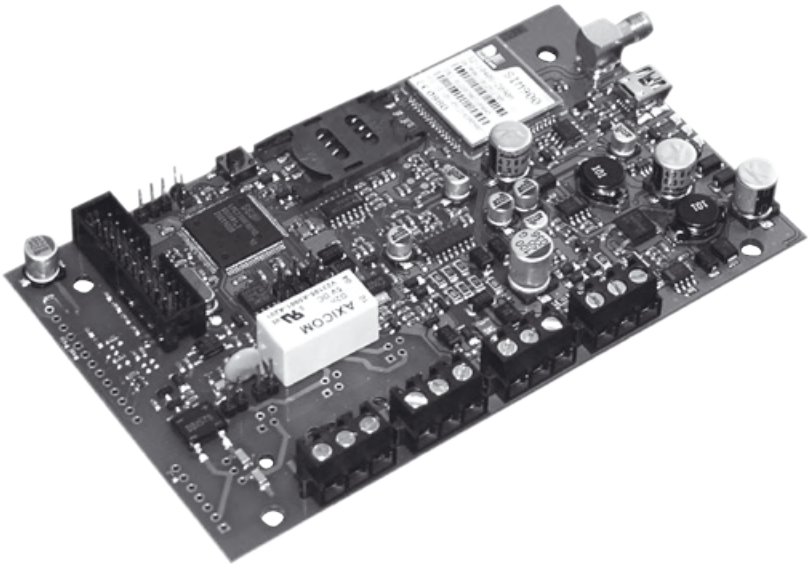


COMMUNICATOR

ET08

User Manual v1.0

Safety instructions

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

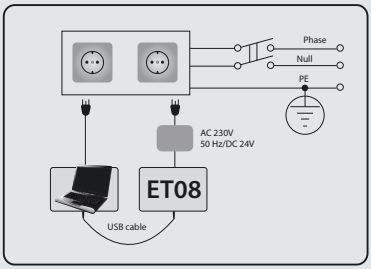
- GSM communicator (gateway) ET08 (further referenced as system or device) contains a radio transceiver operating in GSM850/900/1800/1900 bands.
- Don't use the system where it can interfere with other devices and cause any potential danger.
- Don't use the system with medical devices if this is required in the manual of the medical device.
- Don't use the system in hazardous environment.
- Don't expose the system to high humidity, chemical environment or mechanical impacts.
- Don't attempt to personally repair the system.
- System labelling sticker is at the bottom of the device.

System ET08 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.

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.



Any additional devices linked to the system ET08 (computer, sensors, relays etc.) must be approved by LST EN 60950-1 standard.

Fuse resettable F1 type - 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.

If you use I security class computer for setting the parameters it must be connected to earth

ET08 can be powered direct from 12V battery. The battery capacity shouldn't be higher than 7Ah.

The WEEE (Waste Electrical and Electronic Equipment) marking on this product (see left) or its documentation indicates that in the EU the product must not be disposed of together with household waste.

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

System ET08. ..... 1 pcs
ET08 user manual..... ..... 1 pcs
GSM antenna..... ..... 1 pcs
Fastening holders..... 4 pcs

CONTENT

About User Manual. Quick Start.

This document describes communicator ET08, its operation and installation. It is very important to read User Manual before start using the system. A quick start guide is located in first two chapters.

1. General Information

1.1 Function

Communicator ET08 is a device for transferring information from the Alarm Control Panel to the monitoring station via GSM audio connection channel or/and users via SMS message.

The system can be used in the following applications:

- Property security
- Backup PSTN line using GSM network

1.2 Operation Description

ET08 provides a "dial tone" and fully replaces a telephone landline (PSTN) for Alarm Control Panel reporting to the central monitoring station when telephone line is unavailable or has been cut or disconnected by PSTN provider. ET08 supports only outgoing calls. DTMF number dialling mode in alarm control panel must be enabled.

Can detect temporary service suspension by the service provider for technical or billing reasons even if a "dial tone" is still present (Option available only for ET08B version).

Communicator ET08 backup function can work in 2 modes:

- **Backup Mode 1. ET08 is connected direct to PSTN landline.**
  If this mode is enabled the Alarm Control Panel's Ring&Tip contacts are switched direct to the PSTN landline and the ET08 communicator just monitors the PSTN landline. In case of PSTN failure, ET08 "switches" the Alarm Control Panel's Ring&Tip contacts to the GSM network and all communication goes to the Alarm receiving centre (ARC) through GSM voice.
- **Backup Mode 2. ET08 is connected to PSTN landline via PBX station.**
  If this mode is enabled the Alarm Control Panel's Ring&Tip contacts are switched by ET08 direct to the PBX station internal line. Then the signal initiated by the Alarm Control Panel for the Alarm Receiving Centre (ARC) is routed via the PBX to an external PSTN landline. The ET08 communicator only monitors that the external PSTN landline is connected to the PBX and does not monitor the internal line. In the case of external PSTN failure, the PBX still provides a dial tone but ET08 "switches" the Alarm Control Panel's Ring&Tip contacts to the GSM network and all communication goes to the ARC through GSM voice. This mode is used for sites where the internal telephone lines are sufficiently protected by the alarm system but where it is impossible for the alarm system to protect the external PSTN landlines and ensure they are connected to the PBX.

