

## Notice: Dec. 2021 – New LDA 21 revision

Due to the ongoing supply shortages, the LDA has been redesigned to use available parts as well as implement new features to make installation/maintenance easier.

- USB port: The new USB port is not currently implemented in firmware. A new notice will be included with new boards explaining this feature once available.
- Dip switches: By popular demand the original configuration jumpers have been replaced with easy-to-use dipswitches. Please review the Field Options section for details. **Switches 6-8 are reserved for factory use and should remain in the off position at all times, failure to do so will result in unexpected operation.**
- Board status LED: A new status indicator is included on the back of the LDA board. This light will blink rapidly while starting up and provide a short pulse once every second while running. This provides an additional troubleshooting tool.
- Power input: The newly implemented power circuitry is more flexible and efficient than before. The use of a separate input for 24V power is no longer necessary. Both 12V and 24V AC/DC can be applied to the main power terminals. See the included wiring diagram for details.

### Terminal Strip Definitions

**Door Input:** Use an isolated N/C door position contact for non-supervised door monitoring. Use an isolated N/C door position contact with two 1K OHM resistors connected as shown on the Back-Plate View Diagram for supervised door monitoring. Opening this contact initiates the alarm sequences described below.

**Bypass Input:** Optional Input, not required for operation. Use an isolated N/O contact for remote alarm bypass control. This contact may come from a remote key switch, or from the access control system. Closing this contact bypasses the alarm sequences, and shuts off the sounder.

**Request to Exit (REX) Input:** Optional Input, not required for operation. Use an isolated N/O or N/C contact to initiate the exit sequence described below. Field Option Switch 4 controls the REX input. Switch 4 off for a normally open rex or rex not used; Switch 4 on for a normally closed rex.

**Lock Voltage or Request to Enter Input:** Optional Input, not required for operation. Connect Lock + to pin 8, and connect Lock - to pin 7 for lock voltage monitoring. Field Option Switch 5 controls the lock voltage input. Switch 5 off for fail secure lock input or if the lock input is not used; Switch 5 on for fail safe lock input. Refer to Back Plate View diagram for lock monitoring connections.

**Relay 1: Delayed Forced Door Alarm Relay Output.** N/C relay output opens 30 seconds after a forced door alarm and if the alarm auto reset delay is set longer than 30 seconds.

**Relay 2: Held Alarm Relay Output.** N/C relay output opens at the end of a door held sequence

**Power:** 12 - 24 VAC/VDC @ 150 mA. (NOTE- All terminations, including power terminations MUST be made with power OFF)

## Field Option Switches

Switch	Function	ON	OFF
1	Alarm Auto Reset	Enabled	Disabled
2	Door Forced Alarm	Enabled	Disabled
3	Supervision	Enabled	Disabled
4	REX Input Type	Normally Closed	Normally Open
5	Lock Voltage Type	Fail-Safe Lock	Fail-Secure Lock / Not Used

**Note:**

When replacing a door alarm that uses jumpers the settings can be mimicked easily.

For positions 1-3 if the jumper is installed the switch is on.

For positions 4-5, if the jumper is installed, the switch is off.

For older door alarms that have two possible positions for jumpers 4-5:

Jumper in board edge position = switch off.

## Time Delays

ID	Name	Description	Range
1	Access Delay	How long the door can be held open before the warning pulse starts. Sounder is silent during this time.	1 – 120 Seconds
2	Warning Delay	How long after the warning starts before a door held alarm occurs. Sounder is pulsing during this time.	1 – 120 Seconds
3	Alarm Auto Reset Delay	How long after the door is closed before the alarm resets. Requires Switch 1 in the ON position	0 – 70 Seconds

## Operational Definitions

**Armed** - Red LED is on, sounder is off, relays are normal. Opening the door starts alarm sequences.

**Bypass** – Key switch or remote bypass input is active. Green LED is on, sounder is off, relays are normal. Door may be opened indefinitely.

**Request to Enter** - Green LED is on, sounder is off, relays are normal. Opening the door starts the Entry Door Sequence.

**Request to Exit** - Green LED is on, sounder is off, relays are normal. Opening the door starts the Exit Door Sequence.

**Access time** - Door is open, Red LED is on. Sounder is off, relays are normal. Closing the door resets the LDA to Armed. Holding the door open past the access delay starts the Warning Alarm.

**Warning Alarm** - Door is open, Red LED is on, sounder is pulsing, and relays are normal. Closing the door silences the sounder, and resets the LDA to Armed. Holding the door past the warning delay starts the Door Held Alarm.

**Door Held Alarms** - Door has been held open past the warning delay, Red LED is on, sounder is on, relay 2 is active.

**Entry Alarm** - Door sequence was started with the lock voltage input. Relay 2 is active

**Exit Alarm** - Door sequence was started with the REX input. Relay 2 is active.

**Forced Door Alarm** - Field Option Switch 2 is ON and the door was opened without a valid REX or lock voltage input. Red LED is on, sounder is on, relay 2 is active if Switch 2 is on. Relay 1 becomes active 30 seconds after the alarm starts.

**Supervision Alarm** - Field Option Switch 3 is ON and the door-input circuit is either cut or shorted. Both relays are active, and the sounder is on.

