

Submittal Records

Architect: Snyder Architects Inc.	Date: 2024-07-16
Attention: Amit Patel, Anil Gokarn, Avinash Garde, Mike Wilding	Project: Gymnasium Addition at Glenview PS
Subcontractor: B-SAFE Electric	Shop Drawings Fire Alarm System

Copies	Title /Description	# Pages
1	Fire Alarm System	43

Method of Delivery: Electronic

The Architect's review is for the sole purpose of ascertaining conformance with the general design concept and for the general arrangement. This review shall not mean approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor and such review shall not relieve the Contractor of their responsibility for errors or omissions in the shop drawings or of their responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes, quantities or to techniques of construction and installation and for coordination of related work.

sn/der
architects

Date Jul 31 2024
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Commercial

Industrial

Plant Maintenance

Date: Jul 16, 2023

Shop Drawing Transmittal

To: Golden Gate Contracting

Project Name: Gymnasium Addition at Glenview P S

Submittal drawings issued for:

For Approval

For Record / Info Only

Copies	Supplier	Description
	Mircom	Fire Alarm System

Notes: *MATERIAL ON HOLD PENDING APPROVAL AND RELEASE *

PER: Sumish Azheekkalkadavil



Glenview PS Gym Additions

143 Townsend Ave
Burlinton, Ontario

Fire Alarm System Shop Drawing Package

DATE ISSUE: July 15, 2024
REVISION NO. R0

Table of Contents

1. Data Sheets
2. Fire Alarm System Shop Drawings (Delivered in separate PDFs)

Section 1 – Data Sheets



FX-4003-12NXT and DSPL-420DS (sold separately)
Display, Backbox and Door are sold separately

Description

For projects where flexibility is needed, Micom's Flex-Net FX-4000 Series is a powerful multi-protocol solution. FX-4003-12NXT is designed to meet virtually any application of detection, control, notification, and emergency communications. Features such as fire detection & alarm, audio/voice evacuation, BACnet, Boolean logic, networking, and graphical workstation support allow this modular solution to accommodate projects from the simplest systems up to the most complex solutions.

- FX-4003-12NXT supports multiple intelligent protocols:
 - MIX-4000 Devices
 - Advanced Protocol (AP)
 - Classic Loop Interface Protocol (CLIP)
- Multiple User Interface Options including:
 - 80 characters or 960 character back-lit LCD with the user-friendly menu.
 - LED displays address
 - Up to 7 remote annunciators per node

Features

- Main Processor Board with built in Network card interface, Voice Evacuation System Interface, and IP Port for OpenGN Workstation or BMS Integration
- Supports both 80 character and 960 character back-lit LCD displays with user friendly menu
- Expandable up to 20 SLC
- Each SLC current capability is 200mA in standby and 400mA in alarm. SLC Maximum line resistance 40 Ohms and maximum line capacitance 0.47uF
- Sub-addressing to optimize the number of devices in each loop
- Four Style Z/Y (Class A/B) Notification Appliance Circuits rated at 1.7 Amps each with built-in sync protocol
- Class A, Class X or Class B analog loop(s)
- Compatible with conventional detectors using DM-1008A Eight Initiating Circuit Module or MGC MIX-4042 Conventional Zone module, refer to document LT-1023 for compatible detectors
- User Interface Tags and Labels in English, French, Italian, Spanish, Portuguese, Arabic*, Hebrew*, Chinese*, Japanese*, Korean* and Russian* (*needs DSPL-2440DS or RAXN-4000LCDG)
- Tags only: it accepts all languages supported by Windows 10 (requires DSPL-2440DS or RAXN-4000LCDG)
- Boolean Logic Engine for complex sequences of Operations
- Four Alarm Queues with selector switches and LEDs for Alarm, Supervisory, Monitor and Trouble
- RS-232 output for remote system printer or terminal
- RS-485 port for system expansion
- Ethernet port for OpenGN, BACNet and Webserver
- Built in BACNet for BMS System Integration
- Built in Webserver for Remote Event Notification
- Integration with QX-Mini Audio Panels
- Two Event History Logs; one for Alarm-related events (5000 events) and one for all events (5000 events)
- System can be configured without taking the panel off-line
- Supports three configuration files (current, previous and next configuration) with "hot swap" support
- Remote diagnostics via a built-in web server
- UL listed for Smoke Control (UUKL).



NYC
Fire Dept



Features cont'd

MIX-4000 Device Features

For new or retrofit expansion of existing applications, supports up to 240 MIX-4000 devices per SLC

Supports:

- Photo, Heat, and Multi-criteria Sensors
- Optional Built-In Isolation on Sensors
- Multiple Input and Multiple Output modules
- Group activation on the output to speed up actions on the outputs

AP Protocol Features

Advanced Protocol (AP) supports up to 318 devices per SLC (159 sensors & 159 modules). Supports:

- Smoke, Heat and Fire/CO detection
- Low Frequency 520 Hz sounder base support on both the addressable loop and through the audio/voice evacuation system.
- Interrupt operation on input side to speed detection of an event communication back to the panel
- Group activation on the output to speed up actions on the outputs

CLIP Protocol Features:

- Address range for sensors S1-S99 - address range for modules M1-M99.
- Wide range of addressable devices available.

Networking Features

The network configuration allows multiple Flex-Net FX-4000 Series control panels to be connected using supervised Class A/B circuits to expand the available SLCs, input circuits, visual indication zones, programmable notification appliance circuits, relay outputs and monitor points in the application. The network interface module creates a robust peer-to-peer network via a proprietary protocol that ensures network segments operate independently in case of network impairment. The high baud rate of the network allows for multiplexing of control, audio, and telephony communications over a single copper or fiber interface using advanced compression algorithms. Twisted-Pair Copper, Single-Mode Fiber & Multi-Mode Fiber networking is supported.

- Up to 63 nodes
- Peer-to-peer network communications
- Fully integrated digital network audio and control over a single pair of copper wire or fiber optic cable (single or multi-mode)
- Remote diagnostics via built-in web server and standard Ethernet port in every node
- Style 4 (Class B) or Style 6 or 7 (Class A) network wiring configuration

Electrical Specifications

Primary Input Power	120VAC 60Hz / 240VAC 50Hz 4 Amps / 2 Amp (primary)
Battery Type	24VDC Gel Cell / Sealed lead acid

Enclosures



BBX-1024XT(B)R Extended Enclosure

The BBX-1024XT(B)R enclosure supports one FX-4003-12NXT and up to 18 AH Batteries. The enclosure features the universal CAT-30 lock and a removable door for easy installation and servicing. The enclosure is available in red exterior. The FA-XT-TRB Semi-Flush Trim Ring is required for semi-flush mounting

Dimensions: 35 1/2"H x 14 1/2"W x 5 1/4"D



BB-1001WP(R)A – Outdoor Weather Protected Enclosure

The BB-1001WP(R)A is a complete enclosure that comes with either a RED or WHITE door, a black back-box, two keys and a durable lock at the top of the door. The door comes hinged to the bottom side of the box for added weather protection. The box is capable of handling one RAM-1032TZDS-CC Main Annunciator Chassis which provides up to 32 points of annunciation. RAM-1032TZDS-CC is ordered separately conform with the UL, ULC installation requirements.

Note: there is no need for thermostat or heater. RAM-1032TZDS-CC must be ordered separately to match UL, ULC installation requirements.



BB-1002WP(R)A – Outdoor Weather Protected Enclosure

The BB-1002WP(R)A is a complete enclosure that comes with either a RED or WHITE door, a black back-box, two keys and a durable lock at the top of the door. The door comes hinged to the bottom side of the box for added weather protection. The box is capable of handling one RAM-1032TZDS-CC Main Annunciator Chassis which provides up to 32 points of annunciation and one RAX1048TZDS-CC Adder Annunciator, which provides up to 48 points of annunciation. RAM-1032TZDS-CC and RAX1048TZDS-CC are ordered separately to match the UL, ULC installation requirements.

Note: there is no need for thermostat or heater. RAM-1032TZDS-CC and RAX-1048TZDS-CC must be ordered separately to match UL, ULC installation requirements.

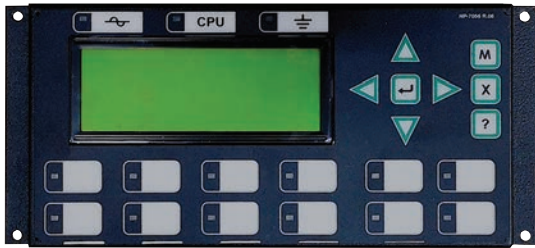


BB-1001 / 2 / 3 / 8 / 12 – Remote Annunciator Enclosures

The BB-1000 Series comes complete with a backbox, door and hinge. The enclosures doors come with Lexan windows, two keys and a durable lock. The enclosures can handle the RAM-1032TZDS, RAX-1048TZDS, Main Annunciator Chassis.

BB-1001D / DR / DS / DB	9" H x 12.75" W x 1.85" D
BB-1002D / DR / DS / DB	18" H x 12.75" W x 1.85" D
BB-1003D / DR / DS / DB	26.4" H x 12.75" W x 1.85" D
BB-1008D / DR / DB	33" x 22.5" W x 1.85" D
BB-10012D / DR / DB	45" H x 22.5" W x 1.85" D

Displays



DSPL-420DS Main Display Module

The DSPL-420DS Main Display Module provides the FX-4003-12NXT with a 4-line by 20-character backlit LCD display, Common Controls buttons and Four Status Queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitor. The DSPL-420DS occupies one display position in the FX-4003-12NXT inner door.



DSPL-2440DS Graphical Main Display Module

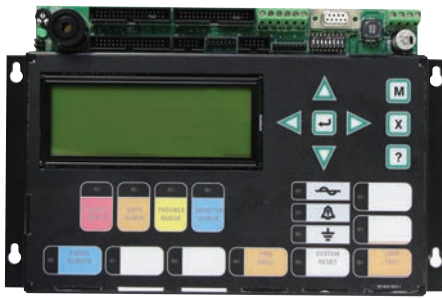
The DSPL-2440DS Graphical Main Display Module provides the FX-4003-12NXT with a 24-line x 40-character backlit LCD display, common controls buttons and four status queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitor. The DSPL-2440DS occupies one display position in the FX-4003-12NXT inner door.



DSPL-420-16TZDS Main Display Module

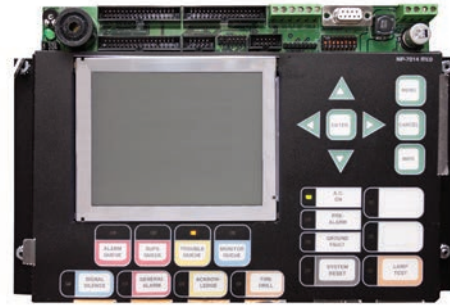
The DSPL-420-16TZDS Main Display Module provides a 4-line by 20-character backlit LCD display, Common Control buttons and Four Status Queues with selector switches and LEDs for Alarm, Supervisory, Trouble and Monitoring with an additional 16 LED points of annunciation. The DSPL420-16TZDS occupies one display position in the FX-4003-12NXT inner door.

Remote Annunciators



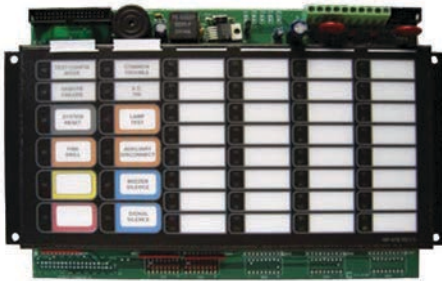
RAXN-4000LCD Remote LCD Annunciator

The RAXN-4000LCD Remote LCD Annunciator is equipped with a 4-line x 20-character back-lit alphanumeric LCD display that provides an exact replica of the main Flex-Net fire alarm control panel display. The RAXN-4000LCD occupies one display position in the BB-1000 or BB-5000 Series enclosures



RAXN-4000LCDG Remote Graphic LCD Annunciator

The RAXN-4000LCDG Remote Graphic LCD Annunciator is equipped with a 24-line x 40-character back-lit graphical LCD display that is used to display 9 events per page. Each event is displayed over 2 lines with 40 characters per line allowing emergency information to be displayed in easy to read format. The RAXN-4000LCDG occupies one display position in the BB-1000 or BB-5000 Series enclosures.



