



CARD ACCESS INSTALLATION STANDARDS

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SECOND DRAFT

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Universal Requirements:

The USFSP Casi-Rusco Card Access System is designed to provide access control to campus buildings without the need for staff to manually lock and unlock perimeter exits. It can also provide access control to building offices, computer labs and high-security areas. In the case of perimeter control, *each* exterior door must be equipped with the following hardware:

- Fail-secure (locked when unpowered) electric locking device (electric strike or electric panic device)
- Door contact/switch (to monitor the status of the door <open/closed>)
- Motion/Request-To-Exit Sensor (RQE) (shunts the door contact break when the door is opened from the inside)
- Steel, key-removable center mullion for double-door exits with a separable connector for wiring harness (unless double door with electric panic device is *specifically* requested)

Designated exterior doors will be equipped with a Casi-Rusco 1000 magnetic stripe/proximity dual technology card reader. Designated interior doors will be equipped with a Casi-Rusco 940/941 proximity card reader. One CASI Micro/Reader Junction Box (M/RJ box) is required for each reader and must be installed on the secure side of the door. All M/RJ boxes must be wired to a Micro/5 8RP reader option board (2RP boards are not allowed). At least one (1) exterior door will be designated to be equipped with a key-override for emergency and maintenance personnel use in the event that the Card Access System is not available (e.g. power failure) and **no** other exits are to have key accessibility unless specifically called for. The location of the key-override exterior door is typically determined either by the location of the Knox Box, if installed, or by the location of the fire alarm annunciator panel.

Door hardware selection is to be carefully coordinated with USFSP Design Guidelines and the Physical Plant Lockshop. The responsibility for wiring of the hardware and Card Access System components needs to be carefully and specifically defined for hardware, electrical, and card system contractors. All of the information contained within is subject to change without notice; all reasonable efforts are made to keep this manual up-to-date.

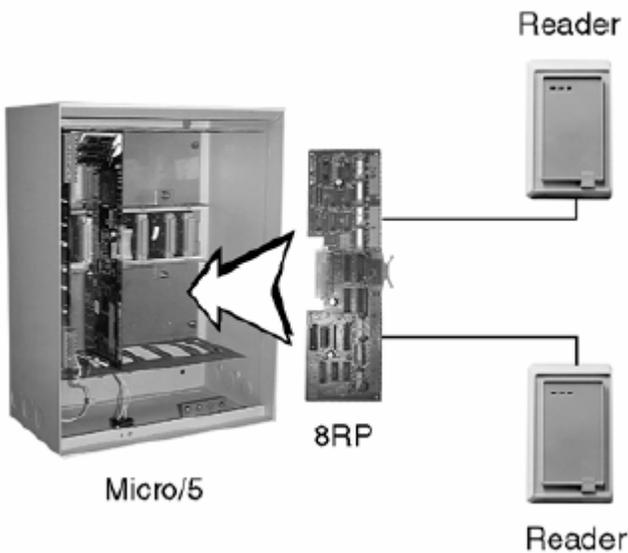
Access Control Hardware:

The controlling hardware is proprietary hardware manufactured by the Casi Rusco division of GE Interlogix. Local vendors known to USFSP are ADT, Best Access Systems, Security One and Siemens. It is powered using Secure Perfect Access Control 6.0 on a Microsoft® Windows XP platform. Secure Perfect has the ability to adapt to USFSP's growing needs. This system is easy to configure, operate and support with a graphical user interface and a relational database. Direct and LAN/WAN connected control panels are supported for maximum flexibility. Multiple workstations and all major card and reader technologies can be integrated into all levels. **No substitutions are acceptable.** Descriptions of hardware typically used by the USFSP are listed on the next page.

- Micro 5/PXN: Intelligent Controller, which controls all devices. A field-configurable Ethernet network microcontroller for Secure Perfect access control and alarm monitoring system. Operates on a standard PCMCIA card and supports dial-back communications and remote alarm management. An Ethernet connection and static IP address is required for communication with the main file server. The PXN firmware must be at least 6.0.02. Check with the Office of Campus Computing to determine if a newer version is required.



- 8RP Card
The Micro/5 8RP reader option board is suitable for use with F/2F and Supervised F/2F readers, and is compatible with all CASI systems. Both the Micro/5-PX and the Micro/5 PXN can be configured to support 16 readers.



- Micro/PXN-2000: combines the most popular options from the CASI Micro/5 product family into an integrated and self-contained access control and alarm-monitoring panel. The Micro/PXN-2000 is the economical choice when the building only requires 4 readers. The Micro/PXN-2000 can co-exist in combination with Micro/5-PX or Micro/PX-2000. System computer to first microcontroller communication is Ethernet, while microcontroller to microcontroller communication is RS422. The Micro/PXN-2000 has 4 reader ports, 10 supervised digital input and 8 relayed digital output points. A circuit breaker protected 110VAC or 230VAC-transformer supplies power. The Micro/PXN-2000 includes a battery back-up power supply and gel-cell battery. The all-steel enclosure, with a key-lock and tamper switch protected door, houses the microelectronics and the back-up power battery.

Micro/PXN-2000

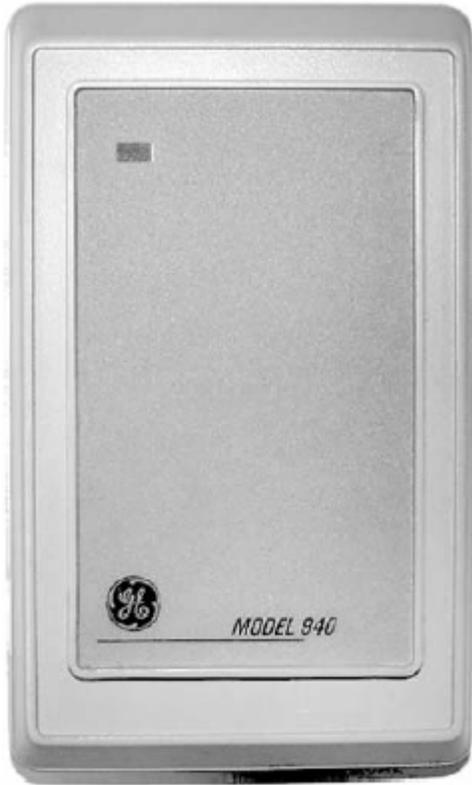


- **Micro Reader Junction Box (MRJ):** The CASI Micro/Reader Junction Box (M/RJ box) provides a cost-effective union point for the complete wiring of microcontrollers, readers and door controls. The M/RJ box standardizes and simplifies wiring connections by bringing all reader, microcontroller, door lock and digital input (DI) connections to one point.



- The GE Model 940/941 Proximity Perfect™ reader represents the latest in proximity technology, and offers true contactless convenience when entering and exiting secure facilities. The Model 940 features two-state intelligent supervision, and an environment optimization technology that automatically adjusts to different types of installation environments. The Model 940 is easy to install on conventional walls, metal surfaces, and into single-gang US electrical boxes. Intelligent two-state supervision that continuously monitors for alarm conditions at the reader, door contacts, and REX connections. The Model 940 reader features intelligent two-state operation that continuously monitors for closed circuit conditions at door contacts, as well as request to exit (REX) connections. The Model 940 also ensures security personnel are notified if a reader is tampered with, or communication is lost between the reader and microcontroller—making the GE Model 940 one of the most secure readers on the market.

The GE Model 940/941 Proximity Perfect Reader

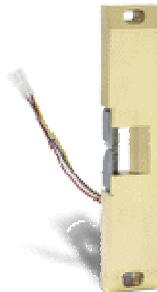


Door Hardware:

Door hardware is not proprietary, and can be obtained through most lock/security distributors (e.g. ADI of Clearwater). While ADT, Best Access, Security One or Siemens install the proprietary Casi Rusco hardware, the card access contractor typically wires everything and installs everything *except* the electric locking devices unless contracted to do so.

