
EBS Universal Communicator (AUC-EPX400) - Installation Guide

EBS Universal Communicator for Alarm.com (AUC) is a takeover device for upgrading compatible older POTS type security systems. Equipped with Dual-Path communication, the AUC provides the best of Alarm.com security, including arming and disarming remote control through the [Alarm.com](https://www.alarm.com) customer app and notifications like unexpected activity alerts, location-based arming reminders, etc.

The AUC can retrofit various compatible older POTS type security systems, such as DSC, Honeywell, PIMA, GE, Paradox, Intelbras, Visonic, Texacom, and many others. The legacy panels can be used to communicate with any compatible AUC using the POTS line and can remotely arm/disarm through the KeySwitch zone. KeySwitch zone refers to the type of definition of a zone, which would allow a security system to be armed/disarmed, through momentary contact. This is generally supported by most traditional security systems.

Features

- 4G/LTE with 2G fallback.
- AT&T Global roaming Simcard
- Dial capture DTMF - (CID/SIA) Events
- AES Encryption
- Remote firmware upgrade capability for the module
- Universal takeover capability using phone line (PSTN)
- Remote arm/disarm through KeySwitch zone (*)
- Some video features
- Alarm.com customer app compatible

Create an account

Before installing the AUC, first create a new Alarm.com customer account. We recommend creating the account at least 24 hours prior to installation. This ensures that the AUC Communicator is activated prior to installation.

To create an account, log into the Partner Portal or MobileTech app. For more information about creating a customer account, see [How to create an Alarm.com customer account](#).

During the account creation process, you are prompted to enter the following information:

- AUC Module Serial Number
- Panel Manufacturer

- Panel Model Number
- Panel Firmware Version (Optional)
- Communicator Phone Number (by default 555555)
 - Alarm.com uses the communicator phone number to synchronize the communication and receive all events the control panel will generate (e.g., panic alarms, intrusion alarms , arm/disarm events, etc.)

System Information

Please enter the modem serial or IMEI below, and validate to continue.

Expected Network [?](#)
DealerProvisioned

15-Digit Module Serial Number / IMEI [?](#)

✔ Detected Control Panel Type: **EBS Communicator - LX**

Installed By

Me

Installed By (N/A)

Additional Settings

EBS Information

What type of panel will the communicator be connected to? This information will be saved on the account for future troubleshooting.

Panel Manufacturer

Panel Model Number

Panel Firmware Version (Optional)

Communicator Phone Number

Apply Panel Template Template Not Set [What's this?](#)

[Serial number help](#) ▼

Service packages

The following service packages are available to use with EBS Universal Communicators:

- Wireless Signal Forwarding
- EBS Basic

Control panel setup

Before installing the AUC, verify the control panel has setup the following programming fields configured:

