

Model T2-MBCLC **Main Board Assembly** **for FireSpy® Tracker 2000 Control Panel**

SAFETY MESSAGE TO INSTALLERS

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with this product. Listed below are some other important safety instructions and precautions you should follow.

- This unit must be installed and maintained by a qualified electrician in accordance with NFPA 72 and National and local Electrical and fire codes, under the direction of the authority having jurisdiction.
- Do not connect this unit to system wiring when circuits are energized.
- After installation and completion of initial system test, provide a copy of this instruction sheet to all personnel responsible for operation, periodic testing and maintenance of this equipment.
- Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you and others.

GENERAL

The T2-MBCLC main circuit board assembly (MBCLC) is the core of the Tracker 2000 panel. It contains the main board, display module, and power supply mounted on an aluminum chassis.

The MBCLC contains the following input and output circuits:

- Two analog addressable loop circuits with T-Spy, I-Spy, Apollo, or System Sensor protocol.
- Four circuits that can be programmed for the following modes:
 - o Class A or B NAC (steady, temporal coding, or march time coding)
 - o Auxiliary power supply (resettable or continuous)
 - o Auxiliary input
- One Class B communications circuit (RS485) for connection to expansion modules
- Three form C common relay contacts: alarm, supervisory alarm, trouble
- One output for a T8-RC relay module chain
- One serial communications port (DB9 connector)
- One USB port
- One Ethernet port (optional)

The MBCLC mounts in the main panel enclosure or other UL864 listed enclosure.

Specification	Rating
Communications wiring	
Protocol	RS485
Impedance, max	100 ohms
Capacitance, max	.3uF
Power wiring	
Output voltage	Regulated 24 DC
Output current, max	???
Impedance, max*	75 ohms

* 3v drop each wire @ 80mA

Table 2: Local network circuit specifications

Specification	Rating
Listed	ETL, Standard UL864
Use / Environment	Commercial / Indoor, dry
Temperature range	32 to 120° F
Maximum relative humidity	95%
Primary power (AC)	
Voltage	120VAC @ 50 or 60 Hz 240VAC @ 50 or 60 Hz
Current draw (max)	6.3A @ 120VAC 3.15A @ 240VAC
Secondary power (battery)	
Battery type	Sealed lead-acid
Voltage	24VDC (two 12V batteries)
Charge capacity	8 to 40 Ah
Current draw, max*	7A
Charger type	Multi level float charger
Charge current	1.6A max
Charge voltage	27.3VDC max
Earth ground detection	
Impedance to 24V negative	51k ohms
Impedance to 24V positive	392k ohms
Operating current	
Standby	155 mA
Alarm	260 mA

* This is also the maximum current available to the total system.

Table 1: General specifications

Specification	Rating
Protocols	T-Spy, I-Spy, Apollo, System Sensor
Output voltage	24VDC
Output current, max	400mA
Impedance, max	40 ohms
Capacitance, max	0.5uF

Table 3: SLC circuit specifications

Specification	Rating
Output modes	
Output voltage	Regulated 24 DC
Output current, max	3A
Impedance, max	To produce a maximum of 2.4V drop at each device
NAC mode	
Max synchronized devices	Refer to device manufacturer's documentation
End-of-line resistance	10k ohms (Class B only)
NAC: Input mode	
Input voltage	Regulated 24 DC
Input current draw***	5mA

* Inherently power limited

Table 4: NAC circuit specifications

Specification	Rating
Type	Form C
Contact ratings	
Resistive load (PF=1.0)	10A @ 30VDC
Inductive load (PF=0.4)	10A @ 240VAC
	3A@240VAC
* 3v drop each wire @ 80mA	

Table 5: Relay outputs specifications

INSTALLATION

Refer to the Tracker 2000 installation manual for battery calculations and other additional requirements for installing the assembly in the fire panel system.

