

**Submittal for:  
Sprinkler Monitoring System**

**NW Harnett Fire Station 3  
US 401  
Harnett County, NC**

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## NW Harnett Fire Station 3

### Sprinkler Monitoring System Equipment List

Quantity	Model	Description
1	ES-200X	Fire Alarm Control Panel w/DACT
1	HWF2V-COM	IP/Cellular Communicator
1	SD365	Photoelectric Smoke Sensor w/Base
1	NBG-12LX	Manual Pull Station
7	MMF-300	Monitor Module
1	CRF-300	Relay Module
1	RTS-O	Low Temperature Switch
1	DTK-120HW	120VAC Panel Surge Protector
2	DTK-2LVLPF	24VDC Surge Protector, 2-Circuit
2	BAT-1270	12VDC Sealed Lead Acid Battery, 7 Amp Hour

# ES-200X

## Intelligent Addressable FACP with Communicator



### Addressable Fire Alarm Control Panels

#### General

The **ES-200X** is the latest intelligent addressable Fire Alarm Control Panel (FACP) from Fire•Lite Alarms. The ES-200X comes with a pre-installed communicator and supports up to 198 addressable devices (99 detectors and 99 modules). With an extensive list of powerful features, the ES-200X programs just like Fire•Lite's other addressable products, yet fits into applications previously served only by conventional panels.

The pre-installed IPOTS-COM is a dual technology (POTS and IP) communicator. The POTS transmits system status (alarms, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. The IP communicator's internet monitoring capability sends alarm signals over the Internet saving the monthly cost of two dedicated business telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line. Optional cellular reporting is available using the CELL-MOD or CELL-CAB-FL.

Remote and local programming of the control panel is possible using the FS-Tools Upload/Download utility. Programming databases can be uploaded/downloaded via the panel's USB port (and USB cable) or via an ethernet connection using the IPOTS-COM communicator. The USB port also allows for the download or upload of the entire program, history file, walk-test data, current status and system voltages by means of a USB flash drive.

The power supply and all electronics are contained on a circuit board supported on a new quick install chassis and housed in a metal cabinet. Available accessories include local and remote upload/download software, remote annunciators, and reverse polarity/city box transmitter (4XTMF).

#### Features

- Listed to UL Standard 864, 10th edition
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Telephone Service) Central Station Communicator over AlarmNet
- Optional CELL-MOD or CELL-CAB-FL GSM Central Station Communicator over AlarmNet®
- Automated activation of the ECC-50/100 Emergency Command Center
- ECC-FFT Firefighter Telephone option
- Compatible with SWIFT® wireless devices
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address
- Four built-in, independently programmable Style Z (Class A) or Style Y (Class B) NAC circuits
- Selectable strobe synchronization for System Sensor, Wheelock, and Gentex devices
- Notification Appliance Circuit End of Line resistor matching
- Four programmable function keys for ease of maintenance
- Two programmable relays and one fixed trouble relay
- Built-in Programmer
- Integral 80-character LCD display with backlighting
- Real-time clock/calendar with automatic daylight savings control
- History file with 1,000 event capacity
- Addressable sounder base compatibility
- Multi-criteria detector (smoke, heat, CO) with programmable response
- Control module delay timer
- Automatic detector sensitivity testing (NFPA 72 compliant)
- Automatic device type-code verification
- Point trouble identification
- Waterflow selection per module point
- Alarm verification selection per detector point



- Maintenance alert warns when smoke detector dust accumulation is excessive
- One-person audible or silent walk test with walk-test log and printout
- System alarm verification selection per detector point
- PAS (Positive Alarm Sequence) and Pre-signal per point (NFPA 72 compliant)
- Up to 16 ANN-BUS annunciators- 8 per each ANN-Bus
- Remote Acknowledge, Alarm Silence, Reset and Drill via addressable modules or remote annunciator
- Upload/Download of program and data via USB with optional FS-Tools Programming Utility

#### SLC COMMUNICATION LOOP

- Supports LiteSpeed™ and CLIP protocols
- SLC operates up to 10,000 ft. (3,000 m) in LiteSpeed mode with twisted, unshielded wire
- Single addressable SLC loop which meets NFPA Class B and Class A requirements
- 198 addressable device capacity (99 addressable detectors and 99 modules)
- Compatible with Fire•Lite's addressable devices (refer to the *SLC Wiring Manual*)

#### NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Four independently programmable output circuits. Circuits can be configured for the following outputs:
  - **Style Y** (Class B)
  - **Style Z** (Class A)
- Silence Inhibit and Autosilence timer options
- Continuous, March Time, Temporal, or California code for main circuit board NACs with two-stage capability
- Selectable strobe synchronization per NAC
- 2.5 A special application, 250mA regulated, total power for NACs

**NOTE:** Maximum or total 24VDC system power shared between all NAC circuits and the ANN-BUS is 2.7 A

## PROGRAMMING AND SOFTWARE

- Autoprogramming (learn mode) reduces installation time
- Custom English labels (per point) may be manually entered or selected from an internal library file
- Two programmable Form-C relay outputs
- 99 software zones
- Continuous fire protection during online programming
- Program Check automatically catches common errors not linked to any zone or input point
- **OFFLINE PROGRAMMING:** Create the entire program in your office using FS-Tools, a Windows®-based software package, and upload/download system programming locally. Offline programming requires an ethernet connection. FS-Tools is available on [www.firelite.com](http://www.firelite.com).

## User interface

### LED INDICATORS

- Fire Alarm (red)
- CO Alarm (red)
- AC Power (green)
- Supervisory (yellow)
- Trouble (yellow)
- Ground fault (yellow)
- Battery fault (yellow)
- Disabled (yellow)
- Maintenance (yellow)
- Communication (yellow)
- Alarm Silenced (yellow)
- F1-F4 Programmable Function Keys (yellow)

### KEYPAD

- 16 key alpha-numeric pad
- Acknowledge
- Alarm Silence
- Drill (Manual Evacuate)
- Four (4) programmable function keys
- Reset (lamp test)

## PRODUCT LINE INFORMATION

**ES-200X:** Addressable Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display, pre-installed communicator, chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc. (For ES-200XC, refer to DF-60958.)

**FS-Tools:** Programming software for Windows®-based PC computer. Available for download at [www.firelite.com](http://www.firelite.com).

**CELL-CAB-FL/CELL-MOD:** Optional GSM communicators.

**IPOTS-COM:** Dual technology (POTS and IP) communicator. (replacement board)

**DP-ES-R:** Optional dress panel for the ES-200X.

**TR-CE:** Optional trim ring for semi-flush mounting.

**BB-2F:** Optional cabinet for one or two modules.

**BB-6F:** Optional cabinet for up to six modules mounted on CHS-6 chassis.

**BB-26:** Battery backbox, holds up to two 25 AH batteries and CHG-75.

**BB-55F:** Battery box, houses two 55 AH batteries

**CHS-6:** Chassis, mounts up to six multi-modules in a BB-6F cabinet.

**CHG-75:** Battery charger for lead-acid batteries with a rating of 25 to 75 AH.

**CHG-120F:** Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional BB-55F for mounting.

**BAT Series:** Batteries, see data sheet DF-52397.

**PRN Series:** UL listed compatible event printer. Uses tractor-fed paper.

## OPTIONAL MODULES

**4XTMF Reverse Polarity Transmitter Module:** Provides a supervised output for local energy municipal box transmitter, alarm and trouble. Includes a disable switch and disable trouble LED.