ET08 can operate in 3 communication modes, i.e.:

- transmits information from the Alarm Control Panel to the monitoring station via GSM voice;
- transmits information from the Alarm Control Panel only to the registered users via SMS message;
- transmits information from the Alarm Control Panel to the monitoring station via GSM voice as well as to registered users via SMS message.

A computer program ELDES "Configuration Tool" is used for configurations which are necessary for the system to operate in the second and third modes, i.e., to send SMS messages to the registered users. The device is connected to the computer via USB connection.

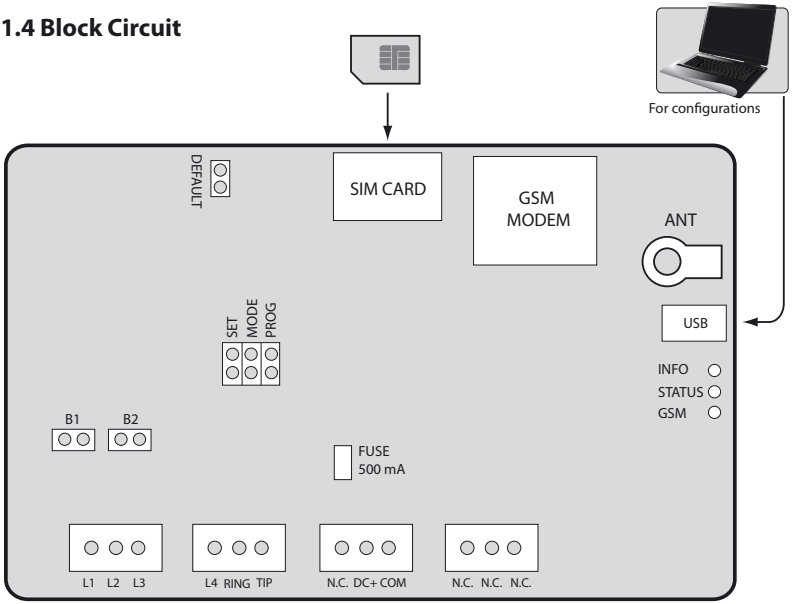
1.3 Technical Specifications

Electrical and Mechanical Specifications

Supply voltage	10-24V ⎓ 300mA max
Current used in standby mode	120mA max
GSM modem frequency	850/900/1800/1900 MHz
Supported protocols	CONTACT ID, 4+2*
Maximum number of users to whom SMS messages are delivered	5
Dimensions	130x73 mm
Operating temperature range	-20...+55oC
Generated phone line voltage	18 V
Generated phone line current	25 mA
Generated phone line impedance	600 Ohm
Dial tone of generated phone line	350 Hz

* When SMS mode is enabled, system doesn't support 4+2 protocol. 4+2 protocol works only with Monitoring Station Mode.

1.4 Block Circuit



1.5 Connectors Functionality

Main Units

GSM MODEM	GSM network 850/900/1800/1900 MHz modem
SIM CARD	SIM card holder
ANT	GSM antenna SMA type connector
FUSE	Resettable F1 type – miniSMDC 500mA

Connector Functionality

Labelling	Explanation
DC+	Power supply positive connector
COM	Common contact
RING	Pin connected to the Alarm Control Panel pin RING
TIP	Pin connected to the Alarm Control Panel pins TIP
L1-L4	Pins connected to landline or PBX according back-up mode
USB	Mini USB port
N.C.	Not connected

1.6 Jumpers Functionality

Labelling	Explanation
DEFAULT	Jumpers for restoring factory default settings
SET	Jumpers for enabling the 3rd operation mode of the device
MODE	Jumpers for connecting the 2nd operation mode of the device
PROG	Not used
B1 and B2	Jumpers for choosing GSM back-up operation mode

1.7 LED Indicators Functionality

Light Emitting Diodes LED

INFO	Working mode indicator
STATUS	Device activity indicator
GSM	GSM network quality indicator

Connection Strength Indicator

To identify connection strength GSM indicator is used. To ensure the best quality of the network adjust the position of GSM antenna and find the best possible connection by watching the frequency of indicator blinking.

GSM indicator blinking	Meaning
Off	No connection
Every 3 seconds	The connection is not reliable
Every second	Satisfactory
Several times per second	Good
Indicator is lit	Excellent

It is recommended to install the antenna remotely from communicator panel. Thus you will ensure better quality of audio signal. We do not recommend installing the antenna in a metal box.

