

IPDACT-2/2UD

FireWatch™ IP Series: IP Fire Alarm Communicator



Miscellaneous

General

The new FireWatch™ IPDACT-2 and IPDACT-2UD are IP Communicators from NOTIFIER. These IP Communicators are UL 864 listed for signaling under Other Transmission Technologies and comply with NFPA 72 requirements.

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.

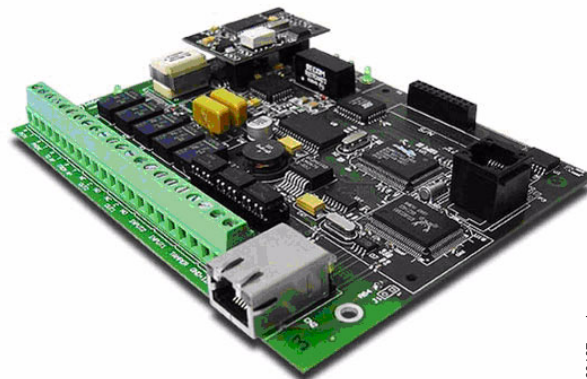
With compatible Contact ID DACT-equipped panels, the IP Communicators allow for faster and more economic digital alarm transmissions, improving response times and decreasing costs found with traditional analog systems. They offer supervised line functionality, where a central station can detect any off-line 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 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.

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 PS-TOOLS as if calling the panel on a telephone. If these numbers match, and the



60407rev.jpg

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 Notifier UL 864 Ninth Edition-listed panels.
- Eliminates the cost of two dedicated phone lines. Only the customer's shared IP equipment is required.
- Can use 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 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

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 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 or downloaded from www.magni-fire.com).

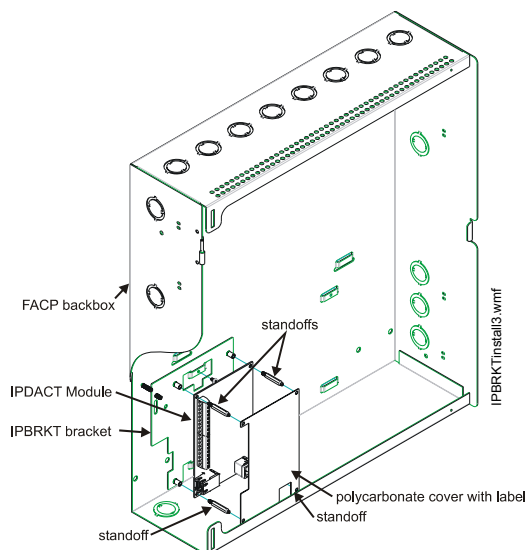
The IP Communicator can be pre-programmed. The programmer enters all central-station information and an auto-registration password. This is saved to the unit's flash memory. When the IP Communicator is installed at the site and connected to the Internet/Intranet, it registers itself with the central 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 UL 864 Ninth Edition fire alarm panels: NFS-320, NFS2-640, NFS2-3030, NCA-2, FireWarden-100-2 (NFW2-100), FireWarden-50 (NFW-50), SFP-5UD, and SFP-10UD. The IPDACT-2/2UD is also compatible with Notifier legacy Fire Alarm Control Panels. See the *IPDACT Series Installation Document* PN 53109 for more information on compatibility and use of the UDACT Universal Digital Alarm Communicator Transmitter.



Mounting in the Control Panel Enclosure

Use 411 or 411UD Slave Dialer and HP300ULX power supply to connect to Alarm Trouble and Supervisory relay outputs of 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:

- NFW-50
- NFW2-100
- SFP-5UD
- SFP-10UD

NOTE: See "Installation Requirements" for current draws.