1. Enable the communication between the AUC and control panel.

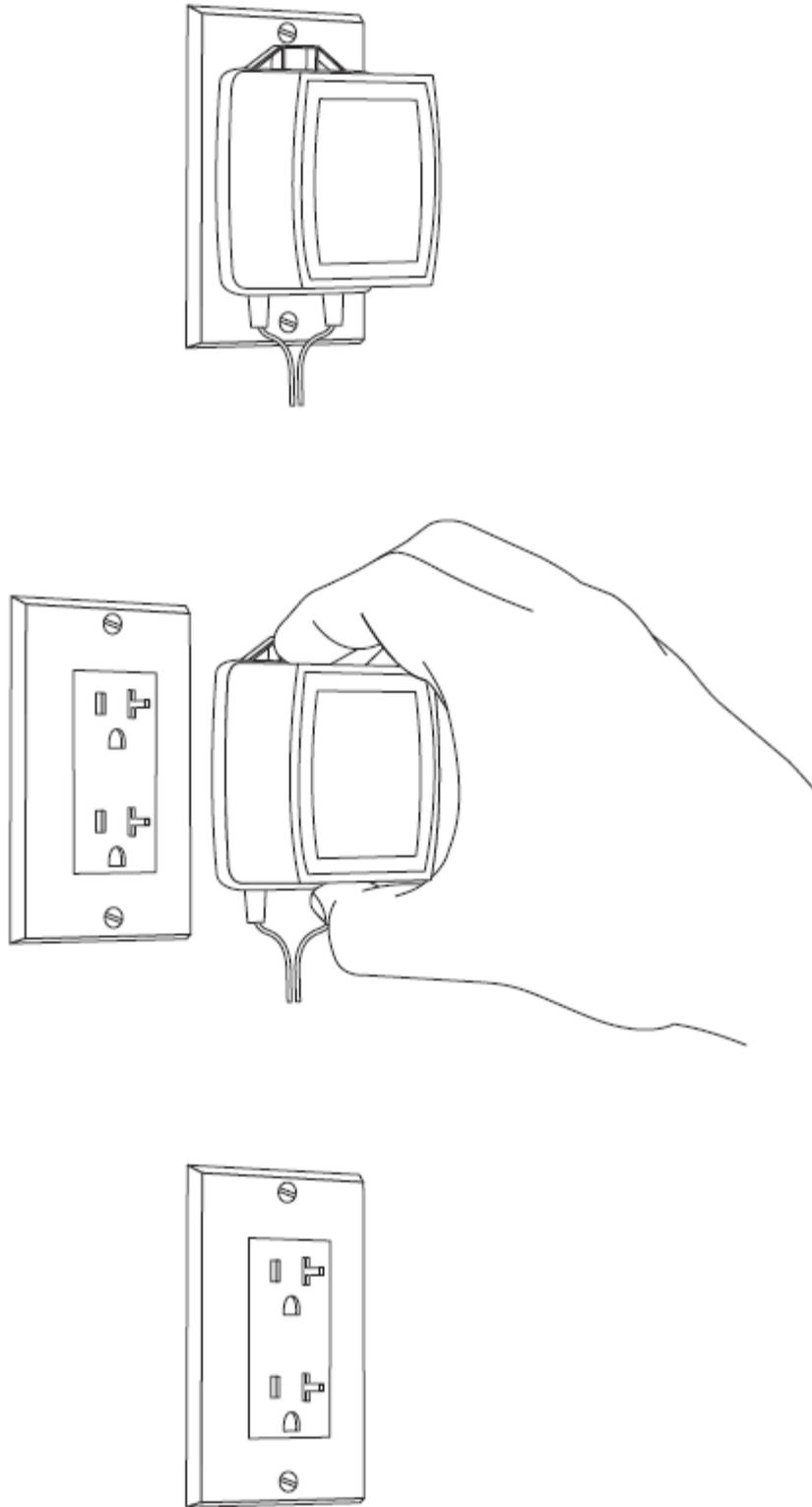
- Account number (e.g., 1234)
 - Control panel phone number (by default 555555)
 - Protocol (by default CID)
2. Program Zone and PGM for arming and disarming through the customer app
- Program a zone with momentary/impulse key definition (Keyswitch) for remote arming and disarming. (*) Momentary/impulse mode MUST be used to prevent inadvertent disarming of the panel in the event of a communicator reboot.
 - With the Impulse (or momentary) arming method, the communicator only receives a short impulse signal anytime the arming state changes. It's not continuously monitored. It does not display if the panel was armed or disarmed, only if the state changed. If one signal gets dropped, the customer app and customer website will be out of sync.
- Important:** EBS does not support security systems with zones numbered greater than 126 on the control panel. Verify that each zone reporting to the monitoring station has a zone number less than 127.
- Program an output (PGM) with system-armed status definition
 - Input/Output communicator factory defaults:
 - Input 1 = Input Instant (Normally Open)
 - Output 1 =
 - Output reaction time - 3 seconds
 - Output activation - Always
3. Depending on the brand of the control panel, there are some additional settings to review in case they are not enabled by default.
- Enable Telephone line
 - Enable DTMF communication
 - Enable Alarm reporting
 - Enable Panic reporting
 - Enable Arming/Disarming reporting

Disconnect power from the control panel

Prior to disconnecting power from the control panel, verify the following:

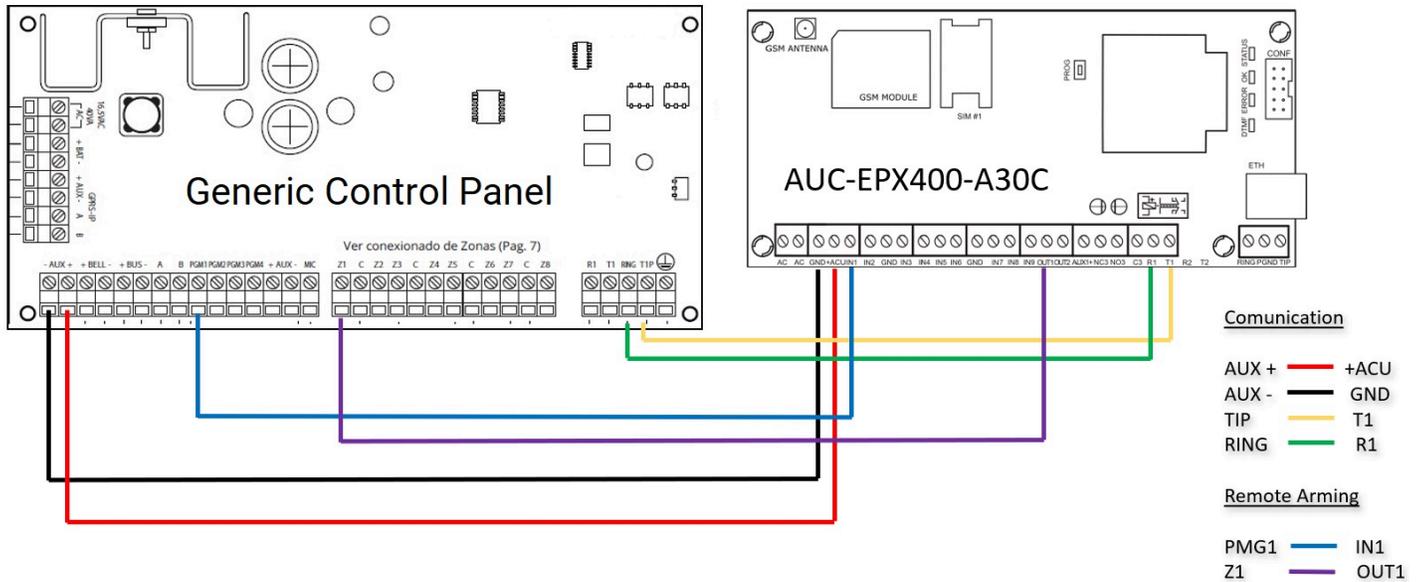
- The control panel is disarm and do not have any memory alarms.
- There are no local problem conditions at the control panel.
- Finally check that the wiring of keyboards, receivers and expanders of the control panel are correct.

Next, remove panel AC power and disconnect the backup battery.



Wire the AUC to the panel

The following diagram provides a reference for the wiring procedure. Your PGM and Zone number may vary based on your setup. However, for this example, we will be considering PGM1 and Zone1.



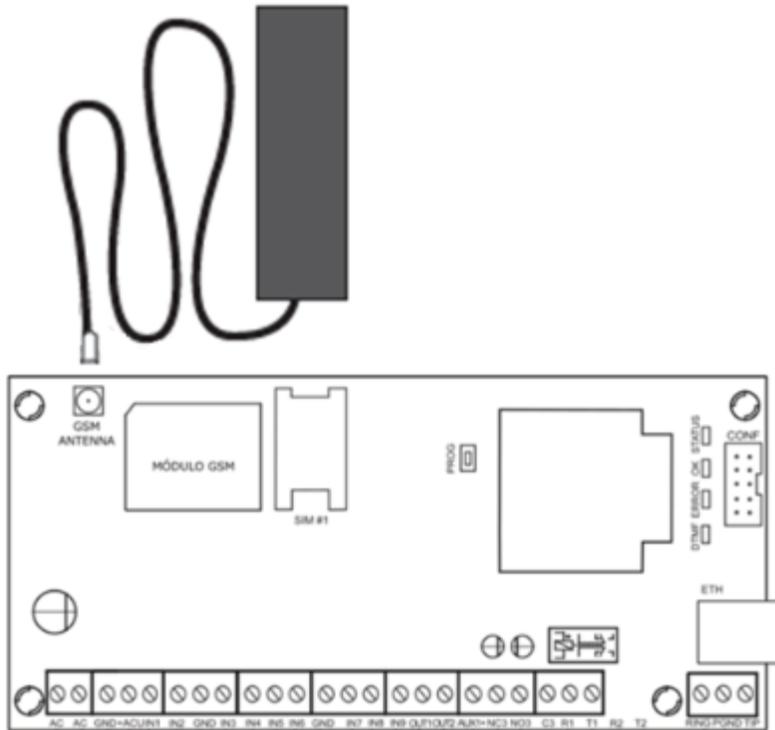
Important: Depending on the control panel's brand, an end-of-line resistor may be required for the zone with the KeySwitch function, refer to the control panel manufacturer manual.

