XLS120(E)(C)

Intelligent Addressable Fire Alarm System

XLS120

General

In stand-alone or network configurations, Honeywell's XLS120 meets virtually every application requirement.

The XLS120's modular design makes system planning easier. The panel can be configured with just a few devices for small building applications, or networked with many devices to protect a large campus or a high-rise office block. Simply add additional peripheral equipment to suit the application.

For installations using XLS120C, an optional ACM Series annunciator can be mounted in the same cabinet (up to 48 zones/points, order separately).

When combined with a Honeywell Enterprise Buildings Integrator (EBI), the XLS120 becomes part of an owner-operated proprietary monitoring system, allowing the connection of standalone or networked panels.

NOTE: *Unless called out with a version-specific "C" or "E" at the end of the part number, "XLS120" refers to models XLS120, XLS120C, and XLS120E.*

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- One isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors (any mix of ion, photo, thermal, or multi-sensor) and 159 modules (Addressable pull stations, normally open contact devices, two-wire smoke, notification, or relay). 318 devices maximum.
- Standard 80-character display.
- Network options:
  - High-speed network for up to 200 nodes (XLS3000, XLS140-2, XLS140, XLS120(C), XLS-NCA/-NCA2 Network Annunciator, or XLS-DVC, and Honeywell Enterprise Buildings Integrator™ [EBI]).
  - Standard network for up to 103 nodes (XLS3000, XLS140-2, XLS120(C), XLS-NCA2 Network Annunciator, or XLS-DVC, and Honeywell Enterprise Buildings Integrator™ [EBI]). Up to 54 nodes when DVC is used in network paging.
- 6.0 A power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- Autoprogramming and Walk Test reports.
- Optional universal 318-point DACT.
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with tally.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- NAC coding functions:
  - March time.
  - Temporal.
  - California two-stage coding.
  - Canadian two-stage.
  - Strobe synchronization.
- Field-programmable on panel or on PC, with VeriFire® Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.

FLASHSCAN® INTELLIGENT FEATURES

- Poll up to 318 devices in less than two seconds.
- Activate up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — nine levels.
- Pre-alarm intelligent sensing — nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **Ion** – 0.5 to 2.5%/foot obscuration.
  - **Photo** – 0.5 to 2.35%/foot obscuration.
  - **Laser (Pinnacle™)** – 0.02 to 2.0%/foot obscuration.
  - **Acclimate®** – 0.5 to 4.0%/foot obscuration.
  - **COPTIR** – 1.0 to 4.0%/foot obscuration.
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the XLS120's primary microprocessor fails, FlashScan detectors revert to degraded operation and can activate the control panel's NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

TC846A1013 PINNACLE LASER SMOKE DETECTION TECHNOLOGY

- Revolutionary spot laser design.
- Advanced intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- No moving parts to fail or filters to change.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

TC840M1021 ACCLIMATE® LOW-PROFILE INTELLIGENT MULTI-SENSOR

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- FlashScan or CLIP (standard polling of each intelligent device) mode compatible.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

TC840C1000 COPTIR ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.
- Six sensitivity levels.

TC840C2010 ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.
- Six sensitivity levels.

RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO_2 listed.