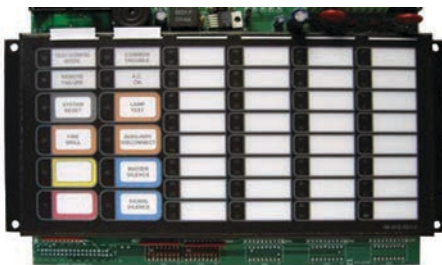
RAM-1032TZDS-CC Conformal Coated Main Remote LED Annunciator

The RAM-1032TZDS-CC Conformal Coated Main Remote LED Annunciator provides common annunciator functions and 32 points of LED annunciation. The RAM-1032TZDS-CC has indicators for A.C. On, Common Trouble and Signal Silence and controls for System Reset, Lamp Test, Fire Drill, Buzzer Silence and Signal Silence. The RAM-1032TZDS-CC occupies one display position in the BB-1001WP(R)A or BB-1002WP(R)A enclosures.



RAX-1048TZDS-CC Conformal Coated Programmable LED Annunciator Module

The RAX-1048TZDS-CC Conformal Coated Programmable LED Annunciator Module provides 48 programmable bi-colored LEDs. The RAX-1048TZDSCC connects to the main panel or either the RAXN-4000LCD or RAM-1032TZDS when mounted remotely. The RAX-1048TZDS-CC occupies one display position in the BB-1002WP(R)A Series enclosures.



RAM-1032TZDS Main Remote LED Annunciator

The RAM-1032TZDS Main Remote LED Annunciator provides common annunciator functions and 32 points of LED annunciation. The RAM-1032TZDS has indicators for A.C. On, Common Trouble and Signal Silence and controls for System Reset, Lamp Test, Fire Drill, Buzzer Silence and Signal Silence. The RAM-1032TZDS occupies one display position in the BB-1000 or BB-5000 enclosures.



RAX-1048TZDS Programmable LED Annunciator Module

The RAX-1048TZDS Programmable LED Annunciator Module provides 48 programmable bi-colored LEDs. The RAX-1048TZDS connects to the main panel or either the RAXN-4000LCD or RAM-1032TZDS when mounted remotely. The RAX-1048TZDS occupies one display position in the FX-4003-12NXT, BB-1000 or BB-5000 Series enclosures.

Graphic Annunciator Driver Modules



MGD-32 Master Graphic Driver Module

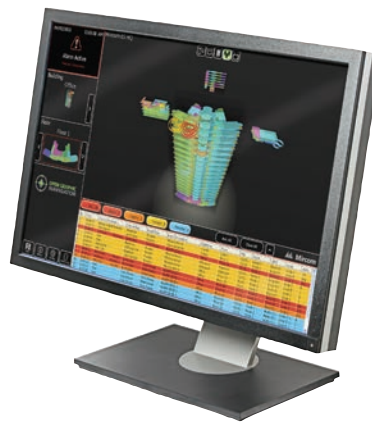
For use with FX-401, FX-1000, FX-2000 and FX-4000 Series Fire Alarm Control Panels. The MGD-32 Master Graphic Driver Module provides common control inputs for the switches such as System Reset, Signal Silence, Auxiliary Disconnect, Fire Drill, Lamp Test and Acknowledge



AGD-048 Adder Graphic Annunciator Adder Driver Board

The AGD-048 Adder Graphic Driver Module can be used with the MGD-32 to support an additional 48 supervised outputs. The AGD-048 mounts in a graphic annunciator wall box or in the BB-5000 enclosures.

Graphics Software

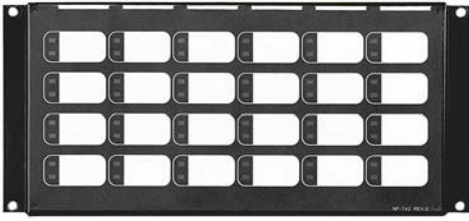


Open Graphic Navigator (OpenGN)

Open Graphic Navigator (OpenGN) is a centralized fire alarm management system that provides building or campus monitoring. As a powerful integration tool, OpenGN allows operators to monitor remote sites from multiple workstations located anywhere in the world. OpenGN displays monitored buildings and campuses in both 2D and 3D representations, and is highly customizable.

Model	Description
OGN-FLSLIC-ONE	Single Fire Alarm Control Panel License Requires: OGN-KEY (sold separately)
OGN-FLSLIC-EXP	Fire Alarm Control Panel License for 2-9 Connections Requires: OGN-KEY (sold separately)
OGN-FLSLIC-STD	Fire Alarm Control Panel License for 10-99 Connections Requires: OGN-KEY (sold separately)
OGN-FLSLIC-ENT	Fire Alarm Control Panel License for 100+ Connections Requires: OGN-KEY (sold separately)
OGN-KEY	OGN License Key Stick

Programmable Modules



IPS-2424DS Programmable Input Switches Module

The IPS-2424DS provides 24 programmable switches that can be configured for ancillary functions such as zone bypass or added common control functions. The IPS-2424DS connects to the main panel or the RAXN-4000LCD when mounted remotely. The IPS-2424DS occupies one display position in the FX-4003-12NXT, BB-1000 or BB-5000 Series enclosures.



FDX-008W/KI Fan Damper Module

The FDX-008W/FDX-008WKI Fan Damper Control Module provides individually programmed circuits which can be used for fan or damper control. The FDX-008W/FDX-008WKI connects to the main panel or the RAXN-4000LCD and occupies one display position in the FX-4003-12NXT, BB-1000 or BB-5000 Series enclosures.



IPS-4848DS Programmable Input Switches Module

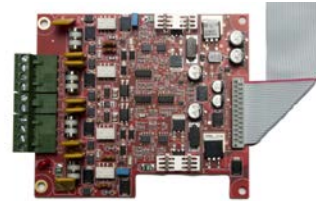
The IPS-4848 provides 48 programmable switches that can be configured for ancillary functions such as zone bypass or added common control functions. The IPS-4848DS connects to main control unit or the RAXN-4000LCD when mounted remotely. The IPS-4848DS occupies one display position in the FX-4003-12NXT, BB-1000 or BB-5000 Series enclosures.

Adder Loop Controller Modules



ALCN-960MISO Isolated Quad Loop Adder Module

For MIX-4000 devices, the ALCN-960MISO Isolated Quad Loop Adder Module provides two Signaling Line Circuits (SLC) with ground fault detection to the system consisting of 240 MIX-4000 devices per loop. The ALCN-960MISO can be expanded with the use of the ALCN-960D Daughter Board Module. The ALCN-960MISO occupies one module slot.



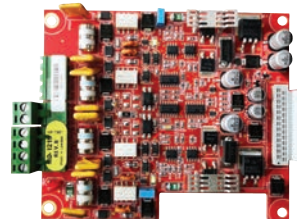
ALCN-960D Daughter board for ALCN-960MISO

For MIX-4000 devices, the ALCN-960D Daughter Board provides an additional two SLC loops when connected to the ALCN-960MISO Isolated Quad Loop Adder Module. The daughter board mounts on top of the ALCN-960MISO.



ALCN-4792MISO Isolated Quad Loop Adder Module

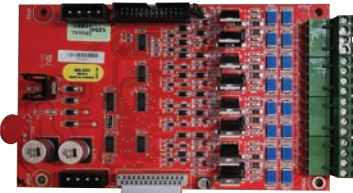
The ALCN-4792MISO Isolated Quad Loop Adder Module provides two Signaling Line Circuits (SLC) with ground fault detection to the system consisting of 159 Analog Sensors and 159 Addressable Modules per loop. The ALCN-4792MISO can be expanded with the use of the ALCN-792D Daughter Board Module. The ALCN-4792MISO occupies one module slot.



ALCN-792D Daughter board for ALCN-4792MISO

The ALCN-792D Daughter Board provides an additional two SLC loops when connected to the ALCN-4792MISO Isolated Quad Loop Adder Module. The daughter board mounts on top of the ALCN-4792MISO.

Adder Hardware Modules



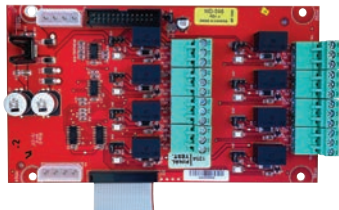
DM-1008A Eight Initiating Circuit Module

The DM-1008A provides 8 Style B (Class B) or 4 Style D (Class A) Initiating Circuits configurable for Alarm, Supervisory or Trouble zones. The DM-1008A occupies one module slot.



SGM-1004S Four Notification Appliance Circuit Output Module with Built-in Synchronization

The SGM-1004S provides up to four indicating circuits each rated at regulated 24 VDC/FWR 1.7 Amps (5 Amps maximum per SGM-1004S) to signal devices such as strobes, bells, horns, etc., and for special applications it is rated at 33 VDC/FWR 2.1 Amps (5 Amps maximum per SGM-1004S). Each of the indicating circuits can be configured as non-silenceable (steady) or silenceable. SGM-1004S enables the compatible fire alarm control panels to have synchronized NAC circuits.



RM-1008A Eight Relay Circuit Module

The RM-1008A provides the system with eight individual configurable relays per module. Each relay provides one Form C contact rated at 28 VDC @1 Amp (resistive load) as well as a Green LED to indicate that the relay is active. The RM-1008A occupies one module slot

Network Controller Modules



FNC-2000 Fire Network Controller Module

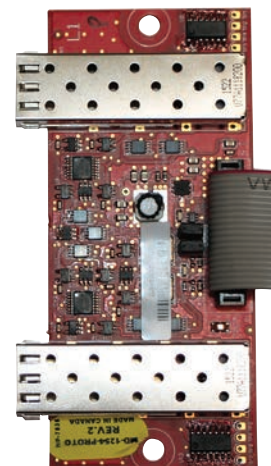
The FNC-2000 provides network capability to the system. One Fire Network Controller Module is required per network node panel. In addition the FNC-2000 provides an interface for adding an optional "FOM-2000-UM" Fiber Optic Network Adder Module. The FOM-2000-UM allows for single-mode or multi-mode fiber optic communication on a Flex-Net.



FOM-CONN-MM



FOM-CONN-SM



FOM-2000-UM

FOM-2000-UM Fiber Card Universal Mode

Allows for single-mode or multi-mode fibre optic communication on a Flex-Net network. Add FOM-CONN-SM and FOM-CONN-MM

FOM-CONN-MM Fiber Optic Connector Multi-Mode

Fibre Optic Module Connector Multi-mode (pack of 2). Must use a FOM-2000-UM

FOM-CONN-SM Fiber Optic Connector Single-Mode

Fibre Optic Connector Single Mode (pack of 2). Must use a FOM-2000-UM

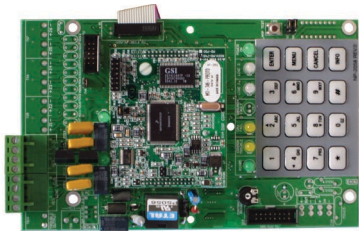
Power Supply Expansion



INX-10A Intelligent Booster Power Supply

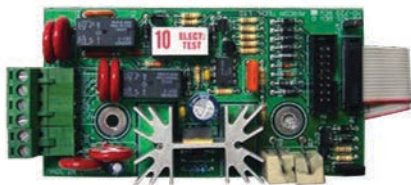
Mircom's INX-10A is an Intelligent NAC expander/ power supply that works with listed compatible Intelligent fire alarm control panels. Available in a 10 Amp configuration, the INX-10A can extend the power capabilities of existing notification appliance circuits as well as provide power for other ancillary devices. In addition, the INX-10A has the ability to operate with any UL/ULC Listed 24 VDC fire alarm control panel to provide Notification Appliance Circuit expansion.

