

# XLS140-2

## Intelligent Addressable Fire Alarm Control Panel

The Honeywell XLS140-2 is an intelligent fire alarm control panel designed for medium-scale facilities.

In stand-alone or network configurations, Honeywell's XLS140-2 meets virtually every application requirement for a fire alarm control panel (FACP).

The XLS140-2'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.

A host of other options are available, including single- or multichannel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.

When combined with a Honeywell Enterprise Buildings Integrator (EBI™), the XLS140-2 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 "E" at the end of the part number, "XLS140-2" refers to models XLS140-2 and XLS140-2E; similarly, "XLS140-CPU2" refers to models XLS140-CPU2 and XLS140-CPU2E.



## FEATURES AND BENEFITS

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when used with listed compatible equipment. See 74-5147.
- One, expandable to two, isolated intelligent Signaling Line Circuit (SLC) Class A, B, or X.
- Wireless fire protection using SWIFT® Smart Wireless Integrated Fire Technology. See 74-5175.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/636 per FACP or network node.
  - Detectors can be any mix of photo, thermal, or multi-sensor; wireless detectors are available for use with the XLS-WSG(CDN).
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the XLS-WSG(CDN).
- Standard 80-character display, 640-character large display (XLS-NCA2), or display-less (a node on a network).
- Network options:
  - High-speed network for up to 200 nodes (XLS3000, XLS140-2, XLS140, XLS120(C), XLS-NCA/-NCA2 Network Annunciator, or XLS-DVC-EM, and Honeywell Enterprise Buildings Integrator™ [EBI]).
  - Standard network for up to 103 nodes (XLS140, XLS140-2, XLS3000, XLS-NCA/-NCA2 Network Annunciator, or XLS-DVC-EM, and Honeywell Enterprise Buildings Integrator™ [EBI]). Up to 54 nodes when XLS-DVC-EM is used in network paging.
- 6.0 A switch mode 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.
- Field-programmable on panel or on PC
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 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 automatic counter.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- March time/temporal/California two-stage coding/strobe synchronization.
- Full QWERTY keypad.
- Battery charger for 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill using monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.
- Support for SCS Series smoke control system in HVAC mode.

**Honeywell**

### **XLS-NCA2 AS PRIMARY DISPLAY**

- Backlit, 640-character display.
- Supports SCS Series smoke control system in FSCS mode when SCS is connected to the XLS-NCA2 used as primary display.
- Supports DVC digital audio loop.
- Printer and CRT EIA-232 ports.
- EIA-485 annunciator and terminal mode ports.
- Alarm, Trouble, Supervisory, and Security relays.

### **FLASHSCAN® INTELLIGENT FEATURES**

- Polls up to 318 devices in less than two seconds.
- Activates 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 – up to nine levels.
- Pre-alarm intelligent sensing – up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity levels:
  - Photo – 0.5 to 2.35%/foot obscuration.
  - High-Sensitivity Photoelectric (VIEW®) – Open Air Protection (0.5% - 2.0%/ft. obscuration), Special Applications (0.02%-0.5%/ft. obscuration)
  - Multi-Criteria Detector – Open Air Protection (2.52-3.89%/ft. obscuration), Special Applications (1.13-2.52%/ft. obscuration)
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode – in the unlikely event that the XLS140-CPU2 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the XLS140-CPU2 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

### **SWIFT WIRELESS**

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

### **TC846A3013/TC846A3005 HIGH-SENSITIVITY SMOKE DETECTOR**

- Advanced algorithms differentiate between smoke and non-smoke signals.
- Addressable operation pinpoints the fire location.
- Ivory models (-IV) support CLIP mode as well as FlashScan.
- ULC listed models available; “CDN” models are ULC Listed.

### **TC840C3206/-IV ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR**

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- 135°F (57.2°C) fixed-temperature heat detector.
- Transmits an alarm signal due to heat.
- 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.
- ULC listed models available; “CDN” models are ULC Listed.

### **TC840C3206/-IV ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR**

- Combined Photoelectric Thermal and Infrared Sensor
- UL 268 7th Edition and UL 521 Listed; Canadian models CAN/ ULC S529 and CAN/ULC S530
- Microprocessor-based technology; combination photo, thermal, and infrared technology.