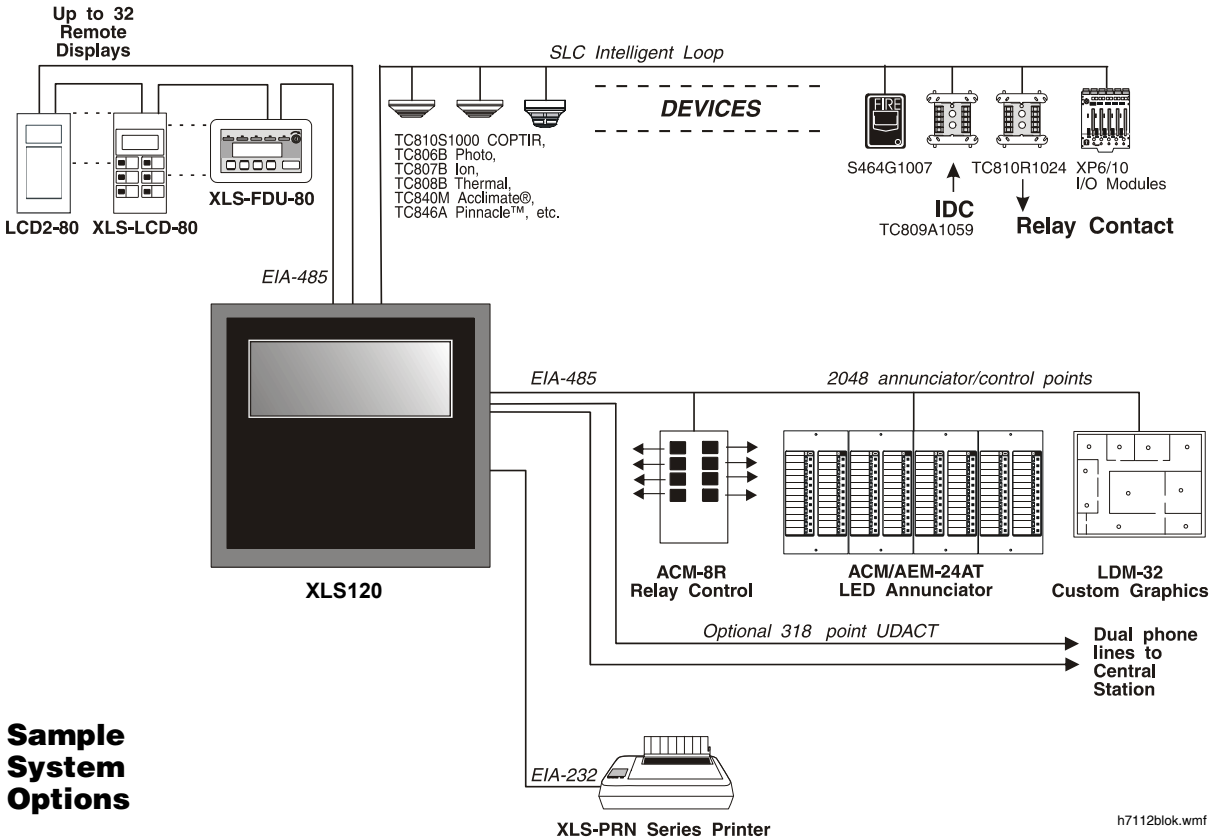
HIGH-EFFICIENCY OFFLINE SWITCHING 3.0 A POWER SUPPLY (6.0 A IN ALARM)

- 120 VAC (XLS120/XLS120C); 240 VAC (XLS120E).
- Displays battery current/voltage on panel (with display).

Intelligent Sensing

Intelligent sensing is a set of software algorithms that provides the XLS120 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the XLS120.

Sample System Options



Drift Compensation and Smoothing: Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

Maintenance Warnings: When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust: Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm: Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing: A patented feature of intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram. This timesaving feature is a special software routine. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit (with KDM-R2) The XLS120 has the exclusive feature of the product line of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the XLS120 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the XLS120 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the XLS120 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type (keyboard layout).

12 LED Indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Ordering Information

CONFIGURATION GUIDELINES

The XLS120 system ships assembled; description and some options follow. See "Enclosures, Chassis, and Dress Plates" on page 4 for information about mounting peripherals.

***NOTE:** Stand-alone and network systems require a main display. On stand-alone systems, the panel's keypad provides the required display. On network systems (two or more networked fire panel nodes), at least one XLS-NCA2 annunciation device is required.*

XLS120: The standard, factory-assembled XLS120 system includes the following components: one control panel mounted on chassis (120 V operation — ships with grounding cable, battery interconnect cables, and document kit); includes integral power supply mounted to the main circuit board; one primary display KDM-R2 keypad/display; and one cabinet for surface or semi-flush mounting. *Purchase batteries separately. One or two option boards may be mounted inside the XLS120 cabinet; additional option boards can be used in remote cabinets.*

XLS120C: Based on XLS120 above, XLS120C adds a standard visible annunciator as required for Canadian applications. ULC listed.