Device Activity Indication

STATUS indicator blinking	Meaning
Off	No power supply or some fault is present
Blinking several times per second	SIM card is used improperly/is not used
Indicator is lit	The device is working properly and ready for use

Working Mode Indication

INFO indicator blinking	Reikšmė
Off	The device is in passive mode
Blinking several times per second	The device retransmits the data sent from Security Control Panel to the panel of security service. (this indication is possible then device is working in first mode)
Indicator is lit	The device decodes the data sent via CONTACT ID protocol to textual, user-understandable information.

1.8 System Installation

NOTE

Due to GSM network characteristics it is recommended to use the system ET08 with the same GSM operator which is used by system users. Thus you will ensure the quickest SMS message delivery and receipt.

NOTE

To ensure maximum system operation reliability we recommend do not use prepaid cards. If the balance is insufficient the system will not be able to inform users about the alarm.

IMPORTANT:
power supply at Alarm Control Panel must be disconnected before any installation or tuning work.

The system can be installed in a metal or non-flammable plastic enclosure together with alarm control panel. When the metal box is also used it is necessary to ground the box using yellow/green colour cable. For the connection use 0.50 mm2 1 thread cable.

Device installation and Pre-operation:

1. Fasten the system in the enclosure using fastening holders.
2. Place SIM card into the holder but make sure that SIM card PIN code is disabled. (PIN code can be disabled by putting SIM card into mobile phone and following proper menus). SIM card should not have any remaining SMS messages.
3. Connect the antenna (the device cannot be turned on without antenna).

For ET08 use with no landline:

1. Connect the circuit as shown in Fig. No.2 – connect telephone input of the Alarm Control Panel RING/TIP to RING/TIP connectors of communicator ET08.
2. Connect power supply to DC+/COM pins. Power supply is usually used as AUX- and AUX+ output of Alarm Control Panel.
3. The system should start in less than a minute. GSM LED indicator should be blinking or be ON indicating connection to GSM network.

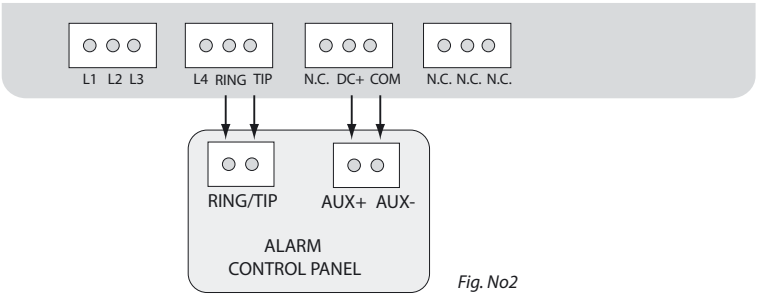


Fig. No2

For ET08 use with landline backup mode 1:

1. Connect the circuit as shown in Fig. No.3 – connect telephone input of the Alarm Control Panel RING/TIP to RING/TIP connectors of communicator ET08.
2. Connect L3&L4 pins to external landline (PSTN).
3. Put Jumpers B1 & B2.
4. Connect power supply to DC+/COM pins. Power supply is usually used as AUX- and AUX+ output of Alarm Control Panel.
5. The system should start in less than a minute. GSM LED indicator should be blinking or be ON indicating connection to GSM network.

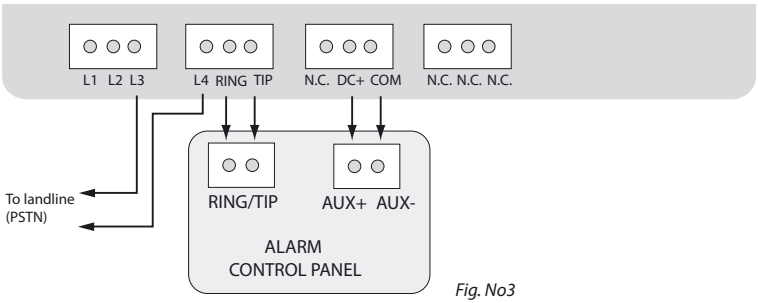


Fig. No3

For ET08 use with PBX & landline backup mode 2:

1. Connect the circuit as shown in Fig. No.4 – connect telephone input of the Alarm Control Panel RING/TIP to RING/TIP connectors of communicator ET08.
2. Connect L1&L2 pins to external landline (PSTN).
3. Connect L3&L4 pins to Internal PBX line.
4. Remove Jumpers B1 & B2.
5. Connect power supply to DC+/COM pins. Power supply is usually used as AUX- and AUX+ output of Alarm Control Panel.
6. The system should start in less than a minute. GSM LED indicator should be blinking or be ON indicating connection to GSM network.

