# IntelliCom Advanced Gateway

## Installation, Operation & Programming Manual

# WARRANTY INFORMATION

The essential purpose of any sale or contract for sale of any of the products listed in the POTTER catalog or price list is the furnishing of that product. It is expressly understood that in furnishing said product, POTTER does not agree to insure the Purchaser against any losses the Purchaser may incur, even if resulting from the malfunction of said product.

POTTER warrants that the equipment herein shall conform to said descriptions as to all affirmation of fact and shall be free from defects of manufacture, labeling and packaging for a period of three (3) years, from the invoice date to the original purchaser, provided that representative samples are returned to POTTER for inspection. The product warranty period is stated on the exterior of the product package. Upon a determination by POTTER that a product is not as warranted, POTTER shall, at its exclusive option, replace or repair said defective product or parts thereof at its own expense except that Purchaser shall pay all shipping, insurance and similar charges incurred in connection with the replacement of the defective product or parts thereof. This Warranty is void in the case of abuse, misuse, abnormal usage, faulty installation or repair by unauthorized persons, or if for any other reason POTTER determines that said product is not operating properly as a result of causes other than defective manufacture, labeling or packaging.

*The Aforesaid Warranty Is Expressly Made In Lieu Of Any Other Warranties, Expressed Or Implied, It Being Understood That All Such Other Warranties, Expressed Or Implied, Including The Warranties Of Merchantability And Fitness For Particular Purpose Are Hereby Expressly Excluded. In No Event Shall Potter Be Liable To Purchaser For Any Direct, Collateral, Incidental Or Consequential Damages In Connection With Purchaser's Use Of Any Of The Products Listed Herein, Or For Any Other Cause Whatsoever Relating To The Said Products. Neither Potter Nor Its Representatives Shall Be Liable To The Purchaser Or Anyone Else For Any Liability, Claim, Loss, Damage Or Expense Of Any Kind, Or Direct Collateral, Incidental Or Consequential Damages Relative To Or Arising From Or Caused Directly Or Indirectly By Said Products Or The Use Thereof Or Any Deficiency, Defect Or Inadequacy Of The Said Products. It Is Expressly Agreed That Purchaser's Exclusive Remedy For Any Cause Of Action Relating To The Purchase And/or Use Of Any Of The Products Listed Herein From Potter Shall Be For Damages, And Potter's Liability For Any And All Losses Or Damages Resulting From Any Cause Whatsoever, Including Negligence, Or Other Fault, Shall In No Event Exceed The Purchase Price Of The Product In Respect To Which The Claim Is Made, Or At The Election Of Potter, The Restoration Or Replacement Or Repair Of Such Product.*

**Potter Electric Signal Company, LLC**
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# NOTICE

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### FOR USERS, INSTALLERS, AUTHORITIES HAVING JURISDICTION, AND OTHER INVOLVED PARTIES

This product incorporates field-programmable software. In order for the product to comply with the requirements in the Standard for Control Units and Accessories for Fire Alarm Systems, UL 864, certain programming features or options must be limited to specific values or not used at all as indicated below.

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</table>

| Program Feature or Option | Permitted in UL 864? (Y/N) | Available Settings | Settings Permitted in UL 864 |
|---|---|---|---|
| Link Supervision when used as a Sole Path | Y | Disabled<br>200 seconds<br>5 minutes<br>60 minutes | 200 seconds<br>5 minutes<br>60 minutes |
| Automatic Self-Tests when used with an alternative communication path | Y | Disabled<br>6 hours<br>Daily<br>Weekly<br>Monthly | 6 hours* |
| AC Failure Condition (ACFC) Low Power Failure (LPF) | Y | Disabled<br>Any number of hours up to 24 | 1 hour<br>2 hours<br>3 hours |
| No Service Condition (NSC) delay | Y | 30 seconds<br>60 seconds<br>3 minutes<br>5 minutes<br>10 minutes<br>20 minutes<br>30 minutes<br>45 minutes<br>60 minutes<br>1440 minutes | 30 seconds<br>60 seconds<br>3 minutes |

*6 hours are specified in 2013 and later editions of NFPA 72; the 2010 edition specified 24 hours (daily).

**UL Compliance NOTE:**  The alarm panel must also be UL Listed for commercial fire use.

## Section 1: Introduction

Advanced cellular and network monitoring communication utilizing Dual path 5G LTE-M technology for seamless integration with any commercial fire panel equipped with either Potter Ethernet or DACT capture. Potter panels using the Potter IntelliCom Advanced Gateway offer the most advanced features in the industry without the need for a UD-2000 POTs dialer. Potter panels enable automatic panel program backups/retrieval, remote programming, cloud storage, and mobile walk test that creates an NFPA-72 initiation device report.

## Section 2: Panel Capabilities

The Potter IntelliCom Advanced Gateway is an alarm transmission device and cloud services provider that facilitates the use of the cellular network or an internet-connected LAN (Ethernet) for the delivery of signals for commercial alarm panels, providing the following three modes of operation:

- Dual Path Cellular primary, LAN backup
- Dual Path LAN primary, Cellular backup
- Cellular Only (used for Sole Path)

In Dual Path mode, IntelliCom can use either the cellular or LAN path to transmit an event from the panel and switch over to the other path when the primary becomes unavailable. In Cellular Only mode, IntelliCom will not monitor for a LAN connection and strictly use cellular as the means of communication. This mode also offers the ability to supervise the connection to meet specific fire requirements. IntelliCom can also be used as either a Primary or Secondary Path device on some panels when an alternate communications path is connected to another Panel-Telco interface or DACT. In such cases, panel settings determine the alarm reporting path. Potter panels using the Ethernet connection do not support this feature.

When transmitting an alarm signal, IntelliCom obtains its data from Potter fire alarm control panels by way of an Ethernet connection. When using compatible Potter panels there is no need for a UD-2000 DACT. All non-Potter panels transmit events by way of a telephone interface, sometimes referred to as a DACT. IntelliCom will obtain all alarm signal information including monitoring station phone number, account number and all zones for every alarm transmission. IntelliCom handshakes with the alarm panel and causes it to transmit the alarm data. IntelliCom encodes the alarm data and securely transmits it to the Potter Communication Center (PCC) over the chosen path: cellular radio or connected LAN. The PCC performs a function similar to a central station receiver and issues the transmission acknowledgement when the last message in the transmission is received. After decoding and reformatting, the alarm signal is routed to the desired alarm company monitoring station for action. The optional End-to-End Acknowledgement feature will cause a Radio Failure Condition when an acknowledgement cannot be relayed from the central station to IntelliCom.

IntelliCom offers the ability to establish an override of the central station telephone and account numbers stored in the panel by providing alternate central station values in the Potter dealer portal: www.potterintellicom.com. This can be useful in situations where the installer codes are not known, or the panel cannot otherwise be reprogrammed. When IntelliCom is configured with override values, all signals will be sent to the override central station. To be able to send different types of signals to different locations, the central station data for each type of signal will need to be programmed into the panel and the override values left blank in the dealer portal. This will cause IntelliCom to use the central station values as transmitted by the panel.

In a typical alarm installation, IntelliCom is installed in the same area as the host alarm system and is connected directly to the host alarm panel. IntelliCom connects to the Potter Communication Center (PCC) via a built-in cellular radio or, when used as a dual path device, via an Ethernet cable that connects the Ethernet jack with an Internet-enabled premises LAN. Two programmable System Trouble Condition (STC) relays are available for connection to the host alarm panel's trip zone input terminals in order to provide trouble signals to the alarm panel. See details later in the manual on UL limitations. Automatic self-test and Check Status signals are transmitted exclusively to the PCC. IntelliCom supports several power supply options. IntelliCom has the flexibility to be powered through a standard AC outlet (120 volts/60Hz), ensuring a continuous charge to the battery provided by the dealer. Alternatively, it can also function through a 12VDC or 24VDC regulated power supply from the connected alarm panel.

The UL Listed equipment at the PCC plays a key role in the operation of every IntelliCom device. All IntelliCom units utilize the

PCC due to the panel alarm signal format encoding and decoding requirements used in packet-data transmissions. The PCC also manages the real-time databases for IntelliCom accounts and a complete history of every IntelliCom's operating conditions. These conditions include programming setup information, alarm transmission information, supervisory trouble information, check status information, and automatic self-test information.
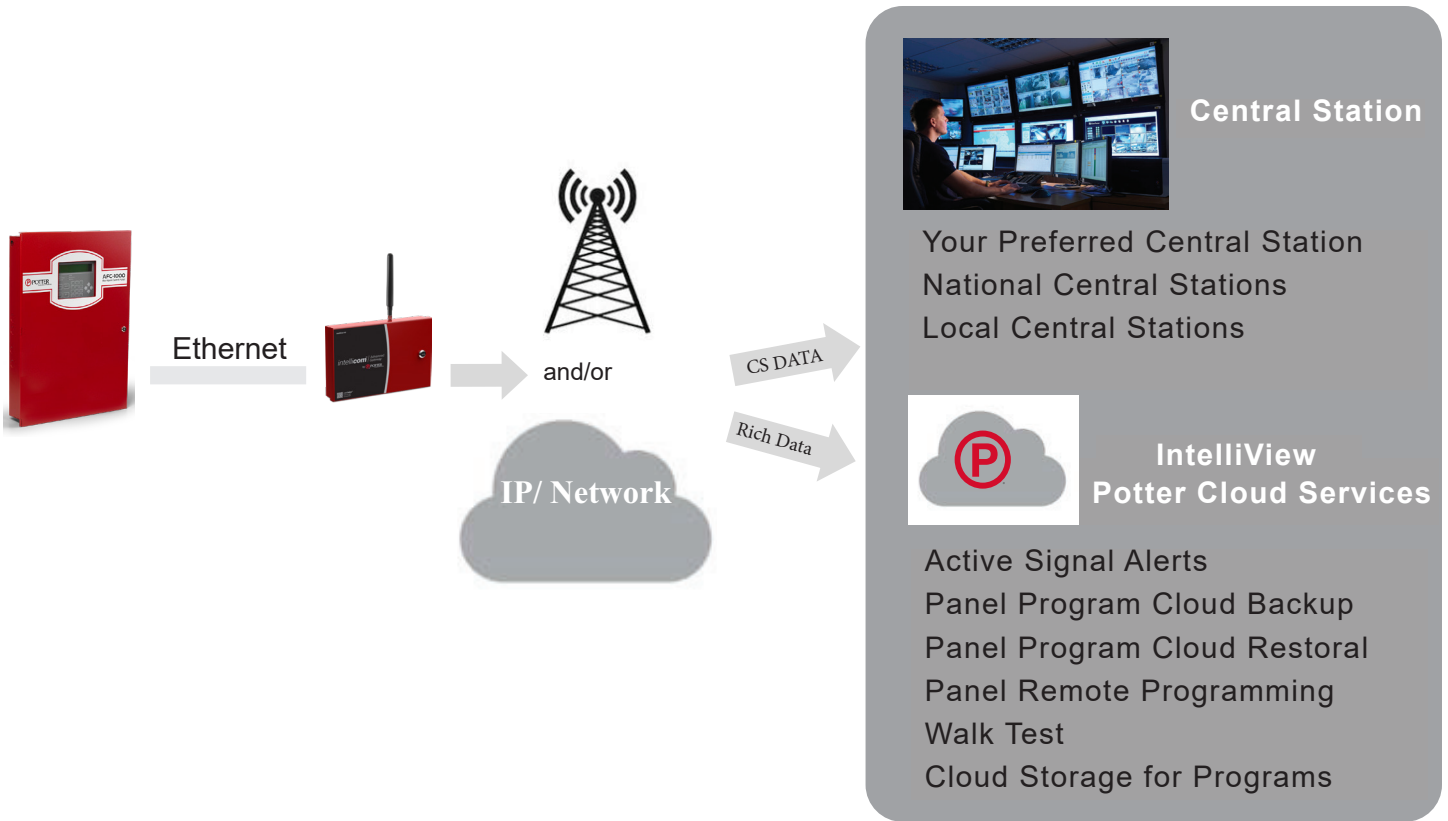


## Ordering Information

| Model | Description | Stock No. |
|---|---|---|
| IntelliCom-5GV | 5G LTE-M Dual path commercial fire alarm communicator (Verizon) | 3994000 |
| IntelliCom-5GA | 5G LTE-M Dual path commercial fire alarm communicator (AT&T) | 3994001 |
| **Accessories** | | |
| TG-TAMPER | Tamper Switch Assembly compatible with Potter metal enclosers | 3994002 |
| ACD-12 | 12 feet – low loss high performance antenna cable and mounting bracket | 3994003 |
| ACD-35 | 35 feet – low loss high performance antenna cable and mounting bracket | 3994004 |
| ACD-50 | 50 feet – low loss high performance antenna cable and mounting bracket | 3994005 |
| ACD-100 | 100 feet – low loss high performance antenna cable and mounting bracket | 3994006 |
| HGDL-0 | High Gain Directional Antenna | 3994007 |
| EXDL-0 | External Omni-Directional Antenna | 3994008 |

Note: IntelliCom can be used as either a Primary or Secondary Path device when an alternate communications path is connected to another alarm panel DACT connection. In such cases, the panel determines the alarm reporting path. Potter panels using the Ethernet connection do not support this feature.

## Section 3: Compatible Panels

Compatible Potter fire panels must have Version 10.1 (or higher)

- IPA-4000
- IPA-4000V
- IPA-100
- IPA-60
- AFC-1000
- AFC-1000V
- AFC-100
- AFC-50
- ARC-100
- PFC-4064

DACT Connected Panels:
- Any UL Listed alarm panel that supports one of the supported formats.

