



Fire Communicator

Manual

ADC-FC100-x

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Additional Documents

For more in-depth information, please refer to these documents:

Document name	Description
Installation and Wiring Rev: 1.0.1	Explains in detail how to install and wire ADC-FC100-Tx.
Sticker Rev:0.21_20250926	Schematics and description of connections ADC-FC100-Tx.

Overview

This user manual provides information on the installation, wiring, and troubleshooting of the ADC-FC100-Tx Fire Communicator. It is written under the assumption that the installer is qualified and possesses the necessary skills to install this device.

In the Box

- ADC-FC100-Tx Fire Communicator
- LTE Antenna (x2)
- Mounting Bracket
- Mounting Screws – Case (x4)
- Mounting Screws – Bracket (x2)
- Nylon Pegs (x4)
- Insert – Information about the device

Important Safety Instructions

Please read all the safety instructions listed below before installation and use.

Qualified Personnel

- The device must be assembled, installed, and serviced by qualified personnel in accordance with the instructions.
- The device must be inspected by qualified personnel once a year (on average).

Environmental Conditions

- The device must work in a safe environment with parameters in accordance with its specification.
- Operating temperature:
 - Nominal: +68°F (+20°C).
 - Acceptable: +32°F to +120°F (0°C to +49°C).
 - Humidity: 0% ... 93% (without condensation).
- Do not install the device near any heat sources, such as radiators, heat registers, stoves, or other appliances that produce heat.
- The device is intended only for indoor and dry installations.
- Do not install in dirty or dusty places with high humidity (with condensation), or near water, chemical vapors or in the same room with medical equipment, the function of which may be disrupted.
- Do not install near water or chemical vapors.

Damage, Repair and Maintenance

- If the device is damaged, disconnect it from the power supply and have it replaced only by trained, qualified personnel.
- Do not attempt to repair the device yourself.
- The device should always be cleaned with dry cloth. Do not use water, detergents or chemicals, as they may damage the device.

NOTICE: To reduce the risk of fire or electric shock, do not expose the device to rain or moisture.

Functional and Technical Parameters

This section describes the technical parameters of the ADC-FC100-Tx. The main functions of the device are described in **Main Features**, while the detailed technical specification in tabular form is presented in **Specifications**.

Main Features

The main functions of the ADC-FC100-Tx communicator are as follows:

- Communication channel:
 - Event transmission channels: GPRS/LTE, SMS (Dual SIM), Ethernet.
- Communications:
 - Dual-Path – 2 parallel operating channels, 1st primary + 2nd backup
 - Backup server support,
 - Dialer (PSTN) – receiving events from the Fire Alarm Control Panel (FACP),
 - Second Dialer (PSTN) – support for communication from two dialers in the FACP,
 - Contact ID and SIA DC-03 – protocol format receiving events from FACP.
- Outputs/Inputs:
 - Activation of the Output when communicator has registered loss of cellular network, mobile transmission, Ethernet transmission or CELLULAR signal,
 - 4 configurable I/O connectors.
- Other:
 - Reports power failure from FACP,
 - System events stored in history (min. 5000),
 - Remote device configuration,
 - Remote firmware update.

Available Models

ADC-FC100 Model Number	Cell Radio Module
ADC-FC100-T10	LE910C1-SNXD
ADC-FC100-T30	LE910C1-NF

UL Notes:

1. Evaluated with compatible Listed FACP: Honeywell International Inc, model 6700 and receiver DSC, model SG-System IV.
2. To be installed with the Isolated Loop Circuit Protector, Listed (QVGQ/7) Diversified Technology Group Inc, DBA Ditek, model DTK-MRJETHS.
Do not use grounded ethernet cables.
Ground wire to be secured on securement screw.
3. The ADC-FC100 and FACP are to be installed within 20ft in conduit.
4. The ADC-FC100 is limited to single zone installations.
5. See Installation and Wiring instructions, Doc# EXP500-Tx-F – Installation and Wiring Rev: 1.0.0.