Mounting

The MBCLC mounts in a UL864 Listed enclosure. The installation location should be reasonably free of dust, vibration, and moisture. To avoid degradation of the operating circuitry, it is recommended that the

MBCLC be removed during cabinet mounting, wire installation, and any other procedures that may introduce dust, metal shavings, grease or any other foreign matter into the area of the electronic circuitry.

1. Install the enclosure according to the manufacturer's installation instructions.
2. Mount the chassis assembly inside the enclosure using four #10 nuts.
3. Secure the ground wire to the backbox grounding stud with a nut.

Wiring

WARNING

To reduce the risk of electrical shock, make sure that all power has been turned off or disconnected prior to attempting to install wiring or connect power.

1. See Figure 1 for wiring.
2. Set SW3 to match the types of devices used on the SLCs (see *Table 6*).
3. Configure J1 according to the wiring type on the SLCs. The two jumpers closest to SLC1 are for SLC1 and the two jumpers closest to SLC2 are for SLC2. For Class B, remove the two jumpers; for Class A, install the two jumpers.

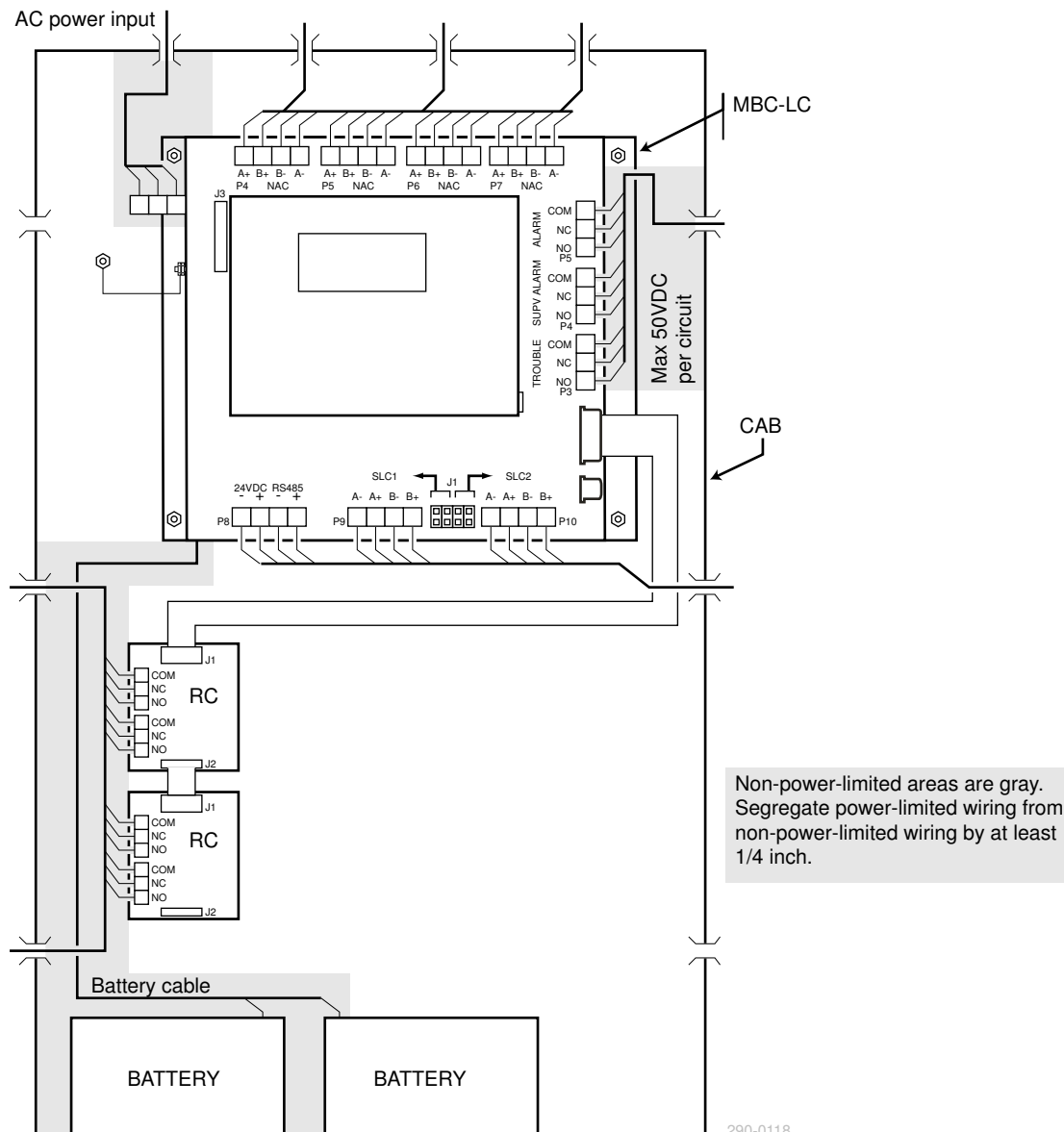


Figure 1: Wire routing

OPERATION

Refer to the control panel documentation for maintenance, testing, operation and programming details.

ORDERING INFORMATION

Model	Stock No.
T2000 main board chassis assembly	T2-MBCLC
T2000 main cabinet	T2-CAB

SERVICE

To get help with problems or questions not covered in these instructions, contact:

Technical Service Department
Harrington Signal Inc.
2519 - 4th Avenue
Moline, IL 61265
(800) 577-5758

