

MS-5UD-3(E)/MS-10UD-7(E)

Five Zone Fire Alarm Control Panel
Ten Zone Fire Alarm Control Panel



Control/Communicators

General

The MS-5UD-3(E) is a five-zone FACP (Fire Alarm Control Panel) and the MS-10UD-7(E) is a ten-zone FACP. These control panels provide reliable fire signaling protection for small to medium-sized commercial, industrial, and institutional buildings. Both panels include built-in communicators for Central Station Service and remote upload/download.

Each of these FACPs is compatible with System Sensor's microprocessor-based i³ series detectors. These conventional smoke detectors can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory "freeze" signal when the ambient temperature falls below the detector rating. Additionally, both the MS-5UD-3 and MS-10UD-7 are compatible with conventional input devices such as two- and four-wire smoke detectors, pull stations, waterflow devices, tamper switches, and other normally-open contact devices. Refer to Fire-Lite Device Compatibility Document for a complete listing of compatible devices.

Outputs include four NACs (Notification Appliance Circuits), three programmable Form-C relays (factory programmed for Alarm, Trouble, and Supervisory) and 24 VDC special application resettable and nonresettable power outputs. The FACPs supervise all wiring, AC voltage, battery level and telephone line integrity.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicating LED, sound the piezo sounder at the FACP, activate the communicator and FACP alarm relay, and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The MS-5UD-3E and the MS-10UD-7E offer the same features as the MS-5UD-3 and MS-10UD-7 but allow connection to 220/240 VAC.

NOTE: Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and the 220/240 VAC versions of these panels.

Features

- Listed to UL Standard 864, 9th edition.
- Built-in DACT (Digital Alarm Communicator/Transmitter)
- Style B (Class B) IDC (Initiating Device Circuit)
 - MS-5UD-3 - five IDCs.
 - MS-10UD-7 - ten IDCs.
- Style Y (Class B) NAC (Notification Appliance Circuit) - special application power
 - MS-5UD-3 - four NACs.
 - MS-10UD-7 - four NACs.
- Notification Appliances may be programmed as
 - Silence Inhibit.
 - Auto-Silence.
 - Strobe Synchronization for System Sensor, Wheelock, Gentex, Faraday, or Amseco devices.
 - Selective Silence (horn-strobe mute).
 - Temporal or Steady Signal.
 - Silenceable or Nonsilenceable.



- Optional CAC-5X Style Z (Class A) Converter Module for NACs and IDCs (2 required for MS-10UD-7).
- Form-C Relays for Alarm, Trouble and Supervisory - Contact Ratings 2.0 A@ 30 VDC or 30 VAC (resistive).
- 3.0 A total system current for MS-5UD-3.
- 7.0 A total system current for MS-10UD-7.
- Optional Dress Panel DP-51050.
- Optional Trim Ring TR-CE for semi-flush mounting.
- 24 volt operation.
- Low AC voltage sense.
- Alarm Verification.
- PAS (Positive Alarm Sequence).
- Automatic battery trickle charger.
- Optional 8 zone Relay Module ANN-RLY.
- Optional Remote Annunciator ANN-80.
- Optional Remote Printer Gateway ANN-S/PG.
- Optional LED Annunciator Driver ANN-I/O.
- Optional 4XTMF module (conventional reverse polarity/city box transmitter).

PROGRAMMING AND SOFTWARE:

- Can be programmed at the panel with no special software or additional equipment.
- Programmable Make/Break Ratio.
- Upload/Download (local or remote) of program and data via integral DACT.

USER INTERFACE:

- Built-in DACT (Digital Alarm Communicator/Transmitter).
- Integral 80-character LCD display with backlighting and keypad.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-Bus for connection to remote annunciators.

- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

Terminal Blocks

AC Power – TB1:

- MS-5UD-3 (FLPS-3 Power Supply): 120 VAC, 50/60 HZ, 1.00 A.