Electric Strikes:

- HES Genesis 9600: This strike is surface-mountable, and jamb preparation is typically limited to drilling 3 holes to accommodate wire and strike installation. The strike voltage is field-selectable at either 12 or 24 volts, and should be set up to utilize 24 volts. In some cases the HES 9600-108 spacer plate (shim) may be needed to mount the strike closer to the latch on the panic device. It is designed to be used with rim-mounted exit devices, and is the preferred device to use for perimeter exits.



- HES 7000-24D: This strike is a lesser alternative to the Genesis 9600. This strike is not surface mountable, and is designed for rim-mounted panic devices. Unlike most other electric strikes (e.g. Von Duprin) two can be installed into a steel center-mullion successfully. Some jamb preparation is required, and steel center-mullions can be ordered prepped to accommodate this strike. This strike is *not* field selectable for voltage, so the 24 volt strike must be specified. Additionally, the HES 7000-783 strike mounting plate must be specified in addition to the strike itself. In some cases the HES 7000-108 spacer plate (shim) may be needed to mount the strike closer to the latch on the panic device.

Below are typical applications for the HES Genesis 9600 and the HES 7000-24D.



- HES 1006: This strike is not surface mountable, and is designed for use with standard locksets. Some jamb preparation is required. This strike is field-selectable for voltage, and should be set up for 24 volts. Unlike the Genesis 9600 and 7000, this strike *must* be ordered in fail-secure mode unless otherwise specified. Several strike-plate option kits are available depending on the type of lockset used.



Door Contacts/Switches:

USFSP typically uses only one type of door contact:

- Sentrol 1078-C closed-loop recessed door contact



Other types of closed-loop door contacts may be used only in situations when the Sentrol 1078-C would not be practical. Every effort should be made to use a recessed door contact. Exceptions to this must be approved by the Office of Campus Computing prior to installation. See the door contacts appendix for more information.

Motion/Request-To-Exit (RQE or REX) sensor:

USFSP uses only one type of REX:

- Detection Systems DS-150i Request-To-Exit PIR with Wrap-Around Coverage



Wire:

Wire for all hardware except for the electric locking hardware needs to be 22 AWG, colored for data, copper, stranded *and* shielded (required). Wire for the electric locking hardware needs to be 18 AWG, copper, stranded *and* shielded. Wire should be run through a metallic conduit sized to accept the required quantity of wires. Flexible metallic conduit may also be used in situations which warrant its use. Plastic conduit and surface-mounted wire mold are not acceptable. Wiring may be run exposed in accessible ceilings when necessary or practical; wire not run through conduit **must be plenum rated**.

Specific wiring requirements are as follows (maximum distance 1000 feet):

- Proximity Card Reader (12V): Less than 500 feet 3 pair 18-22 AWG stranded and shielded, If the distance is greater than 500 feet or the current per reader is greater than 150mA use Belden 8725 or equivalent 20-AWG, 4-pair twisted shielded wire.
- RQE: 4-con 22 AWG stranded *and* shielded*
- Door Contact: 2-con 22 AWG stranded *and* shielded*
- Electric locks: 2-con 18 AWG stranded *and* shielded

* This can be run through one 6-con 22 AWG stranded *and* shielded cable

3-5 feet of extra wire should be left both at the panel and at the door for terminations.

Computer Requirements:

The Office of Campus Computing currently supports a Dell Optiplex GX260 Pentium 4 server running Secure Perfect 6.0, which is required to operate the system. The Micro 5/PX, Micro 5/PXN and Micro 2000PX building controllers communicate with the Dell Optiplex GX260 using RS232, RS422 or 100 Mb Ethernet depending on the system architecture. All Micro PXN connections require a 100Mb Ethernet connection for server communication (this should be specified as part of the project data wiring), along with a static IP address. If an RS-232 (serial) connection is used, the client computer must be located less than 100 feet from the Micro 5/PX building controller, otherwise a 100Mb Ethernet connection will be required for the client computer. The firmware on the Micro 5/PXN must match the Secure Perfect software version.

Power Supplies – Locks:

Power supplies will vary depending on the type of electric locking devices used (electric panic devices vs. electric strikes). In all cases when electric strikes are used, 24-volt power supplies are required. Either of the following power supplies may be used for electric strikes. Power supplies should be sized to accommodate the number of strikes and exit devices being installed. Power supplies may either be plugged in to a properly grounded electrical outlet or be hard-wired directly into a properly grounded power circuit.

- AlarmSaf: CPS400C-UL/CSA. This power supply is field-selectable at 12 or 24 volts; 4 amp continuous power supply at either 12 or 24 volts. This is the preferred power supply for this application.
- Altronix: AL600ULX UL listed. This power supply is field-selectable at 12 or 24 volts; 6 amp continuous power supply at 24 volts, 6 amp continuous power supply at 12 volts
- Altronix: AL400ULX UL listed. This power supply is field-selectable at 12 or 24 volts; 3 amp continuous power supply at 24 volts, 4 amp continuous power supply at 12 volts. This power supply is not preferred for 24 volt applications, due to the lower amperage output at 24 volts, but will work if the AlarmSaf is not available.

A power supply meeting the above minimum requirements may be substituted, subject to prior written approval from the Office of Campus Computing.

Power Supplies – Access Control Hardware:

A 12-volt power supply is required for the access control hardware. The AlarmSaf CPS400C-UL/CSA or the Altronix AL600ULX UL are the preferred power supplies for this application.

Physical Location Requirements:

The equipment required to operate the Card Access System must be installed in specific locations and environmental conditions. All components are to be installed in accordance with the manufacturer’s instructions.

Physical Location Requirements – Access Control Hardware:

Within the building, space will be needed to accommodate the access control hardware, including the panel, the reader interface devices, the power supplies (both for locks and for hardware). Wall space of approximately 6’ x 6’ should generally be sufficient depending on the number of devices within a building.

The amount of floor space in front of the hardware should be sufficient for one or two people to service the hardware as needed, as well to allow room for a small table or shelf upon which to place the computer. The potential for system expansion should be taken into account when determining where the hardware is to be mounted. The equipment should be located safely away from such equipment as water main lines, electrical panels, custodial sinks, chillers, etc. While the access control microcontrollers are rated to function in temperatures from +2°C to 50°C (+35°F to 122°F), it should be noted that computers typically don’t function well in temperatures above 32°C (90°F). Provide 1 double-duplex grounded outlet on a dedicated circuit and an Ethernet connection.

Here is a typical installation at USFSP:



Microcontroller and Power Supplies

Physical Location Requirements – Card Reader Locations:

The card reader is a surface mountable device designed for indoor and outdoor use. It is designed to be resistant to severe weather, and is rated to function in temperatures from -35°C to 66°C (-31°F to 151°F) and in humidity levels of up to 95%. The card reader is hard-wired (not RF), and may be mounted directly onto the building, onto a metal plate which is then mounted to the building, onto a gooseneck pedestal, or onto an interior wall. In situations involving elevator access control, the card reader may be mounted directly to the button panel inside the car in cases of individual floor control, or in a reasonable location close to the hall call button for general elevator access control. In some cases, the reader may be installed along with other devices, such as an automatic opener button.



Physical Location Requirements – Door Contacts:

Door contacts should be mounted either in the top of the door frame (single or double doors) or in the side of the door frame close to the lockset or rim-mounted panic device (single doors only). In cases when the door contact is mounted in the top of the door frame, it should be 3 to 6 inches from the latch side of the door. In all cases, the wired component of the door contact should be mounted in the door frame and the magnet component of the door contact should be mounted in the door. Additionally, the door contact should not interfere with the door's operation; the two components should not be in physical contact.



Physical Location Requirements – Motion / Request-To-Exit Sensors:

The DS-150i is surface-mountable and should be mounted centered above the door in both a single-door and a double-door case. The sensor should be mounted directly to the door frame or the wall, and not to a ceiling tile or other "less permanent" fixture.



Hardware and Physical Location Requirements – Sliding Exit Doors:

GE Interlogix Casi Rusco access control hardware is compatible with sliding doors. In most cases, the access control hardware may be tied into the sliding door controller. A Casi Rusco 1000 reader is typically required for exterior doors. If a card reader is specified for use at a sliding door, then it should be mounted either directly next to the exterior door or onto a gooseneck pedestal placed in or near the “line of sight” of the sliding door’s electronic eye.