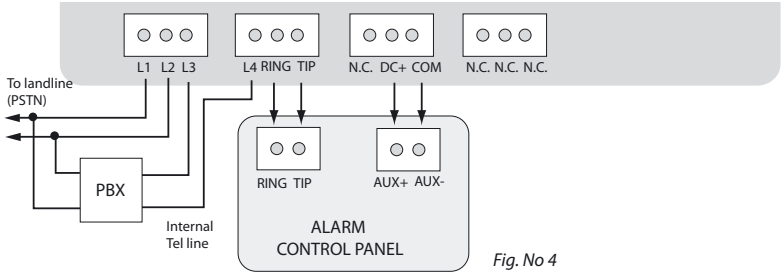


Fig. No 4

2. System Pre-operation

2.1Operation Modes

ET08 can operate in 3 modes, i.e.:

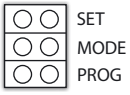
- Transmits information from the Alarm Control Panel to the monitoring station via GSM voice;
- Transmits information from the Alarm Control Panel only to the registered users via SMS message;
- Transmits information from the Alarm Control Panel to the monitoring station via GSM voice as well as to registered users via SMS message.

This chapter describes pre-operation and system operation when each of the above mentioned modes is enabled.

ATTENTION:
on the Alarm Control Panel you should enable tonal (DTMF) number dialling mode, activate CONTACT ID or 4+2 data transmission protocol and enter telephone number of Alarm receiving centre with geographic area or international code. Eg. For UK London 020xxxxxxx or 004420xxxxxxx

ATTENTION:
it is also necessary to enter telephone number of security service on the Alarm Control Panel when you do not need to transmit data to security service and you are using only SMS messaging mode. In such a case you can use any telephone number (you can use the number consisting of one digit).

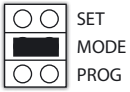
2.1.1 Monitoring Station Mode



If you want the device to operate in Monitoring station mode you must ensure that all Jumpers SET-MODE-PROG are not used.

When this mode is enabled communicator ET08 only retransmits data sent from Alarm Control Panel via CONTACT ID or 4+2 protocol to security service panel via GSM voice channel. ET08 does not require any additional configurations.

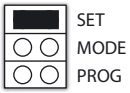
2.1.2 SMS Messages Mode



This operation mode is enabled by putting a jumper on MODE connectors in connector group SET-MODE-PROG (as demonstrated in the example). Other connectors must not be short-circuited.

When this operation mode is used the information about the secured object is delivered only to user (users) and alarm receiving centre is not informed. In this case ET08 decodes the data sent from the Alarm Control Panel via CONTACT ID protocol to user-understandable text and sends it via SMS message. This decoding is performed according to the preset parameters which can be specified by the user only by using the program ELDES "Configuration Tool" (for more information please refer to user manual of this program). SMS messages can be received by up to 5 users.

2.1.3 Combined Monitoring Station Mode and SMS Messages Mode



This operation mode is enabled by putting a jumper on SET connectors in connector group SET-MODE-PROG (as demonstrated in the example). Other connectors must not be short-circuited.

When this operation mode is used the information about the secured object is received by the user (users) as well as alarm receivig centre (ARC). Device retransmits the data sent from the Alarm Control Panel via CONTACT ID protocol to the ARC and decodes this data to user-understandable text and sends it via SMS message (indicator INFO informs only about decoding). The text is created by the user. This decoding is performed according to the preset parameters which can be specified by the user only by using the program ELDES "Configuration Tool" (for more information please refer to user manual of this program). SMS messages can be received by up to 5 users.

3. Appendix

3.1 Restoring Factory Default Parameters

To restore factory default parameters:

- disconnect power supply and USB from PC in case it was connected;
- short circuit (connect) connectors DEFAULT;
- connect power supply for 5 seconds;
- disconnect power supply;
- disconnect connectors DEFAULT.

3.2 ELDES "Configuration Tool" Program

System configuration is performed by using program software ELDES "Configuration Tool" that can be downloaded from internet website www.eldes.lt

Before connecting the cable to the computer via USB port read ELDES "Configuration Tool" user manual that can be found in HELP section of the program.

3.3 Technical Support

Indicator STATUS is off and not blinking	• no external power supply • circuit not properly connected • blown fuse • no network signal
Indicator STATUS is blinking several times per second	• SIM card is not inserted • SIM card PIN code request has not been disabled • SIM card not active
System does not deliver any SMS messages	• SIM card account depleted • incorrect SMS central number • no network signal • user telephone number is not programmed in users list • user telephone number is indicated improperly (read more about it in ET08 Configuration Tool user manual which can be found in Help section of the program)

If your problem could not be fixed by the self-guide above, please contact your distributor or ELDES technical support by e-mail support@eldes.lt. More up to date information about your device and other products can be found at the manufacturer's website www.eldes.lt