Specifications

Product name		Fire Communicator	
Brand		Alarm.com	
Model		ADC-FC100-Tx	
Main supply	power	Voltage supply	24VDC (acceptable 12VDC - 28VDC)
		Power consumption (max)	160mA @24VDC 230mA @12VDC
ADC-FC100-T10 Modem	Type	LE910C1-SNXD	
	Description	North America (AT&T, Verizon), CAT1 variant, Data only	
	Manufacturer	Telit	
	Frequency bands	4G (LTE FDD)	LTE 1900 (Band 2)
			LTE AWS (Band 4)
			LTE 850 (Band 5)
			LTE 700a (Band 12)
LTE 700c (Band 13)			
		LTE AWS-3 (Band 66)	
ADC-FC100-T30 Modem	Type	LE910C1-NF	
	Description	North America, CAT1 variant	
	Manufacturer	Telit	
	Frequency bands	3G (WCDMA)	WCDMA 1900 (Band 2)
			WCDMA AWS (Band 4)
			WCDMA 850 (Band 5)
		4G (LTE FDD)	LTE 1900 (Band 2)
			LTE AWS (Band 4)
			LTE 850 (Band 5)
			LTE 700a (Band 12)
			LTE 700c (Band 13)
			LTE 700PS (Band 14)
			LTE AWS-3 (Band 66)
			LTE 600 (Band 71)
SIM cards supported		2x Nano SIM (Yellow LED indicates active SIM)	
ADC-FC100-T10 Transmission channels		LTE, SMS, Ethernet	
ADC-FC100-T30 Transmission channels		LTE, HSPA+, SMS, Ethernet	
Inputs/Outputs		4x configurable Inputs/Outputs Each can be configured as NO, EOL-NO input or as OC type output (max. 100mA/30VDC)	
Outputs		1x OC output (max. load 0.6A/36VDC/1pf), 3x relay outputs (max. load 1A/30VDC/1pf)	
ADC-FC100-T10 Configuration	Remote	LTE, SMS, Ethernet	
	Local	NO	
ADC-FC100-T30 Configuration	Remote	LTE, HSPA+, SMS, Ethernet	
	Local	NO	
Remotely update communicator firmware		YES (after manually setting the slide switch)	
Remote access to the control panel		NO	
Temperature work range		0°C ... +49°C (32°F ... 120°F)	
Humidity work range		0% ... 93% (without condensation)	
PCB	Dimensions	163mm x 73mm (6.4 x 2.9 inches)	
	Weight	110g	
Antenna	GSM/LTE antenna, impedance 50 Ohm, coax cable length 3m, SMA connector, indoor use only		

ADC-FC100-Tx Communicator

The ADC-FC100-Tx is a communicator. This device serves as a comprehensive communication platform for remote data transfer from a FACP to a Monitoring Station. It can be directly connected to any FACP equipped with a PSTN line capable of DTMF decoding, but it's also possible to connect it through the relays to send information. The PSTN line transmits all data in real time from the FACP to the Monitoring Station via Ethernet or the cellular network.

Advanced encryption methods, including a 256-bit encryption key and AES (Advanced Encryption Standard), ensure the security of data transmission.

Please note that the ADC-FC100-Tx communicator **SHOULD NOT BE CONNECTED TO** an automatic telephone dialer or similar device and should not be set or programmed to place a call to a police station number that has not been specifically assigned by that police station for such service.

Please note that the ADC-FC100-Tx communicator is preconfigured at the factory. Ethernet and Cellular network connection channels are enabled with the parameters set.

WARNING: The protective features provided by the factory and described throughout **SHOULD NOT BE** bypassed or modified in any way to suit installation needs. These safeguards are provided for your safety and for the proper operation of your ADC-FC100-Tx.

OPTIONAL Operation

The ADC-FC100-Tx communicator can transmit data via LTE network, SMS, and Ethernet.

A change of status on any programmable input (NO, EOL-NO) results in signal transmitting of this event by the device.

Messages between the FACP and the communicator can be sent over a simulated telephone line in the ContactID format or alternatively through connections between the FACP relay outputs and the communicator inputs. Each I/O may be defined as normally open (NO). It means that when input was defined as NO, input shorting will be an active state. EOL (parametrized) is an option where you use 1 resistor to distinguish alarm from sabotage.

To mitigate the costs associated with false alarms, the device features a programmable input analysis.

Inputs are triggered only by state changes, meaning transmission occurs only when an input remains in an active state for a programmed minimum duration. Maintenance of active state longer than a minimum time results in a single indication. Subsequent activations (transmissions) can occur only after the input returns to its base state.

The number of messages sent via SMS is limited, which also includes text messages or answers to orders sent by user. This feature helps reduce costs by limiting messages, particularly when a sensor connected to an input is damaged. After the programmed time elapses, new messages will be sent, but only up to the user-defined limit.

