

3G3070-CF

Fire Alarm Communicator for central station service fire alarm - commercial
RF communicator 3G (HSPA) network signaling devices

Installation Manual v3.5



WARNING: This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer.

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Introduction

The 3G3070-CF is a wireless communicator for UL commercial fire and/or burglary applications. The 3G3070-CF can send status change events information over the 3G (HSPA) or 2G (GPRS) Network from the Alarm Control Panel at the protected premises to a supervising station. The device is compatible with UL listed alarm receiver Models SG-System IV, SG-SYSTEM III (using SG-DRL3-IP line card), SG-SYSTEM II and SG-SYSTEM I.

This product is UL listed under requirements of UL864 9th Edition and UL1610 Standards as a Fire Alarm Communicator for central station service fire alarm – commercial and it can be installed in certified installations in accordance with the requirements of UL827 Standard and NFPA72 2002 (Section 8.5.4 Other Transmission Technologies), NFPA72 2007 (Section 8.6.4 Other Transmission Technologies) or NFPA72 2010 Code (Section 26.6.3.1).

Features

- Compatible with listed alarm control panels that have an integrated DACT and support a 4 or 10-digit Contact ID Communication Format
- Complete solution CF Kit includes tamper protection output, listed power supply and battery standby capability for 24h
- Telephone line overvoltage protection and monitoring with automatic switch over to the 3G (HSPA) or 2G (GPRS) network communication path when a phone line trouble condition exists
- 3G (HSPA) or 2G (GPRS) network connection and signal strength indicator
- 4 Input lines and 4 Open collector outputs available for interfacing with the alarm control panel
- Internet/Intranet IP communication over the 3G (HSPA) or 2G (GPRS) network.

Technical Specifications

Input Voltage: 120V/60HZ/0.3A
Standby Voltage: 12V/7Ah
Standby Time: 24h (NSC) plus 5 minutes alarm
Standby Battery: Sealed, rechargeable type, replace every 3-5 years
Low Battery Trouble Indication Threshold: 11.5Vdc
Battery Deep Discharge Protection (cut-off) 9.5Vdc
Recharging Current: 700mA (max.)
Inputs: 12V/1mA, 4 available, supervised
Outputs: 12V/50mA, 4 open-collector available, not supervised
Loop Resistance: 1k ohm (max. loop resistance between devices connected in series on T1/R1)
Operating Frequency: 850/1900MHz (Dual Band GSM Radio)
Antenna Gain: 1.5dB (product shall be used only with the supplied antenna)
Operating Temperature: 0°C - 49°C (32°F - 120°F)
Humidity: 93%RH maximum (non-condensing)
Metal Enclosure: red, with hardwired transformer and high voltage connection box included
Dimensions: 290mm x 254mm x 75mm (11-1/2" x 10" x 3")
Weight: 5.8Kg (12.8 lbs) (including standby battery)

*This equipment, 3G3070-CF, is fixed and shall be installed by Service Persons only (Service Person is defined as a person having the appropriate technical training and experience necessary to be aware of hazards to which that person may be exposed in performing a task and of measures to minimize the risks to that person or other persons) according to the local rules and regulations. It shall be installed and used within an environment that provides the pollution degree max 2, over voltages category II, in non-hazardous, indoor locations only. This manual shall be used with the Installation Manual of the alarm control panel. All instructions specified within that manual must be observed. **WARNING: The metal shell of the RS232 connector is not earthed! Before connecting to this port, check the metal shell for HAZARDOUS VOLTAGES!***

Description

This 3G3070-CF manages transmissions to a central station and can simulate the landline in the event of trouble (e.g., landline down) or even substitute the landline completely in areas where the 3G or 2G service is provided and a landline is not available.

The 3G3070-CF has the capability of communicating alarm signals via the GPRS data network. This capability provides a fast, reliable path to central stations equipped with a Sur-Gard System I / II / III / IV receiver. By connecting a 3G3070-CF to a control panel's standard PSTN interface, telephone-based Contact ID signals are decoded and seamlessly routed through the 3G or 2G network to any of the compatible receiver options.

The performance of the 3G3070-CF depends greatly on wireless Network coverage; therefore, it should not be mounted without first performing placement tests to determine the best location for reception (minimum one green LED is ON). Optional antenna kits are available.

The 3G3070-CF requires enrollment with CONNECT 24 to operate. Dealer application forms and additional information on the CONNECT 24 Voice Response Unit (VRU) and web user-interface can be found at www.connect24.com or at the following telephone numbers:

USA 1-888-251-7458 CANADA 1-888-955-5583

Approvals Information

For Commercial Fire Monitoring Installations:

The 3G3070-CF can be used in the following configurations:

1. Standalone communicator, single communication technology - 5 minute supervision (Heartbeat sent to supervising station every 97 seconds).
2. Back-up communicator line for a DACT (dual communication technology, no heartbeat sent).
 - Alarm signals must be sent first over the primary communication path (DACT) and then if this is known to have failed, over the secondary communication paths (Other transmission technologies)
 - Primary: Compatible Listed control unit's land line to central station (primary).
 - Secondary: 3G3070-CF transmission through wireless network to central station.
 - Every 24 hours, a check-in signal must be sent to the central station over the primary dialer. The 3G3070-CF sends a heartbeat test transmission to the supervising station every 24 hours.
 - Each communication path shall be monitored for integrity (DACT shall have line monitoring enabled and 3G3070-CF shall have cellular connection supervision enabled).

