



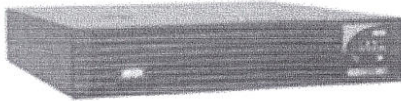
Tripp Lite
1111 West 35th Street
Chicago, IL 60609 USA
Telephone: +(773) 869 1234
E-mail: saleshelp@tripplite.com

Model #: SMART2200RMXL2UP

SmartPro 2.2kVA Line Interactive Sine Wave UPS, 1920 watts, Extended-run & SNMPWEBCARD options, 2U Rack/Tower, USB, Serial, EPO, 100/110/120V

Highlights

- 2.2kVA / 2200VA / 1920W line interactive 2U rack/tower UPS; 0.87 power factor
- 100/110/120V nominal output with 83V to 145V input; Sine wave output
- USB, RS232, EPO & optional SNMP/Web card are available for simultaneous use
- Front panel status LEDs with load level and battery capacity display
- Expandable runtime, 96% line-mode efficiency; 2 switched output load banks
- NEMA 5-20P input; 4 NEMA 5-15/20R & 4 NEMA 5-15R outlets



Description

Tripp Lite's SmartPro SMART2200RMXL2UP 2U Rackmount Uninterruptible Power Supply (UPS) offers network-grade line interactive voltage regulation, surge suppression and long lasting, expandable battery support for critical network hardware during blackouts, brownouts and extended power failures. High .87 power-factor configuration with 1920 watt output capacity makes this UPS ideal for a variety of networking, industrial and other high performance applications. 96% line power mode efficiency saves operating costs and BTU heat output. Runtime is expandable with optional BP48V60RT3U and BP48V24-2U external battery packs. Maintains battery-derived sine wave AC output during power failures and extreme voltage variations. Line interactive Automatic Voltage Regulation (AVR) provides two levels of voltage boost during brownouts and one level of voltage cut during overvoltage conditions to maintain regulated 100 / 110 / 120V nominal output over an input range of 83-145V. Includes NEMA 5-20P input plug, NEMA 5-15R and 5-15/20R output receptacles. Network management interfaces support simultaneous communications via USB, DB9 serial and optional SNMP/Web management accessory card slot. Optional SNMPWEBCARD offers remote management and control of the UPS via built-in network interface. ENVIROSENSE accessory works with SNMPWEBCARD to report temperature, humidity and status of up to 4 optional SRWITCH door access sensors or other user supplied contact closure sensors. HID-compliant USB interface enables full integration with built-in power management and auto shutdown features of Windows and Mac OS X. Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via all 3 network interfaces at once. Includes PowerAlert monitoring software with USB and serial cables. Emergency Power Off (EPO) interface. Integrated 2-bank programmable PDU switching supports load shedding and remote-reboot of up to 2 individual connected devices. 3-stage metered current monitoring and battery charge status LEDs. Utility power and voltage regulation LEDs. Audible alarm. Self-test. Supports 2U rackmount installation with a maximum depth of 19 inches. 4-post rackmount accessories included; 2-POSTAND tower stands and 2POSTRMKITWM two post rackmount or wallmount installation kit available. Field-replaceable, hot-swappable internal batteries and external battery packs.

Package Includes

- SMART2200RMXL2UP UPS system
- 4 post rackmount installation rails
- PowerAlert software
- USB, serial and EPO cabling

Features

- SmartPro SMART2200RMXL2UP 2U rackmount UPS offers network-grade line interactive voltage regulation, surge suppression and expandable battery support during blackouts, brownouts and extended power failures
- Ideal for a variety of networking, telecommunications, industrial and other high performance applications requiring complete network-grade line interactive UPS protection
- High .87 power-factor configuration with 1920 watt output capacity supports the maximum continuous output current available from a 20A 120V circuit
- 96% line power mode efficiency saves operating costs and BTU heat output
- Maintains fully regulated sine wave AC output during power failures and extreme voltage variations
- Line interactive Automatic Voltage Regulation (AVR) maintains regulated 100/110/120V nominal output without using battery power during brownouts and overvoltages from 83 to 145V

- Includes NEMA 5-20P input plug, 4 NEMA 5-15R and 4 5-15/20R output receptacles
- Two individually switched outlets support automatic load shedding and real time remote-reboot operations of 2 individual connected devices
- Network management interfaces support simultaneous communications via USB, DB9 serial and optional SNMP/Web management accessory card slot
- Optional SNMPWEBCARD offers remote management and direct UPS control via built-in network interface
- Optional ENVIROSENSE accessory reports temperature and humidity (requires SNMPWEBCARD)
- ENVIROSENSE also supports the connection of up to 4 SRSWITCH door access sensors and user supplied contact closure monitoring accessories
- HID-compliant USB interface enables full integration with built-in power management and auto shutdown features of Windows and Mac OS X
- Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via all 3 network interfaces at once
- Includes PowerAlert monitoring software with USB and serial cables
- Emergency Power Off (EPO) interface
- 3-stage metered current monitoring and battery charge status LEDs
- Utility power and voltage regulation LEDs, audible alarm and self-test ability
- Supports 2U rackmount installation with a maximum depth of 19 inches
- 4-post rackmount accessories included: 2-9USTAND tower stands and 2-POSTRMKITWM 2 post rackmount or wallmount installation kit available
- Field-replaceable, hot-swappable internal batteries and external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)

Specifications

OUTPUT	
Output Volt Amp Capacity (VA)	2200
Output kVA capacity (kVA)	2.2
Output Watt Capacity (watts)	1920
Output kW capacity	1.92
Output power factor	0.87
Output Capacity Details	Supports 1750 watts when set to 110V nominal; Supports 1600 watts when set to 100V nominal
Nominal Output Voltage(s) Supported	100V; 110V; 120V
Nominal Voltage details	120V factory setting
Frequency compatibility	50 / 60 Hz
Output voltage regulation (line mode)	120V (+6% / -14%); 110V (+6% / -12%); 100V (+11% / -7%)
Output voltage regulation (Battery mode)	+/- 5%
Built-in UPS output receptacles	4 5-15R outlet(s); 4 5-15/20R outlet(s)
Built-in controllable switched load banks	Two switchable single-outlet 5-15R load banks
Output AC waveform (AC mode)	Sine wave
Output AC waveform (battery mode)	Pure Sine wave
INPUT	

Rated input current (at maximum load)	13.3A (120V), 14.6A (110V), 16.0A (100V)
Nominal input Voltage(s) Supported	100V AC; 110V AC; 120V AC
Nominal input voltage description	Nominal voltage selection via back panel dipswitches
UPS input connection type	5-20P
UPS input cord length (ft.)	10
UPS input cord length (m)	3
Recommended Electrical Service	20A 100/110/120V
BATTERY	
Full load runtime (minutes)	5 min. (1820w)
Half load runtime (minutes)	13 min. (960w)
Expandable battery runtime	Extended runtime supported via optional external battery packs
External battery pack compatibility	BP48V24-2U (limit 1); BP48V60RT-3U (multi-pack compatible)
DC system voltage (VDC)	48
Battery recharge rate (included batteries)	Less than 4.5 hours from 10% to 90%
Replacement battery cartridge (internal UPS battery replacement)	RBC94-2U
Battery Access	Front panel battery access door
Battery replacement description	Hot-swappable, user replaceable batteries
VOLTAGE REGULATION	
Voltage regulation description	Automatic voltage regulation (AVR) maintains regulated line power output with an input voltage range of 83-145 (120V), 87-133 (110V), 83-121 (100V)
Overvoltage correction	Voltage reduction of 12% applies when input is between 127 and 145 (120V), 116 and 133 (110V), 111 and 121 (100V)
Undervoltage correction	Voltage boost of 12% applies when input voltage is between 95 and 108 (120V), 87 and 99 (110V), 83 and 90 (100V)
Severe undervoltage correction	Voltage boost of 24% applies when input voltage is between 83 and 95 (120V only)
LEDS ALARMS & SWITCHES	
LED Indicators	5 LEDs indicate line power, battery power, overload, voltage regulation and battery low/replace status
Alarms	Audible alarm indicates power-failure, overload and low-battery conditions
Alarm cancel operation	Power-fail alarm can be silenced using alarm-cancel switch; once silenced, alarm will re-sound to indicate low-battery status
Switches	2 Switches control off/on power status and alarm-cancel/self-test operation; rear panel protected switches support nominal voltage selection and charge rate

SURGE / NOISE SUPPRESSION

UPS AC suppression joule rating	570
UPS AC suppression response time	Instantaneous
EMI / RFI AC noise suppression	Yes
PHYSICAL	
Installation form factors supported with included accessories	4 post 19 inch rackmount (mounting rail kit included)
Included mounting accessory description	Adjustable mounting rail kit included
Installation form factors supported with optional accessories	2 post rackmount (2POSTRMKITWM); Wallmount (2PGSTRMKITWM); Tower (2-9USTAND)
Primary form factor	Rackmount
UPS / Power Module dimensions in primary form factor (height x width x depth / inches)	3.5 x 17.5 x 19
UPS / Power Module dimensions in primary form factor (height x width x depth / cm)	8.9 x 44.4 x 48.3
Installed whole system total rack space height (rack spaces)	2U
Secondary form factor	Tower (requires 2-9USTAND)
UPS / Power Module weight (lbs)	64
UPS / Power Module weight (kg)	29.1
UPS Shipping dimensions (height x width x depth / inches)	9 x 23.5 x 20
UPS Shipping dimensions (height x width x depth / cm)	22.9 x 59.7 x 50.8
Shipping weight (lbs)	72
Shipping weight (kg)	32.7
UPS housing material	Steel
Cooling method	Fan
ENVIRONMENTAL	
Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius.
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius.

Relative Humidity	0 to 95%, non-condensing
AC mode BTU / hr. (full load)	168.2
Battery mode BTU / hr. (full load)	604.4
COMMUNICATIONS	
Communications interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
Network monitoring port description	Supports detailed monitoring of UPS and site power conditions
PowerAlert software	Included
Communications cable	USB and DB9 cabling included
WatchDog compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications
LINE / BATTERY TRANSFER	
Transfer time	5 milliseconds (line to battery mode); 1 millisecond (battery to line mode)
Low voltage transfer to battery power (setpoint)	83 (120V), 87 (110V), 83 (100V)
High voltage transfer to battery power (setpoint)	145 (120V), 133 (110V), 121 (100V)
SPECIAL FEATURES	
Grounding lug	Back panel grounding lug
Cold Start (startup in battery mode during a power failure)	Cold-start operation supported
High availability UPS features	Hot swappable batteries
Green & high efficiency features	Greater than 95% efficiency - GREEN UPS; Individually controllable load banks
CERTIFICATIONS	
UPS Certifications	Tested to UL1778 (USA); Tested to CSA (Canada); Tested to NOM (Mexico); Meets FCC Part 15 Category A (EMI)
WARRANTY	
Product Warranty Period (Worldwide)	2-year warranty, 3 year with registration. Note: registration is required for 3-year warranty.
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	\$250,000 Ultimate Lifetime Insurance

Related Items

Optional Products

Product Type	Related Model	Description	Qty.
Extended Warranties	WEXT5-2200-3000	5-Year Extended Warranty - For Smart Line-Interactive and Online Tower or Rack models, 2200-3000VA or less	1
External Battery Packs	BP48V24-2U	BP48V242U - External Battery Pack for UPS System	1

External Battery Packs	BP48V60RT-3U	External Battery Pack and Cable. 3U, Expandable, Blue 2-Point Connector	1
Power Distribution	PDU1220	Basic PDU / Power Distribution Unit - Safe, reliable power distribution for critical networking equipment	1
Power Distribution	PDU820	Dual source Power Distribution Unit / PDU with Manual Transfer Switch enables Hot-swappable UPS Replacement in Critical Network Applications	1
Power Distribution	PDU8HV20	Dual source Power Distribution Unit / PDU with Manual Transfer Switch enables Hot-swappable UPS Replacement in Critical Network Applications	1
Power Distribution	PDUMH20	Metered PDU / Power Distribution Unit- Safe, reliable power distribution with digital current meter	1
Power Distribution	PDUMH20ATNET	Switched, Metered PDU with ATS - Power Distribution Unit with dual-input Auto Transfer Switching, individual outlet control and SNMP network interface	1
Power Distribution	PDUMNH20	Monitored PDU / Power Distribution Unit supports real-time remote monitoring of load level, voltage and frequency with options for remote environmental and security monitoring	1
Power Distribution	PDUMNV20	Monitored PDU / Power Distribution Unit supports real-time remote monitoring of load level, voltage and frequency with options for remote environmental and security monitoring	1
Power Distribution	PDUMV20	Metered PDU / Power Distribution Unit - Safe, reliable power distribution with digital current meter	1
Power Distribution	PDUMV20NET	Switched, Metered PDU with Remote Monitoring - 0U Vertical Rackmount Power Distribution Unit for Networks with Individually Switchable Outlets, Current Metering, Remote Monitoring and Control	1
Power Distribution	PDUV20	Safe, reliable power distribution for critical networking equipment	1
Rack Accessories	SRSWITCH	Magnetic Door Switch Kit (2-pack for front and rear doors; requires ENVIROSENSE)	1
SNMP Accessories	ENVIROSENSE	Monitors temperature, humidity and contact-closure inputs. (Requires SNMPWEBCARD or switched PDU)	1
SNMP Accessories	SNMPWEBCARD	For remote monitoring and control via SNMP, Web, or Telnet.	1
Software	WATCHDOGSW	WatchDog Service Monitoring / Reboot Software	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at www.tripplite.com/en/products/model.cfm?txtModelID=4672

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YEDU.E136916 Uninterruptible Power-supply Equipment

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Uninterruptible Power-supply Equipment

[See General Information for Uninterruptible Power-supply Equipment](#)

TRIPP LITE, DIV OF TRIPPE MFG CO

E136916

1111 W 35TH ST
CHICAGO, IL 60609 USA

Trademark and/or Tradename: "E136916" or "Tripp Lite".

