

Installation Instructions and Wiring for CAT. NO. FDLC - Faraday Device Loop Card

INTRODUCTION: The Faraday Device Loop Card (FDLC) is the driver for the Faraday X1 Addressable smoke detectors, manual stations, monitor devices and control devices used on the MPC-6000 and MPC-7000 Fire Alarm System Control Units. The FDLC contains 9 LEDs for diagnosis of problems.

OPERATION: The FDLC initializes, operates, and maintains all devices residing on the loop. The FDLC communicates all relevant device and event information, such as alarms and troubles, to the Main System Board. The sensitivity of any intelligent smoke detector and the logic functions of any intelligent output devices can be checked and adjusted from the system display and keypad. All information about the devices on the loop can be displayed on the system display. The FDLC allows the system polarity insensitive devices to be connected without generating errors.

The FDLC supports one loop of 252 Faraday X1 intelligent field devices (252 addresses) as well as device accessories (relay bases, audible bases, and remote lamps) in any combination. (The on-board microprocessor provides the FDLC with the ability to function and initiate alarm conditions even if the main board microprocessor fails.)

The FDLC contains one reset switch, and 9 LEDs as shown in Figure 1. Pushing the RESET switch (S1) re-initializes the FDLC operation.

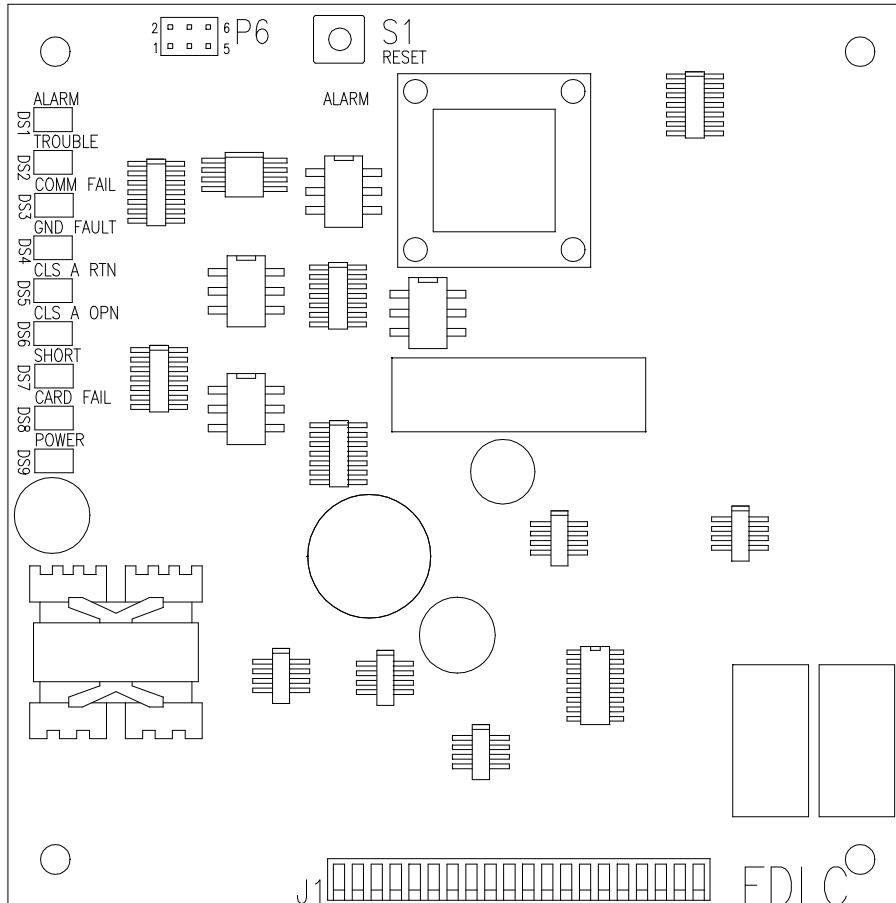


Fig. 1

FARADAY
Siemens Building Technologies, Inc.
8 Fernwood Road • Florham Park, NJ 07932
Tel: (973) 593-2600 • Fax: (973) 593-6670
Web: www.faradayfirealarms.com

The LEDs' functions are defined as follows:

LED Function	Color	Normal Condition	Action
ALARM	(Red)	Normally OFF.	When illuminated, indicates that the FDLC has detected an alarm.
TROUBLE	(Yellow)	Normally OFF.	When illuminated, indicates that the FDLC has detected a trouble on its field wiring.
COMM FAIL	(Yellow)	Normally OFF.	When illuminated, indicates that the communication between the main board and the FDLC has terminated and the card goes into degrade mode.
GND FAULT	(Yellow)	Normally OFF	When illuminated, indicates that the FDLC has detected either a negative or positive ground fault on its field loop wiring.
CLS A RTN	(Yellow)	Normally OFF.	When illuminated, indicates a return wire on the loop is reversed if the loop was set to Class A.
CLS A OPN	(Yellow)	Normally OFF.	When illuminated, indicates a wire is open on the loop if the loop was set to Class A.
SHORT	(Yellow)	Normally OFF.	When illuminated, indicates a wire short in the loop wiring.
CARD FAIL	(Yellow)	Normally OFF.	When illuminated, indicates the card microprocessor has failed.
POWER	(Green)	Normally ON.	When illuminated, indicates the power for the FDLC is applied to the card.

PARTS SUPPLIED

1	FDLC	Loop Driver Board
4	375-F943165	Spacers, 1"
1	315-447360FA	Instruction Sheet

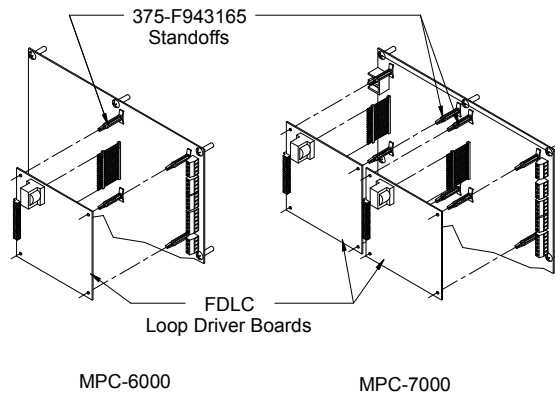
The following table gives the currents necessary for power supply and battery calculations.

Model	Output Voltage	Input Current	
		Normal Standby	Maximum (Alarm)
FDLC	24 V DC	150mA + 1.8mA per device	150mA + 1.8mA per device

Maximum Device Loop Current in Shorted Condition: 0.375 A.

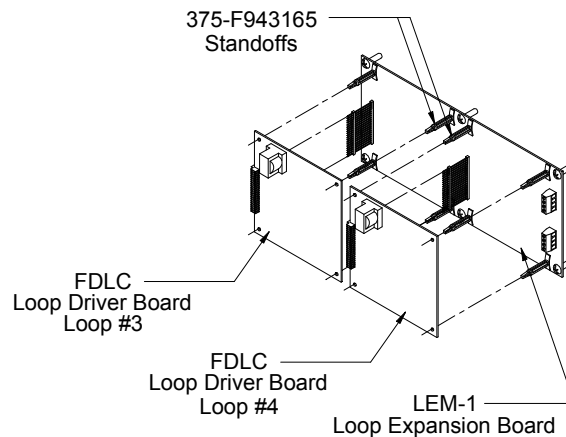
Loop Driver Board(s) Mounting on MPC-6000 or MPC-7000 FACP

1. Place the provided standoffs (P/N 375-F943165) in locations shown on the Main Board (four for the MPC-6000 and eight for the MPC-7000).
2. Carefully align connector J1 on the Loop Driver Board with connector J9 on the MPC-6000 Main Board (P/N MPC6-MB) or with connectors J9 and J14 on the MPC-7000 Main Board (P/N MPC7-MB).



Loop Driver Board(s) Mounting on LEM-1 Loop Expansion Board

1. Place the provided standoffs (P/N 375-F943165) in locations shown on the LEM-1 Loop Expansion Board (four for each FDLC Loop Driver Board).
2. Carefully align connector J1 on the Loop Driver Board with connector J1 on the LEM-1 Loop Expansion Board for Expansion Loop #3 and/or with connector J2 on the LEM-1 Loop Expansion Board for Expansion Loop #4.



