

ES-50XC

Intelligent Addressable FACP with Communicator



Addressable Fire Alarm Control Panels

General

The **ES-50XC** is the latest intelligent addressable fire alarm control panel (FACP) from Fire•Lite Alarms and is a direct replacement for the MS-9050UD/LSC. The ES-50XC comes with a pre-installed commu-nicator and supports up to 50 addressable devices in any combina-tion of detectors or modules. With an extensive list of powerful features, the ES-50XC programs just like Fire•Lite's other address-able products, yet fits into applications previously served only by con-ventional 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 dedi-cated business telephone lines. Although not required, the second-ary telephone line may be retained providing backup communication over the public switched telephone line. Optional cellular reporting is available using the CELL-MODC or CELL-CAB-FLC.

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 volt-ages 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 cabi-net. Available accessories include local and remote upload/down-load software, remote annunciators, and reverse polarity/city box transmitter (4XTMF).

Features

- ULC Listed
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Tele- phone Service) Central Station Communicator
- Optional CELL-MODC or CELL-CAB-FLC GSM Central Station Communicator over AlarmNet
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address
- Two independently programmable, built-in 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
- Control module delay timer
- Automatic detector sensitivity testing
- 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 print-out
- System alarm verification selection per detector point
- 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

DCL COMMUNICATION LOOP

- LiteSpeed™ polling protocol for faster DCL response time
- DCL operates up to 10,000 ft. (3,000 m) in LiteSpeed mode with twisted, unshielded wire
- Single addressable DCL loop which meets Class B and Class A requirements
- 50 addressable device capacity (any combination of addressable detectors and modules)
- Compatible with Fire•Lite's addressable devices (refer to the *DCL Wiring Manual #51309*)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Two 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, or Temporal 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
- 50 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.

User interface

LED INDICATORS

- Fire 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 Function Keys (yellow)

KEYPAD

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

Product Line Information

ES-50XC: Addressable Fire Alarm Control Panel with one DCL loop. Includes main circuit board with display, pre-installed communicator, chassis with transformer, dress panel, backbox with door, plastic bag containing screws, cables, key, etc., manual.

FS-Tools: Programming software for Windows®-based PC computer. Available for download at www.firelite.com.

CELL-CAB-FLC/CELL-MODC: Optional GSM communicators.

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: ULC 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.

COMPATIBLE ANNUNCIATORS

ANN-100: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded.

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.

SD365A: Addressable low-profile photoelectric smoke detector. LiteSpeed only.

SD365A-IV: Addressable low-profile photoelectric smoke detector. Ivory. LiteSpeed and CLIP mode.

SD365TA: Addressable low-profile photoelectric smoke detector with thermal sensor. LiteSpeed only.

SD365TA-IV: Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory. LiteSpeed and CLIP mode.

SD365RA: Remote test capable addressable photoelectric smoke detector for use with DNRA duct detector housing. LiteSpeed only.

SD365RA-IV: Remote test capable addressable photoelectric smoke detector for use with DNRA duct detector housing. Ivory. LiteSpeed and CLIP mode.

H365A: Low-profile 135°F fixed thermal sensor. LiteSpeed only.

H365A-IV: Low-profile 135°F fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365RA: Low-profile, intelligent, rate-of-rise thermal sensor. LiteSpeed only.

H365RA-IV: Low-profile, intelligent, rate-of-rise thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365HTA: Low-profile intelligent 190°F/88°C fixed thermal sensor. LiteSpeed only.

H365HTA-IV: Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

Legacy Devices

CP355A: Addressable low-profile ionization smoke detector.

SD355A/SD365A: Addressable low-profile photoelectric smoke detector.

SD355TA/SD365TA: Addressable low-profile photoelectric smoke detector with thermal sensor.

SD355RA/SD365RA: Remote test capable addressable photoelectric smoke detector for use with DNRA duct detector housing.

H355A/H365A: Fast-response, low-profile heat detector.

H355RA/H365RA: Fast-response, low-profile heat detector with rate-of-rise option.

H355HTA/H365HTA: Fast-response, low-profile heat detector that activates at 190°F/88°C.

AD355A: Low-profile, intelligent, "Adapt" multi-sensor detector (B350LP base included).

B200SA: Programmable, addressable sounder base.

B200SRA: Addressable sounder base.

BEAM355A: Intelligent beam smoke detector.

BEAM355SA: Intelligent beam smoke detector with integral sensitivity test.

D355PLA: InnovairFlex low-flow non-relay duct-detector housing; includes SD355RA/SD365RA.

DNRA: InnovairFlex low-flow non-relay duct-detector housing. (Order SD355RA/SD365RA separately.)

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

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

MMF-302A: Similar to MMF-300A. 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-300A: 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. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

CRF-300A: 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.

I300A: This module isolates the DCL loop from short circuit conditions (required for Style 6 or 7 operation).

ISO-6A: 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-301A and M301A.

MMF-300-10A: 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-302-6A: 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-300-6A: 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-300-6A: 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.

NOTE: For more information on Compatible Addressable Devices for use with the EX-50XC, see the following data sheets (document numbers): 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 the DCL Wiring Manual (51309).

NOTE: Legacy 300 Series detection devices such as the CP300A/CP350A, SD300A(TA)/SD350A(TA) and older modules such as the M300A, M301A, M302A, C304A, and BG-10LX are not compatible with LiteSpeed polling. If the DCL 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-300A, MDF-300A, MMF-301A, and CMF-300A module circuits. The 3.9k ohm assembly supervises the MMF-302A 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 DCL wiring be twisted-pair to minimize the effects of electrical interference. Refer to the panel manual for wiring details.

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent Digital Communication Loops 1
- Addressable device capacity 50
- Programmable software zones 50
- Annunciators 16

Electrical Specifications

AC Power: Operates in either 120 or 240 VAC, 50/60 Hz, 1.75 A, auto-sensing-no switch required. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Nonpower-limited, supervised.

Battery: Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (EX-50XC cabinet holds maximum of two 18 AH batteries.)

Digital Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Terminal Block provides connections for two 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

This system meets requirements for operation at 0 – 49°C and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C. 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.

Agency Listings and Approvals

The listings and approvals below apply to the basic ES-50XC 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.

- **ULC:** S624

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