XLS120E: Same as XLS120 above, but with 240 V operation.

TR-320: Trim ring for the XLS120 cabinet.

NETWORKING OPTIONS

NCM-W, NCM-F: Network Communications Modules. Wire and multi-mode fiber versions available. One required for each network node (XLS3000, XLS140, XLS140-2, XLS-DVC, BACNET GATEWAY, Q7055B1039) on XLS-NET. Mounts in a standard chassis position or on a BMP-1 plate. *See 85-3007.*

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed network communications modules. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See 74-4082.*

RPT-W, RPT-F, RPT-WF: Repeater board with wire connection (RPT-W), fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See 85-3007.*

Q7055B1039: Fire Network Adapter. Connects to an XLS•NET network to provide a TCP/IP interface to an EBI.

AUXILIARY POWER SUPPLIES AND BATTERIES

ACPS-610: 6.0 A or 10 A addressable charging power supply. *See 85-3109.*

APS2-6R: Auxiliary power supply. Provides two 24 VDC circuits, each rated for 3.0 A in alarm and 2.0 A continuous. Commonly used for the operation of peripheral audio/visual devices or any other application requiring 24VDC. *See 74-5072.*

HPF24S6/S8: Remote 6 A and 8 A power supplies with battery charger. In Canadian applications, for use only as a NAC expander. *DH-1061*

BAT Series: Batteries. XLS120 uses two 12 volt, 18 to 200 AH batteries.

COMPATIBLE DEVICES, EIA-232 PORTS

XLS-PRN-6: 80-column printer. *See 83-3073.*

VS4095/5: Printer, 40-column, 24 V. Mounted in external backbox.

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals; mount on XLS120 chassis. *See 85-3006.*

COMPATIBLE DEVICES, EIA-485 PORTS

ACM-24AT: ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See 85-3004.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See 85-3004.*

ACM-48A: ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See 85-3004.*

AEM-48A: Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See 85-3004.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See 85-3046.*

XLS-LCD-80: ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP.

XLS-FDU-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See 85-3066.*

LCD2-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See 74-5091.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom driver modules. *See 85-3042.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits. *See 85-3048.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit; mount on XLS120 chassis or remotely. *See 85-3005.*

UDACT: Universal Digital Alarm Communicator Transmitter, 636 channel.*See 85-3048.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel.*See 74-5143.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Mounts in **BB-UZC**. *See 85-3045.*

COMPATIBLE INTELLIGENT DEVICES

TC847A1004: Intelligent beam smoke detector with integral sensitivity test. *74-3940*

TC840C1000: FlashScan COPTIR Advanced Multi-Criteria Detector. *See 74-5070.*

TC840C2010: FlashScan Advanced Multi-Criteria Fire/CO Detector. *See 74-5146.*

TC807B1059: Low-profile FlashScan ionization detector. *See 85-3089.*

TC806B1076: Low-profile FlashScan photoelectric detector. *See 74-1941.*

TC806B1084: Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See 74-1941.*

TC806DNR: Remote-test capable photoelectric detector for use with DNR(W) duct detector housings. *See 74-1941.*

TC808B1041: FlashScan thermal detector 135°F (57°C). *See 74-3354.*

TC808B1058: FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See 74-3354.*

TC808B1066: FlashScan 190°F (88°C) high-temperature thermal detector. *See 74-3354.*

TC840M1021: Acclimate low-profile multi-sensor detector. *See 74-3387.*

TC846A1013: Pinnacle laser photo detector. *See 74-3373.*

DNR: InnovairFlex low-flow non-relay duct-detector housing (order **TC806DNR** separately). *See 74-4076.*

DNRW: Same as above with NEMA-4 rating, watertight. *See 74-4076.*

B224RB, 14507371-003: Low-profile relay base. *See 85-3043.*

B224BI, 14507371-005: Isolator base for low-profile detectors. *See 85-3043.*

B210LP: Low-profile base. Standard U.S. style. Replaces 14507371-001. *See 85-3043.*

B501: European-style, 4" (10.16 cm) base. *See 85-3043.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See 85-3043.*

