

IPDACT

IP Communicator for Fire Alarm Panels



Control/Communicators

General

The IPDACT is a new optional alarm monitoring communications module from Fire•Lite. It connects to the primary and secondary communication ports of the panel's DACT. The panel operates normally during an alarm, supervisory or trouble event and sends contact ID formatted information to the IPDACT. The IPDACT then reformats the data into highly encrypted Ethernet packets for transmission to a compatible receiver at the central station via a customer-provided internet/intranet connection. The IPDACT is now UL-864 listed for signaling under Other Transmission Technologies: Packet Switched Data Network (PSDN). This new listing only requires an IP connection. No backup phone line is necessary however, customers can still use a traditional backup phone line from the panel if desired.

Designed to work with later model Contact ID DACT equipped panels from Fire•Lite, the IPDACT allows for faster and more economic alarm transmissions, improving response times and decreasing costs. It offers value-added features such as a 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® IP receiver from the Teldat Corporation emulates popular receiver formats and allows seamless integration into existing conventional central station architectures.

Features

- Saves the cost of two dedicated phone lines. Only the customer's shared IP equipment is required.
- Requires no change to the existing panel configuration. The IPDACT connects directly to the primary and secondary 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 port 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 customer's facility. A filter can be applied to annunciate specific alarm types such as trouble-only events.

Easy to Program

There are three ways to configure the IPDACT:

1. Console terminal using the HyperTerminal™ software program found on all Microsoft® operating systems.



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2. Local or remote Telnet session via Ethernet connection.
3. Windows-based configuration software (shipped with IPDACT).

The IP receiver at the monitoring station will automatically configure other parameters during registration. For most installations, the only required parameters are:

- Destination primary and secondary receiver IP addresses.
- Account identification number (CID)
- Port Number
- Installer's Password

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

Panel Compatibility

The IPDACT unit is compatible with the following fire alarm panels: MS-9200UD, MS-9200UDLS, MS-9600 (with optional DACT-UD), MS-9600LS (with optional DACT-UD), MS-5UD, MS-10UD, and MS-9050UD; use 411 or 411UD Slave Dialer to connect with 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-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-9600LS (with optional DACT-UD)
- MS-5UD
- MS-10UD

Max power required is 300mA and may be supplied by the fire panel's power supply and back-up battery system.

NOTE: Standby power is 100mA, alarm is 120mA but Transition from idle to alarm requires a momentary surge peak of 300mA.

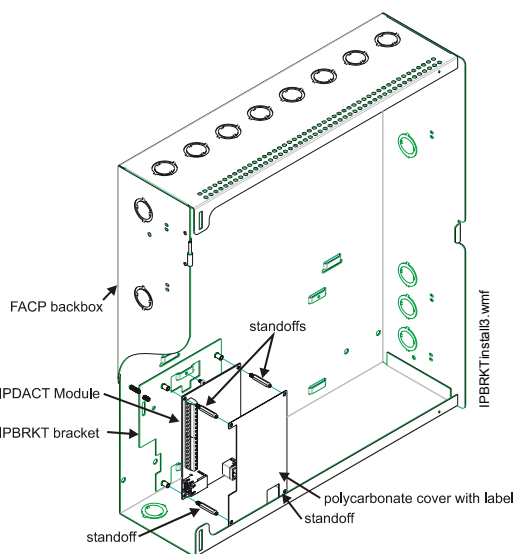
VisorALARM PLUS® IP Receiver

The IPDACT communicator reports to the VisorALARM IP receiver (as manufactured by the Teldat Corporation). Each IP receiver can manage up to 3,000 IPDACT accounts and is compatible with existing central station alarm monitoring software. The VisorALARM IP receiver uses a high-performance embedded operating system for higher reliability and efficiency. All IP receiver configuration and operating data is stored in a smart card. This allows for an immediate equipment replacement within 10 seconds with almost no downtime and no information loss. The Primary and Secondary receiver configurations provide maximum level of redundancy. Both receivers communicate in real-time over the network to keep information synchronized and up-to-date.

Installation Requirements

The following are required for proper installation of the IPDACT:

- At least 300 mA of electrical power available from the power supply to use for the IPDACT unit.
- Ethernet network connection (ITE-listed router/gateway).
- If not provided by customer, a small UPS is recommended to provide backup power for customer-provided router/switch.
- 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 IPDACT communication with the monitoring station (default port: 80).
- Destination IP (IP addresses of the IP receivers where the IPDACT will be sending alarms and other events).
- Panel account ID number (CID).



Mounting in the Control Panel Enclosure

- Installer password (provided by the monitoring station managing the IP receiver).

