
Alarm.com Fire Communicator (ADC-FC100) - Quick Install Guide

What is the Alarm.com Fire Communicator (FC100)?

The FC100 is a communicator. This device serves as a comprehensive communication platform for remote data transfer from a Fire Alarm Control Panel (FACP) to a monitoring station.

It can be directly connected to any FACP equipped with a Public Switched Telephone Network (PSTN) or Plain Old Telephone Service (POTS) line capable of Dual-Tone Multi-Frequency (DTMF) decoding. It can also be connected via relays to send information when no POTS lines are available/physically unavailable.

Expand all

Required tools for installation ^

- Screwdrivers, Pozidriv ; size PZ2
- Screwdriver; Pozidriv ; size PZ1
- For ARK e.g.: Screwdriver; flat; 2.5x
- 22 AWG to 16 AWG wire
- Wire stripping tool
- Multimeter

Find the recommended FC100 configuration for your installation

Select the capabilities of your Fire Alarm Control Panel (FACP) to view the recommended FC100 configuration.

Installation walkthrough

View this content as a step-by-step walkthrough

View as Walkthrough

Before you begin ^

- Review the customer's fire system setup before making any changes.
- Some instructions may not apply depending on the system configuration.

Verify wiring and power requirements^

- Maximum wire length: 10 ft (3 m).
- Wire size: 22–16 AWG (for both power and FACP connections).
- 24VDC (acceptable 12VDC - 28VDC)
- Route all wiring through conduit.

Power down the system^

- Turn off and unplug the Fire Alarm Control Panel (FACP) from power.
- Inform the operator that the system will be temporarily offline.

Install the FC100 antennas^

- Antennas, like SIM cards, must be installed when the FC100 is powered down.
- The communicator is equipped with two antennas: the primary (MAIN) antenna and the supporting diversity (DIV) antenna.
 - The antennas included with the FC100 can be installed in either the primary or diversity terminals.
- Do not use an antenna that is damaged or not approved. Otherwise, it may degrade signal quality, violate the requirements set by certificates, or even damage the FC100.
- An antenna installed below ground, behind metal objects, or near the source of RF interference may not provide good signal quality.
- Signal strength can be viewed remotely using the Partner Portal or MobileTech app. For more information, see [Remotely find the signal strength of a module](#).
- The external antennas used with the communicator must be positioned to maintain a minimum separation distance of 7.8 inches (20cm) from all individuals.
- Antenna should not be co-located or operated in conjunction with any other antenna or communicator.

Wire the communicator^

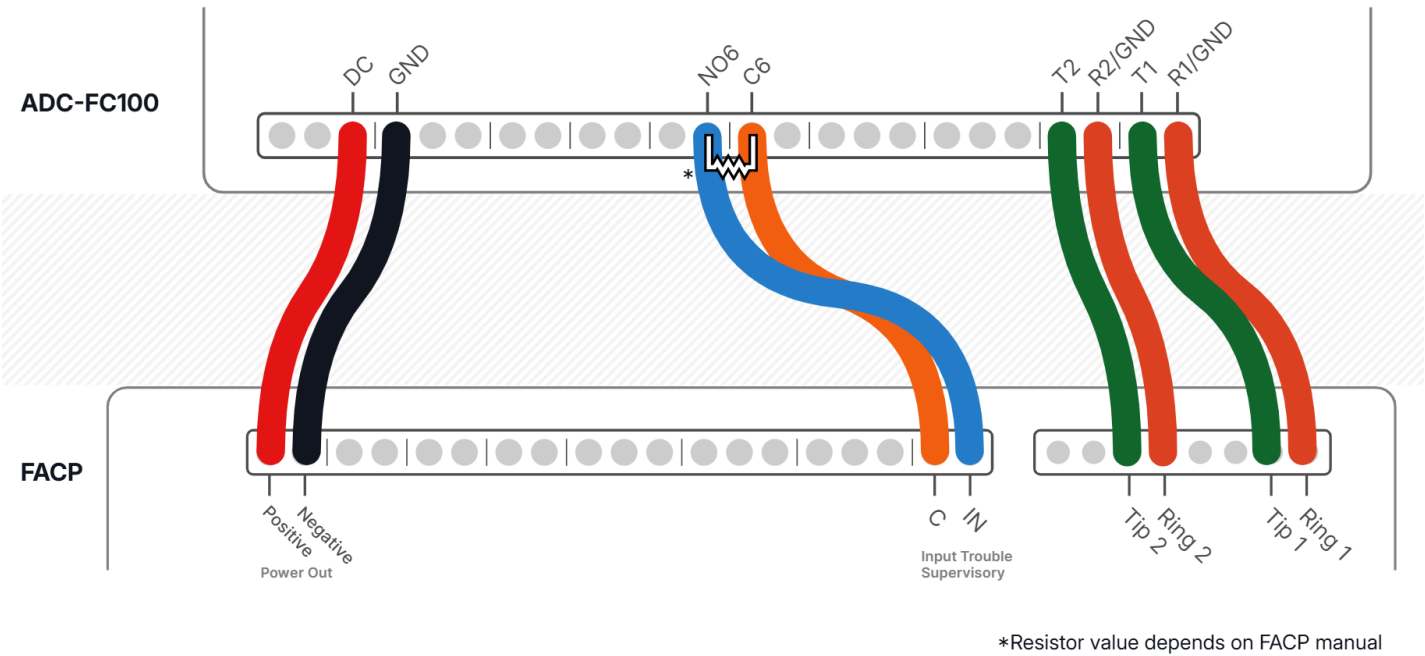
Select your wiring configuration:

Primary Configuration: Wiring the communicator with an FACP using a telephone dialer^

Caution: The FACP must be powered off before wiring the FC100. Wiring the FC100 while the FACP is powered on may cause damage to the communicator.

The following diagram shows connecting the communicator with an FACP using a telephone dialer.

Important: The FC100 must be installed in a metal enclosure. For more information, see [Alarm.com Fire Communicator \(FC100\) - Installation Guide](#).



Note: Some panels do not have onboard terminals for the Input Trouble Supervisory connections and would require additional hardware for the FACP. If this is required for your installation, please contact the manufacturer of your specific FACP.

ADC-FC100	FACP (Reporting events over a phone dialer)
DC	Positive Terminal
GND	Negative Terminal
R1	Ring 1 TELCO Terminal
T1	Tip 1 TELCO Terminal
R2	Ring 2 TELCO Terminal
T2	Tip 2 TELCO Terminal
NO6	*Input Trouble Supervisory IN
C6	*Input Trouble Supervisory C

Important:

1. *Some control panels may not have an input on the unit itself and require the purchase of an additional module. See the FACP-specific installation guide for more information.
2. For UL installations, ensure the FACP's AC delay period is set to at least 1 hour.

Note: Some panels may not have designated aux power terminals. In that case, some panels can configure the Notification Appliance Circuit (NAC) terminals as an auxiliary power source. Please refer to the specific model FACP installation guide for more information.