**PWRMOD24 Power Expander Module:** Optional power module. Increases alarm power output to 6 amps.

## COMPATIBLE ANNUNCIATORS

**ANN-80:** Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded.

**ANN-100:** Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded. For use in FM applications only.

**ANN-I/O:** LED Driver Module provides connections to a user supplied graphic annunciator. (See DF-52430.)

**ANN-LED:** Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DF-60241.)

**ANN-RLED:** Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DF-60241.)

**ANN-RLY:** Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DF-52431.)

**ANN-S/PG:** Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DF-52429.)

## ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

**SD365:** Addressable low-profile photoelectric smoke detector. LiteSpeed only.

**SD365-IV:** Addressable low-profile photoelectric smoke detector. Ivory. LiteSpeed and CLIP mode.

**SD365T:** Addressable low-profile photoelectric smoke detector with thermal sensor. LiteSpeed only.

**SD365T-IV:** Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory. LiteSpeed and CLIP mode.

**SD365R:** Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. LiteSpeed only.

**SD365R-IV:** Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Ivory. LiteSpeed and CLIP mode.

**H365:** Low-profile 135°F fixed thermal sensor. LiteSpeed only.

**H365-IV:** Low-profile 135°F fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

**H365R:** Low-profile, intelligent, rate-of-rise thermal sensor. LiteSpeed only.

**H365R-IV:** Low-profile, intelligent, rate-of-rise thermal sensor. Ivory. LiteSpeed and CLIP mode.

**H365HT:** Low-profile intelligent 190°F/88°C fixed thermal sensor. LiteSpeed only.

**H365HT-IV:** Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

## Legacy Devices

**CP355:** Addressable low-profile ionization smoke detector.

**SD355:** Addressable low-profile photoelectric smoke detector.

**SD355T:** Addressable low-profile photoelectric smoke detector with thermal sensor.

**SD355R:** Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

**SD355CO:** Addressable, low-profile device that provides fire, heat, and carbon monoxide (CO) detection.

**H355:** Fast-response, low-profile heat detector.

**H355R:** Fast-response, low-profile heat detector with rate-of-rise option.

**H355HT:** Fast-response, low-profile heat detector that activates at 190°F/88°C.

**AD355:** Low-profile, intelligent, “Adapt” multi-sensor detector (B350LP base included).

**B200SR:** Addressable sounder base.

**BEAM355:** Intelligent beam smoke detector.

**BEAM355S:** Intelligent beam smoke detector with integral sensitivity test.

**D355PL:** InnovairFlex low-flow non-relay duct-detector housing; includes SD355R.

**DNR:** InnovairFlex low-flow non-relay duct-detector housing. (Order SD355R/SD365R separately.)

**DNRW:** InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order SD355R/SD365R separately.)

### **Addressable Modules**

**MMF-300:** Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4.0" (10.16 cm.) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) IDC.

**MDF-300:** Dual Monitor Module. Same as MMF-300 except it provides two Style B (Class B) only IDCs.

**MMF-301:** Miniature version of MMF-300. Excludes LED and Style D option. Connects with wire pigtailed. May mount in device backbox.

**MMF-302:** Similar to MMF-300. Addressable Monitor Module for one zone of conventional two-wire detectors. Requires resettable 24 VDC power. Refer to the *Device Compatibility Document* for listed compatible devices and quantity limitation.

**CMF-300:** Addressable Control Module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4.0" (10.16 cm.) electrical box. NAC option requires external 24 VDC to power notification appliances.

**CRF-300:** Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4.0" (10.16 cm.) box, surface mount using the SMB500.

**BG-12LX:** Addressable manual pull station with interface module mounted inside.

**I300:** This module isolates the SLC loop from short circuit conditions (required for Style 6 or 7 operation).

**ISO-6:** Six-fault isolator module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

**SMB500:** Used to mount all modules except the MMF-301 and M301.

**MMF-300-10:** Ten-input monitor module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

**MMF-302-6:** Six-zone interface module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

**CMF-300-6:** Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

**CRF-300-6:** Six-relay control module (Form-C relays). Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

### **SWIFT Wireless Devices**

**W-GATE:** LiteSpeed Wireless Gateway

**W-SD355:** LiteSpeed intelligent, wireless photo detector.

**W-H355R:** LiteSpeed intelligent wireless rate of rise (135°) heat detector.

**W-SD355T:** intelligent wireless photo/heat detector.

**W-H355:** LiteSpeed intelligent wireless fixed-temperature (135°) heat detector.

**W-MMF:** LiteSpeed Intelligent wireless monitor module.

**W-CRF:** LiteSpeed Intelligent wireless relay module.

**W-BG12LX:** LiteSpeed Intelligent wireless pull station.

**WAV-RL, WAV-WL, WAV-CRL, WAV-CWL:** LiteSpeed Intelligent AV bases.

**W-USB:** Wireless USB radio/antenna dongle that plugs into the USB port of a PC running SWIFT Tools.

**SWIFT Tools:** Programming and diagnostic utility for the Wireless Gateway and devices. Available for download from firelite.com.

**NOTE:** For more information on Compatible Addressable Devices for use with the ES-200X, see the following data sheets (document numbers): SD365 Series (DF-61010), H365 Series (DF-61011), AD355 (DF-52386), BG-12LX (DF-52013), CMF-300-6 (DF-52365), CRF-300-6 (DF-52374), CMF/CRF Series (DF-52130), CP355 (DF-52383), H355 Series (DF-52385), I300 (DF-52389), ISO-6 (DF-60485), MMF-300 Series/MDF-300 (DF-52121), MMF-300-10 (DF-52347), MMF-302-6 (DF-52356), SD355/SD355T (DF-52384), and SLC Wiring Manual (51309).

**NOTE:** Legacy 300 Series detection devices such as the CP300/CP350, SD300(T)/SD350(T) and older modules such as the M300, M301, M302, C304, and BG-10LX are not compatible with LiteSpeed polling. If the SLC contains one of these devices, polling must be set for standard CLIP protocol. Please consult factory for further information on previous 300 Series devices.

### **ADDRESSABLE DEVICE ACCESSORIES**

**End-of-Line Resistor Assembly (R-47K and R-3.9K):** The 47k ohm assembly supervises the MMF-300, MDF-300, MMF-301, and CMF-300 module circuits. The 3.9k ohm assembly supervises the MMF-302 module circuit. These resistors are included with each module.

**Power Supervision Relay:** Supervises the power to 4-wire smoke detectors and notification appliances.

### **Wiring Requirements**

While shielded wire is not required, it is recommended that all SLC wiring be twisted-pair to minimize the effects of electrical interference. Refer to the panel manual for wiring details.