Adder Auxiliary Modules



UDACT-300A Digital Alarm Communicator Module

The UDACT-300A Digital Communicator allows the system to transmit addressable point information to a central station. The UDACT-300A occupies one module slot.



PR-300 Polarity Reversal/City Tie Module

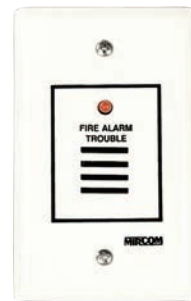
The PR-300 provides outputs for city box and polarity reversal applications. As a city tie module, the PR300 provides an interface between the control panel indicating circuits and a master box. It provides off-premises signal transmission for systems that must comply with NFPA requirements for Auxiliary Protective Systems. As a polarity reversal module, the PR-300 provides an interface between the control panel and a reverse polarity receiver.

Accessories



UIMA4 – Interface for Configuring MGC Fire Panels

The UIMA4 is an interface for configuring Flex-Net FA-300, FX-401, FX-2000, FX-3500, FX-3318, FX-4000, QX-5000, and UDACT-300. The UIMA4's ribbon cable can be disconnected and replaced – the replacement part number is RPL-WC-25022 (it comes with 3 replacement cables). The UIMA4 interface has 3 connectors: 9 pin male serial connector, USB B female connector, and 10 pin female connector.



RTI-1 – Trouble Remote Indicator

Mircom's Remote Trouble Indicator provides remote annunciation of fire alarm troubles. The RTI-1 mounts onto a standard single gang electrical box. The RTI-1 can be used with any of Mircom's fire alarm control panels.



MP-300 – End of Line Plates

Mircom's MP-300 is a 3.9K End Of Line resistor for use with Mircom conventional panels and detection circuits.

Current Consumption

Model	Description	Standby (Amps)	Alarm (Amps)
FleX-Net FX-4000 Series Network Lobby Control and Floor Panels - Integrated Fire and Audio Systems			
FX-4003-12NXT	Compact Main Network Control Unit (12 Amp)	0.310	0.733
Displays			
DSPL-420DS	4 x 20 Main LCD Display for FX-4003-12NXT	0.024	0.025
DSPL-420-16TZDS	4 x 20 Main LCD Display for FX-4003-12NXT w/16 LEDs	0.010	0.046
DSPL-2440DS	Graphical Main Display for FX-4003-12NXT	0.029	0.035
Adder Loop Controller Modules			
ALCN-4792MISO	Isolated Quad Loop Controller Module (for Mircom CLIP and Select Series Devices)	0.130	0.145
ALCN-792D	Daughter board for ALC-4792MISO Isolated Quad Loop Controller Module	0.130	0.145
ALCN-960MISO	Isolated Quad Loop Controller (for MIX-4000 Devices)	0.130	0.145
ALCN-960D	Daughter Board for ALCN-960MISO	0.130	0.145
Adder Hardwire Modules			
DM-1008A	Eight Class B (Style B) or 4 Class A (Style D) Initiating	0.080	1 zone active: 0.125 2 zones active: 0.170 4 zones active: 0.275 6 zones active: 0.370 8 zones active: 0.465
SGM-1004S	Four Class A/B (Style Z/Y) Notification Appliance Circuit Module (Rated at 1.7 Amps per circuit)	0.031	0.096
RM-1008A	Eight Relay Circuit Module c/w eight form C relays (Rated for 28 VDC @ 1 Amp max. per relay)	0.025	0.150
Adder Auxiliary Modules			
UDACT-300A	Digital Alarm Communicator Transmitter/Dialer Module	0.045	0.120
PR-300	Polarity Reversal and City Tie Module	0.035	0.300
Programmable Modules			
IPS-2424DS	Programmable Input Switches Module c/w 24 selector switches and 24 bi-coloured LEDs	0.010	0.015
IPS-4848DS	Programmable Input Switches Module c/w 48 selector switches and 48 bi-coloured LEDs	0.010	0.022
FDX-008W	Fan Damper Control Module c/w 8 programmable switches	0.015	0.035
FDX-008WKI	Fan Damper Control Module	0.015	0.035
Remote Annunciators			
RAXN-4000LCD	Remote LCD Annunciator	0.139	0.164
RAXN-4000LCDG	Remote Graphic LCD Annunciator	0.117	0.150
RAM-1032TZDS	Main Remote LED Annunciator c/w 32 Bi-Colored LEDs	0.050	32 zones active: 0.300
RAM-1032TZDS-CC	Conformal coated 32 zone remote LED annunciator with trouble LEDs	0.050	32 zones active: 0.300
RAX-1048TZDS	Adder Annunciator Chassis c/w 48 Bi-Colored LEDs	0.022	48 zones active: 0.262
RAX-1048TZDS-CC	Conformal coated Adder Annunciator Chassis c/w 48 Bi-Colored LEDs	0.022	48 zones active: 0.262
MGD-32	Graphic Annunciator	0.035	1.6
AGD-048	Graphic Annunciator Adder Driver Board	0.035	# of LEDs x 4mA
Network Controller Modules			
ANC-4000	Audio Network Controller Module	0.255	0.265
TNC-5000	Telephone Network Controller Module	0.195	0.215
FNC-2000	Fire Network Controller Module	0.190	0.190
FOM-CONN-MM	Fibre Optic Module Connector Multi-mode (pack of 2). Must use a FOM-2000-UM	0.042	0.042
FOM-CONN-SM	Fibre Optic Connector Single Mode (pack of 2). Must use a FOM-2000-UM	0.016	0.016
Accessories			
RTI-1	Trouble Remote Indicator	0.035	0.035

Ordering Information

Model	Description
Flex-Net FX-4000 Series Network Lobby Control and Floor Panels - Integrated Fire and Audio Systems	
FX-4003-12NXT	Compact Main Network Control Unit (12 Amp)
Displays	
DSPL-420DS	4 x 20 Main LCD Display for FX-4003-12NXT
DSPL-420-16TZDS	4 x 20 Main LCD Display for FX-4003-12NXT w/16 LEDs
DSPL-2440DS	Graphical Main Display for FX-4003-12NXT
Enclosures	
BBX-1024XT/B/R	Enclosure c/w removable "B" for black door, and "R" for red door , black backbox and CAT-30 lock and key.
BB-1001D/DR/DS/DB	Remote Annunciator Enclosure Houses one module. "D" White, "DR" Red, "DS" Stainless Steel, or "DB" for Black Door.
BB-1002D/DR/DS/DB	Remote Annunciator Enclosure Houses two module. "D" White, "DR" Red, "DS" Stainless Steel, or "DB" for Black Door.
BB-1003D/DR/DS/DB	Remote Annunciator Enclosure Houses three module. "D" White, "DR" Red, "DS" Stainless Steel, or "DB" for Black Door.
BB-1008D/DR/DB	Remote Annunciator Enclosure Houses eight modules. "D" White, "DR" Red or "DB" for Black Door.
BB-1012D/DR/DB	Remote Annunciator Enclosure Houses twelve modules. "D" White, "DR" Red or "DB" for Black Door.
BB-1001WP(R)A	Weather Protected Enclosure Enclosure Houses one module. White. BB-1001WPRA for red.
BB-1002WP(R)A	Weather Protected Enclosure Enclosure Houses two module. White. BB-1002WPRA for red.
Adder Loop Controller Modules	
ALCN-4792MISO	Isolated Quad Loop Controller Module (for Mircom CLIP and Select Series Devices)
ALCN-792D	Daughter board for ALC-4792MISO Isolated Quad Loop Controller Module
ALCN-960MISO	Isolated Quad Loop Controller (for MIX-4000 Devices)
ALCN-960D	Daughter Board for ALCN-960MISO
Adder Hardwire Modules	
DM-1008A	Eight Class B (Style B) or 4 Class A (Style D) Initiating
SGM-1004S	Four Class A/B (Style Z/Y) Notification Appliance Circuit Module (Rated at 1.7 Amps per circuit)
RM-1008A	Eight Relay Circuit Module c/w eight form C relays (Rated for 28 VDC @ 1 Amp max. per relay)
Adder Auxiliary Modules	
UDACT-300A	Digital Alarm Communicator Transmitter/Dialer Module
PR-300	Polarity Reversal and City Tie Module
Programmable Modules	
IPS-2424DS	Programmable Input Switches Module c/w 24 selector switches and 24 bi-coloured LEDs
IPS-4848DS	Programmable Input Switches Module c/w 48 selector switches and 48 bi-coloured LEDs
FDX-008W	Fan Damper Control Module c/w 8 programmable switches
FDX-008WKI	Fan Damper Control Module
Power Supply Expansion	
INX-10A	Intelligent Booster Power Supply
Remote Annunciators	
RAXN-4000LCD	Remote LCD Annunciator
RAXN-4000LCDG	Remote Graphic LCD Annunciator
RAM-1032TZDS	Main Remote LED Annunciator c/w 32 Bi-Colored LEDs
RAM-1032TZDS-CC	Conformal coated 32 zone remote LED annunciator with trouble LEDs
RAX-1048TZDS	Adder Annunciator Chassis c/w 48 Bi-Colored LEDs
RAX-1048TZDS-CC	Conformal coated Adder Annunciator Chassis c/w 48 Bi-Colored LEDs
MGD-32	Graphic Annunciator
AGD-048	Graphic Annunciator Adder Driver Board

Ordering Information cont'd

Model	Description
Graphic Annunciator Driver Modules	
OGN-FLSLIC-ONE	Single Fire Alarm Control Panel License (Price per connection) Requires: OGN-KEY (sold seperately) Contact us for non-Mircom panel connections
OGN-FLSLIC-EXP	Fire Alarm Control Panel License for 2-9 Connections (Price per connection) Requires: OGN-KEY(sold seperately) Contact us for non-Mircom panel connections
OGN-FLSLIC-STD	Fire Alarm Control Panel License for 10-99 Connections (Price per connection) Requires: OGN-KEY (sold seperately) Contact us for non-Mircom panel connections
OGN-FLSLIC-ENT	Fire Alarm Control Panel License for 100+ Connections (Price per connection) Requires: OGN-KEY (sold seperately) Contact us for non-Mircom panel connections
OGN-KEY	OGN License Key Stick
Fire Alarm Network BACnet Single User License	
MGC-LIC-BACNET	Unlocks BACnet port on one network node per license
Fire Alarm Network WEBSEVER Single User License	
MGC-LIC-WEBSEVER	Unlocks WEBSEVER port on one network node per license
Network Controller Modules	
FNC-2000	Fire Network Controller Module
FOM-2000-UM	Allows for single-mode or multi-mode fibre optic communication on a Flex-Net FX-4000 Series network. Add FOM-CONN-SM and FOM-CONN-MM
FOM-CONN-MM	Fibre Optic Module Connector Multi-mode (pack of 2). Must use a FOM-2000-UM
FOM-CONN-SM	Fibre Optic Connector Single Mode (pack of 2). Must use a FOM-2000-UM
Accessories	
UIMA4	Interface for Configuring MGC Fire Panels
MGC-CONFIG-KIT4	Fire Panel Configuration KIT with UIMA4
RTI-1	Trouble Remote Indicator
MP-300	End of Line Plates



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Reviewed Reviewed As Noted
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CAT. 9210

Rev. 7

SEALED LEAD-ACID BATTERIES



Description

The MGC line of Sealed Lead-Acid Batteries are maintenance-free and provide full rated power on demand. These rechargeable batteries are available in 6 and 12 volt models with a wide range of amperage ratings.

The 6 volt models are available in 5 AH, 7.2 AH and 12 AH versions while the 12 volt models are available in numerous versions ranging from 1.2 AH to 75 AH. The rechargeable batteries feature a rugged ABS constructed case and are ideal for use as a secondary power source for all MGC fire alarm control units.