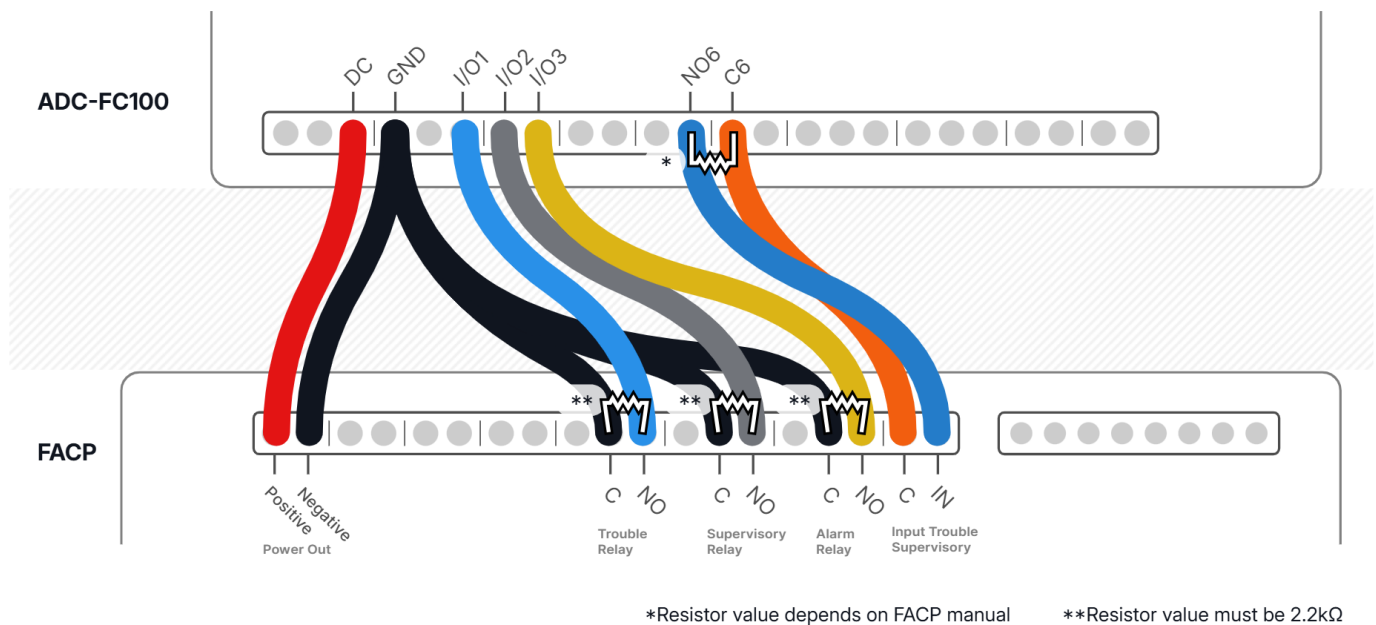
Alternative Configuration: Wiring the communicator with an FACP using relays ^

Caution: The FACP must be powered off before wiring the FC100. Wiring the FC100 while the FACP is powered on may cause damage to the communicator.

The following diagram displays connecting the communicator with a FACP using relays (FACP without a dialer). Use this configuration if POTS lines are not available.

Important: 2.2k Ω EOL resistors must be installed in parallel when using relay reporting. Failure to do so will result in only generic tamper reports, rather than alarm, trouble, or supervisory signals.

The FC100 must be installed in a metal enclosure. For more information, see [Alarm.com Fire Communicator \(FC100\) - Installation Guide](#).



Note: You can use a multiple-conductor ferrule (MCF) or make a short pigtail with a wire connector to combine the ground and common wires, so fewer wires need to be inserted into the GND terminal.

ADC-FC100

FACP (Reporting events over relay)

DC

Positive Terminal

GND

1. Negative Terminal
2. C Terminals:
 - Trouble Relay
 - Supervisory Relay
 - Alarm Relay

Note: You may use a Multiple Conductor Ferrule (MCF) to make the connections to GND.

IO/1

Trouble Relay - NO Terminal with a 2.2kΩ resistor

IO/2

Supervisory Relay - NO Terminal with a 2.2kΩ resistor

IO/3

Alarm Relay - NO Terminal with a 2.2kΩ resistor

NO6

*Input Trouble Supervisory IN

C6

*Input Trouble Supervisory C

Panels without AC fail delay should be wired only through a relay.

Note: Some panels may not have designated aux power terminals. In that case, some panels can configure NAC terminals as auxiliary power sources. Please refer to the specific model FACP installation guide for more information.

Important:

1. *Some control panels may not have an input on the unit itself and require the purchase of an additional module. See the FACP-specific installation guide for more information.
2. For UL864:
 - The AC Fail event generated by the FACP can be delayed by the FC100 communicator using any of the inputs from I/O1 to I/O4. If the FACP does not have a TELCO dialer (POTS) and communication is managed using only three relays, the AC FAIL event delay must be on the FACP side. In this case, the alarm panel must have a built-in delay that ensures the information reaches the monitoring station no sooner than one hour after the power failure and no later than three hours after.
 - When wired to FACP's without a TELCO dialer, the alarm transmissions will transmit general alarms as one zone.

Install the FC100 enclosure^

- The FC100 must be installed in a metal enclosure. The location, installation, and wiring must be in accordance with

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the National Electrical Code, ANSI/NFPA 70, and NFPA 72. When mounting on a surface prone to vibration, exercise extra caution. If the installation is not performed correctly, it may lead to cable connection problems.

- To mount the metal enclosure, carefully follow the manufacturer's installation instructions.
- Alarm.com recommends using the **Bosch B11R enclosure** for the FC100. For more information, see page 5 of the [Alarm.com Fire Communicator \(FC100\) - Installation Guide](#).

Confirm FACP programming^

- Ensure the AC Delay Period to at least 1 hour (per UL requirements).
- FACP's using Phone Line Reporting:
 - Program the central monitoring station phone number and account number.
 - The phone number programmed must be between 4 and 15 digits.
 - Set the reporting format to CID or SIA (as required by the Central Station).
 - Ensure the panel is set to touch-tone dialing.
 - If no Alarm.com guide exists, follow the manufacturer's manual.
- *Alternative Configuration*: FACP's using Relay Reporting
 - Enable required trouble and alarm conditions.
 - Ensure each relay output corresponds to the correct event type (fire, trouble, supervisory).
 - If no Alarm.com guide exists, follow the manufacturer's manual.

Create the Alarm.com customer account^

- Use the Partner Portal or MobileTech app to create the customer account.
- When selecting the account type, select **Security System**.
- When prompted for the module/panel IMEI, enter the 15-digit IMEI of the ADC-FC100.
- Select the *Interactive Fire* service package when prompted.

Important: Other service packages are not compatible with the FC100 and may cause unexpected behavior.

Complete the inspection guide^

See [Alarm.com Fire Communicator \(ADC-FC100\) - Inspection Guide](#).

LED reference

The FC100 communicator is equipped with a set of RGB LEDs that can 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.

Note: All four LEDs will briefly light up during device startup.

SYS LED

The SYS LED indicates the global system state.

LED pattern	Description
Off 	Power off Troubleshooting if this LED occurs when there should be power: Check that the power cables are connected firmly and that there is voltage on them.
Flashing red 	3 flashes - No connection to the server, trying to connect Troubleshooting if this LED continues: 1. Check the configuration. 2. Restart the device. 3. Check signal strength. 4. Check Ethernet cable and antennas.
Solid green 	Connected to server, both communication paths are working
Solid blue 	Connected to server, but one of the communication paths is down (Cellular or Ethernet) Troubleshooting if this LED continues: Check Ethernet cable and antennas or check signal strength.
Flashing green and blue 	This only occurs on devices with the remote access restrictions: remote programming, configuration, and firmware upgrades are currently allowed by the universal fire communicator end-user (using SW3 switch)

CELL / ETH LED

The CELL / ETH LED indicates the state of communication paths between the transmitter and server.

LED pattern	Description
Off 	Communication hardware is not ready, initializing; or this path has been disabled
Flashing red 	• 2 flashes - SIM error ◦ Verify the SIM card is installed correctly and does not have visibly damaged pins, try a different SIM card, restart the device • 3 flashes - trying to connect to server ◦ Verify the device configuration • 5 flashes - modem error ◦ Contact Alarm.com CORE Technical Support
Solid green 	Server connection working - no errors in communication path
Blinking/Flashing green 	• LED turns off for one second during transmission to server • 3 flashes - trying to connect server SIM switching (dual SIM configuration)
Blinking blue 	Sending data to the server
Blinking green and blue 	Number of flashes corresponds to the cellular network signal quality (1-8) Troubleshooting: If flashes show signal strength below 4 and the device is losing cellular signal, make sure antennas are installed firmly to the PCB and that the antennas are installed as instructed. Try restarting the device.

DTMF LED

The DTMF LED indicates the state of communication with the fire alarm control panel.

LED pattern	Description
Off 	Control panel is not sending data at the moment
Blinking green 	Control panel is sending data to T1-R1 connector
Blinking blue 	Control panel is sending data to T2-R2 connector
Solid red 	Phone line power is cut off (no connection to the monitoring station). Failure to communicate with the monitoring station.

SIM1 / SIM2 LED

The SIM1 / SIM2 LED indicates the SIM slot selection and state (located next to SIM slots).

LED pattern	Description
Off 	Inactive SIM slot, during SIM switch or modem start-up
Solid yellow 	Active SIM slot