For UL Central Station Commercial Burglary Installations:

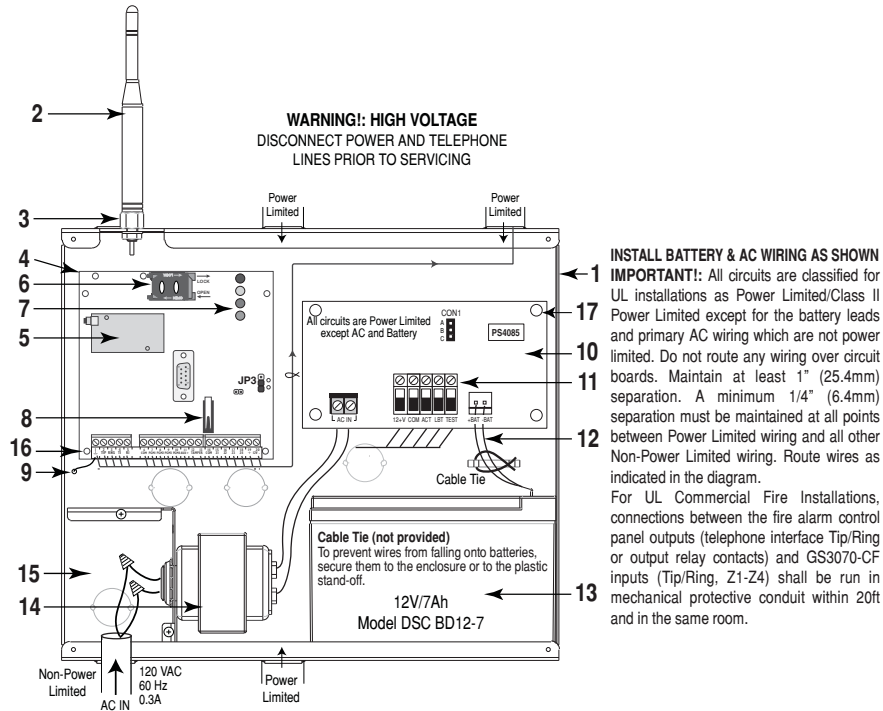
The 3G3070-CF can be used in the following configurations:

1. Standalone communicator, single line-200 second supervision (heartbeat sent to supervising station every 97 seconds. Alarm receiver supervision window set to 200 seconds).
2. Primary communicator line for a DACT (heartbeat sent to supervising station every 97 seconds. Alarm receiver supervision window set to 200s).
3. Back-up communicator line for a DACT (no heartbeat sent).

The 3G3070-CF is designed to work with the Contact ID communication format as described in SIA DC-05 Standard. Before completing the field installation of the alarm monitoring system, please ensure communication with the supervising central station is successful by sending several events and getting confirmation that they have been received.

Identification of Parts

The numbers in square brackets [] in this manual refer to the main parts of the GS3070-CF (see Fig.1 below) described in this section.



NOTES: Connection of metal-clad cable, conduit, metal raceway or the like is permitted as a means for grounding. Use the supplied starwashers to secure the mains connection box cover and the front cover of the enclosure.

PARTS	
1	3G3070-CF Metal Enclosure
2	External Antenna (supplied)
3	Antenna mounting hardware
4	3G3070-CF PCB Assembly
5	3G Radio with Connector for Antenna
6	SIM Card Socket
7	Status LEDs
8	Tamper Switch
9	3G3070-CF Connections (see Fig. 2 for details)
10	Power Supply PCB Assembly
11	Power Supply Connections (see Fig. 3 for details)
12	Standby Battery Leads
13	Standby Battery 12V/7Ah
14	Transformer 16.5V/37VA
15	Mains Connections Box with Cover
16	13/32" 3G3070-CF Stand-offs (4)
17	11/32" Power Supply Stand-offs (4)

Figure 1 - Parts

Installation of GS3070-CF

CONNECT 24 Enrollment Information

Only authorized dealers can enroll a 3G3070-CF with CONNECT 24. Dealer application forms and additional information on the CONNECT 24 Voice Response Unit can be found at the CONNECT 24 web site www.connect24.com. Please contact CONNECT 24 at the number below for assistance:

USA 1-888-251-7458 CANADA 1-888-955-5583

NOTE: Step 1 should be completed before powering the 3G3070-CF unit.

STEP 1 - Initialize the 3G3070-CF with Connect 24

VRU Enrolment

Call the VRU at the toll-free number: 1-866-910-3865. Follow the voice prompts and enter in your profile number, installer ID number, installer PIN number and SIM number. Ensure all information is available before calling the VRU. It is recommended that the radio initialization be performed at least 24 hours in advance of installation to ensure SIM activation will be complete.

NOTE: For UL Commercial Fire listed products the supervision heartbeat shall be enabled.

WEB Enrolment

If you have credentials for www.connect24.com, you may also initialize the 3G3070 via the web. Please check with your Connect 24 Master Reseller or Connect 24 Customer Service for more details.

STEP 2 - Determine Best Signal Location

1. Remove the screws and the front cover of the 3G3070-CF metal enclosure [1].
2. Fit the antenna [2] (ensure that the bolt [3] is fastened tightly).
3. Connect the antenna to the 3G Radio [5] and ensure the connector is secure.

NOTE: Before inserting or removing the SIM card, please ensure the unit is powered down.

4. Ensure the SIM card is placed in its socket [6].
5. Power up the 3G3070-CF module [4] and check signal strength on status LEDs [7].
 - Use a DC power source rated 12V/0.7A connected to +/- 12V terminals [9]
 - Allow unit to power up
 - The green LEDs will indicate the signal strength. The bottom green LED must be **ON** for the location to be acceptable. Please refer to the "Status LEDs" section for more information.
6. Power down the 3G3070-CF by removing the DC power source.