Event text messages sent to private phone numbers can be edited.

In the case of power failure or outage, all programmable parameters are retained in device memory. When the communicator resumes operation with the saved settings once power is restored.

All programmable parameters are stored in device memory, ensuring they are retained even in the event of power drop/outage. The communicator resumes operation with the saved settings once power is restored.

ADC-FC100-Tx – PCB Connector Description

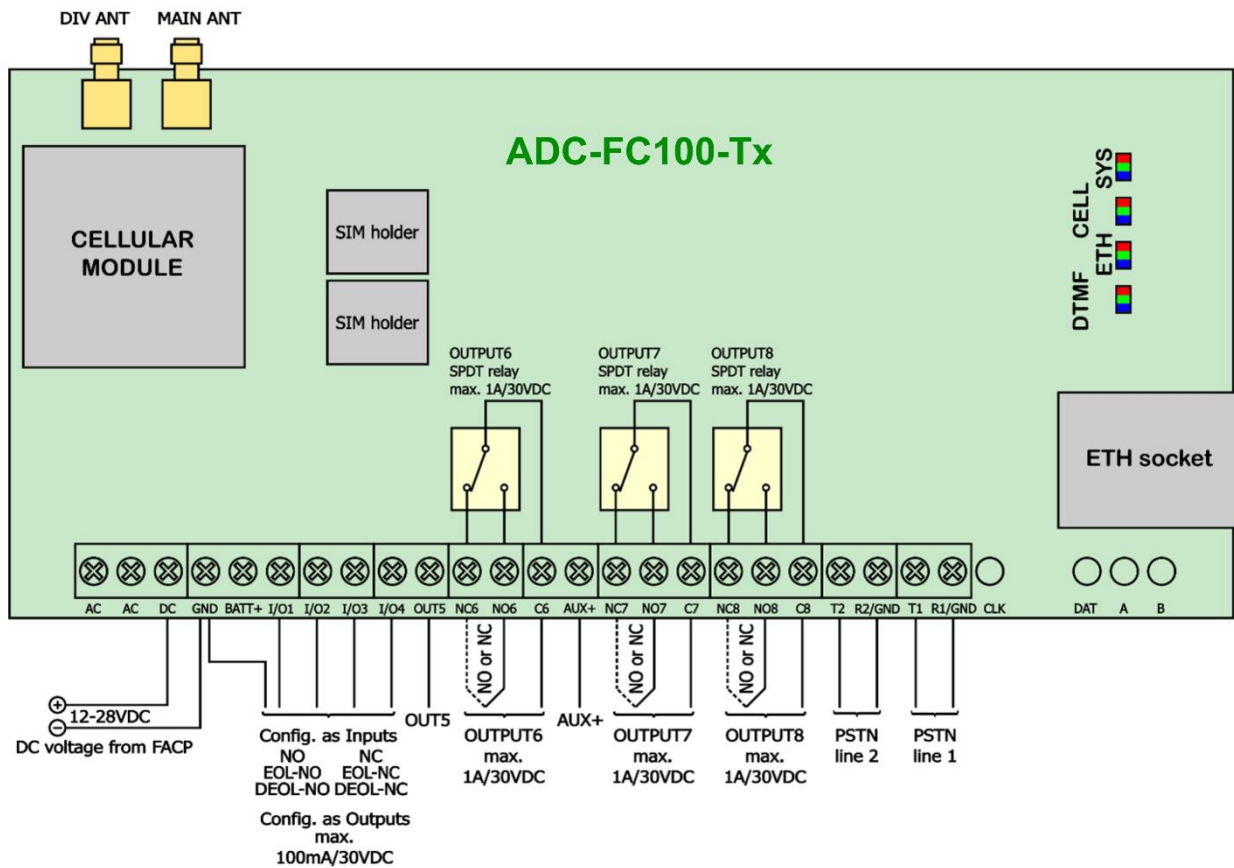


Fig.1. Connecting the ADC-FC100-Tx communicator

Wire connections should be made carefully to prevent shorts or breaks in the circuits. Connection points should be protected from weather conditions.