## Section 4: Specifications

| Specifications | |
|---|---|
| Cellular Service | 5G-LTE - Verizon or AT&T |
| Dimensions | 7.5" H x11.5" W x 3.5" D |
| Material/Color | Steel/Red |
| Primary Power | 12VAC or 12/24VDC |
| Standby Current | 64mA @ 24VDC |
| Transmit Current | 140MA @ 24VDC |
| Dact Panels | All panels w/ dialer |
| Ethernet Panels (UD-2000 NOT REQ.) (Contact ID) | IPA-4000(V), IPA-100, IPA-60, AFC-1000(V), AFC-100, AFC-50, ARC-100, PFC-4064 |

# Section 5: IntelliCom Services & IntelliView

IntelliCom Advanced Gateway is more than just a central station communicator. When used with a compatible Potter fire alarm control panel, it becomes a portal for additional services through IntelliView. IntelliView offers a host of additional web and mobile app services that are included in your monthly cellular service and requires no additional licenses or expenditures.

## Test & Inspect: Initiation Device Report Generator

Potter Test & Inspection Initiation Device Report Generator is an automated way to create the NFPA-72 Initiating Device Supplementary Record of Inspection and Testing. This tool eliminates the time-consuming manual process of creating a list of points for the required report. The tool allows a technician to import all the points, mark them as Pass/Fail, document the visual & functional test, and export the results into a file that can be included with the remainder of the user provided NFPA-72 report. This cloud-based tool is complimentary to all customers using a compatible Potter fire alarm control panel with an IntelliCom Advanced Gateway.

## Backup: Automated Cloud Backup & Restoral

Potter Automated Cloud Backup & Restoral is an automated way to backup Potter fire alarm control panel databases. This tool ensures that the panels program is always available and secure. Technicians can instantly recover the database from the secure server at any time. Never have to find a specific technician's computer or thumb drive ever again. This service will save many hours whenever you have that unfortunate event that requires the system to be reprogrammed. This cloud-based tool is complimentary to all customers using a compatible Potter fire alarm control panel with an IntelliCom Advanced Gateway.

## FPP: Remote Programming Tool

Web based programming is a reality with the IntelliCom Advanced Gateway and Potter panels. Potter Programming Tool databases can be remotely sent to panels – from anywhere in the world. This is a great tool when commissioning systems, making updates during a T&I session, or simply making label changes. No longer does the technician with the knowledge to reprogram the panel have to be on site.** This cloud-based tool is complimentary to all customers using a compatible Potter fire alarm control panel with an IntelliCom Advanced Gateway.

*** NFPA-72 Requires that when changes are made to site-specific software, all functions known to be affected by the change, or identified by a means that indicates changes, must be 100 percent tested. In addition, 10 percent of initiating devices that are not directly affected, up to a maximum of 50 devices, must also be tested and proper operation verified*

## Alert: Signals, Push Notifications, Status

Panel information is right at your fingertips any time you need it. Receive alerts to any Android or iOS compatible mobile device. Push notifications to the mobile app allow for immediate signal notification. Remote Acknowledge, Silence, Reset, Enable/Disable, and Drill operations are available while a panel is in Walk Test. Prepare for a site visit by retrieving point information and panel history. This cloud-based tool is complimentary to all customers using a compatible Potter fire alarm control panel with an IntelliCom Advanced Gateway.

Some additional IntelliView features include:

- Identify the location of panel signals instantly – anywhere at anytime
- Annunciates detailed information– Alarm, Supervisory, Alert, Trouble, Silence
- Filter signals list by any of the statuses
- Push notifications to mobile app allow for immediate signal notification
- Suppress push notifications to some users for up to 24 hours
- Acknowledge, Silence, Reset, Enable/Disable, Drill, Input Activation – while panel is in walk test
- Alarm summary by location or individual panel
- Read status on any point on any panel
- History of panel activity
- Provide access to only the locations and panels that are needed
- No additional fire panel hardware is required to enable IntelliView
- Android or iOS compatible mobile devices (tablets & phones)
- Browser support (Google Chrome or Microsoft Edge) supported on desktop applications

# Section 6: Supported Configurations

The integration of the Potter panel with the IntelliCom does not necessitate a UD-2000 device. Instead, the Ethernet connection between the compatible fire panel and the IntelliCom Advanced Gateway is utilized to exchange the central station data and the comprehensive IntelliView data. The Potter panels can be set up in various arrangements, and this section elaborates on the IntelliCom features based on the system architecture.

This table summarizes the capabilities based on architecture.

| | Central Station Reporting | App Alerts | App T&I | Remote Programming | Panel Backup | App Point Read Status | App Commands w/ Walk Test |
|---|---|---|---|---|---|---|---|
| Single Panel | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Single Panel w/ Audio | ✓ | ✓ | ✓ | X | ✓ | ✓ | ✓ |
| Panel Networks (<= 100) | ✓ | X | X | X | X | X | X |
| Panel w/ MC-1000(s) | ✓ | X | X | X | X | X | X |

## Single Potter Panel – Sole & Dual Path

Supported services include:

- Central station reporting
- IntelliView App/Browser Alerts & Events
- IntelliView Read Status, History
- IntelliView App/Browser Test & Inspection with control
- Panel Program Backup to IntelliView
- Remote Panel Programming

## Potter Panel with Audio – Sole & Dual Path

Supported services include:

- Central station reporting
- IntelliView App/Browser Alerts & Events
- IntelliView Read Status, History
- IntelliView App/Browser Test & Inspection with control

NCE-1000

To LAN

## Potter Panel Networks – Sole & Dual Path (<=100 nodes)

Supported services include:

- Central station reporting

- Single panel or multiple panels by zone

NCE/F-1000          NCE/F-1000

To LAN (if rrequired)
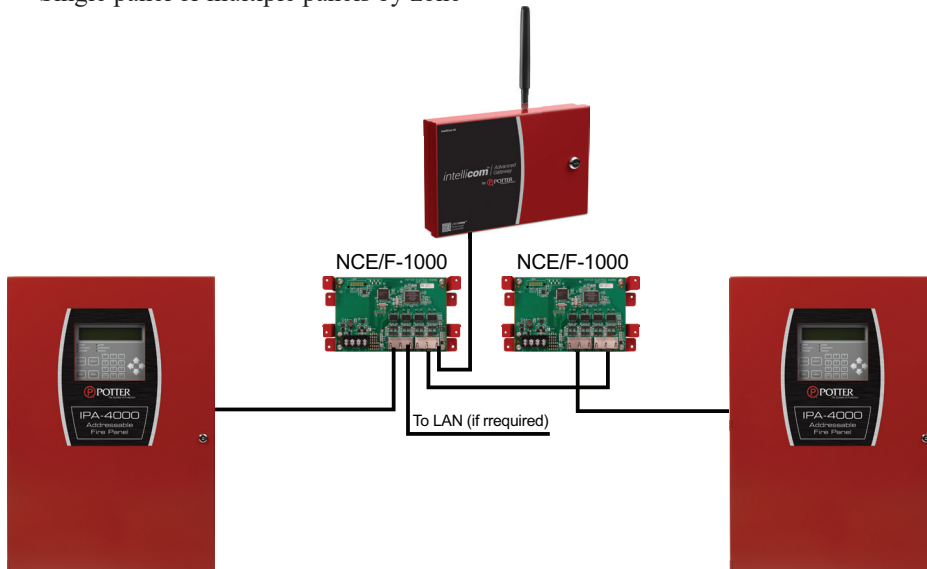
## Potter Panel with MC-1000(s)

Supported services include:

- Central station reporting

## Option 1: Sole Path Cellular Direct Connect To Potter Panel

Connect Potter alarm panel to IntelliCom by connecting an Ethernet cable from the silver RJ-45 Ethernet connector on IntelliCom to the P-Comm Ethernet port on the Potter fire alarm panel. All wires connecting with IntelliCom should be in conduit or otherwise protected, but no segregation of circuits is necessary. IntelliCom is now ready for activation.
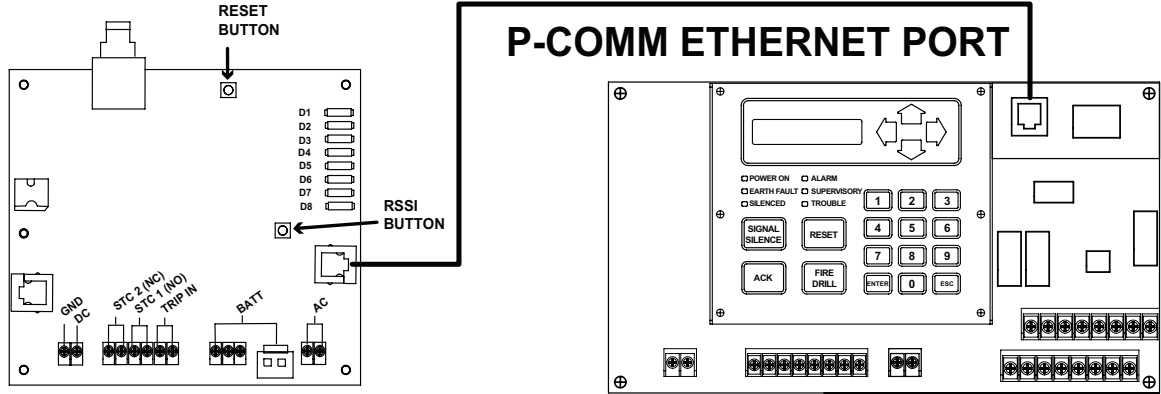
**CELLULAR ONLY CONNECTIONS**
**SEE POWER OPTIONS**

## Option 2: Sole Path Cellular and/or LAN Connection To Potter Panel

Connect Potter alarm panel, IntelliCom, and LAN (if required) to a UL listed Ethernet switch. The NCE-1000 can be used as the UL listed switch. Other third party UL 864 listed switches are also acceptable. All wires connecting with IntelliCom should be in conduit or otherwise protected, but no segregation of circuits is necessary. IntelliCom is now ready for activation.
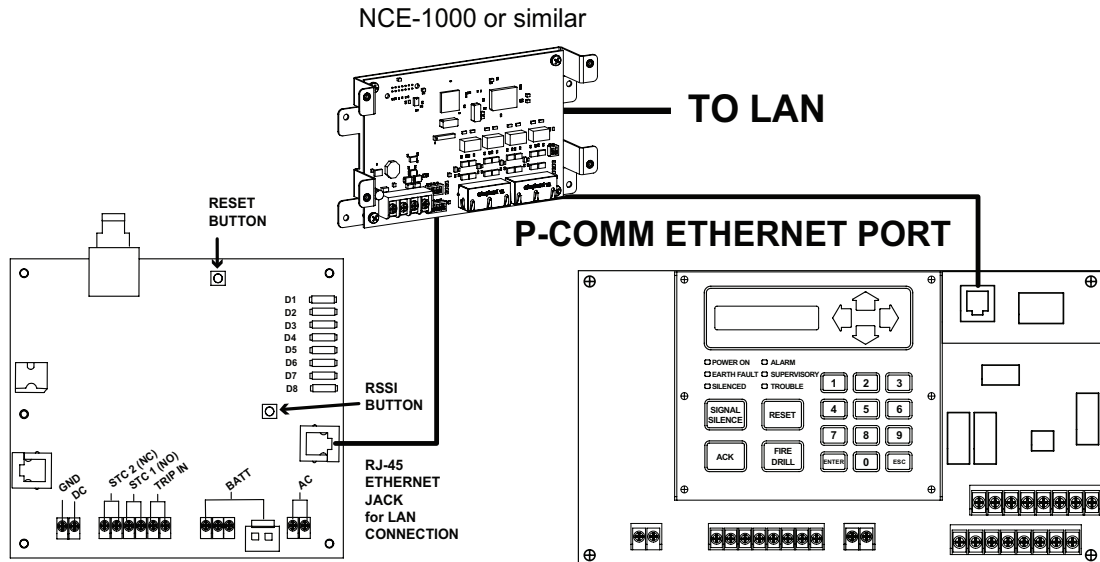
**CELLULAR W/ LAN CONNECTIONS**
**SEE POWER OPTIONS**

## DACT Connection (For use with non-Potter panels)

Connect alarm panel to IntelliCom by connecting a cable from the modular telephone jack (DACT) of the alarm panel into the black RJ-45 jack of IntelliCom. If using a LAN connection, connect a cable from a router or other premises LAN port to the silver RJ-45 jack of IntelliCom; the LEDs on the jack should illuminate or flash to indicate the LAN port is active. Consult PCB Layout section above for jack guidance. All wires connecting with IntelliCom should be in conduit or otherwise protected, but no segregation of circuits is necessary. IntelliCom is now ready for activation.



**CELLULAR ONLY CONNECTIONS**



**DUAL PATH OR LAN PRIMARY CONNECTIONS**
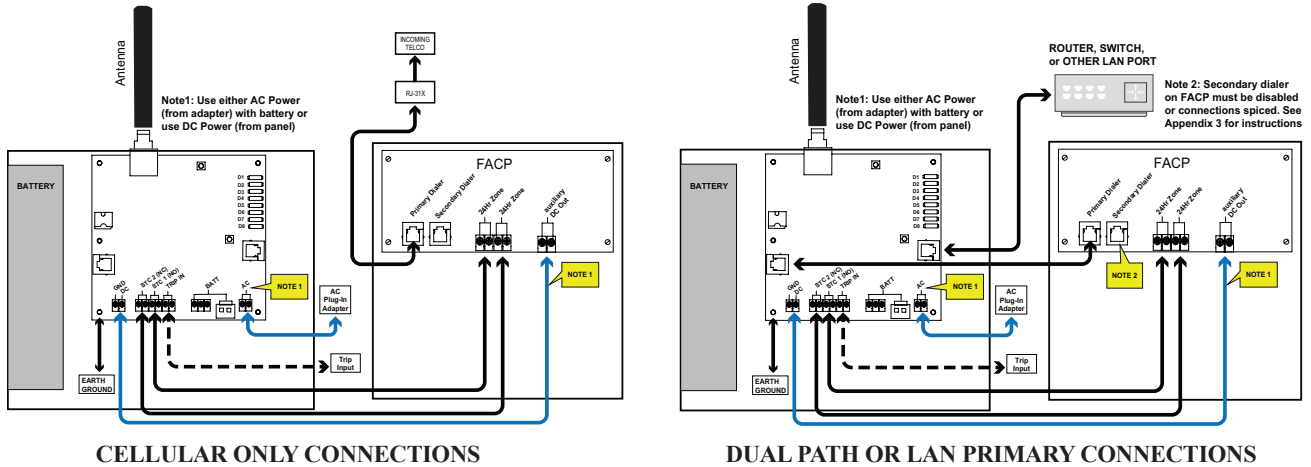
**UL Compliance NOTE:** For Fire System installations, all connections from the alarm panel and IntelliCom must be mechanically protected and no greater than 20 feet in distance.

