

Infinity

ACX 780, ACX 781 Access Control Units and Expansion Module

The *Infinity* ACX 780 is a programmable, stand-alone access controller that is a basic building block of the *Infinity* Security Management System. Each ACX 780 controls access to 8 doors, and makes access decisions based on its own distributed data base. Each door may be controlled by a reader, keypad, or a combination of both for high security. Up to 62 ACX 780s may be networked to one network controller. In addition, the ACX 780 may be networked with other *Infinity* controllers including the IDX 800 Intrusion Detection Controller, LCX 890 Lighting Controller, and the DCX 250 Touch Screen Display for a fully integrated system. Resident intelligence at the ACX 780 level allows for database storage up to 6,500 cardholders.

The ACX 780 comes in a rugged locked enclosure, with status indication of power, CPU, output status, and override conditions. Input power is switch-selectable between 115 or 230 VAC, and a built-in UPS provides up to 2 1/2 hours full operation in the event of a power failure.

The ACX 781 is designed to meet the access demands of larger sites with storage capacity for up to 20,000 cardholders. The ACX 781 ensures both high-volume and reliable data storage and fast validation speed at the local controller level for facilities with thousands of employees, a single perimeter entrance, or a large parking area.

With the addition of the field-mountable ACX 781 Expansion Module, personnel record storage capacity can be expanded even more. Up to 57,000 card records can be stored in an ACX 781 controller with *Infinity* versions 2.16 or later; storage capacity increases to 87,000 card records with *Infinity* version 3.0 or greater. The Expansion Module mounts conveniently in the door of the ACX 781 controller unit. Power and data communication signals from the ACX 781 to the Expansion Module are provided via a 25-pin cable.



FEATURES

- **Robust Stand-Alone Eight-Door Access/Security Controller**
- **UL 294, UL 1076 Agency Listings**
- **Peer-to-Peer Communications Provide Transparent Data Transfer**
- **Local Storage for up to 87,000 Cardholders (ACX 781 with Expansion Module)**
- **UPS Back up for 2 1/2 Hours Full Operation**
- **Two Built-In Tamper Switches with Alarm Notification**
- **Software-Selectable Wiegand or ABA Reader Protocols**
- **Wiegand, Proximity, and Magnetic Stripe Reader Support**
- **Support for Up to 8 Keypads and 32 Supervised Alarm Inputs Offers Optimum Flexibility in Door Control**

COMMUNICATIONS

Communication to the *Infinity* ACX 780 series is handled via the Infinet bus, a twisted pair, half duplex RS-485 interface. Communication is accomplished with a token passing protocol which provides full transparent data transfer between all *Infinity* controllers on the network. ACX 780 series nodes have priority status on the bus to ensure the fastest possible alarm throughput.

INPUTS

The ACX 780 contains inputs for eight Wiegand *or* ABA protocol card readers (software selectable), eight 3 x 4 matrix keypads, and 32 supervised alarm inputs. (The ACX 781 supports Wiegand only). The alarm inputs can be used for door status contacts, request-to-exit devices, and any other two-state or three-state (on/off/trouble) alarm device. Two built-in tamper switches provide alarm notification when either the cabinet door is opened or when the unit is removed from the wall.

OUTPUTS

The ACX 780 series has eight 5 amp, Form C relay outputs for door control. A ninth Form C relay is available for local alarm functions, or can be controlled by a custom program residing in the controller. Each output has an integral hand-off-auto switch for manual operation, and includes software feedback of the switch position.

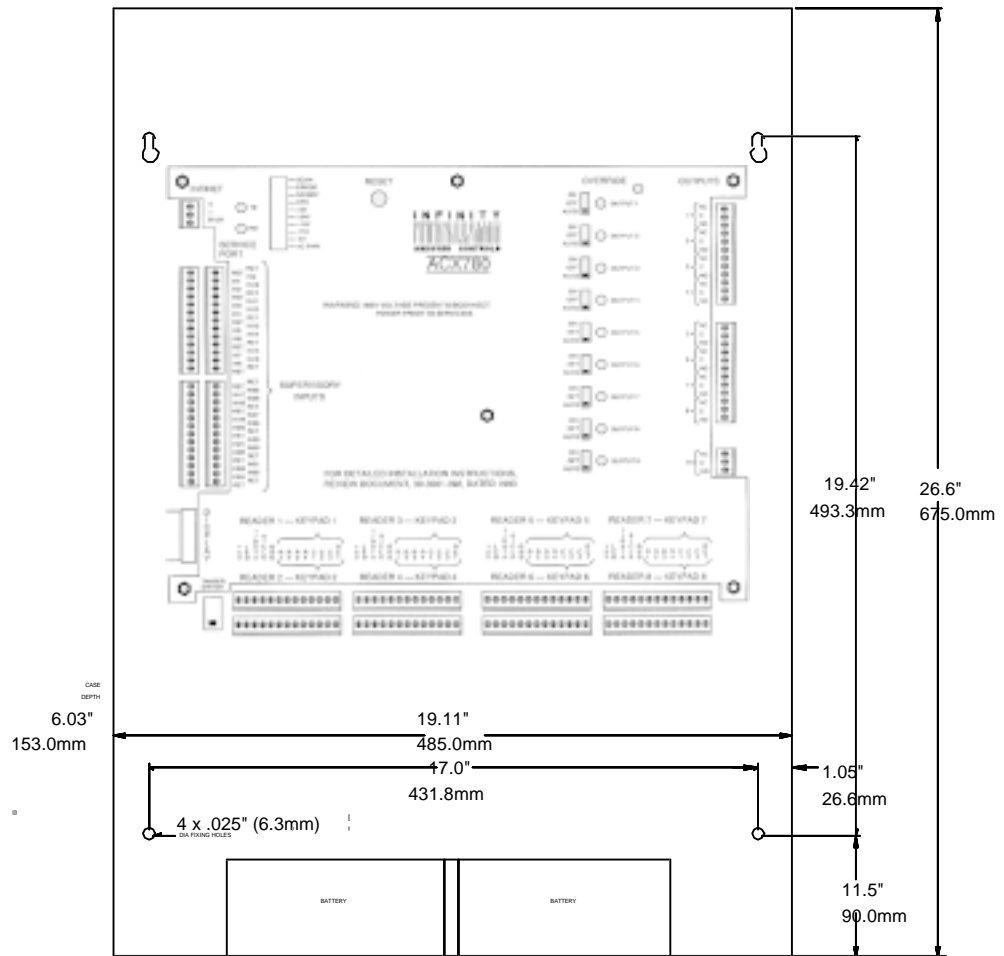
PROGRAMMING

A fully prompted access control database editor makes data entry easy for reader and door configuration, personnel changes, scheduling, and alarm definition. Additional database storage capacity is provided at the network controller level, and at the workstations. Site codes, card formats and other degrade mode parameters are stored in non-volatile EEPROM in each ACX 780. In addition, the ACX 780 series allows for a maximum event buffer of 1000 events. Events are automatically uploaded to the workstation when communications resume.

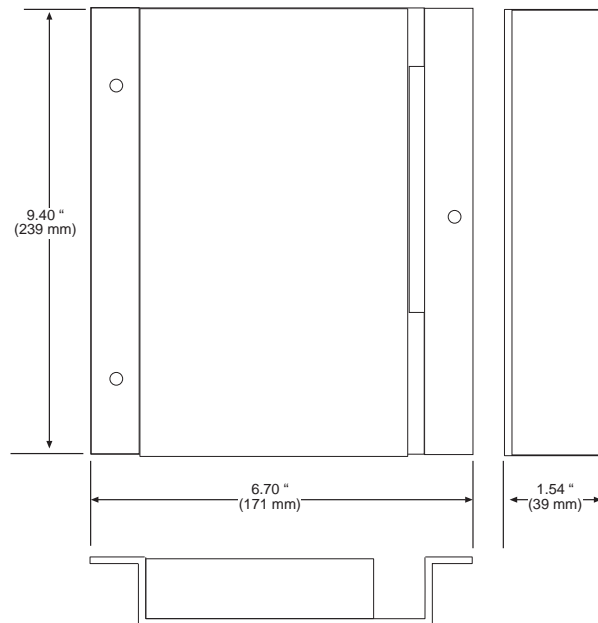
Each door can be configured to operate based on card only, card plus personal ID number (PIN), or keypad only (ACX 781 does not support keypad only). The door's operating mode can even be changed based on time-of-day or other events for optimum flexibility, through Andover's easy-to-use *Plain English* programming language. Each keypad can also permit entry of a duress alarm code that can initiate an alarm sequence at any of the controllers or at the 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 controllers across the network.