Questions / Contacts:

Questions regarding the USFSP Card Access System should be directed to:

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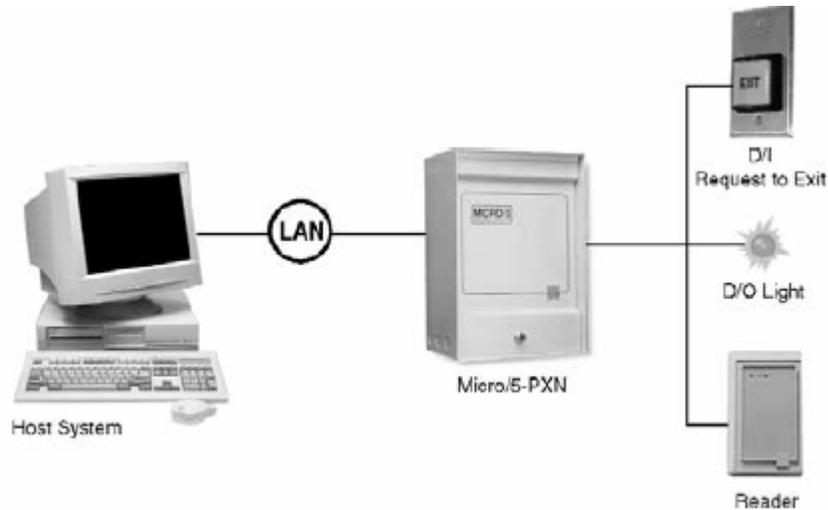
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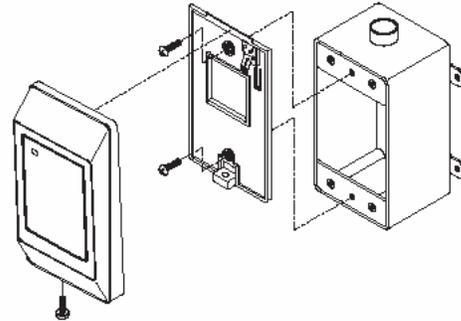
GE Interlogix Casi Rusco Hardware:



- UL 294 and UL 1076 listing
- Microcontroller stores up to 28,000 card holders and 8,000 transactions
- Communicates via RS-232 direct, RS-422, 10/100 Ethernet and modem
- Supports 2-8RP reader interface boards, up to 16 M/RJ connected readers
- Supports up to 4-2RP reader interface boards, 2 card readers per board directly connected
- Secure Perfect 6.0 Professional supports a maximum of 32 microcontrollers, 256 readers, 25,000 person access card database, 2560 input points (door contact), and 2048 output points.

Model 940

2-State Proximity Perfect Reader



Weather Resistant/Lifetime Warranty

The Model 940 reader housings are made of durable UV-resistant polycarbonate material that inhibits discoloration in all types of indoor/outdoor conditions including direct sunlight. The reader also features advanced electronics and circuitry for protection against inclement weather. Combine all this protection with a lifetime warranty, and any organization can confidently expect years of exemplary reader service.

100% GE Quality and Service

The GE name represents 100% high-quality security products, cheerful customer service, and trained customer support technicians to help you with any question. These are just a few reasons why over 75% of the Fortune 100 companies use GE access control systems, readers, and cards. We invite you to choose GE, the strongest name in security to protect your organization's personnel and property.

Technical Data

SPECIFICATIONS

Color Options:	Gray or Black
Physical Dimensions (HWD):	4.75 in x 2.90 in x 0.90 in (121 mm x 74 mm x 23 mm)
Operating Temperature Range:	-31° to 151° F (-35° to 66° C)
Relative Humidity:	5% to 95% (non-condensing)
Minimum Wiring:	4 conductors (minimum)
Certifications:	FCC Part 15, CE Mark, UL 294 (pending)
Cabling Distance:	3,000 ft (914 m) using 20 AWG @ 12 VDC
Compatibility:	Micro/4, Micro/5E, Micro/5P, Micro/5-PX, Micro/5-PXN, Micro/PX-2000 and Micro/PXN-2000 Compatible with all GE ProxLite and ISOProx badges and key fob credentials

How to order

- 430094001 Model 940 Proximity Perfect reader™, gray
- 430094002 Model 940 Proximity Perfect reader™, black
- 460157001 Model 940 Proximity Perfect Reader Installation Guide
- 385001001 *Installation Wrench



GE Interlogix

www.ge-interlogix.com
www.ge-interlogix.com/casi

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PRODUCT INFORMATION

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9600 Series Genesis Electric Strike

Totally surface mounted, the new 9600 Genesis requires absolutely no cutting of the door frame. The unit's contemporary, 9" x 1-3/4" x 3/4" face plate encases all electro-mechanical components making it undeniably easy to install. A patent pending, dual locking mechanism provides the holding force of two electric strikes in one - offering twice the security, twice the resistance, and twice the reliability of any strike on the market. HES Genesis accommodates rim mounted panic exit devices and can be installed on metal, wood, or aluminum jambs. Heavy-duty stainless steel construction makes it ideal for high usage applications.



Dual locking - Two heavy-duty, stainless steel locking mechanisms operate independently to provide a truly tamper resistant electric strike.

Dual operation - Simple, fail safe/fail secure operational design allows field.

Dual voltage - Low current, field selectable, 12V or 24V, AC/DC.

Dual monitoring - Optional latch bolt monitor and latchbolt strike monitor that indicates the position of the latchbolt and the locked or unlocked condition of the electric strike.

FIVE YEAR LIMITED WARRANTY

Specifications:

- Intended for U.L. 10C listing as a Fire Door Accessory Device.
- Intended for U.L. Burglary Resistance 1034.
- BHMA Standards 501, Grade 1.
- ANSI/BHMA A156 - 1992 Specification A115.6.1 Semi Rim Mounted E09311, E09312, E09313.

Standard Features:

- Durability minimum 500,000 cycles.

- Horizontal adjustment.
- Continuous duty operation.
- Tamper resistant, stainless steel construction.
- Non-handed.
- Low current draw.
- Plug-in connectors.
- Internally mounted solenoid.
- Horizontal lock down screws.

Optional Features:

- LBM - Latchbolt Monitor.
- LBSM - Latchbolt Strike Monitor.
- 7000-108 Spacer Plate.

Finish:

- Standard Finish 630 - Satin Stainless Steel.
- Available in all HES special finishes.

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7000 SERIES MODULAR DUTY ELECTRIC STRIKES FOR RIM MOUNTED PANIC EXIT DEVICES

PERFORMANCE:

- STRENGTH
- DURABILITY
- HEAVY DUTY CONSTRUCTION

The 7000 series electric strikes have been designed with the strength and durability required to secure the most demanding facility. Their heavy duty construction makes them ideal for all high usage application.

INSTALLER FRIENDLY:

The 7000 series are the first electric strikes designed to be truly "installer friendly."

- COMPACT DESIGN

The solenoid is internally mounted for compactness, making the 7000 series electric strikes very easy to install in aluminum, wood and hollow or concrete filled metal jambs.

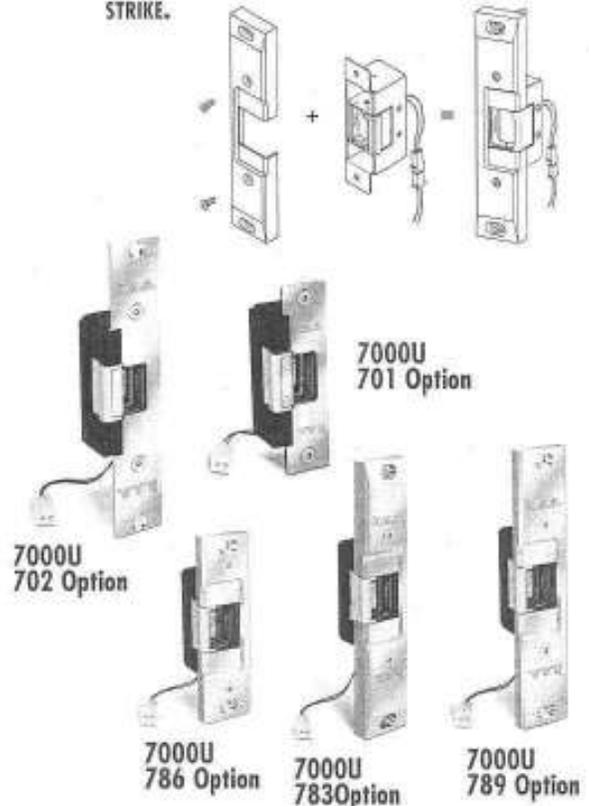
- FIELD REVERSIBLE
FAIL SECURE/FAIL SAFE

The advanced design of these electric strikes enables the user to determine the function, either fail secure or fail safe, by simply turning over the solenoid module.