Create an event on the alarm panel and confirm that IntelliCom enables the alarm panel to transmit alarm events. IntelliCom will transmit the initial activation signal over the cellular network and confirm activation with the PCC (if registration was completed prior to installation).

During processing of the first alarm signal over the cellular network, IntelliCom will transmit to the PCC all programming parameters along with the information (Central Station number and account code) from the alarm panel. Once this information is received, the PCC transmits a message back indicating that the unit is activated. When this message is received the LEDs on the communicator will begin operating in normal mode and Activation LED 1 will remain on. The LAN connection between IntelliCom and the PCC will automatically be validated after IntelliCom is activated and configured (if it is in dual path mode). When that pathway has been validated, LAN LED 6 will remain on.

NOTE: The initial alarm is to confirm registration and activate IntelliCom. This alarm will NOT be transmitted to the Central Station.

# Section 7: IT

## IT: Ethernet/IP Network

IntelliCom and the Potter fire panels connect directly or through a 10/100 Mbps Ethernet wired connection.

## IT: IntelliCom/IntelliView Network Bandwidth

IntelliCom Advanced Gateway is a low bandwidth system. Actual bandwidth usage will depend on the number of devices and panel activity. A worst-case system with 1000 Panels will use 11 kbps.

## IT: IP Addresses

The IntelliCom Advanced Gateway and fire panels can use a static IP address or DHCP. Using static IP addresses will reduce the risk of communication problems. Potter requires an IP latency of less than 200ms.

## IT: Cybersecurity

The IntelliCom Advanced Gateway has encrypted communications as follows:

Communication Information
- Potter Fire Panel to IntelliCom: Unencrypted XML
- IntelliCom Advanced Gateway to Potter PCC: 256 Bit AES encryption
- IntelliCom Advanced Gateway to Potter IntelliView: 256 Bit AES encryption

Data from the Potter PCC to the central station is typically unencrypted as required by the central station
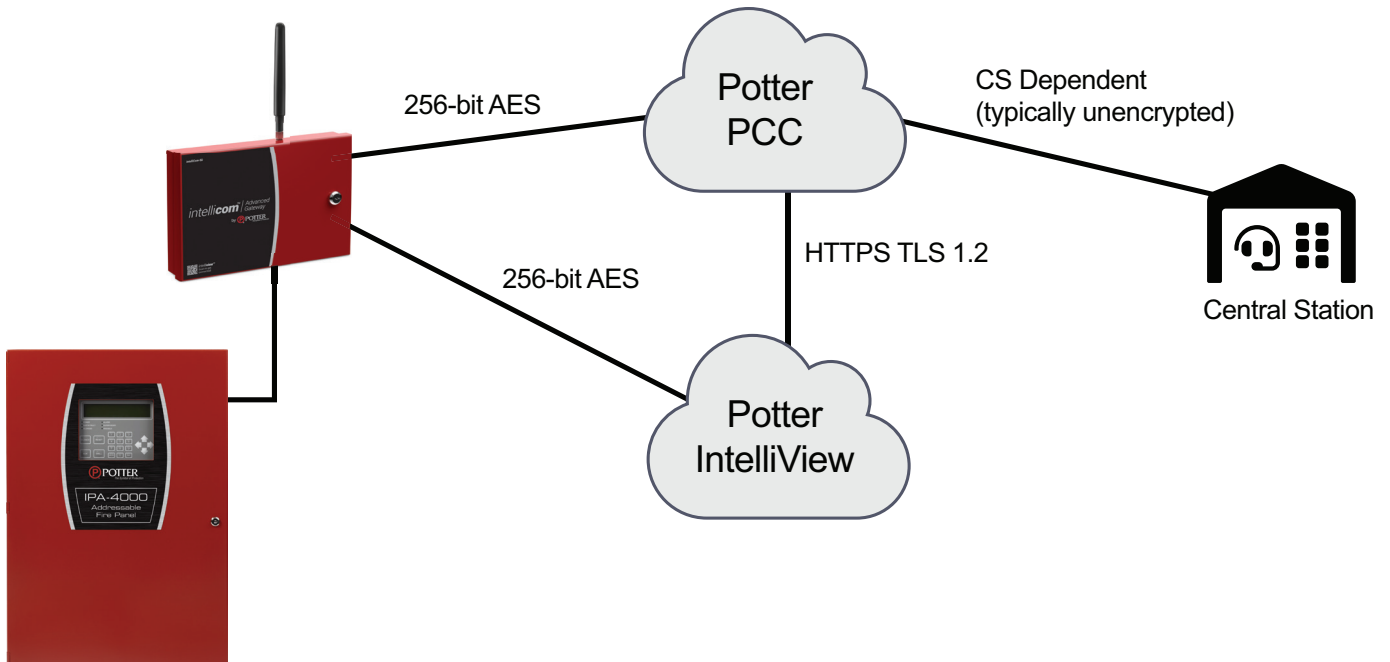
## Section 8: Billing

Apart from the purchase of the IntelliCom hardware, there are several potential fees associated with using IntelliCom:

- Monthly charge for cellular service (sole path cell/cell primary or cell backup)
- One-time activation fee for each communicator
- Non-toll-free charge – if IP communication fails, the IntelliCom PCC can attempt to send events to the central station using POTS This service is available as a backup option and requires a non-toll-free number with an additional fee.
- Reactivation fee for units that are detached.

There is no proration for monthly charges.Potter will supply a bill for all activated IntelliCom units. The first month of service is to begin the following month after a unit has been activated with Potter. Subsequently, when a unit is deactivated the following month there will be a Final Network charge equal to the monthly service fee. Payments are delinquent if not received by Potter by the due date shown on the monthly invoice. Potter may suspend or terminate Service on accounts that remain unpaid thirty (45) days beyond the invoice due date. Potter shall have no liability of any kind to Reseller if the Service is suspended or terminated for nonpayment. If an account is disconnected for nonpayment, a fee per IntelliCom unit will be charged as a reconnection fee. Please see the Potter IntelliCom Terms of Use for more detail.

## Section 9: Central Station IP Delivery Setup

To establish a connection with your preferred central station, complete the Central Station IP Delivery Setup form.  The IntelliCom Advanced Gateway possesses the capability to send signals to multiple central stations. Our team will assess the compatibility of the central station and notify you of the approval status through an automated email within 24 hours (not including weekends). Should any complications arise, we will reach out to you directly.

- Go to www.pottersignal.com/forms/central-station-setup
- Complete the Central Station IP Delivery Setup form
- Our team will assess the compatibility of the central station and notify you of the approval status through an automated email within 24 hours.
- Should any complications arise, we will reach out to you directly.

Rapid Response, WHIRC WH International, and Security Central have the capability to associate a phone # to an IP mapping. This can be found on www.potterintellicom.com and going to Dealer-> Dealer Profile->IP Receivers and choosing Central Station Mapping.

## Section 10: Features

This section summarizes the key features of IntelliCom Advanced Gateway.

### Operating Mode

The IntelliCom Advanced Gateway is comprised of transmission devices that are installed at protected premises to provide signal transmission over cellular and Internet-enabled LAN connections for alarm systems. IntelliCom transmits alarm signals over the nationwide digital cellular network if the premises Internet connection has been disrupted or compromised, when there is no LAN connection available, or when set for primary or sole path use of the cellular pathway. When set in LAN primary mode, IntelliCom will first attempt to transmit alarm signals over the LAN pathway.

### Alarm Format Support

**Potter Panel Ethernet Connection**
- Contact ID

**DACT Connected Panels**

- Pulse Formats:

  - o 3+1 pulse; 10pps, Double Round, 1400 Hz ack
  - o 3+1 pulse; 20pps, Double Round, 2300 Hz ack
  - o 3+1 pulse; 40pps, Double Round, 2300 Hz ack
  - o 4+2 pulse; 20pps, Double Round, 1400 Hz ack

- ◦ o 4+2 pulse; 20pps, Double Round, 2300 Hz ack
- ◦ o 4+2 pulse; 40pps, Double Round, 2300 Hz ack
- Contact ID
- Modem IIe/IIIa2/4
- SIA2 (SIA-DC-03 level 2 release at 300 baud)
- Sonitrol
- DMP

NOTE: The IntelliCom default program setting is for auto detection of the panel alarm format.

Auto Format Detect feature allows the communicator to adapt to receive any listed format. If the alarm format is changed for any reason; the communicator will adjust to accept the new format.

**UL Compliance NOTE:** Hexadecimal account numbers can be used with 3+1 or 4+2 formats, as well as Contact ID and Modem (4 or 10 digits for Contact ID, 4 digits for Modem).

The installer should verify compatibility at the time of installation.

While the IntelliCom Advanced Gateway supports the above formats, some formats may not meet the requirements for fire systems set in UL 864. Contact ID and SIA2 are the only formats identified as complying beginning with UL 864 10th Edition. If in doubt, check with your AHJ.

## Complete Supervision of Communication Path

IntelliCom continuously supervises the connection to the alarm panel and the cellular and LAN (when not set in cellular-only mode) pathways. If any of these pathways becomes inoperative, the condition is communicated to the panel in one of two ways:

### Potter Panels with Ethernet

No additional connectivity is required when IntelliCom is powered from the Potter fire alarm control panel. All supervision is contained in the Ethernet communications between the Potter panel and IntelliCom. If IntelliCom is powered with the supplied AC adapter or other source, then System Trouble Condition 1 (STC1) relay must be used for AC and battery conditions.

### DACT Connected Panels

IntelliCom can generate a relay trip output that can be connected to a zone input of the host alarm panel. These System Trouble Conditions (STCs) are described below.

## System Trouble Conditions (STC)

### LAN Failure Condition (LANFC)

IntelliCom monitors the LAN connection by verifying that messages can be sent to the Potter Communications Center (PCC) and an acknowledgment returned. If an initiated message cannot reach the PCC, a LAN Failure Condition (LANFC) is declared, and the LEDs indicate the type of trouble condition. The System Trouble Condition LED (STC LED 2) will flash 3 times, and the STC relay will trip after a programmable period of time. LED 6 (LAN STC LED) will also flash in a specific pattern to indicate the possible cause of the LANFC issue:

- Single flash: LAN connection not detected. Check the wiring connection between the IntelliCom's silver RJ-45 and premises LAN port (typically a router or switch).
- Two flashes: Unable to obtain IP Address from LAN. Check with the System Administrator for the premises. A static IP address may be needed.
- Three flashes: Unable to reach Internet. Check with the System Administrator for the premises. The Gateway Address may be incorrect.

- • Four flashes: Expected PCC acknowledgement not received. Call Potter Technical Support as additional troubleshooting will be required.

NOTE: When IntelliCom is configured to use a sole communications path (cellular), the LAN Failure Condition (LANFC) is not applicable and LED 6 will remain off.

### No Service Condition (NSC)

A no service condition (NSC) occurs when IntelliCom is unable to register with the cellular network. NSC can be configured to trip the supervisory relay output (STC relay) after a programmable period of time. The STC LED will flash 4 times immediately after losing cellular service and dial-tone will cease to be provided, independent of the STC assertion and programmed assertion delay. NSC restoral occurs immediately after cellular service has been acquired.

### Radio Communications Failure Condition (RFC)

Radio communications failure condition (RFC) occurs when IntelliCom is unable to receive a response from the PCC. When RFC is declared, the STC LED will flash 5 times, dial-tone will cease, and the STC relay will trip as programmed. Restoral of this condition occurs after 10 minutes or when a message is received from the PCC.

NOTE: When End-to-End acknowledgement feature is enabled, a message that fails to deliver to the Central Station will trigger an RFC condition.

### Panel Presence Failure (PPF)

Panel presence failure condition (PPF) occurs when IntelliCom is unable to detect the presence of the alarm panel. PPF is indicated by the STC LED flashing 7 times. A supervisory report is generated and sent to the PCC for Central Station delivery upon detection of PPF. Restoral of this condition occurs when the alarm panel is detected as present for the selected delay time.

NOTE: The factory default for PPF is Disabled and needs to be Enabled for its use. For the PPF feature to work, Tip, Ring, and the return connections for Tip and Ring must be connected between the panel and IntelliCom.

**UL Compliance NOTE:**   For Fire System installations, all connections from the alarm panel and IntelliCom must be mechanically protected and no greater than 20 feet in distance. PPF is not required on UL 864 listed fire panel installations.

## Link Supervision

To satisfy UL requirements, IntelliCom can enable link supervision at preset intervals. Once IntelliCom is provisioned with the Link Supervision option, the PCC constantly monitors all the enabled communication pathways and sends a specific message to the Central Station if a path is broken, or a compromise attempt is made. After the initial account activation has completed, the installer must verify the Link Supervision by turning off the device and making sure an alarm with the specific code is delivered.

## Complete Power Supervision

IntelliCom can supervise and report status of the backup battery and AC power source when powered from the AC adapter. It has an integrated control and power component which keeps the battery charged and is also supervised. Furthermore, IntelliCom can report on low voltage events when powered from a DC source at the alarm panel.

### Low/Missing Battery Condition (LBC)

When using AC as the main power source, IntelliCom checks the backup battery voltage on initial power-up and every 60 seconds thereafter. A low battery condition is detected when the battery voltage is less than 11.6 volts. When this condition occurs, a trouble state is annunciated by blinking the STC LED twice and tripping the STC relay. When the battery voltage increases to 12.1 volts, the STC LED and STC relay restore. IntelliCom also indicates Low/missing Battery Condition (LBC) when the battery charger fails, or the battery fails the periodic load test.