Terminals	Description
AC, AC	Terminals designated for alternative power to the ADC-FC100-Tx communicator using an external power supply. (UL – no connection)
DC	Terminal designated for main power to the ADC-FC100-Tx communicator from the FACP.
GND	Terminal designated for the device's ground, used as a negative terminal for pairs: DC-GND, BATT+-GND, I/O-GND, OUT5-GND, AUX+-GND.
BATT+	Terminal designated for alternative power to the ADC-FC100-Tx communicator using a battery. Can be used as a secondary source of power in the case that AC is used as the primary source of power. (UL – no connection)
I/O1 - I/O4	Terminals designated for configurable inputs / outputs.
OUT5	Terminal designated for controlling external device. (UL – no connection)
NC6-8, NO6-8, C6-8	Terminals designated for SPDT relay. Can output signals of 30VDC, 1A. Can be configured as NC or NO.
AUX+	Terminal designated to supply voltage output of 12VDC. (UL – no connection)
T2, R2/GND, T1, R1/GND	Terminals designated for connecting FACP telephone line dialer.
DIV ANT	Connector for external cellular antenna.
MAIN ANT	Connector for external cellular antenna.

NOTICE: OUT5 output can sink up to 100mA. **DO NOT SHORT** these outputs to the power supply as it can cause permanent damage to the output.

NOTICE: DO NOT CONNECT the power supply if the cellular antenna is not connected as it can cause permanent damage to the cellular modem.

NOTICE: DO NOT insert or remove the SIM card when the device is turned on.

Wiring of Fire Alarm Control Panel and ADC-FC100-Tx

Please refer to the following Figures (Figure 2 and Figure 3) to verify the wiring connections between the ADC-FC100-Tx and the FACP. Make sure the power is off before starting the wiring process to prevent any electrical accidents. Begin by identifying all components and their description on the schematic. Make each connection according to the diagram, ensuring the correct polarity, wire colors, and numbers are matched. Ensure the required resistors are installed. After completing the setup, it's essential to verify the connections. Cross-check each connection point with the schematic and use a multimeter to check for correct voltages and continuity where necessary.