MOUNTING METHODS:

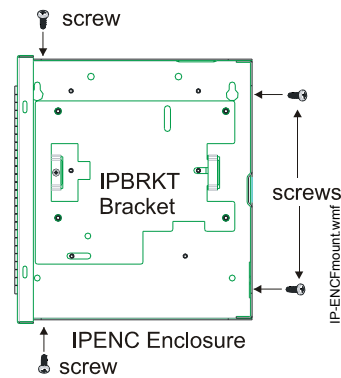
There are three mounting methods depending on project requirements and panel used.

1. The IPDACT can be mounted directly inside the common enclosure used with the MS-9050UD, MS-9200UDLS, MS-9600LS, 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.

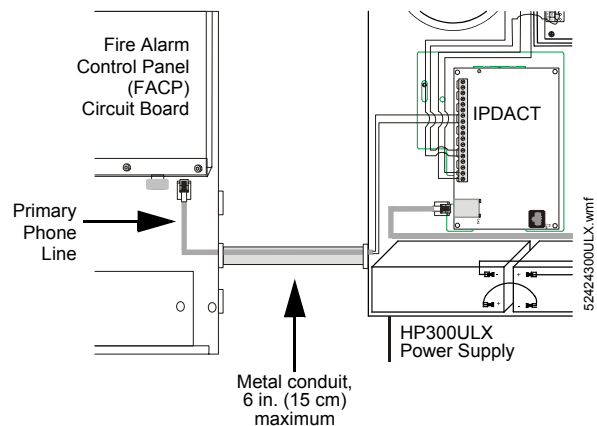
2. The IPDACT can be mounted inside the small add on IPENC enclosure. This is typically used with previous panels that did not use the common enclosure such as the MS-9600 and MS-9200UD. This will be connected to the fire alarm panel with a short piece of conduit no greater than 6 in. (15 cm) in length.

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

3. When more power is required, the IPDACT 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. (15 cm) in length.



Mounting in the IPDACT Enclosure



Mounting in the HP300ULX Power Supply

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 Ethernet Crossover Cable from laptop to Ethernet Port)
3. Windows-based configuration software (shipped with IPDACT version 3.0) Note: May use Ethernet Crossover Cable with version 3.0 or Serial Cable with version 4.0. Version 4.0 available as download from www.firelite.com.

ORDERING OPTIONS

IPDACT: Consists of printed circuit board IP communicator, CD with Windows configuration software, manuals and prepared 30" telephone cable for connection to panel's DACT telco ports.

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-5UD and MS-10UD (purchased separately).

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

IPSPLT: Y Adaptor option to allow connection of both panel dialer outputs to one cable input to IPDACT, (Sold Separately)

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

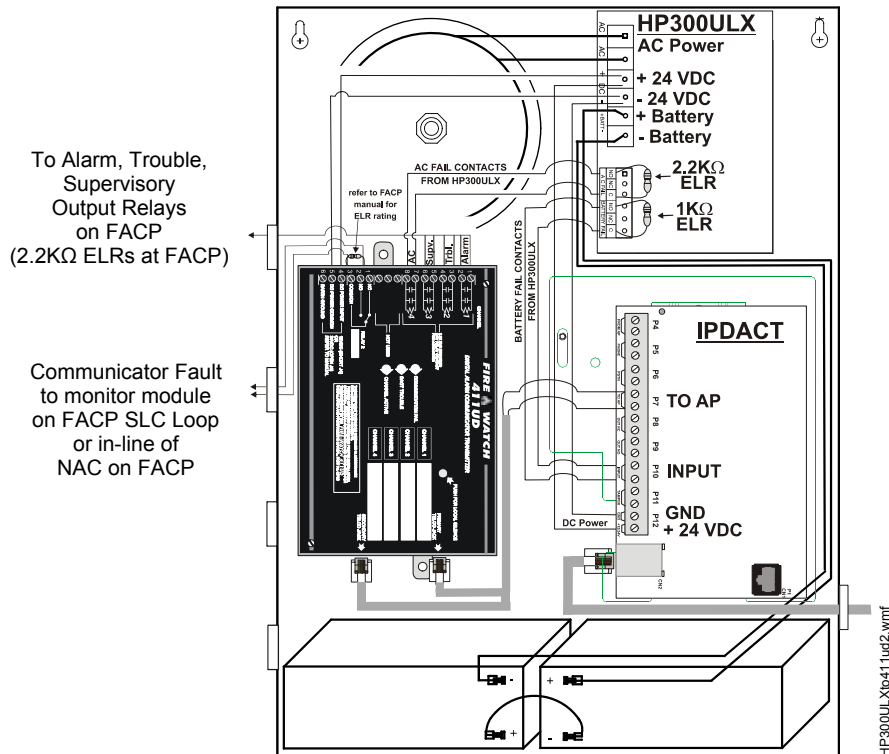
ALMSC-119: Serial programming cable.