# SYSTEM SPECIFICATIONS

## System Capacity

- Intelligent Signaling Line Circuits..... 1
- Addressable device capacity ..... 198
- Programmable software zones ..... 99
- Annunciators..... 16

## Electrical Specifications

**AC Power:** 120/240 VAC, 50/60 Hz, 3.25 A. Wire size: minimum 14 AWG (2.00 mm<sup>2</sup>) with 600 V insulation. Nonpower-limited, supervised.

**Battery:** Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (ES-200X cabinet holds maximum of two 18 AH batteries.)

**Communication Loop:** Supervised and power-limited.

**Notification Appliance Circuits:** Terminal Block provides connections for four NACs, Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuitry. Maximum signaling current per circuit: 2.5 amps special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 kΩ - 22 kΩ ELR range. Refer to the *Fire•Lite Device Compatibility Document* for listed compatible devices.

**Two Programmable Relays and One Fixed Trouble Relay:** Contact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays, non-power-limited, non-supervised.

## Cabinet Specifications

**Door:** 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

## Shipping Specifications

**Weight:** 26.9 lbs. (12.20 kg.) **Dimensions:** 20.00" (50.80 cm.) high x 22.5" (57.15 cm.) wide x 8.5" (21.59 cm.) deep.

## Temperature and Humidity Ranges

### NFPA Standards

The ES-200X complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTMF).
- **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTMF is required.)
- **PROPRIETARY** (Automatic, Manual and Waterflow).
- **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).
- **OT, PSDN** (Other Technologies, Packet-switched Data Network)
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic)

### Agency Listings and Approvals

The listings and approvals below apply to the basic ES-200X control panel. 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:** S624
- **FM approved**
- **CSFM:** 7165-0075:0500
- **FDNY:** COA #6261

**NOTE:** See DF-60958 for ULC-listed model.

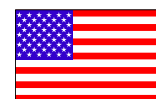
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We cannot cover all specific applications or anticipate all requirements.  
All specifications are subject to change without notice.



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



Country of Origin: USA

# HWF2-COM SERIES

LTE / IP Single or Dual Path Commercial Fire Communicators

The HWF2-COM Series LTE / IP fire communicators are single or dual path commercial fire alarm communicators that offer Contact ID reporting with any FACP (fire alarm control panel) with a built-in dialer.

Models include:

HWF2A-COM (AT&T LTE & IP)

HWF2V-COM (Verizon LTE & IP)

Both models connect directly to the primary or secondary communication ports of a fire panel's digital alarm communicator transmitter (DACT).

Three selectable reporting paths include: LTE cellular only, IP only, or IP primary with LTE cellular backup. All signals from the HWF2-COM Series are delivered to the AlarmNet® network control center which routes highly encrypted, cybersecured Ethernet data packets via a customer-provided Internet connection or LTE cellular network to the appropriate central station. The AlarmNet® network control center is fully redundant and monitored 24/7. Installation and programming are easy using the handheld 7720P Programming tool.



## FEATURES AND BENEFITS

- LTE and IP connection tested every day
- Three selectable reporting paths: LTE cellular only, IP only, or IP Primary with LTE cellular backup
- Requires no change to the existing FACP configuration
- Connects directly to the primary and secondary telephone ports of a DACT
- Plan choices range from 5 minute, 60 minute, 6 hour, and 24 hour supervision intervals
- Operates over the following communication protocols: LTE, HSPA+(4G) HSPA (3G)
- Works over any type of customer provided Ethernet 10/100 based network
- connection (LAN or WAN), DSL modem or cable modem
- Data transmits over standard Contact ID protocol but is secured with the industry's advanced encryption standard (AES 256 bit)
- Supports both dynamic (DHCP) or public and private Static IP addressing
- Reliable connection: IP and cellular connection tested every day
- Built-in, standalone power supply module. Onboard charging circuit design accommodates battery backup. Includes primary power and battery supervision
- Diagnostic LEDs indicate signal strength and status
- Choice of LTE provider services
- QOS: Quality of Service diagnostics via AlarmNet conveys vital communicator information including signal strength, message path used, and when the message was received
- 7720P Handheld programmer for easy setup

**Honeywell**

The HWF2-COM LTE / IP fire communicators operate over the most modern and common cellular networks including LTE, 4G and 3G.

They connect to any customer provided Ethernet 10/100 base network connection (LAN or WAN), DSL or cable modem. Selectable reporting path feature allows the radios to be configured for a single or dual path, while providing appropriate supervision intervals based on NFPA 72 requirements. Selectable paths and supervision timing intervals include:

SELECTABLE PATH	DESCRIPTION	SUPERVISION TIMES
2010 Cell	Single path, cellular	5 Minutes
2010 IP	Single path, IP	5 Minutes
2010 IP & Cell	Dual path, IP and cellular	24 Hours
2013 Cell	Single path, cellular	60 Minutes
2013 IP	Single path, IP	60 Minutes
2013 IP & Cell	Dual path, IP and cellular	6 Hours

## OPERATION

When an event occurs, the FACP goes off-hook to dial the central station. The HWF2-COM Series dialer capture module detects the off-hook condition and provides the fire panel with a dial tone. When the fire panel detects the dial tone, it begins dialing the central station.

After the dialing is completed, the dialer capture module returns a signal to the fire panel. The fire panel then sends the Contact ID reports to the dialer capture module, which in turn sends a signal after the report is successfully received from the fire panel. The dialer capture module sends the Contact ID reports to the HWF2-COM Series communications module. When all the reports are sent, the fire panel goes on-hook. The HWF2-COM Series communications module then transmits the messages to the central station either over the LTE network or the Internet (depending on configuration).

## FIRE COMMUNICATOR / PANEL CAPABILITY

The HWF2-COM Series is compatible with fire alarm control panels that use the Contact ID communications format as described in the SIA DC-05 standard.

## EASY TO PROGRAM

The HWF2-COM communicator can be pre-programmed using the 7720P programmer to enter all central station information. This is saved to the HWF2-COM communicator panel memory. When the HWF2-COM is installed at the site and connected to the Internet/ Intranet, it registers with the AlarmNet Receiver.

For most installations, the only required parameters are:

- Primary City ID (two digits), obtained from your monitoring station
- Primary Central Station ID (two digits), obtained from your monitoring station

- Primary Subscriber ID (four digits), obtained from your monitoring station
  - Communication Module MAC ID, and MAC CRC number located on the outside of the box and inside of the module
- All parameters are assigned by the monitoring station.

## ALARMNET

AlarmNet communications technology provides a highly reliable alternative for the transmission of alarm signals. The network provides extensive coverage in the United States and Canada. The AlarmNet Network Control Center processes signals from powerful servers in multiple locations equipped with 24/7 infrastructure support. Redundant hardware servers, real-time backup databases, and generators with battery backup at all locations ensure continuity of service. Signals from AlarmNet are transmitted to central station receivers using multiple communication paths consisting of the Internet, LTE radio network, or toll free plain old telephone service (POTS). Visit [AlarmNet.com](http://AlarmNet.com) to learn more.