The following panels have available articles for panel-specific setup:

- [DSC Impassa](#)
- [DSC PowerSeries](#)
- [Honeywell Vista48LA](#)

For a full list of certified panels, see [Which control panels are certified for integration with EBS Universal Communicators?](#)

Once wiring is complete, proceed to install the 4G/LTE antenna. Make sure to lead it outside of the enclosure, then put the enclosure cover back on.



Basic concepts

- Electrical power must be provided by the control panel using the auxiliary voltage output (AUX).
- Communication between the control panel and the AUC is established via (PSTN - DTMF), using the Ring and Tip connection of the control panel.
- Remote arming and disarming will be done through the zone-switching function, also known as Keyswitch.
 - It is advisable to leave the wiring and programming done so as not to have to use a second visit to the client's site.
- To identify the status of the control panel, Program an output (PGM) with system-armed status definition.
 - It is advisable to leave the wiring and programming done so as not to have to use a second visit to the client's site.

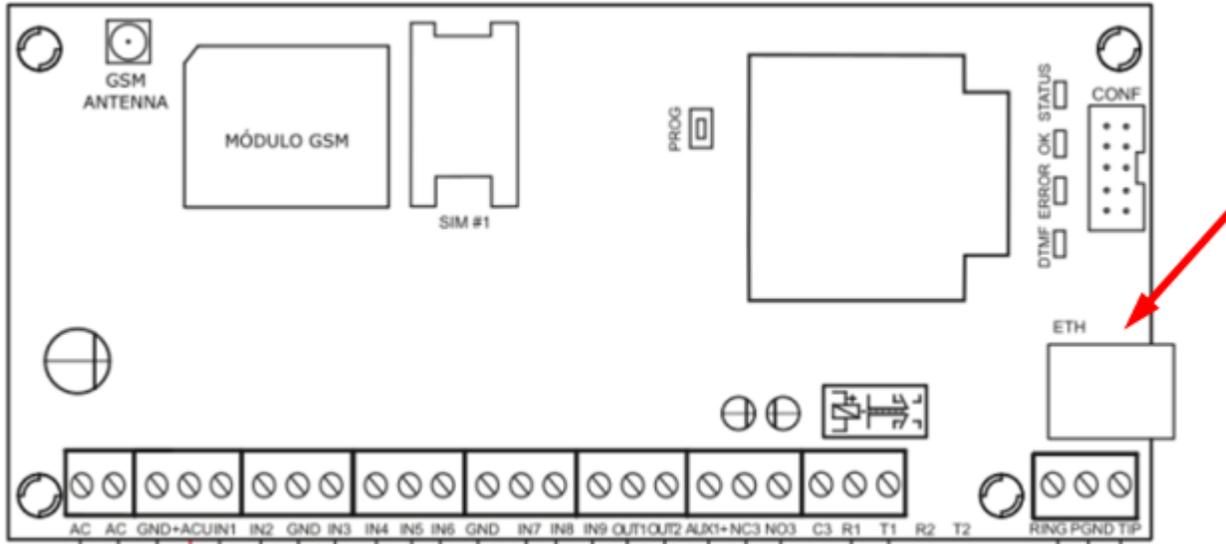
Recommendations

- The maximum distance from the AUC to the control panel is 3 meters.
- Depending on the load analysis of the panel peripherals, an independent power connection can be made with a transformer and a battery (optional)
- The electric current performance of the OUT1, OUT2 outputs is 100mA. They should not be short-circuited to supply voltage, as this will cause permanent damage.
- Do not connect the power from the network before connecting the GSM antenna, as it may cause damage to the GSM modem.
- Once the connections have been carefully verified, the control panel can be turned on together with the universal

communicator.

Dual-Path (optional)

For Broadband Ethernet, connect the Ethernet cable to the connector on the AUC.



Power up the panel

Connect the backup battery and restore AC power to the control panel.

