

MICRO XLT and XLT Ip (low pressure)

Suppression Fire Alarm Control Panel

CHEMETRON
Fire Systems™

A UTC Fire & Security Company

Effective: March 2012

C-65-603

FEATURES

- Agency approvals
 - UL Listed
 - cUL Listed
 - FM Approved to ANSI/UL 864, 9th edition
 - FM Approved to ULC-S527-99
 - CSFM Approved
 - NYC Fire Department Approved
- Suppression focused control unit listed for a wide range of suppression systems:
 - High Pressure CO₂
 - Low Pressure CO₂
 - FM-200®, 3M™ Novec 1230 fire protection fluid and Argonite™
 - Sprinkler supervisory service
 - Deluge, Preaction, Foam, Foam-Water Systems
 - Combination Clean Agent plus Pre-Action System
- Built-in Class-A and Class-B circuitry
- Versatile programmable Notification Appliance Circuits
- Independently programmable Agent Releasing Circuits with Triple-R Protection, which is proprietary logic that will prevent inadvertent activation
- Enclosure Options:
 - NEMA 1 Enclosure for typical applications
 - NEMA 4 Enclosure for outdoor use (Weatherproof)
 - NEMA 12 Enclosure for industrial use (Dust tight and Oil Resistant)

DESCRIPTION

The MICRO XLT/XLT Ip™ is the technologically most advanced conventional single hazard agent releasing unit available to the fire alarm / suppression industry today. It combines the high quality, system reliability, and flexibility required by modern commercial, high-tech and industrial applications in an aesthetically pleasing and physically robust package. The MICRO XLT/XLT Ip is well equipped to handle all special hazard extinguishing systems due to the high degree of programming flexibility provided and a full complement of input and output circuits.



Figure 1. The MICRO XLT in NEMA1 Enclosure

INPUTS AND OUTPUTS

- 3 Detection Circuits - Class A or Class B
- 2 Supervisory Circuits - Class A or Class B
- 1 Manual Release Circuit - Class A or Class B
- 1 Abort Input Circuit - Class A or Class B
- 3 Notification Appliance Circuits - Class A or Class B
- 2 Release Circuits
- 4 Form-C Programmable Relays
- Robust Power Supply (5.4 Amps)
- Alpha Numeric User-Interface
- Simple Configuration
- Password Protected
- Digital Display of Release Countdown
- Battery Voltage and Charging Current Display
- Extensive Diagnostics
- Enclosure Options NEMA 1, NEMA 4 and NEMA 12

DETECTION CIRCUITS

The detection circuits can support up to 25 conventional ionization smoke, photoelectric smoke, or heat detectors each, as well as normally open contact closure type devices. Two circuits are dedicated to the main suppression function and can be programmed to activate the release circuits by either single-zone or cross-zone input. The user configuration allows automatic release via detection to be delayed from 0 to 60 seconds in 10-second intervals and also allows a choice of which of the two agent release circuits to activate. The third detection circuit is programmable for either waterflow or as an independent detection circuit. When programmed for waterflow, notification appliance circuits can be programmed as nonsilenceable as required by certain jurisdictions.

MANUAL RELEASE AND ABORT CIRCUITS

Both the manual release and abort circuits accept normally open contact closure type devices. Activation of the agent release circuits can either be instantaneous or delayed up to 30 seconds (maximum) upon receipt of manual release input. Agent release can be temporarily delayed by activating the abort circuit. The abort input can be programmed for 5 modes of operation. These include the UL 10-second mode, the full-delay mode, the IRI mode, the NYC mode, or the abort can be disabled. Aborts can also be programmed to be applicable for either one or both agent release circuits, thereby allowing use with deluge/pre-action systems.

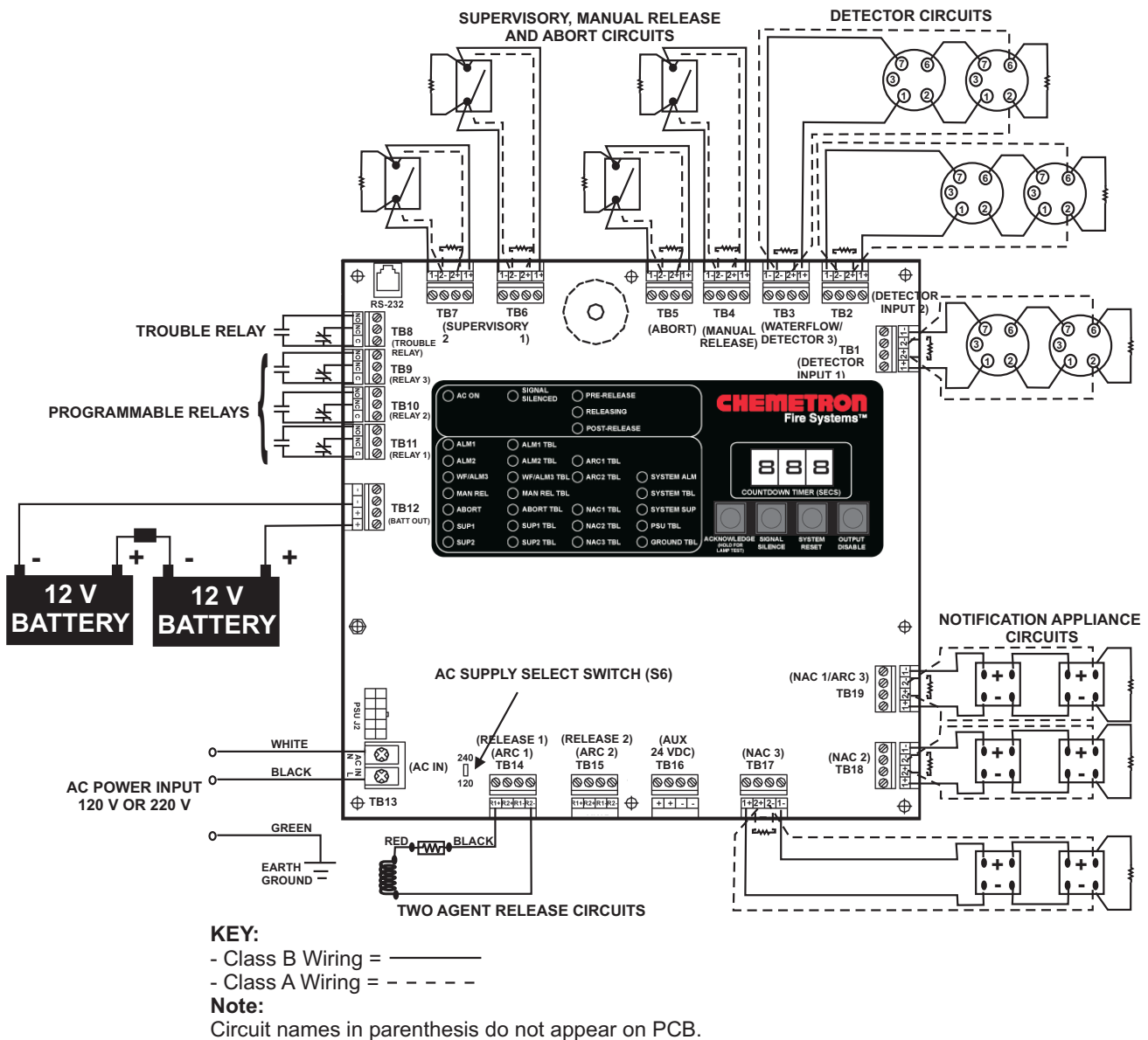


Figure 2. Installation Wiring

SUPERVISORY CIRCUITS

The supervisory circuits accept normally open contact closure type devices such as pressure switches on the agent cylinders or on the water or air pipe network. The system configuration enables the supervisory input to be a participant in the suppression function. For example, low air supervisory can be included with detection for release of preaction systems as required by certain jurisdictions.

NOTIFICATION APPLIANCE CIRCUITS (NAC)

The three notification appliance circuits are rated 1.5 Amps each and accept polarized 24 VDC notification appliances. Of the three circuits, NAC 1 activates on first alarm, NAC 2 in pre-release condition, and NAC 3 in releasing condition. Each circuit is driven independently and is user configurable for 60 BPM, 120 BPM, temporal, or continuous pattern. The MT and NS series appliances provide the option to use silenceable horns and non-silenceable strobes on the same NAC. Multiple NAC circuits (connected to audible devices only) programmed with the same master code pattern are synchronized, regardless of any differing starting times that preceded their concurrent operation. The NACs' configuration includes a user-selectable intelligent synchronization feature which allows a silenceable horn to be shut off while the strobe continues to flash in synchronized fashion.

BUILT-IN CLASS A AND B CIRCUITRY

For the input and NAC circuits, the choice of Class A or Class B supervision is made at site on the board itself by selecting the terminals used for wiring. No additional hardware is required.