## INSTALLATION REQUIREMENTS, UL COMPLIANCE

To meet UL864/NFPA requirements, ensure the following:

- HWF2-COM Series must be installed in accordance with the National Fire Protection Association (NFPA) standards 70 and 72
- HWF2-COM Series must be mounted in the same room and within 20 feet of the fire panel.
- HWF2-COM Series and all equipment used for the IP connection (e.g., router, hub, modem, etc) must be UL-listed, powered from an unswitched branch circuit, and be provided with appropriate standby power.
- HWF2-COM Series must use the 7AH battery (not included) to provide 24 hour backup capability



# HWF2-COM SERIES TECHNICAL SPECIFICATIONS

## ELECTRICAL

Transformer:

- Primary: 120VAC, 60Hz, 0.5A
- Secondary: 18VDC, 50VA

Battery:

- One 12 V 7.0 AH lead-acid battery: (not supplied)
- Battery charging current: 1 Amp maximum
- Battery discharge current: Standby 230mA, Active 950mA

## CABINET SPECIFICATIONS

- Dimensions: 14.875" H x 12.75" W x 3.0" D (37.8cm H x 32.4cm W x 7.6cm D)
- Color: Red

## SHIPPING DIMENSIONS

- Weight: 5.3 lbs (6.94kg)
- Dimensions: 15.625" H x 13.79" W x 9.25" D (39.7cm H x 34.9cm W x 23.9cm D)

## 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 system's standby batteries and 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.

## PRODUCT LINE INFORMATION

**HWF2V-COM:** LTE Digital Cellular Fire Alarm Communicator and Internet Panel, Verizon LTE / IP

**HWF2A-COM:** LTE Digital Cellular Fire Alarm Communicator and Internet Panel, AT&T LTE / IP

Both models include:

- Red cabinet with key and lock
- Wall outlet box
- Dialer capture module
- LTE communications module
- Antenna and mounting adapter
- PowerBoost1 power supply
- LED display board
- Transformer
- Manual and required screws
- Cables, etc.

## ANTENNA AND EXTERNAL HARDWARE

CELL-ANT3DB: 3dBA gain antenna  
WA7626-CA: SMA to N adapter cable  
7626-50HC: 50 ft. antenna cable, low loss

**Note:** The WA7626-CA adapter cable and 7626-50HC antenna cable are only required when installing the CELL-ANT3DB antenna remotely.

## OTHER ACCESSORIES

**7720P:** HWF2V-COM, HWF2A-COM and IPGSM-4G handheld programmer

**HPTCOVER:** Plug-in transformer box for HWF2V-COM, HWF2A-COM, and IPGSM-4G communicators

**BAT-1270:** Battery 12 Volts, 7AH, sealed

## AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the HWF2-COM Series communicators. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for latest listings.

**UL Listed:** S789

**CSFM:** 7300-1645:0511

**FDNY:** Approved

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

Country of origin: USA

## Honeywell Power Products

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# SD365(A) Series

## Addressable Photoelectric Detectors



Addressable Devices

### General

The Fire-Lite SD365(A), SD365T(A), and SD365R(A) Series addressable plug-in photoelectric smoke detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

Exclusively for use with Fire-Lite's addressable fire alarm control panels, the SD365(A) Series point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for emergency personnel to quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication.

The SD365(A) Series also offers 135°F (57°C) fixed temperature thermal sensing on the SD365T(A) and a remote test capable detector on the SD365R(A) for use with DNR(A)/DNRW duct smoke detector housings.

### Features

#### SLC LOOP

- Two-wire loop connection.
- Unit uses base for wiring.

#### ADDRESSING

- Addressable by device.
- Rotary, decimal addressing: *Please refer to the Fire-Lite panel manuals for device capacity.*

#### ARCHITECTURE

- New modern profile for improved aesthetics.
- Unique single-source design to respond quickly and dependably to a broad range of fires.
- Integral communications and built-in type identification.
- Built-in tamper-resistant feature.
- Removable cover and insect-resistant screen for simple field cleaning.

#### OPERATION

- Designed to meet UL 268 7th Edition.
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level.
- Visible LED "blinks" when the unit is addressed (communicating with the fire panel) and latches on in alarm.
- Low standby current.

#### MECHANICALS

- Sealed against back pressure.
- Mounts to: single-gang box, 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or 4.0" (10.16 cm) square electrical box (*with or without a mud ring - not included*).

#### OPTIONS

- Remote LED output connection, RA100Z.



SD365

### Installation

SD365(A) series plug-in detectors use a detachable mounting base to simplify installation, service and maintenance.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see DF-60059.

**NOTE:** *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class B) wiring. SD365R(A) mounts in a D355PL(A) or DNR(A) /DNRW duct detector housing.*

### Operation

Each SD365(A) Series detector uses one possible addresses on the Fire-lite Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

### Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to an ES-50X or ES-200X addressable fire alarm control panel. The results of the sensitivity test can be printed off the for record keeping.

### Specification

**Voltage range:** 15 – 32 VDC (peak).

**Standby current:** 200  $\mu$ A @ 24 VDC.

**Max current:** 4.5 mA @ 24 VDC (latched "ON").

**Air velocity:** 4,000 ft./min. (20 m/sec.) maximum.

**Sensitivity:** UL Applications: 0.5% to 4.0% per foot obscuration

**Size:** 2.0" (5.3 cm) high; base determines diameter.

– B300-6: 6.1" (15.6 cm) diameter.

– B501: 4" (10.2 cm) diameter.

For a complete list of detector bases see DN-60981.

**Shipping weight:** 3.4 oz. (95 g).

#### Operating temperature range:

- SD365(A): 0°C to 50°C (32°F to 122°F);
- SD365T(A): 0°C to 38°C (32°F to 100°F).
- SD365R(A): installed in a DNR(A)/DNRW -20°C to 70°C (-4°F to 158°F).

**Relative humidity:** 10%-93%, non-condensing.

## Listings

Listings and approvals below apply to the SD365 Series detectors. In some cases, certain detectors may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S1059
- CSFM: 7272-0075-0502
- FM Approved

