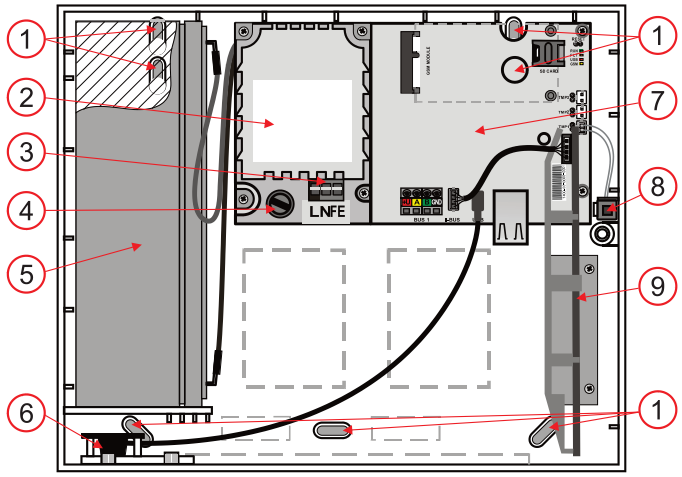
JA-103K, JA-103K–7Ah, JA-107K and JA-108K control panels of the JABLOTRON security system

***Warning**: The JABLOTRON series alarm security system is intended **exclusively for installation by a trained technician who holds a valid JABLOTRON certificate**. It is recommended to use only JABLOTRON series devices in the system. The correct functioning of the system cannot be guaranteed when using other components.*

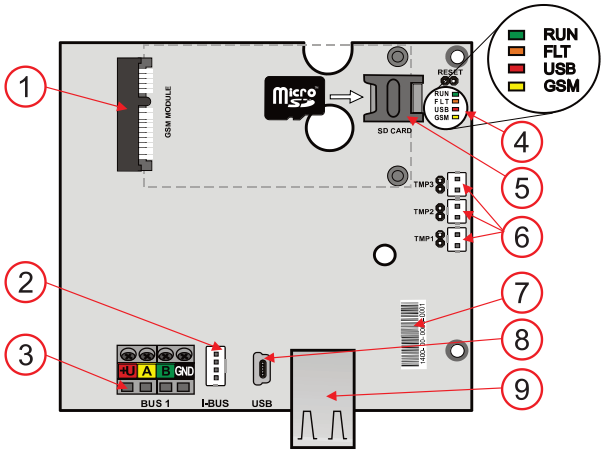
This manual is only for basic installation and commissioning. The complete installation and user manual can be found by scanning the following QR code.

1 Basic description of all control panel models

1.1 Description of the JA-103K

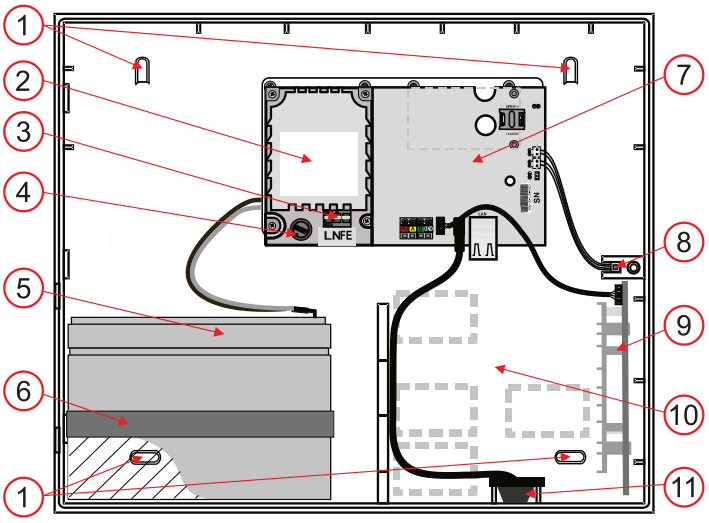


***1** – wall mounting holes, **2** – control panel power supply, **3** – mains power supply terminals, **4** – mains power fuse, **5** – backup battery, **6** – USB connector for connection to a PC, **7** – control panel mainboard, **8** – housing tamper contact, **9** – holder for JA-11xR radio module*

