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AC-1 Family of Access Control I/O Modules

AC-1, AC-1A and AC-1Plus

Andover Continuum offers three access control modules to meet the demands of different access requirements:

- **AC-1:** Use the AC-1 when powering modules from a Andover Continuum power supply. (AC-1 has a 24VDC power input only.) The AC-1 supports Wiegand/Prox cards and 5 V/12 V reader power (switch-selectable).

- **AC-1A:** Use the AC-1A if you are powering modules from a local 12VDC power supply. The AC-1A offers an extended 10-28VDC power input. (Power supply can also power any 12 V prox readers you may be using.) The AC-1A supports Wiegand/Prox cards, and 5 V reader power only.

- **AC-1PLUS:** The enhanced version. Use the AC-1Plus when using mag stripe or Cardkey readers, ADA sequences that require extra inputs, special door unlock/door ajar times for disabled persons, and jobs that require reader tamper detection. The AC-1Plus offers an extended 10-28VDC power input (power supply can also power 12 V prox readers), and supports 5 V reader power only.



AC-1 AND AC-1A:

Both the AC-1 and AC-1A provide full I/O for an access controlled door or portal in one compact module. Each can be located near an access controlled door for localized control and reduced wiring costs; or several AC-1 modules can be grouped together and DIN rail-mounted for centralized control.

The AC-1 provides a Wiegand card input for Wiegand swipe and proximity type cards, reading up to 64 bits per card. Reader power is switch-selectable between 5V and 12V to meet most card reader power requirements.

The AC-1A provides a Wiegand card input for Wiegand swipe and proximity type cards, reading up to 64 bits per card. Reader power is 50 mA at 5V. The module itself can be powered by a voltage source that can range from 10-28 VDC.

Each module has two 5 A, Form C relays—one for the door lock and a second for local alarm annunciation. Each output has an integral hand-off-auto switch for manual operation, and software feedback of the switch position.

Up to three supervised alarm inputs can be used for door status contacts, request-to-exit devices, a cabinet tamper switch, or any other two-state or three-state (on/off/trouble) alarm device.

AC-1PLUS:

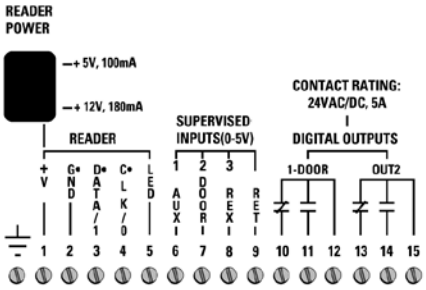
The AC-1Plus, Andover Continuum's full-feature access control module, provides full I/O for an access controlled door or portal in one compact module. The AC-1Plus supports multiple card formats, ADA (Alternate Door Access) doors, and multiple reader LED patterns. In addition, built-in reader supervision is provided—one LED will periodically check for voltage, absence of voltage, or shorts, and expose any of these conditions to the user for security purposes.The AC-1Plus can be located near an access controlled door for localized control and reduced wiring costs; or several AC-1Plus modules can be grouped together and DIN rail-mounted for centralized control.

The AC-1Plus provides a Wiegand card input for Wiegand swipe and proximity type cards, reading up to 64 bits per card. The AC-1Plus also supports CardKey cards, reading up to 34 bits per card, and ABA card readers. Card reader power is 50 mA at 5V .

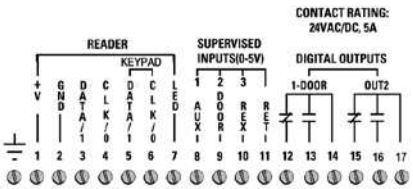
The AC-1Plus has two 5 A, Form C relays — one for the door lock and an auxiliary output for local alarm annunciation, for example. Each output has an integral hand-off-auto switch and software feedback of the switch position.

The AC-1Plus provides five supervised input channels, configurable as an exit request, door switch sensor, ADA exit request, bond sensor, or as a general purpose supervised input point.

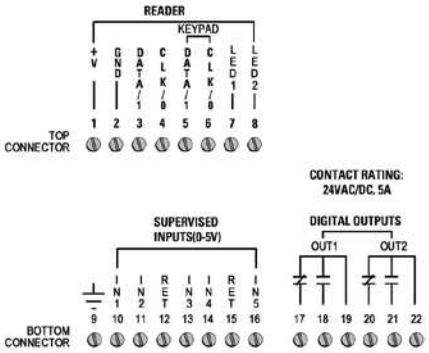
AC-1 CONNECTIONS



AC-1A CONNECTIONS



AC-1PLUS CONNECTIONS



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KEYPAD CONTROL

The AC-1 supports Wiegand output keypads. To simplify installation and reduce wiring costs, the keypad data comes into the module via the reader data lines.

