to **With PSTN Line Supervision** and **With External PSTN Line Supervision** communication wiring methods only (see **6.1. RING/TIP Interface**)

The device comes equipped with PSTN line supervision and supports the following PSTN loss detection pattern:

- When the voltage drops below 4V in case the PSTN line cable being cut off or disconnected.

Any of the aforementioned PSTN loss detection methods would result in communication link take-over by the communicator and data transmission via the pre-configured communication method until the PSTN connectivity is restored.

By default, when the PSTN is lost or restored for a longer time period than the set delay value (by default – 20 seconds), the communicator will turn the specified output ON and OFF (by default – output C1) respectively followed by, if enabled, notification to the listed user phone number (see **12. USER PHONE NUMBERS**) by SMS text message and/or the monitoring station by data report via the pre-configured primary connection regarding PSTN loss/restore event.

If enabled, the default PSTN loss/restore notifications delivered by SMS text message are *Tel. Line LOST* and *Tel. Line RESTORE* respectively. Additionally, the data report can be delivered to the monitoring station under the event code 351 (by default). To manage PSTN loss/restore notifications and PSTN loss/restore delay value, please refer to the following configuration methods.

Manage PSTN loss/restore notifications

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

Set PSTN loss/restore delay

SMS

SMS text message content:

`ssss_TELDLY:del`

Value: ssss – 4-digit SMS password; del – PSTN loss/restore delay; range – [0.. 250] seconds.

Example: 1111_TELDLY:45

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

For more details on automatic output control regarding the PSTN connection loss/restore, please refer to **14.3. Output Control by Event**.

17. 2G/3G CONNECTION STATE SUPERVISION

The device supervises the 2G/3G connection every 10 minutes. When the 2G/3G signal is lost, the indicator 2G/3G will light OFF and the device will turn ON a determined output (by default - output C2) if the 2G/3G signal is lost for a longer time period than the set delay value (by default - 10 seconds). By default, once the 2G/3G signal restores, the device will notify the listed user phone number (see **12. USER PHONE NUMBERS**) by SMS text message and the determined output will turn OFF.

When using the Advanced communication mode, in case of 2G/3G connection loss the communicator would switch to the pre-configured backup communication method (if any) and continue to transmit data until the 2G/3G connection is restored.

By default, the notifications by SMS text message regarding the output restore is enabled. To disable/enable this notification and set a different delay value, please refer to the following configuration method.

Disable/enable output restore notification

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

Set output control delay value

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

For more details on automatic output control regarding the 2G/3G connection loss/restore, please refer to **14.3. Output Control by Event**.

18. PERIODIC DATA LINK STATE SUPERVISION



This section is relevant to the users of IP communication method of Advanced mode only.

The device comes equipped with data link state supervision feature based on the connection type (2G/3G/Ethernet) specified in the IP communication method of Advanced mode settings. Once enabled, device will periodically verify the connectivity by ping signal transmission to the specified test server address and port (by default - eldes.lt:80) every 15 minutes (by default). In case the device has failed to deliver the ping signal to the test server address, the device will treat this event as data link loss and it will attempt to re-establish the connection by transmitting the ping signal every 1 minute. The data link will be treated as restored after 3 successful ping signal deliveries to the test server address.

In the event of 2G/3G connection loss/restore or Ethernet connection loss/restore, the data report will be delivered to the monitoring station under the event codes 359 or 360 (by default) respectively. Additionally, the default data link loss/restore notifications that can be delivered to up to 5 specified listed users (for user phone number management, please refer to **Messaging Settings** section of *ELDES Utility software*) by SMS text message are the following: *2G/3G data link lost*, *2G/3G data link restored*, *Ethernet data link lost* and *Ethernet data link restored*.

In addition, the device supports data link test periodically reported to the specified listed user phone number by SMS text message every 1 hour (by default). This report contains a custom text (by default - Data link test report:) along with 2G/3G network and Ethernet connection states (OK; lost; restored; N/A).

When the data link is lost or restored, the communicator may turn the specified output ON and OFF. For more details, please refer to **14.3. Output Control by Event**.

To enable periodic data link supervision and manage data link loss/restore notifications, please refer to the following configuration method.

Manage periodic data link state supervision settings

Eldes Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

19. ADVANCED KISSOFF MODE

This feature allows ET083 to automatically deliver the "Kissoff" signal to the 3rd party alarm panel connected to ET083 via RING/TIP interface only in the event of a successful data message delivery, which is confirmed by the monitoring station's reply with a "Kissoff" signal.