### AC Failure Condition (ACFC)

AC failure condition (ACFC) is detected immediately when the AC power-driven input from the plug-in adapter drops below 8 VAC. When this condition is detected, the STC LED blinks once, the Power LED turns off, and the STC trip output is activated after a preset time (default 2 hours). When AC power returns to normal (at least 10 VAC), the Power LED turns on immediately and the STC trip output restores after 60 seconds. When ACFC occurs, verify the power at the

outlet and the power coming from the AC adapter.

### Low Power Failure (LPF)

If IntelliCom is being powered through the DC connection, a Low Power Failure condition (LPF) is detected immediately when the DC power drops below 7.5VDC. When this condition is detected, the STC LED blinks once, the Power LED turns off, and the STC trip output is activated after a preset time (2 hours). When DC power returns to normal (>= 8VDC), the Power LED turns on immediately and the STC trip output restores after 60 seconds.

### Dial Tone Failure (DTF)

IntelliCom provides a telephone interface similar to that of a Telco central office. IntelliCom continuously monitors the circuit that provides dial tone to the alarm panel. IntelliCom supplies 30VDC by default but can be configured to supply 40VDC, as needed. A Dial Tone Failure (DTF) occurs when IntelliCom is unable to provide proper telephone signaling to the panel (voltage supplied unexpectedly drops). The STC LED will flash 6 times and the STC relay will trip.

### Catastrophic Failure (CF)

Catastrophic Failure (CF) is any condition that causes IntelliCom to stop functioning at all levels. The most common CF is a power failure event with insufficient battery backup. The STC1 and STC2 trip outputs are activated, and the visible indication is loss of all LED activity.

## Automatic Self-Test Report

The automatic self-test signal schedule is programmable as prescribed when IntelliCom is registered. The Central Station receives the automatic self-test report in the same format that the alarm panel normally uses. The self-test code and testing frequency are set during registration and can accommodate any code the Central Station expects. Self-tests include separate reporting for both the cellular and LAN pathways (unless in cellular only mode).

The PCC captures all current and historical data pertaining to the operation of IntelliCom when it processes the automatic self-test signal. This data contains current operational status (C.O.S.) of IntelliCom such as "All OK", "AC fail condition", "low/missing battery condition", LAN failure condition, or any combination of identified trouble conditions as well as the current cellular signal strength. In addition, the data also contains historical data for supervisory events that occurred since the last self-test or Check Status report signal was transmitted. This data includes the number of occurrences of AC fail conditions, low battery conditions, LAN failure conditions, and no cellular service conditions. This additional information is available by visiting www.potterintellicom.com (dealer log-in credentials required).

## Check Status Capability

Although IntelliCom has the capability for an automatic periodic self-test, a separate feature is provided for determining the current operational status of every IntelliCom Advanced Gateway. This feature is called Check Status and is used to provide real-time operational status for the communicator on-demand. It is useful in resolving STC events that are reported by the alarm panel to the Central Station. Check Status is available via www.potterintellicom.com (dealer log-in required). Check Status causes IntelliCom to upload current operational status data and historical data, just as the automatic self-test described above, except that the resulting status is held in the database at the PCC for review and is not forwarded to the Central Station.

## Programmable Supervisory Trip Output (STC) Relays

IntelliCom has two supervisory relay trip outputs available (STC1 normally open and STC2 normally closed) and both are energized in a powered-up state when no system troubles exist. This enables a supervisory trouble code to be transmitted to the Central Station when connected to an alarm panel's 24-hour instant input zone. The trouble conditions that trigger the STC relays are programmable via www.potterintellicom.com (dealer log-in required) to meet virtually any installation requirement.

Note: If using a supervised zone to monitor for the STC relay, please make sure that you follow resistance requirements of the alarm panel for supervision. Refer to manual supplied with the panel for further guidance.

The following supervisory features or combination of features are programmable to trip the STC relays to meet a variety of installation requirements:

• AC Failure Condition (ACFC) or Low Power Failure condition (LPF)

- Low or missing Battery Condition (LBC)
- No Service Condition (NSC)
- Radio Failure Condition (RFC)
- LAN Failure Condition (LANFC)

The following system trouble features are embedded in IntelliCom for tripping the STC relays and cannot be changed:

- Dial Tone Failure (DTF): insufficient voltage on connection to panel DACT
- IntelliCom not activated at PCC: communicator requires activation for use
- Catastrophic Failure (CF): all power is lost
- Transmit Disable command received from PCC: used when a runaway dialer situation is detected or by Customer Service, for example

**UL Compliance NOTE:**   In Fire installations, STC2 (normally closed) cannot be used for communicating with the alarm panel; only STC1 (normally open) can be used.

## Post-Installation Remote Programming

To continue to meet compliance requirements, once a unit is installed it cannot be remotely reprogrammed or receive updated firmware from Potter Technical Support without manual onsite intervention. To change the device settings or accept updated firmware, follow these steps:

- Locate and press the RSSI button on IntelliCom, holding it for at least 5-7 seconds.
- LED 5 will flash, indicating that a message has been sent to initiate a Maintenance Window.
- The maintenance window will last for 10 minutes after receipt of the device message.
- Log into the www.potterintellicom.com dealer portal and make the necessary configuration changes to the device, within the observed maintenance window (10 minutes).
- No device configuration changes can be made outside of the maintenance window.

NOTE: All alarm functions and transmissions will continue to operate during the Maintenance Window. The alarm system should be placed in test mode with the central station.

## Diagnostic and Status LEDs

Eight active LEDs are provided as a useful aid during installation and give installers an immediate visual indication of system status. The LEDs serve as indicators for activation, system trouble conditions, power, and communication indicators. They can also provide a signal strength indication, similar to the signal strength bars on a cellular phone. See Appendix B or the installation section for details.

## Optional DC Operation (12VDC or 24VDC)

IntelliCom can be operated solely by DC power provided by an alarm panel. This eliminates the need for a separate AC outlet at the protected premises. To use, connect 12VDC or 24VDC regulated power from the panel's auxiliary output to DC input and ground on IntelliCom. LED 8 will illuminate to indicate IntelliCom has a valid power source. The provided AC adapter must NOT be used when powering IntelliCom from the alarm panel.

NOTE: When using DC power from an alarm panel, IntelliCom must NOT be connected to an AC power source or to a battery. The panel's backup battery powers IntelliCom when the panel loses AC power. Be sure to account for this load when determining how to supply power to IntelliCom.

## Complete Factory Reset Option

A special function within IntelliCom allows you to perform a complete Factory Reset on the unit. This reset will change all unit settings back to a factory default configuration.

NOTE: Never attempt to do a Complete Factory Reset on an active account because the unit will need to be re-activated.

To begin the factory reset, follow these steps:

- Power cycle the device.
- Wait for all 8 LEDs to light in a solid pattern.
- Press and hold the RSSI button while the unit shows this solid light pattern and within 3 seconds.
- After 15 seconds of button press, the LEDs will begin to sequentially turn on and off in a cascading pattern indicating the factory reset is taking place.
- Release the RSSI button.
- After the factory reset concludes, the LEDs will go back to normal status.

# Section 11: Getting Ready

## Pre-Installation Checklist

Before attempting to connect IntelliCom to the alarm panel, make sure you have all the proper parts prior to going to the job site.

The following items are shipped with each IntelliCom Advanced Gateway:
- IntelliCom Advanced Gateway
- Cellular Antenna
- Antenna Cable and Mounting Bracket
- AC Power Adapter
- Battery Connection Cable
- Pluggable screw terminal blocks (2-, 2-, 3-, & 6- position)
- Enclosure Key – Note: Key on IntelliCom is different than the one used on Potter fire panels

The following items may be needed and are not included with IntelliCom:

- CAT-5 or higher cable for connection between Potter panel and IntelliCom
- Screws for mounting IntelliCom enclosure and antenna to the wall
- Solid or stranded electrical wire for connecting the STC relay outputs, trip input, or tamper to the alarm panel. The terminal strips can accommodate solid or stranded wire from 16 to 22 gauge in size.
- Telephone cable for panel DACT to communicator RJ-45 phone jack connection
- CAT-5 or higher cable for premises LAN to communicator RJ-45 Ethernet jack connection
- Conduit and connectors for protecting wiring
- Lead acid backup battery (minimum 4Ah) when installation will use the AC power adapter

Finally, certain installation and testing tools may be needed or helpful:
- Screwdrivers for mounting and making connections
- Standard telephone or lineman's butt-set for verifying communication between the panel and IntelliCom
- Device that you can use to verify a working LAN port

NOTE: IntelliCom registration must be completed in advance to avoid installation delays

## PCB Layout
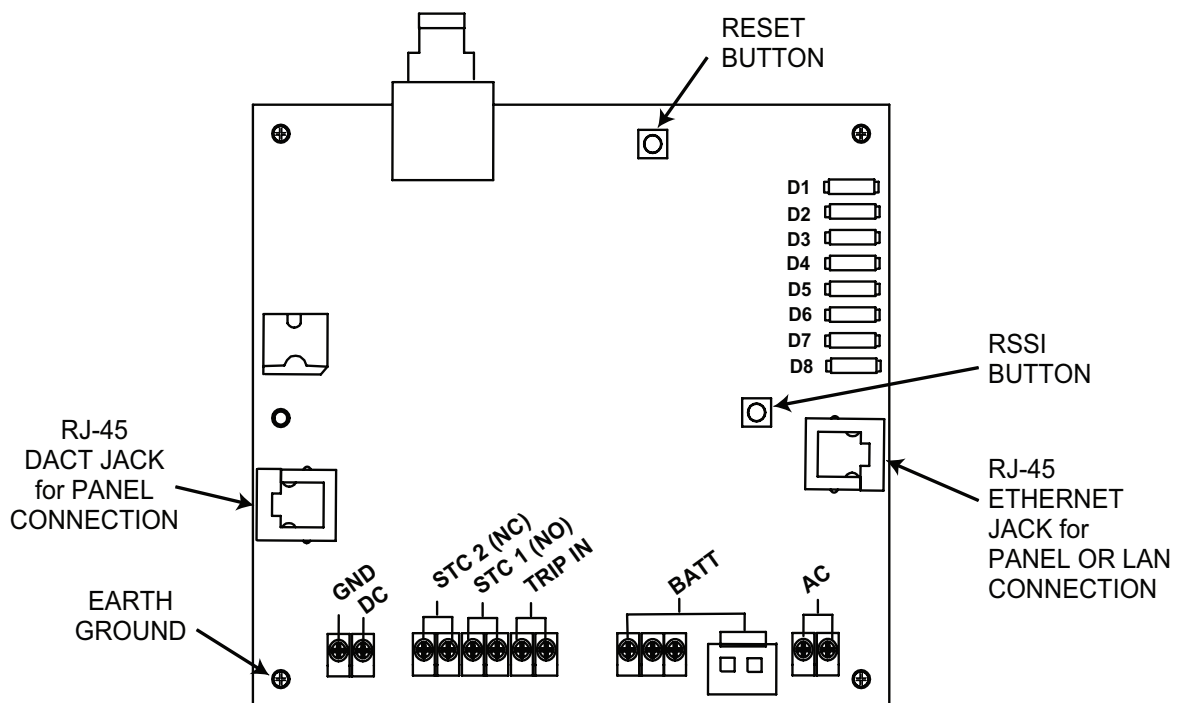
## Section 12: Installation

Note 1: Please refrain from applying power to your IntelliCom Gateway until specifically instructed to do so.

Note 2: Follow this document in the order provided.

### Create a PotterIntelliCom.com Account

Before registering any IntelliCom unit, it is essential to create a Dealer Account. To do so, please visit https://www. potterintellicom.com and provide the required information under the "Dealer Signup" section. This process only needs to be done once. Once completed, Potter Customer Service will send you an acknowledgement containing a unique Dealer Account Number, which will be used for all future Potter IntelliCom registrations. After establishing the Dealer Account, you can proceed to register and activate your IntelliCom units.

If your company already has an account, then speak to your organizations PotterIntellicom.com administrator to get your username and password.

1. Go to **https://www.potterintellicom.com**
2. Select **Sign Up** located on the bottom of the form
3. Enter your Potter IPA customer information.
4. Select **Next Step**
5. Enter your Billing Information. Double check that your business address and zip code are correct.
6. Read and accept the terms and conditions
7. Select **Next Step**
8. Review your entries
9. Enter the CAPTCHA
10. Select **Create Dealer**
    - You should get a pop-up with a green check that says "A new dealer has been created. Upon approval, you will receive an email with information about logging in."
11. Select **OK**
    - You will receive an automated email with an Account Pending message.
12. When your account gets approved (typically less than 24 hours), you will receive a subsequent email containing a temporary password. This password will allow you to log in to **https://www.potterintellicom.com**, granting you access to your account and enabling you to initiate the commissioning of your IntelliCom Gateways.

### Add a central station to your PotterIntelliCom.com Account

To connect your IntelliCom Gateway with your preferred central station, follow the steps below:
(Note – Only do this step once you have a PotterIntellicom.com account)

1. Visit **www.pottersignal.com/forms/central-station-setup** or select the link labeled Central Station IP Setup on **https://www.potterintellicom.com**.
2. Fill out the Central Station IP Delivery Setup form. Rapid Response, WHIRC WH International, and Security Central have the capability to associate a phone # to an IP mapping.
    - This can be found by going to Dealer-> Dealer Profile->IP Receivers and choosing Central Station Mapping.
3. Our team will evaluate the compatibility of the central station and send you an automated email within 2 hours to confirm the approval status.
4. In the event of any issues or complications, we will contact you directly for further assistance.