STEP 3 - Connect the 3G3070-CF

1. Using the cabinet, mark the 4 screw locations then drill the anchor screw holes.

NOTE: Check for cable conduits and water pipes before drilling.

2. Using anchor screws (not included), mount the cabinet to the wall.
3. Run the cables, then pull them through the cable entry or the knockouts provided.
4. Complete the connections to the terminal blocks [9], [11]. **Ensure power and Telco circuit connections are made only after the cabinet has been secured to the building or structure and has been connected to the protective earth ground.** Descriptions of the terminals can be found in the "Connecting the 3G3070-CF" section.
5. Using the 4 screws, reattach the front cover securely to the cabinet [1].

NOTE: Please refer to Figures 2 and 3 at the end of this manual for wiring diagrams.

NOTE: When installing the 3G3070-CF as a stand alone communicator in conjunction with a fire panel that has an integrated dual telephone line dialer (dual DACT), install only one of the telephone lines from the dual line dialer to the 3G3070-CF communicator. The second telephone line of the dual line dialer cannot be connected to the input of the 3G3070-CF and must be disabled in order to maintain correct functionality of the communication system. Please contact the panel vendor for details on how to disable the second telephone line.

3G3070-CF Connections Description

3G3070-CF Module

⏏ (1) Earth Ground - This terminal must be connected to the Mains Earth, in order to comply with the Telecommunications Network Safety Standards (Overvoltage Protection Requirements).

TIP (2) / RNG (3) External telephone line - These terminals must be connected directly to the incoming telephone line.

T1 (4) / R1 (5) Internal telephone line - These terminals must be connected to the TIP and RING of the control panel.

COM(6,14) Common - This terminal is connected internally to Power Ground.

PGM1 (7), PGM2 (8), PGM3 (9), PGM4 (10) Programmable type open-collector outputs. These outputs can be activated by programmed events. Refer to "Outputs" section for details. The maximum current sink of each output must not exceed 50mA. PGM1, PGM2 and PGM3 are active low and PGM4 is active high.

AUX+ (11) Auxiliary 12V Output - Special applications output, power-limited, 200mA PTC Protected. This terminal is used in conjunction with the PGM outputs to activate a supervision relay. Recommended relay: DSC Model RM-2.

NOTE: Current drawn from this terminal is directly drawn from the power supply.

Tamper (12-13) - These terminals are connected in series to the Tamper microswitch [8]. They will be closed when the cabinet is properly closed, and will open when the front cover is removed.

Z1-Z4 (15-16-17-18) Inputs - These terminals are set up to trigger events. Refer to "Inputs Activation Mode" section for details.

+12V (19), -12V (20) Device Power Supply - These terminals must be connected to the output of the power supply [10]. When the connections are completed, connect the Red and Black wires [12] to a 12V, 7Ah battery [13].

Power Supply Module

AC - Supervised input, connect the secondary of the transformer to these terminals. Connect the primary of the transformer to a dedicated electrical circuit.

+12V/COM - Special application output circuit, power limited, connect to 3G3070-CF power input circuit. Connect the +12V output to +12V input on the 3G3070-CF module and the COM output to the -12V input on the 3G3070-CF module.

ACT (AC Trouble) - This open collector output activates when an AC Trouble is detected: Rated 50mA.

NOTE: AC Trouble output shall be connected to an input on the alarm control panel that provides immediate local annunciation and delayed remote transmission for 1 to 3 hours. If such input is not able to provide the delay for AC loss transmission, input 1 of the 3G3070-CF can be used. When Input 1 is triggered, the 3G3070-CF will immediately annunciate an AC trouble by flashing the RED status LED 9 times, and will delay the AC loss event transmission by 2 hours.

LBT (Battery Trouble) - This open collector output activates when a Battery Trouble condition is detected: Rated 50mA.

TEST (Charger Trouble) - This open collector output activates when the charging circuit is in a trouble condition: Rated 50mA.

These outputs shall be connected to zone inputs of an alarm control panel in order to provide the required trouble supervision (visual and audible indication required at the control panel). The outputs are active low (switched to ground) and can be connected to a control panel directly or by using a listed supervision relay (suggested model: DSC, RM-2 Relay).

+BAT/-BAT - This connector is used to connect the standby battery, non-power limited. Use single lead battery wire assembly provided.

NOTE: When disposing of batteries, follow the instructions and precautions printed on the batteries, and contact your municipal offices for information on the disposal of used batteries.

Status LEDs

The 3G3070-CF has 4 LEDs used for local indication of module functionality, status (trouble conditions) and receiving signal strength.

▲ RED — This LED is Normally OFF, but will blink in the event of trouble. This LED will switch ON within 3 minutes in the event of 3G Radio [5] trouble, or when the wireless Network is unavailable (NO SERVICE). If this LED blinks, the following list indicates the specific trouble based on the number of blinks, by priority. On power-up, the 3G3070-CF will check for trouble conditions to be restored in the order listed below. The 3G3070-CF indicates the status of the highest priority, unrestored trouble condition with the corresponding number of flashes of the red LED. Once the highest priority trouble condition has been cleared, the next highest priority trouble condition is displayed.

The 3G3070-CF indicates the status of the highest priority, unrestored trouble condition with the corresponding number of flashes of the red LED. Once the highest priority trouble condition has been cleared, the next highest priority trouble condition is displayed.

1 flash - Power Trouble (*low input voltage*)

2 flashes - Radio/SIM Failure (*check SIM card connection*)

3 flashes - WirelessNetwork Problem (*SIM card not active, poor signal strength, antenna not connected*)

4 flashes - Insufficient Signal Strength (*poor location*)

5 flashes - Connect 24 Configuration SMS Failure (*improper VRU programming*)

When the configuration is ready, remove power for 2-3 seconds to allow the unit to restart and recheck status (if applicable).

6 flashes - Receiver not available (*Improper VRU programming, receiver absent*)

8 flashes - Primary Receiver absent (*receiver not acknowledging*)

9 flashes - AC Trouble (Input 1) triggered.

Off - No Troubles

📱 YELLOW — When this LED is On (solid), a Phone Line Trouble condition exists. This LED switches on when the interface switches to the GSM Network (due to a Landline trouble condition). use. This LED can also blink quickly once (Wireless TX) or twice (Wireless RX).

NOTE: The top two LEDs will blink during the initialization activation stages.

⌵ GREEN (Top) — When this LED is **ON**, the reception is optimal. This LED will switch ON only when the other GREEN LED is ON.

⌵ GREEN (Bottom) — If this LED is **OFF** and the RED LED is ON, the wireless Network service is unavailable (**NO SERVICE**). This LED **flashes** when the 3G (HSPA) or 2G (GPRS) Network reception is poor. If this LED is **ON**, the **3G3070-CF** will be able to communicate to the 3G (HSPA) or 2G (GPRS) network.

Operating Modes

Simulated Landline Mode

The simulated land line mode provides the fire alarm control panel (with dialer interface) with a communication path for standalone type applications (Wireless network being the sole communication technology used) or for back-up type applications (where two communication technologies PSTN and wireless are used).

In applications where the 3G3070-CF is also connected to the telephone line (back-up configuration), if the voltage on the land line terminals (**TIP/RNG**) drops below 2.8V for a period of 10 to 45 seconds (depending on the device connected to the **T1/R1** terminals), the 3G3070-CF will switch the connected alarm control panel to the wireless Network for approximately 30-40 seconds. At the end of this interval, it will check the land line and do one of the following:

- if the land line is restored, it will switch the connected alarm control panel back to the land line;
- if the land line is still down, it will continue to simulate the land line until it is restored. The 3G3070-CF will not switch during ongoing calls.

Panel Transmission Monitoring (PTM)

The The 3G3070-CF can also monitor the panel's attempt to communicate with the central station. If it determines that the panel is having difficulty, it switches the line to the wireless network. This feature is only active when the 3G3070-CF is configured as a back up communicator. This feature is in addition to the regular line voltage detection.

The 3G3070-CF monitors the phone line for four consecutive failed attempts within a 12-minute window. A failed attempt is assumed to have occurred when a line seizure takes place during dialing (either the alarm panel or the customer telephone), but no 1400Hz tone (or Contact Kiss-off) is sent from the receiver. Once the conditions for a failed attempt are met, the 3G3070-CF connects the panel to the wireless network

to communicate the events. When the 3G3070-CF switches the line it stays in this mode until the panel hangs up. On the next event the 3G3070-CF restarts the error detection sequence before switching. The 3G3070-CF performs this sequence on any phone number that is detected on the line. Specific central station phone numbers can be programmed into the 3G3070-CF if desired. Up to four, 20-digit numbers can be added to your profile at Connect 24. If programmed, the 3G3070-CF will only look for Contact ID Kiss-off after these numbers are dialed. A Telephone Line Monitoring trouble (PGM output activation and/or reporting code if applicable) is also activated and/or transmitted when the PTM is activated. A restoral is sent at the end of the call.

Wireless Communication Sequence:

- When an event is triggered, the alarm control panel dialer goes off-hook
- The 3G3070-CF will assert dial tone
- The Alarm Control Panel dials the number of the central station. Ensure the alarm control panel inserts a 1-second pause (minimum), or has dial tone search enabled before dialing the number
- The 3G3070-CF detects the DTMF dialing and stops the dial tone

NOTE: The 3G3070-CF is unable to decode pulse dialing.

- The 3G3070-CF will send the required Contact ID dual tone handshake to the alarm control panel
- After receiving the handshake, the alarm control panel transmits the event alarm message in Contact ID format
- The 3G3070-CF decodes and transforms the Contact ID digits into an IP packet and sends it to the Supervising Station Receiver over the wireless network
- The receiver acknowledges the received event and sends a command to the 3G3070-CF to generate the corresponding 1400Hz kiss-off signal for 800ms minimum
- After the 3G3070-CF generates the kiss-off, the alarm control panel sends the next event or goes on-hook if no more events need to be sent.

Inputs Activation Mode

The 3G3070-CF also has 4 inputs that can be used to trigger specific event transmissions. The events associated with these inputs will be transmitted using Contact ID Communication Format. The default settings for these inputs (as they should be correlated at the supervising station) are:

INPUT 1- AC LOSS INPUT 3 - FIRE ALARM
INPUT 2 - FIRE SUPERVISORY INPUT 4 - TROUBLE

These inputs are normally open type and will activate when a short condition is detected between the terminal and the COM. Refer to the 3G3070-CF Wiring Diagram (Figure 2) at the back of this manual.

NOTE: When the 3G3070-CF is configured in Land Line Mode, these inputs should be restricted to monitoring of trouble conditions.

NOTE: For UL listing, connections between alarm panel outputs and 3G3070-CF inputs shall be run in mechanical protective conduit within 20ft and in the same room. To reduce interference with the antenna, it is recommended that metal conduit is not connected to the knock-outs on the top of the cabinet.

Activating the Outputs

The 3G3070-CF has four programmable outputs to activate in response to the associated events. Refer to the 3G3070-CF Wiring Diagram (Figure 2) at the back of this manual.

The 3G3070-CF has 4 open collector outputs, switched to ground, capable of a maximum of 50mA. Internal events on the 3G3070-CF can trigger the outputs to turn on an LED or activate an input on the alarm control panel. The default settings are as follows:

OUTPUT 1 - Land Line Trouble: Output is normally high and will switch to ground when the telephone line is down.

NOTE: This output is not required when the 3G3070-CF is used as a standalone device.

OUTPUT 2 - Wireless Module or Network Trouble: Output is normally high and will switch to ground when the 3G3070-CF cannot connect or communicate to the wireless network.

OUTPUT 3 - Activation: Output is normally high and will switch to ground during activation.

OUTPUT 4 - General Module Trouble: Output is normally low and will switch to high when any of the previous troubles occur and/or a Failure to Communicate (FTC) trouble is detected.

NOTE: Once an output has been activated automatically, it will not restore its state until all the causes of activation are cleared.

Contact ID Events Description

Event Codes

Input 1 Activation: E301 AC LOSS ZONE 991
Input 1 Restoral: R301 AC LOSS ZONE 991
Input 2 Activation: E200 Fire Supervisory ZONE 992
Input 2 Restoral: R200 Fire Supervisory ZONE 992
Input 3 Activation: E110 FIRE ZONE 993
Input 3 Restoral: R110 FIRE ZONE 993
Input 4 Activation: E300 System Trouble ZONE 994
Input 4 Restoral: R300 System Trouble ZONE 994
PSTN Line Down: E351 TELCO 1 FAULT 000
PSTN Line Restoral: R351 TELCO 1 FAULT 000
Periodic Report: E603 Periodic RF Xmission 000
Periodic report with off-normal condition .. E608 Periodic Test Xmission with System Trouble Present 000
GSM UNIT ACTIVATION: R552 Radio Xmitter Disabled 000
GSM INTERNAL BUFFER FULL: E624 EVENT LOG OVERFLOW 000
FTC RESTORAL: R354 FAILURE TO COMMUNICATE 000

NOTE: The 3G3070-CF does not support local or remote programming. Upon activation through Connect 24 the product will operate as described in the previous sections of this manual.

Swinger Shutdown

Swinger Shutdown is followed by a PSTN line trouble, limiting this event to a maximum of 3 trouble reports every 24 hours (including the PSTN line trouble sent when PTM is active). The condition will restore at midnight at which point the counter is reset.

Hardware Default

To perform a hardware default and force the unit to get the latest configuration from Connect 24, follow these steps:

- Power down the unit.
- Place a short between the PGM1 and Input 1 terminals.
- Power up the unit. This will perform a hardware default and request the configuration from Connect 24.
- Remove the short between PGM1 and Input 1.

NOTE: A Hardware default must be performed when the SIM card is being swapped.

NOTE: If the unit has previously received programming from Connect 24, a hardware default is required to initiate the download of the latest configuration from Connect 24. Failure to do so will result in the unit transmitting with the previously programmed configuration.

Connect 24 Remote Programming

The inputs, outputs, and other features can be remotely programmed through Connect 24 for fast and convenient installation using the internet.

NOTE: This programming option has not been investigated by UL.

General Information

The following table provides some general information on basic operations with installation of communicator, antenna, SIM card and checking SIM status of the communicator.

General Information	
Removing/Connecting the antenna	<ul style="list-style-type: none">- To remove the antenna from the 3G3070-CF, place your thumb on the end of the connector at the modem, then place a screwdriver between the modem and connector. Gently turn the screwdriver away to 'pop' out the connector from the modem- To install the antenna, firmly push the the connector into the modem until it 'snaps' into place
Enrolling a 3G3070-CF	<ul style="list-style-type: none">- The 3G3070-CF can be enrolled by going through the GVRU voice prompt, and completing the activation of the SIM card, and the initialization of the 3G3070-CF- The 3G3070-CF can also be enrolled using the Connect 24 website (www.connect24.com)
SIM card activation period	<ul style="list-style-type: none">- A SIM card can take up to 24 hours to be activated by the provider. However, it typically takes less than an hour for the SIM card to be activated
Checking SIM status	<ul style="list-style-type: none">- Go to www.connect24.com and login. A search can be performed for a specific account and its current status- SIM status can also be checked through the GVRU
Swinger Shutdown for Telephone Line Monitor (TLM) transmissions for backup units	<ul style="list-style-type: none">- If the 3G3070-CF is configured as a backup, it can send a maximum of 3 TLM troubles and restorals per day- TLM Swinger Shutdown only affects signal transmissions, not the functionality of the 3G3070-CF lights or PGM outputs

Troubleshooting Guide

Powering up the 3G3070-CF – when powering up the 3G3070-CF, always connect the battery first before connecting primary DC power from the control panel or transformer.

Wiring Primary – R-1/T-1 of 3G3070-CF to RING/TIP of control panel, DC power from provided DC power supply DC input, backup battery connected to provided power supply.

Wiring Backup – Incoming line to RING/TIP on 3G3070-CF, R-1/T-1 of 3G3070-CF to RING/TIP of control panel, R-1/T-1 of control panel to house phones, DC power from provided DC power supply, JP3 ON to DC input, connected to provided power supply, JP3 ON.

Testing Communications – when the 3G3070-CF transmits a signal for the control panel, or for an internal transmission, the YELLOW light will flash one time when the signal is transmitted and two times when it gets a kiss-off.

SIM – the SIM should be activated at least 24 hours prior to installation. The 3G3070-CF will show signal strength with an inactive SIM, however it will display the signal strength of any available wireless network. The SIM must be active to ensure the signal strength displayed is that of the wireless network provider for which the SIM belongs to.

Panel Programming – the control panel should be programmed to communicate Contact ID exactly the same way it would be programmed to communicate Contact ID over the telephone line.

Green Light Status	What it means:	Signal Strength Status
Both Green Lights ON	Excellent Signal Strength	Unit can be installed in the current mounting location
One Green Light ON	Good Signal Strength	Unit can be installed in the current mounting location
Bottom Green Light FLASHING	Poor Signal Strength	<ul style="list-style-type: none"> - Ensure the antenna cable is plugged securely into the radio connector - If the SIM is active, connect a battery to the unit and test various locations for good/excellent signal strength - Connect an antenna extension kit (GS-15ANT, GS-25ANT or GS-50ANT)
Both Green Lights OFF	No Signal Strength	<ul style="list-style-type: none"> - If the red light is also FLASHING, refer to the RED light chart - Verify SIM card is activated - Ensure the antenna cable is plugged securely into the radio connector - If the SIM is active, connect a battery to the unit and test various locations for good/excellent signal strength - Connect an antenna extension kit (GS-15ANT, GS-25ANT or GS-50ANT)

Troubleshooting Guide

Yellow Light Status	What It Means: Wireless Communicator Status/Communication Indicator
Yellow Light ON	<ul style="list-style-type: none"> - When used as the primary communicator, the yellow light will always be ON. - When used as a backup communicator, the yellow light will be ON when there is a no phone line connected to the 3G3070-CF TIP and RING, or the line voltage goes below 2.8VDC.
Yellow Light OFF	- Indicates a good phone line is connected to the 3G3070-CF. (more than 2.8 VDC detected across the 3G3070-CF TIP and RING terminals).
Yellow Light FLASHING	- The yellow light will flash one time when the 3G3070-CF transmits a signal and two times when a kisoft is received.

Red Light Status	What it means: Trouble Status	Trouble Status - Troubleshooting Steps
One Flash	3G3070-CF Power Trouble (low input voltage)	<ul style="list-style-type: none"> - Verify that the AC transformer is plugged into 120VAC source. Ensure that the AC transformer is connected to the "AC in" terminals on the power supply. - Ensure the +12v output of the power supply is connected to the "+" DC terminal of the 3G3070-CF. Ensure the COM terminal of the power supply is connected to the "-" DC terminal of the 3G3070-CF. - Ensure the 3G3070-CF jumper J3 is ON
Two Flashes	SIM/Radio Trouble	<ul style="list-style-type: none"> - Ensure the SIM Card is inserted correctly and firmly - Ensure the antenna cable is plugged securely into the radio connector
Three Flashes	Wireless Network Problem	<ul style="list-style-type: none"> - Ensure the SIM card has been activated - The antenna cable should be plugged securely into the radio connector - Ensure there is good signal strength (at least one green light ON) - Verify the installation area is not experiencing a network outage
Four Flashes	Insufficient Signal Strength	<ul style="list-style-type: none"> - Ensure there is good signal strength (at least one 3G3070-CF green light ON) - Ensure the antenna cable is plugged securely into the radio connector
Five Flashes	Configuration Trouble	Ensure the SIM card is activated
Six Flashes	Receiver Not Available	<ul style="list-style-type: none"> - Contact the monitoring station to verify that the 3G3070-CF programming is correct (port, IP address, DNIS) - Contact your central station to verify they are not experiencing any receiver issues
Eight Flashes	Primary Receiver absent (receiver not acknowledging)	- Contact your central station to verify they are not experiencing any receiver issues
Nine Flashes	AC Trouble (Input 1 triggered)	Ensure that Z1 on the 3G3070-CF is connected to ACT of power supply. Verify that the power supply has AC present.

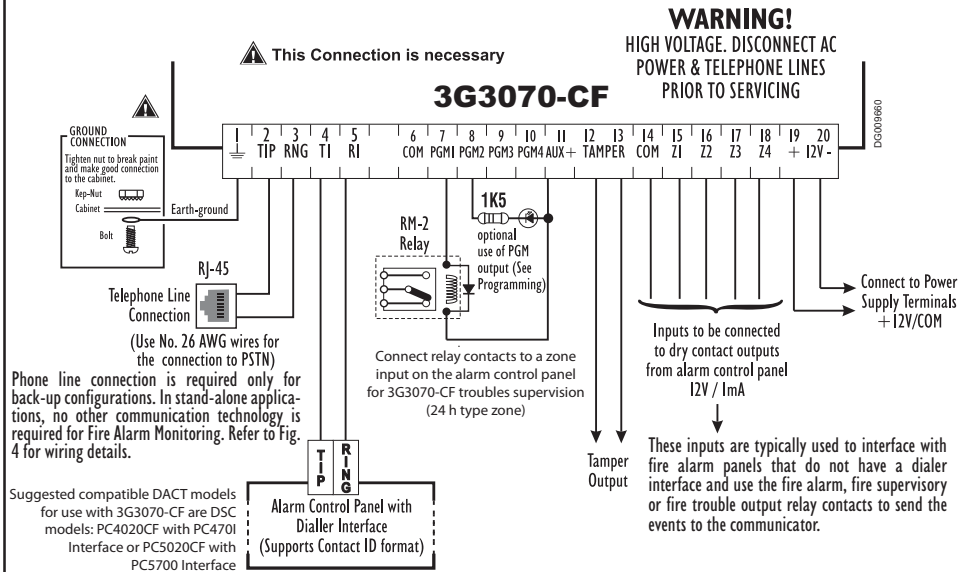
Troubleshooting Guide

The Red light will flash to indicate various trouble conditions outlined previously. If multiple trouble conditions are present, the red light will flash according to the highest priority trouble. For example, if both a 3G3070-CF Power trouble (one flash) and an insufficient signal strength trouble (four flashes) are present; the red light will flash one time. Once the 3G3070-CF Power trouble condition is corrected, the red light will then begin flashing four times.