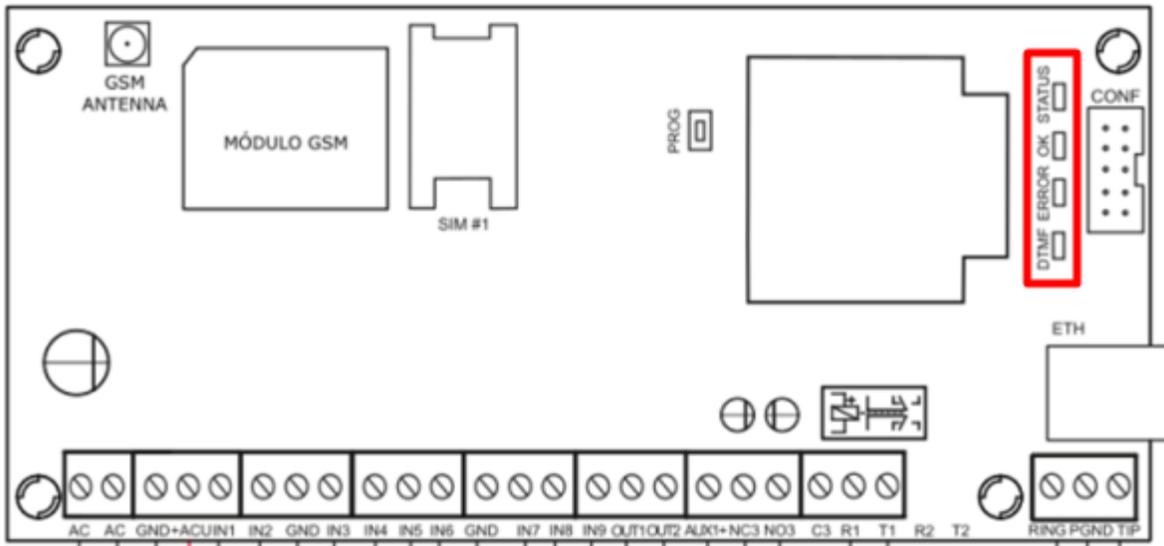


The synchronization process will take
~10 minutes

Do not touch the panel or keypad.

LEDs Indicators

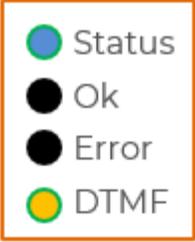
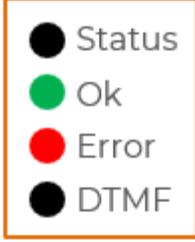
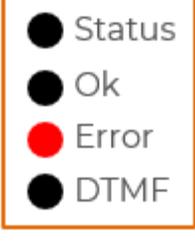
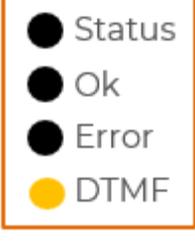
The AUC module includes 4 LEDs that can be used to indicate communication errors, panel communication, network communication, and signal strength.



LED Pattern

Description

	<p>Cellular network registration: Once the device is powered ON, the <i>OK</i> LED (green) will be constant flashing during the cellular registration.</p> <p>Cellular coverage verification: The <i>OK</i> LED (green) will flash the number of cellular bars for signal strength and then stays on for 2 seconds. The scale range goes from 0 to 8 flickers.</p>
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LED Pattern	Description
	<p>Receiving data from the control panel via DTMF: While sending data from the control panel to the communicator via DTMF, the <i>DTMF</i> LED (yellow) will flash the dialing and the <i>Status</i> LED (blue) will flash as confirmation of the handshake.</p>
	<p>Sim Card Error: In case of SIM card errors, the <i>ERROR</i> LED (red) and <i>OK</i> LED (green) will flash together.</p>
	<p>System Failure: Errors may occur during device operation or installation. An error is indicated by a solid <i>ERROR</i> LED (red). In most cases it means a communication problem with the modem or SIM card.</p>
	<p>Backup Channel: When the Dual-Path functionality is enabled on the device (EPX400 only), the backup channel operation status is indicated by a solid <i>DTMF</i> LED (yellow).</p>

Troubleshooting

The communicator has no communication with the ADC

1. Verify that the simcard is installed correctly.
2. Check the status of the LEDs.

3. Check power Cycle the AUC's power.

The communicator does not send events to the monitoring station

1. Check the control panel wiring.
2. Check phone line configuration on the Partner Portal and at the control panel.
3. Verify the monitoring setting on the panel.
4. Check power.
5. Verify that the DTMF and Status LEDs have activity.
6. Verify subscriber settings in the Partner Portal.
7. Resend the monitoring settings using the Partner Portal.