Battery cabinets, Models 16-3616U, BP24V33, -36V33, -36VXR, Listed in accordance with UL 1778, Second Edition.

External battery cabinets, Models AGBP4898, AGBP4900, AGBP240V7RT3U, AGBP4860Y3U, AGBP7212Y2U, AGBB4824Y2U, AGBP3614Y24, SU10KBP, SUBP, Listed in accordance with UL 1778, Second Edition.

Models AGBP6801, AGBP6802, Listed in accordance with UL 1778 (Fourth Edition).

Isolation transformers, Series AGSM6000SDRT3U, AGSM10KSDRT3U, AGAC5125, Listed in accordance with UL 1778, Second Edition.

Uninterruptible power supplies, Models BC500 Internet, BC-Internet 200HF, -300, -300HF, -500, BC PERS 200 HF, -280 INT, -300, -300 HF, -500, BCPers 450, BCPers 500, BC PRO 450 EURO, -600, -850, -1050, Internet -500I, -550I, -700I, Internet Office 500, -700, OMNI PRO 450, -450 INT, -675, -675 INT, -700, -700 XL NET, -850, -850 INT, -1050, -1050 INT, -1050XL NET, -1400, -1400 INT, OmniSmart 300, -450, -675, -850, -850 PNP, -1000 INT PNP, -1050, -1050 PNP, OmniSmart INT -300, -500, -700, -1400, SMART -700 INT, -700RM, -850INT, -850RM, -1050RM, -1050, -1250 XL, -1400, -1400 NET, -1400 RM, -INT 1400, -2000, -2200, -2000XL, -2200 Net, -2200 RM, -2200RM INT, -2200RML, -2200 XL Net, -2200XL, -3000, -3000 INT, SMART DATA CENTER 3000XL, -5000HW, -5000XL, SMART INT 450, -700RM, -1000, -1000RM, -1400RM, -1400XL, -2200CE, -2200RM, -2200RML, -2200 XL, SMART PRO 700RM INT, -700XL, -1000 INT, -1050RM, -1050RM INT, -1050XL, -1400RM, -2200NET, -3000NET, -3000 RM, -INT3000RM, SU6K, SU10KPM, TM420, UPSNET 2200RM, -2200RML, -2200XL, AGSM1000DT, AGSM3000Y2U29, AGSM2200Y2U29, AGSM1400Y2U29, AGSU1000RT2UOL, AGSU2200RT2UD, AGSU2200RT2UOL, AGSU3000RT3UOL, AGSU3000RT3UOL1, AGSM5000Y3U31, AGSM67512IBM61, AGSU60003U, -100003U, AGOM1000USBKSR6, AGSM1000IG30, AGOM700USBKSR61, AGOM725USBKSR61, AGSM1000Y1U31, AGSM700Y1431, HSTNR-U004, Listed in accordance with UL 1778, Second Edition.

Series 16 3506 U, 16 3534 U, 16 3538 U, 16 3550 U, 16 3556 U, 16 3569 U, 16 3575 U, 16 3582 U, 16 3583 U, 16 3585 U, 16 3586 U, 16 3587 U, 16 3596 U, 16 3598 U, 16 3628 U, 16 3629 U, 16 3643 U, 16 3647 U, 16 3648 U, 16 3664 U, 16 3669 U, 16 3705 U ; Series 16 3581 U may be followed by suffixes, Listed in accordance with UL 1778, Second Edition.

Models AGBC350LP2LF, AGBC525LP2LF, AGAP240048MV2, APS2448, AGOM500USBKSR6, Listed in accordance with UL 1778, Second Edition.

Models BCPERS300, BC INTERNET300, AGBC300LCH256, INTERNET300I, INTERNET500I, AGBC300LCIH257, AGBC500LCIKJR57, Listed in accordance with UL 1778, Second Edition.

Model AGOM350KSR57I50, Listed in accordance with UL 1778, Second Edition.

Models AGSM500USBKJR6, AGSM751ST, Listed in accordance with UL 1778, Second Edition.

Models AGSm3000Y2U29, AGSM1500XPSR3, Smart+ 5000TEL3U, Listed in accordance with UL 1778, Second Edition.

Models AGSM1050PJR3, AGSM700PJR3, AGOM1050PJR61, Listed in accordance with UL 1778, Second Edition.

Model AGOM1400PSR61, Listed in accordance with UL 1778, Second Edition.

Models AGSM2200MJR31, AGSM2200XMJ31, AGSM3000MJR31, AGSU2200RT2UD, AGSU2200RT2UOL, Listed in accordance with UL 1778, Second Edition.

Models AGSM1000DT, -1500DT, -525SRM1U, AGSU1000DT, -2200DT, -3000DT.

Models AGSM7501UPC, AGSM10001UPC, Listed in accordance with UL 1778, Second Edition.

Models SMART2200RML2U (Series AGSM4492), SMART3000RM2U (Series AGSM4493), SMART2600RM2U (Series AGSM4842), Listed in accordance with UL 1778, Second Edition.

Series AGBC350LP3USB, Model INTERNET350U; Series AGBC525LP3USB, Model INTERNET525U; Series AGBC750LP3USB, Models INTERNET675U, INTERNET725U, INTERNET750U.

Models Series AGSU60003U, AGSU100003U; Model AGSM525SRM1U, Model AGPS5124, AGPS5154, AGPS5155, Listed in accordance with UL 1778, Second Edition.

Models AGAC120V30RM, PAM-1, Listed in accordance with UL 1778, Second Edition.

Series AGSM5199, Model SMART750SLT; Series HSTNR-U005-NA, Model T750 NA/JPN; Series AGSM5198, Model SMX750SLT; Series HSTNR-U005-I, Model T750 INTL, Listed in accordance with UL 1778 (Third Edition).

Series AGSU1522U31, AGSU1022U31, AGSM5261, Listed in accordance with UL 1778 (Second Edition).

Series AGSU152XU31, AGOM4755, AGOM4756, AGOM4751, Listed in accordance with UL 1778 (Third Edition).

Models AGPS5415, AGPS5544, HTR22-3U, AGPS6279, AGPS7701.

Series AGSM6897, Listed in accordance with UL 1778 Second Edition.

Models AGPS6077, AGPS6078 Battery cabinet, Model AGBP6278, Listed in accordance with UL 1778 Second Edition.

Model AGPS6259.

Model AGPS6260.

Model Series AGAB3000, Listed in accordance with UL 1778 (Fourth Edition).

Models AGPS6792, AGPS6793, AGPS6795, AGPS6796, AGPS6794 , Listed in accordance with UL 1778 (Fourth Edition).

Model AGSM6819.

Model Series AGSM6284, Listed in accordance with UL 1778 (Second Edition).

Model Series AGPS7923, Listed in accordance with ANSI/UL 1778 (Fourth Edition).

Model AG-8230, Listed in accordance with ANSI/UL 1778 (Fourth Edition).

Uninterruptible power supply accessories, product distribution unit, Model PDU6K, Listed in accordance with UL 1778, Second Edition.

Last Updated on 2012-03-05

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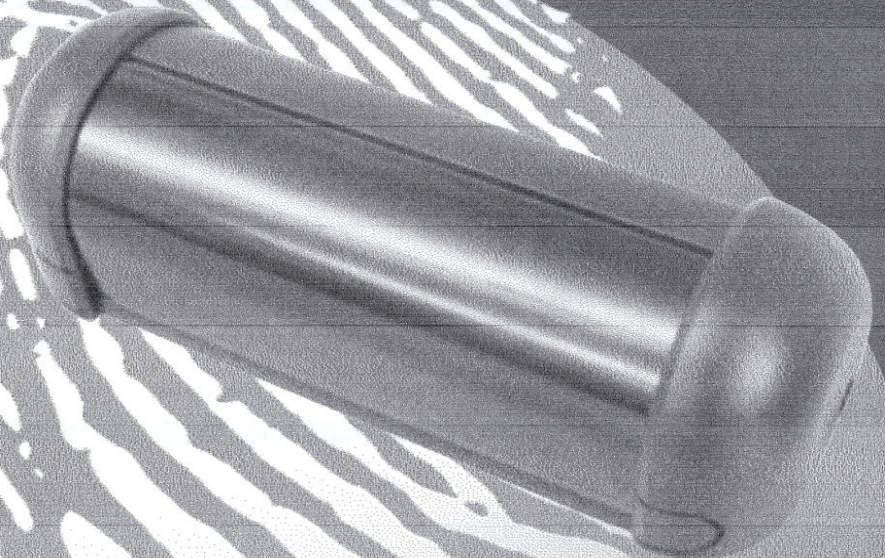
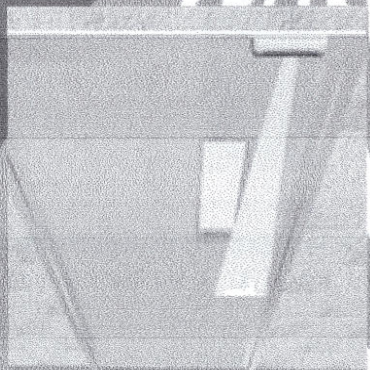
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OPEN UP NEW HORIZONS
A HALMA COMPANY

R2E-100

Maximum Protection Request To Exit Detector



ACTIVE INFRARED TECHNOLOGY
UL 294 / ULC S319 CERTIFIED
BUILT-IN SOUNDER

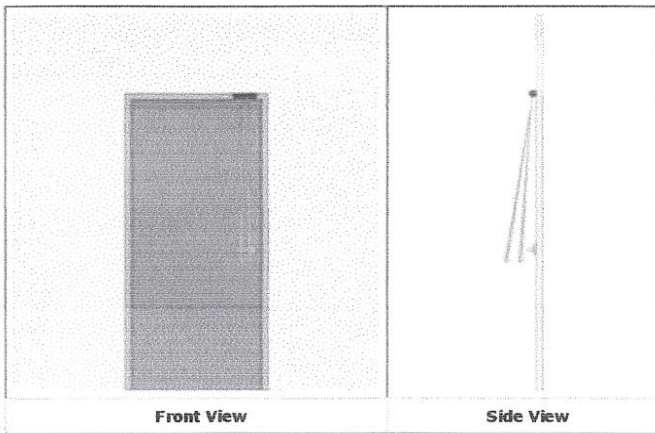
Innovation
Quality
Service

The R2e-100 is an active infrared, request-to-exit detector specifically designed for access control applications where maximum protection is required.

- Mounts on or above the door frame with pattern placed near door hardware
- The pattern is *only* projected in front of and above the door hardware to eliminate circumvented entry.
- Multiple relocking modes for any timed or door position conditions
- Relay output consists of two Form "C" contacts for NO / NC wiring
- Fully adjustable sounder volume and activation LEDs
- 3 auxiliary inputs: request to exit, card reader and a door position switch

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Related Products



Maglocks



Push Buttons



Fly Kits



MS08U



Push Plates



Rim Exit Strike



No Cut Strike



Cylindrical Strikes

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Product Features

The R2E-100 is an active infrared request-to-exit sensor for interior applications. It is UL Listed as an access control device under UL Std. 294.

- Mounts on or above a door header with pattern placed in front of handle.
- Rejects false detection for parallel traffic or objects slid under a door.
- Multiple relocking modes for any timed / door position conditions.
- Relay output consists of two Form "C" contacts for NO / NC wiring.
- Optional alarm can be sounded when door is open or Maglock is activated.
- 3 DRY auxiliary inputs: request to exit, request to enter, and a DPS.

