

IPDACT-2/2UD

FireWatch™ IP Series: New IP Fire Alarm Communicator



Control/Communicators

General

The new *FireWatch™* IPDACT-2 and IPDACT-2UD are new communicators based on the original IPDACT optional digital alarm communications module from Fire•Lite. The new IPDACT-2 duplicate 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.

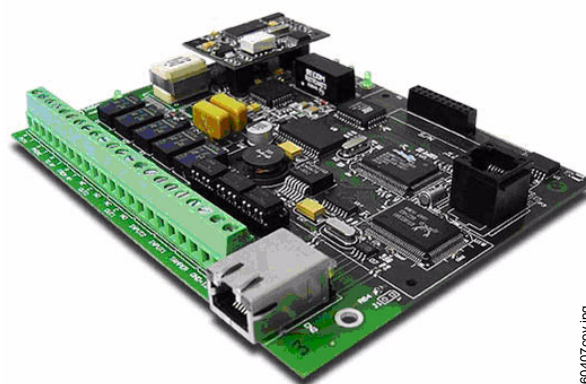
While it is not a DACT, nor is it listed as a DACT, both models connect to the primary and secondary communication ports of the panel's DACT, turning the analog signals into digital signals at the panel for transmission to a compatible Teldat VisorALARM PLUS IP receiver at a central station. The panel 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 then 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 however; customers can still use a traditional backup phone line from the panel's second phone port if desired.

Designed to work 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, which allows a central station to 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 to this type of signaling is that it is always on, thereby increasing the security and supervision of the central station connection from once every 24 hours for a supervisory test signal to once every 90 seconds.

The IPDACT-2UD model allows a programmer to upload & download data between the user's PC and a supported fire alarm panel. The panel & PC can be anywhere on 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 allows communication to happen between the IPDACT-2UD's modem at the panel and the panel's own modem. The benefit is that 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 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 Ninth Edition prohibits downloading to a panel without entering a local panel password. Uploading is permitted at any time without entering a password.

Features

- Saves the cost of two dedicated phone lines. Only the customer's shared IP equipment is required.
- Provides compatibility to newer low-cost, non-analog, digital telephone services such as cable, or fiber optics.
- Increases connection supervision to the central station from the once-a-day test signal to once every 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 10/100Base 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 annunciate 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 IPDACT-2UD:

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 or downloaded from www.firelite.com).

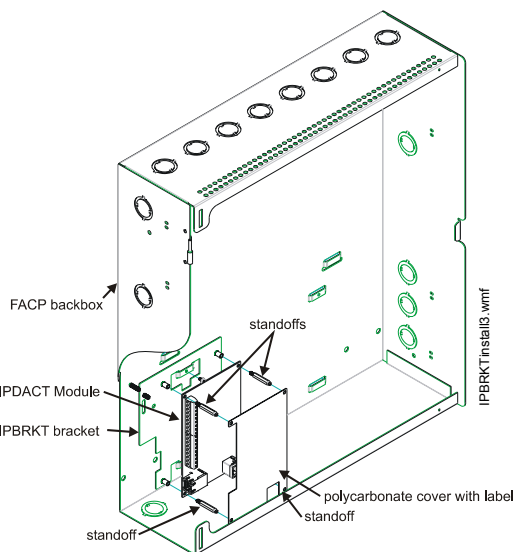
Note that it is possible to pre-program the IP Communicator prior to installation at the panel. An auto-registration password is entered (along with all other central station information) and saved in the unit's flash memory. When installed at the site and connected to the Internet/Intranet, it auto-registers 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-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-UD), MS-5UD,



Mounting in the Control Panel Enclosure

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)

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-UD)
- MS-5UD
- MS-10UD

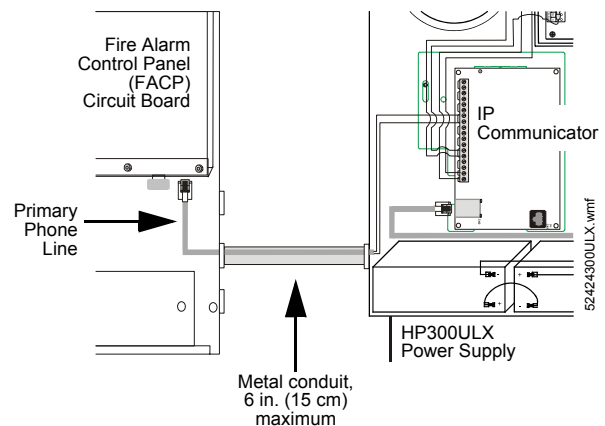
Max power required is 155 mA and may be supplied by the fire panel's power supply and back-up battery system.