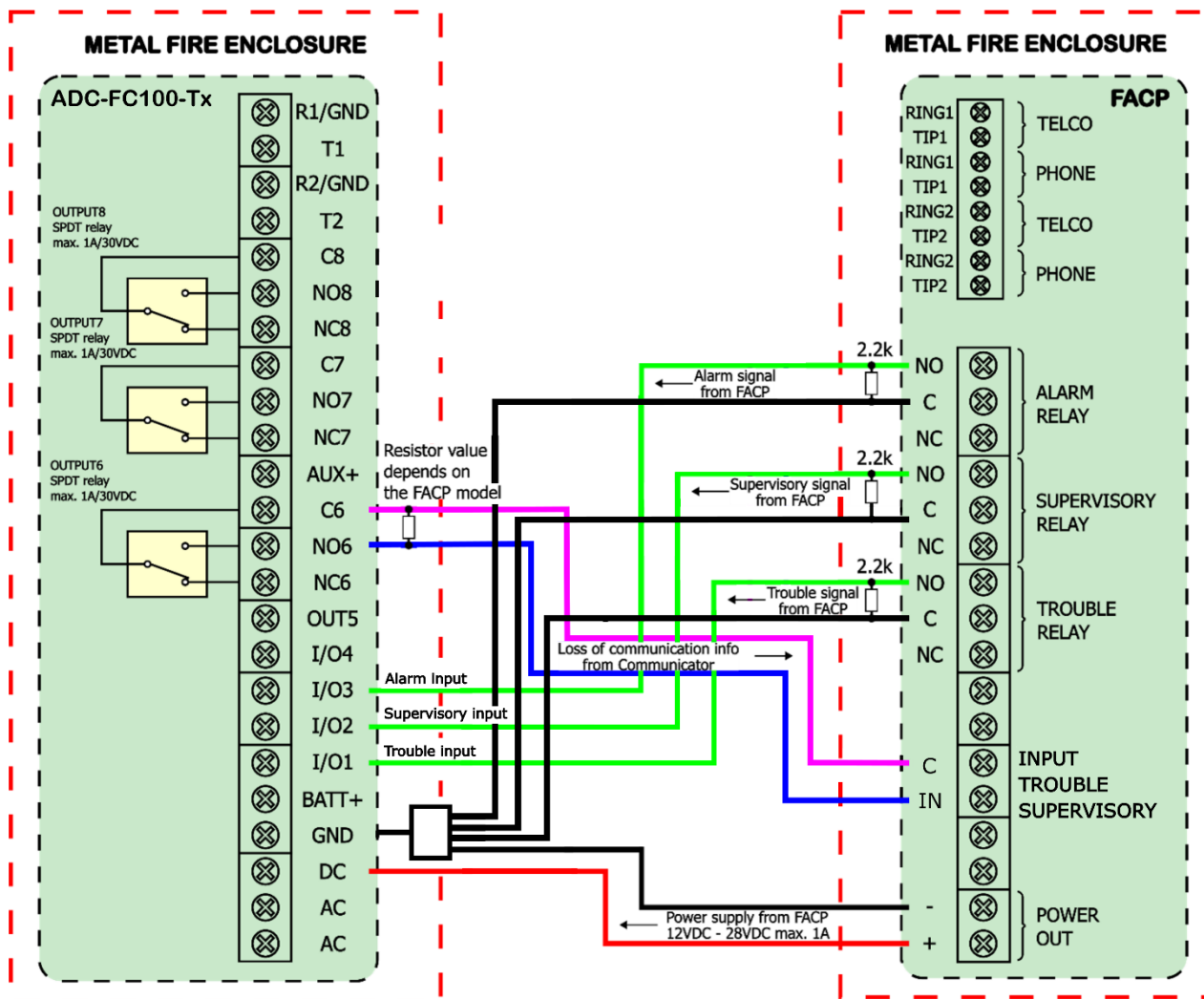


Fig.2. Schematic connection of the communicator with FACP **without Telephone Dialer**.

NOTE: FACP without telephone dialer configuration shall be programmed for Contact ID Only.