## Product Line Information

**NOTE:** Detectors must be mounted to one of the Intelligent Bases listed below.

**NOTE:** "IV" suffix indicates LiteSpeed® and CLIP device.

**NOTE:** "A" suffix indicates Canadian version.

**SD365(A):** White, Addressable photoelectric detector; B300-6 base included. LiteSpeed only.

**SD365(A)-IV:** Ivory, Addressable photoelectric detector; B300-6 base included.

**SD365T(A):** White, Same as SD365 but with thermal element; B300-6 base included. LiteSpeed only.

**SD365T(A)-IV:** Ivory, Same as SD365 but with thermal element; B300-6 base included.

**SD365R(A):** White, Remote test capable addressable photoelectric detector for use with DNR(A)/DNRW. LiteSpeed only.

**SD365R(A)-IV:** Ivory, Remote test capable addressable photoelectric detector; for use with DNR(A)/DNRW.

### INTELLIGENT BASES

**NOTE:** For details on intelligent bases, see DN-60981.

**B300-6:** White, 6" base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109 Pending)

**B300-6-IV:** Ivory, 6" base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109 Pending)

**B300A-6:** Same as B300-6, ULC listed.

**B300A-6-IV:** Ivory, 6" standard flanged low-profile mounting base, ULC listed.

**B300-6-BP:** Bulk pack of B300-6, package contains 10

**B501-WHITE:** White, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

**B501-BL:** Black, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

**B501-IV:** Ivory color, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

**B501-WHITE-BP:** Bulk pack of B501-WHITE contains 10.

**B224RB-WH:** White, relay base. (CSFM: 7300-1653:0216 Pending)

**B224RB-IV:** Ivory, relay base. (CSFM: 7300-1653:0216 Pending)

**B224RBA-WH:** White, relay base, ULC listing.

**B224RBA-IV:** Ivory, relay base, ULC listing.

**B224BI-WH:** White, *isolator* detector base. (CSFM: 7300-1653:0216 Pending)

**B224BI-IV:** Ivory *isolator* detector base. (CSFM: 7300-1653:0216 Pending)

**B224BIA-WH:** White, *isolator* detector base, ULC listing.

**B224BIA-IV:** Ivory *isolator* detector base, ULC listing.

**B200S-WH:** White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213 Pending)

**B200S-IV:** Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213 Pending)

**B200SA-WH:** Same as B200S-WH, ULC listing.

**B200SA-IV:** Same as B200S-IV, ULC listing.

**B200SCOA-WH:** White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications).

**B200SCOA-IV:** Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing).

**B200S-LF-WH:** White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238 Pending)

**B200S-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238 Pending)

**B200SR-WH:** White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213 Pending)

**B200SR-IV:** Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213 Pending)

**B200SRA-WH:** Same as B200SR-WH with, ULC listing.

**B200SRA-IV:** Same as B200SR-IV in Ivory color, ULC listing.

**B200SR-LF-WH:** White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238 Pending)

**B200SR-LF-IV:** Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238 Pending)

### MOUNTING KITS AND ACCESSORIES

**TR300:** White, replacement flange for B210LP(A) base.

**TR300-IV:** Ivory, replacement flange for B210LP(A) base.

**RA100Z(A):** Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

**M02-04-00:** Test magnet.

**M02-09-00:** Test magnet with telescoping handle.

**CK300:** Color Kit (includes cover and trim ring), white, 10-pack.

**CK300-IV:** Color Kit (includes cover and trim ring), ivory, 10-pack.

**CK300-BL:** Color Kit (includes cover and trim ring), black, 10-pack.

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This document is not intended to be used for installation purposes.  
We try to keep our product information up-to-date and accurate.  
We cannot cover all specific applications or anticipate all requirements.  
All specifications are subject to change without notice.

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

# BG-12LX

## Addressable Manual Pull Station



Addressable Devices

### General

The Fire-Lite BG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface (mounted inside) for Fire-Lite's addressable fire alarm control panels (FACPs). Because the BG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

### Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word "ACTIVATED" appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm<sup>2</sup> wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.

### Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

### Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375  $\mu$ A.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

### Installation

The BG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the BG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is



FL PullStation.jpg

usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

### Operation

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word "ACTIVATED" (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 with Breakaway Tab removed for MS-9600 Series, 1 – 99 and MS-9200UDLS, 1 – 50 for MS-9050UD).

### Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed

within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

## Product Line Information

**BG-12LX:** Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

**SB-10:** Surface backbox; metal.

**SB-I/O:** Surface backbox; plastic.

**BG12TR:** Optional trim ring.

**17003:** Keys, set of two.

## Agency Listings and Approvals

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S711 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0075:0184.
- **FM Approved.**

**Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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[www.firelite.com](http://www.firelite.com)

# MMF-300(A) Series, MDF-300

## Addressable Monitor Modules



### Addressable Devices

#### General

Four different monitor modules are available for Fire•Lite's intelligent control panels to suit a variety of applications. Monitor modules are used to supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (MMF-302(A)).

**MMF-300(A)** is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

**MMF-301(A)** is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the MMF-301(A) to be mounted in a single-gang box behind the device it monitors.

**MMF-302(A)** is a standard-sized module used to monitor and supervise compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

**MDF-300(A)** is a standard-sized dual monitor module used to monitor and supervise two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

#### MMF-300(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation and latches on steady to indicate alarm.

The MMF-300(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The MMF-300(A) can be used to replace M300(A) modules in existing systems.

#### MMF-300(A) APPLICATIONS

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special



MMF-300(A) (Type H)

supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

#### MMF-300(A) OPERATION

Each MMF-300(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

#### MMF-300(A) SPECIFICATIONS

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.0 mA (LED on).

**Average operating current:** 375  $\mu$ A (LED flashing), 1 communication every 5 seconds, 47k EOL.

**Maximum IDC wiring resistance:** 1500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**EOL resistance:** 47K Ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

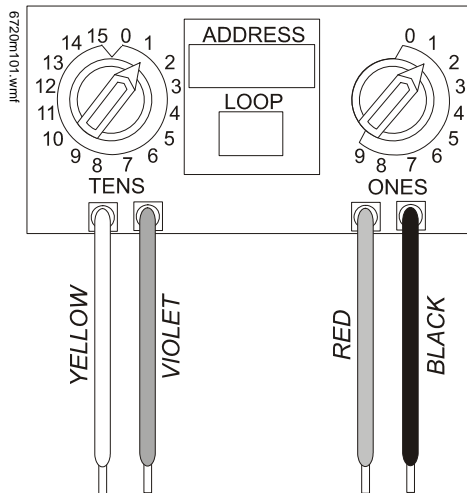
**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

#### MMF-301(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.

- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems



The MMF-301(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The MMF-301(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm devices. The MMF-301(A) can be used to replace M301(A) modules in existing systems.

#### **MMF-301(A) APPLICATIONS**

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

#### **MMF-301(A) OPERATION**

Each MMF-301(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

#### **MMF-301(A) SPECIFICATIONS**

**Nominal operating voltage:** 15 to 32 VDC.

**Average operating current:** 350  $\mu$ A, 1 communication every 5 seconds, 47k EOL; 600  $\mu$ A Max. (Communicating, IDC Shorted).

**Maximum IDC wiring resistance:** 1500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 450  $\mu$ A.

**EOL resistance:** 47K Ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

**Wire length:** 6" (15.24 cm) minimum.

### **MMF-302(A) Interface Module**

- Supports compatible two-wire smoke detectors.

- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation.
- LED latches steady to indicate alarm on command from control panel.

The MMF-302(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The MMF-302(A) can be used to replace M302(A) modules in existing systems.

#### **MMF-302 (A) APPLICATIONS**

Use the MMF-302(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

#### **MMF-302(A) OPERATION**

Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

#### **MMF-302(A) SPECIFICATIONS**

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.1 mA (LED on).

**Maximum IDC wiring resistance:** 25 Ohms.

**Average operating current:** 270  $\mu$ A, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

**EOL resistance:** 3.9K Ohms.

**External supply voltage (between Terminals T10 and T11):**

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

### **MDF-300(A) Dual Monitor Module**

The MDF-300(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.