B200SR: Sounder base, Temporal 3 or Continuous tone. *See 85-3043.*

TC809A: FlashScan monitor module. *See 74-3993.*

TC809D: FlashScan dual monitor module. *See 74-3993.*

TC841: FlashScan two-wire detector monitor module. *See 74-3993.*

TC809B: FlashScan miniature monitor module. *See 74-3993.*

TC810N1013: FlashScan NAC control module. *See 74-3995.*

TC810S1000: FlashScan releasing control module. *See 74-5068.*

TC810R1024: FlashScan relay module. *See 74-3995.*

TC822A1010: FlashScan dual monitor/dual relay module. *See 74-5104.*

S464G1007: Manual pull station, addressable (CLIP/FlashScan). *See 74-3365.*

XLS-MPS series: Manual pull stations, addressable and conventional. For use in Canada only. *See 74-5090.*

TC811A1006: Isolator module. *See 77-4555.*

XP6-C: FlashScan six-circuit supervised control module. *See 85-3069.*

XP6-MA: FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See 85-3070.*

XP6-R: FlashScan six-relay (Form-C) control module. *See 85-3071.*

XP10-M: FlashScan ten-input monitor module. *See 85-3068.*

ENCLOSURES, CHASSIS, AND DRESS PLATES

BB-UZC: Backbox for housing the UZC-256. Required for XLS120 applications. Black. For red, order BB-UZC-R.

XLS-LBB: Battery Box (required for batteries larger than 26 AH).

XLS-LBBR: Same as above, but red.

SEISKIT-320/B26: Seismic mounting kit. Required for seismic-certified applications with XLS120 and BB-26. Includes battery bracket for two 26 AH batteries.

SEISKIT-BB25: Seismic mounting kit for the BB-25. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the XLS-LBB. Includes battery bracket for two 55 AH batteries.

SEISKIT-PS/2/4: Seismic mounting kit for the HPF24S6/S8 and CAB-PS1. Includes battery bracket for two 7 AH or 12 AH batteries.

OTHER OPTIONS

411: Slave Digital Alarm Communicator.

411UDAC: Digital Alarm Communicator. See 85-3064.

IPDACT-2/2UD Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See 74-5097.*

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

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order **IPENC-B**.

IPGSM-DP: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. Replaces IPGSM-COM. *See DH-60695.*

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent Signaling Line Circuits 1
- Intelligent detectors 159
- Addressable monitor/control modules 159
- Programmable internal hardware and output circuits 4
- Programmable software zones 99
- Special programming zones 14
- LCD annunciators per XLS120/XLS120E 32
- ACS annunciators per XLS120/XLS120E ..... 32 addresses x 64 points

Specifications

- Primary input power
  - XLS120: 120 VAC, 50/60 Hz, 5.0 A.
  - XLS120E: 220/240 VAC, 50/60 Hz, 2.5 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A of available power. This is shared by all internal circuits.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

XLS120/XLS120C cabinet dimensions:

- Backbox: 18.12 in. (46.025 cm) width; 18.12 in. (46.025 cm) height; 5.81 in. (14.76 cm) depth.
- Door: 18.187 in. (46.195 cm) width; 18.40 in. (46.736 cm) height; 0.75 in. (1.905 cm) depth.
- Trim ring: Molding width is 0.905 in. (2.299 cm).
- Shipping weight (without batteries):
  - XLS120: 36.15 lb. (16.4 kg).
  - XLS120C: 37 lb. (16.78 kg).

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 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.

Agency Listings and Approvals

The listings and approvals below apply to the basic XLS120 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 Listed:** S470, S635 (see peripheral datasheets).
- **ULC Listed:** S470 (XLS120C only, excludes IPDACT), S635 (see peripheral datasheets).
- **CSFM:** 7165-1130:0265.

Standards

The XLS120 complies with the following UL Standards and NFPA 72, IBC, and CBC Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **CENTRAL STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires UDACT).
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2000, IBC 2003, IBC 2006, IBC2009** (Seismic).
- **CBC 2007** (Seismic).

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