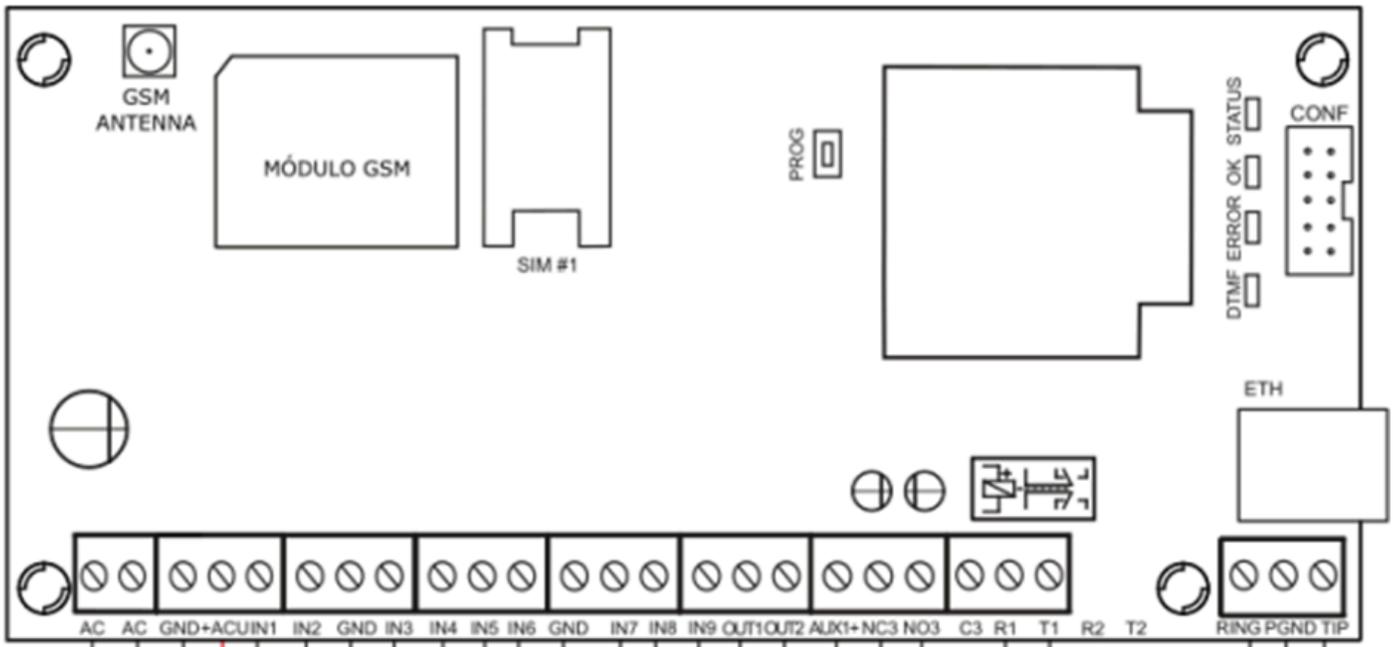
None of the LEDs on the AUC are ON

1. Remove power from the panel.
2. Verify all wiring is correct.

Specifications

Configuration	LTE, EDGE, GPRS, Ethernet
Protocol supported	SIA, ContactID, XML
Transmission security	AES Encryption
Serial interface	RS232 / RS485 transmission speed up to 115200bps
Ethernet	10BaseT / 100Base - TX IEEE 802.3 compliant, speed and duplex auto-negotiation, auto-detection of correct cable connections (cross/straight)
LED status function	4 LEDs (cellular signal level, device status, DTMF communication)
Voltage supply	18VAC (Acceptable 16-20VAC)
Temperature range	-10°C to 55°C, 14°F to 131°F
Humidity range	5% a 93% (without condensation)
Dimension of PCB	163 x 73mm

Communicator board



Terminal	Connection description
AC, AC	Two terminals for AC power supply (output from AC transformer)
GND	Device ground, common for other input and output
+ACU	Positive terminal of the battery
IN1 – IN9	Signal inputs. Possible connection of detectors contacts or alarm control panel outputs. GND terminal is common for all inputs.
OUT1, OUT2	Type OC outputs. It may control external device. Provides ground during activation.
NC3, NO3, C3	Additional output relay. It may control external device. During activation disconnects C terminal from NC and connects C to NO terminal.
AUX1+	Supply voltage output. Provides up to 100mA.
R1, T1	Connection to alarm control panel phone communicator
RING, TIP	Terminals for a PSTN telephone
PGND	Ground line for protecting an external phone line
GSM	Connector for external GSM antenna

Power with AC transformer and external battery (optional)