- RELEASES UNDER PRE-LOAD

The 7000 series electric strikes will operate under a tremendous amount of door loading (fail secure only) which may be caused by a warped or mis-aligned door, weather stripping, a smoke seal or any other condition that may bind the door.

ALL FIVE 7000 SERIES OPTIONS ARE DESIGNED TO WORK WITH THE MODEL 7000U BASE UNIT ELECTRIC STRIKE.



The 7000 series Electric Strikes have a modular design which enables the user to determine the function, either fail secure or fail safe, at the time of installation by the positioning of the solenoid within the unit. There are five different option kits; the 701 ANSI 4-7/8" option and the 702 7-15/16" option, both of which accommodate cylindrical latchbolts up to 5/8" throw. The 783, 786 and 789 options accommodate rim mounted panic exit devices with up to 3/4" throw latchbolts. The unique design of the keeper module enables the unit to operate under a tremendous amount of door loading (fail secure only). The 7000 series have an internally mounted solenoid for compactness and ease of installation in hollow metal, concrete filled metal, aluminum and wood jambs. The heavy duty construction of the 7000 series electric strikes makes them ideal for high usage applications.

SPECIFICATIONS:

- U.L. Listed for Burglary Resistance (1034) - Applied for.
- Patent #5,484,180.

STANDARD FEATURES:

- 5 Interchangeable Face Plate Styles.
- Tamper Resistant - Heavy duty construction.
- Durability minimum - 500,000 cycles.
- Field Reversible - Fail Secure/Fail safe.
- Door Loading Resistance - Can operate under a pre-load condition (in the Fail Secure mode only).
- Non-Handed.
- Horizontal Adjustment.
- Internally Mounted Solenoid.
- Continuous Duty Operation.
- Plug-in Connectors.

OPTIONAL FEATURES:

- Model 2001 - Plug-in Bridge Rectifier for AC Operation.
- Model 2005 - SMART Pac™ in-line AC/DC Power Controller with Timer.
- Model 2006P - Plug-in Buzzer.
- Model 2009P - Plug-in L.E.D.
- ILSM - Infrared Latchbolt/Strike Monitor.
- 7000-104 - Lip Extension Trim Adapter.
- 7000-105 - "Goof Plate" Trim Adapter.

FINISH:

- Standard Finish 630 - Satin Stainless Steel.
- Available in All Popular Finishes.

ONE YEAR LIMITED WARRANTY



1006 Series Electric Strike

Strikes:

Selection

Accessories:

Selection

Fire Rated, Tamper Resistant, Ideal For Mortise and Cylindrical Lockset Applications Highly advanced, the model 1006 sets a new standard for electric strikes. An innovative dual action solenoid, combined with sophisticated tamper resistance features, transforms the 1006 from a standard electric strike into a highly secure access control device. The 1006 will accommodate all locksets and installs easily into a standard ANSI 4-7/8" cutout. Designed to satisfy today's rigorous demands for safety and security, the new 1006 is undoubtedly the strongest electric strike available.



FIVE YEAR LIMITED WARRANTY

Standard Features:

- Stainless steel construction - corrosion resistant, strong, durable
- Dual action solenoid for added security
- Tamper resistant interlocking design
- Strongest electric strike in its class
- Internally mounted solenoid
- Non-handed
- Horizontal adjustment
- Continuous duty operation
- Fail secure - unlocked when energized
- Strike depth 1-11/16"
- Plug-in connectors
- 1000-105 - "Goof plate" adapter included with each 1006 Series

Optional Features:

- LBM - Latchbolt monitor (for select 1006 series options)
- LBSM - Latchbolt strike monitor (K & KD options only - handed)

- 1000-104 - Extended lip trim adapter
- 1000-109 - 1" Jamb adapter
- 2001 - Plug-in bridge rectifier
- 2005 - SMART Pac™ II power controller
- 2505 - Power Punch power supply
- 2009P - Plug-in L.E.D.
- 154 - Metal template kit

Finish:

- 605 Bright Brass
- 606 Satin Brass
- 612 Satin Bronze
- Blk Nylon Black Coated
- 613 Bronze Toned
- 630 Satin Stainless Steel (Standard)
- 651 Polished Chrome

Electrical:

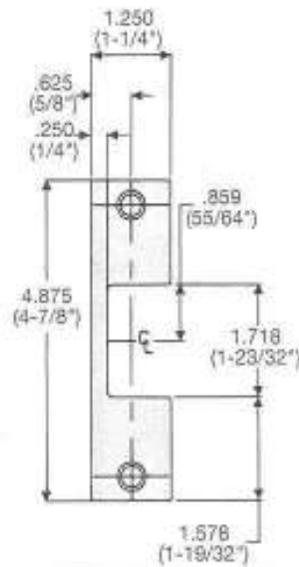
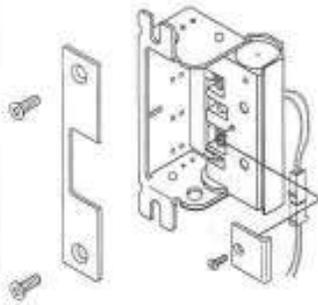
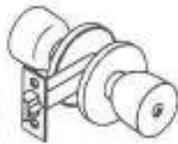
- Dual voltage – field selectable, 12 VDC or 24 VDC
- .48 / .24 Amp @ 12/24 VDC

U.L. Tested to Exceed:

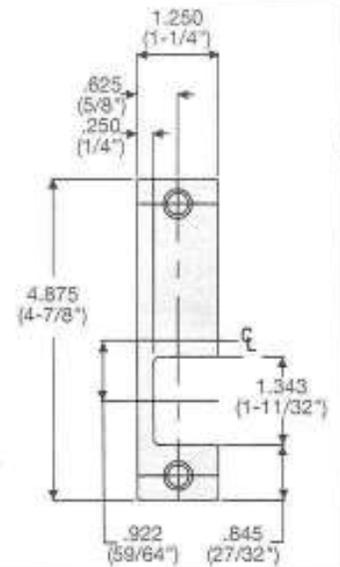
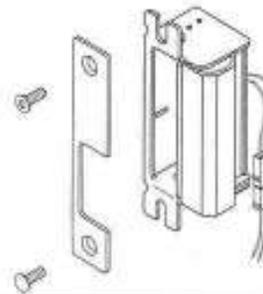
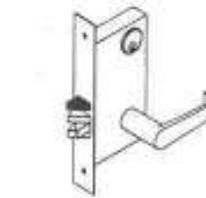
- Fire Rating - 10C 3 hr. "A"
- Burglary - 1034
- Static Strength - 1,500 lbs
- Dynamic Strength - 70 ft.
- Cycles Operations - 250,000
- ANSI - A156.5
- NFPA - 252
- Other - ASTM E152 MEA-NYC
- Static Strength - 3,000 lbs
- Cycles Operations - 2,000,000