AGENT RELEASE CIRCUITS (ARC)

The two circuits can be programmed for activation by different inputs, with independent time delays and abort modes to fire combinations of two of the following releasing devices:

- 1 or 2 Chemetron releasing solenoids
- 1 Factory Mutual Group A, B, D, E, F, G, I, J, or K solenoid. In other words, operating in tandem, the two circuits can release:
 - 1 or 2 solenoids on ARC1 and 1 or 2 solenoids on ARC2
 - 1 or 2 solenoids on ARC1 and 1 FM sprinkler solenoid on ARC2 or vice-versa
 - 1 FM sprinkler solenoid on ARC1 and 1 FM sprinkler solenoid on ARC2.

This configurability is useful for those jurisdictions where the gaseous suppression agent is required to be supplemented with a pre-action system.

TRIPLE-R PROTECTION FOR AGENT RELEASING CIRCUITS (ARC)

The two ARCs feature a triple failure redundancy safeguard system to protect them from inadvertent activation by the main microprocessor. The Triple-R system requires that in order to activate an ARC, the main microprocessor issues two release commands of opposing polarity via separate channels and that these commands be combined with a third signal from the panel watchdog timer to confirm the microprocessor operation. The Triple-R system ensures that electrical transients or disturbances such as power surges that could interfere with the operation of the main microprocessor will not inadvertently activate the connected suppression system. The result is a more robust and reliable suppression-focused panel.

PROGRAMMABLE RELAYS

Of the 4 relays, three are user-programmable for a variety of alarm related conditions and the fourth is a dedicated trouble relay. All relay contacts are rated 3.0 Amps at 30 VDC/120 VAC (resistive).

POWER-LIMITED CIRCUITRY

All circuits, excluding ARCs, are inherently power-limited. Agent release circuits can be made power-limited by a field located inline releasing diode device, thereby allowing cost effective installation with all wiring in the same conduit.

ROBUST POWER SUPPLY UNIT (PSU)

The MICRO XLT/XLT Ip features a universal 120/240 Volts, 50/60 Hz AC power supply unit with a robust 5.4 Amps of 24 VDC power. Input voltage selection is via a slider switch with no jumper cutting required. The on-board battery charger is able to charge 24 VDC (2 x 12) batteries of capacity up to 68 AH, thereby allowing from 24 hours of supervision plus 5 minutes of alarm to 90 hours of supervision plus 10 minutes of alarm required by some jurisdictions.

AUXILIARY POWER SUPPLY

Up to 1 Amp of auxiliary power at 24 VDC is available to power external 4-wire devices such as flame detectors, AlarmLine modules, duct detectors, etc.

ALPHA NUMERIC USER-INTERFACE

The user-interface consists of an array of LED Indicators, control switches, a digital display, and buzzer. Over and above the system, power supply status, input circuit fire and trouble and output circuit trouble LEDs, the MICRO XLT/XLT Ip annunciates its suppression state-of-alarm via three additional pre-release, releasing and post release LEDs. Four switches are provided, one each for Acknowledge, signal silence, system reset and output disable. The 3-digit display provides a countdown of impending agent release. On command from the user-

interface switches, it also indicates the battery open circuit voltage and charging current.

SIMPLE SITE-SPECIFIC CONFIGURATION

Accessed via the digital display and user-interface switches, site-specific configuration is simple, yet detailed and can typically be performed in a matter of minutes. To prevent unauthorized use, the configuration menu is protected by a user-changeable password. Factory technical support can provide assistance with lost or forgotten passwords. Apart from the input voltage selection performed on both the Power Supply Unit and main board via a slider switch, no other onboard settings or jumper cuttings are required.

EXTENSIVE DIAGNOSTICS

Also initiated via the digital display and user-interface switches, the troubleshooting function displays diagnostic codes that assist in determining causes of trouble. A complete list of diagnostic codes and their meanings ships factory installed on the inside of the enclosure door for easy reference.

NEW CHEMETRON SMOKE DETECTORS

New smoke detectors specifically compatible with the MICRO XLT/XLT Ip (UL 268 & UL 521). Listed for open area protection as well as air velocities up to 300 feet per minute.

70101550 - Ionization detector head
70101551 - Photoelectric detector head
70101552 - Wire base

ENCLOSURE OPTIONS:

NEMA1 Enclosure: (for typical indoor applications)

The NEMA 1 design allows for easy installation by fitting between the studs of a standard 16-inch studded wall. It is large enough to house two 12 VDC, 12 AH batteries and provides up to 2 inches (51 mm) of wiring and finger space between the circuit board and the cabinet wall.

Other NEMA 1 cabinet options include a flush mounting trim ring and a dead-front plate required for Canadian applications.

NEMA 4 Enclosure for outdoor use (Weatherproof)

NEMA 12 Enclosure for industrial use (Dust tight and oil resistant)

TECHNICAL SPECIFICATIONS:

- **Hazards Protected**
 - One
- **Power Supply**
 - AC main input
 - 20/240 VAC, 50/60 Hz (90 to 264 Vrms, 47 to 63 Hz)
 - Output 5.4 Amps at 27 VDC
 - Battery capacity up to 68 AH @ 24 VDC

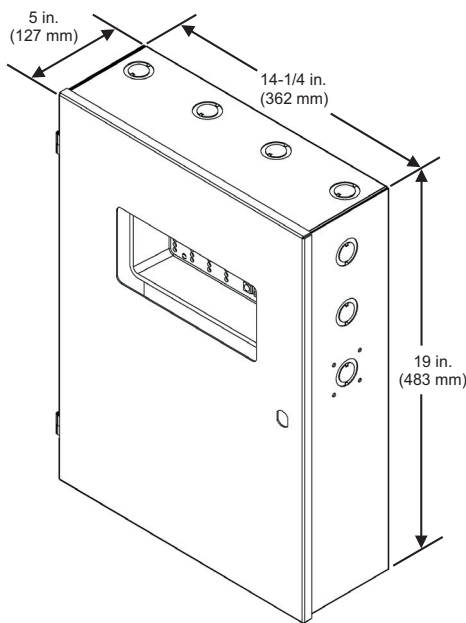
- Auxiliary power output rated at 1 Amp at 18.8 - 27.6 VDC (resettable)
- **Three (3) Detection Circuits**
 - Configurable as Class A/Style D or Class B/Style B
 - Compatible with up to 25 photoelectric or ionization detectors and normally open contact-closure type devices
 - Supervised for ground faults and open circuits
 - Power limited
 - DET 1 and DET 2 programmable for suppression
 - DET3/WF configurable for detection or waterflow
- **One (1) Manual Release Circuit**
 - Compatible with normally open contact-closure type devices
 - Configurable as Class A/Style D or Class B/Style B
 - Supervised for ground faults and open circuits
 - Power limited
- **One (1) Abort Circuit**
 - Compatible with normally open contact-closure type devices
 - Configurable as Class A/Style D or Class B/Style B
 - Supervised for ground faults and open circuits
 - Power-limited
- **Two (2) Supervisory Circuits**
 - Compatible with normally open contact-closure type devices
 - Configurable as Class A/Style D or Class B/Style B
 - Supervised for ground faults and open circuits
 - Power-limited
- **Three (3) Notification Appliance Circuits (NACs)**
 - Compatible with polarized 24 VDC audio-visual devices
 - Rated at 1.5 Amps each
 - Configurable as Class A/Style Z or Class B/Style Y
 - Supervised for ground faults, shorts, and open circuits
 - Power-limited
 - First Alarm operates NAC 1, Pre-Release operates NAC 2, Releasing operates NAC 3
 - Common NAC/ARC output disconnect switch
- **Two (2) Agent Release Circuits**
 - Each compatible with 1 or 2 solenoids or 1 FM sprinkler solenoid
 - Circuits electrically capable of simultaneously releasing any combination of two of the above devices
 - Factory configured as Class B/Style Y
 - Supervised for ground faults and open circuits

- Non-power-limited. May be power-limited and supervised for short circuit using inline releasing resistor-diode device.
- Common NAC/ARC output disconnect switch
- **Four (4) Relays**
 - 3 independently programmable, normally de-energized form-C contacts
 - 1 dedicated normally energized form-C trouble relay
 - Relay contacts rated 3 Amps at 30 VDC/120 VAC (resistive)

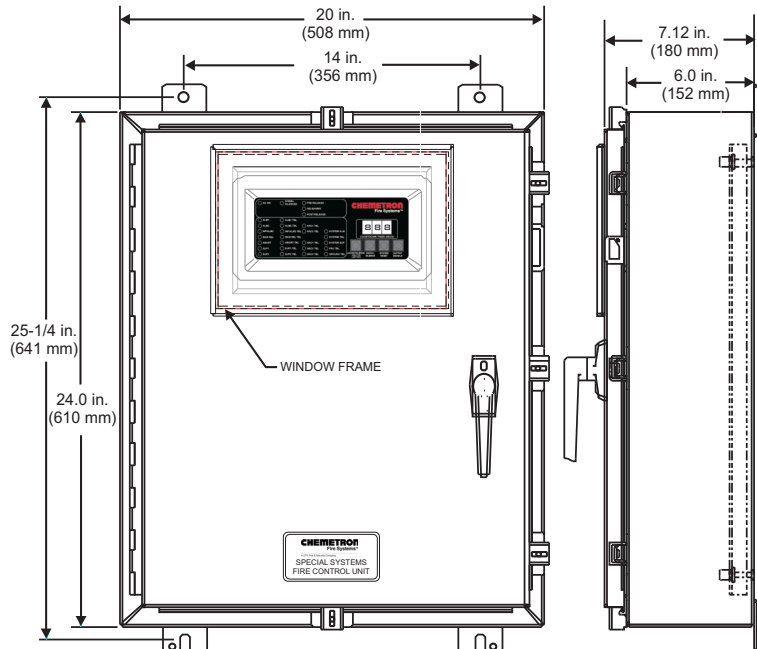
MICRO XLT ENCLOSURE OPTIONS:

- **NEMA 1 Enclosure:**
 - 18 gauge sheet steel with door
 - Red color
 - Suitable for wall and surface mounting
 - Optional trim ring
 - Optional dead-front panel
 - Dimensions:
19 in. High x 14-1/4 in. Wide x 5 in. Deep
(483 mm x 362 mm x 127 mm)
 - Indoor/Dry use only
 - Operating temperature range: 32°F to 120°F
(0°C to 49°C)
 - Humidity: 93 ± 2% RH at 90° ± 3°F (32° ± 2°C)

- **NEMA 4 Enclosure:**
 - 24 in. High x 20 in. Wide x 6 in. Deep
(609 mm x 508 mm x 152 mm)
 - Indoor/Outdoor use
 - Operating temperature range: -20°F to 120°F
(-29°C to 49°C) with optional heaters
 - Humidity: 93 ± 2% RH at 90° ± 3°F (32° ± 2°C)
- **NEMA 12 Enclosure:**
 - 24 in. High x 20 in. Wide x 6 in. Deep
(609 mm x 508 mm x 152 mm)
 - Industrial use. Dust tight and oil resistant
 - Operating temperature range: 32°F to 120°F
(0°C to 49°C)
 - Humidity: 93 ± 2% RH at 90° ± 3°F (32° ± 2°C)
- **Packaging/Shipping**
 - MICRO XLT/XLT Ip enclosure, printed circuit board, power supply unit and accessories are packaged together within individual cartons. Field assembly is required.
 - Accessories shipped include mounting hardware, battery leads, installation and operation manual on CD-ROM, operating instruction sheet, and end-of-line resistor kit
 - Order In-Line Releasing Diode Kit (if required), optional devices and batteries separately



NEMA 1 Enclosure



NEMA 4 or 12 Enclosure
(The NEMA 4 unit does not include a door handle)

Figure 3. NEMA 4 or 12 Enclosure

ORDERING INFORMATION

Stock Number	Description	Shipping Weight	
		lbs	kg
70101533	MICRO XLT NEMA 1 Control Panel Assembly, 120/220VAC 50/60 Hz	25	11.3
70101534	Dead Front Panel for NEMA 1 Enclosure (Required for Canadian & FM Applications)	2	0.9
70101540	Dead Front Panel for NEMA 4 or 12 Enclosures (Required for Canadian & FM Applications)	25	11.3
70101338	In-Line Releasing Diode Kit	1	0.45
70100320	Battery 12v, 7AH (2- required for 24-hour battery back-up)	6	2.7
70101654	Battery Enclosure for applications using extended battery back-up	6	2.7
10101507	MICRO XLT NEMA 12 Enclosure (24 x 20 x 6)	35	15.8
10101509	MICRO XLT NEMA 4 Enclosure (24 x 20 x 6)	35	15.8
10101506	MICRO XLT Ip NEMA 12 Control Unit with PE Relay (30 x 24 x 6)	86	39.1
10101508	MICRO XLT Ip NEMA 12 Control Unit (24 x 20 x 6)	35	15.8
10101510	MICRO XLT Ip NEMA 4 Control Unit (24 x 20 x 6)	35	15.8
10101511	MICRO XLT Ip NEMA 4 Control Unit with PE Relay (30 x 24 x 6)	86	39.1

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