Product Technical Specifications

Description	Specification
Detector Type	Active Focused Infrared
Supply Voltage	12V to 24V AC/DC: ±10%, 60Hz
Current	70 mA (sounder off) 200 mA (sounder max)
Temperature	-20°F - +120°F -29°C - +49°C
UL Temperature	+32°F - +120°F 0°C - +49°C
Humidity (non-condensing)	0% - 95% 0% - 85% (UL Listed install)
Relay	2 Form "C" contact sets; 1.3A @ 24V AC, 30V DC
Hold Time	0.5 - 60 seconds
DRY Exit Input (I/O via DIP)	Normally Opened (NO)
DRY Enter Input (I/O via DIP)	Normally Closed (NC)
DRY DPS Input (I/O via DIP)	Normally Opened (NO)
Detection Range	20" - 48"
Dimensions (L x W x H)	6.875" x 2.0" x 1.875" 175mm x 51mm x 48mm
Material	Black Aluminum / ABS plastic
Wiring Interface	JST (14 pin) with 4' cable
Certifications	UL / CUL 294 / S319 FCC Part B

Product Sensing Field



the standard in safety

Underwriters
Laboratories

10/29/2010

MR. Darryl Fortunato
B E A Inc
100 Enterprise Dr
Pittsburgh, PA 15275
United States

Fax number:

Our Reference: File BP10426 Project No: 10CA07702
Your Reference: 16076
Subject: Notice of Completion of the Engineering Investigation and Requirement for an Initial Production Inspection (IPI)

Dear MR. Fortunato:

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.
The engineering investigation under the above project number has been completed. This letter does not authorize use of the UL Mark on the products under the above project number.

Before you may begin shipping product with the UL Mark at each of the manufacturing locations listed below, an Initial Production Inspection (IPI) must be successfully performed by a UL representative at the manufacturing location(s):

1. B E A Inc
100 Enterprise Dr
Pittsburgh, PA 15275
United States

The IPI is intended to confirm that the manufacturer is capable of producing a product in accordance with UL's requirements. **THE MANUFACTURER MAY NOT SHIP PRODUCTS WITH THE UL MARK UNTIL THE IPI HAS BEEN COMPLETED AND UL HAS FOUND THE PRODUCTS AT THE FACTORY TO COMPLY WITH OUR REQUIREMENTS.** Once this has been successfully completed the manufacturer(s) will be granted authorization to ship products bearing the UL Listing Mark.

It is the responsibility of B E A Inc, the Applicant, to inform its manufacturers of that the IPI must be successfully completed before product may be shipped with the UL Mark. Instructions for the IPI will be sent to our inspection center nearest to each of your manufacturing locations. The contact information of the inspection center is provided at the end of this letter. Please contact the inspection center to schedule the IPI and ask any questions you may have regarding the IPI.

Within Canada, there are federal and local statutes and regulations, such as the Consumer Packaging and Labeling Act, requiring the use of bilingual product markings on products intended for the Canadian market. It is the responsibility of the manufacturer (or distributor) to comply with this law. The UL Follow-Up Service Procedures will only include the English versions of the markings

In any correspondence concerning this investigation, please refer to the above file and project number.

Sincerely,
Gary Hammerand

Reviewed by:
Michael Peterson

Gary Hammerand
Engineering Project Handler
Department: 3017BNBK
Tel: 18476642436
Fax: 1-847-313-4236
E-mail: Gary.Hammerand@ul.com

Michael Peterson
Senior Project Engineer
Department: 3017BNBK

Enclosure

C:

Inspection Center (For Manufacturer No.)

Adirondack-
Pocono, Area
Office

Business Name: Underwriters Laboratories Inc.,
Field Services Department, Eastern
Region, Western New England, Area
Office

Address: P.O. Box 506; Manlius, NY 13104

Phone: 1-315-751-3026

Fax: 1-315-513-7533

Speed Dial:

E-mail Address: Thomas.Malagisi@us.ul.com

Address:

AQM20 Series

Up to 20 Amps, Multi Voltage 12VDC, 24VDC or 12 and 24VDC

The Securiton AccuPower™ AQM20 Series of switching power supplies are multi-voltage, supervised units with a battery charger, which provide up to 20 total amps of low-voltage DC output.

They are field-selectable and contain two (2) power modules with flexibility for delivering 12VDC, 24VDC or 12 and 24VDC at the same time, with up to 16 independently controlled, power-limited outputs.



UL LISTINGS



VOLTAGE



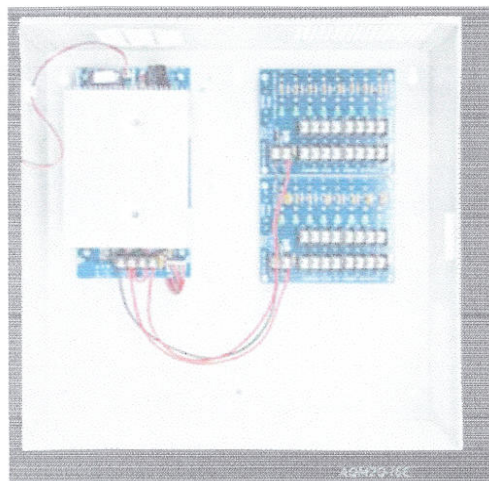
AMPERAGE



BATTERY BACKUP



SUPERVISION



AQM20-16C



AccuPower power supplies work with a wide range of access control products.

When you choose AccuPower, you can be confident that all your access control components work properly.

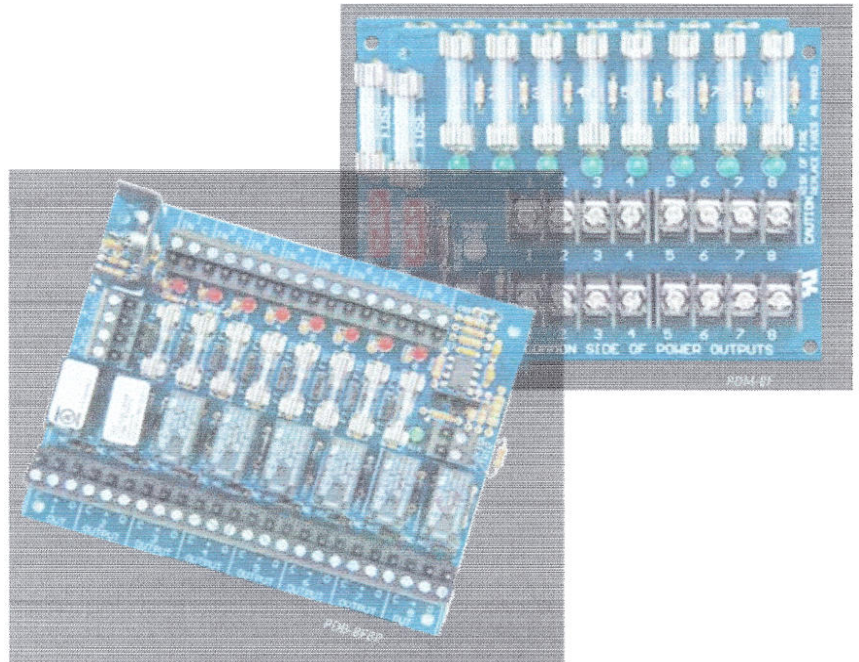
Specifications

- Available with up to 16 Class 2 power limited outputs
- Available with configurable access control input/outputs with fire trigger in either PTC or with fuse/dry contact option, fire relay only, or configurable outputs with fire relay input
- 120/240VAC field-selectable AC input**
- LED indicators and form "C" contacts for supervision
- 14" x 14" x 4.75" enclosure
- Requires two (2) 12V or 24V sealed gel, AGM or wet lead acid batteries

**Unit ships with default input set to 120VAC

Standard Features

- Offers output in either 12VDC or 24VDC, or both 12VDC and 24VDC, field selectable
- Rated up to 16 Amps continuous output: 12VDC, 8 Amp continuous output at 24VDC
- Two internal transformers
- Tolerates brownout and overvoltage input at +30% to -30% of selected line voltage, either 120VAC or 240VAC
- Thermal shutdown protection with auto restart
- Circuit breaker protects against overcurrent and reverse battery faults
- Battery charger and power supervision
- Dedicated voltage enables faster battery charging even under full load



Product Number	Amps	Outputs	Class 2 Power Limited	Fuse Rating	Fuse Type	# of Relays	Relay Type	UL294
AQM20	20/10	2	N	N/A	N/A	-	-	Recognized*
AQM20-8F	20/10	8	N	4A	Fuse	-	-	-
AQM20-8C	20/10	8	N	3.08A	PTC	-	-	Recognized*
AQM20-16F	20/10	16	N	3A	Fuse	-	-	-
AQM20-16C	20/10	16	Y	1.5A	PTC	-	-	Recognized*
AQM20-8F8R	20/10	8	N	0.5A	Fuse	8	Access Control w/Fire	Recognized*
AQM20-8C8R	20/10	8	Y	1.04A	PTC	8	Access Control w/Fire	-

*UL recognized components





ALVY2.BP9019 Access Control System Units - Component

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Access Control System Units - Component

[See General Information for Access Control System Units - Component](#)

ELECTRONIC SECURITY DEVICES INC
2200 N MAC ARTHUR DR
TRACY, CA 95376 USA

BP9019

Power supplies/battery chargers, Models SPS-5, SPS-5CE , SPS-10, SPS-10CE.

Power supplies , Model SPS-20.

Marking: Company name and model designation.

[Last Updated](#) on 2009-01-27

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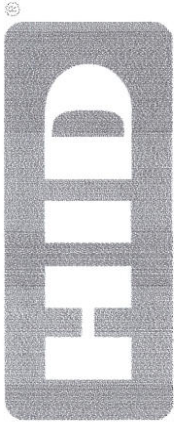
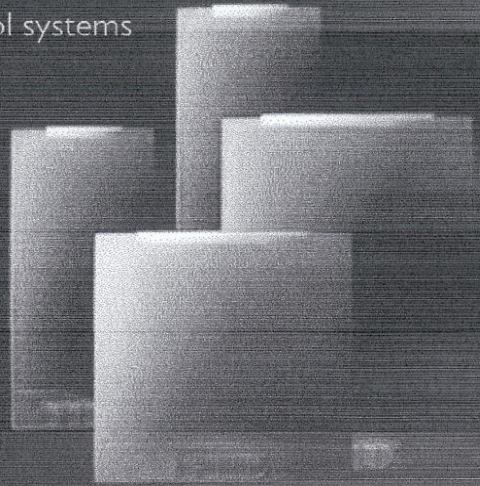
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iCLASS® R10, R15, R30, R40 Readers

13.56 MHz Contactless Smart Card Readers
Plug-n-play with new and existing access control systems

- ▶ Simple Upgrades - iCLASS readers have the same wiring connections, same low-current consumption and same 5 to 12 volt operation as our Prox readers.
- ▶ Multiple Applications - HID Connect offers over 70 technology partners which have embedded iCLASS technology into their products providing a single card solution for all your application requirements.
- ▶ GSA approved - Included in the U.S. General Services Administration (GSA) FIPS 201 Approved Products List.
- ▶ Field Upgradeable - Utilize firmware upgrade cards to modify reader firmware while installed on site.



ACCESS flexibility.

iCLASS® 13.56 MHz contactless smart cards and readers make access control more powerful, more versatile and offer enhanced security through data encryption and mutual authentication between the card and reader.

iCLASS readers are user-friendly, delivering the same convenience and reliability of HID's world-renowned Prox technology, with state-of-the-art features, driven by evolving industry requirements.

Upgrading from Prox to iCLASS technology has never been so simple. All iCLASS readers provide the same wiring connections, low-current consumption and 5 to 16 volt operation as our Prox readers. Additionally, you can transfer your Prox format and user identification numbers to iCLASS credentials, making the change completely transparent to your access control system.

Key Features

- ▶ **Format Portability** - Upgrading is completely transparent since the same Prox format and user identification numbers are brought across to your iCLASS credentials, including HID Corporate 1000 formats. Also, Elite custom key program is available for a higher level of security.
- ▶ **Secure** - All RF data transmission between the card and reader is encrypted using a secure algorithm. By using industry-standard encryption techniques and advanced key management systems, iCLASS reduces the risk of compromised data or duplicated cards.
- ▶ **Interoperability** - iCLASS is based on ISO interoperability standards providing compatibility with many popular card technologies (ISO 15693, ISO 14443A and ISO 14443B).
- ▶ **Optimal Read Range Performance** - An auto-tuning feature automatically adjusts the reader for optimal read range performance on any mounting surface.

Features

Security

64-bit authentication keys are extremely secure. Readers and cards require matching keys to function. All RF data transmission between the card and reader is encrypted using a secure algorithm. The key management system reduces the risk of compromised data or duplicated cards.

Elite Custom Keys

Custom keys provide the highest level of security, where cards and readers are uniquely matched to individual sites or customers, and are non-interchangeable. Combining Elite custom keys with our Corporate 1000 can offer companies a scalable solution that can be implemented in facilities worldwide.

Audiovisual Indication

Audio output provides various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied. A high-intensity light bar provides a clear visual status indication in red, green or amber, even in bright sunlight. Note: Light bar will illuminate amber when a PIPS 201/PIV card is read.

Easily Interfaced

The reader's Wiegand output easily interfaces with most existing Wiegand and Clock-and-Data protocol access control panels. The reader reads standard proximity format data from HID iCLASS® cards and will output data as received. When reading ISO 14443A cards (MIFARE®/DESFire®), the reader can be configured to output 26-bit, 32-bit (MSB), 32-bit (LSB), 34-bit, 40-bit or 56-bit Wiegand formats based on the CSN (card serial number).

