

# IPDACT-2/2UD

## FireWatch™ IP Series: New IP Fire Alarm Communicator



Control/Communicators

### General

The new FireWatch™ IPDACT-2 and IPDACT-2UD are communicators based on the original IPDACT optional digital alarm communications module from Fire•Lite. The new IPDACT-2 duplicates the previous function found in the original IPDACT but adds two supervised inputs, two additional outputs, an improved terminal strip and the addition of several legacy panels to the compatibility list. The IPDACT-2UD version 6.0 adds a modem daughter board (2UD) that supports upload/download over the Internet or a customer's Intranet.

Refer to the *IPDACT Series Installation Document* PN 53109 for more information.

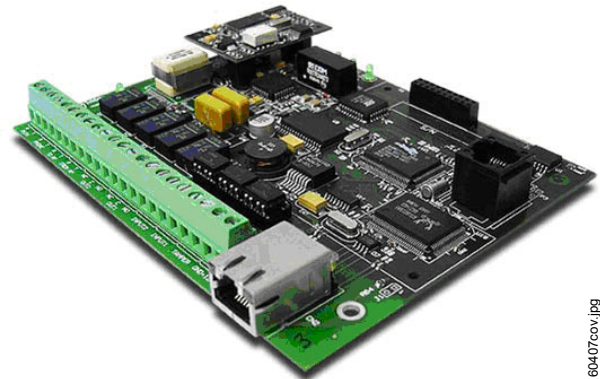
Both models connect to the primary and secondary communication ports of the panel's DACT, converting the analog signals into digital signals at the panel for transmission to a compatible Teldat VisorALARM PLUS IP receiver at a central station. The panel operates normally during an alarm, supervisory or trouble event and sends contact-ID formatted analog information out of the telephone ports to the IP Communicator. The IP Communicator reformats the data into highly encrypted Ethernet UDP packets for transmission to a compatible receiver at the central station. This new listing only requires an IP connection. No backup analog phone line is necessary. Customers can still use a traditional backup phone line from the panel's second phone port if desired.

With Contact ID DACT-equipped panels from Fire•Lite, the IP Communicators allow for faster and more economic digital alarm transmissions, improving response times and decreasing costs found with traditional analog systems. They offer value-added features such as supervised line functionality, where a central station can detect any off-line alarm panels within seconds. On the central station side, a compatible VisorALARM® Plus IP receiver from the Teldat Corporation emulates popular receiver formats and allows seamless integration into existing conventional central station architectures.

The benefit of an IP Communicator is that it is always on, increasing the security and supervision of the central station connection from once every 24 hours for a supervisory test signal to once every 30 - 90 seconds.

The IPDACT-2UD allows a programmer to upload and download data between the user's PC and a supported fire alarm panel. The panel and PC can be anywhere on the world wide web or within a corporate intranet.

The user's computer runs a program called UDPORT.exe to capture the modem signals from Fire•Lite's PK-PLUS or the newer PS-Tools panel programming software. In UDPORT.exe the user enters the main IP address of the VisorALARM receiver, the UDP port to use, username, and password. Instead of using the PC's modem, this process communicates between the IPDACT-2UD's modem at the panel and the panel's own modem. While speed is still limited to the baud rate of the panel's modem, panel communications are now 100% digital over IP from the remote program PC all the way to the remote panel installation. This eliminates any dropouts in modem communications caused by noise or other factors. If an alarm should occur during upload or download, the panel is able to interrupt modem communications immediately and transmit the alarm to the central station.



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Each IPDACT-2UD is registered in the VisorALARM Receiver with a unique serial number. A subscriber number must be entered into the subscriber number database field for each IPDACT-2UD. This same number is entered into the subscriber telephone number field (panel to call) in PK-PLUS or PS-Tools as if calling the panel on a telephone. If these numbers match, and the master username and password are correct, full duplex communication is permitted to the panel.