In order to begin using this feature, please configure ET083 using ELDES Utility software as follows:

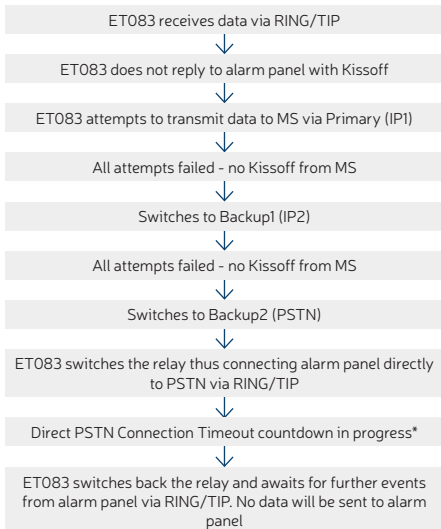
1. Open **System → Settings → Communication Settings** tab and enable Advanced Mode Enabled parameter.
2. In the same tab enable **Advanced Kissoff Mode via RingTip Interface** parameter.
3. You may also want to change the default value of **Direct PSTN Connection Timeout** parameter, which is 180 seconds (value range – 10... 300 seconds).

The aforementioned configuration will result in the following availability of communication methods:

- **Primary connection:** SMS/IP1/IP2/IP3
- **Backup1 connection:** SMS/IP1/IP2/IP3/PSTN
- **Backup2 connection:** SMS/IP1/IP2/IP3/PSTN

By selecting PSTN communication method as a Backup1 connection, Backup2 will become disabled, thus making PSTN always the last communication method in the communication link.

In the following example IP1 and IP2 are set as Primary and Backup1 connection respectively, while Backup2 is PSTN.



* **Special conditions apply.** ET083 regularly checks if the 2G/3G modem is successfully registered to the network. In this case the direct connection of alarm panel to PSTN via RING/TIP interface of ET083 will be managed as follows:

1. When **Data Link Test Enabled** (located under **System → Data Link Test** tab) and **Advanced Kissoff Mode via RingTip Interface** parameters are enabled simultaneously.
 - 1.1 In case of 2G/3G network registration failure, Primary and Backup1/Backup2 connections set as IP1 via 2G/3G, IP2 via 2G/3G, IP3 via 2G/3G, SMS or Voice Calls will be skipped.
 - 1.2 In case of successful 2G/3G network registration and data link failure, Primary and Backup1/Backup2 connections set as IP1 via 2G/3G, IP2 via 2G/3G or IP3 via 2G/3G will be skipped.
 - 1.3 If the communication is established via the last connection in the priority order and if it is set as PSTN, ET083 relay will remain switched ON (resulting in direct connection of alarm panel to PSTN via RING/TIP interface of ET083) until the 2G/3G network registration is successful or data link is restored.
2. When **Data Link Test Enabled** (located under **System → Data Link Test** tab) parameter is disabled, while **Advanced Kissoff Mode via RingTip Interface** parameter is enabled.
 - 2.1 In case of 2G/3G network registration failure, Primary and Backup1/Backup2 connections set as IP1 via 2G/3G, IP2 via 2G/3G, IP3 via 2G/3G, SMS or Voice Calls will be skipped.
 - 2.2 If the communication is established via the last connection in the priority order and if it is set as PSTN, ET083 relay will remain switched ON (resulting in direct connection of alarm panel to PSTN via RING/TIP interface of ET083) until the 2G/3G network registration is successful.

! If the alarm panel transmits one more data message, ET083 compares it with the received data messages. The data message will be ignored in case it is a duplicate, while a new data message will be attempted to be delivered.

! If PSTN is not set as Backup1 or Backup2 connection, the communication will be considered failed after last communication. ET083 will not attempt to repeat any data transmission neither to the monitoring station, nor to the alarm panel.

20. DATE AND TIME

The device comes equipped with internal real-time clock (RTC) that keeps track of the current date and time. Once the device is up and running, the user must set the correct date and time, otherwise he will not be able to use periodic test (**21. PERIODIC TEST**) and automatic restart (**22. AUTOMATIC RESTART**) features. By default, after shutting down and starting up the device, the date and time must be set again.

Set date and time

**Eldes
Utility**

This operation may be carried out from the PC using the *ELDES Utility software*.

! When the device is connected to the monitoring station via 2G/3G network or Ethernet connection, the date and time will be automatically synchronized with the monitoring station upon the device startup.

