Altronix® ACM8 - Access Power Controller

Overview:

The ACM8 access power controller is designed to be powered via one (1) common power source which will provide power for both the board operation and locking devices or two (2) totally independent power sources, one providing power for board operation and the other for the lock power. The ACM8 has eight (8) independent wet or dry access control system trigger controlled outputs. Each output will route power to a variety of access control hardware and devices which includes Mag Locks, Electric Strikes, Magnetic Door Holders, etc... These outputs will operate in both fail-safe and fail-secure modes. A form "C" dry output relay will enable Alarm Monitoring, HVAC Shutdown, Elevator Recall or trigger other auxiliary devices. The unit can be configured for the following modes; 1- Eight (8) outputs with disconnect. 2- Eight (8) outputs without disconnect and 3- Fifty/fifty mode (four (4) with and four (4) without disconnect). Each relay is provided with a red LED for ease of identification.

Specifications:

- NFPA72 compliant.
- 12 to 24volt AC or DC Operation.
- Fire alarm interface trigger input.
- Power supply input options:
  One (1) common input for both board and lock power.
  Two (2) isolated inputs one for board power and one for lock power.
- Outputs can be either wet or dry.
- Output options:
  Eight (8) dry form "C" 10 amp rated relay outputs.
  Eight (8) wet Fail-Safe or Fail-Secure outputs.
  Any combination of dry or wet outputs.
- Fifty/fifty output mode.
  Four (4) with and four (4) without FACP disconnect.
- Output fuses are rated 3.5amp.
- Main fuse is rated at 10amp.
- Eight (8) Access Control System trigger inputs.
- Normally open (N.O.) and/or normally closed (N.C.) trigger inputs.
- Red output LED's indicate when output has been triggered.
- Alarm output relay indicates that FACP input is triggered. (Form "C" contact rated 1 amp @ 28VDC).
- Interfaces with most AC or DC Power Supplies.
- Removable terminal blocks.
Board Dimensions:
7.5"L x 4.5"W x 1.25"H

Installation Instructions:

1. Mount ACM8 in desired location/enclosure.
2. **Power supply input:**
   The ACM8 can be powered by one (1) power source which will power for both board operation and the locking devices or two (2) independent power sources, one to power the board operation and the other to provide power for the locking devices.
   **Note:** The input power for both modes of operation can be either 12 to 24 volts AC or DC
   (A) Single power supply input:
   If the AMC8 and the locking devices are to be powered from a single power supply, connect the output of the power supply (12 to 24 volts AC or DC) to the terminals marked [- Control+].
   (B) Multiple power supply inputs *(Fig. 7, pg. 4)***:**
   When the use of two power supplies is required, first cut jumpers J1 and J2 (located to the left of the power/control terminals). Connect to power for the ACM8 to the terminals marked [-Control+]. connect to power for the locking devices to the terminals marked [-Power+].
   Note: When using DC power sources polarity must be observed.
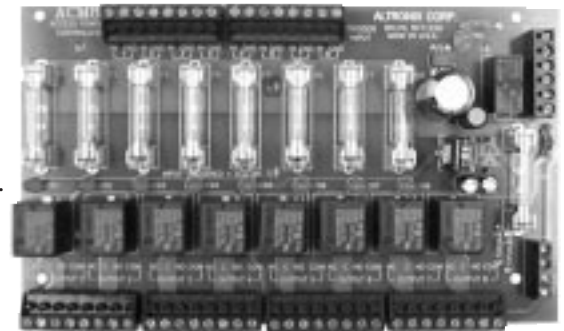
3. **Output connection options** *(Fig. 1, pg. 3)*:
   The ACM8 will provide either 8 Wet, 8 Dry or any combination of both Wet and Dry outputs.
   (A) WET outputs:(When using an AC power source polarity is not observed)
   Connect the Neg (-) of the device being powered to the terminal marked [COM and the Pos. (+)] to the
   terminals marked [NC] for fail safe devices and to [NO] for fail secure devices.
   Note: A continuous non-switched output can be obtained by connecting Pos (+) to the "C" terminal
   and Neg. (-) to the COM terminal. This output can be used for providing power for such devices as card
   readers and keypads.
   (B) Dry outputs:
   Remove the corresponding output fuse. Connect one lead of the power supply directly to to locking device
   and connect the other lead of the power supply to the [C] terminal and connect the [NC]
   terminal (fail safe) or [NO] terminal (fail-secure) to the locking device.
4. **Fifty/fifty output mode:** (Four (4) with and four (4) without FACP disconnect)
   To set the ACM8 to the fifty/fifty mode put switch SW1 in the closed position. In this mode of
   operation outputs 1 thru 4 will be disconnected when the fire alarm interface is triggered and
   outputs 5 thru 8 will remain unaffected.
5. **Trigger input connections** *(Fig. 1, pg. 3)*:
   (A) Normally open trigger input:
   Connect the triggering device (e.g. card readers, keypads or request to exit buttons etc.) to the output to be
   controlled corresponding trigger input terminals marked [IN and GND]. When using a Normally open trigger
   input the [NC & C] terminals will open and the [NO & C] terminals will close when the input is triggered.
   (B) Normally closed trigger input:
   Connect the triggering device (e.g. card readers, keypads or request to exit buttons etc.) to the output to be
   controlled corresponding trigger input terminals marked [IN and GND]. When using a Normally closed trigger
   input the [NC & C] terminals will close and the [NO & C] terminals will open when the input is triggered.
   Note: When using a Normally closed trigger input the fire alarm interface of the corresponding input will be
   disabled.
6. **Fire Alarm Interface** *(Fig. 2 thru 6 , pg. 4)*:
   Upon receiving a short, open or the reversal of polarity form the signal circuit of a fire alarm control panel the
   ACM8 will trigger all outputs except those that are programmed other wise (e.g. outputs 5 thru 8 in the
   fifty/fifty mode and those outputs wired with Normally closed inputs).
   (A) Normally open FACP input:
   Connect the normally open FACP trigger input to the terminals marked [+ INPUT and T] on the
   terminal block labeled FACP INTERFACE.
   (B) Normally closed input:
   Connect the normally closed FACP trigger input to the terminals marked [+ INPUT -] and wire a jumper to
   the terminals marked [+ INPUT and T] on the terminal block labeled FACP INTERFACE.
   (C) FACP signal circuit trigger input:
   Connect the Pos. (+) and Neg.(-) of the FACP's signal circuit to the terminals marked [+ INPUT -]
   on the terminal block labeled FACP INTERFACE (polarity is shown in alarm condition) and cut jumper J3.