**NOTE:** UL 864 Ninth Edition prohibits downloading to a panel without entering a local panel password. Uploading is permitted at any time without entering a password.

### Features

- Listed to UL Standard 864, Ninth Edition when used with Fire•Lite UL 864 Ninth Edition-listed panels.
- Eliminates the cost of two dedicated phone lines. Only the customer's shared IP equipment is required.
- Increases connection supervision to the central station from the once-a-day test signal to once every 30 - 90 seconds.
- Requires no change to the existing panel configuration. The IP Communicator connect directly to the primary and secondary analog panel telephone ports.
- Fast alarm transmission (less than 10 second transmission time).
- Works over any type of customer-provided Ethernet 10/100 Base network connection (LAN or WAN), DSL modem or cable modem.
- Data transmits over standard contact-ID protocol but is secured with the industry's highest level of encryption (AES 512 bit).
- Supports both dynamic (DHCP) or Public and Private Static IP addressing.
- Supports dual-destination IP receiver address for high redundancy configurations: all signals are sent to a secondary address should the primary become unavailable.
- User programmable UDP ports for flexibility and compatibility with firewalls and other network security components.
- Supports an optional third maintenance receiver installed at the end user's facility that permits local alarm monitoring.

Alarms are received simultaneously at both the central station and the customer's facility. A filter can be applied to announce specific alarm types such as trouble-only events.

- Supports upload/download using existing, familiar programming tools.
- Two supervised inputs and two outputs.

## Easy to Program

There are three ways to configure the IP Communicator:

1. Console terminal using the HyperTerminal™ software program found on all Microsoft® operating systems.
2. Local or remote Telnet session via Ethernet connection.
3. Windows-based configuration software (shipped with IP Communicator).

The IP Communicator can be pre-programmed. The programmer enters all central-station information and an auto-registration password. This is saved to the unit's flash memory. When the IP Communicator is installed at the site and connected to the Internet/Intranet, it registers itself with the central station receiver. This eliminates the need for a PC at the remote site for programming. The IP receiver at the monitoring station will automatically configure other parameters during registration.

- For most installations, the only required parameters are:
- Selection of either DHCP or Static IP
- Destination primary and secondary receiver IP addresses
- Account identification number (CID)
- Port number
- Installation password

All of these parameters are assigned by the central station. See "Installation Requirements" for full details.

## Panel Capabilities

The IPDACT-2/2UD unit is compatible with the following fire alarm panels: MS-5024UD, MS-5210UD, MS-9200UD, MS-9200UDLS, MS-9600 (with optional DACT-UD), MS-9600UDLS or MS-9600LS (with optional DACT-UD2), MS-5UD, MS-10UD, and MS-9050UD. Use 411 or 411UD Slave Dialer and HP300ULX power supply to connect to Alarm Trouble and Supervisory relay outputs of any competitive fire panel.

The following panels require an external enclosure kit (PN: IPENC or optional HP300ULX power supply with bracket kit PN: IPBRKT); both enclosures must be close-nipple to the FACP:

- MS-5024UD
- MS-5210UD
- MS-9200UD
- MS-9600 (with optional DACT-UD)
- 411 or 411UD Slave Dialer (for use with any competitive fire panel)

If using 411 or 411UD Slave Dialer with a competitive fire panel, the HP300ULX power supply is required for mounting and powering the IP Communicator. Order bracket kit PN: IPBRKT separately. Both enclosures must be close-nipped to the FACP.

The following panels may use an internal mounting bracket (PN IPBRKT) for use with the common enclosure or can use the HP300ULX power supply when more power is required:

- MS-9050UD
- MS-9200UDLS
- MS-9600UDLS or MS-9600LS (with optional DACT-UD2)

- MS-5UD
- MS-10UD

**NOTE:** See "Installation Requirements" for current draws.

## VisorALARM PLUS® IP Receiver

The *FireWatch*™ IP Communicator reports to the VisorALARM-PLUS IP receiver (manufactured by the Teldat Corporation). Each IP receiver can manage up to 3,000 IP Communicator accounts and is compatible with existing central station alarm monitoring software.

The VisorALARM IP receiver is based on high-availability router technology and uses a high-performance embedded operating system for higher reliability and efficiency. All IP receiver configuration and operating data is backed up to a smart card. This allows for an immediate equipment replacement within 60 seconds with almost no downtime and no information loss. The Primary and Secondary receiver configurations provide maximum level of redundancy and both can be backed up by additional "clustered" receivers for the highest reliability available in the industry. Both receivers communicate in real-time over the network to keep information synchronized and up-to-date. Each VisorALARM Plus Receiver can handle up to 20 concurrent TCP/IP connections from Upload/Download Users.

## Installation Requirements

The following are required for proper installation of the IP Communicator:

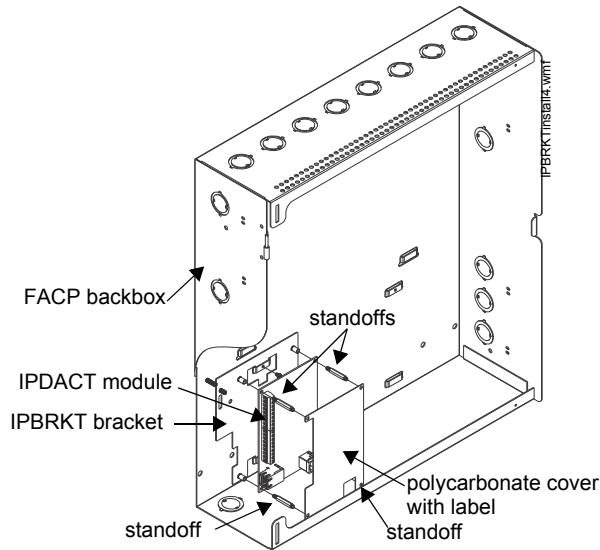
- 24 VDC nonresettable, filtered, regulated power:
  - IPDACT-2UD: 155 mA in alarm; standby 98 mA.
  - IPDACT-2: 136 mA in alarm; 93 mA standby.
- Ethernet network connection (ITE-listed router/gateway).
- Although not required to meet NFPA, a small UPS is recommended to provide backup power for customer-provided router/switch (the HP3-300ULX can provide 12 VDC backup power for small 12 volt routers drawing 500 mA or less for over 24 hours).
- Dynamic or static IP address (dynamic addressing requires DHCP server present on the local network. NOTE: DSL and cable modems typically use dynamic addressing as supplied by network providers).
  - \* Recommend Static IP addressing in enterprise or large networks
- UDP port for IP communication with the monitoring station (default port: 80 may be changed by central station).
- Destination IP addresses of the IP receivers where the communicator will be sending alarms and other events (If installed on a private Intranet, the gateway address of the public router will be required to allow the IP card to access the Internet and the public router at the central station).
- Panel account ID number (CID).
- Installer password (provided by the monitoring station managing the IP receiver).
- Separate username and password supplied by central station for upload/download operation. (Note: this is different than installation password.)

## MOUNTING METHODS

There are three mounting methods depending on project requirements and panel used.

1. The IP Communicator can be mounted directly inside the common enclosure used with the MS-9050UD, MS-9200UDLS, MS-9600UDLS, MS-5UD, and MS-10UD. When mounting inside the common enclosure the IPBRKT is used as

shown on the previous page. A special polycarbonate cover is supplied that serves to protect the unit from installed batteries.

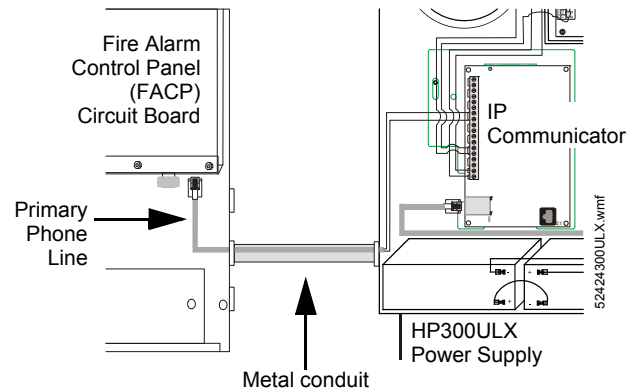


### Mounting in the Control Panel Enclosure

2. The IP Communicator can be mounted inside the small add-on IPENC enclosure. This is typically used with previous panels that did not use the common enclosure such as the MS-9600, MS-9200UD, MS-5024UD, and MS-5210UD. This will be connected to the fire alarm panel with a short piece of conduit.

**NOTE:** The 411UD application for monitoring Alarm, Trouble and Supervisory relays of a competitive FACP requires mounting both the 411UD and IPDACT-2UD inside the HP300ULX.

3. When more power is required, the IP Communicator can be mounted inside the HP300ULX power supply. The power supply should be connected to the fire alarm panel with a short piece of conduit.

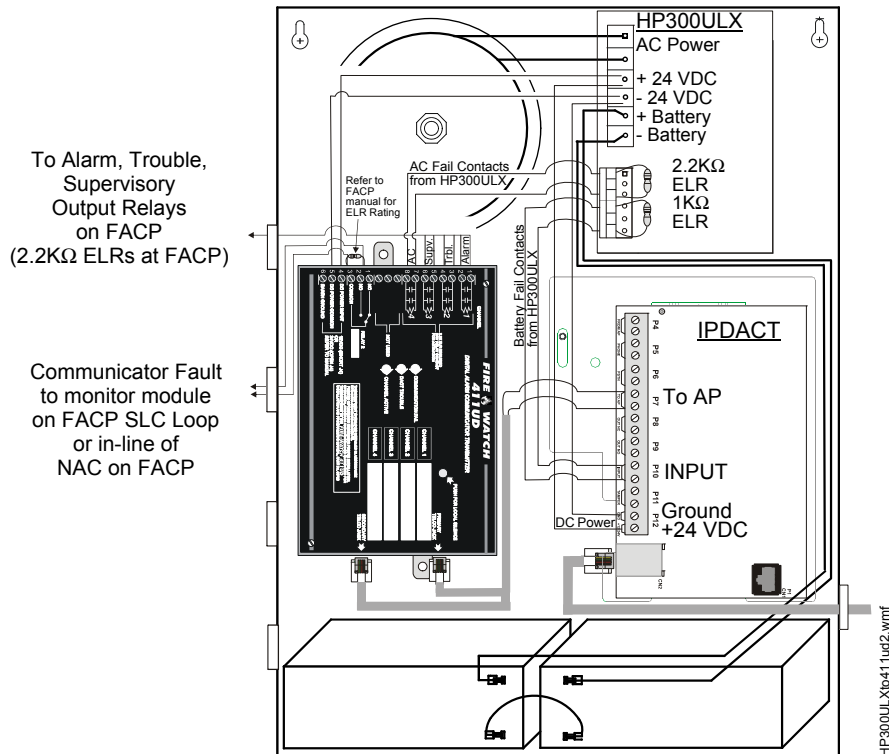


### Mounting in the HP300ULX Power Supply

**NOTE:** Refer to the IP Communicator Series Installation Document PN 53109 for additional installation information.

### PROGRAMMING OPTIONS

1. Console terminal using the HyperTerminal software program found on all Microsoft operating systems. Requires serial programming cable PN ALMSC-119.
2. Local or remote Telnet session via Ethernet connection. Requires either switch/hub connection or Ethernet crossover cable from laptop to Ethernet Port and programming PC. The



### Connecting the IPDACT, 411UD, and HP300ULX

PC's IP address must be set to the default range of the IPDACT-2/2UD such as 192.168.0.XX.

3. Windows-based configuration software (shipped with IP Communicator version 6.0 or higher). Version 6.0 permits use of either Ethernet Crossover cable or Serial Cable.

### ORDERING OPTIONS

**IPDACT-2:** IP Communicator. Includes configuration software, manuals, and prepared 30" telephone cable for connection to panel's DACT Telco ports.

**IPDACT-2UD:** IP Communicator with upload/download capability (2UD modem daughter board). Includes configuration software, manuals, and prepared 30" telephone cable for connection to panel's DACT telco ports.

**2UD:** Optional modem daughter board for upgrading an IPDACT-2 to an IPDACT-2UD.

**IPBRKT:** Mounting bracket kit consisting of screws and battery shield with standoffs. Required for mounting in lower enclosure section of MS-9050UD, MS-9200UDLS, MS-9600LS, MS-9600UDLS, MS-5UD, and MS-10UD. Required for use with 411 and HP300ULX in competitive fire panels.

**IPENC:** External mounting enclosure consisting of mounting bracket IPBRKT, and screws. Enclosure must be "close-nipple" to a panel. (Red)

**IPSPLT:** Y adaptor option to allow connection of both panel dialer outputs to one cable input to IPDACT-2/2UD.

**ALMSC-119:** Serial programming cable.

**HP300ULX:** Honeywell Power Products UL 1481-listed auxiliary power supply. Enclosure must be "close-nipple" to a panel via conduit. Requires IPBRKT purchased separately.

## System Architecture/Operating Theory

The *FireWatch* IP Communicators and an Ethernet connection simply replace the telephone lines as the primary communications path to the central station. It connects to customer supplied network equipment with a gateway to the Internet. The communicators provide supervised telephone line voltage to both panel DACT ports. Upon network communication loss, telephone line voltage is dropped to the panel and panel reports communication loss trouble. The communicators monitor the connectivity to both the primary and secondary receiver at the central station. Upon failure of a central station receiver the backup automatically and instantly assumes the primary role. The communicator supervises the connection to the central station at a minimum of once every 90 seconds.

For a Fire or Trouble event, The Fire Alarm Panel will send Contact ID alarm event information from its DACT port. The communicator will sense the off-hook status of the panel and accept all data. The IP Communicator will then immediately packetize the Contact ID information into UDP protocol and encrypt it with 512 bits of AES encryption and send it to the central station. The central station receiver will decrypt and unpacketize the Contact ID information and present it to the central station automation software. Upon operator acknowledgement the kiss-off signal will be sent back to the panel.

In addition to Contact ID alarm communication, the IPDACT-2UD version 6.0 supports upload and download to the panel from anywhere on the Internet. This communication uses standard modem control signals wrapped up in TCP/IP packets.

Standard programming software such as PK-PLUS or PS-Tools are used on the remote programming PC. A separate application (UDPORT.exe) is started on the programming PC. This software contains settings that include central station receiver IP address, port number, upload/download username and password (supplied by central station). UDPORT is set to a specific communication port that will be used by the programming software. The PK-PLUS program is also set to this same communication port. The programming software must contain a subscriber number that matches the desired remote IPDACT-2UD card's subscriber number set at the central station. PK-PLUS "dials" the remote via standard ATDT modem commands. The IPDACT-2UD v.32 modem daughter card sees the modem commands via TCP/IP and provides a RING to the panel. The modem on the panel handshakes with the local IPDACT-2UD modem and communications begin. While communications are limited to the panel's baud rate, the advantage is that all communications from the remote site programming PC all the way to the remote panel are fully digital and are not subject to drop outs due to phone line noise.

## Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 - 49°C/32 - 120°F and at a relative humidity up to 93% ± 2%RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F) However, the useful life of the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15-27°C/60 - 80°F.

## Agency Listings and Approvals

The listings and approvals below apply to the IP Communicator. In some cases certain modules may not be listed by certain approval agencies, or listings may be in process. Consult factory for latest listing status.

- UL: S2424
- CSFM: 7300-0075:223.

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