21. PERIODIC TEST

The device comes equipped with periodic test data report transmitted under the event code 602 to the monitoring station via the pre-configured communication method. The minimum period is every 1 hour. Typically, this feature is used to verify the power supply and online status of the device when used without an alarm panel.

Periodic test data report requires to set up the Account number that is included in the data report. This Account number is also included in input alarm/restore data report.

By default, the periodic test is disabled and Account number is not set. To enable/disable periodic test, set a transmission period and Account number, please refer to the following configuration method.

Manage periodic test data report

**Eldes
Utility**

This operation may be carried out from the PC using the *ELDES Utility software*.

Set Account for periodic test data report

**Eldes
Utility**

This operation may be carried out from the PC using the *ELDES Utility software*.

22. AUTOMATIC RESTART

In some critical situations, a periodic device restart may be required. The device may carry out the restart automatically. The minimum period is every 1 hour.

By default, the automatic restart is disabled. To enable/disable it and set a restart period, please refer to the following configuration method.

Manage automatic restart

**Eldes
Utility**

This operation may be carried out from the PC using the *ELDES Utility software*.

23. EVENTS LOG

The device supports the event log feature allowing to monitor the activity and communication status between the device and the monitoring station. To view, export and clear the event log, please refer to the following configuration method:

Manage event log

**Eldes
Utility**

This operation may be carried out from the PC using the *ELDES Utility software*.

24. TECHNICAL SUPPORT

24.1. Troubleshooting

Indication	Possible Reason
Indicator 2G/3G is OFF or not flashing	<ul style="list-style-type: none">• No external power supply• Circuit not properly connected• Blown fuse• No 2G/3G network signal
Indicator STATUS is flashing several times per second	<ul style="list-style-type: none">• SIM card not inserted / improperly inserted• PIN code enabled• SIM card inactive
System does not respond to any SMS text message	<ul style="list-style-type: none">• SIM card credit limit exceeded• Incorrect SMS centre phone number• No 2G/3G network signal• User phone number is not listed.• Incorrect syntax• Extra <space> character is left in SMS message

For product warranty repair service, please contact your local retail store where this product was purchased.

If your problem could not be fixed by the self-guide above, please contact your local distributor. More up to date information about your device and other products can be found at the manufacturer's website eldesalarms.com

24.2. Restoring Default Parameters

1. Unplug the USB cable.
2. Power down the device.
3. Short-circuit (connect) the DEF pins.
4. Power up the device for 7 seconds.
5. Power down the device.
6. Remove the short-circuit from DEF pins.
7. Parameters restored to default.

Alternatively, please refer to the following configuration method.

Restore default parameters

Eldes
Utility

This operation may be carried out from the PC using the *ELDES Utility software*.

24.3. Updating the Firmware via USB Cable

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



It is strongly recommended to restore the default parameters after the firmware update process.

24.4. Updating the Firmware Remotely

! The system will NOT transmit any data to monitoring station while updating the firmware remotely. All data messages will be lost and will NOT be transmitted to the monitoring station after the firmware update process is over.

Before updating the firmware remotely, ensure that:

- SIM card is inserted into the SIM card slot.
- Mobile data service is enabled on the SIM card.
- Power supply is connected to ET083.
- Admin 1 phone number is set up (see **5.2.1. Administrator Phone Numbers**).
- APN, user name and password are set up.

ET083 communicator supports FOTA (firmware-over-the-air) feature allowing to update the firmware remotely over the 2G/3G network. Once the update process is initiated, the system connects to the specified FTP server address where the firmware file is hosted and begins downloading and re-flashing the firmware. The system will attempt to preserve the configuration and notify by SMS text message once the update process has been completed or if it has failed.

The firmware file must be located in a folder titled **firmware** (folder's name MUST be written in non-capital letters). In order to initiate the update process, please send the following SMS text message.

Initiate FOTA

SMS

SMS text message content:

`ssss_FOTA`

Value: ssss - 4-digit SMS password.

Example: `1111_FOTA`

To obtain the latest firmware version, please contact your local supplier.

! Firmware file name MUST be renamed in lowercase format before using it.

! Comma and underscore character is NOT allowed to be used in user name, password and firmware file name.

! It is strongly recommended to restore the default parameters after the firmware update process.

25. RELATED PRODUCTS



Plastic enclosure



Power supply



ESR100 - digital receiver



Made in the European Union

eldesalarms.com