### Create an IntelliView Account

The IntelliView services offered by the IntelliCom Advanced Gateway provide significant benefits. To create an account and access these services, please follow the outlined procedure below:

1. Go to www.potterintelliview.com.
2. **Log In/Register**
    - **POTTERLINK USERS (most customers)**: Your PotterLink username and password will work wit IntelliView. Select Log In. If this is your first time on IntelliView it will prompt you for some data. You may need to consult

someone within your organization to get added to PotterLink.
- Non-PotterLink customer (not common) – Select Register and follow the prompts.
3. Select **Register**
4. Enter all the appropriate information. Be sure to save the email address being designated to IntelliView and password.
5. Select **Register**
6. A confirmation email will be sent to the designated email account. Open the email and select "Activate your account" (Please note that it is possible that the email could go to a junk/spam/quarantine folder). The link will route to **www.potterintelliView.com**. A screen should appear saying the account is now active.

## Program Panel (for use with Ethernet enabled Potter panels)

Make the following programming settings in your Potter panel:
1. **Users**: Add a User Code. This will be required when configuring IntelliCom. Insert a user code and ONLY select PC Connect Unsupervised Multi User
2. **LAN Settings**: A fixed IP address is recommended on the fire panel. Work with IT to determine best strategy. This IP address will be entered in www.potterintellicom.com
3. IP Reporting: Select Add IntelliCom. Choose reporting options, enter Account ID (if necessary), and Configuration Backup Password. The password is optional and used to password protect your panel databases that are backed up to IntelliView.
4. **Dialer:** Do not configure the panel for a dialer when using IntelliCom

   Note: The Potter fire alarm control panel is designed to support one IntelliCom communicator.

## Register an IntelliCom Gateway Subscriber

Follow this process to add an IntelliCom to a compatible Potter fire alarm control panel:
1. Go to **https://www.potterintellicom.com**.
2. Click on Register Subscriber
3. Enter the serial number from the IntelliCom: The label containing the serial number can be found on the inner bottom of the enclosure and should begin with either 1E1 or 1E2. If the serial number does not start with 1E1 or 1E2 then it will not register.
4. Select **Validate**
5. Subscriber Information
   - Enter the subscriber information.
   - Select **Next Step**
6. Templates
   - Choose - **Dual Path LAN Primary Cell Backup** or **Sole Path Default**
7. Device Mode of Operation
   - Alarm Format: CID is the only format supported for Potter panels connected over Ethernet.
   - Device Mode of Operation: **Cell Only** or **Cell w/ LAN**

     Selecting Cellular Only mode may require enabling other features to remain in UL compliance.

     NOTE: When an alternate communications pathway is connected to another alarm panel DACT interface (usually a Telco connection), IntelliCom can be used as either a Primary or Secondary Path. In such cases, panel settings determine whether the DACT connected to IntelliCom or the DACT connected to the alternate pathway will be used. Potter panels using the ethernet connection do not support this feature.
8. Self-Test Frequency
   - Choose: Never, 6-hour, Daily, Weekly and Monthly
   - Choose: Day or Night setting when in dual path mode
   - Enter the pass & fail codes when in dual path mode
9. Device Configuration

   IntelliCom provides the host alarm panel with two supervisory trip outputs for reporting an IntelliCom system trouble code to the Central Station. The supervisory trip outputs are programmable to suit various installation requirements. The programming options for these supervisory trip outputs can be any combination of the following:
      - **ACFC/LPF**: Trips 2 hours (programmable for up to 24 hours) after low power failure is detected.

Restores 60 seconds after power is restored. Must be set in the range of 1 to 3 hours in accordance with UL 864.

- **LBC**: Trips within 60 seconds on low battery condition. Restores when battery voltage >= 12.1VDC.
- **LANFC**: Trips after a 60-second delay (delay is programmable) on a failure of the LAN connection. Restores automatically after LAN connection is reestablished.
- **NSC**: Trips after a 60-second delay (delay is programmable) on no service condition due to loss of RF signal strength. Restores after RF signal strength is available.
- **RFC**: Trips on radio failure to communicate with the PCC. Restores after 10 minutes.
- **NSC Delay** - Must be 45 minutes or less in accordance with UL 864.
- **LANFC Delay**
- **AC Failure Report Delay**
- **Panel On-Hook Voltage (DC)** – Note that on Potter panels connected via Ethernet, this setting is not applicable and can be set to either value.

10. Select Next Step
11. How is the Potter Panel configured on the network?
    - Panel Ethernet Pathway Enabled: Enable this option when connecting the IntelliCom Gateway to the Potter panel via Ethernet. Disable when using a DACT.
    - Panel IP Address: If you are using a direct connection, you can leave the default IP address (169.254.150.70). If the panel has been configured with a different IP address, please enter it here.
    - Panel Connect Port: The default port is 32000. If you have assigned a different port for the panel, please enter it in this field.
    - Unsupervised PC Connect User Code: Enter the specific code you programmed into the panel for PC Connect Unsupervised Multi User.
    - PPF Reporting: Ensure that this option is turned on.
12. How will the device connect to the LAN?

    Provide the IP details for the IntelliCom Gateway. This configuration is necessary for establishing an Ethernet connection with a Potter panel, even when operating in sole path cell mode. The fire panel and IntelliCom rely on Ethernet communication and require an assigned IP address. Use the following when direct connecting the IntelliCom to the Potter panel.
    - IP address 169.254.150.101
    - Subnet Mask 255.255.0.0
    - Gateway 0.0.0.0
13. Where should the device get the Central Station account and receiver information?
    - Data Center: This is the recommended selection for Potter panels using Ethernet connectivity between the panel and IntelliCom. The phone numbers and account numbers provided here will override those programmed in the alarm panel when delivering events.
    - Alarm Panel: The receiver number programmed in the panel must be a 10-digit telephone number. It will be used when an IP mapping is not provided, or the IP connection fails.
    - Select a Primary and Secondary (optional) IP Receiver – At this point you should have already submitted your central station to Potter for approval and testing.  See above for Add a central station to your PotterIntelliCom.com Account
    - Central Station Account Code: Enter account code to be used for this panel.
    - IP Backup: IP only or IP with PSTN backup.  Also enter phone numbers if using dial up.
    - Central Station Account Code: Enter your 4-digit account code for the central station.
14. Select **Next Step**
15. What additional services should be configured?
    - **Link Supervision:** PCC constantly monitors all the enabled communicator pathways and sends a specific message to the Central Station if a path is broken, or a compromise attempt is made. Set to your needs and agency requirements. If registering IntelliCom to use cellular as the sole path of communications for commercial fire applications, use the link supervision option in accordance with local requirements (5-minute supervision or 60-minute supervision in the U.S.). Settings include:
        - Enable Link Supervision
        - Supervision Type
        - Supervision Restoral Code
        - Supervision Fail Code
    - **End-to-End Acknowledgement Checking**: The optional End-to-End Acknowledgement feature will cause a Radio Failure Condition when an acknowledgement cannot be relayed from the central station to

IntelliCom. This feature is not required in UL 864. Settings include:

- Enable End-to-End Acknowledgement: On/Off
- **Trip Input Settings**: When the input is tripped, a supervisory message is sent to the Central Station. This allows an external relay, separate from the alarm panel, to be connected to IntelliCom in order to provide independent sensor input for other functions, such as tamper detection. The message that is sent to the Central Station is configurable. IntelliCom will automatically be configured with a unit template that allows configuration of the trip input feature, including the message that is sent to the Central Station. If IntelliCom is configured to report restorals, the contact closure will also be reported. The trip input is normally wired such that there is a 2.2k ohm resistor in parallel with the external relay, so that a tamper condition (e.g., a cut wire) can be detected.
- The swinger function is designed to reduce the incidence of excessive messaging and alarms due to faulty equipment or installation. If enabled, the swinger function will discontinue sending trip input messages to the PCC once 10 trip events are detected within a 10-minute period. IntelliCom will resume sending trip input messages to the PCC after a 10-minute period without trip events.
    - Enable Trip Input Settings: On/Off
    - Swinger Settings: On/Off
    - All Events Reporting: On/Off – Configure message.
    - All Events Restoral: On/Off - Configure message.

16. Select **Next Step**
17. Select **Billing Plan**
    - Sole Path or Dual Path
18. Select **Next Step**
19. Check your settings.
20. Select **Register Subscriber**
    - You should get a pop-up with a green check that says "Your subscriber has been registered. The subscriber number is XXXXXXX."
21. Select **Ok**
22. Plug in the ethernet cable between the fire panel and IntelliCom Gateway
23. Plug in your IntelliCom Gateway to the FACP DC or external AC (or cycle power on the IntelliCom Gateway if it was already powered). This will initiate the program to be downloaded to the IntelliCom Gateway.
24. Wait for any IPDACT or other related troubles to go away. The panel should go to an All Systems Normal state.
25. Create an event on the fire alarm control panel to activate the IntelliCom Gateway.

## IntelliView Registration of IntelliCom Gateway

To utilize the IntelliView services with your IntelliCom device, it is necessary to register your IntelliCom. Please follow the provided step-by-step instructions:

1. Visit **www.potterintelliview.com**.
2. **Log in** using the credentials you previously created.
3. In the left-hand side panel, select "Settings" and then choose "Account Settings."
4. Under "Potter IntelliCom Username," enter the username you created on PotterIntelliCom.com.
5. Click on "**Register device**" (located at the top of the screen, marked with a "+" symbol).
6. Select "**IntelliCom Advanced Gateway**" from the drop-down menu under "Device Type."
7. Choose to add the gateway to an existing location or create a new one, as per your preference.

## Post-Installation Remote Programming

To continue to meet compliance requirements, once a unit is installed it cannot be remotely reprogrammed or receive updated firmware from Potter Technical Support without manual onsite intervention. To change the device settings or accept updated firmware, follow these steps:

1. Locate and press the RSSI button on IntelliCom, holding it for at least 5-7 seconds.
2. LED 5 will flash, indicating that a message has been sent to initiate a Maintenance Window.
3. The maintenance window will last for 10 minutes after receipt of the device message.
4. Log into the PotterIntellicom.com dealer portal and make the necessary configuration changes to the device, within the observed maintenance window (10 minutes).
5. No device configuration changes can be made outside of the maintenance window.

NOTE: All alarm functions and transmissions will continue to operate during the Maintenance Window. The alarm system should be placed in test mode with the central station.

## Physically Install the Communicator in Desired Location

### Identify Location for Placing the Communicator and Mount

Do not install IntelliCom in an area where the general public could reasonably be within 8 inches/20cm of the antenna or the router, switch, or port used for the premises LAN connection.

NOTE 1: Optimum RF performance can usually be found at the highest point within a building with the fewest number of walls between IntelliCom's antenna and the outside of the premises.

NOTE 2: To avoid interference with other electronic devices operating in the area, avoid mounting IntelliCom's antenna near other electronic devices

NOTE 3: IntelliCom's dipole antenna is designed for indoor installations only.

NOTE 4: To minimize risk of LAN communications being compromised, it is recommended that the router, switch, or port be in the same room and in no case more than 300 feet from the alarm panel and the IntelliCom Advanced Gateway.

Care should be taken to ensure that a large metal object such as a refrigerator or a metal cabinet is not located on the opposite side of the wall. If moving IntelliCom to a different location is not practical, you may need to use the provided extension cable to remote the antenna in order to receive adequate radio signal strength. Choose a high, visually secure spot using the guidelines below.

### Tips for Improved Radio Signal Reception

- The higher the antenna the better. Start in the drop ceiling above the unit and proceed from there, up to the roof if necessary.
- Remember, the antenna should be as inconspicuous as possible for greatest visual security.
- Try to keep the antenna away from sources of RF interference, including pumps, compressors, ovens, etc., or where metal objects can shield it or otherwise block the cellular radio RF signal.
- Place the antenna perpendicular to the ground, pointing either straight up or down. Do not mount the antenna horizontally.

Mount IntelliCom to the wall or other surface near the alarm panel. Care should be taken to avoid equipment that may make receiving a clear cellular signal difficult.

- Attach earth ground to the grounding screw located on lower left-hand corner of printed circuit board assembly and permanently mount the IntelliCom enclosure.
- Install mounting screws (not supplied) in upper enclosure mounting holes.
- Slide the enclosure onto the screws and tighten screws.
- Verify unit is secured by placing additional screws in lower mounting holes.

## Complete All Power-Related Wiring Connections

IntelliCom can be powered by AC (from a plug-in adapter) or DC (from the alarm panel) power. All wires connecting with IntelliCom should be in conduit or otherwise protected, but no segregation of circuits is necessary. Follow the instructions for the chosen power option.

### Option 1: AC Power Adapter and Backup Battery

To apply power to IntelliCom, attach a battery (not included) to the battery connector jack using the supplied battery cable. If the need for a different size cable arises, IntelliCom has an alternate screw-in terminal connection for the battery. Backup battery must be sized appropriately to meet installation requirements. A 12V/4Ah (7Ah preferred) lead acid battery should be used.

NOTE: It is important to follow battery manufacturer's instructions for maintaining the battery, including replacing the battery when it can no longer operate at the specified voltage level.

Connect the IntelliCom AC power adapter (supplied) to AC terminals using stranded copper insulated wire following wire gauge and length recommendations below:

| Recommended Wire Size | Length Not to Exceed |
|---|---|
| 18 ga | 20 ft |
| 16 ga | 40 ft |
| 14 ga | 60 ft |

Check with the AHJ to determine whether the adapter needs to be secured to the outlet or otherwise protected.

## Option 2: DC Power from Panel

When using this option, no other power connections (battery or AC) should be used. Power to IntelliCom may be sourced from the host alarm panel regulated 12VDC or 24VDC power limited auxiliary output. Connect the power and ground connections into the respective DC and GND connections on IntelliCom using a supplied 2-position terminal block.

**UL Compliance NOTE:** All wiring shall be in accordance with NFPA 72, and NFPA 70

## Determine Antenna Placement for Best Performance

### Connect Antenna

IntelliCom is supplied with an antenna. In most cases the antenna can be mounted directly to the unit. If necessary, the antenna may be moved to a better signal location using an extension cable and bracket (supplied). The performance of the antenna may be affected by the wall or materials contained within the wall chosen for mounting. These effects may not be clearly identified by RSSI monitoring alone. The wall materials may have a more pronounced effect on the antenna transmit band performance.