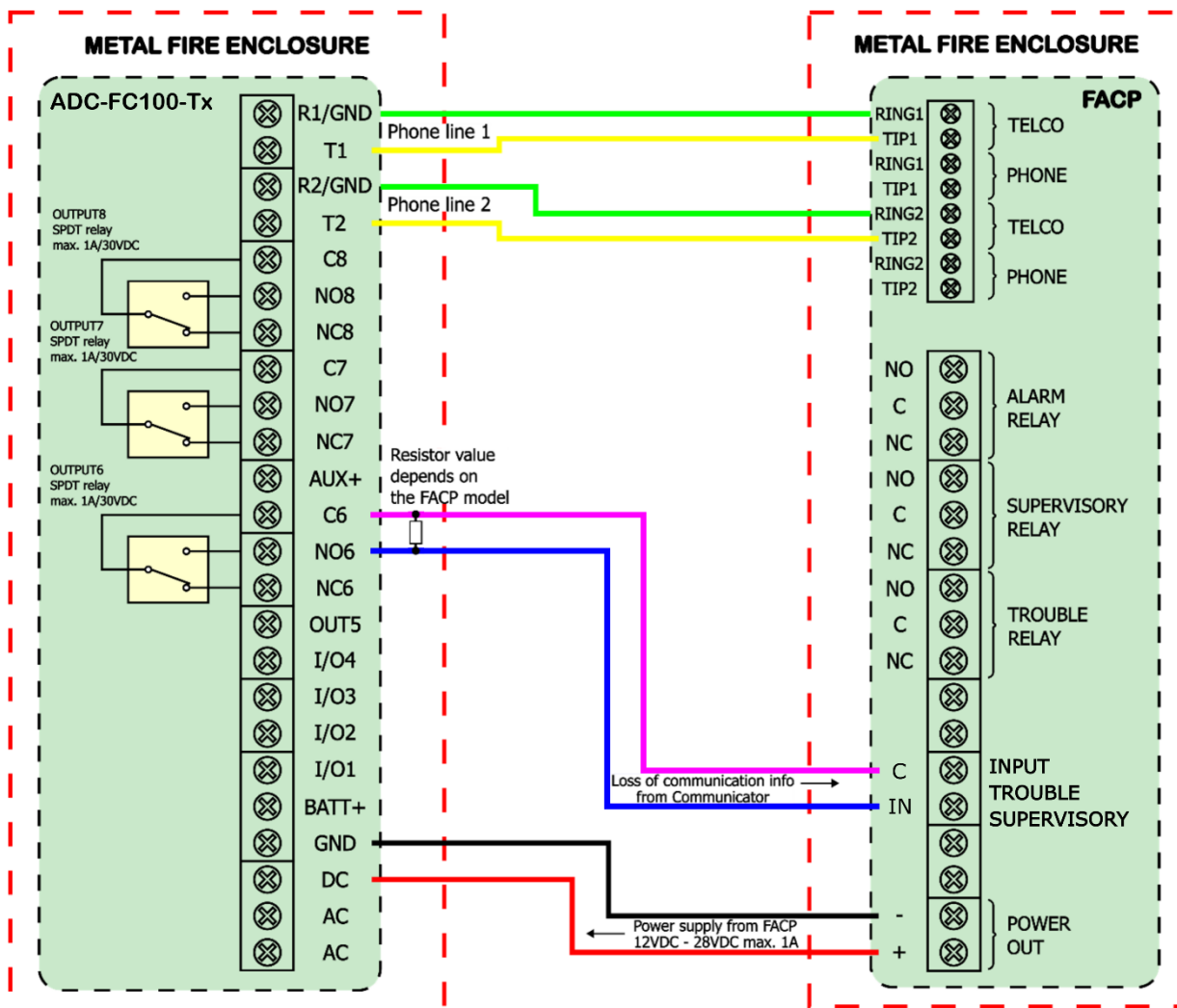


Fig.3. Schematic connection of the communicator with FACP with Telephone Dialer.

Installation - These products are intended to be installed in accordance with the following:

- NFPA 70 - National Electrical Code,
- NFPA 72 - National Fire Alarm Code,
- Canadian Electrical Code, Part I,
- ULC S524 - Standard for the Installation of Fire Alarm Systems,
- ULC 5537 - Standard for the Verification of Fire Alarm Systems,
- CAN/ULC-S561 – Installation and Services for Fire Signal Receiving Centres and Systems.

Input Configuration

Connectors I/O1 – I/O4 that are configured as inputs can act normally open (NO). Additionally, the inputs can also be configured as end of line (EOL-NO) with a 2.2kΩ resistor.

Examples for EOL-NO, NO connections are shown below in fig.4.

NOTE: Must use UL Listed EOLR.

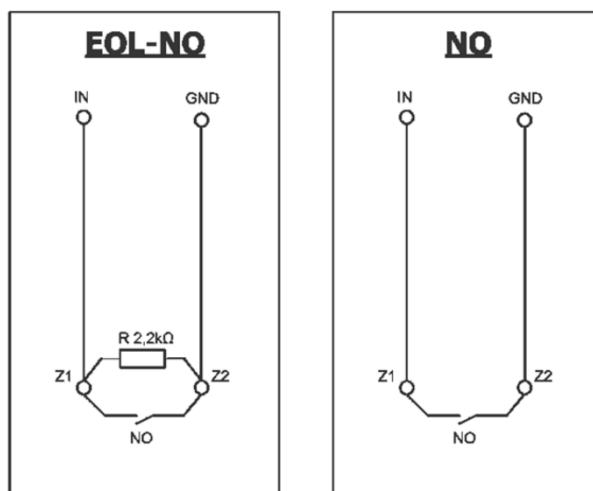


Fig.4. Configuration of the input lines.

ADC-FC100-Tx Configuration

NOTICE: To enable remote configuration, SW3 must be switched on.

Create an account

Before installing the ADC-FC100-Tx, create a new Alarm.com customer account with the Interactive Fire service package or add Fire Communicator Support to an existing account. We recommend adding the communicator to the account 24 hours prior to the installation to ensure it is activated properly.

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:

- Module Serial Number,
- 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.).

Service packages

One of the following service packages must be selected for use with Fire Communicators:

- Interactive Fire,
- Fire Communicator Support add-on.

LED Reference

The ADC-FC100-Tx communicator is equipped with a set of RGB LEDs that can be used to indicate communication, errors, panel communication, network communication, and signal strength. Specific lighting sequences of these LEDs will be explained in this section and can be used to debug and troubleshoot the device in case of any issues.

NOTICE: All four LEDs will light up briefly during the device start-up phase.

SYS LED - global system state

Color	State	Description
–	OFF	Serious hardware error or power is off
RED	FLASHING	3 flashes - No connection to the server, trying to connect
GREEN	ON	Connected to server, both communication paths are working
BLUE	ON	Connected to server, but one of the communication paths is down (Cellular or Ethernet)
GREEN AND BLUE	ALTERNATING	<u>Only on devices with the remote access restrictions:</u> remote programming, configuration and firmware upgrades are currently allowed by the universal fire communicator end-user (using SW3 switch)

CELL / ETH LED - state of communication paths between the communicator and server