VisorALARM PLUS® IP Receiver

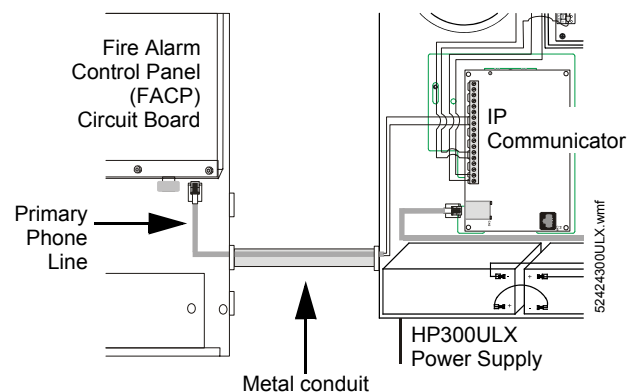
The *FireWatch™* IP Communicator reports to the VisorALARM-PLUS IP receiver (manufactured by the Teldat Corporation). Each IP receiver can manage up to 3,000 IP Communicator accounts and is compatible with existing central station alarm monitoring software.

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.



Mounting in the HP300ULX Power Supply

- 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).
- 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 four mounting methods depending on project requirements and panel used.

1. The IP Communicator can be mounted directly inside the common enclosure used with the NFW-50, NFW2-100, SFP-5UD, and SFP-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.

2. The IP Communicator can be mounted in a CAB-3/4 Series Cabinet using the IP Communicator Chassis Mounting Kit P/N IPCHSKIT. The IPCHSKIT mounts onto a CHS-4/N, CHS-4L, CHS-M3, or NFS2-640 Chassis. If the system configuration does not support the installation of the IPCHSKIT, use the IPENC enclosure.

3. 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. This will be connected to the fire alarm panel with a short piece of conduit.

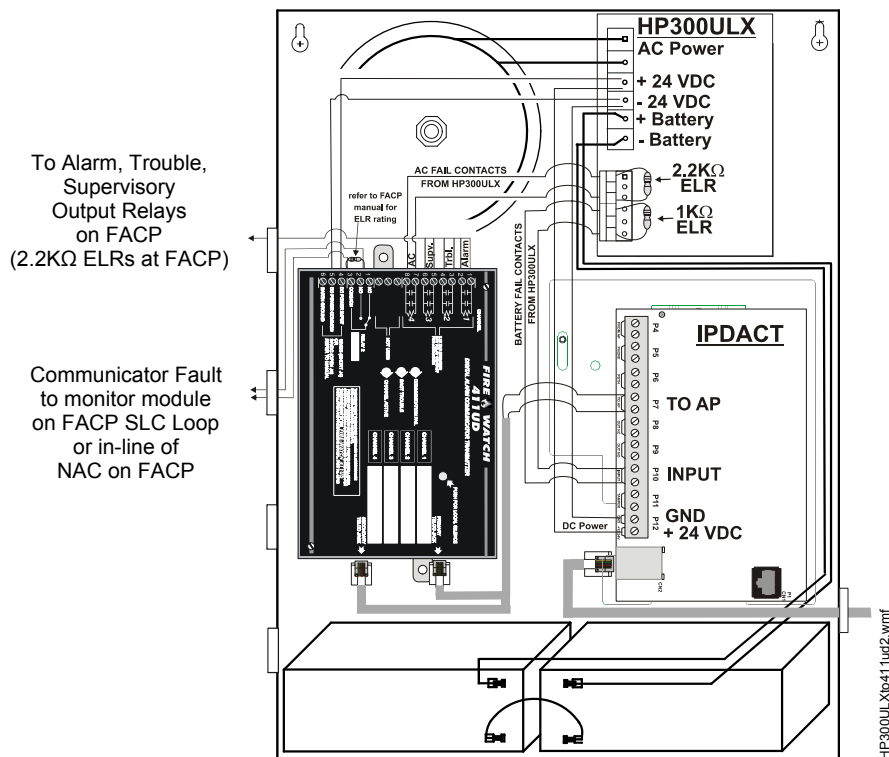
NOTE: The 411UD application for monitoring Alarm, Trouble and Supervisory relays of a competitive FACP requires mounting both the 411UD and IPDACT-2UD inside the HP300ULX.

4. 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.

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 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.



Connecting the IPDACT, 411UD and HP300ULX

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 NFW-50, NFW2-100, SFP-5UD, and SFP-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; order **IPENC-B** for black.)

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.

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto a CHS-4/N, CHS-4L, CHS-M3, or NFS2-640 Chassis.

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 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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