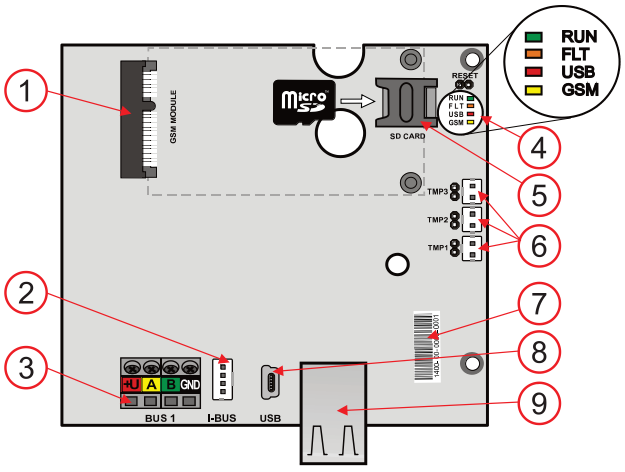


***1** – connector for GSM communicator, **2** – I-BUS connector for additional modules, **3** – bus terminal, **4** – LED indicators and "RESET" jumper, **5** – micro SD card holder (SD card factory installed), **6** – connectors for control panel housing tamper contacts switches, **7** – serial number label, **8** – mini USB connector, **9** – LAN connector*

1.2 Description of the JA-103K-7Ah

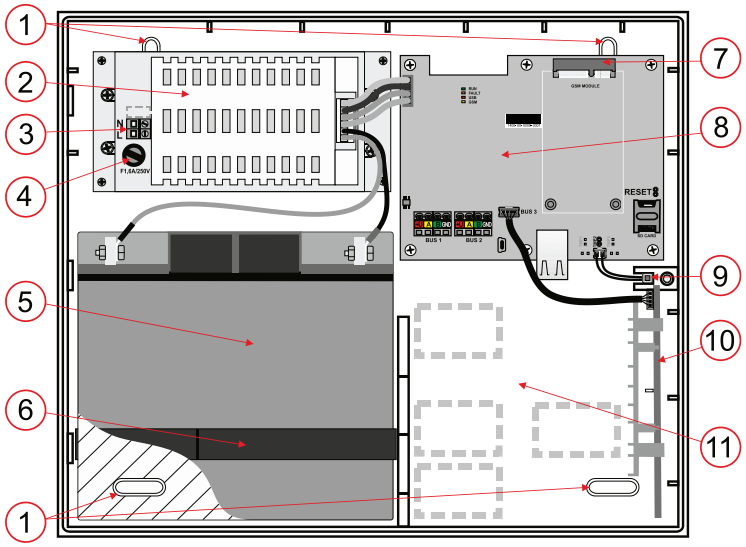


***1** – wall mounting holes, **2** – control panel power supply, **3** – mains power supply terminal, **4** – mains power fuse, **5** – backup battery, **6** – strap for securing the backup battery, **7** – control panel mainboard, **8** – housing tamper contacts, **9** – holder for JA-11xR radio module, **10** – space for cabling, **11** – USB connector for connection to a PC*

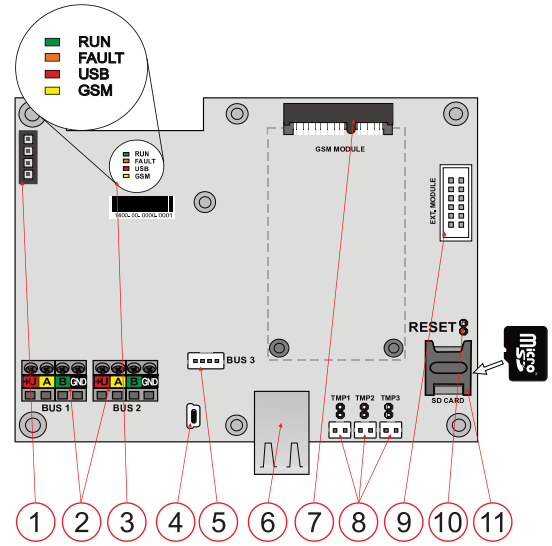


***1** – connector for GSM communicator, **2** – I-BUS connector for additional modules, 3 – bus terminal, **4** – LED indicators and "RESET" jumper, **5** – micro SD card holder (SD card factory installed), **6** – connectors for control panel housing tamper contacts switches, **7** – serial number label, **8** – mini USB connector, **9** – LAN connector*