LED Diagnostic Table:

LED	ON	OFF
Trg (Green)	FACP INPUT triggered (alarm condition)	Standby (non-alarm condition)
Trigger (Red)	Output relay energized	Output relay de-energized

Terminal Identification:

Terminal Legend	Function/Description
– Power +	12 to 24 AC/DC from lock power supply.
– Control +	12 to 24 AC/DC from relay power supply.
TRIGGER INPUT IN,GND	From normally open or normally closed access control devices (request to exit buttons, exit pir's, etc...)
OUTPUT 1-8 N.C., C, N.O., COM	Provides a switched dry or wet (AC or DC) output to locking devices.* *In the fifty/fifty mode Outputs 5-8 will provide constant aux. DC output.
FACP INTERFACE T, + INPUT –	Upon receiving a short, open or the reversal of polarity input from a fire alarm control panel the ACM8 will trigger all outputs except those that are programmed other wise (e.g. outputs 5 thru 8 in the fifty/fifty mode and those outputs wired with Normally closed inputs).
FACP INTERFACE N.C., C, N.O	When the ACM8 is triggered the C and N.O. terminals will close and the C and N.C. terminals will open. This output is used to trigger auxiliary devices. e.g. Alarm Reporting, HVAC Shutdown, Elevator Recall etc.
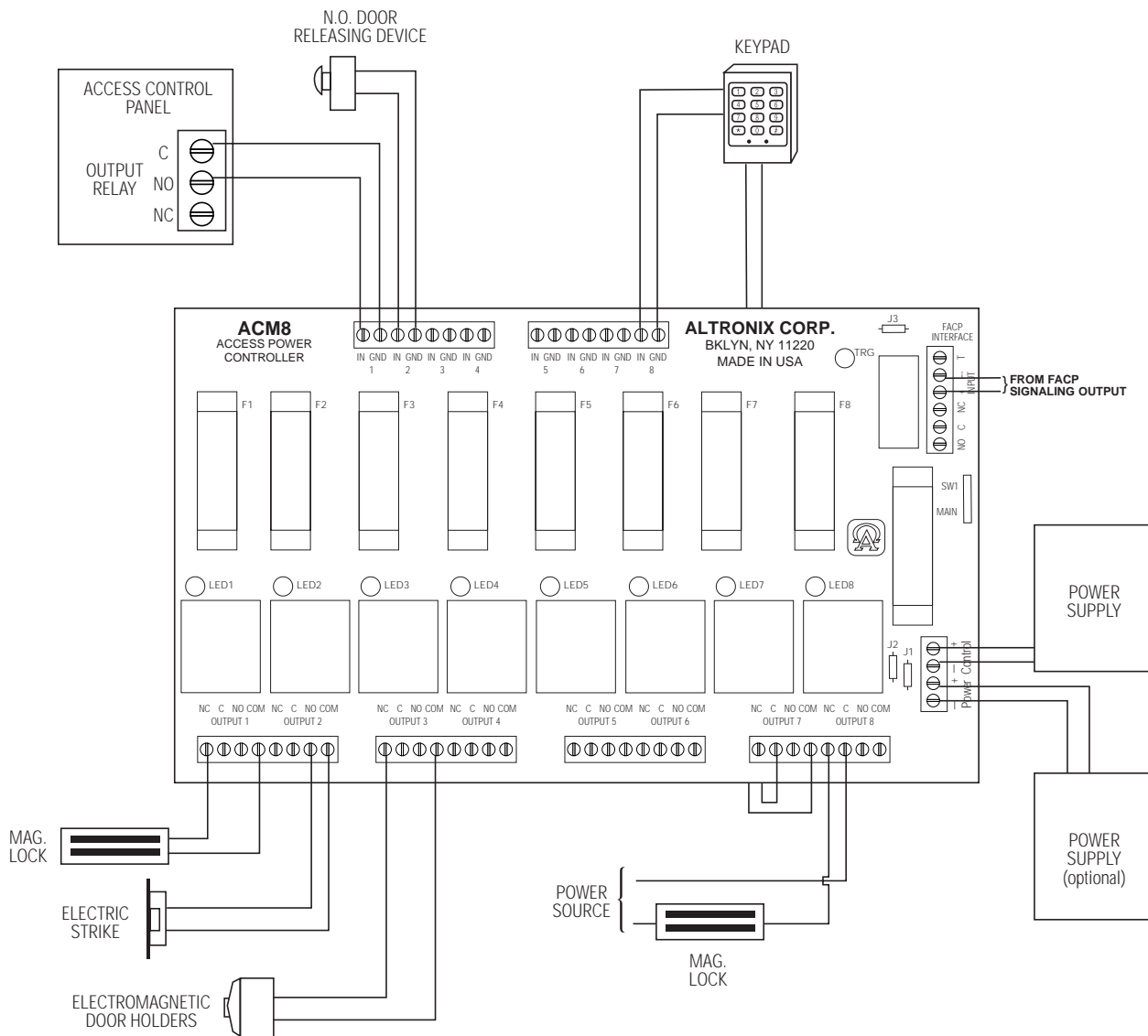
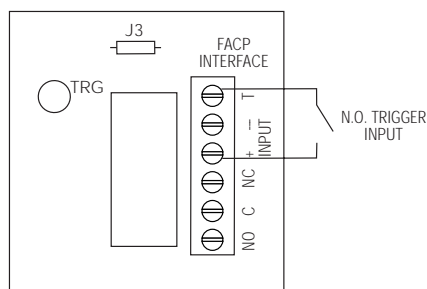
Fig. 1