General Troubles With Your System	
The control panel is displaying a telephone line trouble condition	<ul style="list-style-type: none"> - Ensure T1 and R1 of the 3G3070-CF are wired to the TIP and RING terminals of the control panel - If the 3G3070-CF is being used as the primary communicator, the yellow light will always be ON - If the 3G3070-CF red light is FLASHING refer to the Red Light Status Chart
The control panel displays a communication trouble condition	<ul style="list-style-type: none"> - Ensure the panel is programmed for Contact ID - Ensure the control panel does not indicate a TLM trouble condition - If the 3G3070-CF red light is FLASHING refer to the Red Light Status chart in this guide
No signals are received at the central station but no trouble condition is displayed	<ul style="list-style-type: none"> - Ensure the control panel has a central station phone number programmed - Ensure the control panel has the correct account number programmed - Verify the reporting codes are programmed or the auto Contact ID option is enabled - Ensure the control panel communicator is enabled - Connect a handset to T1 and R1 of the 3G3070-CF in monitor mode to verify the control panel is trying to communicate
Not receiving internal signals generated directly from the 3G3070-CF	<ul style="list-style-type: none"> - Ensure the 3G3070-CF was initialized with the correct account number. This can be checked by logging into the Connect 24 website - Ensure that there are no trouble conditions on the 3G3070-CF
The 3G3070-CF Yellow and Red lights flash constantly	<ul style="list-style-type: none"> - Ensure there is good signal strength (at least one 3G3070-CF green light ON) - Cycle power and verify SIM and signal
The phone line is seized when the 3G3070-CF is connected	<ul style="list-style-type: none"> - Verify correct phone line wiring - Ensure the Ringer Equivalency Number (REN) is not being exceeded on the line

APPENDIX - Wiring Diagrams

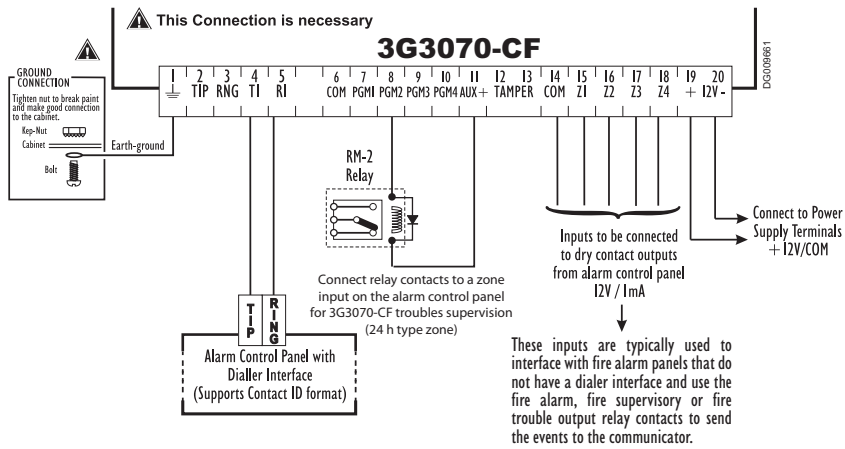
Fig. 2 - 3G3070-CF Module Wiring Diagram



WARNING: Incorrect connections may result in PTC failure or improper operation. Inspect wiring and ensure connections are correct before applying power. All circuits are classified for UL installations as Power Limited/Class II Power Limited except for the battery leads which are not power limited. Do not route any wiring over circuit boards. Maintain at least 1" (25.4mm) separation. A minimum 1/4" (6.4mm) separation must be maintained at all points between Power Limited wiring and all other Non-Power Limited wiring. Route wires as indicated in the diagram.

NOTE: If the control panel PGM output connected to the 3G30XX input latches (remains closed) after an alarm has occurred, the 3G30XX input will remain active. The latched PGM output must be reset or future alarms will not be reported via the zone input of the 3G30XX and additional alarms may be triggered when the 3G30XX is locally or remotely restarted. Please contact panel vendor for details on how to reset the control panel PGM.

Fig. 2a - 3G3070-CF Module Wiring Diagram - Standalone Configuration



NOTE: If the control panel PGM output connected to the 3G30XX input latches (remains closed) after an alarm has occurred, the 3G30XX input will remain active. The latched PGM output must be reset or future alarms will not be reported via the zone input of the 3G30XX and additional alarms may be triggered when the 3G30XX is locally or remotely restarted. Please contact panel vendor for details on how to reset the control panel PGM.

Fig. 3 - Power Supply Wiring Diagram

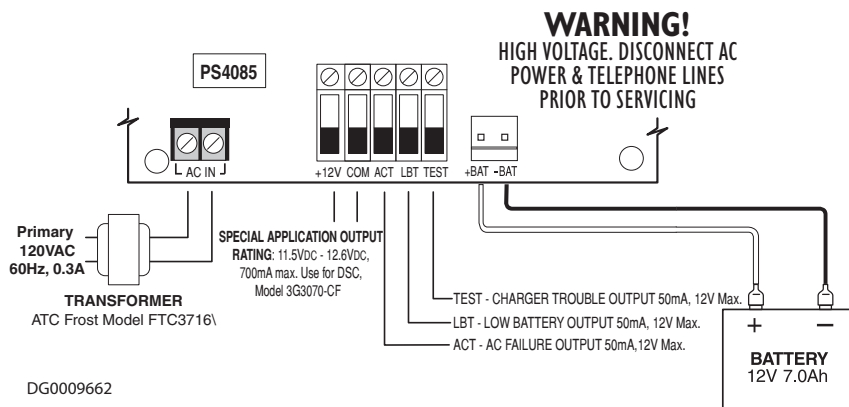


Fig. 4 - Telephone Connection (Not required when 3G3070-CF is used as a standalone device)

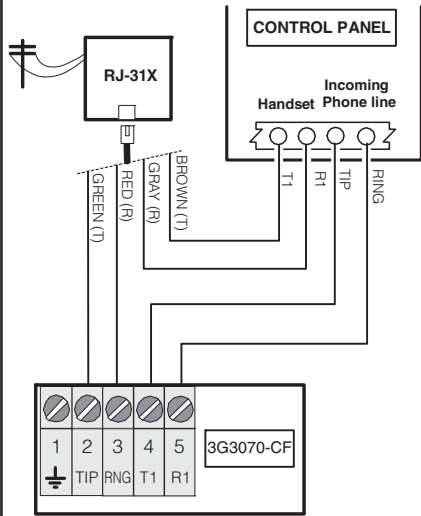
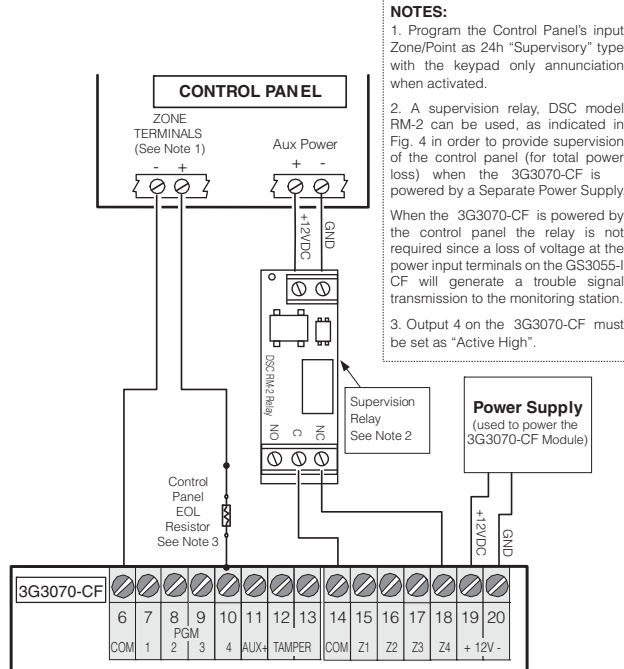


Fig. 5 - Optional Power Supply And Supervision Wiring Diagram



- NOTES:**
1. Program the Control Panel's input Zone/Point as 24h "Supervisory" type with the keypad only annunciation when activated.
 2. A supervision relay, DSC model RM-2 can be used, as indicated in Fig. 4 in order to provide supervision of the control panel (for total power loss) when the 3G3070-CF is powered by a Separate Power Supply. When the 3G3070-CF is powered by the control panel the relay is not required since a loss of voltage at the power input terminals on the GS3055-I CF will generate a trouble signal transmission to the monitoring station.
 3. Output 4 on the 3G3070-CF must be set as "Active High".

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by Digital Security Controls could void your authority to use this equipment. This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for Class B device in accordance with the specifications in Subpart "B" of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in any residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to television or radio 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:

- Re-orient the receiving antenna
- Relocate the alarm control with respect to the receiver
- Move the alarm control away from the receiver
- Connect the alarm control into a different outlet so that alarm control and receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock # 004-000-00345-4.

IMPORTANT INFORMATION

This equipment complies with Part 68 of the FCC Rules. On the side of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this number must be provided to the Telephone Company.

3G3070-CF Product Identifier US: F53M000B3G3070

REN: 0.0B

USOC Jack: RJ-31X

Telephone Connection Requirements

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

Ringer Equivalence Number (REN)

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call.

In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local Telephone Company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format: US: AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

Incidence of Harm

If this equipment 3G3070-CF causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the Telephone Company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

Changes in Telephone Company Equipment or Facilities

The Telephone Company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the Telephone Company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

Equipment Maintenance Facility

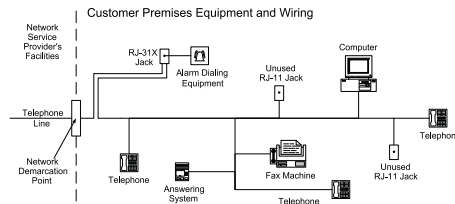
If trouble is experienced with this equipment for repair or warranty information, please contact the facility indicated below. If the equipment is causing harm to the telephone network, the Telephone Company may request that you disconnect the equipment until the problem is solved. This equipment is of a type that is not intended to be repaired by the end user.

DSC c/o APL Logistics, 757 Douglas Hill Rd., Lithia Springs, GA 30122

Additional Information

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

Alarm dialling equipment must be able to seize the telephone line and place a call in an emergency situation. It must be able to do this even if other equipment (telephone, answering system, computer modem, etc.) already has the telephone line in use. To do so, alarm dialling equipment must be connected to a properly installed RJ-31X jack that is electrically in series with and ahead of all other equipment attached to the same telephone line. Proper installation is depicted in the figure below. If you have any questions concerning these instructions, you should consult your telephone company or a qualified installer about installing the RJ-31X jack and alarm dialling equipment for you.



WARNING: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20cm or more must be maintained between the antenna of this device and persons during device operation.

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