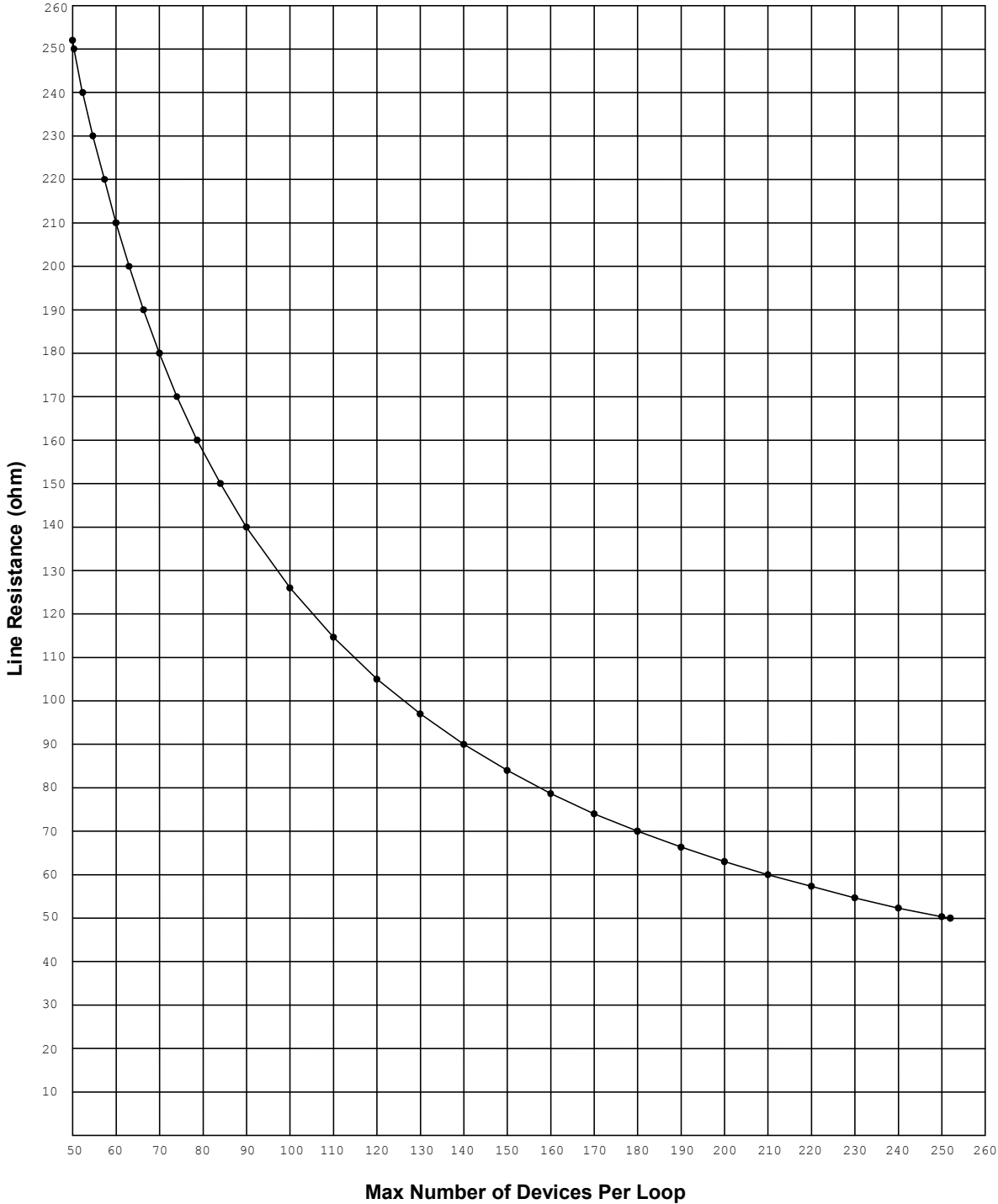
WIRING

Disconnect BATTERY and AC prior to working on equipment.

COMPATIBILITY

1. The FDLC supports only Faraday X1 intelligent devices. The compatibility identifiers for the compatible devices are the model numbers listed in Appendix B of the MPC-6000 / MPC-7000 Owners Manual P/N 315-447309. Use any combination of those listed.
2. The FDLC supports one loop of up to 252 Faraday X1 intelligent field devices.
3. All circuits are power limited to NFPA 70 per NEC 760. The FDLC supports the use of 18 AWG min. non-shielded, non-twisted, thermoplastic fixture wire without conduit, if permitted by local building codes.
4. No end of line device is required.
5. Total circuit resistance must not exceed 50 ohms when 252 devices are loaded into one zone. (Refer to the Line Resistance Graph)
 Maximum capacitance: 0.5 μ F between line+ and line-
 1.0 μ F between line and chassis
6. T-tapping is not allowed on Class A loops.

LINE RESISTANCE GRAPH



FDLC LINE RESISTANCE vs MAX NUMBER OF DEVICES

Note: The total number of devices can not exceed 252.