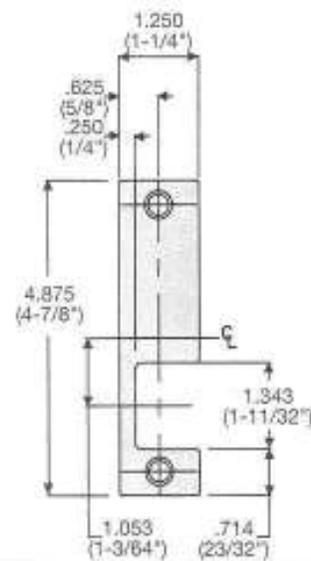
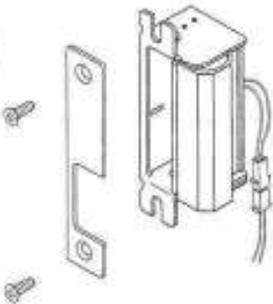
J-OPTION



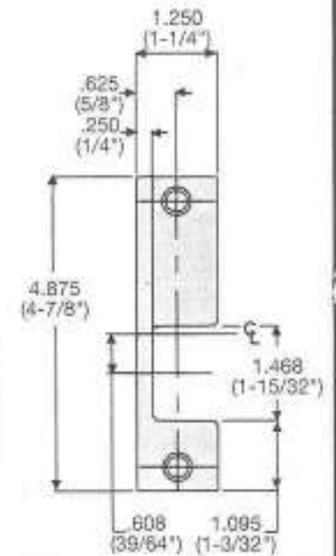
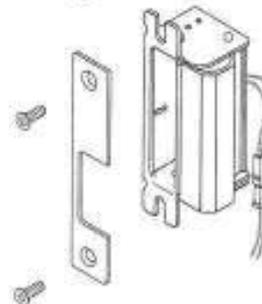
K-OPTION



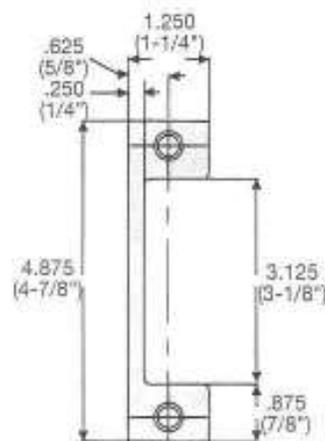
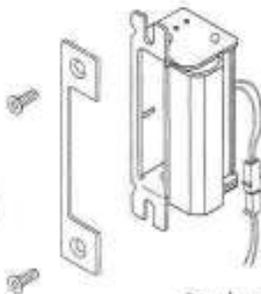
KD-OPTION



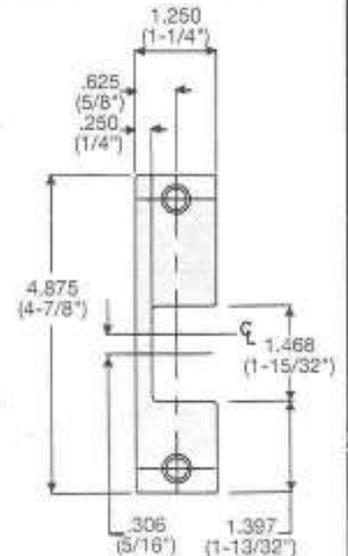
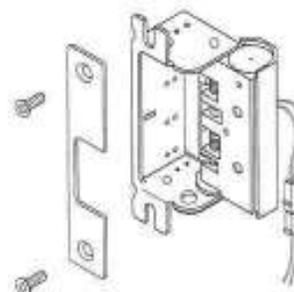
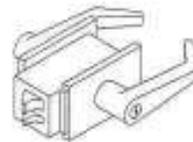
KM-OPTION



N-OPTION



Z-OPTION



Face plate dimensions are the same for the A, H and T options.

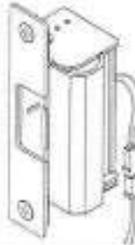
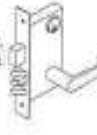
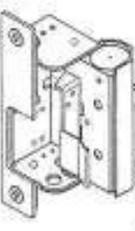
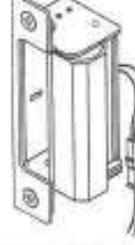
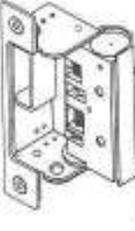
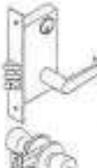
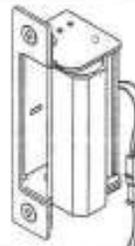
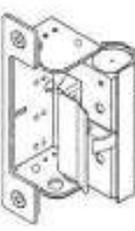
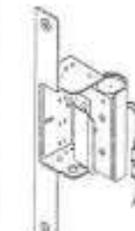
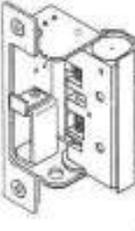
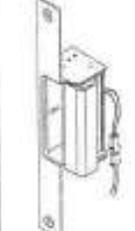
INSTALLATION INSTRUCTIONS

1003 SERIES STRIKES

READ CAREFULLY BEFORE ATTEMPTING INSTALLATION



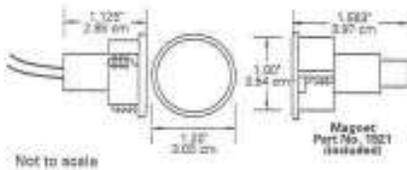
MATCHING THE ELECTRIC STRIKE TO THE LOCKSET: (Models are Field Interchangeable)

Model	Operation	Lock Type	Model	Operation	Lock Type	Model	Operation	Lock Type
	K OPTION For use with mortise locksets and mortise panic exit devices, with or without a deadbolt. (Does not require a relocation of the centerline.)	 TYPE OF LOCK RELEASED		A OPTION For use with mortise locksets with a normally extended 1" deadbolt where lockset is released, recaptured and contained.	 TYPE OF LOCK RELEASED		J OPTION For use with cylindrical locksets	 TYPE OF LOCK RELEASED
	KD OPTION For use with mortise locksets and mortise panic exit devices, with or without a deadbolt. (Does not require a relocation of the centerline.) Schlage, Sargent & Yale	 TYPE OF LOCK RELEASED		AD OPTION For use with mortise locksets with a normally extended 1" deadbolt where lockset is released, recaptured and contained. Schlage, Sargent & Yale	 TYPE OF LOCK RELEASED		E OPTION For use with Corbin/Ruswin Security Cylindrical Bolt.	 TYPE OF LOCK RELEASED
	KM OPTION For use with mortise locksets and mortise panic exit devices. (Does not require a relocation of the centerline.) Deadlocking Lever below Latchbolt	 TYPE OF LOCK RELEASED		AM OPTION For use with mortise locksets with a normally extended 1" deadbolt where lockset is released, recaptured and contained. Deadlocking Lever below Latchbolt	 TYPE OF LOCK RELEASED		R OPTION For use with swinging knobset used on narrow style aluminum doors, 3/4" to 1" throw.	 TYPE OF LOCK RELEASED
	N OPTION For use with mortise locksets where the deadbolt is used for right latch function only.	 TYPE OF LOCK RELEASED		H OPTION For use with mortise locksets where the deadbolt is not released.	 TYPE OF LOCK RELEASED		-2 OPTION For use in new or retrofit 9" jamb outlet installations. Offers six point mounting for wood installations.	 TYPE OF LOCK RELEASED
	ND OPTION For use with mortise locksets where the deadbolt is used for right latch function only. Schlage, Sargent & Yale	 TYPE OF LOCK RELEASED		T OPTION For use with mortise locksets with center deadlocking lever between latchbolt and deadbolt.	 TYPE OF LOCK RELEASED		A-2 OPTION For use with mortise locksets with a normally extended 1" deadbolt where lockset is released, recaptured and contained. Offers six point mounting for wood installations.	 TYPE OF LOCK RELEASED
	NM OPTION For use with mortise locksets where the deadbolt is used for right latch function only. Deadlocking Lever below Latchbolt	 TYPE OF LOCK RELEASED		HT OPTION For use with ASSA Model 504 double latchbolt mortise locksets. (Replaces ASSA 5470 Electric Strike.)	 TYPE OF LOCK RELEASED		N-2 OPTION For use with mortise locksets where the deadbolt is used for right latch function only. 9" jamb installations, offering six point mounting of wood installations.	 TYPE OF LOCK RELEASED