The AC-1A supports Wiegand output keypads. To simplify installation and reduce wiring costs, a combination Wiegand output reader/keypad may be used. In this case, the keypad data comes into the module via the reader data lines. In addition, the AC-1A allows separate wiring of both a Wiegand output keypad and reader.

The AC-1Plus supports Wiegand or ABA output keypads. To simplify installation and reduce wiring costs, a combination Wiegand (or ABA) output reader/keypad may be used. In this case, the keypad data comes into the module via the reader data lines. In addition, the AC-1Plus allows separate wiring of both a Wiegand (or ABA) output keypad and reader.

ACCESS CONTROL

During normal operation of the AC-1 modules, access decisions are made in the Andover Continuum NetController II CPU, which provides storage for 218,000 to 480,000 "local" personnel records. In addition, the NetController II's event buffer is software-configurable to allow for the most optimized memory usage. If network communications are interrupted, the AC-1 will revert to a programmable degrade mode of operation, providing uninterrupted card access using site codes, card formats, and other degrade mode parameters stored in non-volatile EEPROM such as multiple card types (including custom format) and four site codes per each card type. ADA doors are also supported in degrade mode.

Access can be granted based on site code only, site code plus card, card only, card plus personal ID number (PIN), or keypad only. The door's operating mode can even be changed based on time-of-day or other events for optimum flexibility through TAC's easy-to-use Andover Plain English programming language. Each keypad can also permit entry of a duress alarm code that can initiate an alarm sequence at any AC-1 controller or at the Andover Continuum workstation.

Time-based anti-passback and entry/egress anti-passback are available to prevent tailgating. Entry/egress anti-passback is system-wide and can be performed by readers located on different AC-1 controllers across the network.

Using Andover Plain English, the AC-1 can also be used for custom access control sequences such as two-man rule, optical turnstile control, and man trap configurations.

SPECIFICATIONS

ELECTRICAL

Power Consumption

AC-1: 2.6 W plus reader power consumption at 24VDC max.

AC-1A: 2.0 W at 10-28VDC plus reader power consumption

AC-1Plus: 2.2 W at 10-28VDC plus reader power consumption

INPUTS

Card Readers

1

Card Reader Type

AC-1, AC-1A: Supports Wiegand swipe and proximity readers

AC-1Plus: Supports Wiegand, Proximity, CardKey, and ABA readers

Maximum Number of bits/Card

AC-1, AC-1A:
64

AC-1Plus:
64 for Wiegand and Proximity
34 for CardKey

Card Reader Power

AC-1:
5 VDC or 12 VDC (switch selectable)

Switch Setting: +5 V
Output Voltage: +5.20 V ±0.05 V
Output Current: 120 mA (max.)

Switch Setting: +12 V
Output Voltage: +12.0 V ±5%
Output Current: 180 mA (max.)

AC-1A, AC-1Plus:
5 VDC, ± 3%, 50 mA, Current Limited

Distance, Card Reader to AC-1, AC-1A or AC-1Plus

500 ft. max. using 18-ga. wire
200 ft. max. using 22-ga. wire

Alarm Inputs

AC-1, AC-1A:
Up to 3 supervised inputs. Single or double resistor supervision, series or parallel

AC-1Plus:
5 supervised inputs. Single or double resistor supervision, series or parallel

OUTPUTS

Door Outputs

2 Form C relays

Output Rating

5 A @ 24 V AC/DC

Overrides

3-position manual override switch on each output for manual control of relay. LED override status indicator

Override Feedback

Override detection and software feedback provided for each output

Reader LED Output

AC-1: Open collector; up to 50 mA

AC-1A: Open collector; up to 100 mA

AC-1Plus: 2 open collector; up to 100 mA. Choice of 3 LED patterns

Inputs/Output Connections

AC-1: Two-piece, 16-position removable terminal block

AC-1A: Two-piece, 18-position removable terminal block

AC-1Plus: Removable terminal blocks: (2) 8-position; (1) 6-position

USER LEDS/SWITCHES

Status Indicator LEDS

Power	Power Indicator
Comm	TD Indicator
Override	Common Override Indicator
Status	Service/Wink Indicator
Out1 - Out2	Two Output Status Indicators
+5 V Reader Power	5 V Reader Power Indicator
AC-1 Only:	
+12 V Reader Power	12 V Reader Power Indicator

Switches

Commission
Reset

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