NOTE: Standby power is 98mA, alarm is 155mA

VisorALARM PLUS® IP Receiver

The FireWatch™ IPDACT-2UD communicator reports to the VisorALARM-PLUS IP receiver (as 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



Mounting in the HP300ULX Power Supply

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 IPDACT-2UD:

- At least 155mA of electrical power available from the power supply to use for the IPDACT-2UD unit.
- Ethernet network connection (ITE-listed router/gateway).
- Although not required to meet NFPA, a small UPS is recommended if not provided by customer, to provide backup power for customer-provided router/switch (the HP3-300ULX can provide 12 VDC backup power for small 12 volt routers drawing 500mA 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).
- 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 IPDACT-2UD 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. A special polycarbonate cover is supplied that serves to protect the unit from installed batteries.

2. The IPDACT-2UD 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 no greater than 6 in. (15cm) in length.

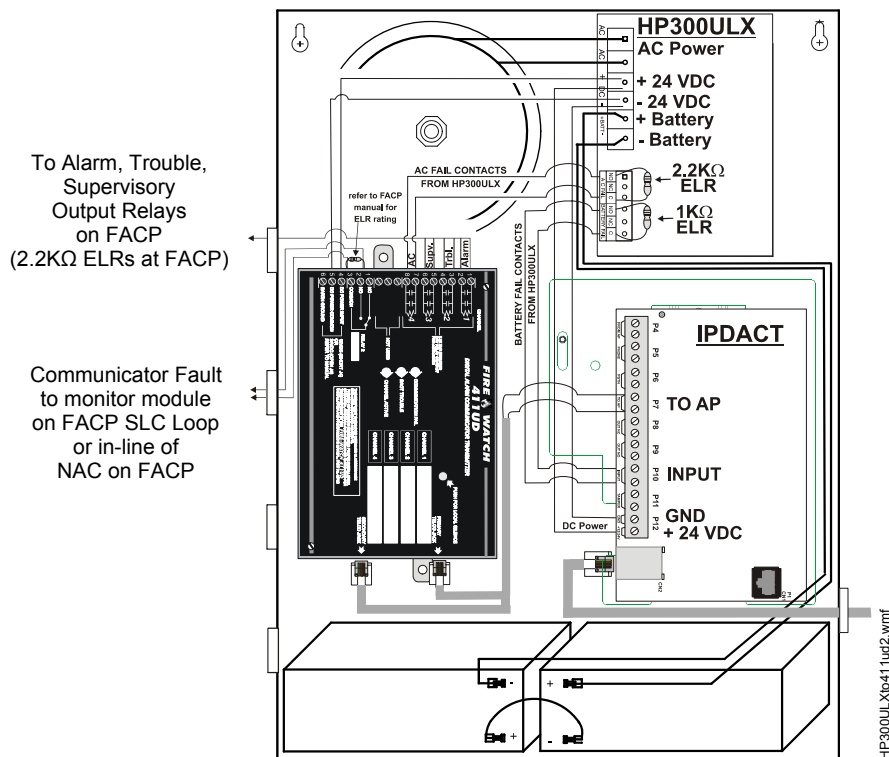
NOTE: The 411UD application for monitoring Alarm, Trouble and Supervisory relays of a competitive FACP requires mounting both the 411UD and IPDACT-2UD inside the HP300ULX.

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 no greater than 6 in. (15cm) in length.

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 cross-over cable from laptop to Ethernet Port and programming PC. The PC's IP address must be set to the default range of the IPDACT-2UD such as 192.168.0.XX.



Connecting the IPDACT, 411UD and HP300ULX

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-905UD, MS-920UDLS, MS-960ULS, MS-960UDLS, MS-5UD, and MS-10UD.

IPENC: External mounting enclosure consisting of mounting bracket IPBRKT, and screws. Enclosure must be "close-nipple" to a panel no further than 6 in. (15 cm) via conduit. (Red)

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

ALMSC-119: Serial programming cable.

HP300ULX: Honeywell Power Products UL 1481-listed auxiliary power supply. Enclosure must be "close-nipple" to a panel no further than 6 in. (15cm) 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 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.

Upon 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 provides support for 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 sepa-

rate 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 com port that will be used by the programming software. The PK-PLUS program is also set to this same com port. The programming software must also 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 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

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For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com