### **TC806C3022(CDN) PHOTOELECTRIC/CO SENSOR**

- Combined photoelectric and carbon monoxide sensor

### **TC806C3011(CDN) INTELLIGENT CO SENSOR**

- Carbon monoxide sensor

### **TC847XR1001 ADDRESSABLE INTELLIGENT SINGLE-ENDED BEAM SMOKE DETECTOR**

- Intelligent addressable reflector-type linear optical beam smoke detector
- Fast, easy, and intuitive beam alignment indicated by directional LED arrows
- Long range coverage of 16-328 ft (5-100 m) is standard; no separate long-range kit required
- UL/ULC listed

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- Transmits an alarm signal due to heat.
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- Optional addressable sounder base for Temp-3 (fire) or Temp-4 (CO) tone.
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- High nuisance-alarm immunity.
- ULC listed models available; “CDN” models are ULC Listed.

### **RELEASING FEATURES**

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO<sub>2</sub> listed.

### **DIGITAL VOICE AND TELEPHONE FEATURES**

- Up to eight channels of digital audio.
- 35, 50, 75, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series; XLS-NCA-2 required as primary display).
- Solid-state digital message generation.
- Firefighter telephone option.
- 30- to 120-watt high-efficiency amplifiers (AA Series).
- Backup tone generator and amplifier option.

## HIGH-EFFICIENCY OFFLINE SWITCHING

### 3.0 A POWER SUPPLY (6.0 A IN ALARM)

- 120 VAC (XLS140-2); 240 VAC (XLS140-2E).
- Displays battery current/voltage on panel (with display).

## INTELLIGENT VESDA-E DETECTORS

- Intelligent aspiration smoke detectors connect directly to the SLC loop of compatible panels such as XLS140-2:
  - VEA-040-A00-HON, VEA-040-A10-HON
  - VEP-A00-P-HON, VEP-A10-P-HON, VEP-A00-1P-HON
  - VEU-A00-HON, VEU-A10-HON
  - VES-A00-P-HON-UL, VES-A10-P-HON-UL,
- Models offer LED display, LCD display, or both
- Coverage options for spaces up to 69,965 square feet

## FLASHSCAN, EXCLUSIVE

### WORLD-LEADING DETECTOR PROTOCOL

At the heart of the XLS140-2 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the XLS140-2 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

## INTELLIGENT SENSING

Intelligent sensing is a set of software algorithms that provides the XLS140-2 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 XLS140-2.

**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** is a timesaving feature. 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 XLS140-2 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 XLS140-2 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 XLS140-2 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 XLS140-2 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.

## PLACEMENT OF EQUIPMENT IN CHASSIS AND CABINET

The following guidelines outline the XLS140-2’s flexible system design.

**Rows:** The first row of equipment in the cabinet mounts in the chassis shipped with the FACP. Mount the second, third, or fourth rows of equipment in a CHS-4 series chassis or, for Digital Voice Command products, in CA-1 or CA-2. (For XLS-DVC-EM and DAA2/DAX components see *XLS-DVC Manual*; for DS series components see *DS-AMP Manual*; for DVC-AO applications, see *AA Series Installation Manual*). Other options are available; see your panel’s installation manual.

**Wiring:** When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *XLS140-2 Installation Manual*.

**Positions:** A chassis offers four basic side-by-side positions for components; the number of modules that can be mounted in each position depends on the chassis model and the size of the individual module. There are a variety of standoffs and hardware items available for different combinations and configurations of components.

It is critical that all mounting holes of the XLS140-2 are secured with a screw or standoff to ensure continuity of Earth Ground.

**Layers:** The control panel’s chassis accepts four layers of equipment, including the control panel. The XLS140-CPU2 fills

three positions (left to right) in the first-installed layer (the back of the chassis); its integral power supply occupies the center two positions in the next two layers; the optional display occupies (the left) two positions at the front, flush with the door. Some equipment, such as the XLS-NCA2, may be mounted in the dress panel directly in front of the control panel. The XLS-NCA2 can be used as a primary display for the XLS140-2 (use NCA/640-2-KIT) by directly connecting their network ports (required in Canadian stand-alone applications); see XLS-NCA2 data sheet for mounting options (74-4045).

**Expansion:** Installing an LEM-320 Loop Expander Module adds a second SLC loop to the control panel. The LEM-320 is mounted onto the XLS140-CPU2, occupying the middle-right, second (back) slot on the chassis.

