

# JA-101K(-LAN) (-LAN3G) and JA-106K(-3G) Security System Control Panels

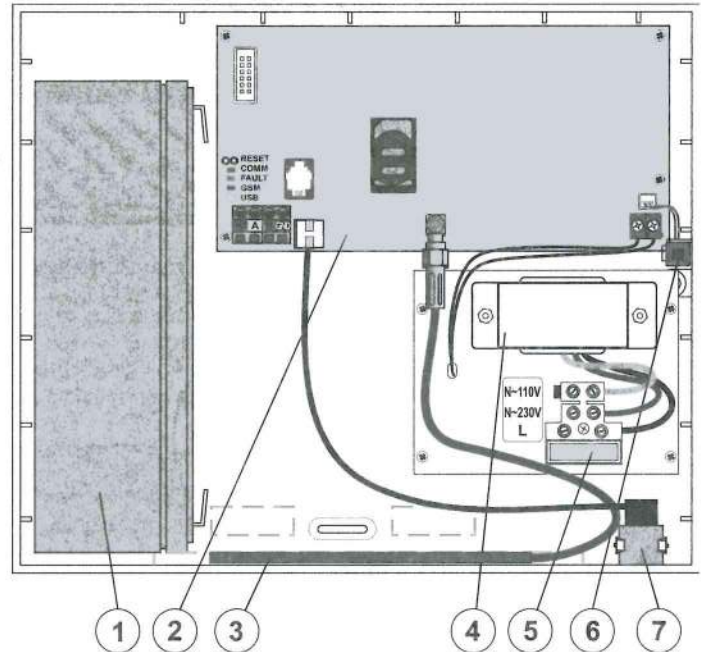
## Warning:

The Jablotron 100 series alarm system is designed exclusively for Jablotron certified installers. It is recommended that only Jablotron 100 devices are used with the system. Proper functionality cannot be guaranteed when using third party devices.

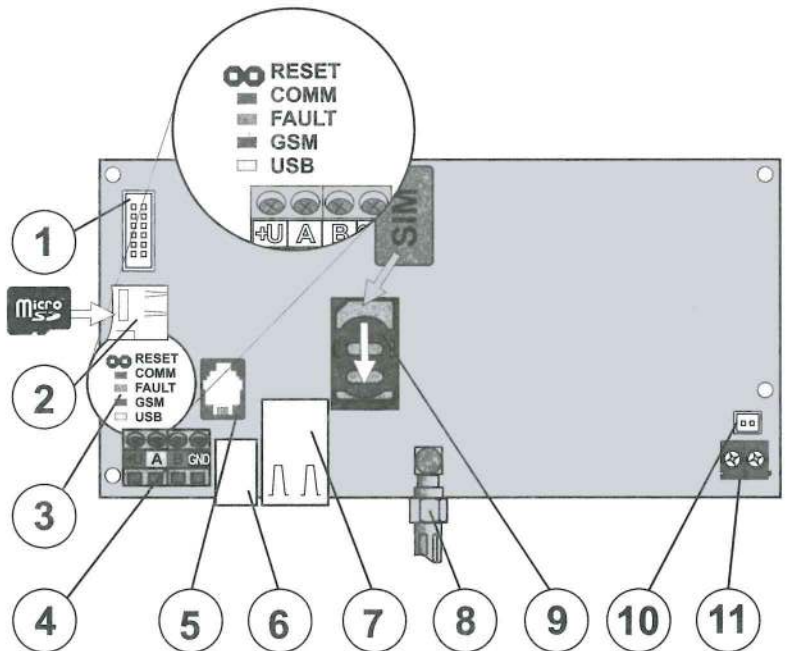
## 1.1 Description of JA-101K(-LAN) (-LAN3G) and JA-106K(-3G)

The JA-101K (LAN) control panel is designed for **small BUS systems** (the limitation is the output of the power supply) and for **medium-sized systems** with wireless communication (JA-101KR-xxx). The variant with R is supplemented by a radio module (JA-11xR) for radio communication with wireless devices.