**NOTE:** The MDF-300(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

#### **MDF-300(A) SPECIFICATIONS**

**Normal operating voltage range:** 15 to 32 VDC.

**Maximum current draw:** 6.4 mA (LED on).

**Average operating current:** 750  $\mu$ A (LED flashing).

**Maximum IDC wiring resistance:** 1,500 Ohms.

**Maximum IDC Voltage:** 11 Volts.

**Maximum IDC Current:** 240  $\mu$ A

**EOL resistance:** 47K Ohms.

**Temperature range:** 32° to 120°F (0° to 49°C).

**Humidity range:** 10% to 93% (non-condensing).

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

#### **MDF-300(A) AUTOMATIC ADDRESSING**

The MDF-300(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the MDF-300(A) is set to address "26", then it will automatically assign itself to addresses "26" and "27".

**NOTE:** "Ones" addresses on the MDF-300(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.

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#### **CAUTION:**

Avoid duplicating addresses on the system.

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**MDF-300(A):** Monitor module, dual, two independent Class B circuits.

**SMB500:** Optional surface-mount backbox.

**NOTE:** See installation instructions and refer to the SLC Wiring Manual, PN 51309.

### **Architects'/Engineers' Specifications**

Specifications of these devices and all FireLite products are available from FireLite.

## **Installation**

MMF-300(A), MMF-302(A), and MDF-300(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The MMF-301(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

## **Agency Listings and Approvals**

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.
- **ULC:** S2424.
- **FM Approved.**
- **CSFM:** 7300-0075:0185.
- **MEA:** 72-01-E.

## **Product Line Information**

**NOTE:** "A" suffix indicates ULC-listed model.

**MMF-300(A):** Monitor module.

**MMF-301(A):** Monitor module, miniature.

**MMF-302(A):** Monitor module, two-wire detectors.

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

# CRF-300(A)

## Relay Module



Addressable Devices

### General

The **CRF-300(A)** Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, door holders, dampers, control equipment, etc. Addressability allows the dry contact to be activated through panel programming, on a select basis.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

### Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop.
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- High noise immunity (EMF/RFI).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address: 01– 159 for MS-9600(A) series panels, 01 – 99 on MS-9200UDLS(A) and MS-9050UD(A).

### Applications

The CRF-300(A) may be programmed to operate dry contacts for door holders, Air Handling Unit shutdown, etc., and to reset four-wire smoke detector power.

### Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address setting.
- The CRF-300(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The CRF-300(A) provides two Form-C dry contacts that switch together.

### Operation

Each CRF-300(A) uses one of the addresses on a SLC loop. It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay.

**NOTE:** Open/short supervision is suspended with the CRF-300.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a control module and a relay module.



CRF-300(A)

### Specifications

**Normal operating voltage:** 15 to 32 VDC.

**Maximum SLC current draw:** 6.5 mA (LED on).

**Average operating current:** 230  $\mu$ A direct poll (CLIP mode), 255  $\mu$ A group poll (LiteSpeed mode) with LED flashing.

**EOL resistance:** not used.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% non-condensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 mm) deep box.

### Relay Contact Ratings

Load Description	Application	Maximum Voltage	Current Rating
Resistive	Non-Coded	30 VDC	3.0 A
Resistive	Coded	30 VDC	2.0 A
Resistive	Non-Coded	110 VDC	0.9 A
Resistive	Non-Coded	125 VAC	0.9 A
Inductive (L/R=5ms)	Coded	30 VDC	0.5 A
Inductive (L/R=2ms)	Coded	30 VDC	1.0 A
Inductive (PF=0.35)	Non-Coded	125 VAC	0.5 A

## Agency Listings and Approvals

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
- **ULC:** S2424
- **FM approved**
- **CSFM:** 7300-0075:185
- **MEA:** 72-01-E

## Product Line Information

**CRF-300(A):** Intelligent addressable relay module.

: Intelligent addressable relay module, ULC listed model.

**SMB500:** Optional surface-mount backbox.

**NOTE:** For installation instructions, see document 156-1190-005 and refer to the SLC Wiring Manual, document 51309.

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## Features

- Easily installed
- Completely sealed sensor, moisture and vapor resistant
- Highly resistant to vibration and corrosion
- Highly sensitive to temperature changes
- No sensitivity loss due to aging
- Repetitive operation without the need to replace sensing elements
- Small compact design
- Precision and quality at low cost



**Important:** This document contains important information on the installation and operation of room temperature switches. Please read all instructions carefully before beginning installation. A copy of this document is required by NFPA 72 to be maintained on site.

## Description

Each unit consists of a bi-metal operating mechanism, featuring hermetically sealed precious metal contacts, N.O. or N.C., which automatically reset for repetitive operation, eliminating the need for sensing element replacement.

Small compact design, highly resistant to vibration and corrosion. Easily installed using the enclosed hardware or adhesive mounting pad.

Screw terminals permit easy installation in single or multiple detector circuits.

## Application

The RTS Series complies with the requirements of NFPA 13 and 72 for a room temperature switch to operate at 40°F to protect a dry pipe valve from freezing. The RTS can also be used for other temperature detection applications.

## Operation

The normally open detector, RTS-O, will close the contact when the temperature drops below 40°F (4,5°C). The normally closed detector, RTS-C, will open the contact when the temperature drops below 40°F (4,5°C). The detector will automatically reset to the normal state when the temperature rises above 40°F (4,5°C).

The RTS Series Room Temperature Sensors are precision engineered, designed and manufactured for commercial or residential use.

## Technical Specifications

Enclosure	White ABS
Dimensions	2 1/16" W x 3 7/16" L x 1 1/4" H (5,2cm W x 8,7cm L x 3,2cm H)
Sensor	Epoxy sealed stainless steel case, bi-metallic operating mechanism.
Contacts	Silver clad, available normally open or normally closed
Electrical Rating	1 Amp at 24VDC
Temperature Setting	40° ±5°F (4,5° ±3°C)
Terminals	Screw Terminals
Mounting	Wall Mount, Surface

### Inspection, Testing, & Maintenance

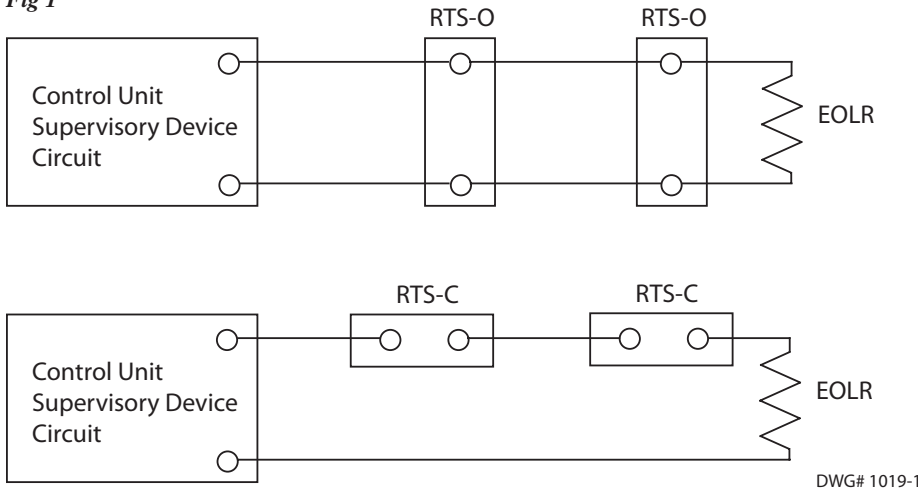
The frequency of inspection and testing of the RTS and its associated monitoring system shall be in accordance with applicable local and NFPA codes and standards. Manufacturer recommends quarterly or more frequently.