### Measure Received Signal Strength (RSSI) Special LED Indications During Activation

Measure the received signal strength by pressing and releasing the RSSI button. This switches the LEDs to signal strength mode. If you do not obtain the recommended minimum signal strength with the antenna mounted directly to the unit (see LED Indicator Guide RSSI Mode in Appendix B), you will need to use the extension cable to locate the antenna in an area with better reception. Generally, the higher the antenna the better.

If necessary, attach the extension cable to the unit on one end and the antenna on the other, slowly move the antenna to achieve maximum signal strength by pausing at each location for 6 seconds to allow enough time for IntelliCom to present an updated signal strength. Pick a spot where the most LEDs (up to four) are illuminated.

### Consider Other Antenna Options

Antenna issues are unlikely unless the premises are located in a fringe network coverage area, in a building below ground level, or in a metal structure. Potter offers a variety of high-quality low-loss antenna cables as well as high-gain antennas listed in page 2.

### Special LED Indications During Activation

If IntelliCom fails the activation process, it will be displayed on the LEDs.

- If LED 1 and LED 4 are flashing, IntelliCom has failed activation. The serial number is not in the database at the PCC. Clear the fault (see note below) and verify proper registration before resending an alarm signal.

- If LEDs 1-5 are flashing, there is an activation error. The activation message was NOT received at the PCC. Clear the fault (see note below) and retry transmitting an alarm signal. If IntelliCom fails a second time to activate, check signal strength.

NOTE: In order to clear the faults listed above, the RSSI button must be pressed twice. After the issue has been resolved

and the unit cleared, STEP 4 (Make Communications Connections and Activate) MUST BE REPEATED TO ACHIEVE SUCCESSFUL ACTIVATION OR THE COMMUNICATOR WILL NOT TRANSMIT ANY SIGNALS.

System Status LEDs Table:

| System Status LEDs | System Status LEDs Activation Indications |
|---|---|
| LED 1-5 FLASHING | Failed Activation Signal Too Weak |
| LED 1 & LED 4 FLASHING | Activation Error |
| LED 1 ON | Activation Successful |
| LED 6 ON | LAN Connection Validated |

### Verify Alarm Signal Transmissions Over Cellular Path

Before beginning this step, make sure that the LAN cable is disconnected.

Trip several alarms on the alarm panel and verify that the Central Station received them by calling the Central Station operator. When using a DACT, "listen" to communications between the alarm panel and IntelliCom using a lineman's butt-set in MONITOR MODE connected to the IntelliCom's "T" and "R" test pins.

Once you have verified the cellular pathway, reconnect the LAN cable.

If you are having problems getting reliable alarm signal transmissions, additional adjustments may be necessary:

- Recheck signal strength. You need at least RSSI = 2 (TWO LEDS ON SOLID) for adequate signal transmission in dual path mode or 2 ½ (TWO LEDS ON SOLID AND A THIRD FLASHING) for Sole Path mode. Also, check the antenna connector and make sure it is seated correctly.

### Verify Alarm Signal Transmissions Over LAN Path

This step is necessary when IntelliCom is in dual path mode with LAN either primary or secondary. Before beginning this step, make sure that the antenna is disconnected.

Trip several alarms on the alarm panel and verify that the Central Station received them by calling the Central Station operator.

Once you have verified the LAN pathway, reconnect the IntelliCom antenna.

## Connect Supervisory Trip Outputs

Ethernet connected Potter panels do not require supervisory trip outputs when IntelliCom is powered from the Potter fire alarm control panel. In cases where STC is required or desired, connect and test the supervisory trip outputs to the alarm panel.

Enabling of a local alarm or strobe light may be desirable when a trip is declared. The STC trip output can be used directly to activate a local signaling device, provided that the trip output is not needed to trip the alarm panel at the same time. If both a local signaling device and an alarm panel are required, then external relays are needed to provide additional uncommitted contacts.

**UL Compliance NOTE:** IntelliCom will have the trip output connected to the alarm panel to indicate A/C failure (ACFC) and low battery (LBC) conditions when the IntelliCom Advanced Gateway is using its own Power Supply and not powered by the panel. Ethernet connected Potter panels do not require supervisory trip outputs when IntelliCom is powered from the Potter fire alarm control panel.

**Reprogram Alarm Panel to Send Proper Code**

If necessary, reprogram the alarm panel to send a proper alarm code when tripped by the communicator's supervisory output. Program zone restoral as desired.
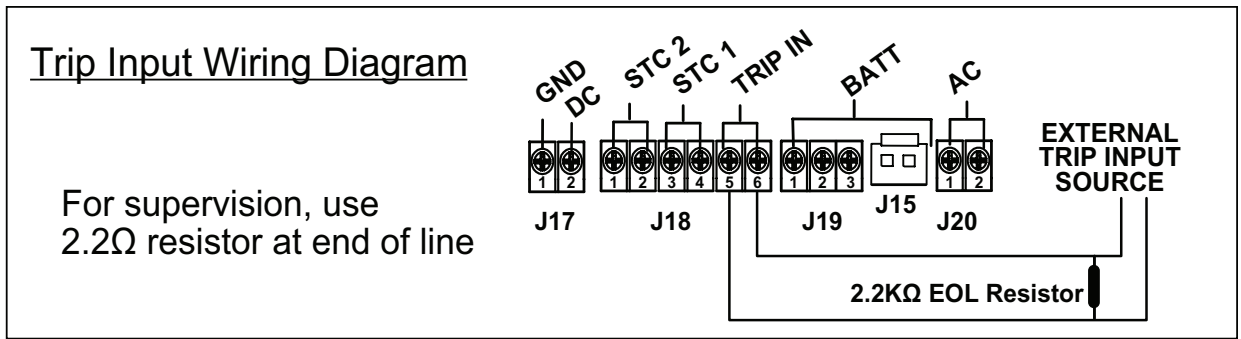
**Check Proper Operation of Supervisory Output**

Check for proper operation of each programmed supervisory output by causing it to trip the alarm panel. Make sure the proper LED illuminates and the proper trouble code is reported to the Central Station. Skip the testing of any supervisory functions that have not been enabled. Note that yellow LED 3 starts to flash when the alarm panel goes off-hook to report the alarm signal transmission.

- AC Failure Condition (ACFC): Disconnect the provided power adapter and check to see that the AC POWER LED goes out and the STC LED 2 flashes once indicating that AC power is missing. Reconnect the AC adapter and check to see that the AC POWER LED goes on and the STC LED 2 goes off indicating that AC power has been restored. No transmissions will be sent to the Central Station. The AC power must be off, continuously, for 2 hours before the STC relay causes the alarm panel to send a trouble code. When power is provided by a DC source, the Low Power Failure (LPF) condition applies and would present itself in the same manner as this ACFC.

- Low Battery Condition (LBC): Disconnect the battery and check within 60 seconds to see that the STC LED 2 flashes 2 times indicating that the battery is missing. Check to see that the alarm panel indicates the STC trouble code on the STC LED. Reconnect the battery and check during the next 60 seconds to see that the STC LED 2 goes off, indicating the missing battery condition has been restored. When power is provided by a DC source, LBC does not apply.

- Low Power Failure (LPF): If IntelliCom is powered through its DC connection, a Low Power Failure (LPF) will occur if the DC power into IntelliCom drops below 5.1VDC and restore after reaching 5.6VDC. LPF will present itself in the same manner as the ACFC.

- LAN Failure Condition (LANFC): Disconnect Ethernet LAN cable from the silver RJ-45 jack. LED 2 flashes 3 times to indicate LAN failure, and LED 6 will flash 1 time to indicate the LAN failure reason being a disconnected cable. If monitored, after configured period the panel transmits the STC trouble code (over cellular) to the Central Station indicating the LAN connection is not available. Reconnect LAN cable and check to see that LAN restoral is indicated by STC LED 2 turning off after the configured period.

- No Service Condition (NSC): Disconnect the antenna and the Ethernet LAN cable from the communicator. Check to see that the STC LED 2 flashes 4 times and, if configured, alarm panel will detect the tripped STC after the selected period of time indicating loss of RF signal strength. Reconnect the antenna and check to see that the STC LED 2 goes off within the configured period indicating RF signal strength restored. Reconnect LAN cable following the NSC test.

## Connect and Test the Trip Input (optional)

The trip input is connected to the external relay by wiring the external relay to the TRIP IN terminal of the terminal block, and the other side to the TRIP GND terminal of the same block (pins 5 & 6 on J18). See Wiring Diagram below.

Note that trip inputs are normally wired such that there is a 2.2k ohm resistor in parallel with the external relay, so that a tamper condition (e.g., a cut wire) can be detected. When the trip input functionality is being used, closing the trip contact will cause IntelliCom to send a message that the PCC will relay to the Central Station. If IntelliCom is configured to report restorals, the contact opening will also be reported.

## Trip Input Wiring Diagram

For supervision, use
2.2Ω resistor at end of line

GND
DC
STC 2
STC 1
TRIP IN
BATT
AC

J17    J18    J19    J15  J20

EXTERNAL
TRIP INPUT
SOURCE

**2.2KΩ EOL Resistor**

Be sure to use a UL-approved 2200-ohm resistor if the trip input circuit will be supervised (e.g., Bosch P110BL, Bosch EOL-22K, Elk ELR 22). The trip input circuit is not supervised for grounds.

UL Compliance Note: The trip input feature shall only be used for supplementary signaling. Initiating zones shall not be connected to the trip input.

## Connect Tamper Switch (optional in fire systems)

IntelliCom supports an optional tamper switch. Note that the tamper switch will not connect to the circuit board of IntelliCom.

### Optional Use or As Required by AHJ

A tamper switch can be used to report unauthorized alarm system access by connecting it to a zone on the panel and designating the zone as Tamper Protection. Some local enforcing authorities may require the tamper feature be used.

# Section 13: Create IntelliView Account & Register IntelliCom

Using the IntelliCom services requires an IntelliView account. IntelliView is the cloud storage location for IntelliCom and Potter fire panel data. IntelliView cloud is also the conduit that allows Apps, Browsers and the Potter configuration tool to interact with the Potter fire panel.

## Create IntelliView Account

You will need to create an account in Potter IntelliView to use the Potter services.

NOTE: If you already have a PotterLink username (typically your email address) and password, then you automatically have an IntelliView account.

1. Go to www.PotterIntelliview.com
2. Select
   • "Log In" if you have an IntelliView or PotterLink account
   • "Register" if you do not already have an IntelliView or PotterLink account
3. Enter all the appropriate information. Save your log in credentials in a secure place.
4. If this is a new account, a confirmation email will be sent to the designated email account. Open the email and select "Activate your account" (Please note that it is possible that the email could go to a junk/spam/quarantine folder). The link will route to www.potterintelliview.com. A screen should appear saying the account is now active.

## Register IntelliCom in IntelliView

1. Access www.PotterIntelliView.com and log in to your account.
2. Click on the account settings and select the green "Set IntelliCom Username" button. Then, click on Save Changes. You should see a checkmark with the message "IntelliCom Account Linked." If you get a message that says IntelliCom Account not found, then you need to confirm that you are using the correct IntelliCom username.
3. From the top ribbon of the website, choose "Register Device."
4. Under "Device Type," pick IntelliCom Advanced Gateway.
5. Choose the specific IntelliCom unit that you have already activated before arriving at this stage.
6. Enter the remote access username and password for the fire panel. These are the settings that you configured using the Potter panel configuration tool.
7. Either choose an existing location or create a new one.
8. Click on Save.

## Access Through Browser or APP

IntelliView provides access to panels connected to IntelliCom in the supported configurations. It can be accessed through various platforms, including a browser such as Chrome or Edge, as well as iOS and Android Apps. The Apps offer the same interface and features as the browser version. To find the Potter IntelliView App, simply search for it in the respective App stores.

# Appendix A: Connection Guide

## Wiring Diagrams

The following wiring diagrams show the configurations in which IntelliCom can be used.

### Potter Panel Dual Path Wiring Applicable to Cellular or LAN Primary:

Physical installation is the same for either Dual Path mode of operation. The configuration chosen during registration is what determines which is the primary and which is the secondary path. In this configuration, the LAN connection will be monitored by IntelliCom. UL requires a UL listed Ethernet switch (e.g., NCE-1000) when connecting to a LAN. Connect the Ethernet within 20 ft and routed in conduit to network equipment in the same room (supervised, power limited)
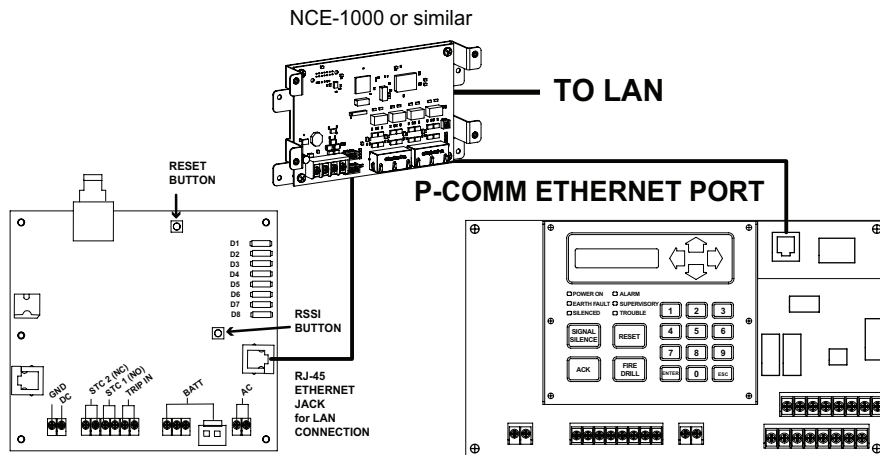
**CELLULAR W/ LAN CONNECTIONS**

### Potter Panel Cellular-Only Wiring (When Communicator is Only Path Used):

This configuration is used when IntelliCom is set to cellular only mode and is working in a system that does not require a secondary path. The alarm panel is connected directly to IntelliCom using an Ethernet cable, and there is no other form of communication that is active. For commercial fire installations, a specific level of link supervision may be required (frequencies of 180 seconds, 5 minutes, or 60 minutes).