Using *Plain English*, the ACX 780 series can also be used for custom access control sequences such as two-man rule, optical turnstile control, and man trap configurations.



ACX 780 Dimensional Drawing



ACX 781 Expansion Module Dimensional Drawing

SPECIFICATIONS

ELECTRICAL

Power:	120 / 240 VAC, switch-selectable
Power Consumption:	75 VA ACX 780, ACX 781); 80 VA (ACX 781 w/Expansion Board)
Overload Protection:	Fused with 2 amp slow-blow fuse. MOV protected.
Real-Time Clock:	Battery backed clock, synchronized through Infinet by Network Controller.

MECHANICAL

Operating Environment:	32 to 120°F (0° - 49°C), 10 to 95% RH (non-condensing)
Size:	26 1/2"H x 19"W x 6" D (673.1 H x 482.6 W x 152.4D)mm
Weight:	50.0 lbs. (22.7kg)
Enclosure Type:	NEMA 1-style enclosure, flammability rating of UL 94-5 V, IP 20

BATTERY

Battery Backup:	Two 12V 6.5AH sealed rechargeable batteries programmable for 2 1/2 hours full UPS/72 hours memory and real-time clock. Expandable by use of greater amp hour batteries. Charge time will vary. Contact Andover Controls for details.
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COMMUNICATIONS

Communications Interface :	Through Infinet field bus to Network Controllers
Communications Speed:	1200 to 19.2k baud
Bus Length:	4,000 ft. (1,220m) standard for Infinet, InfiLink amplification module allows extension to longer distances and is required after every group of 32 units on the network.
Bus Media:	Infinet: twisted, shielded pair, approved low capacitance cable
Comm. Error Checking:	International Standard CRC 16

SPECIFICATIONS (Cont'd)

INPUTS/OUTPUTS

Inputs

Card Readers:	8
Card Reader Type:	Wiegand or ABA, software-selectable. Supports Wiegand, Proximity, and Magnetic Stripe readers. Wiegand/ABA selection applies to whole panel. ACX 781: Wiegand only
Maximum Number of Bits/Card:	64 (Wiegand), 256 (ABA-ACX 780 only)
Card Reader Power:	5 VDC, 35 mA per reader
Distance Card Rdr. to ACX 780:	500 ft. maximum using 18 gauge wire
Keypad Inputs:	8
Keypad Type:	3 X 4 matrix keypad (2 of 7)
Alarm Inputs:	32
Input Type:	Single or double resistor supervision, series or parallel
Input Protection:	24 VAC/DC continuous shorting
Tamper Switch:	2 (Cabinet door and cabinet rear)

Outputs

Door Outputs:	8 Form C relays
Auxiliary Output:	1 Form C relay
Output Rating:	120 VAC/30VDC, 5 amp
Output Protection:	1500 V transients.
Overrides:	Each output is equipped with a three-position switch for manual control of the relay. Switch position is viewable and logged through software.

CONNECTIONS

Power:	Three-position barrier strip
Inputs:	Removable two-piece terminal strip
Outputs:	Removable two-piece terminal strip
Communications Bus:	Removable two-piece terminal strip

SPECIFICATIONS (Cont'd)

GENERAL

Memory:	1 MB RAM , 512K EPROM, 4K bits EEPROM
Max Personnel Rcrds/780:	6,500
Max Personnel Rcrds/781:	20,000
With Expansion Module:	57,000 (< <i>Infinity</i> 3.0); 87,000 (<i>Infinity</i> 3.0 or greater)
Max Personnel Rcrds/Database:	57,000 (< <i>Infinity</i> 3.0); 4,000,000 (<i>Infinity</i> 3.0 or greater)
Max Event Buffer Size:	1000

AGENCY LISTINGS

UL/CUL 916, 1076, UL 294 for Access Control, FCC, CE
(ACX 781 Expansion Module listings - Pending)

OPTIONS

- Expansion Module (ACX 781 only)
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