1.3 Description of the JA-107K

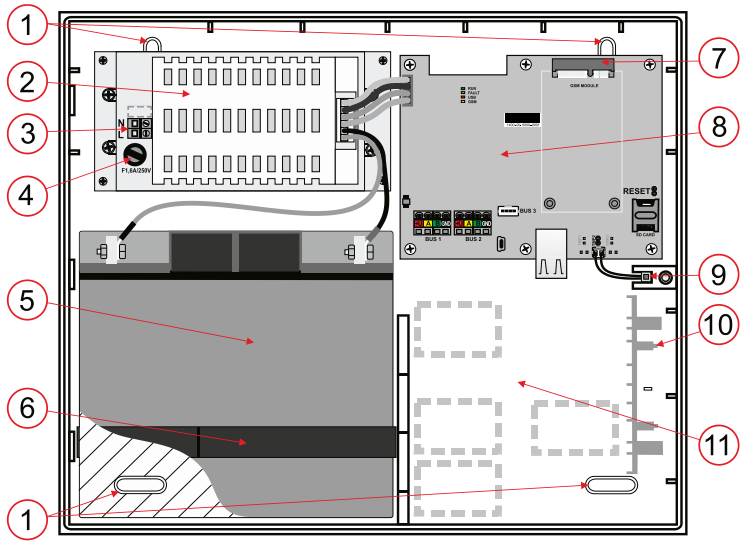


1 – wall mounting holes, 2 – control panel power supply, 3 – mains power supply terminal, 4 – mains power fuse; 5 – backup battery, 6 – strap for securing the backup battery, 7 – GSM communicator connector, 8 – control panel mainboard, 9 – housing tamper contact, 10 – holder for JA-11xR radio module, 11 – space for cabling

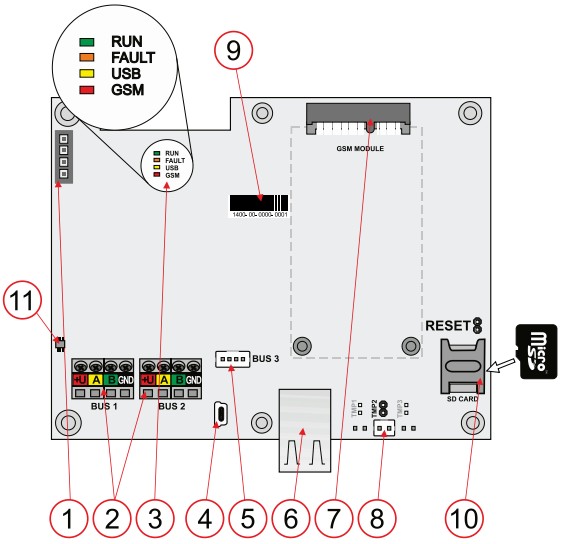


1 – power supply connector, 2 – two independent bus terminals, 3 – LED indicators, 4 – mini USB connector, 5 – connector for connecting a radio module or 3rd Bus, 6 – LAN connector (internet), 7 – connector for GSM communicator, 8 – connectors for control panel housing tamper contacts, 9 – serial number label, 10 – micro SD card holder (SD card factory installed)

1.4 Description of the JA-108K



1 – wall mounting holes, 2 – control panel power supply, 3 – mains power supply terminal, 4 – mains power fuse; 5 – backup battery, 6 – strap for securing the backup battery, 7 – GSM communicator connector, 8 – control panel mainboard, 9 – housing tamper contacts, 10 – holder for JA-11xR radio module, 11 – space for cabling



1 – power supply connector, 2 – two independent bus terminals, 3 – LED indicators, 4 – mini USB connector, 5 – connector for connecting a radio module or 3rd bus, 6 – LAN connector (internet), 7 – connector for GSM communicator, 8 – connectors for control panel housing tamper contacts, 9 – serial number label, 10 – micro SD card holder (SD card factory installed), 11 – Hall sensor for rear tamper protection

1.5 LED indicators on the control panel mainboard

RUN	green	Flashing during operation of the communication bus indicates correct function.
FAULT	yellow	Permanent lit of LED indicates a general fault in the system (more information is provided by the F-Link software or keypad with display).
USB	Yellow	Indicates connection to a computer via a USB cable.
GSM	red	If a GSM communicator is installed: – It stays lit after power supply connection while searching for a GSM network. – off if the GSM is working properly and no communication is currently taking place, – flashes regularly at intervals of 0.5 s / 0.5 s (on/off) if the GSM network is not available. ***Note**: Flashes during communication, with short, repeated flashes indicating the parameter setting: GSM communicator switched off.*

2 Connection of the control panel to the power supply, switching on the system

1. The control panel provides connection terminals for mains power supply in the range of ~ 110–230 V, 50–60 Hz. The control panel is a Protection Class II device with double insulation, so use a two-wire supply (L and N wire) to connect the power supply. The protective earth PE wire of the mains supply (if used) can be connected to the upper blind terminal (JA-107K and JA-108K – the cover must be broken off). Check whether the wires are screwed tightly in the terminals, then fix the cable firmly with a clip. Check that the microSD card is inserted in the holder.
2. If using a GSM communicator, a SIM card must be inserted and a GSM antenna connected.
3. Insert the battery into the control panel and secure it in the housing (by self-adhesive straps).
   Caution – the backup battery is supplied in a charged state and must not be short-circuited!
4. Connect the battery leads. **Mind the correct polarity! (red wire to the + pole, black to the – pole).**
5. Switch on the mains power supply and watch the LED indicator on the control panel:
   a. the green LED flashes (bus function),
   b. the red LED flashes – logging into the GSM network is in progress,
   c. the red LED goes out – the control panel has established a connection to the GSM network,
   d. or the red LED stays on – the control panel has not logged into the GSM network (points b, c, d only with GSM communicator installed).
6. The system functions are configured in the F-LINK software via a remote connection or by connecting to the mini-USB connector on the control panel board.

Warning

- **The manufacturer accepts no liability for damage caused by improper installation or configuration of the system.**
- If a GSM communicator is installed, there must be a good GSM signal at the installation site (check with a mobile phone).
- The mains supply to the control panel may only be installed by a person with the appropriate electrical qualifications. The control panel power supply complies with protection class II. The protective earth conductor of the mains supply (if used) can be connected to the upper blind terminal (JA-107K and JA-108K – the cover must be broken off).
- During installation and connection of the system's Bus components, all power to the control panel must be completely turned off.
- Never connect the mains power supply and backup battery without a GSM antenna connected to the communicator and a microSD card inserted.
- The fuse holder with a tube fuse is not intended for safe disconnection.
- Connect to the mains using a suitable double-insulated cable with a cross-section of 0.75 to 1.5 mm².
- It is recommended to install overcurrent and overvoltage protection devices on the mains power supply.
- **If a shielded bus cable is used, this shielding must not be connected to a common ground or any connection terminal in the control panel. The bus cable connecting the control panel and devices must not be connected at any point in such a way as to form a closed loop.**
- The I-BUS connector (2) on the JA-103K, 103K-7Ah control panel electronics is designed exclusively for connecting the radio module located inside the control panel housing.
- Connecting JA-100 control panels to the same network with active 48V PoE power supply may cause unreliable network communication. We recommend using a PoE splitter.