- 1 - Backup battery 2.6 Ah;
- 2 - Control panel board;
- 3 - GSM antenna;
- 4 - Mains transformer;
- 5 - Mains supply terminal board with a 200mA fuse;
- 6 - Tamper switch of the housing;
- 7 - USB connector for PC connection

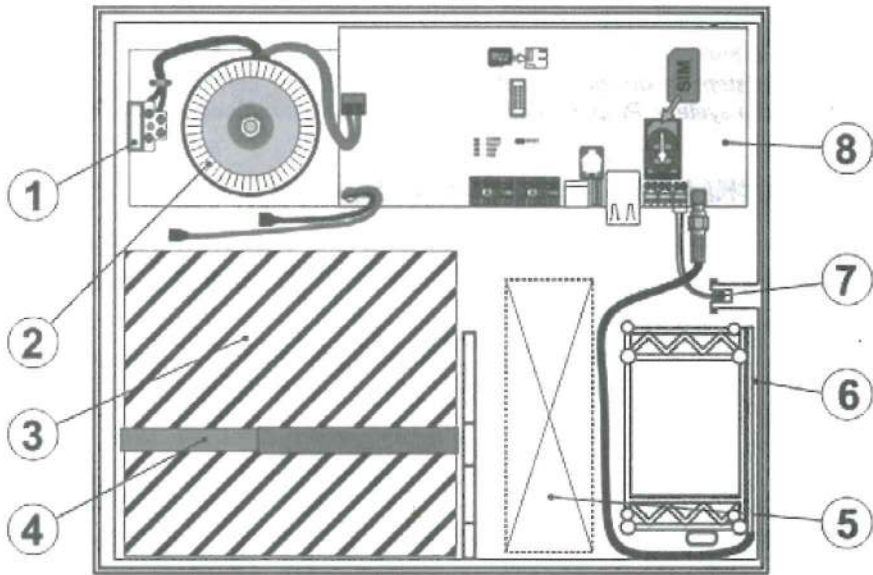


- 1 - Connector for auxiliary modules (tel.communicator, etc.);
- 2 - MicroSD card holder;
- 3 - LED indicators with a RESET jumper;
- 4 - BUS terminal board;
- 5 - BUS connector for internal JA-11xR radio module;
- 6 - USB connector;
- 7 - LAN connector (in the LAN version only),
- 8 - GSM antenna connector;
- 9 - SIM card holder;
- 10 - Panel Lid Tamper pins;
- 11 - Power supply from the transformer

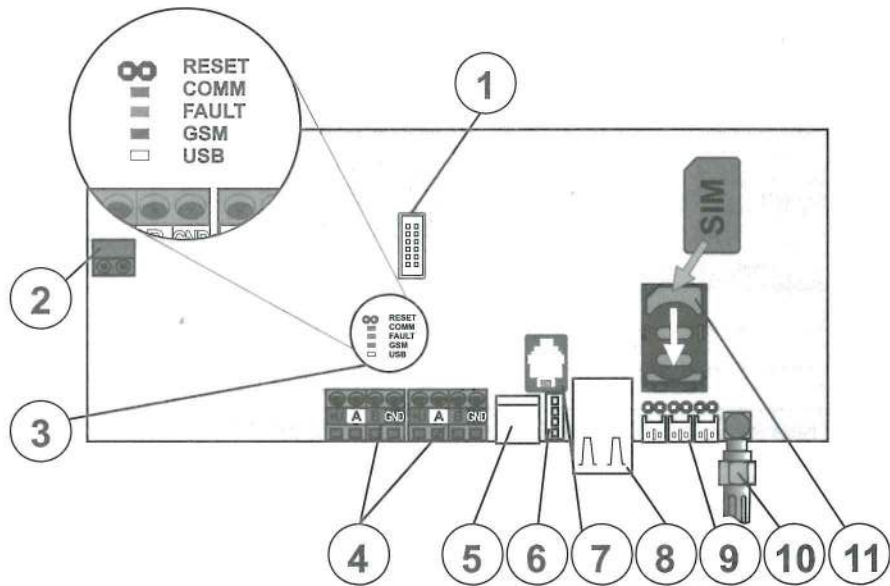


1.2 Description of JA-101K(-LAN) (-LAN3G) and JA-106K(-3G)

The JA-106KR control panel is suitable for medium-sized and large BUS as well as wireless systems. The variant with R is supplemented by a radio module (JA-11xR) for radio communication with wireless devices.



1 - mains terminal board with a 400 mA fuse; 2 - mains transformer; 3 - backup battery; 4 - securing strap of the backup battery; 5 - cabling space; 6 - GSM antenna; 7 - Panel lid tamper pins, including spare tamper pins; 8 - control panel boards



1 - connector for auxiliary modules (phone communicator, voice communication module etc.); 2 - terminal board of power supply from the transformer; 3 – LED indicators with a RESET jumper; 4 - two independent BUS terminal boards; 5 - USB connector for the housing cable; 6 - USB connector; 7 - BUS connector for the internal JA-11xR; 8 - LAN connector (Internet); 9 - connectors for housing tamper switches; 10 - GSM antenna connector; 11 - SIM card holder; 12 - microSD card holder

1.3 LED indicators on the control panel board

All versions of control panels feature the following signal lights on the main board:

|       |        |                                                    |
|-------|--------|----------------------------------------------------|
| COMM  | green  | flashing during operation of the communication bus |
| FAULT | yellow | indicating any error in the system                 |
| GSM   | red    | indicating status of GSM                           |
| USB   | yellow | indicating USB connection to a PC                  |



## 2 Control panel installation

Select an appropriate place for the control panel box to be installed. Avoid installation on metal materials or near metal objects (it could negatively influence wireless or GSM communication). Test the GSM signal strength at the installation place.