Indoor/Outdoor Design

Rugged, weatherized polycarbonate enclosure, designed to withstand harsh environments, provides reliable performance and resistance to vandalism.

Options

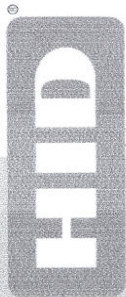
Colors - Black or Gray
 Key Management - Standard or Elite
 Selectable Output Type (for MIFARE cards)
 Termination Options: 18" Pigtail or Terminal Strip
 Programmable LED/Beeper operation
 Accessory - Security Tool: 04-0001-03
 Transit - Enable FeliCa IDm and/or CEPAS/CAN/CSN

	R10	R15	R30	R40
* Model Numbers	6100C (Wiegand) 6108C (Clock-and-Data) 6109C (Transit)	6140C (Wiegand) 6148C (Clock-and-Data) 6149C (Transit)	6110C (Wiegand) 6118C (Clock-and-Data) 6119C (Transit)	6120C (Wiegand) 6128C (Clock-and-Data) 6129C (Transit)
** Read Range	iCLASS Card : Up to 3.25" (8.9 cm) iCLASS Key/Tag : Up to 1.5" (3.8 cm) MIFARE / DESFire Card (CSN) : Up to 2.0" (5.1 cm)	iCLASS Card: Up to 3.5" (8.9 cm) iCLASS Key/Tag : Up to 1.5" (3.8 cm) MIFARE / DESFire Card (CSN) : Up to 2.0" (5.1 cm)	iCLASS Card : Up to 4.0" (10.2 cm) iCLASS Key/Tag : Up to 2.0" (5.1 cm) MIFARE / DESFire Card (CSN) : Up to 2.75" (7.0 cm)	iCLASS Card : Up to 4.75" (12.1 cm) iCLASS Key/Tag : Up to 2.0" (5.1 cm) MIFARE / DESFire Card (CSN) : Up to 2.5" (6.4 cm)
Mounting	The R10 and R15 are physically our smallest readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box or any flat surface (Reader will not cover junction box).		The R30 is 93.8 mm (3.3") square reader is designed to mount to and cover standard European and Asian back boxes.	The R40 is designed to mount and cover single gang switch boxes primarily used in the United States and includes a slotted mounting plate for European and Asian back box spacing.
Dimensions	1.9" x 4.0" x 0.9" 4.8 cm x 10.3 cm x 2.3 cm	1.9" x 6.0" x 0.9" 4.8 cm x 15.3 cm x 2.3 cm	3.3" x 3.3" x 0.9" 8.4 cm x 8.4 cm x 2.3 cm	3.3" x 4.8" x 1.0" 8.4 cm x 12.2 cm x 2.4 cm
Power Supply	5-16 VDC, Linear supply recommended			
Current Requirements	55mA AVG, 116mA PEAK	55mA AVG, 112mA PEAK	55mA AVG, 121mA PEAK	55mA AVG, 121mA PEAK
Operating Temperature	-31° to 150° F (-35° to 65° C)			
Operating Humidity	5% to 95% relative humidity non-condensing			
Transmit Frequency	13.56 MHz			
Cable Distance	Wiegand/Clock-and-Data Interface 500ft (150m) 22 AWG			
Card Compatibility	<ul style="list-style-type: none"> • i5693 - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials, serial number • i4443B - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials serial number • i4443A - read only; MIFARE® and DESFire (serial number) <ul style="list-style-type: none"> • US Government PIV • FeliCa IDm (Transit Readers Only) • CEPAS/CAN/CSN (Transit Readers Only) 			
Environmental Certifications	UL294/cUL (US), FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRC (China), MIC (Korea), NCC (Taiwan), IDA (Singapore), RoHS			
Housing Material	UL94 Polycarbonate			
Family Model	R-640X-300			
Warranty	Warranted against defects in materials and workmanship for life. (See complete warranty policy for details)			

*Consult How to Order Guide for specific ordering instructions.
 **Dependent upon installation conditions.

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ALVY.BP6568 Access Control System Units

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Access Control System Units

See General Information for Access Control System Units

HID GLOBAL CORP
15370 BARRANCA PKY
IRVINE, CA 92618 USA

BP6568

Access control system unit accessories, Models 1351 ProxPass II, 5355/8A ProxPro, 5355 ProxPro, 5352 ProxPro, 5357 ProxPro, 5365 MiniProx, 5395/8C ThinLine II may be followed by additional suffixes. Interface adaptor, Model 4033BGN00.

Models 540, 3110-5440-X, 3110-5441-X, 549-X, 3110-5840-X, 3110-5841-X, 589-X and 590-X.

Model 3110-7801 series pass through card reader with keypad; Model 3110-7401 series pass through card reader without keypad. Model numbers are followed by a four digit dash number subject to change with the firmware added to individual units at the factory.

Model 840 Proximity Card Reader and Model 880 Proximity Card Reader with keypad. Model numbers with suffix B or W.

Models WP611, WP612 and WP644 (3110-6444 or 3110-6445) pass-through card reader. Model numbers with suffix B or W.

Card readers, Models 6055B, 5368/8C MiniProx, 5375 MaxiProx, 5375A MaxiProx, 5405/8A Prox80, 5455/8B ProxPro II, 5398/8C ThinLine II, 6005/8A ProxPoint, 6005/8B ProxPoint, may be followed by additional suffixes.

Models 6130B iCLASS RK40*, 6131B iCLASS RWK400*, 6136A iCLASS RPK40* may be followed by suffix.

Models 6100A iCLASS R10, 6110A iCLASS R30, 6111A iCLASS RW300, 6120A iCLASS R40, 6121A iCLASS RW400, 6125A iClass RP40, 6130A iClass RK40, 6131A iClass RWK400, 6150A iClass R90.

Models 6100B iCLASS R10*, 6101B iCLASS RW100*, 6110B iCLASS R30*, 6111B iCLASS RW300*, 6120B iCLASS R40*, 6121B iCLASS RW400*, 6125B multiCLASS RP40*, 6140A iCLASS R15*, 6141A iCLASS RW150*, 6145A multiCLASS RP15 may be followed by suffix.

Models R10D*, R15D*, R30D*, R40D*, RP15D*, RP40D*, RP10D*, RP30D*, RPK40D*, RK40D*I, CLASS readers may be followed by H which is for marketing purposes only; further may be followed by suffix XXX, followed by NN. Where X₁= Reader Colors K = Black, G = Gray, X₂= Wiring N = Pigtail, T = Terminal, X₃ = R= Reader Employed with RS485 Module.

Models 30387-0XX, Swipe Type card reader, Models 31815-0XX, -1XX and 31880-0XX, -1XX insertion type reader, Models 31503-X. Turnstile type reader and Model 32005 key reader. All readers suitable for outdoor use. Suffix X=0 through 9.

Epic Reader, Model 32985; Pin Pad Wiegand Reader, Model 32788.

Models 6170B iClass RKL55, 6171B iClass RWKL550 proximity card readers with keypad; Models 6180B iClass RKL57, 6181B iClass RWKL575 fingerprint proximity card readers with keypad; Model 6190B (bio500) fingerprint module; Model 6250B iClass RWKL575 programmer. The programmer is for supplementary use only.

Models R10C*, RW100C*, R30C*, RW300C*, R40C*, RW400C*, RMP40C*, R15C*, RW150C*, RP15C*, RP40C*, RK40C*, RWK400C*, RPK40C*, RMPK40C* iClass proximity card readers. May be followed by G or N, may be followed by NN, TN, 4N, UN, BN, DN, HN or XN. All are suitable for outdoor use.

Insertion card readers, Models 640, 3110-6440-X, 3110-6441-X, 649-X, 690-X pass through card reader.

The Models 3110-5440, 3110-5441, 549, 3110-5840, 3110-5841, 585, 589 with suffix B or W, 590, 3110-6440, 3110-6441, 649 and 690 are followed by a one digit number subject to change with the firmware added to individual units at factory.

Proximity card readers with keypad, Models 4045A EntryProx, 4045B EntryProx, 4045C EntryProx.

Proximity card readers / keypad, Models RPKCL40A and RKCL40A. May be followed by H which is for marketing purposes only may be followed by XXX may be further followed by NN. Where X₁= Reader Colors K = Black, G = Gray, X₂= Wiring N = Pigtail, T = Terminal, X₃ = R= Reader Employed with RS485 Module.

Proximity card programmer, Model 1050A. For supplementary use only.

Access control system unit accessories, Model 6181A (RWKL575) proximity card and fingerprint reader with keypad, Model 6171A (RWKL550) proximity card reader with keypad, Model 6190A (bio500) fingerprint module and Model 6251A (RWKL575) proximity card programmer. Programmer for supplementary use only.

Access control system unit accessories * \$, Modules with with CAN Bus functionality, Models MEDMAXNN (EDM-M) Door Module, MEDWMAXNN (EDWM-M) Dual Module, MEIMAXNN (EIM-M) Input Module, ELMAXNN (ELM) Lock Power Module, MEWMAXNN (EWM-M) Wiegand Module, EVMAXNN (EVM) Voltage Module.

Controllers*, EdgePlus Series, Part Nos. 82000B, 83000B.

Controllers * \$, EdgePlus Series with CAN Bus functionality, Models E400CxNN (EH400), KE400CxNN (EH400-K).

Controllers/readers*, EdgeReader Series, Part Nos. 82120B, 82121B, 82125B, 83120B, 83125B.

Controllers/readers * \$, EdgeReader Series with CAN Bus functionality, Models ER40CxNN (EHR40), ERP40CxNN (EHRP40).

SmartID proximity readers*, Models 8030D, 8031D, 8100D, 8101D, 8140D, 8141D.

SmartID proximity programmer*, Model 8032D (for supplementary use only).

Subassembly, Model M2000 pivCLASS authentication module.

* - Complementary Listed under UEHX7.

\$ - Also Recognized to APOU2.

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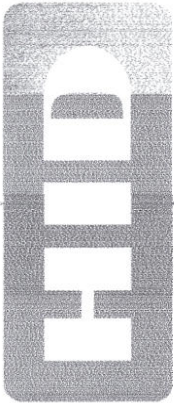
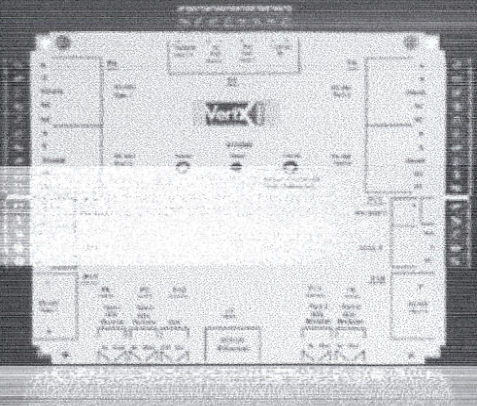
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VI000 Network Controller

Access Control Processing and Host Interface for up to 32 Door/Reader Interface, Input Monitor, or Output Control Units. • 71000



ACCESS opportunity.

The HID VertX™ products provide a complete and fully featured hardware/firmware infrastructure for OEM access control software host systems, communicating via industry standard TCP/IP protocol, over 10/100 Mbps Ethernet or the Internet. The VI000 boasts a 32-bit RISC processor running the Linux Operating System. On-board flash memory allows program updates to be downloaded via the network. The VI000 connects up to 32 Door/Reader, Input Monitor, or Output Control Interfaces via two independent RS-485 networks, each network having two sets of input connections for optimum system topology. This architecture minimizes the impact on corporate LANs by using only one TCP/IP address for every 32 interfaces, and by handling low-level transactions on the RS-485 network.

Features

- ▶ Stores a complete access control and configuration database for up to 32 Reader Interfaces (up to 64 doors) and 44,000 cardholders with expansion capability up to 250,000 cardholders.
- ▶ The access control system interfaces with combinations of devices with a maximum of:
 - 32 Door/Reader interfaces (up to 64 doors/readers) or
 - 32 input monitor interfaces (up to 512 monitor points) or
 - 32 output control interfaces (up to 384 control relays)
- ▶ Reports supervised inputs/alarms with 255 priorities.
- ▶ Includes an HTTP API, Windows® DLL API, and direct communication API.
- ▶ Allows local connection of a laptop computer for diagnostics and configuration.
- ▶ Connects to the host and other devices on a TCP/IP network.
- ▶ Receives and processes real time commands from the host software application.
- ▶ Reports all activity to the host.
- ▶ Controls and communicates with all connected devices.
- ▶ Buffers offline transactions and uploads to the host when communication is restored.
- ▶ Allows fallback communications via dialup or RF modem if TCP/IP network communication is lost.
- ▶ UL 294 and UL 1076 recognized component.