Functional test can be accomplished by spraying the RTS with circuit cooler or equivalent.

More accurate test requires exposing the RTS to 40°F ± 5°F.

The RTS requires no maintenance other than ensuring the vent holes are not obstructed.

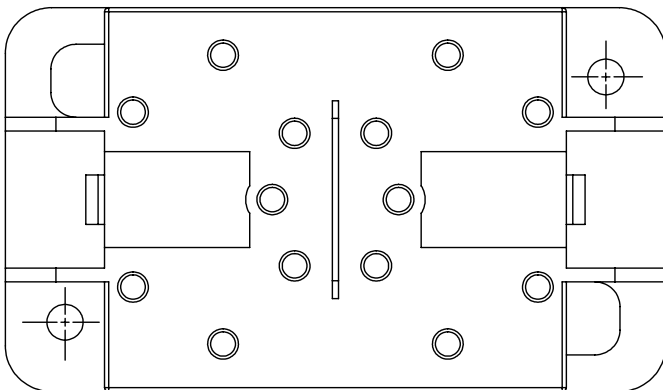
**Fig 1**



**NOTE:** This RTS does not have duplicate terminals. Do not use looped wire under terminals. Break wire run to provide supervision of connections.

### RTS Mounting Template

**Fig 2**



### Ordering Information

Model	Description	Stock No.
RTS-O	Normally Open Room Temperature Switch	1010108
RTS-C	Normally Closed Room Temperature Switch	1010109

### NOTICE

Supervisory switches have a normal service life of 10-15 years. However, the service life may be significantly reduced by local environmental conditions.



# DTK-HW Series

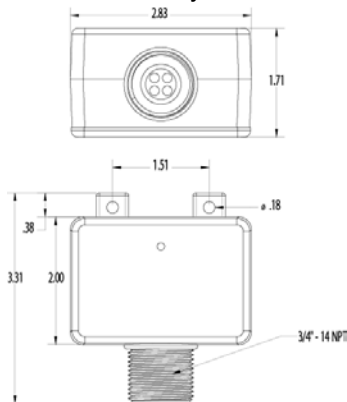
## Equipment Panel/Dedicated Circuit Surge Protective Device General Product Specifications

DITEK's HW series of surge protectors are designed and manufactured to meet the exacting standards of the life safety industry. These compact parallel mount surge protectors are widely used to protect fire alarm panels and other dedicated branch circuit loads.

### **DTK-120HW**      **DTK-120/240HW**

#### Product Features

- Available for Popular 120V and 120/240V systems
- DTK-120HW approved for 20A circuit breakers
- Diagnostic LED indicates ground presence, system power and SPD function
- Weatherproof enclosure
- Small footprint enables installation in a variety of locations
- Available for popular 120V, and 120/240V systems
- Complies with ANSI/IEEE C62.41 and C62.45 Category B standards
- Ten Year Limited Warranty



#### Specifications

- Agency Approvals:** UL 1449, 3<sup>rd</sup> Edition, cUL
- IEEE Location Category:** Category B
- Protector Type:** SPD Type 2
- Protection Modes:** L-G, L-N, N-G
- Response Time:** <1ns
- Temperature Range:** -40°F – 185°F (-40°C – 85°C)
- Maximum Humidity:** 95% non-condensing
- Operating Frequency:** 0Hz – 400Hz
- Dimensions:** 2.93" x 2.83" x 1.68"  
(74.4mm x 71.9mm x 42.7mm)
- Connection:** 3/4" diameter threaded fitting
- Weight:** .5lb. (227g)
- Housing:** ABS

Model Selection: DTK-	Service Wiring	Peak Surge Current	MCOV	UL 1449, 3 <sup>rd</sup> Ed. V.P.R.	Short Circuit Current Rating	UL1449, 3 <sup>rd</sup> Ed. I <sub>n</sub> Rating
<b>120HW</b>	Single $\Phi$ (2W + G), 120VAC	19,500A	130V	700V L-N, L-G; 600V N-G	10,000A	3,000A
<b>120/240HW</b>	Split $\Phi$ (3W + G), 120/240VAC	13,000A/ Phase 6,500A/ Mode	130/260V	700V L-N, L-G; 600V N-G; 1200V L-L	10,000A	3,000A

# DTK-2LVLPF

First Generation Fire Alarm Panel Surge Protection



## Product Features

- Series connection, parallel function adds no resistance to loop circuits
- Protects up to 2 pairs of SLC wire

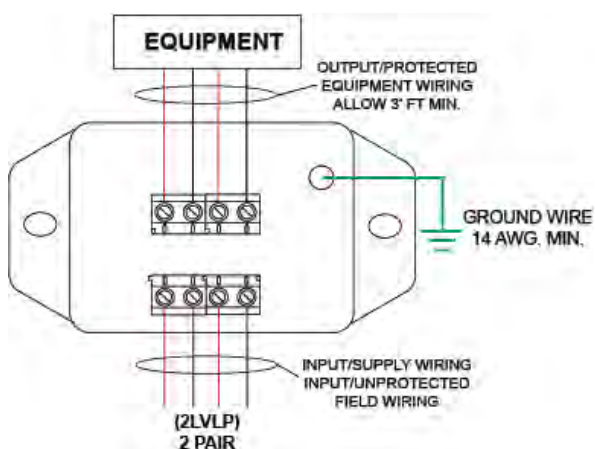
## Applications

- Alarm Panel SLC Circuits
- 4-20 mA Current Loops

## Accessories

- DIN Rail Kit – part number DTK-DRK

## Wiring Example:



DITEK's **DTK-2LVLPF** is specifically designed to protect 24V SLC loops on fire alarm control panels where a current limiting feature is required. Its low-current fusing prevents induced surges from damaging sensitive (and expensive) control boards.

## Technical Specifications

Service Voltage:	24V
MCOV:	38V
Clamping Voltage:	47V
Protection Modes:	Line-Ground (All)
Surge Current Rating:	2,000 Amps per pair
Max. Continuous Current:	200 mA

## Mechanical Characteristics

Connection Method:	#22-#10 AWG screw terminals
Housing:	ABS
Operating Temperature:	-40°F - 158°F (-40°C - 70°C)
Maximum Humidity:	95% non-condensing
Dimensions:	3.0"L x 1.6"W x 1.6"H (76mm x 41mm x 41mm)
Weight:	2.65oz (75g)

## Quality, Standards & Approval

Agency Approvals:	UL497B
Warranty:	Ten Year Limited Warranty

Every precaution has been taken to ensure that this literature is accurate and complete. DITEK Corporation assumes no responsibility and disclaims all liability for damages resulting from the use of this information or for any errors or omissions.