Punch through the prepared holes for the cables.

Attach the plastic housing of the control panel to a wall using 3 screws. For easy installation use the drilling template supplied in the included accessories. The upper two screw holes are for hanging the control panel box on pre-positioned screws and the third screw fixes the control panel into place. Lead all cables into the control panel and fix the control panel onto the final position.

## 3 Switching the system on

1. Check the connection of the BUS cables.
2. The JA-101K (-XX) control unit provides power supply terminals to select from 2 types of mains supplies: ~230 V / 50 Hz and ~110 V / 60 Hz. According to the type of mains system, the correct connection terminal and the corresponding fuse must be used to comply with the Technical parameters chapter.
3. Verify whether a SIM card has been inserted into its holder on the control panel board.
4. Insert a battery into the control panel and fix it in the housing (using self-sticking blocks or a strap)  
**Caution - the backup battery is delivered in a charged condition, it must not be short-circuited!**
5. Connect the supply leads of the battery.
6. Switch on the power from the mains and check the LED indicators on the control panel:
  - a. the green LED starts flashing (BUS function).
  - b. the red LED flashes – logging in to the GSM network.
  - c. the red GSM LED goes out – the control panel has established a connection to the GSM network.
  - d. the red LED is permanently lit – the control panel has not logged in to the GSM network.

## Before system installation



Select a hidden place for the control panel (inside the protected area) where a mains supply is available. We recommend you to protect the room with the control panel by a detector with an immediate reaction. There must be good GSM signal reception at the location (check with a phone). Caution, if a possible intruder knows where the control panel is located, there is a risk of the system being damaged without sending information about the intrusion.

The mains supply of the control panel may only be installed by a person with the required electrical qualifications. The power supply of the control panel has double safety isolation of the circuits. No protective earth conductor is connected.

During the installation and connection of the BUS devices of the control panel all the power supplies of the control panel must be completely off.

Use a suitable cable with double insulation and a cross-section of 0.75 to 1.5 mm<sup>2</sup>

You are recommended to fit the mains supply with voltage surge protection.

**If a shielded cable is used, do not connect the shield to the BUS terminals! We recommend you to bond all the shields (tinning) in the control panel to an auxiliary terminal and not to connect this bonding anywhere else. Also leave the other end of the shielding at the device end unconnected.**

The BUS connector on the control panel board is exclusively designed for the connection of a radio module installed inside the control panel housing.

## Technical parameters

| Parameter                                             | JA-101K (-LAN, -3G)                                                          | JA-106K (-3G)                        |
|-------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------|
| Nominal supply voltage / frequency                    | ~ 230 V / 50 Hz (EU)<br>~ 120 V / 60 Hz (US)                                 | ~ 230 V / 50 Hz, max. 0.2 A (EU)     |
| Supply voltage range                                  | 195 – 250 V<br>110 – 120 V                                                   | 195 – 250 V                          |
| Input power                                           | max 23 VA (0.1 A)                                                            | max 46 VA (0.2 A)                    |
| Protection class                                      | II.                                                                          | II.                                  |
| Fuse (5x20 mm)                                        | T 200 mA 250 V @ 230 V <sub>AC</sub><br>T 400 mA 250 V @ 120 V <sub>AC</sub> | T 200 mA 250 V @ 230 V <sub>AC</sub> |
| Back-up battery                                       | 12 V; 2.6 Ah max                                                             | 12 V; 7 to 18 Ah max                 |
| Back-up battery low voltage                           | ≤ 11 V                                                                       | ≤ 11 V                               |
| Maximum battery charging time                         | 72 h                                                                         | 72 h                                 |
| BUS supply voltage / max ripple (red-black terminals) | 12.0 to 13.8 V / ± 100 mV                                                    | 12.0 to 13.8 V / ± 100 mV            |