Recessed

1078 Series

1" DIA. Steel Door With Wire Leads



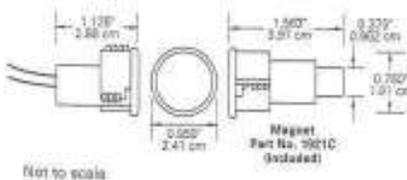
- Special design for steel mounting
- Self-lock mounting
- Rugged construction
- $\frac{3}{16}$ " dia. hole required
- UL approved for specific fire doors

ORDERING INFORMATION	Gap Size	Closed Loop	Open Loop	S.P.D.T.	Lead Type
Regular Gap Series  	$\frac{1}{2}$ " (in steel)	1078	1077 Not ULC Listed	1076	1 foot #22 wire
Wide Gap Series  	1" (in steel)	1078W	1077W Not ULC Listed	1076W	1 foot #22 wire
Biased for Higher Security Applications  	$\frac{1}{2}$ " (in steel)			1076H	1 foot #22 wire
Double Pole-Double Throw  	$\frac{3}{8}$ " (in steel)			D.P.D.T. 1076D	1 foot #22 wire

NOTE: Specify natural, gray or subway brown.
For Accessories, see page 101

1078CT Series

3/4" DIA. Steel Door With Wire Leads



- $\frac{3}{4}$ " diameter for easier drilling in metal
- Self-lock mounting
- Rugged construction
- Attractive, added security of recessed installation

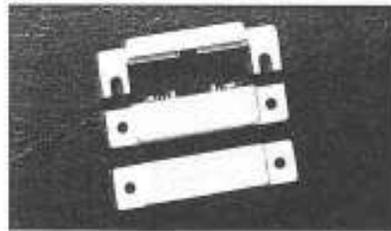
ORDERING INFORMATION	Gap Size	Closed Loop	Open Loop	S.P.D.T.	Lead Type
Regular Gap Series   Not recommended for steel	$\frac{1}{2}$ " (w/1929 magnet)	1078C1			1 foot #22 wire
Long Gap Series  	$\frac{3}{8}$ " (in steel) (w/1921C magnet)	1078C	1077C Not ULC Listed	1076C	1 foot #22 wire
Wide Gap Series  	$\frac{3}{4}$ " (in steel) (w/1921C magnet)	1078CW	1077CW Not ULC Listed	1076CW	1 foot #22 wire
Biased for Higher Security Application  	$\frac{3}{8}$ " (in steel) (w/1921C magnet)			1076CH	1 foot #22 wire

NOTE: Specify natural, gray or subway brown.
For Accessories, see page 101

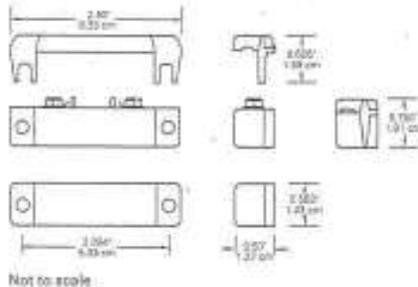
Surface Mount

1085T Series

Screw Terminal



- Ideal for residential and commercial
- Easy clamping terminals speed installation
- Convenient surface mounting
- Built-in resistors available; consult factory
- Cover, spacer, screws included



ORDERING INFORMATION	Gap Size	Closed Loop	Open Loop	S.P.D.T.	Lead Type
Regular Gap Series UL URTS	3/4" (w/1081T magnet)	1085T	1086T	1087T	#6 Screw Terminal
Wide Gap Series UL URTS	1 1/2" (w/1081T magnet)	1085TW	1086TW	1087TW	#6 Screw Terminal
Long Gap Series UL URTS	1" (w/1080T magnet)	1082T	1083T	1084T	#6 Screw Terminal
Extra Wide Gap Series UL URTS	2" (w/1080T magnet)	1082TW	1083TW	1084TW	#6 Screw Terminal
Blased for Higher Security Applications UL URTS	3/4" to 1 1/4" (w/1080T magnet)			1087TH	#6 Screw Terminal

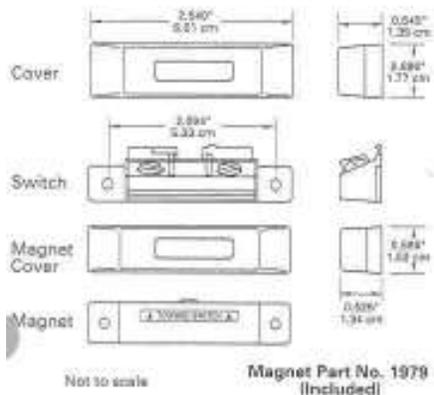
NOTE: Specify natural, gray or red/gray brown
Selected models available in white
For Accessories, see pages 95-96
Patented by U.M. patent 4,210,888

1285T Series

Designer Styled With Screw Terminals



- Ideal for residential and commercial
- Convenient surface mounting; combo head screws for quick termination
- Modern, low-profile design
- Private labeled, snap-on cover
- Angled clamping terminals for fast and easy lead connection



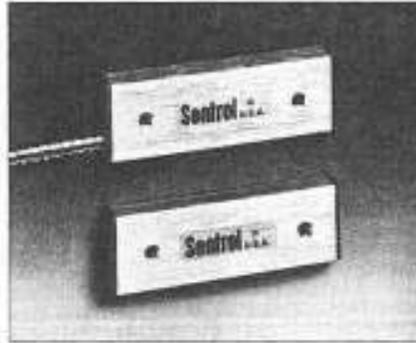
ORDERING INFORMATION	Gap Size	Closed Loop	Open Loop	S.P.D.T.	Lead Type
Regular Gap Series UL URTS	3/4" (w/1979 magnet)	1285T	1286T	1287T	#6 Screw Terminal
Wide Gap Series UL URTS	1 1/2" (w/1979 magnet)	1285TW	1286TW	1287TW	#6 Screw Terminal
Extra Wide Gap Series UL URTS	2" (w/1975 magnet)	1282TW	1283TW	1284TW	#6 Screw Terminal

NOTE: Specify natural or red/gray brown
For Accessories, see page 93

Commercial

2500 Series

Aluminum Housing Armor Cable Wide Gap



- Mounting brackets available for gates, garage doors, freezers
- Rugged construction for long life
- Convenient surface mounting
- 2507H is polarity-sensitive with reference to magnet direction

Mounting Kits for 2500 Series

1092A Garage Door Track Mounting Kit for Model 2505A

- Includes:
- 1- 1940 bracket
 - 1- 1912 bracket
 - 1- 2505A contact, mounting screws and instructions



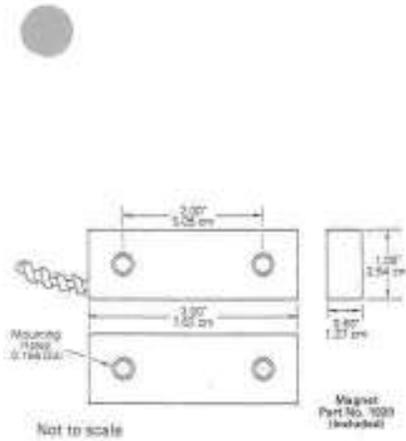
1093A Curtain Door Mounting Kit for Model 2505A

- Includes:
- 1- 1945 bracket
 - 2- 1923 magnets
 - 4- 1931 clips
 - 1- 2505A contact



1094A Chain Link Fence Mounting Kit for Model 2507AH

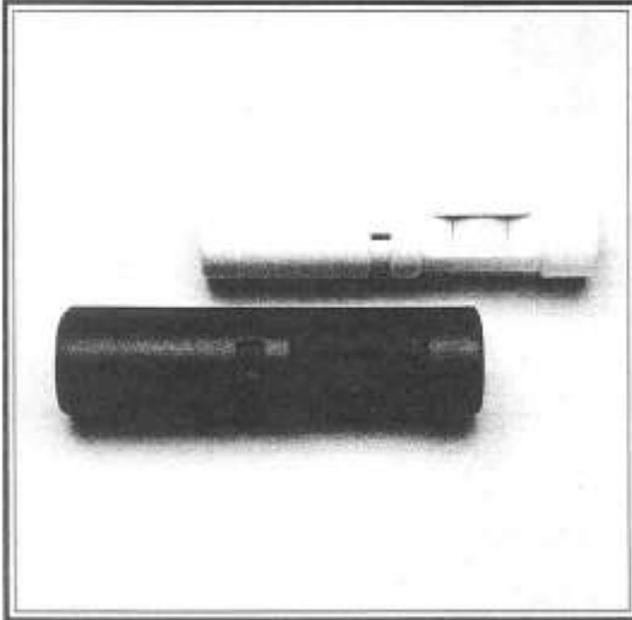
- Includes:
- 1- 1941 bracket
 - 1- 1942 bracket
 - 1- 2507AH contact, mounting screws and instructions