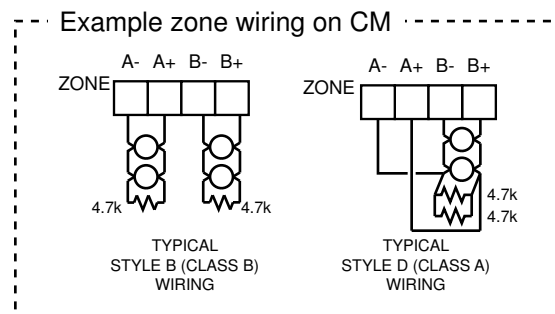
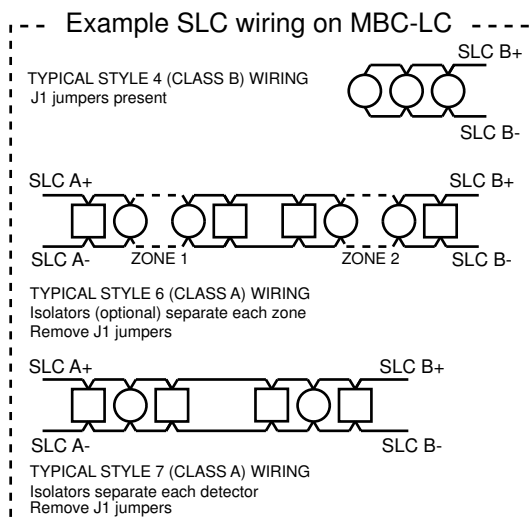
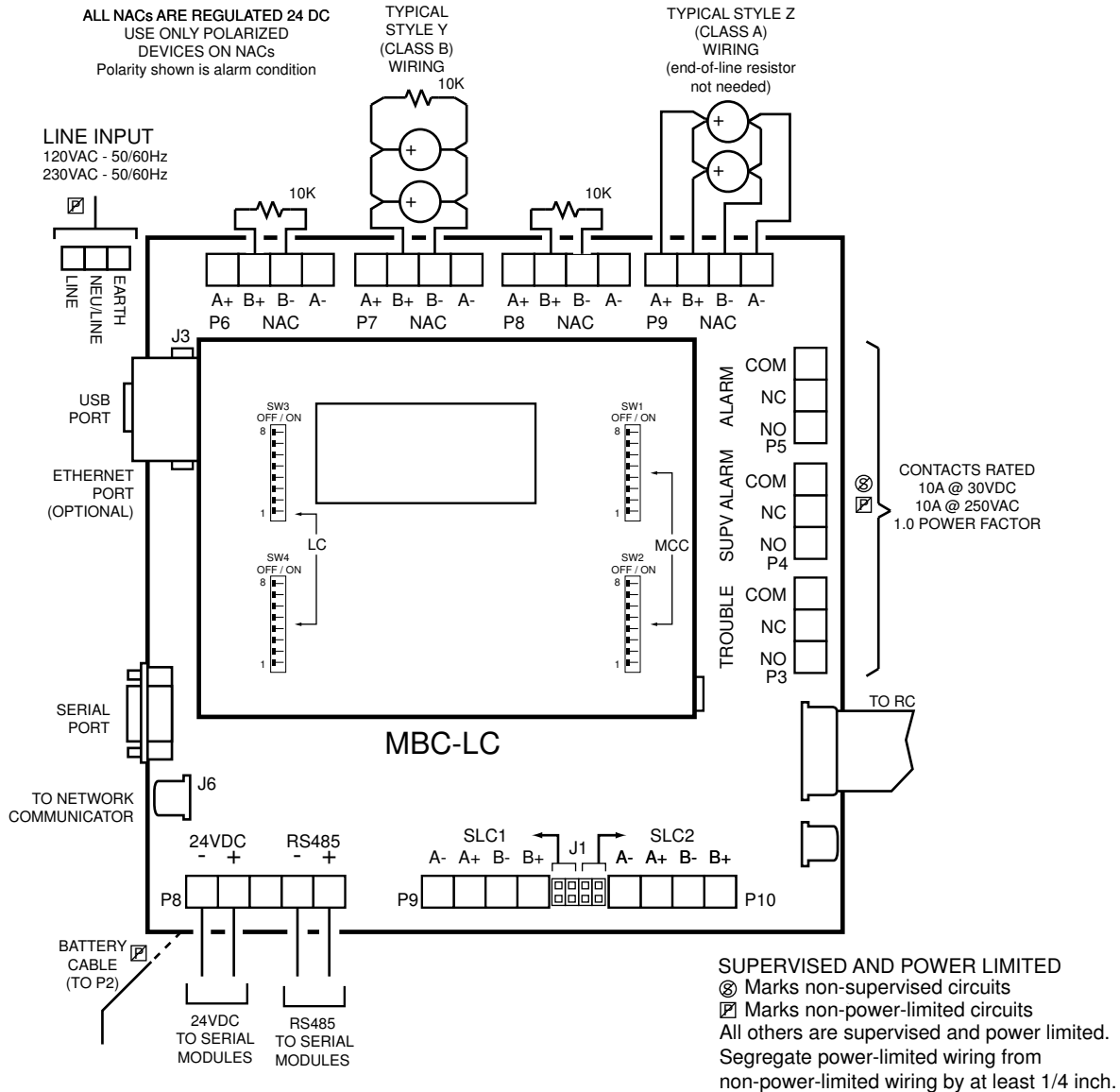
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Switch number	Programmed Mode (ON position)
1 / 2	Reserved (set to OFF)
3	Reserved (set to OFF)
4	Enable System Sensor protocol
5	Enable Apollo / I-Spy protocol
6	Reserved (set to OFF)
7	Enable T-Spy protocol
8	Enable extended alarm confirmation polling ²

1 For switches 4, 5, and 7: Set to ON to include the designated protocol in the SLC messaging. Set to OFF to ignore devices for the designated protocol.

2. Extended alarm confirmation polling prevents false alarms for SLC wiring that is faulty or non-twisted pair. Applies to Apollo, I-Spy, and T-Spy.

Table 6: SIP switch settings (SW3)



NOTES:

- 1) Use only smoke detectors that are listed in compatibility listing in owner's manual.
- 2) Leave end-of-line resistors on unused circuits.
- 3) All terminals are rated for 14-22 AWG wire unless otherwise noted.
- 4) Combined load of all devices, including indicating appliances, is not to exceed 7A.

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Figure 2: Wiring on MBCLC