JABLOTRON a.s. hereby declares that the products JA-103K, JA-103K-7Ah, JA-107K and JA-108K are designed and manufactured in accordance with the harmonised legislation of the European Union: Directives No.: 2014/35/EU, 2014/30/EU, 2011/65/EU, when used as intended. The original declaration of conformity is available at www.jablotron.com in the *Downloads* section.

Note: Although the products do not contain any harmful materials, do not dispose of them in the rubbish, but take them to an electronic waste collection point. For more detailed information, visit www.jablotron.com in the *Downloads* section.

JABLOTRON

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3 Technical parameters

Property / Type	JA-103K	JA-103K-7Ah	JA-107K	JA-108K	Note
Functional characteristics					
Max. number of devices	50	50	230 Max. 120 wireless devices at positions 1–120		Max. 60 devices per 1 bus terminal
(I-)BUS outputs	1x bus terminal 1x I-BUS onboard (JA-11xR only)	1x bus terminal 1x I-BUS onboard (JA-11xR only)	2x bus terminal 1x I-BUS onboard		
Max. number of JA-11xR radio modules	3	3	3	0 for Security grade 3 3 for Security grade 2	Max. number of JA-11xR radio modules
Maximum number of users	50	50	600		
Maximum number of independent monitoring sections	8	8	15		
Maximum number of programmable outputs	32	32	128		Only the following can be used for wireless transmission PG 1–32

Property / Type	JA-103K	JA-103K-7Ah	JA-107K	JA-108K	Note
Blocking user inputs in case of incorrectly entered codes	No blocking			after 10 incorrectly entered codes, then every subsequent attempt	User input is, for example, a keypad or F-Link
Alarm Sabotage due to incorrect code entry / blocking time	after 10 incorrectly entered codes			Optional: 10 to 21 incorrect code entries	
Event memory	approx. 7 million recent events including date and time				
Alarm system features					
Compliant with standards	EN 50131-3, EN 50131-5-3, EN 50131-6, EN 50131-10 (EN 50136-2, EN 50136-1)				
	INCERT T 031			---	
Security classification	Security grade 2			Security grade 3 or 2	According to profile
Environment class	II Indoor general				
Power supply type	Type A according to EN 50131-6				
ATS classification	SP2-SP5 (LAN) SP2-SP5 (GSM) DP3 (LAN+GSM)	SP2-SP5 (LAN) SP2-SP5 (GSM) DP3 (LAN+GSM)	SP2-SP5 (LAN) SP2-SP5 (GSM) DP3 (LAN+GSM)	SP5 (LAN) SP5 (GSM) DP3 (LAN+GSM)	When using a GSM communicator, see the separate communicator manuals for more information.
Certification body	Trezor Test s.r.o. (No. 3025), Kiwa Nederland b. v.			Trezor Test s.r.o. (No. 3025)	
External communication					
LAN communicator	on board Ethernet 10/100 BASE	on board Ethernet 10/100 BASE	on board Ethernet 10/100 BASE		
GSM communicator	yes, using accessories	yes, using accessories	yes, using accessories		Not included in the switchboard.
- SMS reports	up to 8 users	up to 8 users	up to 50 users		5 reports per event
- Voice reports	up to 8 users	up to 8 users	up to 15 users		5 reports per event
- Caller identification (CLIP)	ETSI EN 300 089				
Exchange power supply					
Power supply voltage	110 ÷ 230 V_{AC} 50 ÷ 60 Hz	110 ÷ 230 V_{AC} 50 ÷ 60 Hz	110 ÷ 230 V_{AC} 50–60 Hz	110–230 V_{AC} 50–60 Hz	
Maximum current consumption	max. 0.28 A	max. 0.28 A	max. 0.85 A	max. 0.85 A	
AC power consumption	max 30 VA	max. 30 VA	max. 55 VA	max. 55 VA	At maximum Bus load and with GSM module
Current protection	Fuse 5x20 F1.6 A/250 V	Fuse 5x20 F1.6 A/250 V	Fuse 5x20 F1.6 A/250 V	Fuse 5x20 F1.6 A/250 V	
Electrical protection class	II	II	II	II	
Electrical parameters for calculating battery backup					
Nominal DC current consumption of the control panel board with LAN	90 mA	90 mA	105 mA	105 mA	Consumption measured from the battery
Nominal DC current consumption of the control panel board without LAN	60 mA	60 mA	70 mA	70 mA	Consumption measured from the battery
Low battery voltage fault notification voltage	11 V	11 V	11 V	11 V	
Voltage at the end of low battery voltage detection	12.2 V	12.2	12.2	12.2	
Deep discharge protection – Battery disconnect voltage	9.6 V	9.6 V	9.6 V	9.6 V	
Power outputs					
Bus voltage	12.0 to 13.8 V	12.0 to 13.8 V	12.0 to 13.8 V	12.0 to 13.8 V	Terminals (red – black)