Fig. 2 Normally Open FACP trigger input:

Fig. 3 Normally Open FACP trigger input with reset:
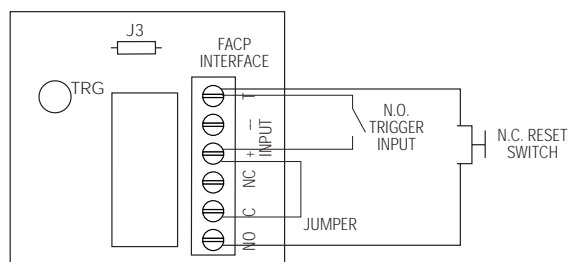

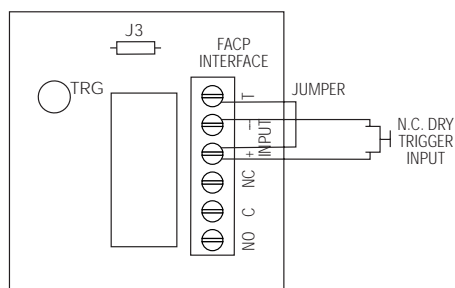**Fig. 4** Normally Closed FACP trigger input:

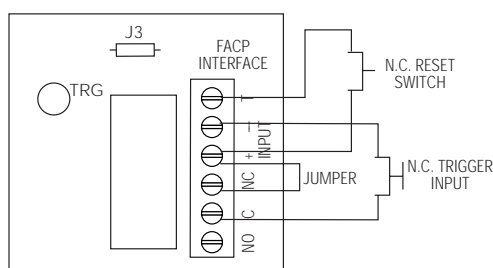**Fig. 5** Normally Closed FACP trigger input with reset:

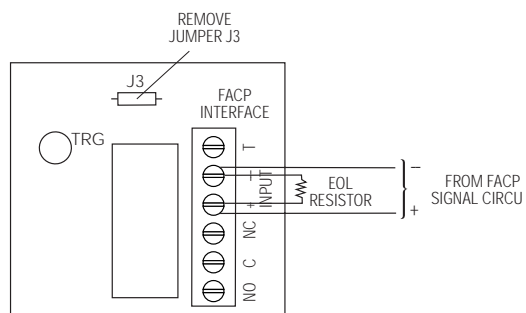**Fig. 6** Polarity reversal input from FACP signal circuit:

Fig. 7 Connecting multiple power supplies: