# JA-191Y LTE Communicator Module

*The LTE Communicator Module is intended to be used with **JA-100K, JA-101K and JA106K** security alarm control panels, which are a part of the JABLOTRON series.*

*A control panel fitted with a JA-191Y utilizes the cellular network to communicate with an ARC, enables remote control via web and smartphone apps, transmits alarm SMSes and voice messages. It also enables remote configuration of the control panel using the F-Link SW.*

## Installing the module in the control panel

The module is to be installed directly on the control panel's motherboard using the connector for supplementary modules (see the control panel installation manual).

**Installation procedure:**

a) Update the firmware of the control panel unit to version LJ/MD-60424 or higher

b) If the system was equipped with a different external communicator (JA-190X) it is necessary to disable it within the Communication tab, otherwise (if the communicator in question is no longer installed within the system) disabling the communicator will no longer be possible and the system will report a communication error.

c) Disconnect the control panel unit from it's power supply (both backup and mains)

d) **Prepare a suitable nano SIM card.** The SIM must be activated (test its function within a mobile phone). The SIM must have enabled both SMS and data (GPRS, LTE), voice services and CLIP (caller ID). If the SIM card requires a PIN, **disable the PIN function**. The communicator may operate with a pre-paid SIM card, however for optimal function we recommend utilization of a SIM with a monthly plan.

e) **Insert the SIM** card into the communicator tray.

f) Insert the communicator into the system connector on the control panel (use a distance spacer (5) to stabilize it).

g) Connect the GSM antenna (included with the JA-191Y) to the connector (6) When installing the antenna, **position** the antenna as illustrated**,** it is to assure optimal function of the GSM communicator. If the antenna is positioned differently, doing so may result in signal interference, resulting in sub-optimal operation. (It is also possible to utilize the antenna fitted within the control panel unit).

**The module must not be powered without an attached antenna!!!**

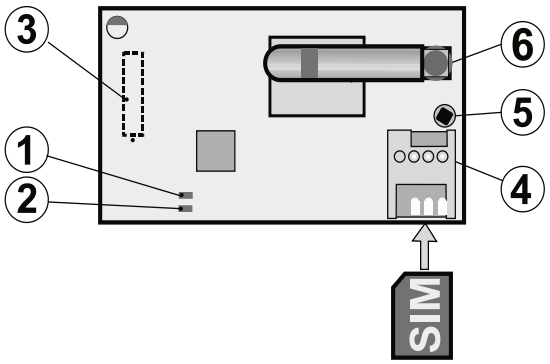


*Fig. 1: JA-191Y Communicator*

*Description: **1** – Red LED indicating an operating GSM network; **2** – Yellow LED error indication; **3** – System connector; **4** – SIM card tray; **5** – distance spacer; **6** – GSM antenna SMA connector*

## Communicator activation

If the communicator is fitted within the control panel unit and its GSM antenna is connected:

a) **Connect the control panel's power supply** (backup battery and then the mains electricity). A **flashing red communicator LED** indicates connecting to a GSM network and will stop flashing within 1 minute = **connected**

b) If the indicator keeps flashing and the yellow LED also turns on, then disconnect the power supply, insert the SIM card into a mobile phone and make sure the SIM card works correctly.

c) **Close the control panel case** while remaining in Service mode.

d) Configure the communicator settings using F-Link SW (see the Control panel installation manual).

**Warning:** When used in border areas, a fluctuating quality of signal may force the module to use roaming which may increase communication costs significantly. This can be prevented by disabling the SIM card's roaming (ask the mobile network provider).

## Setting of module properties in F-Link programme

In the F-Link program, go to the Communication tab in the top bar. Information regarding the connected communicator and setting options will be displayed.

**Priority voice channel** - Selection of the channel through which the control panel reports events to the ARC using the voice band (dial-up connection with tone dialing using the CID protocol).

**Voice report calling priority** - Select channel which is used for reporting voice messages

**Registration key** - Device registration key for remote access and registration services.

**Service technician access to ARC settings** - Service technician access privileges for ARC communication settings is given by ARC technician.

**No code for voice menu and control SMS** - Enable using the voice menu and enable sending SMS's without inserting a code for already authorised users.

**Forward invalid SMS commands** - If a GSM communicator is connected then incoming invalid SMS commands will be forwarded to the Administrator on the first position. Consider the risk of receiving forwarded commercial messages from network providers before using this function.

**SMS about unsuccessful** setting - If enabled, control panel sends SMS about unsuccessful setting. When controlling is performed by an authorised user then control panel sends an SMS to telephone assigned to this authorised user. When controlling with no authorisation then control panel sends an SMS to the Administrators telephone number in position 1.

**All ARCs enabled** - Option to disable all communication to ARC - invisible if ARC technician access is restricted.

Under the **JA-191Y GSM Settings** button, it is possible to set additional functionalities:

**GSM settings** - GSM communicator settings

**GSM communicator** - Turn GSM/GPRS communicator ON/OFF

**GSM signal** - GSM signal strength in % (signal is measured every minute). For proper function, signal should be at 30 % level. When signal level is not enough, use SIM card of other GSM provider. Using a high gain antenna or antenna with a direct effect is not recommended (this reduces connectivity to only one BTS).

**PIN** - Field for filling in PIN code if SIM card use it. We recommend to use SIM card with disabled PIN code.

**APN** - GPRS data settings. Data communication for Jablotron services - remote access by service technician, communication to ARC, etc.. On the SIM card, data transmissions have to be supported, only the APN set is not enough

**APN user** - GPRS user settings (if GSM network requests it, no request= no APN filled in)

**APN password** - APN password for GPRS (if GSM network requests it, no request = no APN password filled in)

**Call limit in min/day** - Set the daily call limit (5 -250 min/day). It doesn´t take provider tarifs.

**SMS limiter** - The limiter limits the number of sent SMSes from the control panel per day. It includes alarm and also non-alarm events (alarm events - alarm, tamper, fault, report, non-alarm - PG control, service reports, …). The range to be set is from 5 to 250 SMSes. The system can send maximum 250 SMSes per day. This maximum is split into Limiter of sent SMSes and Limiter of alarm SMSes (F-Link automatically checks the sum of both limiters doesn´t exceed 250). If Jablotron Communication is enabled then the maximum sum of both limiters is set to 50 SMSes.

**Alarm SMS limiter** - The limiter limits the number of alarm SMSes from the control panel per day. (Limiter of sent SMSes). It is related to alarm events (alarms, tampers, faults, reports, ...). The range to be set is from 0 to 245 SMSes. Example: Limiter of sent SMSes is set to 30, [I](Limiter of alarm SMSes) is set to 20. The system behaviour will be the following: When during one day any type of 30 SMSes are sent (alarm and non-alarm), the system won´t send any non-alarm SMSes that day. But it can still send alarm SMSes (but 20 is the maximum). This ensures that the system always has some reserve for the case of an alarm to be able to inform the user by SMS.

**SIMLock –** If the function is active, if a change in the SIM phone number is detected (when replacing it), the ARC settings will be reset to factory settings.

JABLOTRON a.s.
Pod Skalkou 4567/33 | 46601 | Jablonec n. Nisou
Czech Republic | www.jablotron.com

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**Sensitivity of DTMF detection from ARC –** Arrow shows default recommended setting. The slider can be changed in case of problems with the control panel identifying the "handshake" from the ARC.

**Level of generated DTMF to the ARC -** Arrow shows default recommended setting. The slider can be changed in case of problems with identifying the system or its events at the ARC

**Number of incoming call rings -** Number of rings after which the system picks up the incoming call. Options: 1 - 10 rings.

**Diacritics allowed** – Choice of whether diacritics are used in SMS (may increase communication costs).

**Remote control via telephone** - Rules for remote control via voice menu. When it is set to Users, only telephone numbers assigned to users can access the voice menu (on Communication tab it is possible to allow access to the voice menu without an access code). When it is set to anybody, any telephone number is allowed to access the voice menu. During access, entering a user´s valid code is requested. This function directly depends on the authorization method set in the parameters tab. Selecting any other authorization method than standard prevents usage of the GSM setting for control by anyone. The system necessarily requires an user with specified telephone number as a double authorization (code + telephone number).

**Remote control by sending a SMS** - Rules for remote control via SMS. When it is set for Users, the system accepts SMSes from authorized numbers only (on the Communication tag it is possible to allow access to voice menu without access code). When it is set to anybody, SMSes can be send from any mobile phone, but is necessary to fill in a valid access code.

**Credit enquiry - button**

**Credit – limit -** Lower limit for getting credit balance on prepaid card. If credit is lower than this level, the system sends SMS to who has Failure and service SMS reports enabled. Warning: using prepaid cards is not recommended - the risk of the communication failure is much higher

**SIM credit sequence** - Command for getting credit balance on SIM card

**Credit – position in the text** - Position in SMS from provider where the credit value starts

**Credit - checking period** - Sets how often system checks the credit balance (range from 0 to 99 days, when 0 is disabled)

**Network mode** - Selection of the network that the control panel will use for communication. Auto = The control panel automatically selects from available mobile networks with preference for the faster available network (4G). It is advisable to select the 2G network if it has significantly more reliable communication than the 4G network, e.g. due to different locations of the mobile operator's cells. Selecting a specific network will prevent automatic switching between networks, which can significantly slow down communication. In selected markets, the 3G network option may also be available (use only if the 3G network is still available in the given location and is more stable than the 4G network).

**Security Data Connector™** - There is the Security Data Connector™ service used in the control panel. All GSM parameters are pre-set automatically and cannot be modified.

**SIM card telephone number** - Telephone number of the communicator stored in the control panel. For a telephone number request use the below button.

**Get telephone number of communicator** - The SMS request is sent when the button is pressed. The telephone no. will be stored in the system when it gets a response successfully.

**Remove communicator** - Starts the remove external communicator guide.

## *Technical specifications*

| | |
|---|---|
| *Module power supply* | *from the system connector of the control panel (12 V)* |
| *Average current consumption* | *approx. 22 mA (depends on cellular network signal strength)* |
| *Peak current consumption* | *670 mA* |
| *GSM communication band:* | |
| *– 2G (GSM, EDGE)* | *900 / 1800 MHz* |
| *– 3G (only with modem EG91-EX - for selected markets)* | *900 (B8) / 2100 (B1) MHz* |
| *– 4G (LTE + VoLTE)* | *800 (B20) / 900 (B8) / 1800 (B3) MHz / 2100 (B1) / 2600 (B7) MHz* |
| *I&HAS classification* | *Security grade 2 / Environmental class II (according to EN 50131-1)* |
| | *(**Note**: this applies only in combination with a security-grade-2-certified control panel. For more info about ARC settings, see the Control panel installation manual)* |
| *Dimensions* | *82 x 39 x 32 mm* |
| *Weight* | *29 g* |
| *Operational environment* | *indoor general* |
| *Operational temperature* | *-10 °C to 40 °C* |
| *Average operational humidity* | *75 % RH, non-condensing* |
| *Compatible with RCT (ARC receiver)* | *According to communication protocols* |
| *SPT communicator type* | *SPT type Z (control panel expansion module)* |
| *AS/SPT interface* | *Pass-through* |

*Supported ATS class/communication protocol:*

| *ATS class* [1] | *ATS interface* | *Transmission protocol* |
|---|---|---|
| *SP2* | *GSM-SMS* | *JABLO SMS* |
| *SP3–SP5* | *GSM-GPRS (IP)* | *JABLO IP*<br>*ANSI SIA DC-09* |
| *DP4* [2] | *LAN (IP)*<br>*GSM-GPRS (IP)* | *JABLO IP*<br>*ANSI SIA DC-09* |

***Notes:***

1. *The ATS classes listed in the ATS interface configuration with a transmission protocol is the maximum of what is possible to declare when creating an alarm communication path. The operational classification must be determined by the installer after the ARC's agreement. The alarm communication path is created according to CLC/TS 50136-7 application guidelines.*
2. *DP4 is supported only in the configuration with the LAN communicator.*

***Warning**: LAN communication provided via WIFI or GSM is considered as radio communication therefore it is not possible to use a GSM communicator and a WIFI WAN network when a DPx path is created.*

***Explanatory notes**:*

*SPx: One communication path to an ARC (Single path) = 1 transmission medium. e.g. radio communication (GSM) or metallic or optical cable (PSTN, LAN).*

*DPx: Dual communication path to an ARC (Dual path) = 2 different transmission media, for example Radio communication (GSM) and Metallic or Optical cables (PSTN, LAN).*

| | |
|---|---|
| *Certification body* | *Trezor Test s.r.o. (No. 3025), Kiwa Nederland b. v.* |
| *In compliance with* | *EN 50130-4, EN 55032, ETSI EN 301 489-1, ETSI EN 301 489-7, EN IEC 62368-1, ETSI EN 301 511, EN IEC 63000, EN50131-3, EN 50131-10, T 031* |
| *Operating conditions* | *ECC/DEC/(12)01, ERC/DEC/(97)02, ECC/DEC/(06)01* |

JABLOTRON a.s. hereby declares that the JA-191Y is in a compliance with the relevant European Union harmonisation legislation: Directives No: 2014/53/EU, 2014/35/EU, 2014/30/EU, 2011/65/E if it is used as intended. The original of the conformity assessment can be found at www.jablotron.com – the Downloads Section.

***Note:*** Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please return the product to the dealer or contact your local authority for further details of your nearest designated collection point.