# BAT Series Batteries

## Sealed Lead-Acid



Power Supplies/Accessories

### General

**BAT Series Batteries** are Power Sonic brand batteries. BAT Series (or Power Sonic brand) batteries are recommended for secondary power or backup power for all Fire•Lite fire alarm control equipment.

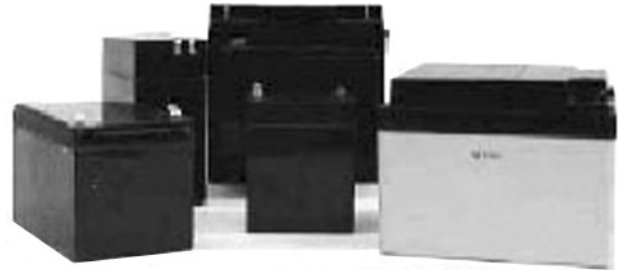
### Features

- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

### Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. 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 Recognized Components:** MH20845 (*Power-Sonic*)



6933cov.jpg

### Ordering Information

**BAT-1250-BP:** 10-unit bulk pack of BAT-1250 (12 V 5 AH)

**BAT-1270-BP:** 5-unit bulk pack of BAT-1270 (12 V 7 AH)

**BAT-12120-BP:** 4-unit bulk pack of BAT-12120 (12V 12 AH)

**BAT-12180-BP:** 2-unit bulk pack of BAT-12180 (12 V 18 AH)

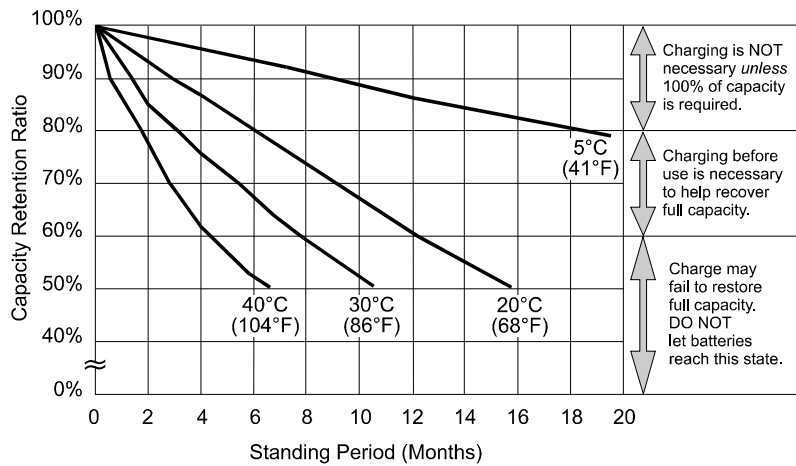
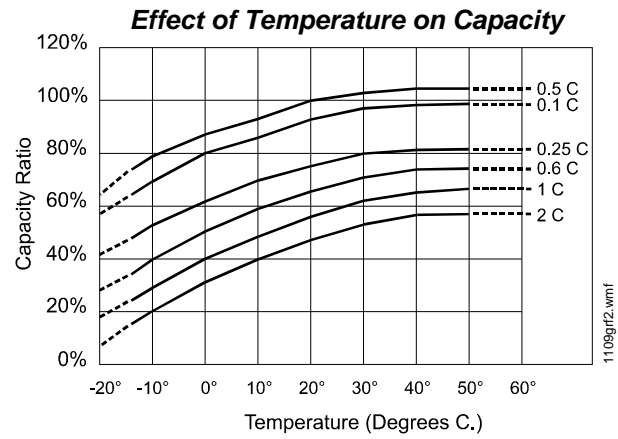
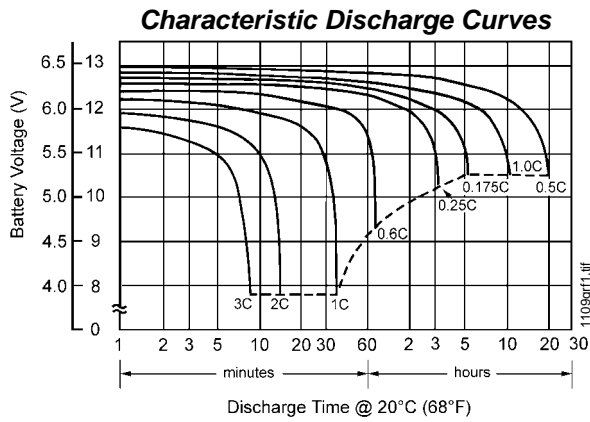
**BAT-12260-BP:** 2-unit bulk pack of BAT-12260 (12 V 26 AH)

**BAT-12550:** single battery (12 V 55 AH)

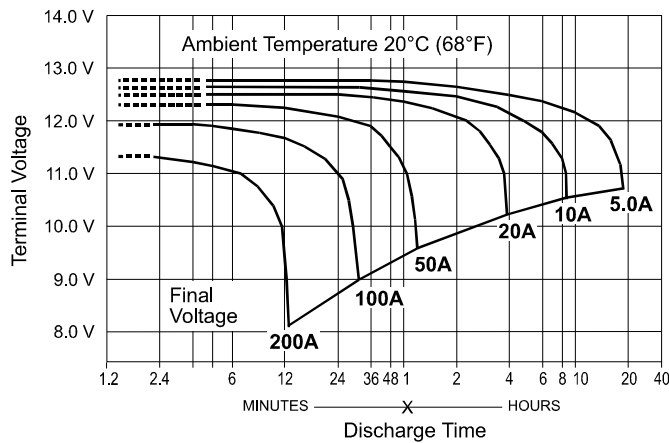
**BAT-121000:** single battery (12 V 100 AH)

### Part Number Reference & Specifications

Part Number	Power Sonic Part Number	Battery Description			DIMENSIONS									
		Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.		Width		Depth		Height		Height over terminal		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
BAT-1250	PS-1250	12	5	sealed	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
BAT-1270	PS-1270	12	7	sealed	5.95	151	2.56	65	3.7	94	3.86	98	4.8	2.18
BAT-12120	PS-12120	12	12	sealed	5.95	151	3.86	98	3.7	94	3.94	100	7.92	3.59
BAT-12180	PS-12180	12	18	sealed	7.13	181	2.99	76	6.57	167	6.57	167	12.6	5.8
BAT-12260	PS-12260	12	26	sealed	6.56	167	6.97	177	4.92	125	4.92	125	17	7.71
BAT-12550	PS-12250	12	55	sealed	9.04	230	6.54	138	8.2	208	8.98	228	36	16.33
BAT-121000	PS-121000	12	100	sealed	12	305	6.6	168	8.2	208	8.98	228	68	30.84



at left:  
**PS-121000**  
**Shelf-Life**  
**and Storage**



at left:  
**PS-121000**  
**Discharge**  
**Characteristics**

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