Color	State	Description
–	OFF	Communication hardware is not ready, initializing; or this path has been disabled
RED	FLASHING	• 2 flashes - SIM error • 3 flashes - trying to connect to server • 5 flashes - modem error
		ON Server connection working - no errors in communication path
		BLINKING LED turns off for one second during transmission to server
GREEN	FLASHING	3 flashes - trying to connect server SIM switching (dual SIM configuration)
	BLINKING	Sending data to the server
GREEN + BLUE	ON FLASHING	Number of flashes corresponds to the cellular network signal quality (1-8)

DTMF LED - state of communication with the Fire Alarm Control Panel

Color	State	Description
–	OFF	Control panel is not sending data at the moment
RED	ON	Phone lines power is cut off (no connection to the monitoring station)
GREEN	BLINKING	Control panel is sending data to T1-R1 connector
BLUE	BLINKING	Control panel is sending data to T2-R2 connector

SIM1 / SIM2 LED - SIM slot selection and state (located next to SIM slots)

Color	State	Description
–	OFF	Inactive SIM slot, during SIM switch or modem start-up
YELLOW	ON	Active SIM slot

Troubleshooting

LED signals can indicate hardware problems, which can be used for debugging and troubleshooting the communicator. Here are some of the possible solutions to error codes listed above.

SYS LED - global system state TROUBLESHOOTING

Color	State	Description
–	OFF	Serious hardware error or power is off

Solution: Check if power cables are connected firmly, check voltage on the power cables.

RED	FLASHING	3 flashes - No connection to server, trying to connect
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Solution: Check the configuration, restart the device, check signal strength, check Ethernet cable and antennas.

BLUE	ON	Connected to server, but one of the communication paths is down (Cellular or Ethernet)
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Solution: Check Ethernet cable and antennas or check signal strength.

CELL / ETH LED - state of communication paths between the communicator and server

Color	State	Description
GREEN + BLUE	FLASHING	Number of flashes corresponds to the cellular network signal quality (1-8)

Solution: If flashes show signal strength below 4 and device is losing cellular signal, make sure antennas are installed firmly to the PCB and whether the antennas are installed as instructed. Try restarting the device.

RED	FLASHING	• 2 flashes - SIM error • 3 flashes - trying to connect to server • 5 flashes - modem error
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Solution: If 2 flashes, check the SIM card – if it's installed correctly and doesn't have visibly damaged pins, try different SIM card, restart the device; if 3 flashes check the device configuration; if 5 flashes, please contact Alarm.com CORE Technical Support at 866-834-0470.

QUESTIONS?

If you are experiencing difficulties with your installation, please contact Alarm.com CORE Technical Support at 866-834-0470 or answers.alarm.com and we'll be happy to assist further.

Regulatory Notices

FCC Notice

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

Contains FCC ID: R17LE910CXNF

Contains FCC ID: R17LE910C1SNX

IC / ISED Notice

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B est conforme à la norme canadienne ICES-003.

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs sans licence qui sont conformes aux RSS sans licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est soumise aux deux conditions suivantes :

- (1) Cet appareil ne doit pas provoquer d'interférences.
- (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Contains IC: 5131A-LE910CXNF

Contains IC: 5131A-LE910C1SNX

RF Exposure

This equipment complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the equipment and your body. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter. Please contact intsupport@alarm.com for more information on Canadian RF exposure compliance.

Cet appareil est conforme aux limites d'exposition aux radiofréquences établies par la FCC et l'ISED pour un environnement non contrôlé. Cet appareil doit être installé et utilisé à une distance minimale de 20 centimètres entre l'appareil et votre corps. Cet appareil et son ou ses antennes ne doivent pas être situés ou fonctionner en conjonction avec une autre antenne ou un autre émetteur. Veuillez communiquer avec intsupport@alarm.com pour obtenir plus d'information sur la conformité aux exigences canadiennes en matière d'exposition aux radiofréquences.

UL Notice

Conforms to standards:

- UL 864

Changelog

Date / Version	Description
20250217/v0.36d	Manual draft.
20250214/v0.36_first	First version of manual.
20250715/v0.37	Changing model name in text and diagrams.
20250715/v0.38	Update of current values.
20250910/v0.39	Update of UL comments and information about FTC.
20250926/v0.40	Adding the Installation Regulatory Note.
20251021/v1.0.0	Final version.
20251219/v1.0.1	FACP local annunciation – LED Indication.

Notes

[illegible]



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Firmware Version: 2.26.0