Features

- Provide secondary power for control units
- 6 and 12 volt models
- Sealed and maintenance-free
- Non-spillable
- Rugged ABS constructed case
- Wide range of amperage ratings
- Long life
- Compact design
- UL Recognized Component under file number MH49879



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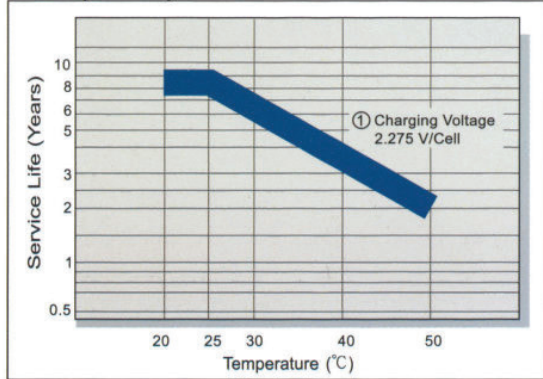
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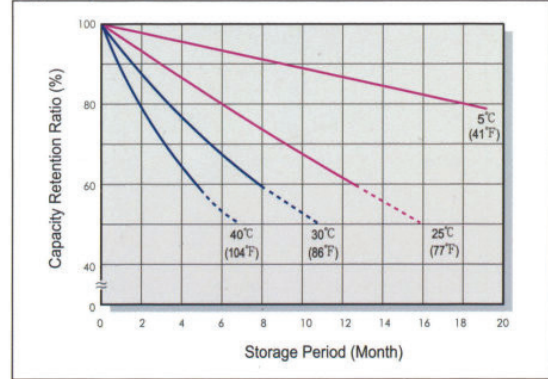
MH49879

Battery Curves

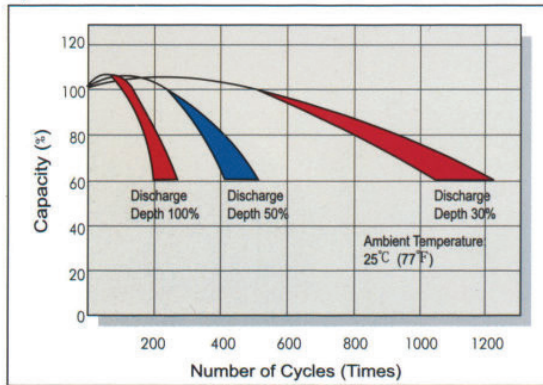
Trickle (or Float) Service Life



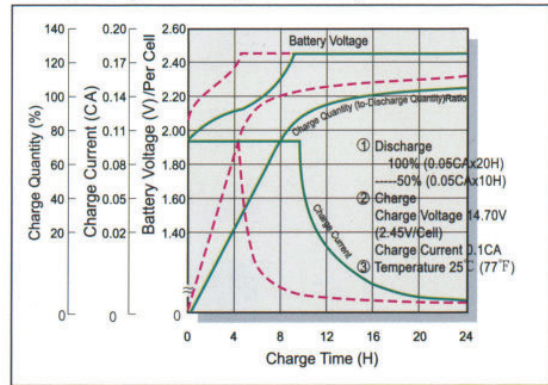
Capacity Retention Characteristic



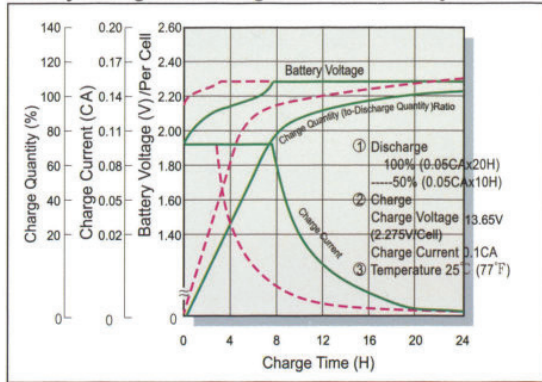
Cycle Service Life



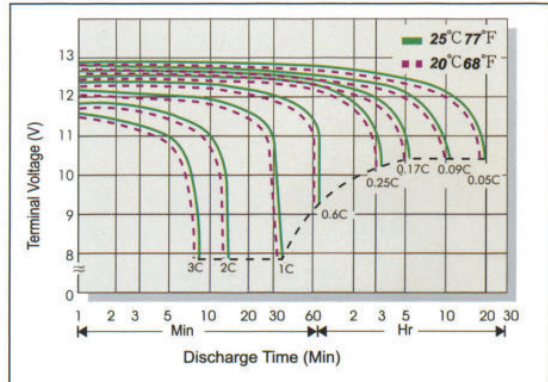
Battery Voltage and Charge Time for Cycle Use



Battery Voltage and Charge Time for Standby Use



Terminal Voltage (V) and Discharge Time



Charging Procedures				
Application	Charge Voltage (V/cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	2.25°C (77°F)	2.45	2.40-2.50	0.3C
Standby	2.25°C (77°F)	2.275	2.25-2.30	

Discharge Current VS. Discharge Voltage				
Final Discharge Voltage V/cell	1.75	1.70	1.65	1.60
Discharge Current (A)	0.2C > (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C

Specifications

Model Number	Ratings		Dimensions							
	VDC	AH	Length		Width		Height		Weight	
			in.	mm	in.	mm	in.	mm	lb	kg
BAT-6V5A	6	5	2.76	70	1.85	47	3.90	99	1.83	0.83
BAT-6V7A	6	7	5.94	151	1.42	36	3.70	94	2.43	1.10
BAT-6V12A	6	12	5.94	151	1.97	50	3.70	94	3.64	1.65
BAT-12V1.2AH	12	1.2	3.86	98	1.71	43.5	2.05	52	1.28	0.58
BAT-12V5A	12	5	5.94	151	2.01	51	3.66	93	3.66	1.66
BAT-12V7A	12	7.2	5.94	151	2.56	65	3.70	94	4.74	2.15
BAT-12V12A	12	12	5.94	151	3.86	98	3.94	95	7.17	3.25
BAT-12V18A	12	18	7.13	181	3.03	77	6.57	167	11.90	5.40
BAT-12V26A	12	26	6.89	175	6.54	166	4.96	126	18.96	8.60
BAT-12V35A	12	35	7.68	195	5.12	130	6.34	161	22.49	10.20
BAT-12V42A	12	42	7.80	198	6.54	166	6.69	170	29.76	13.50
BAT-12V55A	12	55	9.02	229	5.43	138	8.19	208	38.58	17.50
BAT-12V75A	12	75	10.20	259	6.65	169	8.19	208	50.71	23.00

Ordering Information

Model	Description
BAT-6V5A	Sealed Lead Acid Battery, 6 Volt, 5.0 AH
BAT-6V7A	Sealed Lead Acid Battery, 6 Volt, 7.2 AH
BAT-6V12A	Sealed Lead Acid Battery, 6 Volt, 12.0 AH
BAT-12V1.2AH	Sealed Lead Acid Battery, 12 Volt, 1.2 AH
BAT-12V5A	Sealed Lead Acid Battery, 12 Volt, 5.0 AH
BAT-12V7A	Sealed Lead Acid Battery, 12 Volt, 7.2 AH
BAT-12V12A	Sealed Lead Acid Battery, 12 Volt, 12.0 AH
BAT-12V18A	Sealed Lead Acid Battery, 12 Volt, 18.0 AH
BAT-12V26A	Sealed Lead Acid Battery, 12 Volt, 26.0 AH
BAT-12V35A	Sealed Lead Acid Battery, 12 Volt, 35.0 AH
BAT-12V42A	Sealed Lead Acid Battery, 12 Volt, 42.0 AH
BAT-12V55A	Sealed Lead Acid Battery, 12 Volt, 55.0 AH
BAT-12V75A	Sealed Lead Acid Battery, 12 Volt, 75.0 AH



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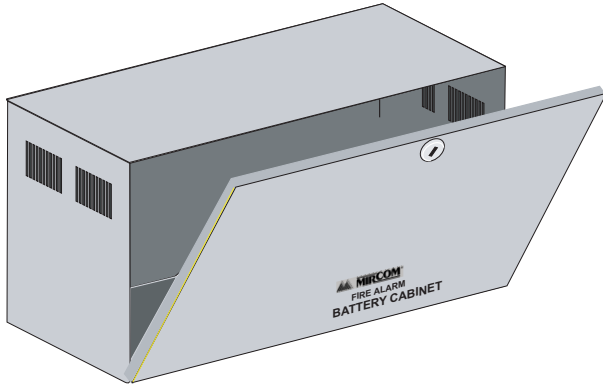


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Features

- Intended for use with Mircom Fire Alarm Control Panels
- Bottom hinged door that opens downwards
- Holds up to 75 Ah batteries
- White and Red color



Description

Mircom’s Battery Cabinet is intended for use with Mircom Fire Alarm Control Panels. It comes complete with a lockable bottom hinged door that opens downwards to allow access to the battery compartment. The BC-160 Battery Cabinet has a white finish and holds up to 75 Ah batteries. The BC-160R Battery Cabinet has a red finish and holds up to 75 Ah batteries.

Installation

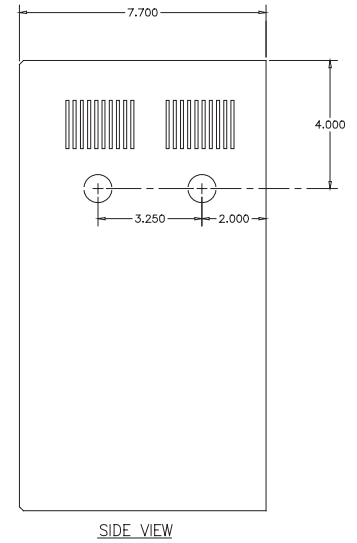
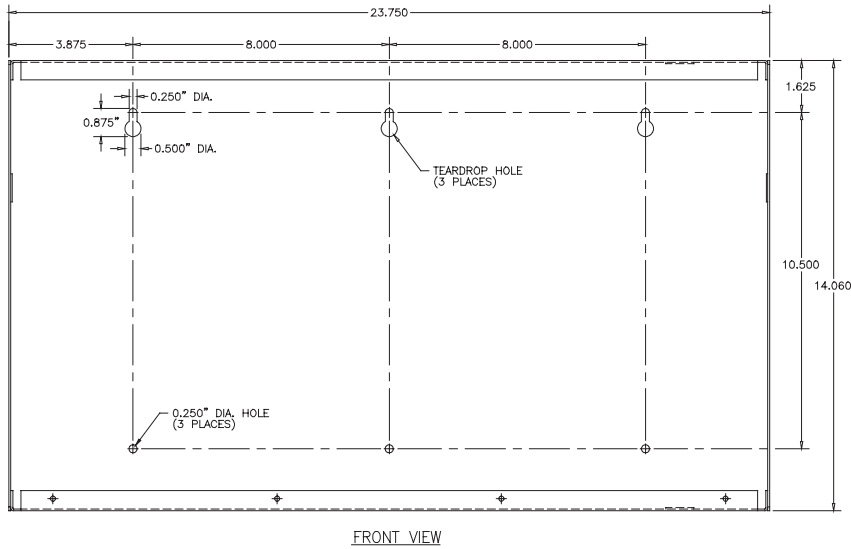
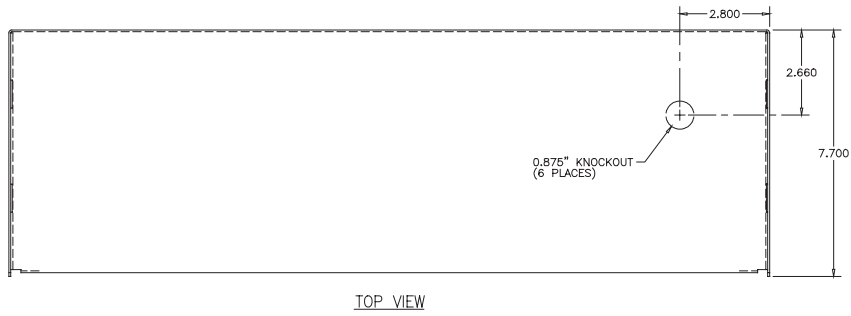
Place the Battery Cabinet in a clean, dry, vibration-free area, a minimum of 6” below the Control Panel it is being used with. Align the Battery Cabinet and Control Panel knock-outs so as to simplify conduit installation. Mount the Battery Cabinet, using the 6 pre-drilled mounting holes, to the wall. Connect the Battery Cabinet to the Control Panel cabinet with conduit between the adjacent knock-outs.