**Networking:** If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module. (HS-NCM can support two nodes; see “Networking Options” on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of the network communication modules.

## KDM-R2 CONTROLS AND INDICATORS

**Program Keypad:** QWERTY type (keyboard layout, see figure).

**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.

# PRODUCT LINE INFORMATION

## CONFIGURATION GUIDELINES

Stand-alone and network systems require a main display. On systems with one FACP (one XLS140-CPU2/-CPU2E), display options are the KDM-R2 or the XLS-NCA2/-C. On network systems (two or more networked fire panel nodes), at least one XLS-NCA2 is required. Other options listed as follows;

**KDM-R2:** 80-character backlit LCD display with QWERTY programming and control keypad. Order two BMP-1 blank modules and DP-DISP2 mounting plate separately. Requires top row of a cabinet. Required for each stand-alone 80-character display system. The KDM-R2 may mount in network nodes to display “local” node information as long as at least one XLS-NCA2 is on the system to display network information. Non-English versions also available: KDM-R2C for ULC application, KDM-R2-FR (French), KDM-R2-PO (Portuguese), KDM-R2-SP (Spanish).

**XLS-NCA2:** Network Control Annunciator, 640 characters. On single XLS140-CPU2/-CPU2E systems, the optional XLS-NCA2 can be used as the Primary Display for the panel and connects directly to the XLS140-CPU2/-CPU2E. On network systems (two or more networked fire panel nodes), one network display (XLS-NCA2) is required for every system. On network systems, the XLS-NCA2 connects to (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP2, ADP-4B, or in an annunciator box, such as the XLS-ABS-2D. In CAB-4 top-row applications, a DP-DISP2 and two BMP-1 blank modules are required for mounting.

Required for XLS140-2 applications employing the XLS-DVC-EM with DAL devices. XLS-NCA2-C for ULC applications. See 74-4045.

**XLS140-CPU2:** Central processing unit (CPU) with integral 3.0 A (6.0 A in alarm) power supply for an XLS140-2 system. Includes control panel factory-mounted on a chassis; one Signaling Line Circuit expandable to two; documentation kit. Order one per system or as necessary (up to 103 network nodes) on a network system. Non-English versions also available: XLS140-CPU2-FR (French), XLS140-CPU2-PO (Portuguese), XLS140-CPU2-SP (Spanish).

**XLS140-CPU2E:** Same as XLS140-CPU2 but requires 240 VAC, 1.5 A, (3.0 A in alarm). Non-English versions also available: XLS140-CPU2E-PO (Portuguese), XLS140-CPU2E-SP (Spanish).

**NCA/640-2-KIT:** Bracket installation kit required to mount XLS-NCA2 to the XLS140-CPU2/-640CPU2E’s standard chassis.

**DP-DISP2:** Dress panel for top row in cabinet with XLS140-CPU2/CPU2E installed.

**ADP2-640:** Dress panel for middle rows with XLS140-CPU2/CPU2E.

**BMP-1:** Blank module for unused module positions.

**BP2-4:** Battery plate, required. (Existing XLS-BP2-4 may be used in retrofits.)

**LEM-320:** Loop Expander Module. Expands each 140-2 to two Signaling Line Circuits. See 85-3056.

## 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-EM, BACNET GATEWAY, Q7055C1034) on XLS-NET. Mounts in a standard chassis position or on a BMP-1 plate. See 85-3007.

**XLS-NCM-EBI-W:** Network Communication Module, Wire. Used in applications where the Q7055C1034 (Fire Network adapter) is mounted remotely next to an EBI server. The XLS-NCM-EBI-W mounts inside the EBI server (in an PCI slot) and communicates with the Q7055C1034. See 85-3007.

**XLS-NCM-EBI-F:** Network Communication Module, Multi-Mode Fiber. Used in applications where the Q7055C1034 (Fire Network adapter) is mounted remotely next to an EBI server. The XLS-NCM-EBI-F mounts inside the EBI server (in an PCI slot) and communicates with the Q7055C1034. See 85-3007.

**HS-NCM-W(-2), HS-NCM-MF, HS-NCM-SF, HS-NCM-WMF(-2), HS-NCM-WSF(-2), HS-NCM-MFSF:** High-speed Network Communications Modules that can connect to two nodes. 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), multi-mode 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.