Features

Configuration	Attractive polycarbonate enclosure protects components from damage, and all connections and indicators are fully identified by silk-screened nomenclature on the cover.
Mounting	Mount to any wall surface, using four screws. For UL compliance, one or more gateways can be mounted inside a locking customer-supplied NEMA-4 rated enclosure with: <ul style="list-style-type: none">• DC supply with battery back-up• Enclosure tamper switch• All connections made through conduit The unit should be installed indoors, inside a secure area, such as in an IT or telecommunications room, utility closet, or on a wall above a suspended ceiling.
Visual Indicators	Power LED indicates that sufficient DC voltage is being provided to the unit. RS-485 Communications LED, solid green indicates successful communications to downstream devices, red flash indicates a failed communications attempt, solid red indicates no communications.
Easily Interfaced	<ul style="list-style-type: none">• RJ-45 connector for Ethernet TCP/IP• Quick-disconnect screw terminal connectors• Four RS-485 connections to interfaces• 2 supervised analog inputs for general purpose applications• 2 non-latching output relays for local alarm annunciation (rated 2A @ 30VDC)• DC Power Input• Tamper Input*• AC Power Fail Input*• Battery Fail Input* *Can be configured as a general purpose input
Power Distribution	The user should supply 12VDC to connected interfaces. Separate supervised DC supplies with battery back-up are recommended for door locking or relay activated devices, HID MaxiProx® readers, and larger systems.
Hardware	• 32-bit RISC CPU, 100 MHz
Memory	• 8 MB onboard Flash memory • 16 MB / 32 MB memory expansions available • 32 MB SDRAM • 256k SRAM
Warranty	Warranted against defects in materials and workmanship for 18 months. (See complete warranty policy for details.)
Part Number	Base Part Number: 71000

Specifications

Dimensions	5.8" W x 4.825" H x 1.275" D (147.32 mm x 122.55 mm x 32.38 mm)
Weight	12.4 oz (35 kg)
Enclosure Material	UL94 Polycarbonate
Power Supply Requirements	140 mA @ 12-18VDC Recommended: Supervised linear power supply with battery backup, input surge protection, and AC Fail and Battery Low contact outputs.
	Separate supervised DC supply with battery back-up recommended for relay activated devices.
Operating Environment	Indoors, or customer-supplied NEMA-4 Enclosure
Temperature	32° to 122° F (0° to 50° C)
Humidity	5% to 95% relative, non-condensing
Communication Ports	RS-485 – two wire TCP/IP – one port, 10 or 100 Mbps
Certifications	UL 294 and UL 1076 Recognized Component for the US CSA 205 for Canada, FCC Class A Verification EMC for Canada, EU (CE Mark), Australia (C-Tick Mark), New Zealand, Japan, EN 50130-4 Access Control Systems Immunity for the EU (CE Mark)

Cable Distance	RS-485 – 4000 feet per network (two independent RS-485 networks) using Belden 3105 (22AWG) 2-twisted pair, shielded 100Ω cable TCP/IP – 300 feet (100 m) to next device, using Category 5 cable, Alpha 9504C or 9504F Input Circuits – 500 feet (150 m), 2-conductor, shielded, using ALPHA 1292C (22AWG) or Alpha 2421C (18AWG) Output Circuits – 500 feet (150 m), 2-conductor, using ALPHA 1172C (22AWG) or Alpha 1897C (18AWG) Minimum wire gauge depends on cable length and current requirements.
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MKT-V1000_DS_EN



ACCESS experience.

hidcorp.com

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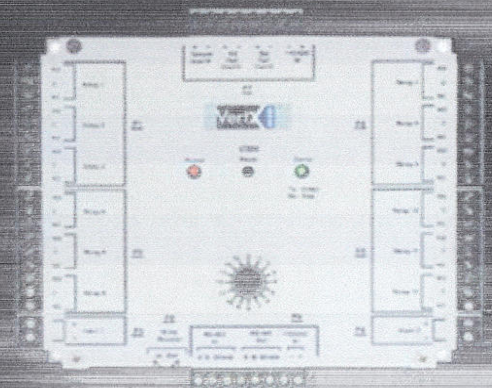
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LU9 9EJ
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Fax: +44 (0) 1440 714 840

V300 Output Control Interface

Output Control Processing for up to 12 Devices • 70300



ACCESS opportunity.

The HID VertX™ products provide a complete and fully featured hardware/firmware infrastructure for access control software host systems. The V300 output control interface contains 12 latching Form-C relays, which can connect up to 12 devices controllable by simple contact closures, such as logic inputs for process equipment, HVAC and elevator control panels, CCTV switchers, etc. Loads exceeding 2 A @ 30 VDC should be controlled via interposing relays.

The V300 features on-board flash memory, allowing program updates to be downloaded via the network. The V300 connects to the V1000 through a high speed RS-485 network. The V1000 communicates with the system host via industry standard TCP/IP protocol over 10/100 Mbps Ethernet or the Internet. This architecture minimizes the impact on corporate LANs, by using only one TCP/IP address for every 32 Interfaces, and by handling low-level transactions on the RS-485 network.

Features

- ▶ Off-normal status programmable for each input point (NO or NC alarm devices may be used).
- ▶ 12 latching Form-C relays, contacts rated at 2A @ 30VDC.
- ▶ Connects to the V1000 via RS-485.
- ▶ Receives and processes real time commands from the V1000.
- ▶ Reports all activity to the V1000.
- ▶ Allows complex input/output linking when used with the V1000 and V200.
- ▶ Attractive polycarbonate enclosure protects components from damage.
- ▶ All connections and indicators are fully identified by silk-screened nomenclature on the cover.
- ▶ UL 294 and UL 1076 recognized component.

Features

- Mounting** Mount to any wall surface, using four screws. For UL compliance, one or more interfaces can be mounted inside a locking customer-supplied NEMA-4 rated enclosure with:
- DC supply with battery back-up
 - Enclosure tamper switch
 - All connections made through conduit
- The unit should be installed indoors, inside a secure area, such as in an IT or telecommunications room, utility closet, or on a wall above a suspended ceiling.
- Visual Indicators** Communications LED flashes green for "transmit to host" and red for "receive from host." Power LED indicates that sufficient DC voltage is being provided to the unit.
- Easily Interfaced**
- Quick-disconnect screw terminal connectors
 - Rotary address switch (0-15)
 - Latching form-C relay outputs for 12 relay-controllable devices
 - Inputs for:
 - 2 auxiliary input circuits
 - AC Fail Monitor*
 - Battery Fail Monitor*
 - Enclosure Tamper*
- *Can be configured as a general purpose input
- Local Processing**
- Basic input/output linking for outputs 1 and 2, and auxiliary inputs 1 and 2
- Warranty** Warranted against defects in materials and workmanship for 18 months. (See complete warranty policy for details.)
- Part Numbers** Base Part Number: 70300

Specifications

Dimensions

5.8" W x 4.825" H x 1.275" D
(147.32 mm x 122.55 mm x 32.38 mm)

Weight: 13.6 oz (.38 kg)

Enclosure Material: UL94 Polycarbonate

Power Supply Requirements

60 mA @ 9-18 VDC

Recommended: supervised linear power supply with battery backup, input surge protection, and AC Fail and battery low contact outputs.

Separate supervised, DC supply with battery back-up recommended for relay activated devices.

Relay Rating

2 A @ 30VDC maximum load

Operating Environment

Indoors, or customer-supplied NEMA-4 rated enclosure

Temperature

32° to 122° F (0° to 50° C)

Humidity

5% to 95% relative, non-condensing

Communications Ports

RS-485: two wire.

Certifications

UL 294 and UL 1076 Recognized Component for the US CSA 205 for Canada, FCC Class A Verification, EMC for Canada, EU (CE Mark), Australia (C-Tick Mark), New Zealand, Japan EN 50130-4 Access Control Systems Immunity for the EU (CE Mark)

Cable Distance

RS-485 – 4000 feet (1220 m) to host using Belden 3105A, 22 AWG twisted pair, shielded 100Ω cable
Output Circuits – 500 feet (150 m), 2-conductor, using ALPHA 1172C (22AWG) or Alpha 1897C (18AWG)
Minimum wire gauge depends on cable length and current requirements.

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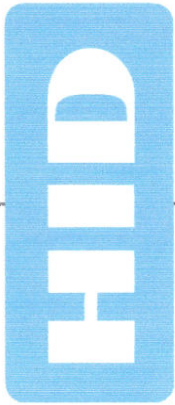
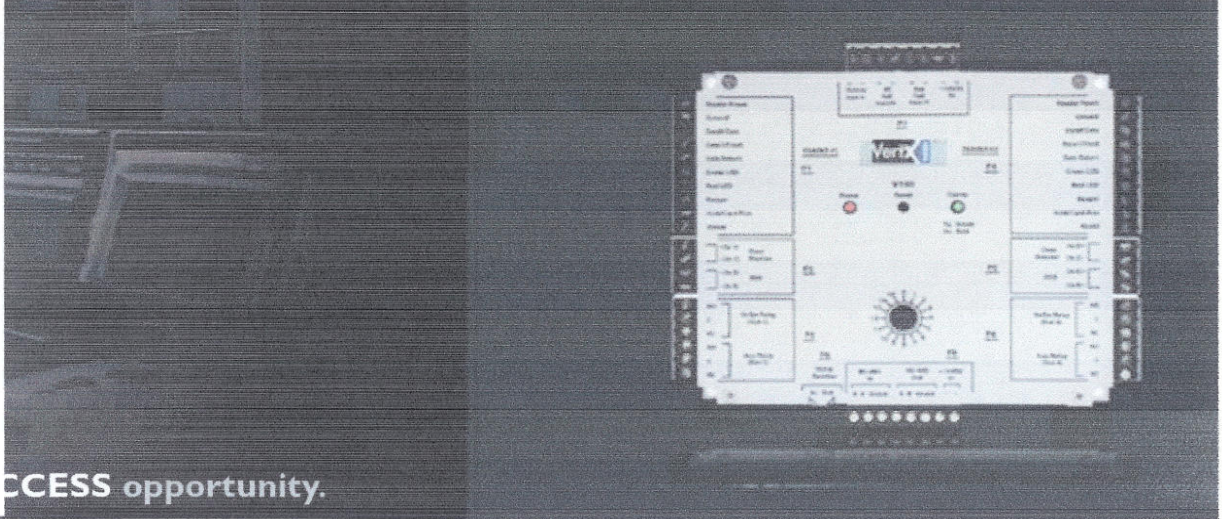
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Fax: +44 (0) 1440 714 840

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ASSA ABLOY

VertX™ VI00 Door/Reader Interface

Access Control Processing for Two Readers/Two Doors • 70100



ACCESS opportunity.

The HID VertX™ products provide a complete and fully featured hardware/firmware infrastructure for access control software host systems. The VI00 Door/Reader interface connects two access control card readers via Wiegand or Clock-and-Data interface controlling either one or two doors. The VI00 features on-board flash memory, allowing program updates to be downloaded via the network. The VI00 connects to the VI000 through a high speed RS-485 network. The VI000, in turn, communicates with the system host via industry standard TCP/IP protocol over 10/100 Mbps Ethernet or the Internet. This architecture minimizes the impact on corporate LANs by using only one TCP/IP address for every 32 interfaces and by handling low-level transactions on the RS-485 network.

Features

- ▶ Reports supervised inputs.
- ▶ Connects to the VI000 via RS-485.
- ▶ Receives and processes real time commands from the VI000.
- ▶ Reports all activity to the VI000.
- ▶ Attractive polycarbonate enclosure protects components from damage.
- ▶ All connections and indicators are fully identified by silk-screened nomenclature on the cover.
- ▶ Processes off-line access control decisions based on facility code.
- ▶ UL 294 and UL 1076 recognized components.

Features

Mounting

Mount to any wall surface, using four screws. For UL compliance, one or more interfaces can be mounted inside a locking customer-supplied NEMA-4 rated enclosure with:

- DC supply with battery back-up
- Enclosure tamper switch
- All connections made through conduit

The unit should be installed indoors, inside a secure area, such as in an IT or telecommunications room, utility closet or on a wall above a suspended ceiling.

Visual Indicators

Communications LED flashes green for "transmit to host" and red for "receive from host." Power LED indicates that sufficient DC voltage is being provided to the unit.

Easily Interfaced

- Quick-disconnect screw terminal connectors
- Rotary address switch (0-15)
- Inputs for:

- 2 readers
- 2 door monitor switches
- 2 Request to Exit switches
- AC Fail Monitor*
- Battery Fail Monitor*
- Enclosure Tamper*

*Can be configured as a general purpose input

Non-latching relay outputs (rated 2 A @ 30 VDC):

- 2 door strikes (configurable)
- 2 auxiliary devices: door hold/forced alarm, alarm shunt, host off line (comms down), or general purpose

Local Processing

- Alarm shunt and strike relay timing and latching functions
- Access control decisions based on facility code (degraded mode)
- Basic input/output linking
- LED/beeper control during card + PIN, scheduled unlock, and other transactions

Microcontroller

Warranty

Warranted against defects in materials and workmanship for 18 months. (See complete warranty policy for details.)

Part Numbers

Base Part Number: 70100

Specifications

Dimensions

5.8" W x 4.825" H x 1.275" D
(147.32 mm x 122.55 mm x 32.38 mm)

Weight

12.4 oz (35 kg)

Enclosure Material

UL94 Polycarbonate

Power Supply Requirements

60 mA @ 9-18 VDC (with no readers connected).
Recommended: Supervised linear power supply with battery backup, input surge protection, and AC fail and battery low contact outputs. When VeriX™ is supplying power to readers the requirements are 600 mA @ 9-18 VDC. The V100 can supply 500 mA to two readers.

Separate supervised DC supplies with battery back-up recommended for door locking or relay activated devices, or for HID MaxiProx® readers.

Operating Environment

Indoors, or customer-supplied NEMA-4 rated enclosure.

Temperature

32° to 122°F (0° to 50°C)

Humidity

5% to 95% relative, non-condensing

Communications Ports

RS-485 – two wire, Two SIA standard Wiegand/Clock and Data ports

Certifications

UL 294 and UL 1076 Recognized Component for the US
CSA 205 for Canada
FCC Class A Verification
EMC for Canada, EU (CE Mark), Australia (C Tick Mark),
New Zealand, Japan
EN 50130-4 Access Control Systems Immunity for the
EU (CE Mark)

Cable Distance

RS485 – 4000 feet (1220 m) to host, using Belden 3105A, 22AWG twisted pair, shielded 100ft cable
Wiegand – 500 feet (150 m) to reader – using ALPHA 1299C 22AWG, 9-conductor, stranded, overall shield (Fewer conductors needed if all control lines are not used).
Input Circuits – 500 feet (150 m), 2-conductor, shielded, using ALPHA 1293C (22AWG) or Alpha 2421C (18AWG)
Output Circuits – 500 feet (150 m), 2 conductor, using ALPHA 1172C (22AWG) or Alpha 1897C (18AWG)
Minimum wire gauge depends on cable length and current requirements.

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ASSA ABLOY



ALVY2.BP9736 Access Control System Units - Component

[Page Bottom](#)

Access Control System Units - Component

[See General Information for Access Control System Units - Component](#)

HID GLOBAL CORP
15370 BARRANCA PKY
IRVINE, CA 92618 USA

BP9736

Access control system components, Models V100, V200, V300, V1000, V2000, VertX EVO V2000.

Marking: Company name and model designation.

Last Updated on 2012-04-06

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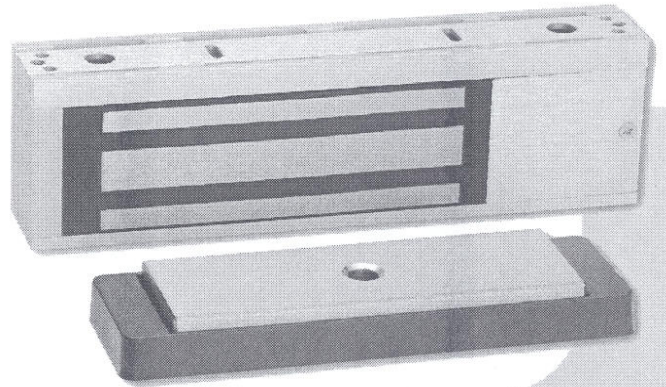
M450/M452 High Security Series Electromagnetic Lock

Overview

The M400 Series line of electromagnetic locks from Schlage are designed with the customer in mind to be robust, easy to install, and secure. The new bayonet mounting feature makes installs easier, allowing the installer to have their hands free during the mounting process. There is no need to consider door handing as all the M400 Series electromagnetic locks are both non-handed and symmetrical, allowing optimum placement of the magnet no matter the application.

All M400 Series locks have automatic voltage sensing for 12 and 24 volts along with polarity protection to make wiring less complex. The M450 is tested and certified to meet or exceed UL1034 and BHMA 1000lb. hold force requirements.

The M450 electromagnetic lock comes in two configurations to meet your specific security needs. The M450 provides basic security, while the M450P provides intelligent sensing and reporting features needed to integrate with access control systems. Additional options are available for the M450P. Kits are available for top jam, double door, and glass door applications.



Features

- Bayonet mount makes installation simpler by not requiring magnet to be held overhead while mounting screws are installed
- New design allows for RH/LH configuration in the field
- Armature mount allows armature to pivot compensating for slight opening imperfections
- Limited Lifetime Warranty
- UL1034 and BHMA Grade1* certified
- 1000 lb. Hold Force
- See page 2 for additional features and options

* Currently Grade 2, Grade 1 testing in progress at the time of initial publication of this data sheet.

LOCKNETICS

M450P

FOR FIELD USE



ADDITIONAL FEATURES

→ **M450/M452**

- **Automatic Voltage Selection (AVS)** senses the voltage applied to the lock and responds accordingly

M450P/M452P

- **Magnetic Bond Sensor (MBS)** monitors the strength of the bond between the lock and armature so you know the door is secure
- **Door Position Switch (DPS)** monitors whether the door is open or closed
- **Relock Time Delay (RTD)** provides a relock delay that is adjustable from 0.5 to 30 seconds

Optional (P models only)

- **Anti-Tamper Switch (ATS)** provides an indication that the cover of the magnet is securely fastened to the lock and that the on board circuitry is secure
- **MBS Indicator (LED)** provides visual indication of magnetic bond at the lock

OPTIONS (for all)

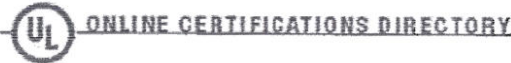
- Herculite Door Bracket
- Top Jamb (inswinging doors)

M450/M452 Electromagnetic Lock Specifications		
Specification	M450/M450P	M452/M452P
Holding Force	meets or exceeds BHMA standard of 1000 lbs.	1000 lbs. per door leaf
Input Voltage (Standard Unit)	12/24 VDC	
Current Draw (Amps Standard Unit)	.75A @ 12 VDC .38A @ 24 VDC	1.5A @ 12 VDC .75A @ 24 VDC
Automatic Dual Voltage	12/24 VDC	
Height	3"	3"
Length	10 - 1/4"	20 - 9/16"
Width	1 - 3/4"	1 - 3/4"
Weight (approximate)	10 lbs.	20 lbs.
Certifications	UL1034, UL10C, ANSI/BHMA156.23	
Temperature	0°-49° C (32°-120° F)	
Wire Gauge	14-22 AWC	

Filler Plates and Angle Brackets Specifications		
	M450	M452
Length	10-1/2"	20- 5/8"
Filler Plates		
Width x Height		
1-1/4" x 1/8"	4501F	4521F
1-1/4" x 1/4"	4502F	4522F
1-1/4" x 3/8"	4503F	4523F
1-1/4" x 1/2"	4504F	4524F
1-1/4" x 5/8"	4505F	4525F
3/4" x 1/2"	4506F	4526F
3/4" x 5/8"	4507F	4527F
3/4" x 3/4"	4508F	4528F
Angle Brackets		
Width x Height	Plate No.	Plate No.
1"x1"	4501A	4521A
1-1/2" x 1"	4502A	4522A
1-1/2" x 1-1/2"	4503A	4523A
1-1/2" x 2"	4504A	4524A
1-1/2" x 2 -1/2"	4505A	4525A

FOR FIELD USE



**CVXJ.BP8008****Burglary-resistant Electrically-operated Door-locking Mechanisms**[Page Bottom](#)**Burglary-resistant Electrically-operated Door-locking Mechanisms**[See General Information for Burglary-resistant Electrically-operated Door-locking Mechanisms](#)

SCHLAGE LOCK CO
3899 HANCOCK EXPY
SECURITY, CO 80911 USA

BP8008

Exit devices, Models 671, 690, 690AUD6020REX, SMARTBAR, 6020REX, 672, followed by AL or HW, followed by 36, 42, 48, or SP, followed by 628, 313, or 335, followed by WH, RD, GR, BL or BRG, followed by RHR, or LHR, followed by DP, CA, AR, AW, or WD.

Model 692, followed by AL or HW, followed by 36, 42, 48 or SP, *followed by 628 or 313, followed by BL, RD, GR, WH, GD or BRG, followed by RHR or LHR, followed by CA, AR or WD.

Electromagnetic locks, Models CLH90-3, CLH92-4, CLH90-5, CLH92-6, HDB90, HDB92, TJ90, TJ91, and TJ92.

Electromagnetic locks, Models M490P, M490, M492P, M492, M450P, M450, M452P, M452, M420P, M420, M422P, and M422, may be followed by TJ. Strength ratings for Models M490(P) and M492(P): Dynamic -- 70 ft-lbs, Static -- 1500 lbs, Endurance rating -- 250,000 cycles. Strength rating for Models M450(P) and M452(P): Dynamic -- 70 ft-lbs, Static -- 1000 lbs, Endurance rating -- 250,000 cycles. Strength ratings for Models M420(P) and M422(P): Dynamic -- 70 ft-lbs, Static -- 500 lbs, Endurance rating -- 250,000 cycles.

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PS902 2 amp Power Supply

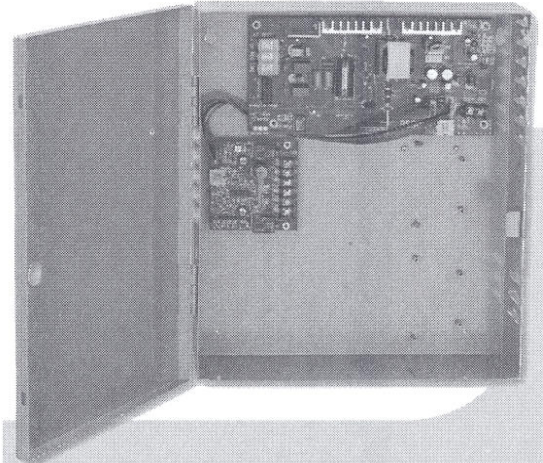
Overview

Schlage's comprehensive line of power supplies and option boards were designed to address the changing needs of the access control market.

Installation is simplified by utilizing a flat mounting design and polarized locking connectors for option boards. This new design eliminates the need for racks and side connectors. The flat mounting of the option boards also provides for easier access to the terminal blocks for connection of electrified devices (such as electrified strikes, electromagnetic locks, card readers, etc).

Common to the line of PS900 Series power supplies is a constant output rating at both 12v and 24v settings, universal 120 VAC to 240 VAC input, and polarized option board connectors. New fire alarm interface board mounting allows outputs to be configured as switched (power cut) or unswitched (power continues) when signal provided.

* All PS900 Series of power supplies and option boards have been tested and certified to meet UL294.



Features

- 2A @ 12/24 VDC output, field selectable with jumper
- Class 2 Rated power limited output
- Universal 120 -240 VAC input
- Low voltage DC, regulated and filtered
- Single polarized connector for distribution board
- Fused primary input
- AC input and DC output monitoring circuit w/ LED indicators
- Cover mounted AC input indication
- NEMA 1 enclosure
- Hinged cover w/ lock down screws
- High voltage protective cover

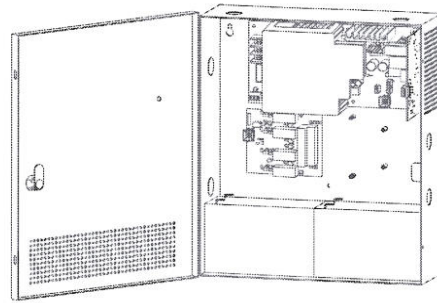
LOCKMATIC

OWNES

FOR FIELD USE

OPTIONS

- Emergency Interface Relay (FA)
- Battery Backup
- 2 relay QEL panic device control board
- 4 relay distribution board
- 4 relay distribution board with logic
 - Field configurable for:
 - Time delay function
 - Auto operator
 - Security interlock
- 8 fused output distribution board
- 8 PTC output distribution board

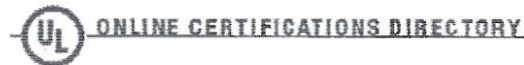


PS902

PS902 Power Supply Specifications	
Specification	Description
Input Voltage	120/240 VAC, 50/60 Hz, universal input
Output Voltage	2A @ 12 or 24 VDC Field selectable with jumper Switching supply, 5% regulation, 240mVpp max ripple
Enclosure	Grey / Baked enamel 14"H x 12"W x 4"D Eight 1/2" x 3/4" Knockouts NEMA Grade 1 Hinged cover with lock down screws
Operating Temperature	32°-120° F (0°-49° C)
Certifications	UL 294 Class 2 RoHS FCC Part 15
Option Board Compatibility	900-BB: Battery Backup 900-FA: Fire Alarm 900-2Q: 2 Relay QEL control Board 900-4R: 4 Relay Output Board 900-4RL: 4 Relay Logic Board 900-8F: Fused 8 Zone Distribution Board 900-8P: PTC 8 Zone Distribution Board
AC Primary Fuse Size	3.15A, 250v, 5 x 20mm SLOW-BLOW
Battery Fuse Size	7.5A 32v ATO blade style
DC Output Protection	Overload protection - current limited foldback circuit
Indicators	LED indicators: -AC input (visible on outside of enclosure) -DC output Isolated SPDT contacts to monitor AC power status
Weight (Power Supply)	Approx. 9.0 lbs
Weight (Each Battery)	4.0 lbs
AC Input Termination	3 position terminal block with protective cover Wire capacity: 10 AWG max.
DC Output Termination	2 position terminal block Wire capacity: 12 AWG max.
Distribution board connectors	1
Fire Alarm board connector	Yes
Keylock	Optional

FOR FIELD USE

IR Ingersoll Rand
Security Technologies



ALVY.BP2364 Access Control System Units

[Page Bottom](#)

Access Control System Units

[See General Information for Access Control System Units](#)

VON DUPRIN INC
2720 TOBEY DR
INDIANAPOLIS, IN 46219 USA

BP2364

Power Supplies, Model PS914, PS914-RFK. (Suitable for access control application only).

Power Supply Subassemblies, option board 900-2RS, Models 900-2Q. (For use with Model PS914 power supply as well as separately Listed Model PS902, PS904, PS906 power supplies).

Access Control Resistor, 900ELK current limiting resistor (for use with 900-2RS and 900-4RL options boards on a Model PS914 power supply).

[Last Updated](#) on 2011-02-08

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Electrified Options & Accessories

ED5000

781N Controller

Operation

Designed to control one or two electric latch pullback M94 exit devices. Equipped with two 20-second timers which can operate the exit devices together or independently. Requires a momentary or timed, dry contact input and can be interfaced with access control systems, automatic door operators, "blow open" type scenarios and has provisions for N/C fire alarm systems.

Features

- 2 control inputs. Accepts normally closed dry contacts for device activation from a key switch, push button, access control or fire alarm system.
- 2 normally open control outputs for automatic door operators
- 2 M94 device outputs
- Fire Alarm Interface input
- 12VDC output for audible or LEDS .25 AMP
- 24VDC output for audible or LEDS .25 AMP

Wiring

Up to 40 feet: 16 AWG wire
Up to 60 feet: 14 AWG wire
Up to 100 feet: 12 AWG wire

Electrical Specifications

- 120VAC 60 Hz Power input
- 9 Amp inrush for 100 milliseconds
- Holding voltage @ 28volts unregulated

Listings

Listed as an Exit Device Control Unit to UL 294 requirements.

Note: The 781N is the only power source to be used with the M94 option. Using any other power supply will void the warranty and cause possible damage to the exit device.

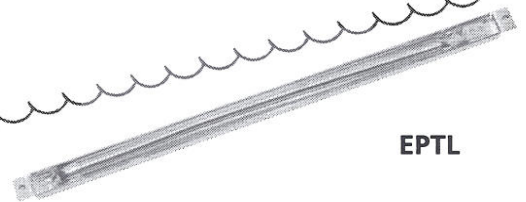
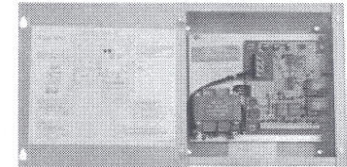
Ordering

781N Controller

EPTL

Concealed power transfer for over 120° swing doors. Installs in door and frame edges. Supports wires up to .25" (6mm) thick, and works with doors hung with butt hinges, continuous hinges and pivots. To order, specify Part No. 704F28.

781N Controller



EPTL

Monitors - M91, M92, M93

Operation

Monitors are used to indicate the authorized and unauthorized use of an opening or to signal and control other opening hardware, such as magnetic locks. Each monitoring device is equipped with one internal single-pole double-throw (SPDT) switch per monitor.

Bolt Position Monitoring - M91

Provides indication of the position of the latch bolt. Used with security systems to monitor the latch bolt; also used to activate automatic door operators upon latch retraction.

Application

See chart on page 34.

Listings

UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

5 Amps @ 28VDC SPDT contacts

Ordering

Specify Quick Code M91.



Touchbar Monitoring - M92

Request to Exit - REX
Provides indication of the pushpad being depressed. Used as a request to exit to shunt alarm systems, release electromagnetic locks or monitor egress.

Application

See chart on page 34.

Listings

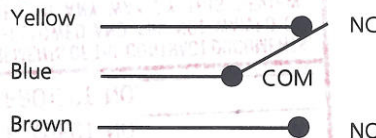
UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

4 Amps @ 250 VAC contacts

Ordering

Specify Quick Code M92.



Outside Monitoring or Signaling - M93

Provides indication of the device being operated from the outside. Used as a request to enter signal switch to shunt alarms; also used to monitor entry.

Application

See chart on page 34.

Listings

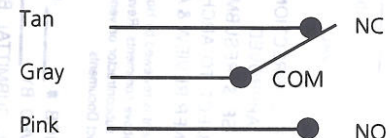
UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

5 Amps @ 28VDC SPDT contacts

Ordering

Specify Quick Code M93.



ML FILE NO. BP7098

Issued: 1997-04-07
Revised: 2007-02-13

MULTIPLE LISTING
of
ACCESS CONTROL SYSTEM UNITS
(ALVY)
Complimentary Listing Under
SIGNAL APPLIANCES, MISCELLANEOUS CERTIFIED FOR CANADA
(UEHX7)
for

[952652001] CORBIN RUSSWIN INC

Basically Listed for:

[991864001] ARCHITECTURAL CONTROL SYSTEMS INC (NBK)

Basically Listed products covered by Procedure and/or Reports under File No. BP6737, Volume 1

Products Covered	Report Date	Basic Applicant's (Supplier's) Product Designation	Multiple Listee's Product Designations
Remote power supplies	1993-07-16 1998-07-15	(US only) A1405-04-AO 1406-04-AO	(US only) 781 781N

LITERATURE IS IDENTICAL TO BASICS

MARKING: Same as that described in Follow-Up Service Procedure and/or Report except for Multiple Listee's name, ML Tradename, when applicable, and product designation.

UL INSPECTION CENTER SOUTHERN DELTA - 416

Electromagnetic Door Holder/Releases

Wall Mounted

Model 997 & 998

Model 997


Application
Wall Mount
Concealed Wiring
ANSI/C00011

Product Description & Features

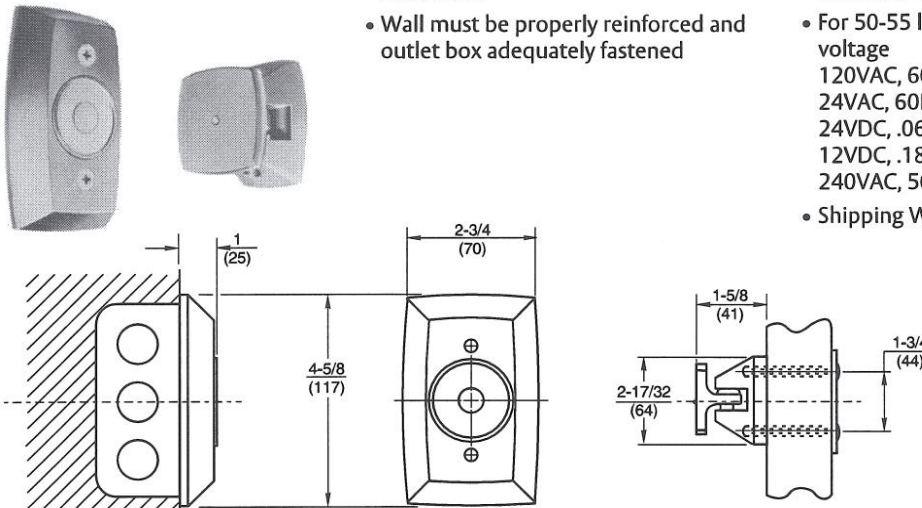
- Total Projection: 2-5/8" (67mm)
- Mounting Requirements:
2" x 4" x 1-3/4" (51 x 102 x 45mm)
outlet box
- Wall must be properly reinforced and outlet box adequately fastened

Technical Information

- Voltage and Current:

120VAC, 60Hz., .020 amp	} 
24VAC/DC, 60Hz., .020 amp	
12VDC, .040 amp	
- For 50-55 lbs. of holding force, specify voltage

120VAC, 60Hz. .017 amp
24VAC, 60Hz. .080 amp
24VDC, .068amp
12VDC, .180amp
240VAC, 50/60Hz. .009 amp
- Shipping Weight: 2 lbs. (0.9 kg)



Model 998


Application
Wall Mount
Concealed Wiring
ANSI/C00011

Product Description & Features

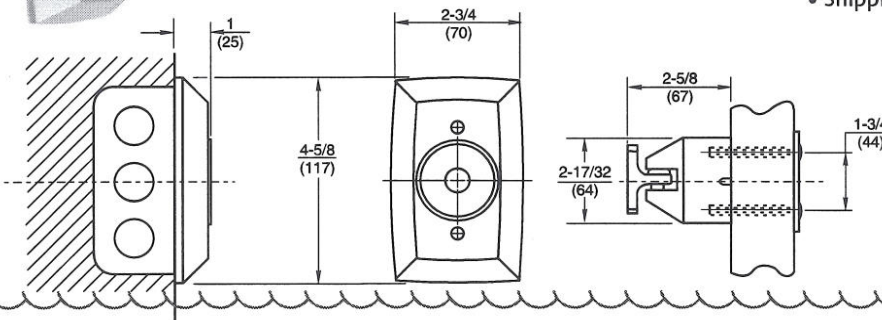
- Total Projection: 3-5/8" (92mm)
- Mounting Requirements:
2" x 4" x 1-3/4" (51 x 102 x 45mm)
outlet box
- Wall must be properly reinforced and outlet box adequately fastened

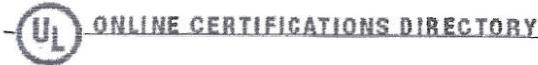
Technical Information

- Voltage and Current:

120VAC, 60Hz., .020 amp	} 
24VAC/DC, 60Hz., .020 amp	
12VDC, .040 amp	
- For 50-55 lbs. of holding force, specify voltage

120VAC, 60Hz. .017 amp
24VAC, 60Hz. .080 amp
24VDC, .068amp
12VDC, .180amp
240VAC, 50/60Hz. .009 amp
- Shipping Weight: 2-1/2 lbs. (1.1 kg)



**GTPR.R4869
Fire Door Holders**[Page Bottom](#)**Fire Door Holders**[See General Information for Fire Door Holders](#)

RIXSON-FIREMARK, DIV OF YALE SECURITY INC
9100 W BELMONT AVE
FRANKLIN PARK, IL 60131 USA

R4869

Electro-magnetic door holders, Models 980, 981, 989, 990, 991, 994, 995, 996, 997, 998, and 999 rated 0.068 amp, 24 v, dc, 0.180 amp, 12 v, dc, 0.017 amp, 120 v, ac, 0.080 amp, 24 v, ac, 0.140 amp, 12 v, ac, and 0.009 amp, 250 v, ac, 277 v, ac.

Electro-mechanical door holder, rated 0.10 amp, 24 v, ac, supplied by a listed Underwriters' Laboratories, Inc., Class 2 transformer.

For use on swinging fire doors in conjunction with automatic operating devices or systems.

Electro-mechanical door holder, Series "Checkmate" 99, Models 99-626, 99-726, 99-826, 99-926, rated 24Vac or dc 90mA, or 120Vac 18mA.

Electro-magnetic door holders, Models 972H, 972S and 972U rated 0.08 amp, 12 v, dc, 24 v, dc, and 0.15 amp, 24 v, ac, 120 v, ac, for use on swinging, sliding, or rolling fire doors in conjunction with automatic operating devices or systems.

Last Updated on 2007-08-17

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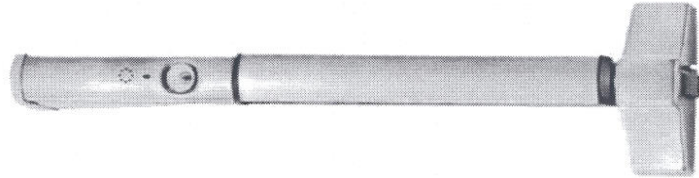
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Electrified Exit Devices

ED5000

Electrified Exit Devices

The Corbin Russwin ED5000 series electrified exit devices offer a complete range of options that may be integrated into the monitoring security and alarm systems of most buildings. The continuum of appearance is maintained, as well as the security and function of the ED5000 mechanical exit device.