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Dimensions



Ordering Information

Model	Description
BC-160	Battery Cabinet - White (Mounts up to 75Ah Battery)
BC-160R	Battery Cabinet - Red (Mounts up to 75Ah Battery)



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CAT. 5307

Rev. 8



Description

Mircom's MS-400MP(U) Series Fire Alarm Manual Stations provide manual fire alarm activation. These pull stations are available as one stage or two stage stations. On the two stage model, a key switch allows the activation of the stage two alarm.

Compatible with FX-400 series and FleX-Net™ MP Fire Alarm Control Panels.

The MS-400MP Manual stations are constructed of high quality, extruded aluminum and finished in red. An abrasion resistant label with large, raised letters provides clear legible instructions.

Each station has a permanently attached MP (Mircom Protocol) addressable module.

The model MS-402MP (two stage) is similar to the MS-401MP (single stage) except it contains an additional General Alarm (G.A.) N.O. switch. For safety reasons, the G.A. switch is only accessible after the handle has been pulled. A special key is supplied with each unit.

The model MS-407MP(U) is a single stage manual station with an additional N.C. switch.

The Suffix "U" indicates a USA version.

Addressing is done using the MIX-4090 Device programmer. For setting the address on this device, disconnect it from the loop, or ensure that the loop to which is connected is both disconnected from the panel and shorted across the SCL+ and SLC- inputs at the device. Failing to take either of these steps may change the address programming of previously configured sensors on the loop.

Features

- High quality, extruded aluminum.
- Attractive, Low Profile Design
- Built-in intelligent addressable module with Mircom Protocol.
- Pulling the handle initiates the operation of the intelligent module.
- Address is set by the MIX-4090 hand-held device programmer.
- Key switch provided for two (2) stage version.
- Standard Single Gang Mount
- Plastic Rod or Break glass Optional

Operation

Activating the alarm

Pulling on the station's handle will release the internal switch to trigger the intelligent addressable module.

Activating the stage two alarm (MS-402MP only)

The MS-402MP(U) (two stage version) also provides a key switch which is accessible after the handle has been pulled. Operation of the key switch will initiate the 2nd stage of a two stage alarm signaling system.

Resetting the Manual Station

Resetting is accomplished by inserting a 1/8" screwdriver from the front. The handle, once pulled will remain open and cannot be reset without utilizing the screwdriver.

Note: Resetting the station does not cancel the alarm at the panel.

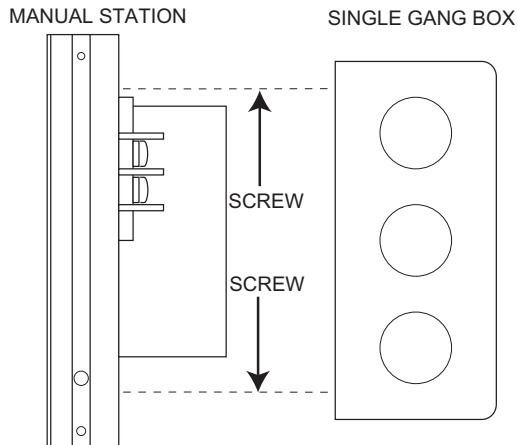
All manual fire alarm stations shall be installed as per the specific requirements outlined in the UL/ULC codes, as well as all other applicable national or local codes.



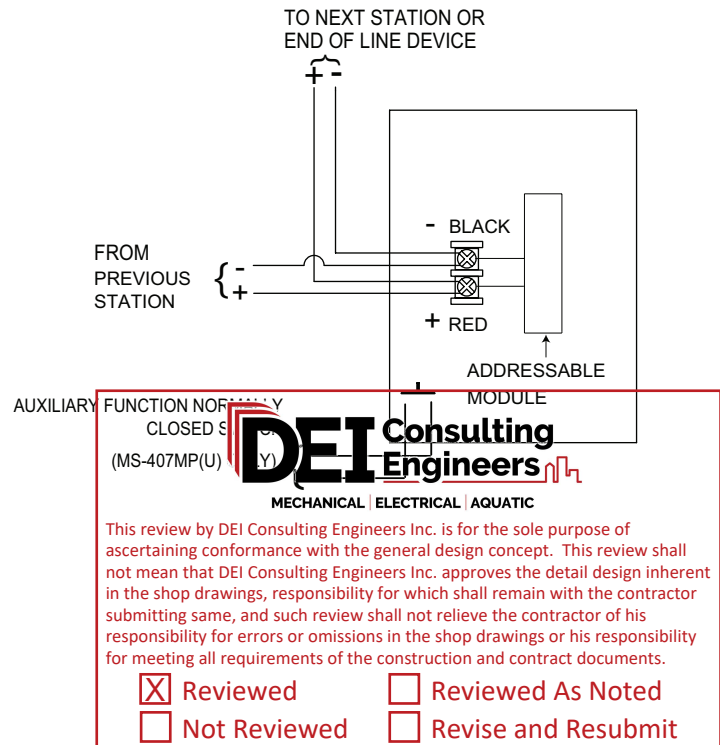
Specifications

Dimensions	4.525" H x 3.3" W x 0.762" D
Nominal Operating Voltage	15–30 VDC
Maximum Alarm Current	3.3 mA
Standby Current	2 mA
Temperature Range	32°F to 120°F (0°C to 49°C)

Mounting Diagram



Wiring Diagram



Ordering Information

Model	Description
MS-401MP	Intelligent Single Stage Manual Station - ULC
MS-402MP	Intelligent Two Stage Manual Station - ULC
MS-407MP	Intelligent Single Stage Manual Station with additional N.C. switch - ULC
MS-401MPU	Intelligent Single Stage Manual Station - UL, FM
MS-407MPU	Intelligent Single Stage Manual Station with additional N.C. switch - UL, FM
MIX-4090	Addressable Device Programming Tool
GL-004K	Optional Plastic Rod/ Break glass



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Features

- Proven effective for more than 20 years in helping stop false fire alarms without restricting legitimate alarms
- Lifetime guarantee against breakage of polycarbonate housing (one year on electronic components)
- Can be used as a guard against physical damage to a manual pull station, with or without the optional warning horn
- Cover is UV stabilized against sun deterioration
- Optional horn has choice of 95 dB or 105 dB at 1 foot
- Available in red, blue, green or yellow with custom labeling
- Larger sizes and surface mounted pull stations accommodated with STI-3100 conduit spacer.
- Polycarbonate tested -40°F (-40°C) to 120°F (49°C)
- Weather resistant gaskets available
- When covering a pull station outside, UL requires stations to be listed for outdoor use with cover
- Tested and accepted by fire prevention authorities and approved by testing organizations
- Power source is 9 VDC alkaline battery on standard Stopper II. (Remote powered unit is available)
- Fits virtually all manual pull stations

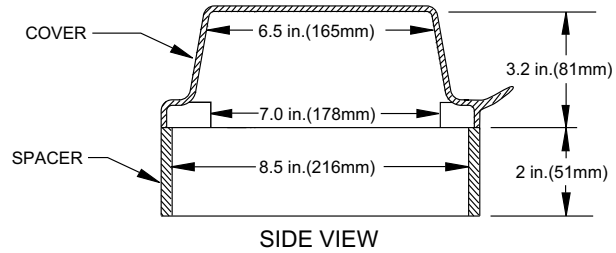
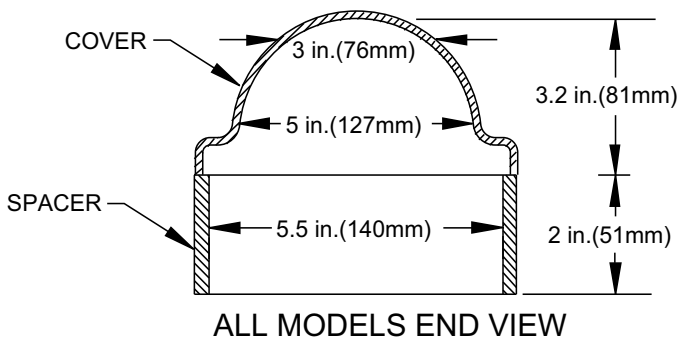
Description

The Stopper II is a unique and patented device that has been helping stop false fire alarms around the world for more than 20 years, without restricting legitimate alarms. It offers excellent protection against physical damage (both accidental and intentional), dust and grime as well as severe environments inside and out. It is ideal for schools, colleges, hospitals, nursing homes, stores, hotels and public buildings of almost every kind where there is a threat of false fire alarms.

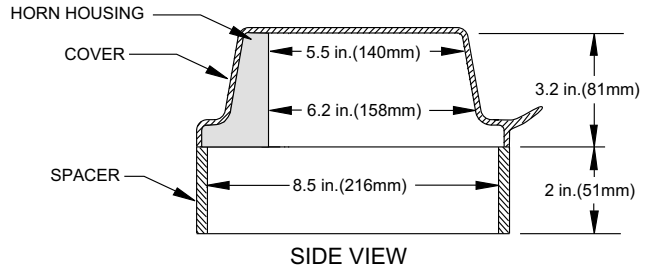
The Stopper II consists of a clear, tamper-proof, supertough polycarbonate shield and frame that fits over manual pull stations. When lifted to gain access to the actual alarm, it sounds a piercing self-contained 95 dB or 105 dB warning horn (at 1 foot). Immediate attention is drawn to the area and a prankster will either run or be caught.



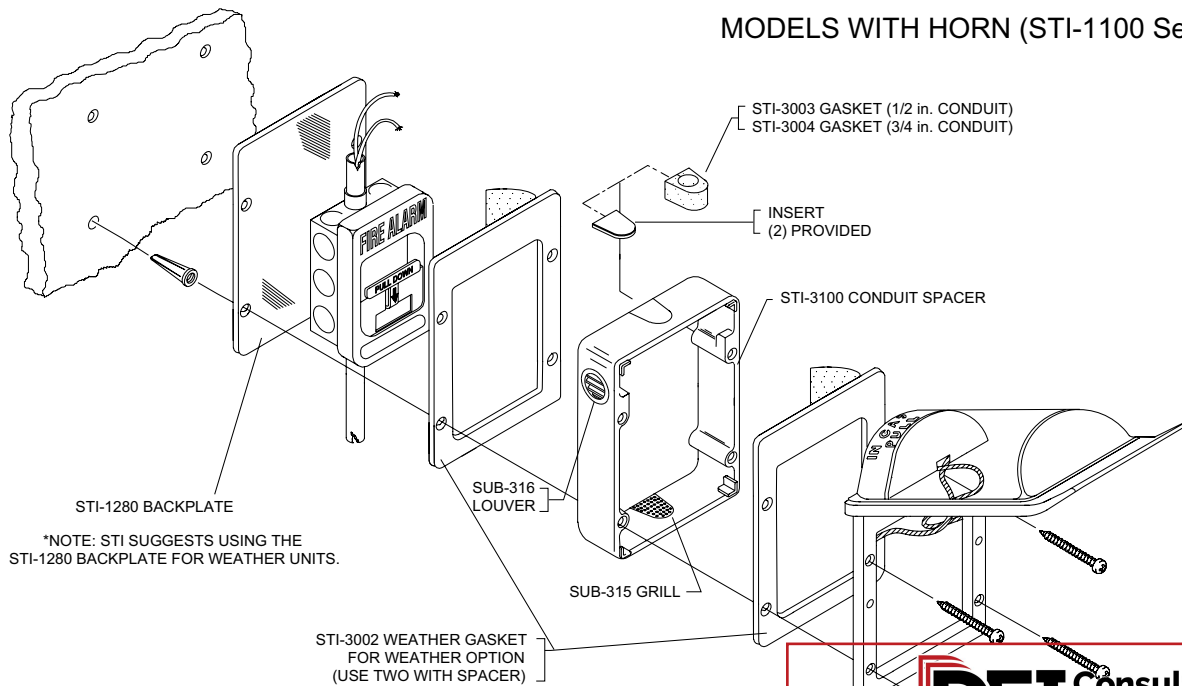
Dimensions and Mounting Instructions



MODELS WITHOUT HORN (STI-1200 Series)