- MS-5UD-3E (FLPS-3 Power Supply): 220 VAC, 50 HZ, 0.54 A
- MS-10UD-7 (FLPS-7 Power Supply): 120 VAC, 50/60 HZ, 3.90 A
- MS-10UD-7E (FLPS-7 Power Supply): 220 VAC, 50 HZ, 2.20 A

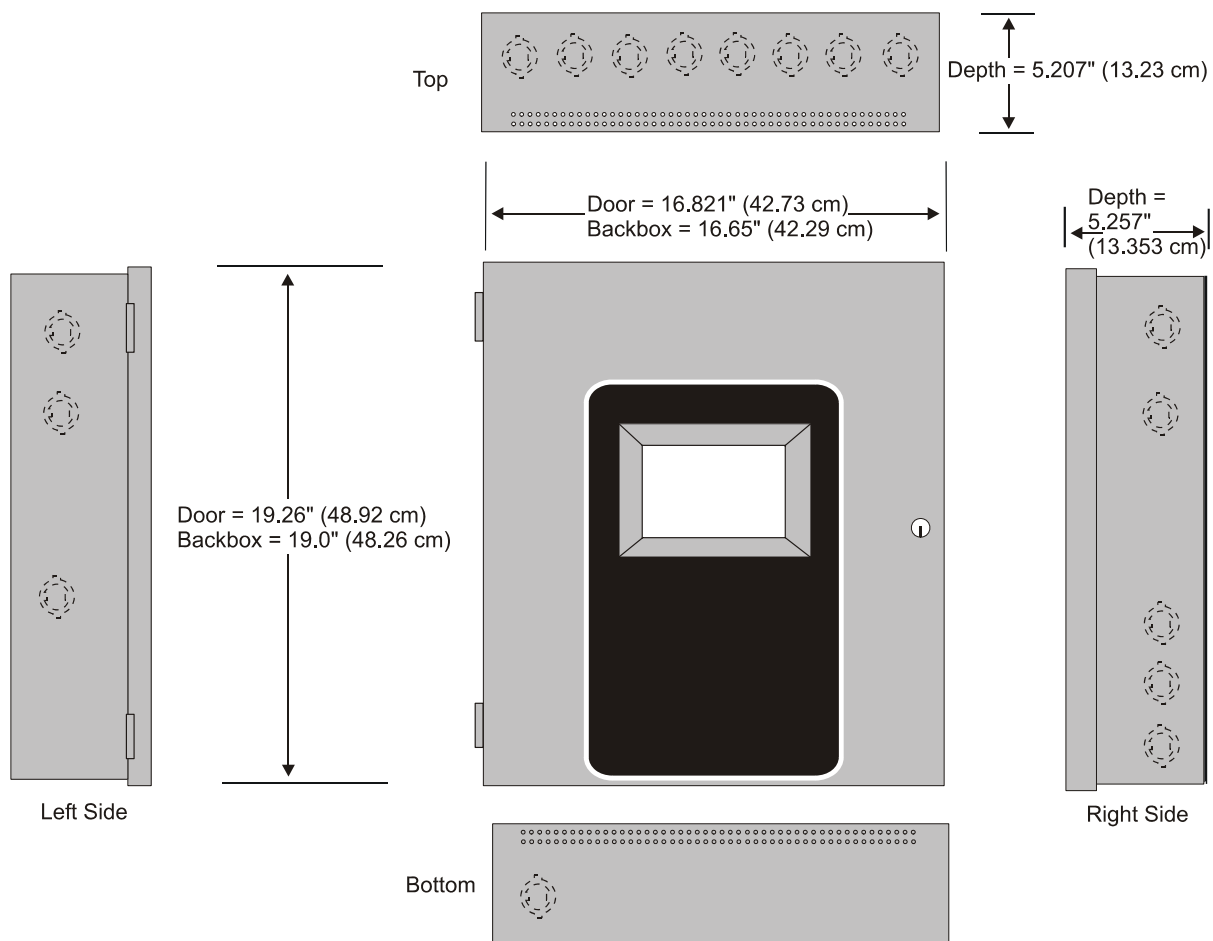
Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- Maximum Charging Circuit - Normal Flat Charge: 27.6 VDC @ 1.4 A. Supervised, nonpower-limited
- Maximum Charger Capacity: 18 AH battery for MS-5UD-3(E), and 26 AH battery for MS-10UD-7(E). [Two 18 Ah batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or BB-55.]
- Minimum Battery Size: 7 AH

Initiating Device Circuits – TB4 (and TB 6 on MS-10UD-7 only):

- Alarm Zones 1 - 5 on TB 4 (MS-5UD-3 and MS-10UD-7)
- Alarm Zones 6 - 10 on TB6 (MS-10UD-7 only)
- Supervised and power-limited circuitry
- Operation: All zones Style B (Class B)



Cabinet measurements

- Normal Operating Voltage: Nominal 20 VDC
- Alarm Current: 15 mA minimum
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 ohms
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (P/N 71252 UL-listed)
- Standby Current: 2 mA