|                                                  |                                                                                                                                                                                           |                                                                                            |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Maximum output load current of BUS terminal      | 400 mA constantly<br>(1000 mA for 5 minutes)                                                                                                                                              | 1200 mA constantly, valid for each BUS output<br>(2000 mA for 10 minutes)                  |
| for 12 hours back-up                             | 125 mA without LAN,<br>85 mA with active LAN,<br>(with a battery 2.6 Ah)                                                                                                                  | 1.2 A (supply outputs together)<br>(with a battery 18 Ah)                                  |
| for 24 hours back-up                             | 62 mA without LAN,<br>42 mA with active LAN,<br>(with a battery 2.6 Ah)                                                                                                                   | 0.6 A (supply outputs together)<br>(with a battery 18 Ah)                                  |
| Max. number of devices<br>(single device zones)  | 50                                                                                                                                                                                        | 120                                                                                        |
| Alarm device interconnection                     | BUS – specific interconnection<br>WIRELESS (with JA-11xR) –<br>nonspecific interconnection                                                                                                | BUS – specific interconnection<br>WIRELESS (with JA-11xR) – nonspecific<br>interconnection |
| LAN communicator                                 | Ethernet interface<br>(only JA-101K-LANxx version)                                                                                                                                        | Ethernet interface                                                                         |
| LAN interface                                    | IEEE 802.3u, UTP CAT5                                                                                                                                                                     |                                                                                            |
| Dimensions (mm)                                  | 258 x 214 x 77                                                                                                                                                                            | 357 x 297 x 105                                                                            |
| Weight                                           | 1250 g                                                                                                                                                                                    | 2500 g                                                                                     |
| Reaction to invalid code entry                   | Tamper alarm after 10 wrong entries codes,<br>(option - a function for blocking all system keypads can be added)                                                                          |                                                                                            |
| Event history                                    | approx. 7 million latest events, incl. date and time<br>(memory independent of power supply)                                                                                              |                                                                                            |
| Power supply unit                                | type A (EN 50131-6)                                                                                                                                                                       |                                                                                            |
| Classification                                   | Security grade 2 / Environmental class II / ATS: SP5(LAN), DP3                                                                                                                            |                                                                                            |
| - ATS classification                             | GPRS: SP4, LAN: SP5, module JA-190X PSTN: SP2<br>LAN + GPRS: DP3, GPRS or LAN + PSTN: DP2<br>SPT type Z (integrated with control panels)<br>AS/SPT interface type: Pass-through operation |                                                                                            |
| - according to                                   | EN 50131-1, EN 50131-3, EN 50131-6, EN 50131-5-3, EN 50131-10<br>EN 50136-1, EN 50136-2<br>T014A (JA-101K), T014 (JA-106K), T031 (JA-101K-LAN)                                            |                                                                                            |
| - environment                                    | indoor general                                                                                                                                                                            |                                                                                            |
| - operational temperature range                  | -10°C to +40°C                                                                                                                                                                            |                                                                                            |
| - average operational humidity                   | 75% RH, non-condensing                                                                                                                                                                    |                                                                                            |
| - information and substitution<br>security       | Jablotron's protocol: based on AES encryption with minimum 128 bit key + 2 <sup>16</sup> message ID<br>mark, or ANSI SIA DC-09.2012 protocol (US standard)                                |                                                                                            |
| - certification body                             | Trezor Test s.r.o. (no. 3025), ANPI (JA-101K, JA-101K-LAN, JA-106K)                                                                                                                       |                                                                                            |
| Operating frequency<br>(with the JA-110R module) | 868.1 MHz                                                                                                                                                                                 |                                                                                            |
| GSM communicator                                 | 850 / 900 / 1800 / 1900 MHz                                                                                                                                                               |                                                                                            |
| GSM communicator 3G                              | 850 / 900 / 1800 / 1900 / 2100 MHz                                                                                                                                                        |                                                                                            |
| Radio emissions                                  | ETSI EN 300 220-2 (module R), ETSI EN 301 419-1,<br>ETSI EN 301 511 (GSM)                                                                                                                 |                                                                                            |
| EMC                                              | EN 50130-4, EN 55022, ETSI EN 301 489-7                                                                                                                                                   |                                                                                            |
| Safety                                           | EN 60950-1                                                                                                                                                                                |                                                                                            |
| Operational conditions                           | ERC REC 70-03, ERC DEC (98) 20                                                                                                                                                            |                                                                                            |
| Caller's identification                          | ETSI EN 300 089                                                                                                                                                                           |                                                                                            |



JABLOTRON ALARMS a.s. hereby declares that the JA-101K-LAN3G is in a compliance with the relevant Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/EU. The original of the conformity assessment can be found at [www.jablotron.com](http://www.jablotron.com) - Section Downloads.



Note: Although the product does not contain any harmful materials, do not dispose of it as municipal waste, but bring it to a collection facility for electronic waste. More detailed information at [www.jablotron.com](http://www.jablotron.com) Technical Support section.

**JABLOTRON**  
CREATING ALARM

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