ORDERING INFORMATION	Gap Size	Closed Loop	D.P.D.T.	S.P.D.T.	Lead Type
Wide Gap Series UL LISTED UIC	3"	2505A		2507A	3 foot Stainless Steel Armored Cable
Double Pole Double Throw UL LISTED	1 1/2"		2507AD		3 foot Stainless Steel Armored Cable
Baised for Higher Security Applications UL LISTED	3/4" to 2 1/2"			2507AH	3 foot Stainless Steel armored Cable

NOTE: Anodized aluminum finish
For Accessories, see pages 99-100
Protected by U.S. patent D255,009

ACCESS CONTROL



The DS150i Series Exit Sensors are Passive Infrared Detectors specifically designed for "request-to-exit" applications. They detect motion in their coverage area and signal an access control system or door control device.

DS150i Series Exit Sensors

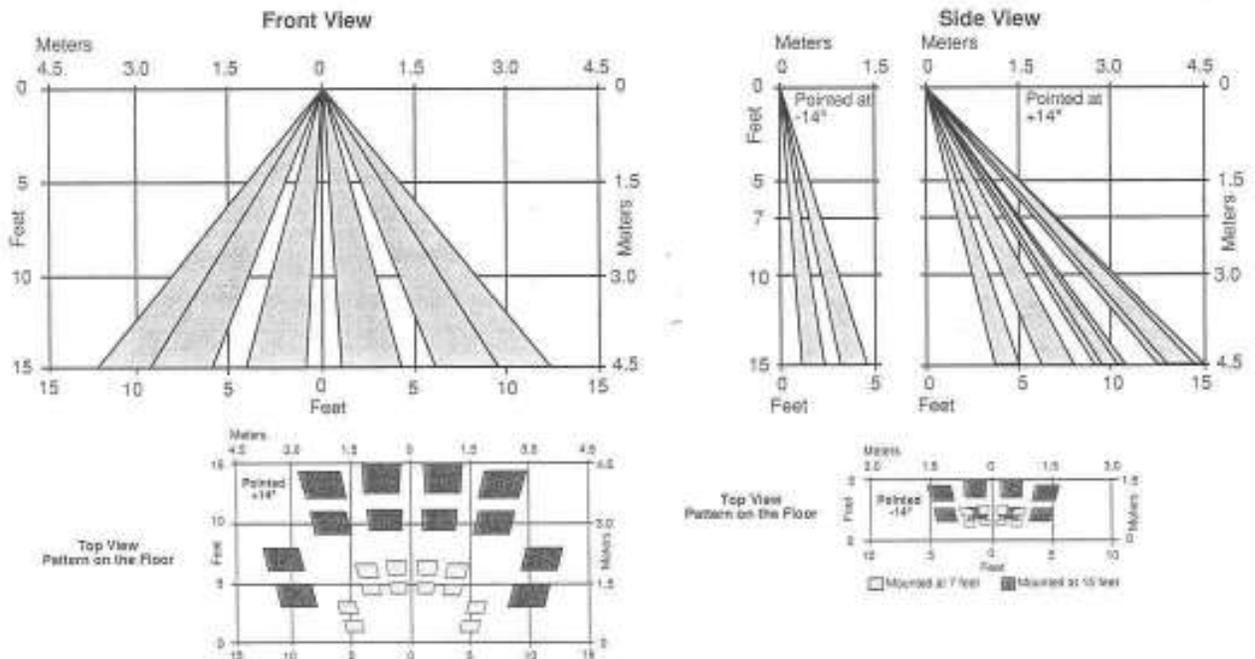
FEATURING

- *Single or Double Door Use*
- *Wall and Ceiling Mountable*
- *Internal Vertical Pointability*
- *Wrap-Around Coverage Pattern*
- *12 or 24 AC or DC Operation*
- *Up to 60 Second Adjustable Latch Time*
- *Selectable Relay Trigger Mode*
- *Selectable Fail Safe/Fail Secure*
- *UL Listed*
- **CE**

SPECIFICATIONS

POWER REQUIREMENTS	12 or 24 VAC or VDC, 28 mA @ 12 VDC
RELAY OUTPUT	Two Form "C" Contacts
RELAY LATCH TIME	Adjustable to 60 seconds
RELAY MODE	Programmable retrigger or non-retrigger mode
POWER LOSS DEFAULT	Programmable Fail Safe or Fail Secure modes
STORAGE & OPERATING TEMPERATURE	-20° to +120°F / -29° to +50°C
TEST FEATURES	Externally visible activation LED
DIMENSIONS	1.5" H., by 6.25" W., by 1.5" D. / 3.8 cm H., 15.8 cm W., 3.8 cm D.
COVERAGE	8 ft. by 10 ft. / 2.4 m by 3 m
MOUNTING	Surface Mount
PATTERN POINTABILITY	±14° Vertical
RADIO FREQUENCY INTERFERENCE (RFI) IMMUNITY	No alarm or setup on critical frequencies in the range from 26 to 1000 Megahertz at 50 v/m.
LISTINGS	UL Listing BP6245
COLOR	Light Gray (DS150i) or Black (DS151i)
ORDERING INFORMATION	DS150i - Light Gray DS151i - Black

COVERAGE





CPS400-UL/CSA POWER SUPPLY/CHARGER



12/24 VDC, 4 amp switching power supply is agency listed for access control (UL 294 and CSA Certified). Features include field selectable voltage, power limited output, Form "C" relay fault reporting, visual fault indication and an additional output for Fire Alarm Interface (FAI). Systems integration applications include system power, door strikes, mag locks, card readers and fire alarm interface for emergency exit.

FEATURES AND SPECIFICATIONS

Features

- Visual fault indication
- Relay Fault Output
- Class 2, power limited
- Switching technology
- Controlled current battery charging
- Additional output for Fire Alarm Interface (FAI)
- Short circuit protection
- Thermal protection
- Reverse polarity protection (PTC)
- UL-294
- CSA
- Limited lifetime warranty

Listings

- UL 294



- CSA Certified



Specifications

- Input voltage: 120 VAC
- Input current: 1.7 Amp
- Output voltage: 12/24 VDC, Field selectable
- Output current rating: 4 amps continuous
 - 1 Standard uncontrolled output
 - 1 Fire Alarm Interface controlled output
- Ripple: < 0.240VAC p-p
- Operating Temperature : 0 °C to 50 °C
- Humidity : 85% @ 30 °C
- Maximum Battery Capacity : 14 AH
- Electronically regulated and filtered output
- Visual fault indicators :
 - AC presence: Green LED
 - DC presence: Red LED
- Fault Reporting:
 - AC Loss
 - Low Battery
 - High/Low DC

APPLICATIONS

- Fire Alarm Interface for emergency exit
- System power
- Door strikes
- Mag locks
- Card Readers
- Proximity readers

MECHANICAL

Board Dimensions

- 4.25" W x 5.75" L

Cabinet Dimensions/Weight

- CPS400C-UL/CSA - 12"W x 12" x 4"H • 13 lbs

ORDER INFORMATION

Order Number	Model Number	Description
01373	CPS400-UL/CSA	12/24V Field Selectable, 4 Amps, Board
01366	CPS400C-UL/CSA	12/24V Field Selectable, 4 Amps, Key Lockable Cabinet



AL400ULX - UL Listed, Multi-Agency Approved Power Supply/Charger

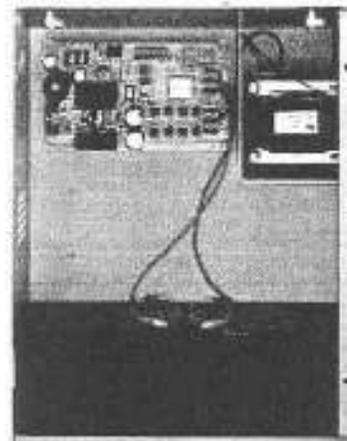
Overview:

The AL400ULX power supply converts a 115 VAC / 60Hz input, to a 12 VDC or 24 VDC power limited output, (see specifications). The AL400ULX is UL Listed for fire alarm, burglar alarm, and access control applications.

Specifications:

- UL listed fire, burglar and access control power supply (UL1481, UL603, UL294).
- ULC listed (Underwriters Laboratories Canada).
- NYC Department of Buildings Approved (MEA).
- California State Fire Marshal Approved (CSFM).
- CSA approved (Canada).
- NFPA 72 compliant.
- Class 2 rated.
- Switch selectable 12VDC or 24VDC power limited output.
- Input 115VAC / 60Hz, 1.45 amp.
- Maximum charge current 1.25 amp.
- 4 amps continuous supply current at 12VDC.
- 3 amps continuous supply current at 24VDC.
- Filtered and electronically regulated outputs.
- Built-in charger for sealed lead acid or gel type batteries.
- Automatic switch over to stand-by battery when AC fails.
- AC input and DC output LED indicators.
- AC fail supervision (form "C" contacts).
- Low battery supervision (form "C" contacts).
- Short circuit and thermal overload protection.
- Unit is complete with power supply, enclosures, cam lock.
- Includes battery leads.

Enclosure Dimensions: 15.5"H x 12"W x 4.5"D



Power Supply Voltage Output Selections:

Output	Switch Position
12VDC	SW 1 Closed
24VDC	SW 1 Open

Stand-by Specifications:

Output	4 hr. of Stand-by & 5 Minutes of Alarm	24 hr. of Stand-by & 5 Minutes of Alarm	60 hr. of Stand-by & 5 Minutes of Alarm
12VDC / 40 AH Battery	Stand-by = 4.0 amps Alarm = 4.0 amps	Stand-by = 1.0 amps Alarm = 4.0 amps	Stand-by = 300mA Alarm = 4.0 amps
24VDC / 12 AH Battery		Stand-by = 200mA Alarm = 3.0 amps	
24VDC / 40 AH Battery	Stand-by = 3.0 amps Alarm = 3.0 amps	Stand-by = 1.0 amp Alarm = 3.0 amps	Stand-by = 300mA Alarm = 3.0 amps

Installation Instructions:

The AL400ULX should be installed in accordance with article 760 of The National Electrical Code or NFPA 72 as well as all applicable Local Codes.

1. Mount the AL400ULX in desired location.
2. Connect the black and white transformer leads of AL400ULX to a separate unswitched AC circuit (115VAC, 50/60Hz) dedicated to the Fire Alarm System (Fig. 1).

Altronix is not responsible for any typographical errors. Product specifications are subject to change without notice.

3. Connect AC power to the black and white flying leads of the transformer.
Secure green wire lead to earth ground. (Fig. 1).
Use 18 AWG or larger for all power connections (Battery, DC output).
Use 22 AWG to 18 AWG for power limited circuits (AC Fail/Low Battery reporting).
Keep power limited wiring separate from non-power limited wiring (115VAC / 60Hz Input, Battery Wires). Minimum .25" spacing must be provided.
4. Connect devices to be powered to terminals marked [+ DC -] (Fig. 1).
Note: It is good operating practice to measure and verify output voltage before connecting devices to ensure proper operation of equipment.
5. For Access Control applications, batteries are optional. When batteries are not used a loss of AC will result in the loss of output voltage. When the use of stand-by batteries is desired, they must be lead acid or gel type. Connect battery to terminals marked [- BAT +] (Fig. 1). Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included).
6. Connect appropriate signaling notification devices to AC Fail & Low battery (Fig. 1) supervisory relay outputs marked [N.C., C, N.O.].

Maintenance:

Unit should be tested at least once a year for the proper operation as follows:

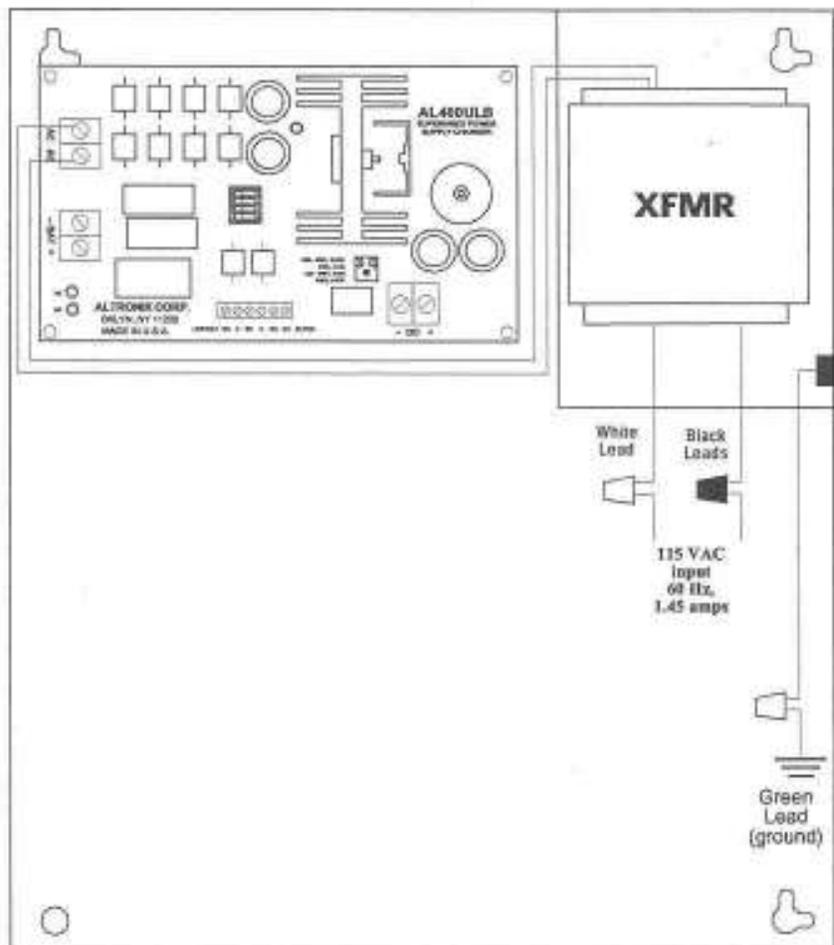
Output Voltage Test: Under normal load conditions, the DC output voltage should be checked for proper voltage level (see power supply voltage output specifications chart).

Battery Test: Under normal load conditions check that the battery is fully charged, check specified voltage both at battery terminal and at the board terminals marked - BAT + to insure there is no break in the battery connection wires.

Note: Maximum charging current under discharges is 1.00 amp.

Note: Expected battery life is 5 years, however it is recommended changing batteries in 4 years or less if needed.

Fig. 1



LED Diagnostics:

Red (DC)	Green (AC)	Power Supply Status
ON	ON	Normal operating condition
ON	OFF	Loss of AC, Stand-by battery supplying power
OFF	ON	No DC output
OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.

Terminal Identification:

Terminal Legend	Function/Description
AC/ AC	Low voltage AC input (28VAC / 175VA). Altronix part # T28140.
+ DC -	12VDC - 4 amps continuous power limited output. 24VDC - 3 amps continuous power limited output.
AC FAIL N.C., C, N.O.	Used to notify loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1 amp @ 120VAC / 28VDC
LOW BAT N.C., C, N.O.	Used to indicate low battery condition, e.g. connect to alarm panel. Relay normally energized when DC power is present. Contact rating 1 amp @ 120VAC / 28VDC
- BAT +	Stand-by battery connections. Maximum charge rate 1.25 amp.

Enclosure Dimensions:

AL400ULX - 15.5"H x 12"W x 4.5"D