System Architecture/Operating Theory

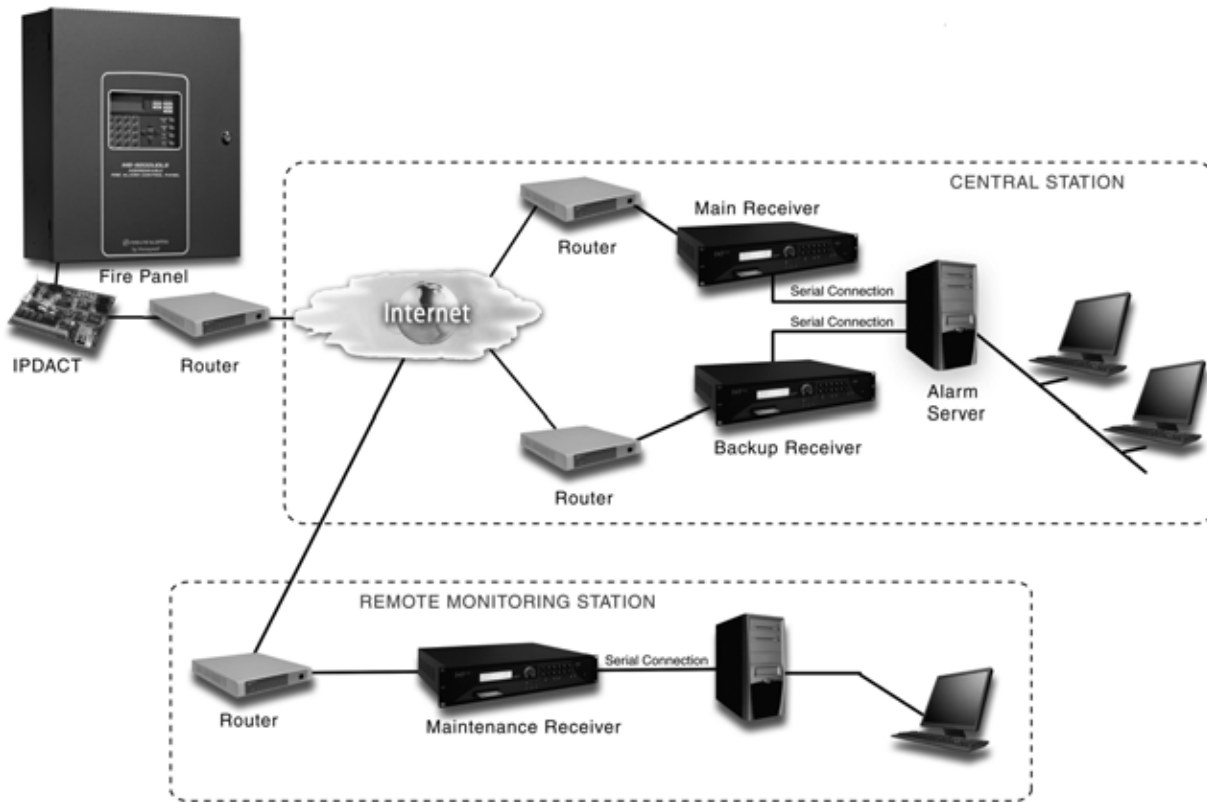
The IPDACT and Ethernet connection simply replaces the telephone lines as the primary communications path to the central station. It connects to customer supplied network equipment with gateway to Internet. IPDACT provides supervised telephone line voltage to both panel DACT ports. Upon network communication loss, telephone line voltage is dropped to the panel and panel reports communication loss trouble. IPDACT monitors the connectivity to both the primary and secondary receiver at the central station. Upon failure of a central station receiver the backup automatically assumes the primary role. The IPDACT supervises the connection to the central station at a minimum once every 90 seconds. Upon a Fire or Trouble event, the Fire Alarm Panel will send Contact ID alarm event information out its DACT port. The IPDACT will sense the off-hook status of the panel and accept all data. The IPDACT will then 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.

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 (noncondensing) 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.



Connecting the IPDACT, 411UD and HP300ULX



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Size	140 x 92 x 30 mm	Encryption	512 bit AES encryption
Power	24 VDC 100 mA (idle) • 120 mA (alarm) • 300 mA (transient peak)	Security	Password Protected
Communication Interfaces	Ethernet 10/100 Mps Phone (Twisted Pair Connector)	IP Address	• Public and Private • Fixed or dynamic (DHCP)
Configuration	Local: DTMF tones via phone interface. Hyperterminal console and Telnet. Remote: Configuration download from the receiver.	TCP/UDP Ports	Programmable
Alarm Panel Protocol	Contact ID	Line Polling	1- 65000 seconds
		Communication Protocols	UDP

IPDACT Technical Specifications Summary

Agency Listings and Approvals

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

- **UL:** S2424
- **CSFM:** 7300-1698:100
- **Type of Signalling:** OT "Other Transmission Technology, PSDN (Packet Switched Data Network)

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