Refer to Fire-Lite *Device Compatibility Document* for listed compatible devices

Notification Appliance Circuits – TB5 (and TB 7 on MS-10UD-7 only):

- Four NACs
- Operation: Style Y (Class B)
- Special Application power
- Supervised and power-limited circuitry
- Normal Operating Voltage: Nominal 24 VDC
- Maximum Signaling Current: 3.0 A for MS-5UD-3(E), 2.5 A maximum per NAC; 7.0 A for MS-10UD-7(E), 3.0 A maximum per NAC.
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (Part #71252)
- Max. Wiring Voltage Drop: 2 VDC

Refer to Fire-Lite *Device Compatibility Document* for compatible listed devices

Form C Relays – TB8:

- *Relay 1* (factory default programmed as Alarm Relay).
- *Relay 2* (factory default programmed as fail-safe Trouble Relay).
- *Relay 3* (factory default programmed as Supervisory Relay)

Special Application Resettable Power – TB9:

- Jumper selectable by JP31 for resettable or nonresettable power.
- Operating voltage: 24 VDC nominal.
- Maximum available current: 500 mA - appropriate for powering four-wire smoke detectors.
- Power-limited circuit.

Refer to Fire-Lite *Device Compatibility Document* for listed compatible devices.

Remote Sync Output - TB2: Remote power supply synchronization output, only required for the MS-5UD-3(E). 24 VDC nominal special application power. Maximum current is 40 mA. End-of-Line Resistor: 4.7K ohm. Supervised and power-limited circuit.

Ordering Information

MS-5UD-3: Five-zone, 24-volt Fire Alarm Control Panel (includes backbox, FLPS-3 power supply, technical manual, and a frame & post operating instruction sheet).

MS-5UD-3E: Same as above with 240 VAC FLPS-3 power supply.

MS-10UD-7: Ten-zone, 24-volt Fire Alarm Control Panel (includes backbox, FLPS-7 power supply, technical manual, and a frame & post operating instruction sheet).

MS-10UD-7E: Same as above with 240 VAC FLPS-7.

OPTIONAL MODULES

CAC-5X: Optional Style Z (Class A) Converter Module. Converts Style B (Class B) Notification Appliance Circuits to Style D (Class A) and Style Y (Class B). Connects to J2 on the MS-5UD-3(E) and MS-10UD-7(E) main circuit board and to J7 on the MS-10UD-7(E).

NOTE: Two Class A Converter Modules are required for the ten-zone panel.

4XTMF: Transmitter module. Provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. Includes a disable switch and disable trouble LED. A module jumper option allows the reverse polarity circuit to open with a system trouble condition if no alarm conditions exists. Mounts to the main circuit board connectors J4 and J5.

COMPATIBLE ANNUNCIATORS

ANN-80: Remote LCD Annunciator. Mimics the information displayed on the FACP's LCD.

ANN-LED: Mounts in the DP-51050 dress panel and provides three LEDs for each zone: Alarm, Trouble, and Supervisory.

ANN-RLY: Relay module. Mounts inside the cabinet. Provides ten Form C relays.

ANN-S/PG: Serial/parallel printer gateway. Provides a connection for a serial or parallel printer.

ANN-I/O: Driver module. Provides connections to a user-supplied graphic annunciator.

ACCESSORIES

DP-51050: Optional dress panel. Restricts access to the system wiring while allowing access to the membrane switch panel.

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

BB-55: Battery backbox, holds up to two 25 AH batteries.

TR-CE: Optional trim-ring for semi-flush mounted cabinets.

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **MS-5UD-3 (FLPS-3 Power Supply):** 120 VAC, 50/60 HZ, 1.0 A
- **MS-10UD-7 (FLPS-7 Power Supply):** 120 VAC, 50/60 HZ, 3.9 A
- **MS-5UD-3E (FLPS-3 Power Supply):** 240 VAC, 50/60 HZ, 0.54 A
- **MS-10UD-7E (FLPS-7 Power Supply):** 240 VAC, 50/60 HZ, 2.2 A
- **Wire size:** minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited

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

Dimensions:

- 20.00" (50.80 cm.) high
- 22.5" (57.15 cm.) wide
- 8.5" (21.59 cm.) deep.

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 MS-5UD-3 and MS-10UD-7 control panels. 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 Listed:** File S624
- **FM Approved**
- **CSFM:** 7165-0075:214

NFPA Standards

The MS-5UD-3(E)/MS-10UD-7(E) 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).

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