Property / Type	JA-103K	JA-103K-7Ah	JA-107K	JA-108K	Note
Max. continuous consumption from the control unit	1000 mA	1000 mA	2000 mA	2000 mA	JA-107K / JA-108K provides 2x bus terminals and an I-BUS connector for expansion. The maximum consumption from the control panel must be divided between both outputs.
Max. continuous load of one Bus terminal block	1000 mA	1000 mA	2000 mA (max. 3000 mA / 60 min)	2000 mA (max 3000 mA / 60 min)	
Bus terminal	bus 1 + 4-pin connector (I-BUS) for radio module	bus 1 + 4-pin connector (I-BUS) for radio module	bus 1, bus 2 + 4-pin connector (bus 3) for connecting a radio module or hub JA-110Z-D	bus 1, bus 2 + 4-pin connector (bus 3) for connecting a radio module or splitter JA-110Z-D	For JA-107K, the individual buses are isolated from each other, i.e. short-circuiting one branch will not affect another
Maximum bus cable length	500 m	500 m	3 x 500 m	3 x 500 m	can be extended using JA-120Z modules
Operating characteristics					
Dimensions	268 x 225 x 83 mm	357 x 297 x 105 mm	357 x 297 x 105 mm	357 x 297 x 105 mm	
Weight with battery/without battery	1844 g / 970 g	3755 g / 1665 g	7027 g / 1809 g	7027 g / 1809 g	
Operating temperature range	-10 °C to +40 °C				
Average operating humidity	75% RH, non-condensation				
System and control panel backup					
Recommended backup 12V battery	12 V / 2.6 Ah (lead-acid gel)	12 V / ≤7 Ah (lead-acid gel)	12 V / 18 Ah (lead gel)	12 V / 18 Ah (lead gel)	
Maximum time to recharge the battery to 80% capacity	48 hours	48 hours	48 hours	48 hours	

Bus current consumption for different backup times and control panel configurations:

Required configuration			JA-103K	JA-103K-7Ah	JA-107K	JA-108K	Note
Time backup	GSM	LAN	Battery 12 V / 2.6 Ah	Battery 12 V / 7 Ah	Battery 12 V / 18 Ah	Battery 12 V / 18 Ah	
12 hours	NO	OFF	113 mA	406 mA	1135 mA	1135 mA	
		ON	86 mA	379 mA	1100 mA	1100 mA	
	YES	OFF	93 mA	386 mA	1115 mA	1115 mA	
		ON	66 mA	359 mA	1080 mA	1080 mA	
24 hours	NO	OFF	26 mA	173 mA	535 mA	535 mA	
		ON	NOT POSSIBLE	146 mA	500 mA	500 mA	
	YES	OFF	6 mA	153 mA	515 mA	515 mA	
		ON	NOT POSSIBLE	126 mA	480 mA	480 mA	
30 hours	NO	OFF	---	---	---	NOT PERMITTED	Only for JA-108K, Security grade 3 profile
		ON	---	---	---	402 mA	
	YES	OFF	---	---	---	390 mA	
		ON	---	---	---	383 mA	
60 hours	NO	OFF	---	---	---	70 mA	Only for JA-108K, Security grade 3 profile
		ON	---	---	---	105 mA	
	YES	OFF	---	---	---	80 mA	
		ON	---	---	---	115 mA	