**CELLULAR ONLY CONNECTIONS**

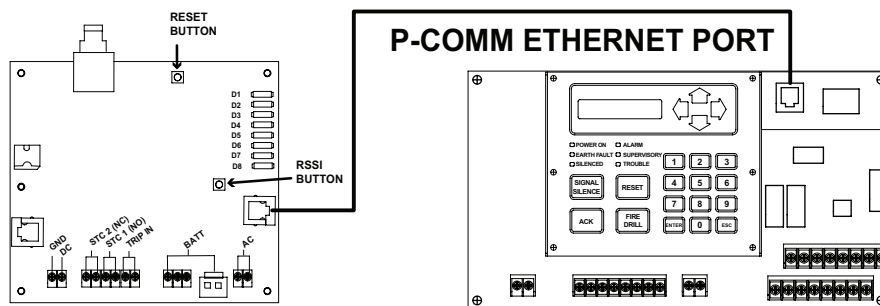## DACT Panel Dual Path Wiring Applicable to Cellular or LAN Primary:

Physical installation is the same for either Dual Path mode of operation. The configuration chosen during registration is what determines which is the primary and which is the secondary path. In this configuration, the LAN connection will be monitored by IntelliCom.



**DUAL PATH OR LAN PRIMARY CONNECTIONS**
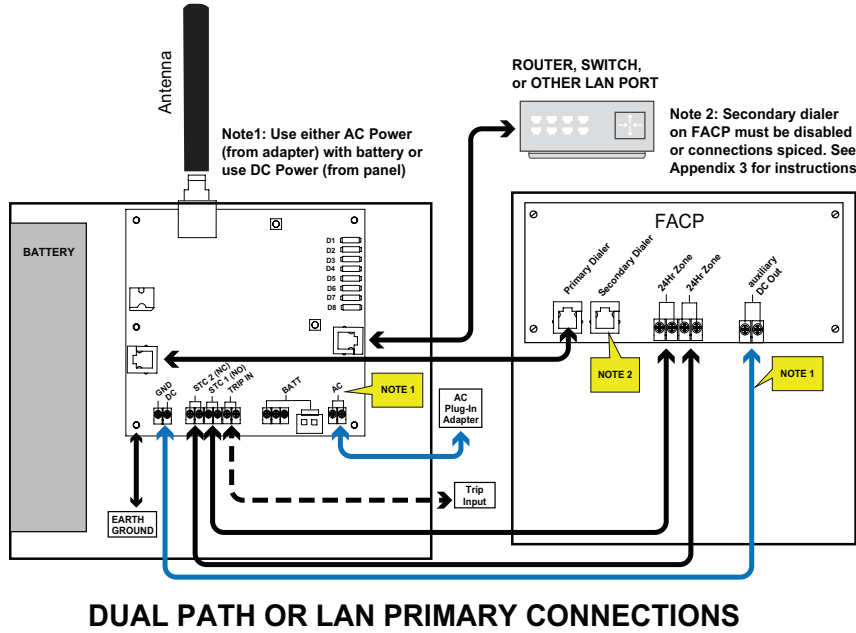
## DACT Panel Cellular-Only Wiring (When Communicator is Only Path Used):

This configuration is used when IntelliCom is set to cellular only mode and is working in a system that does not involve a Telco connection or a secondary path. In this case, the alarm panel is connected directly to IntelliCom, and there is no other form of communication that is active. For commercial fire installations, a specific level of link supervision may be required (frequencies of 180 seconds, 5 minutes, or 60 minutes).

In this configuration, the LAN connection is not being used or monitored by IntelliCom.



**CELLULAR ONLY CONNECTIONS**
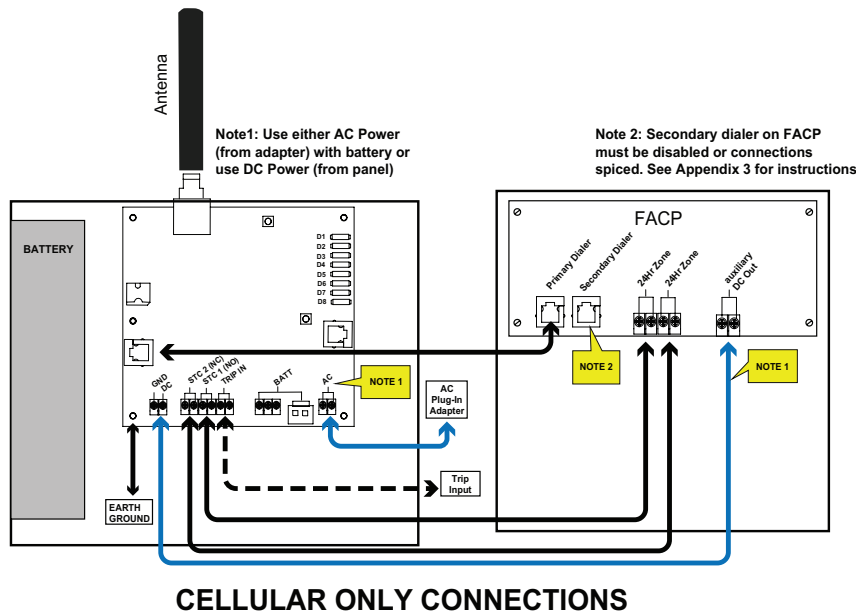
## DACT Panel Cellular-Only Wiring (When Second Communication Path to FACP is Used):

This configuration is used when IntelliCom is working in a system that also involves a Telco connection or another communication path not connected through IntelliCom. In this case, both IntelliCom and the alternate connections are being monitored by the Alarm Panel. It is the alarm panel that determines which communication connection to use for signal delivery.
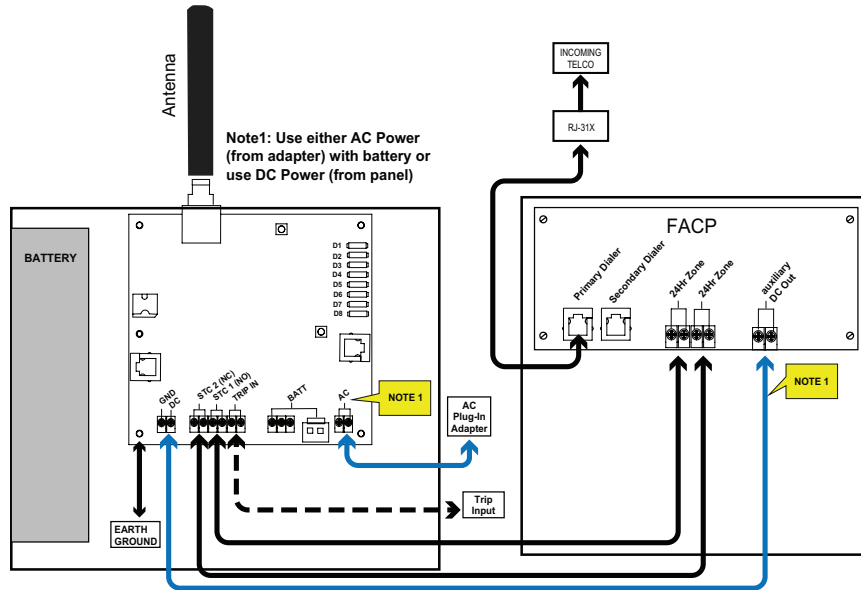
## Installation of AC Adapter

The plug-in AC Adapter, when used, must be installed in a protected metal housing. It is important to use only the adapter (sometimes referred to as a transformer) that is supplied with IntelliCom. Wiring from the adapter to IntelliCom must run through metal conduit. The adapter itself is plugged into a conventional 120-volt/60 Hz outlet connected to a dedicated circuit for the fire system.

The diagram below should be consulted as a reference.

COVER

8 IN.

8 IN.
FRONT VIEW
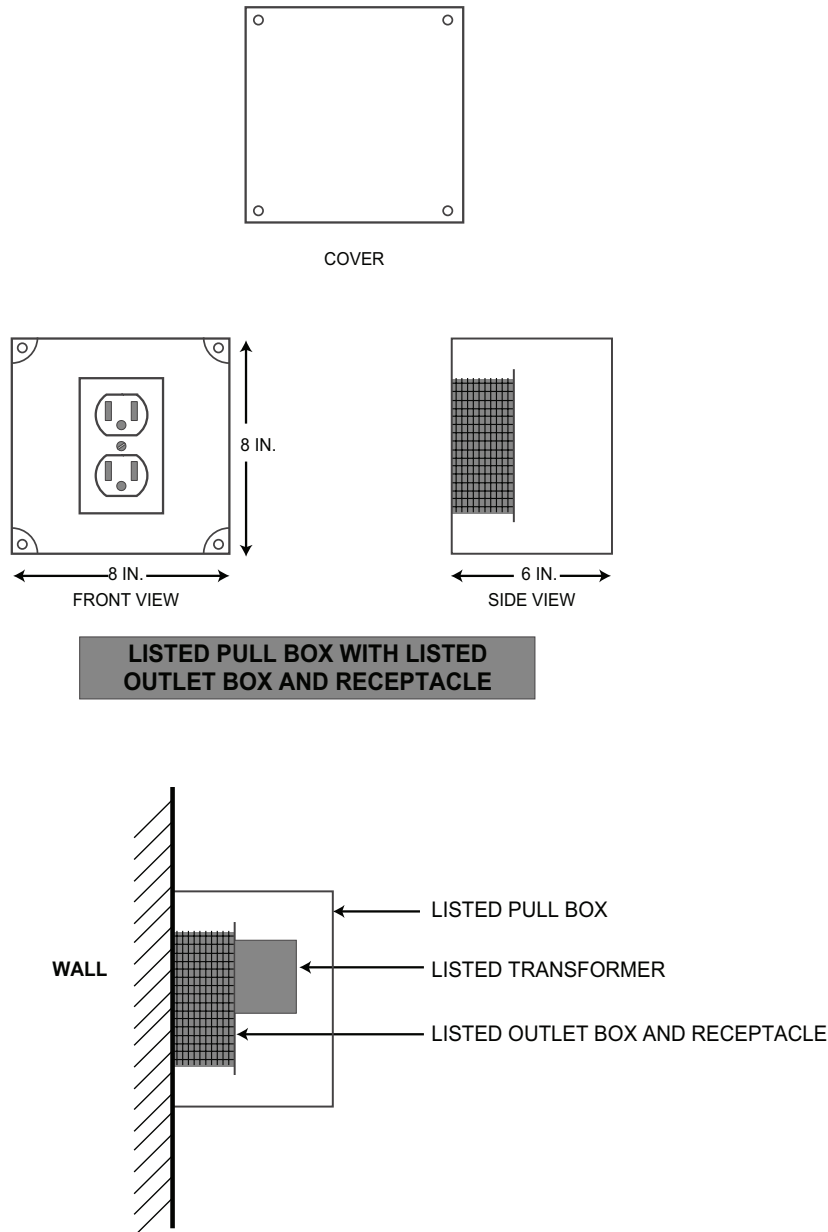
6 IN.
SIDE VIEW

**LISTED PULL BOX WITH LISTED
OUTLET BOX AND RECEPTACLE**

WALL

LISTED PULL BOX

LISTED TRANSFORMER

LISTED OUTLET BOX AND RECEPTACLE

## Tamper Switch Installation (Not required on UL listed fire systems)

The wiring from Tamper Switch to the panel shall be in a rigid or flexible metal conduit or be supervised. The tamper switch does not connect to the IntelliCom circuit board. If a tamper switch is needed, the TG-TAMPER Accessory can be purchased from Potter. Note that a tamper switch is required when using IntelliCom in a combination fire and burglary system

## RJ-45 Jack Pin Assignments

| Jack | Connects To | Pin Assignment | Function | Status LED Reference |
|------|-------------|----------------|----------|----------------------|
| Black | Digital Dialer input/ output of host alarm panel (DACT) | 1 = Brown R1<br>2 = Blue<br>4 = Green R (RING)<br>5 = Red T (TIP)<br>7 = ORANGE<br>8 = GRAY T1 | Connects alarm panel to communicator for transmitting alrm signals to TCC. | If PPF is ENABLED STC LED 2 will flash 7 times when alarm panel is not detected. |
| Silver | Router, Switch, or other LAN port | Per CAT-5 or higher standard, Crossover cables and PoE not supported | Connects communicator to premises LAN for transmitting alarm signals to TCC via internet. | LED 6 stays illuminated for verified connection. Otherwise STC LED 2 will flash 3 times and flash pattern on LED 6 will indicate reason. |

## DC Terminal Strip Pin Assignments

| Terminal Strip Pin | Definition | Connects To | Function | LED Reference | Note |
|--------------------|------------|-------------|----------|---------------|------|
| 1 GND<br>2 DC | Power Input | 12- or 24- VDC Regulated Source | Provides power to the unit | Power LED 8 on for valid power | Consumption rates vary based on input voltage used |

## Main Terminal Strip Pin Assignments

| Terminal Strip Pin | Definition | Connects To | Function | Status LED Reference |
|--------------------|------------|-------------|----------|----------------------|
| 1 STC2<br>2 STC2 | Supervisory Relay Trip output for programmable trouble conditions. Normally Open | 24-hour trip zone input on alarm panel | Enables transmission of programmed supervisorory trouble code (see diagram or installation section) | STC LED 2 |
| 3 STC1<br>4STC1 | Supervisory Relay Trip output for programmable trouble conditions. Normally Open | 24-hour trip zone input on alarm panel | Enables transmission of programmed supervisorory trouble code (see diagram or installation section) | STC LED 2 |
| 5 GND<br>6 IN | Trip Ground and Trip Input | External trip relay | Allows an external relay to trigger an alarm signal | LED 7 |

## AC Terminal Strip Pin Assignments

| Terminal Strip Pin | Definition | Connects To | Function | LED Reference |
|--------------------|------------|-------------|----------|---------------|
| 1 AC<br>2 AC | AC Power Input | Provided AC adapter (120VAC, 160mA) | Provides primary power to communicator and battery-charging circuit. | Power LED 8 ON when AC is normal, OFF and STC LED 2 flashes 1 time when AC is low. |

# Appendix B: Troubleshooting Guide

This section provides a summary of all LED indications and their meanings, as well as the expected behavior of IntelliCom under various exception conditions.

## LED Indicator Guide Normal Operating Mode

| SYSTEM STATUS LEDS (NORMAL MODE) | | |
|---|---|---|
| **LED 1 ACTIVATION** | ■ OFF | **NOT ACTIVATED** |
| | □ ON | **ACTIVATED** |
| | ▣ FLASHING | **ACTIVATION DENIED** |
| **LED 2 STC (SYSTEM TROUBLE CONDITION)** | ■ OFF | **NO TROUBLE** |
| | ▣ FLASHING | **TROUBLE INDICATIONS(S)**<br>1 FLASH = LOW/MISSING POWER SRC<br>2 FLASH = LOW BATTERY<br>3 FLASH = LAN FAILURE (SEE LED 6)<br>4 FLASH = NO SERVICE<br>5 FLASH = RADIO FAILURE<br>6 FLASH = DIAL TONE FAIL<br>7 FLASH = PANEL PRESENCE FAIL |
| **LED 3 PANEL** | ■ OFF | **IDLE / ON-HOOK** |
| | ▣ FLASHING | **IN USE** |
| | ▣ FLASHING | **SUPERVISED**<br>(2 FLASHES EVERY 6 SECONDS) |
| **LED 4 PCC COMM** | ■ OFF | **IDLE** |
| | □ ON | **WAITING FOR COMM CENTER RESPONSE** |
| | ▣ FLASHING | **ACTIVATION DENIED** |
| **LED 5 COMM STATUS** | ■ OFF | **IDLE** |
| | □ ON | **INITIALIZING PATHWAYS** |
| | ▣ FLASHING | **SENDING/RECEIVING ACTIVITY** |
| | ▣ FLASHING | **LINK SUPERVISION ENABLED**<br>(2 FLASHES EVERY 6 SECONDS) |
| **LED 6 LAN STATUS** | ■ OFF | **NOT IN USE** |
| | □ ON | **LAN CONNECTED & OPERATIONAL** |
| | ▣ FLASHING | **LAN TROUBLE CONDITION:**<br>1 FLASH = DISCONNECTED FROM LAN<br>2 FLASH = NETWORK NOT DETECTED<br>3 FLASH = COMM CENTER NOT REACHED<br>4 FLASH = NO COMM CTR ACKNOWLEDGE |
| | ▣ FLASHING | **LAN INITIALIZING**<br>(1 FLASH EVERY 4 SECONDS) |
| **LED 7 TRIP INPUT** | ■ OFF | **NOT TRIPPED OR NOT IN USE** |
| | □ ON | **TRIPPED** |
| **LED 8 POWER** | ■ OFF | **OFF OR USING BACKUP BATTERY** |
| | □ ON | **PANEL OR AC POWER CONNECTED** |

## Troubleshooting Quick Reference Table

| Telguard Event | | LED Indication | Relay Output | Message Sent | Internal Action |
|---|---|---|---|---|---|
| STC* (System Trouble Conditions) | LPF | Power LED 8 is off. STC LED 2 flashes continuously 1 time | Optional | Optional | Verify connection from panel aux power and correct |
| | LANFC | STC LED 2 flashes continuously 3 times. LED 6 indicates cause. | Optional | Yes | Wait for LAN restoral |
| | NSC | STC LED 2 flashes continuously 4 times. | Optional | None | Continue to validate signal strength. NSC restores when signal returns |
| | RFC | STC LED 2 flashes continously 5 times | Optional | None | Wait for RFC restoral |
| | DTF | STC LED 2 flashes continuously 6 times | Yes | Yes | Internal dial tone voltage supply circuit failure. |
| | PPF | STC LED 2 flashes continuously 7 times | No | Yes | Wait for PPF restoral |
| LANFC (LOCAL Area Network Failure Conditions) | LAN not detected | LED 6 flashes continuously 1 times | Optional | Yes | A cable must connect the communicator to an operational LAN port, router, or switch. |
| | LAN IP Address not set | LED 6 flashes continuously 2 times | Optional | Yes | Consult System Admin for premises Static IP address may be incorrect |
| | Unable to reach TCC | LED 6 flashes continuously 3 times | Optional | Yes | Consult System Admin for premises Gateway info may be incorrect |
| | No TCC response | LED 6 flashes continuously 4 times | Optional | Yes | Validation error. Contact Potter Technical Support for assistance.. |
| Not Activated | | Activation LED 1 off | Yes | None | Unit will not function until the first signal is sent to the TCC to activate |
| Automatic Self-Test | | LED 5 flashes during transmit | None | Yes (Self-Test) | Send Self-Test data to Central Station via TCC, return to ready state. |
| IntelliCom Check Status | | LED 5 flashes during transmit | None | Yes (Status Data) | Send Status data to the TCC for review. |
| IntelliCom Enable and Configureation Update | | LED 5 flashes during transmit | None | Configuration Data | The unit sends setup configuration to the TCC and switches to READY state to begin operation. |
| Disable TX (Initiated by TCC) | | LED 5 flashes during transmit | Yes | Yes (Status Data) | TX capability is disabled until further notice. The unit can still receive radio signals from the TCC. |

## LED Indicator Guide RSSI Mode

IntelliCom has a Received Signal Strength Indication (RSSI) Mode that works similarly to the bars on a cellular telephone. LEDs 2 through 5 will illuminate to represent the quality of the cellular connection: the more LEDs illuminated (i.e., the higher the number of bars), the better.

A simple press and release of the RSSI button will place IntelliCom in RSSI mode and another simple press will exit RSSI mode. Note that while the RSSI button is held in, LEDs 2-5 will blink in unison once per second.

| RSSI Value | LED'S illuminated | RF dBm |
|---|---|---|
| NO SVC | LED 5 = slow flash, LEDs 4-2 = off | N/A |
| 1 | LED 5 = on, LEDs 4-2 = off | $\leq$ - 111 |
| 1 ½ | LED 5 = on, LED 4 = slow flash, LEDs 3-2 = off | $\geq$ - 110 |
| 2 | LEDs 5-4 = on, LEDs 3-2= off | $\geq$ - 100 (Minimum recommended for dual path) |
| 2 ½ | LEDs 5-4 = on, LED 3 = slow flash, LED 2 = off | $\geq$ - 100 (Minimum recommended for sole path) |
| 3 | LEDs 5 -3= on, LED = off | $\geq$ - 80 |
| 3 ½ | LEDs 5-3 = on, LED 2 = slow flash | $\geq$ - 70 |
| 4 | LEDs 5-2 = on | $\geq$ - 60 |

NOTE: When LED 1 is on in RSSI mode, it indicates more than one cellular tower within range.

# Appendix C: Commercial Fire Signal DACT Installation

IntelliCom Advanced Gateway is suitable for use as a dual path cellular communicator that replaces both Telco requirements by the panel. By following the IntelliCom installation guidelines, the installer can provide the best conditions for a stable, sole path or dual path connection. To ensure that the cellular path to be used for signaling has the highest reliability possible, it is necessary to confirm two additional conditions, beyond what is outlined above.

## IntelliCom Cellular Signal Strength

Installation instructions for the IntelliCom Advanced Gateway indicate that a cellular signal strength of -90dBm (RSSI LEDs 4 and 5 on, with LED 3 flashing) is sufficient. While this is suitable for normal use, an additional level of signal integrity will minimize false alarm supervision failures caused by interference and atmospheric fading. Because of this, it is always recommended that the device should be installed in a location that provides the best signal strength possible.

## DACT Panels - Configure Fire Alarm Panel to Use Single Communication Device

Fire panels are typically provided with two Telco connections in order to provide multiple reporting paths. With the IntelliCom having a single RJ-45 jack for connecting to the panel, one of these DACT connections are not necessary for UL 864 compliance. However, the panel will continue to supervise that unused line unless changes are made at installation time.

There are two methods for removing supervision alarms at the panel caused by disconnecting the second Telco connection. Either method can be used.

1.  Disabling the Second Telco Connection
    Some fire panels have a configuration mechanism to disable the second Telco connection. Once the second Telco connection is disabled, the panel will no longer supervise the connection. This is the preferred method of removing supervision alarms at the panel caused by removal of the second Telco connection.

2.  Connecting the Telco Connections Together
    The IntelliCom Advanced Gateway can provide dial tone to both Telco connections, if the Telco connections are connected together, such that TIP is connected to TIP and RING is connected to RING. The two connections will receive dial tone in much the same way that multiple extensions in a household are connected together. If this method is used, the installer must take care to ensure that dual path reporting is not enabled on the panel, or else simultaneous alarm reports from the two Telco connections may interfere with each other.

    Test IntelliCom thoroughly when using this method. Verify the panel does not report a trouble condition with the second line, especially when the panel is reporting to the central station.
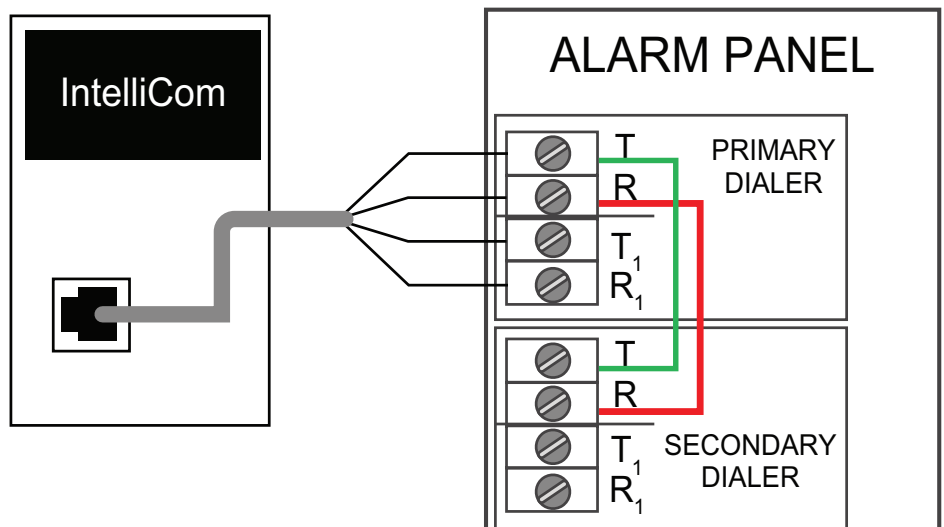
## **Appendix D: Commercial Supervision**

The NFPA 72 2013 Edition updated the requirement to supervise the transmission path in a dual path configuration to at least once every 6 hours, from an earlier version of 24 hours. This requirement is upheld in 2016 and 2019 edition as well. Potter commercial fire products support this feature, and it must be enabled when using more than one path, by selecting 6-hour supervision during registration.

# Appendix E: Compliance with UL Standards

| UL COMM FIRE | |
|---|---|
| Optional | Encolsure Tamper Switch connected to 24-hour circuit |
| Yes | AC adapter lines in conduit (length limits apply) |
| Yes | AC adapter plugged into unswitched outlet |
| Yes | AC adapter plugged into dedicated branch circuit |
| Yes | Antenna cable in flexible conduit concealed |
| 24-hour | Battery Backup requirement if using AC |
| Yes | Flexible or Rigid conduit required to protect connections # |

All conductors of a fire alarm system shall be installed in metal raceway of the totally enclosed type or incorporated in a cable having a metal armor or sheath; these metal elements must be grounded

# Appendix F: Detailed Specifications

## Dialer to Interface Electronics

The integrated interface allows digital dialers to dial into the cellular radio network.
- Line voltage: -30 Vdc (default) or -40Vdc into standard telephone device when on-hook.
- Dial tone: Precision 350 + 440Hz +/- 1%. 10 digits dial out capability.
- Mode: Loop start only. 25mA +/- 10% off-hook.

## Power

| Input Voltage (Source) | Current Draw | | |
|---|---|---|---|
| | Idle No Supervision | Idle w/ Link Supervision | Max during Transmission |
| 12VDC regulated (from panel) | 125mA | 128mA | 260mA |
| 24VDC regulated (from panel) | 64mA | 68mA | 140mA |
| 12VAC (from plug-in adapter) | 400mA | 420mA | 490mA |

### Field Wiring Electrical Ratings

STC 1 relay: 30VDC/120mA Max Load (Resistive)
STC 2 relay: 30VDC/100mA Max Load (Resistive) – Not suitable for UL 864 applications
Trip Input: 30VDC/100mA Max Load

### Power Limited Circuits

DC Input: J17
STC1, STC2, and Trip Input: J18
Battery Charging: J15 & J19
AC Input: J20

UL Compliance NOTE: Wiring in power limited circuits shown must be separated from wiring in non-power limited circuits by at least ¼ inch.

### System Faults Impedance

Trip Input: < 750 Ω considered short circuits and > 10 kΩ considered open circuits

## Digital Cellular Radio and Other Specifications

The IntelliCom Advanced Gateway radio provides data connectivity on LTE-M networks. The transceiver is FCC compliant, meeting all requirements of Part 15 and 27 testing. It is also certified as compliant to PTCRB requirements.

- Supported Bands on units with AT&T service: 2, 4, 12
- Supported Bands on units with Verizon service: 4, 13
- FCC ID: N7NHL78M
- Antenna Port: TNC connector (female), 50-ohm
- RF performances are compliant with 3GPP recommendation TS 36.101
- LAN connection Ethernet cables must be straight through Cat-5 or higher
- Physical Size: 11.4 x 7.75 x 3.3 inches (exclusive of antenna)
- Shipping Weight: 7 lbs.
- Operating Environment: 0° C to +49° C; 0 - 93% humidity (non-condensing)