MODELS WITH HORN (STI-1100 Series)



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Ordering Information

Model	Description
STI-1100	Stopper II with Horn for flush mounting
STI-1130	Stopper II with Horn for surface mounting
STI-1200	Stopper II without Horn for flush mounting
STI-1230	Stopper II without Horn for surface mounting

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CAT. 5310 Rev. 3



MIX-4010 / MIX-4010-ISO

Features

- Any combination of MIX-4000 series devices up to 240 can be connected on a single SLC.
- Different LED colors for Alarms and Troubles.
- Detection of smoke using advanced software algorithms.
- Protection against nuisance alarms caused by dust, insects or other debris.
- Multiple sensitivity settings.
- Compatible with the full series of MIX-4000 input and control modules.
- The device can be secured by a unique Anti-Tamper feature.
- Address is set with the hand-held device programmer (MIX-4090)
- MODEL OPTION - Built-In short-circuit isolator (MIX-4010-ISO)

Description

The MIX-4010/MIX-4010-ISO smoke detector is a hardwired sensor that continuously monitors the environment to provide early warning of a fire condition and communicates with the panel using a fully digital protocol.

The MIX-4010/MIX-4010-ISO works with an MGC compatible control panel supporting high rates of information exchange with reliable and secure bi-directional communication.

The detector is addressed and programmed using the MIX-4090 hand-held device. Addresses can be selected from a range of 1 -240.

This detector ships with a dust cover to protect the device during installation and prior to commissioning.

Two tri-color LEDs on the device provide 360 degrees of status visibility.

A remote LED indicator can be wired directly to the sensor.

Benefits

- Open style mounting bases offer easy wiring and low pressure locking.
- 4" or 6" base options available.
- Remote output can be controlled by the panel.
- MIX-4010-ISO is equipped with a bi-directional short-circuit isolator to protect against wiring faults and loop failure.
- Low standby current.
- Base has detachable tab for labeling device address.
- Leverages interrupts to quickly report alarm conditions to fire alarm control panels.
- Magnet test option helps with commissioning and maintenance.



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Specifications

Normal Operating Voltage	15 to 30VDC
Maximum Alarm Current	3.2mA (LED on)
Standby Current	160µA
UL/ULC Listed Temperature Range	32°F to 100°F (0°C to 37.8°C)
Operating Temperature	15°F to 120°F (-9°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring range on terminals	22 to 12 AWG
Diameter	4.25"
Height	1.75"

Detector LED colors	Description	
RED (Steady on)	ALARM condition	
GREEN (Flash)	NORMAL condition	
AMBER (Steady on)	FAULT condition	
Sensitivity Level	Typical	Note
LEVEL 1	1.75%/FEET	Most Sensitive level
LEVEL 2	2.25%/FEET	Sensitivity level
LEVEL 3	2.75%/FEET	Sensitivity level
LEVEL 4	3.25%/FEET	Least Sensitive Level

Ordering Information

Model	Description
MIX-4010	Photoelectric Smoke Detector (Non-Isolated)
MIX-4010-ISO	Photoelectric Smoke Detector (with short-circuit isolator)
MIX-4020	Multi-Criteria/Multi-Sensor (Non-Isolated)
MIX-4020-ISO	Multi-Criteria/Multi-Sensor (with built-in short circuit isolator)
MIX-4030	Heat Detector (Non-Isolated)
MIX-4030-ISO	Heat Detector (with built-in short circuit isolator)
MIX-4090	MIX-4000 Series Addressable Device Programmer
MIX-4001	6" Detector Base
MIX-4002	4" Detector Base



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Intertek

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MIX-4030 / MIX-4030-ISO

Description

The MIX-4030/MIX-4030-ISO detector is a hardwired sensor that continuously monitors the environmental temperature to report high heat conditions and communicates with the panel using a fully digital protocol.

An alarm will be reported when the sampled temperature exceeds 135°F (57°C) or 175°F (79°C) depending on the chosen mode of operation. Excessive temperature rises can also be reported if the detector is configured for rate-of-rise operation.

The MIX-4030/MIX-4030-ISO works with an MGC compatible control panel supporting high rates of information exchange with reliable and secure bi-directional communication.

The detector is addressed and programmed using the MIX-4090 hand-held device. Addresses can be selected from a range of 1-240.

This detector ships with a dust cover to protect the device during installation and prior to commissioning.

Two tri-color LEDs on the device provide 360 degrees of status visibility.

A remote LED indicator can be wired directly to the sensor.

Features

- Any combination of MIX-4000 series devices up to 240 can be connected on a single SLC.
- Different LED colors for Alarms and Troubles
- Three operational modes of heat detection.
- Compatible with the full series of MIX-4000 input and control modules.
- The device can be secured by a unique Anti-Tamper feature.
- The address is set with the hand-held device programmer (MIX-4090)
- MODEL OPTION - Built-in short-circuit isolator (MIX-4030-ISO)
- Operating Modes
 - Rate of rise heat detection (135°F/57°C)
 - Fixed heat detection (135°F/57°C)
 - Fixed heat detection (175°F/79°C)

Benefits

- Open style mounting bases offer easy wiring and low pressure locking
- 4" or 6" base options available
- Remote output can be controlled by the panel
- MIX-4030-ISO is equipped with a bi-directional short-circuit isolator to protect against wiring faults and loop failure.
- Low standby current.
- Base has detachable tab for labeling device address.
- Leverages interrupts to quickly report alarm conditions to fire alarm control panels.
- Magnet test option helps with commissioning and maintenance.



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Technical Specifications

Normal Operating Voltage	15 to 30VDC
Maximum Alarm Current	3.2mA (LED on)
Standby Current	160µA
UL/ULC Listed Temperature Range	32°F to 100°F (0°C to 37.8°C)
Operating Temperature	15°F to 120°F (-9°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring range on terminals	22 to 12 AWG
Diameter	4.25"
Height	1.75"

Detector LED colors	Description
RED (Steady on)	ALARM condition
GREEN (Flash)	NORMAL condition
AMBER (Steady on)	FAULT condition
Heat Detection Settings	
135°F (57°C)	
175°F (79°C)	
135°F (57°C) rate of rise	

Ordering Information

Model	Description
MIX-4010	Photoelectric Smoke Detector (Non-Isolated)
MIX-4010-ISO	Photoelectric Smoke Detector (with short-circuit isolator)
MIX-4020	Multi-Criteria/Multi-Sensor (Non-Isolated)
MIX-4020-ISO	Multi-Criteria/Multi-Sensor (with built-in short circuit isolator)
MIX-4030	Heat Detector (Non-Isolated)
MIX-4030-ISO	Heat Detector (with built-in short circuit isolator)
MIX-4090	MIX-4000 Addressable Device Programmer
MIX-4001	6" Detector Base
MIX-4002	4" Detector Base



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Features

- Compatible with isolated and non-isolated detectors.
- Designed to meet UL268/ULCS529 requirements for smoke detectors
- Designed to meet UL521/ULC S530 requirements for heat detector.

Benefits

- Open style mounting bases offer easy wiring and low-pressure docking.
- Save time with multiple mounting options.
- Compatible with all MIX-4000 detectors

Description

The MIX-4003-R relay base provides one form C (SPDT) contact rated at 2A at 30Vdc, or 0.5A at 125Vac and a compatible panel can switch discrete contacts by command.

Circuit connections to the relay contacts are not supervised by the base. The MIX-4003-R supports group activation capability for fast reaction time.

The MIX-4003-R must be used with a compatible MGC control panel. The device can control one independent circuit while using one address.

Technical Specifications

Operating Temperature	0°C to 49°C (32°F to 120°F)
Humidity Range	0% to 93%
SLC Standby Current	1.16 mA
SLC Alarm Current	1.18 mA
Base Diameter	182mm (7-3/16 in)
Base Height	32mm (1-1/4 in)
Terminal wire guage	12 to 22 AWG



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Ordering Information

Model	Description
MIX-4003-R	4000 Series Relay Base

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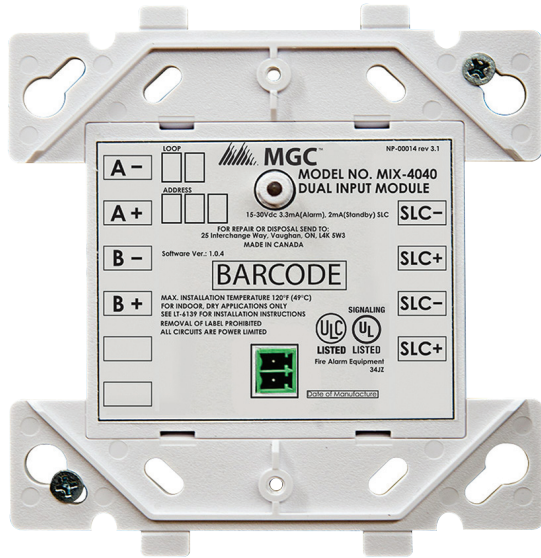
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Description

The MIX-4040 Dual Input Module is an intelligent addressable device designed to be used with a MGC compatible control panel, providing a high rate of exchanged information with fast and secure responses.

The module can be used for alarm, supervisory, or monitor type applications.

The MIX-4040 Dual Input module provides two (2) independent contact monitoring circuits only utilizing one (1) address on the SLC loop.


The module supports one (1) Class A or two (2) Class B inputs. When configured for Class A operation, the module provides an internal EOL resistor. When configured for Class B operation, the module monitors two (2) independent input circuits using only one (1) module address.

The module has a panel controlled LED indicator. The LED flashes during normal operation and stays ON steadily when the device is in alarm condition.

The address of each module is set using the MIX-4090 programmer tool. For setting the address on this device, disconnect it from the loop, or ensure that the loop to which is connected is both disconnected from the panel and shorted across the SCL+ and SLC- inputs at the device. Failing to take either of these steps may change the address programming of previously configured sensors on the loop.

Features

- Any combination of MIX-4000 series devices up to 240 can be connected on a single SLC.
- Mounts in a standard 4" square or double gang electrical back box.
- Indicating LED provides module status



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Benefits

- Fast, reliable contact monitoring.
- Will automatically set inputs to single Class A or dual Class B according to the configuration sent by the fire alarm panel.
- No EOL resistor required when input is in Class A operation.
- Monitors two (2) independent circuits in Class B using one (1) module address



Technical Specifications

Normal Operating Value	15 to 30 VDC
Maximum Alarm Current	3.3mA (LED on)
EOL Resistance	22K Ohms
Maximum Input Wiring Resistance	150 Ohms Total
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring Range on all terminals	22 to 12 AWG
Dimensions	4.625"H x 4.25" W x 1.125" D
Mounting	Typically mounted on a standard 4" square box. Also compatible with double-gang electrical boxes or Mircom BB-400 surface mount box.
Standby Current (2 Class B)	2mA

Ordering Information

Model	Description
MIX-4040	Dual Input Module
MIX-4090	MIX-4000 Addressable Device Programmer
MP-302	EOL on Mounting Plate
BB-400	Surface Mount Electrical Box



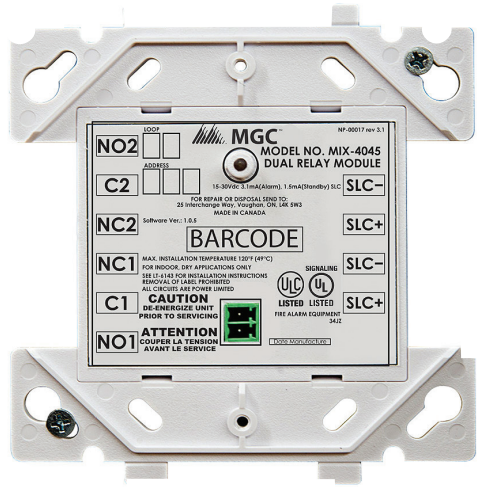
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Features

- Any combination of MIX-4000 series devices up to 240 can be connected on a single SLC.
- Mounts in a standard 4" square or double gang electrical back box.
- Indicating LED provides module status.
- Two individually controllable contacts per module.
- Each contact provide access to normally closed and normally open sides.
- Contact position is verified by the module. Stuck or inoperative contacts are reported as a trouble.

Description

The MIX-4045 Dual Relay Module is an intelligent addressable device designed to be used with an MGC compatible control panel, providing high rates of information exchange and fast and secure responses.

The MIX-4045 Dual Relay Module controls two independent circuits while using only one module address.

The module provides two form C (SPDT) contacts rated at 2A @ 30VDC or 0.5A at 125VAC and the Fire panel can control each contact individually.

Contacts are electrically isolated from the Fire alarm panel at all times. Refer to MIX-4046 if a supervised output is required.

The contact position is verified by the module at all times. If a contact is not at the required position during standby or active conditions, a trouble will be reported by the panel.

The module has a panel controlled LED indicator. The LED flashes during normal operation and stays ON steadily when the device is in alarm condition.

The address of each module is set using the MIX-4090 programmer tool. For setting the address on this device, disconnect it from the loop, or ensure that the loop to which is connected is both disconnected from the panel and shorted across the SCL+ and SLC- inputs at the device. Failing to take either of these steps may change the address programming of previously configured sensors on the loop.

Benefits

- The SLC and externally powered connections are on opposite sides of the device for easy installation (no need to install an additional barrier).
- Supports group activation capability for fast reaction time
- Provides two (2) outputs using only one (1) module address



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Technical Specifications

Normal Operating Value	15 to 30 VDC
Maximum Alarm Current	3.1 mA
Standby Current	1.5 mA
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring Range on all terminals	22 to 12 AWG
Dimensions	4.625" H x 4.25" W x 1.125" D
Mounting	Typically mounted on a standard 4" square box.

Ordering Information

Model	Description
MIX-4045	Dual Relay Module
MIX-4090	MIX-4000 Addressable Device Programmer
BB-400	Surface Mount Electrical Box



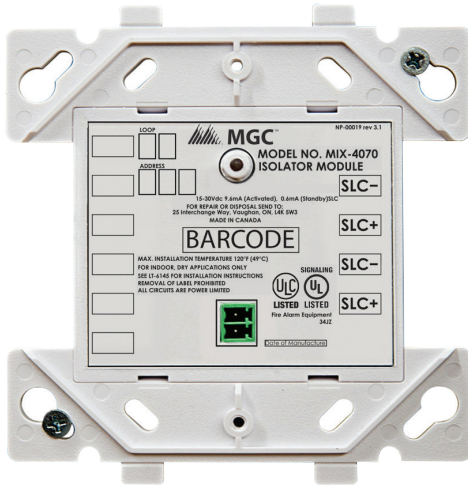
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Description

The MIX-4070 SLC Short Circuit Isolator Module is designed to be used with an MGC compatible control panel.

The Isolator Module allows part of the communication loop to continue operating when a short circuit occurs on it.

An LED indicator blinks in the normal condition and illuminates steadily during a short circuit condition. Only the LEDs on the devices next to the short illuminate steady for easy identification of a faulty SLC section.

The module will automatically restore the entire communication loop to the normal condition when the short circuit is removed.

This is a hardware only device and does not require an address.


There are no limits to the number of MX-4070 devices installed on the SLC as long as the total loop current limit is respected.

Features

- Mounts in a standard 4" square or double gang electrical back box
- Indicating LED provides module status
- Automatic action, no device address required

Benefits

- Short Circuit isolation, allow wiring to continue operating
- Easily identify a faulty SLC section
- Self-restoring



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Technical Specifications

Normal Operating Value	15 to 30 VDC
Activation Current	9.6mA
Standby Current	0.6mA
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Wiring range on terminals	22 to 12 AWG
Dimensions	4.625" H x 4.25" W x 1.125" D
Mounting	Typically mounted on a standard 4" square box. Also compatible with double-gang electrical boxes or Mircom BB-400 surface mount box.

Ordering Information

Model	Description
MIX-4070	Short Circuit Isolator Module
BB-400	Surface Mount Electrical Box

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Features

- Works with MGC MIX-4000 series devices
- Programs Addresses
- Reads Addresses
- Reads device type
- Reads manufacturing date
- Reads firmware version
- Can change addresses on modules even when they are connected to field wiring (un-powered)
- 9v battery required

Benefits

- Battery Operated
- Simple Device re-programming
- Light, robust and easy to use

Description

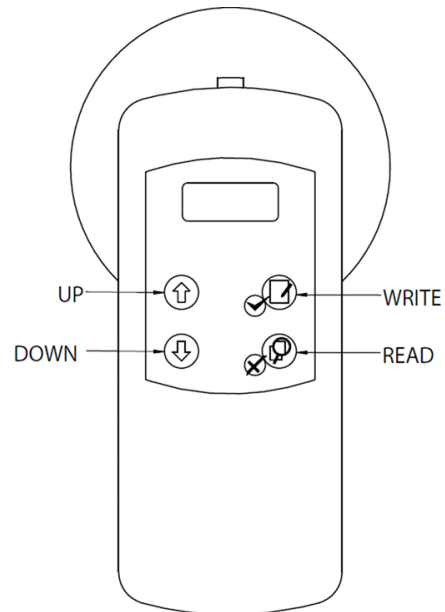
The MIX-4090 programmer is a versatile tool used to set or read addresses. It can also read devices' parameters such as device type and firmware version.

The programmer is small and lightweight and has a built-in base programming detectors.

A plug-in cable is included to program wired devices. Basic functions are quickly accessible through four keys: Read, Write, Up and Down. A 2 x 8 characters LCD displays all required information without need for an external screen or PC.

The unit will automatically shut down when it is not in use for more than 30 seconds. Remaining battery capacity will be displayed each time the device is used.

The 9V PP3 size battery is easily accessible through a sliding cover located on the bottom of the unit.

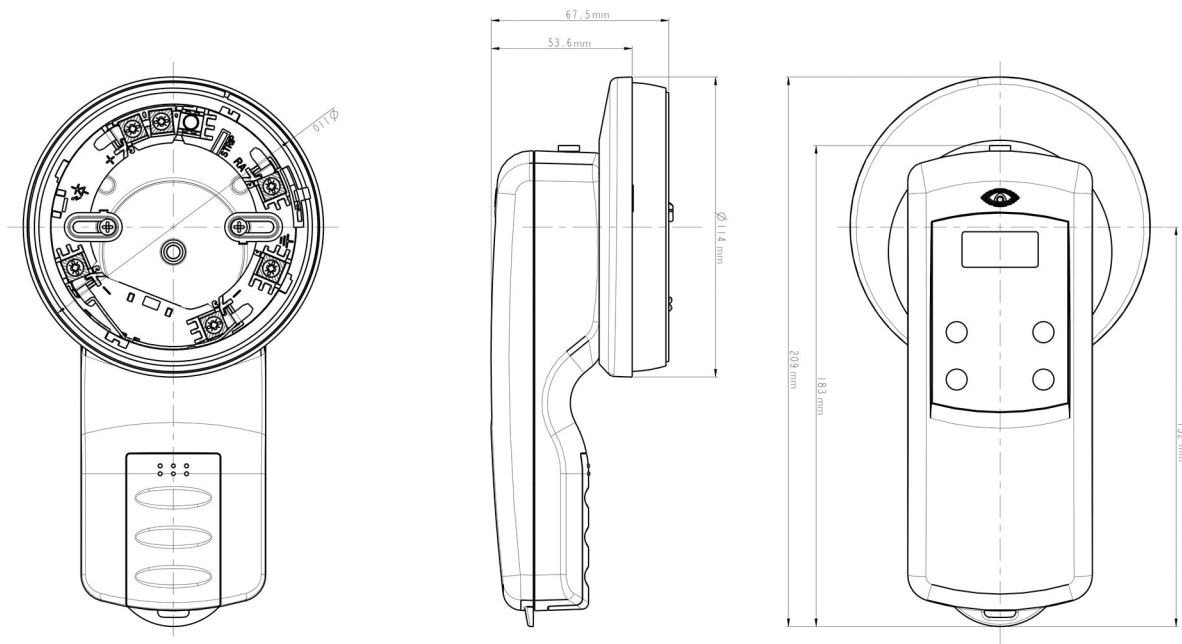


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Specifications



Compatible Devices: (To be used with Mircom MIX-4000 Series Devices)

Model	Description
MIX-4010 / MIX-4010-ISO	Photoelectric Smoke Detector
MIX-4020 / MIX-4020-ISO	Photoelectric Smoke/Heat Multi-Sensor
MIX-4030 / MIX-4030-ISO	Heat Detector
MIX-4046	Multi-Use Output Module
MIX-4040	Dual Input Module
MIX-4041	Dual Input Mini-Module
MIX-4042	Conventional Zone Module
MIX-4045	Dual Relay Module

Ordering Information

Model	Description
MIX-4090	Addressable Programming Tool



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Description

MGC's FHS-400 wall mount horn/strobes offer an audible/visual solution that delivers exceptional energy efficiency in a compact design. Utilizing advanced LED technology, the FHS-400 LED horn/strobes provide a lower current draw which allows for more devices on a NAC circuit while reducing the number of external power supplies required.

The FHS-400 horn/strobes offer a wide range of audible/visual settings in a single compact device. The audible settings include Temporal, Continuous, March Time and 20 BPM tones that can each be set for Low or High volume settings. The candela settings can be field-configured for 15, 15/75, 30, 75, 110, 185 cd. The candela setting is displayed through the front window for easy identification. All device settings are located on the back of the unit to prevent tampering.

The FHS-400 horn/strobes can be synchronized using an FACU or PSU with the MGC sync protocol or through an external sync module for compatibility with any UL/ULC FACU or PSU.

The FHS-400 horn/strobes utilize a universal mounting plate that allows for mounting to a single gang, double gang, octagon, 4" junction or 4" square electrical box. The back plate allows the installer to mount the plate and connect the wire connections. The device attaches to the mounting plate and is secured by a single mounting screw. In addition, the FHS-400 can mount to the MGC BB-400 Series back box for surface mount applications.

Features

- Compact Design
- Advanced LED technology provides superior current draw performance
- Lower power consumption per device allows for more notification appliances per circuit and reduces the need for external power supplies
- Standard and High candela settings in one unit to meet virtually any application
 - 15, 15/75, 30, 75, 110, 185 cd
- Multiple field-selectable audible settings
 - Temporal, Continuous, March Time and 20 BPM audible tones
 - High and Low volume settings
- Red or white finish
- Device settings are located on the back of the unit to prevent tampering
- Includes shorting clip that allows installers to test the wiring before the device is installed
- Supports 12 to 22 AWG
- Mount to MGC BB-400 surface mount back box, single gang, 4-inch square, double gang, octagon and 4-inch junction boxes
- All units include universal mounting plate
- For indoor applications

Agency Listings

- UL 1971
- UL 1638
- UL 464
- ULC-S525
- ULC-S526
- NFPA 72



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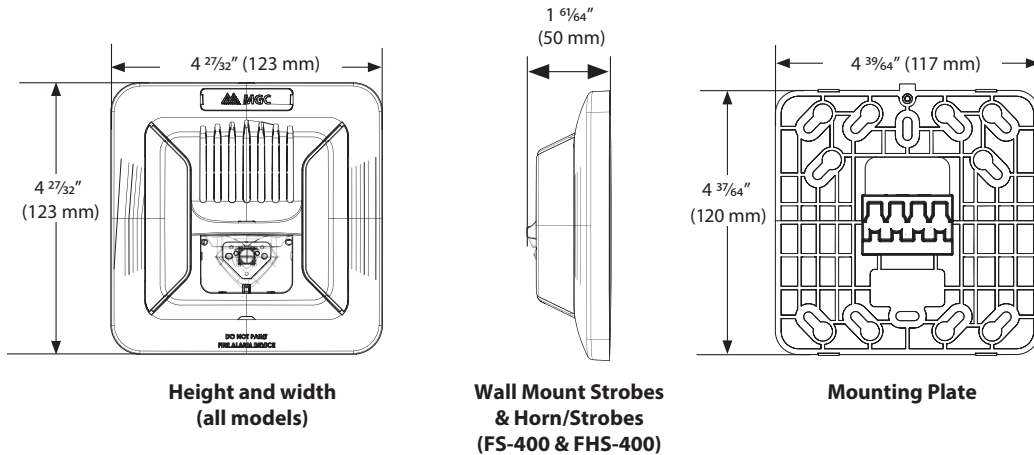
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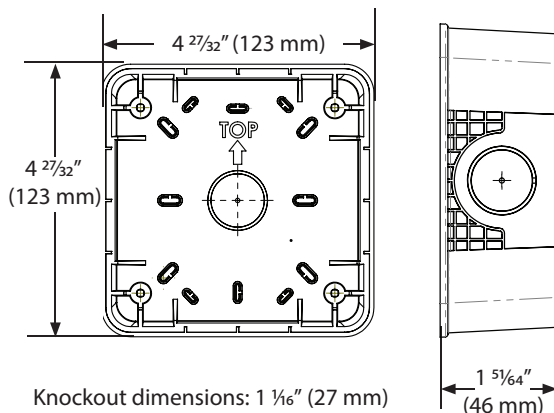
Engineering Specifications

The horn/strobe shall be a MGC FHS-400 notification appliance for wall mount applications. The horn/strobe shall be of a low current draw design and operate at 24 VDC regulated or full wave rectified. The horn/strobe shall have two field selectable volume settings and a choice of four tone settings for temporal, continuous, march time or 20 BPM. The horn/strobe shall incorporate a Light Emitting Diode (LED) as the light source and have six field selectable settings of 15, 15/75, 30, 75, 110, 185 candela. The candela settings shall show the candela selection in a visible location at all times when installed. Both the audible and candela settings shall be tamper resistant. The horn/strobe can be synchronized using an FACU or PSU with the MGC sync protocol or through the MIX-4050 or MRI-4050 sync modules for compatibility with any UL/ULC FACU or PSU. The horn/strobe shall utilize a mounting plate that allows the installer to pre-wire the mounting plate. The mounting plate shall mount on a single gang, double gang, octagon, 4-inch square box or MGC's BB-400 series back box. The horn/strobe shall be listed to UL standard 464, Audible Signaling Devices for Fire Alarm and Signaling Devices, UL standard 1638, Visible Signaling Devices for Fire Alarm and Signaling Systems and standard 1971, Signaling Devices for the Hearing Impaired. In addition, the horn/strobe shall be listed to ULC-S525, Audible Signal Devices for Fire Alarm Systems and ULC S526, Visible Signal Devices for Fire Alarm Systems.

FHS-400 Dimensions

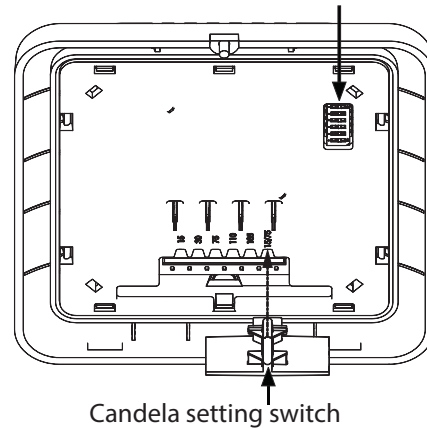


BB-400 Dimensions



Audible/Visual Settings

DIP switches for the volume and signal rate



Device settings are located on the back of the unit to prevent tampering

Specifications

General Specifications

Operating temperature	0°C to 50°C (32°F to 122°F)
Humidity range	0% to 93%
Strobe flash rate	1 Hz
Nominal Voltage	Regulated 24 VDC / 24 VFWR
Operating Voltage Range (RMS)	16 to 33
Input terminal wire gauge	22 AWG to 12 AWG
Installation environment	For indoor use only

FHS-400 Wall Horn/Strobe Operating RMS Currents (mA)

Candela	Regulated 24 VDC		Regulated 24 VFWR	
	Temporal Tone, High Volume*	Continuous Tone, High Volume	Temporal Tone, High Volume*	Continuous Tone, High Volume
15	30	47	69	73
30	44	53	99	102
75	103	106	189	194
15/75	107	97	190	196
110	107	111	190	199
185	180	183	236	243

* Temporal tone volume is representative of March and 20 BPM rates as well.

Audible Ratings

dba Reverberant Ratings per UL464 (dba@10 ft)

Sound Pattern	Volume	16 VDC	Reg. 24 VDC	33 VDC	16 FWR	Reg. 24 FWR	33 FWR
		Temporal	High	82.2	84.9	84.6	76.8
	Low	75.5	80.5	80.2	71.8	75.1	76.6
Continuous	High	86.4	89.2	88.7	81.5	83.1	84
	Low	79.9	84	84.8	76.2	79.3	81.2
20 BPM	High	79	81.3	81.6	74	75.1	76.1
	Low	72.3	76	76.7	68.9	71.7	73.3
March	High	83.2	86.4	85.7	79.2	80.6	81.4
	Low	76.9	80.9	81.7	73.3	76.2	78

dba Anechoic Ratings per CAN/ULC-S525 (dba@3 m)

Sound Pattern	Volume	16 VDC	Reg. 24 VDC	33 VDC	16 FWR	Reg. 24 FWR	33 FWR
		Temporal	High	90.2	93.2	93.2	84.4
	Low	83.7	87.4	88.3	78	82.2	84.5
Continuous	High	90.2	93.2	93.3	85.1	87.8	89
	Low	83.8	87.6	88.6	78.5	83	85
20 BPM	High	90.3	92.9	92.9	84.4	87.2	88.6
	Low	83.6	87.3	88.3	78	82.2	84.5
March	High	90.2	92.9	92.9	84.4	87.1	88.4
	Low	83.7	87.4	88.3	78	82.2	84.4

ULC Directional Sound Characteristics

Horizontal Axis	
± 45°	-3 dbA
± 61°	-6 dbA
± 90°	-10 dbA
Vertical Axis	
± 49°	-3 dbA
± 61°	-6 dbA
± 90°	-7.7 dbA

Light Output Dispersion

Degrees	% of Candela Rating	
	Horizontal Dispersion	Vertical Dispersion, Wall to Floor
±0	149	148
±5	146	149
±10	143	153
±15	138	135
±20	134	104
±25	128	101
±30	123	94
±35	116	92
±40	106	84
±45	99	75
±50	92	68
±55	87	65
±60	82	61
±65	78	58
±70	75	54
±75	73	49
±80	72	43
±85	81	40
±90	53	30
Compound ±45°	42	

Note: The values are shown as percentages of the rated light output at any candela setting.

Ordering Information

Model	Description
FHS-400-RR	Wall Mount Horn/Strobe, Red
FHS-400-WW	Wall Mount Horn/Strobe, White
BB-400R	Surface Mount Back Box, Red
BB-400W	Surface Mount Back Box, White
MIX-4050	Mircom Synchronization Module
MRI-4050	Secutron Synchronization Module



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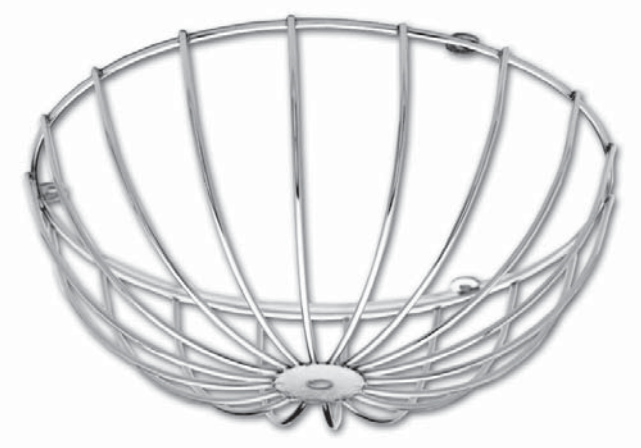


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CAT. 5362

Rev. 1

FIRE ALARM ACCESSORIES



WG-Series Wire Guards

- Easy to install
- Chrome plated steel construction
- Fits directly over detector or bell

The WG-Series wire guards provide protection of bells and detectors from physical damage in manufacturing plants, gymnasiums, warehouses and related hazardous areas. The guards fit directly over most heat, smoke detectors or bells. They will not mount over detectors which are installed on to surface mounted electrical boxes.

RTI-1 Remote Trouble Indicator

- Loud piercing sound
- Easy to install
- UL & ULC listed

Mircom's Remote Trouble Indicator provides remote annunciation of fire alarm troubles. The RTI-1 mounts onto a standard single gang electrical box. The RTI-1 can be used with any of Mircom's fire alarm control panels.



MP-300 End Of Line Plates

- UL and ULC listed
- Rated up to 47K @ 1W
- Complementary white exterior
- Fits over a standard single gang box

Mircom's MP-300 End of Line Resistor plate provides an attractive and accessible location for fire alarm circuit resistor mounting. The resistor mounted on the E.O.L. plate is of a value specified by the control panel manufacturer.



Fire Alarm Batteries

- Long Life
- Completely Sealed
- Maintenance Free
- Wide range of amperage ratings

Mircom's sealed lead-acid batteries are completely maintenance-free. The sealed lead-acid batteries provide full rated power on demand. The 12V batteries have a wide range of amperage ratings from 4AH to 65AH.

Ordering Information

Model Description

Wire Guards

WG-008	Chrome Plated Wire Guard, 8" Diameter
WG-010	Chrome Plated Wire Guard, 10" Diameter
WG-012	Chrome Plated Wire Guard, 12" Diameter
WG-150	Detector Guard for CR-135
WG-152	Detector Guard, built into standard snap-in detector cover plate

Remote Trouble Indicator

RTI-1	Remote Trouble Indicator
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End Of Line Plates

MP-300	EOL Resistor Plate - Beige
MP-300R	EOL Resistor Plate - Red
MP-300S	EOL Resistor Plate - Stainless Steel Finish

Batteries

BA-104	Gel-Cell 12V / 4 AH Battery
BA-1065	Gel-Cell 12V / 7.2 AH Battery
BA-110	Gel-Cell 12V / 12 AH Battery
BA-117	Gel-Cell 12V / 18 AH Battery
BA-124	Gel-Cell 12V / 26 AH Battery
BA-140	Gel-Cell 12V / 40 AH Battery
BA-165	Gel-Cell 12V / 65AH Battery

DEI Consulting Engineers

MECHANICAL | ELECTRICAL | AQUATIC

This review by DEI Consulting Engineers Inc. is for the sole purpose of ascertaining conformance with the general design concept. This review shall not mean that DEI Consulting Engineers Inc. approves the detail design inherent in the shop drawings, responsibility for which shall remain with the contractor submitting same, and such review shall not relieve the contractor of his responsibility for errors or omissions in the shop drawings or his responsibility for meeting all requirements of the construction and contract documents.

Reviewed
 Reviewed As Noted
 Not Reviewed
 Revise and Resubmit

NOT TO BE USED FOR INSTALLATION PURPOSES.

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