**Q7055C1034:** Fire Network Adapter. Connects to an XLS•NET network to provide a TCP/IP interface to an EBI.

**XLS-GW-EM-3:** XLS•NET Gateway, embedded. See 74-5084.

**HWS-3:** Honeywell Web Server. See 74-5171.

**VESDA-HLI-GW:** VESDAnet high-level interface gateway. See DN-60753.

**XLS-LEDSIGN-GW:** UL-listed sign gateway. Interfaces with classic and high-speed XLS-NET networks through the XLS•NET Gateway. See 74-5148.

**OAX2-24V:** UL-listed LED sign, used with XLS-LEDSIGN-GW. See 74-5148.

## AUXILIARY POWER SUPPLIES AND BATTERIES

**ACPS-610:** 6.0 A or 10.0 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 85-3050.

**HPF24S6/8:** Remote 6 A and 8 A power supplies with battery charger. See *DH-1061*.

**BAT Series:** Batteries. XLS140-2 uses two 12 volt, 18 to 200 AH batteries. See 85-3072.

## AUDIO OPTIONS

**Note:** For mounting hardware, see “Enclosures, Chassis, and Dress Plates” on page 7 and peripheral data sheets.

**XLS-DVC-EM:** Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. Capable of playing up to eight simultaneous messages when used with Digital Audio Loop (DAL) devices. See 74-4033.

**DVC-RPU:** Digital Voice Command Remote Paging Unit for use with XLS-DVC-EM. Includes the keypad/display. See 74-5170.

**DS-DB:** Digital Series Distribution Board, provides bulk amplification capabilities to the XLS-DVC-EM while retaining digital audio distribution capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. See 74-5139.

**DVC-KD:** DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. See 74-4033.

**DS-AMP/E:** 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. See 74-5141.

**DS-RFM, DS-FM, DS-SFM:** Fiber conversion modules for XLS-DVC-EM, DS-DB distribution board, and DAX and DAA2 Series amplifiers. See 74-5078.

**DVC-AO:** DVC Analog Output board provides four analog output circuits for use with AA Series amplifiers. Four-channel operation supported. See 74-4033.

**DAA2-5025(E):** 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. See 74-5137.

**DAA2-5070(E):** 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. See 74-5137.

**DAA2-7525(E):** 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. See 74-5137.

**DAX-3525(E):** 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See 74-5138.

**DAX-3570(E):** 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See 74-5138.

**DAX-5025(E):** 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See 74-5138.

**DAX-5070(E):** 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. See 74-5138.

**TELH-1:** Firefighter’s Telephone Handset for use with the XLS-DVC-EM when mounted in the CA-2 chassis. See 74-4033.

**CMIC-1:** Optional microphone and microphone well assembly used with the CA-1 chassis.

**RM-1/RM-1SA:** Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. See 85-3053.

**AA-30:** Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. See 85-3044.

**AA-120/AA-100:** Audio Amplifier provides up to 120 watts of 25 VRMS audio power for the XLS140-2. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Switch-mode power. Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. Order the AA-100 for 70.7 VRMS systems and 100 watts of power. See 85-3044.

**DAA Series Digital Audio Amplifiers:** Legacy DAA Series amplifiers are compatible with XLS-DVC-EM systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to 74-4032. For information on DAA-7525 Series, refer to 85-3121.

## COMPATIBLE DEVICES, EIA-232 PORTS

**PRN-7:** 80-column printer. See 74-5186.

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

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

## COMPATIBLE DEVICES, EIA-485 PORTS

**ACM-24AT:** ACS annunciator – 24 points, expandable to 64 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 48 points, expandable to 64 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-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 and ACS 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 graphic 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 (HVAC only). See 85-3048.

**TM-4:** Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (single-address-style) or in CHS2-M2 position. See 85-3005.

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

## COMPATIBLE INTELLIGENT DEVICES

NOTE: "CDN" suffix indicates ULC-Listed model.

**XLS-WSG(CDN) Wireless SWIFT Gateway:** Addressable gateway supports wireless SLC devices. Order XLS-WSGCDN for ULC applications. See 74-5175.

**TC840C3206/-IV:** FlashScan, Addressable intelligent multi-criteria smoke sensors, photo, carbon monoxide, fixed temperature heat detector and infra-red (IR). ULC: TC840C3206CDN/-IV.

**TC806C3022:** FlashScan, Combined photoelectric and carbon monoxide sensor. ULC: TC806C3022CDN.

**TC806C3011:** FlashScan, Addressable carbon monoxide sensor. ULC: TC806C3011CDN.

**TC840M3021/-IV:** Addressable intelligent multi-criteria photoelectric, thermal and IR sensors. ULC: TC840M3021CDN, TC840M3021CDN-IV.

**TC847XR1001:** Addressable intelligent single-ended beam smoke detector. UL/ULC-listed.

**TC806B3010:** White, low-profile intelligent photoelectric sensor, FlashScan only. ULC: TC808B3010CDN.

**TC808B3010-IV:** Ivory, low-profile intelligent photoelectric sensor. ULC: TC808B3010CDN-IV.

**TC808B3011:** White, low-profile intelligent 135°F fixed thermal sensor, FlashScan only. Must be mounted to one of the bases listed below. ULC: TC808B3011CDN.

**TC808B3011-IV:** Ivory, low-profile intelligent 135°F fixed thermal sensor, FlashScan and CLIP. Must be mounted to one of the bases listed below. ULC: TC808B3011CDN-IV.

**TC808B3012:** White, low-profile intelligent rate-of-rise thermal sensor, FlashScan only. Must be mounted to one of the bases listed below. ULC: TC808B3012CDN.

**TC846A3013:** White, intelligent high-sensitivity photoelectric smoke detector. ULC: TC846A3013CDN.

**TC846A3005CDN:** Ivory, intelligent high-sensitivity photoelectric smoke detector. ULC: TC846A3005CDN-IV.

**VEP-A00-P-HON:** Intelligent aspiration smoke detector with LED display, 4 pipes, covers up to 21,520 square feet. See 74-5216. UL/ULC Listed.

**VEP-A10-P-HON:** Intelligent aspiration smoke detector with LED and LCD display, 4 pipes, covers up to 21,520 square feet. See 74-5216. UL/ULC Listed.

**VEP-A00-1P-HON:** Intelligent aspiration smoke detector with LED display, single pipe, covers up to 10,760 square feet. See 74-5216. UL/ULC Listed.

**VEU-A00-HON:** Intelligent aspiration smoke detector with LED display, 4 pipes, covers up to 69,965 square feet. See 74-5217. UL/ULC Listed.

**VEU-A10-HON:** Intelligent aspiration smoke detector with LED and LCD display, 4 pipes, covers up to 69,965 square feet. See DN-61034. UL/ULC Listed.

**VEA-040-A00-HON:** Intelligent aspiration with LED display, 40 point-addressable detection points. Covers 36,000 square feet. See 74-5218. UL/ULC Listed.

**VEA-040-A10-HON:** Intelligent aspiration with LED and LCD display, 40 point-addressable detection points. Covers 36,000 square feet. See 74-5218. UL/ULC Listed.

**VES-A00-P-HON-UL:** Intelligent scanning VESDA-E aspiration detector with LEDs. See DH-62040. UL 268 7th edition.

**VES-A10-P-HON-UL:** Intelligent scanning VESDA-E aspiration detector with 3.5" Display. See DH-62040. UL 268 7th edition.

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

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

**B224RB-WH, 14507371-003:** White, low-profile relay base. See 85-3043. ULC: B224RBA-WH.

**B224RB-IV:** Ivory, plug-in System Sensor relay base. ULC: B224RBA-IV.

**B224BI-WH, 14507371-005:** White, isolator base for low-profile detectors. See 85-3043. ULC: B224BIA-WH.

**B224BI-IV:** Ivory isolator detector base. ULC: B224BIA-IV.

**B300-6:** White, standard flanged low-profile mounting base. (For 10-pack order B300-6-BP.) ULC: B300A-6.

**B300-6-IV:** Ivory, standard flanged low-profile mounting base. ULC: B300A-6-IV.

**B501-WHITE:** European-style, 4" (10.16 cm) base. See 85-3043. (For 10-pack order B501-WHITE-BP.) UL/ULC listed.

**B501-BL:** Black, 4" standard European flangeless mounting base. UL/ULC listed.

**B501-IV:** Ivory color, 4" standard European flangeless mounting base. UL/ULC listed.

**B200S-WH:** White, intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with synchronization protocol. See 85-3043. ULC: B200SA-WH.

**B200S-IV:** Ivory intelligent, programmable sounder base. ULC: B200SA-IV.

**B200SCOA-WH:** White intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO detectors. Based on B200SA. ULC listed.

**B200SCOA-IV:** Ivory intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO detectors. Based on B200SA. ULC listed.

**B200S-LF-WH:** White, low-frequency version of B200S. See 85-3043.

**B200S-LF-IV:** Ivory, low-frequency version of B200S.

**B200SR-WH:** White intelligent programmable sounder base, Temporal 3 or Continuous tone. For retrofit installations replacing B501BH series bases. See 85-3043. ULC: B200SRA-WH.

**B200SR-IV:** Ivory intelligent programmable sounder base, Temporal 3 or Continuous tone. For retrofit installations replacing B501BH series bases. ULC: B200SRA-IV.

**B200SR-LF-WH:** White, low-frequency version of B200SR. See 85-3043.

**B200SR-LF-IV:** Ivory, low-frequency version of B200SR.

**TC809A1059(CDN):** FlashScan monitor module. See 74-3993.

**TC809D1004(CDN):** FlashScan dual monitor module. See 74-3993.

**TC841A1000(CDN):** FlashScan two-wire detector monitor module. See 74-3993.

**TC809B1008(CDN):** FlashScan miniature monitor module. See 74-3993.

**TC810T1000(CDN):** Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. See 74-4077-2.

**TC810N1013(CDN):** FlashScan control module. See 74-3993.

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

**TC810R1024(CDN):** FlashScan relay module. See 74-3993.

**TC822A1010(CDN):** 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 and 85C-3127.

**TC811A1006/TC811A1014:** Isolator module. See 74-4555.

**ISO-6(A):** Six fault isolator module. See 74-5181.

**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

**XLS-CAB-4 Series Enclosure:** FeaturedProduct mounts in a standard CAB-4 Series enclosure. Backbox and door ordered separately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. See 85-3002.

**EQ Series Cabinets:** EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, "B" through "D". See 85-3110.

**CAB-BM-G Marine System:** Protects equipment in shipboard and waterfront applications. For a full list of required and optional equipment, see 74-5147.

**CHS-4:** Chassis for mounting up to four APS-6Rs.

**CHS-4L:** Low-profile four-position Chassis. Mounts two AA-30 amplifiers or one AMG-E and one AA-30.

**DP-1B:** Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

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

**XLS-LBBR:** Same as above but red.

**CHS-BH1:** Battery chassis; holds two 12.0 AH batteries. Mounts one the left side of DAA2 chassis. See 74-4032.

**CA-1:** Chassis, occupies one tier of a XLS-CAB-4 Series enclosure. The left side accommodates one XLS-DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). See 74-4033.

**CA-2:** Chassis assembly, occupies two tiers of a XLS-CAB-4 Series enclosure. The left side accommodates one XLS-DVC-EM mounted on a half-chassis and one XLS-NCA2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2

assembly includes CMIC-1 microphone. XLS-ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: XLS-ADDR-B4, XLS-ADDR-C4, XLS-ADDR-D4 (below).

**CFFT-1:** Chassis to mount firefighter's telephone and one ACS annunciator in a CAB-4 row. Includes TELH-1 firefighter's handset for the XLS-DVC-EM, chassis, phone well and mounting hardware. Order DP-CFFT dress panel separately.

**DP-CFFT:** CFFT-1 dress panel. Requires BMP-1 if no ACS annunciator is installed.

**XLS-ADDR-B4:** Two-tier-sized door designed for use with the CA-2 chassis configuration. XLS-ADDR Series doors are similar to XLS-CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the XLS-CAB-4 enclosure. Use an SBB-B4 backbox with the XLS-ADDR-B4. See 74-4033, 85-3002.

**XLS-ADDR-C4:** Three-tier-sized door, designed for use with the CA-2 chassis configuration. XLS-ADDR Series doors are similar to XLS-CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the XLS-CAB-4 enclosure. Use an SBB-C4 backbox with the XLS-ADDR-C4. See 74-4033, 85-3002.

**XLS-ADDR-D4:** Four-tier-sized door designed for use with the CA-2 chassis configuration. XLS-ADDR Series doors are similar to XLS-CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the XLS-CAB-4 enclosure. Use an SBB-D4 backbox with the XLS-ADDR-D4. See 74-4033, 85-3002.

Use XLS-ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with XLS-NCA2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows.

**DPA-1:** Dress panel, used with the CA-1 chassis when configured with a XLS-DVC-EM, DVC-KD, and CMIC-1. See 74-4033.

**DPA-2B:** Dress panel used with CA-2 chassis assembly.

**VP-2B:** Dress panel, required when CA-2 chassis is installed in the top two cabinet rows.

**DPA-1A4:** Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. See 74-4033.

**BP-CA2:** Blank plate for CA-2 chassis.

**XLS-LSP, XLS-LSPA, XLS-SSP:** FS90 retrofit kit components. See 74-5145.

**SEISKIT-CAB:** Seismic mounting kit. Required for seismic-certified applications with XLS140-2 and other equipment mounted in XLS-CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

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

## BACKBOXES

**XLS-ABF-1B** Annunciator Flush Box. UL/ULC Listed.

**XLS-ABF-1DB** Annunciator Flush Box with Door.

**XLS-ABF-2B** Annunciator Flush Box

**XLS-ABF-4B** Annunciator Flush Box

**XLS-ABS-1TB** Annunciator Surface Box

**XLS-ABS-1B** Annunciator Surface Box

**XLS-ABS-2D** Annunciator Surface Box

**XLS-ABS-4D** Annunciator Surface Box

## OTHER OPTIONS

**411:** Slave digital alarm communicator. See 85-3063.

**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 *DN-60408*.

**IPCHSKIT:** IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

**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.

**HWF2V-COM:** LTE Digital Cellular Fire Alarm Communicator and Internet Panel, Verizon LTE / IP. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. See *DH-62010*.

**HWF2A-COM:** LTE Digital Cellular Fire Alarm Communicator and Internet Panel, AT&T LTE / IP. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. See *DH-62010*.

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

## AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the basic XLS140-2 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/ULC Listed:** S470, S7564.
- **FM Approved.**
- **Fire Dept. of New York:** COA #6218.
- **CSFM:** 7165-1130:0265.

**Marine Applications:** Marine approved systems must be configured using components itemized in this document. (See Main System Components, in "Product Line Information.") Specific connections and requirements for those components are described in the installation document, PN 54760. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/B50/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/60017 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

**Note:** For information on marine applications, see 74-5147.

## STANDARDS

The XLS140-2 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864**, 10th edition (Control Units and Accessories for Fire Alarm Systems).
- **UL 2610** (Commercial Premises Security Alarm Units and Systems).
- **UL 2572** (Mass Notification Systems). (XLS140-2 version 20 or higher.)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.

- **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 and Waterflow).  
*Not applicable for FM.*
- **EMERGENCY VOICE/ALARM.**
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).



# XLS140-2 TECHNICAL SPECIFICATIONS

## SYSTEM CAPACITY

- Intelligent Signaling Line Circuits 1 expandable to 2
- Intelligent detectors: 159 per loop
- Addressable monitor/control modules: 159 per loop
- Programmable software zones: 99
- Special programming zones: 14
- LCD annunciators per XLS140-CPU2/-CPU2E and XLS-NCA2 (*observe power*): 32
- ACS annunciators per XLS140-CPU2/-CPU2E: 32 addresses x 64 points
- ACS annunciators per XLS-NCA2: 32 addresses x 64 or 96 points

**Note:** The XLS-NCA2 supports up to 96 annunciator address points per ACM-24AT/-48A.

## ELECTRICAL SPECIFICATIONS

- Primary input power:
  - XLS140-CPU2 board: 120 VAC, 50/60 Hz, 5.0 A.
  - XLS140-CPU2E board: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - XLS140-CPU2(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2: 0.100 A.
  - LEM-320: 0.100 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. See Installation Manual for a complete current draw calculation sheet.

- 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

- Systems can be installed in CAB-4 Series cabinets (*four sizes with various door options, see 85-3002*). Requires XLS-BP2-4 Battery Plate.

## Shipping Weight

- XLS140-CPU2/-CPU2: 14.3 lb (6.49 kg).
- XLS140-CPU2/-CPU2E: 14.55 lb (6.60 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.

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