List No.	Exit Device Description	Available options											
		M61	M91	M92	M93	M94	M97	SAF	SEC	D	9903	9905	
ED5200 (A)	Rim Exit Device	x	x	x	x	x	x				x	x	x
ED5200S (A)	Rim SecureBolt® Device	x	x	x	x	x	x				x	x	x
ED5400 (A)	Surface Vertical Rod	x	x	x	x	x	x				x	x	x
ED5470 (B)	Surface Vertical Rod	x	x	x	x	x	x				x	x	x
ED5600 (A)	Mortise Exit Device	x	x	x	x	x	x	x	x	x			
ED5800 (A)	Concealed Vertical Rod	x	x	x	x	x	x				x	x	x
ED5860 (B)	Concealed Vertical Rod	x	x	x	x	x	x				x	x	x

Electrified Hardware Option Descriptions

M61	Alarm Option
M91	Bolt Monitor
M92	Touchbar Monitor
M93	Trim Monitor
→ M94	Latch Retraction
M97	Electric Dogging
SAF	Fail Safe Operation
SEC	Fail Secure Operation
D*	Delayed Egress ²
9903	Fail Safe Electrified Trim
9905	Fail Secure Electrified Trim

* Add as suffix to exit device.
Example: ED5200D x 630 x RHR

Note 1: The following options cannot be ordered together on the same device:

- a) M94 or M97 & D
- b) M94 x M97
- c) M52 x M97
- d) M97 x M107
- e) M61 or M92 & D
- f) M61 x M92
- g) M61x M52
- h) M52 & D
- i) ED5600 x M91 & M93
- j) ED5600 SAF or SEC x M91 or M93
- k) Surface vertical rod exit devices with M61 x M91, M92 or M93.

Note 2: When ordering a surface vertical rod exit device with the D option, rod and latch guards (provided by other) must be used.

Note 3: M88 (NFPA30) M89 (BOCA-15) and M90 (BOCA-30) are available only as options for suffix "D" Delayed Egress Exit Devices. See page 36 for details.

Electrified Exit Devices

ED5000

→ Electric Latch Pullback - M94

Continuous-duty solenoid retracts the latch bolt(s) for momentary or maintained periods of time. Latch Pullback provides a remote means of unlocking exit devices.

Application

SecureBolt® Exit Devices
Rim Exit Devices
Surface Vertical Rod Exit Devices
Concealed Vertical Rod Exit Devices
Mortise Exit Devices

Listings

UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

Requires 781N Controller (120VAC input, output sequencer for one or two devices). No substitutes; using other power sources voids warranty. Requires a 4-wire electrical transfer pivot or hinge. See page 41 for controller information.

Solenoid

A dual retraction/holder-type solenoid.
6-9 Amp in rush @ 24VDC to 28VDC (.172 Amp holding-continuous duty.)

Device bolts remain retracted for as long as the device is energized. Removal of power returns the device to the life safety, self-latching mechanical mode.

Interface with central or local fire alarm system, automatic door operators, access control systems, security alarm systems, and blow open door systems.

Note: This feature is not available with Electric Dogging (M97) or delayed egress (D) on the same device.

How to Order

Specify Quick Code M94.

Electric Dogging - M97

This electronic feature will provide continuous dogging when power is applied and the push bar is depressed manually. Interruption or removal of the power will release the pushbar and return the exit device back to normal operation.

Application

SecureBolt® Exit Devices
Rim Exit Devices
Surface Vertical Rod Exit Devices
Concealed Vertical Rod Exit Devices
Mortise Exit Devices

Listings

UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

.35 Amps @ 24VDC continuous duty
(2) 36 volt holding magnets holding force (86 lbf. total)

Note: This feature is not available with Electric Latch Pullback (M94) or delayed egress (D) on the same device.

How to Order

Specify Quick Code M97.

Mortise Device Trim Control

Safe or Secure

Mortise device trim control provides a remote means of locking and unlocking the outside lever trim. This feature is provided by continuous duty solenoids in the device mortise lock.

Application

Mortise exit devices.

Listings

UL listed for both Panic and Fire Exit Hardware.

Electrical Specifications

24VDC 330 milliamperes

Fail Safe units maintain the door locked as long as the device is energized.

Fail Secure units maintain the door unlocked as long as the device is energized.

Regulated 24VDC power supply required.

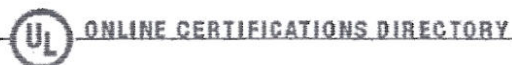
Note: SAF & SEC options are only available with ED5600L and ED5600(A)L version lock body functions and may not be combined with either the M91 or M93 monitoring options.

How to Order

Specify Quick Code "SAF" for Safe or "SEC" for Secure.

FOR FIELD USE

FOR FIELD USE



FULA.SA8040 Controlled Exit Panic Devices

[Page Bottom](#)

Controlled Exit Panic Devices

[See General Information for Controlled Exit Panic Devices](#)

CORBIN RUSSWIN INC
225 EPISCOPAL RD
BERLIN, CT 06037 USA

SA8040

Controlled exit panic devices, Series ED5000D, ED4200D, -4200SD, -4400D, -4800D, -5200D, -5200AD, -5200SD, -5200SAD, -5400D, -5400AD, -5470D, -5470BD, -5600D, -5600AD, -5800D, -5800AD, -5860D, -5860BD.

All Models may be suffixed with "M61", "M91", "M92", "M93", "M94", "M97", "D".

Models ED5200D, ED5200AD, ED5200SD, ED5200SAD, ED5400D, ED5400AD, ED5470D, ED5470BD may be suffixed "9903", "9905".

Models ED5600D, ED5600AD may be suffixed "SAF" or "SEC".

Compliant with BOCA, National Building Code when installed in accordance with the manufacturers installation instructions.

[Last Updated](#) on 2009-02-17

[Questions?](#)

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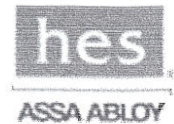
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1006 Series

Description & Specifications

The strongest, most versatile electric strike available

The 1006 series is the strongest and most versatile electric strike available. It meets or exceeds every standard developed for electric strikes. With 27 faceplate options, the 1006 can accommodate virtually every type of lockset on the market. The 1006 features a sleek keeper and 100% stainless steel cast case. Tested to exceed 3,000 lbs. of static strength, 350 ft. lbs. of dynamic strength and factory tested to exceed 1,000,000 cycles of operation, the 1006 is in a class of its own.

Specifications

- UL 10C fire-rated, 3 hour single door (fail secure only)
- UL 10C fire-rated, 1-1/2 hour double door (fail secure only)
- CAN4-S104(ULC-S104) fire door conformant
- ANSI A250.13-2003 windstorm listed
- UL 1034, burglary-resistant listed
- ANSI/BHMA A156.31, Grade 1
- NFPA-252 fire door conformant
- ASTM-E152 fire door conformant
- MEA New York City accepted
- Florida Building Code approved
- Patents #6021038 & 6595564

Frame application

- Metal
- Wood

Electrical

- .45 Amps @ 12VDC continuous duty
- .25 Amps @ 24VDC continuous duty

Standard Features

- Stainless steel construction
- Tamper resistant

- Static strength 3070 lbs. (fail secure)
- Dynamic strength 350 ft.-lbs. (fail secure)
- Endurance 1,000,000 cycles
- Fail secure (standard)
- Dual voltage 12 or 24VDC continuous duty
- Non-handed
- Internally mounted solenoid
- Accommodates up to 1" deadbolt
- Plug-in connector
- Full keeper shims for horizontal adjustment
- Trim enhancer
- Five year limited warranty

Optional Features

- Fail Safe
- LBM - Latchbolt monitor
- LBSM - Latchbolt strike monitor
- 27 interchangeable faceplate options (monitor switches may not work with all faceplate options)

Looking for tips on installation or maintenance? See the [1006 Tech Tip](#).

Faceplates & Accessories

Faceplate Options

- **J (4-7/8" x 1-1/4")** For use with cylindrical locksets up to 3/4" throw and all locksets with center-lined bolts. ANSI/BHMA Numbers: #E09321, #E09322, #E09323
- **E (4-7/8" x 1-1/4")** For use with Corbin/Russwin Security Bolt, Weiserbolt, and normally extended 1" tubular deadbolts. ANSI/BHMA Numbers: #E09391, #E09392, #E09393
- **K (4-7/8" x 1-1/4")** For use with Mortise locksets with a deadlatch positioned above the latchbolt. Compatible Locksets: Baldwin, Marks, PDQ, Others. ANSI/BHMA Numbers: #E09321, #E09322, #E09323
- **KD (4-7/8" x 1-1/4")** For use with Mortise locksets with a deadlatch positioned above the latchbolt. Compatible Locksets: Jackson, Sargent (7700 & 8100), Schlage, Yale (8700). ANSI/BHMA Numbers: #E09321, #E09322, #E09323
- **KM (4-7/8" x 1-1/4")** For use with Mortise locksets with a deadlatch positioned below the latchbolt. Compatible Locksets: Accurate, Arrow, Best*, Corbin/Russwin, Falcon (1992 M Series), Sargent (7800, 8200 & 9200 series), Yale (8800) *For Best 45H & 47H deadlatch below, and Best 34H - 37H deadlatch above. ANSI/BHMA Numbers: #E09321, #E09322, #E09323
- **N (4-7/8" x 1-1/4")** For use with Mortise locksets where the deadbolt is used for night-latch function only. Compatible Locksets: Accurate, Arrow, Baldwin, Marks, Omnia, PDQ, Others. ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **ND (4-7/8" x 1-1/4")** For use with Mortise locksets where the deadbolt is used for night-latch function only. Compatible Locksets: Sargent (7700 & 8100 series), Yale (8700). ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **NM (4-7/8" x 1-1/4")** For use with Mortise locksets with a deadlatch positioned below the latchbolt and where the deadbolt is used for night-latch function only. Compatible Locksets: Best (45H & 47H, and 34H-37H), Corbin/Russwin, Falcon, Sargent (7800, 8200 & 9200 series). ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **A (4-7/8" x 1-1/4")** For use with Mortise locksets with a normally extended 1" deadbolt without a deadlatch. Compatible Locksets: Arrow, Baldwin, Marks, Omnia, PDQ, Others. ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **AD (4-7/8" x 1-1/4")** For use with Mortise locksets with a normally extended 1" deadbolt without a deadlatch. Compatible Locksets: Sargent (7700 & 8100 series), Yale (8700). ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **AM (4-7/8" x 1-1/4")** For use with Mortise locksets with a normally extended 1" deadbolt and a deadlatch positioned below the latchbolt. Compatible Locksets: Accurate, Best (45H & 47H, and 34H-37H), Corbin/Russwin, Falcon, Sargent (7800, 8200, & 9200 series), Yale (8800). ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **T (4-7/8" x 1-1/4")** For use with Mortise locksets with a normally extended 1" deadbolt and a center-lined deadlatch. Compatible Locksets: Accurate, Arrow, Baldwin, Marks, Omnia, PDQ, Schlage, Others. ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **TD (4-7/8" x 1-1/4")** For use with Mortise locksets with a normally extended 1" deadbolt and a center-lined deadlatch. Compatible Locksets: Sargent (7700 & 8100 series), Yale (8700). ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **H (4-7/8" x 1-1/4")** For use with Mortise locksets with a 1" deadbolt without a deadlatch. Strike will not release when deadbolt is extended. Compatible Locksets: Arrow, Baldwin, Marks, Omnia, PDQ, Others. ANSI/BHMA Numbers: #E09391, #E09392, #E09393, #E09331, #E09332, #E09333
- **HD (4-7/8" x 1-1/4")** For use with Mortise locksets with a 1" deadbolt without a deadlatch. Strike will not release when deadbolt is extended. Compatible Locksets: Sargent (7700 & 8100 series), Yale (8700). ANSI/BHMA Numbers: #E09391,

**GXAY.R9483
Electric Strikes**[Page Bottom](#)

Electric Strikes[See General Information for Electric Strikes](#)**HANCHETT ENTRY SYSTEMS INC**
10027 S 51ST ST
PHOENIX, AZ 85044 USA

R9483

Electric strike, Models 1003, 1004, 1006, HT 1006 with optional alpha or alphanumeric suffixes, for use with cylindrical and mortise latches having 1/2, 5/8 or 3/4 in. bolts. The Model 1006 may be used with single doors measuring 48 in. wide and 96 in. high for durations up to and including 3 hr, and with pairs of doors measuring 96 in. wide and 96 in. high for durations up to and including 1-1/2 hr.

Electric strike, Models 7501, 7505, 7506/LH, 7506/RH, with optional suffix "LBM", for use with cylindrical and mortise latches having 5/8 or 3/4 in latch bolts.

Electric strike, Series 8000, Models 8300, IC8320 and RF8310, for use with cylindrical latches having 9/16, 5/8 or 3/4 in latch bolts.

Electric strike, Model 9500, for use with Sargent Mfg. Type 12-8800, Yale Security Inc. Type 7100F or 7200MF, or Corbin Russwin Inc. Type ED4200MA rim type fire exit hardware devices only.

Electric strike, 4500 Series for use with mortise type latches having 3/4 in. latch bolts.

Electric strike, 8500 Series for use with mortise type latches having 3/4 in. latch bolts.

[Last Updated](#) on 2011-08-16

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VON DUPRIN. 6210, 6211, 6211AL, 6211WF Electric Strikes

6210

Electric strike for use with mortise locks **without deadbolt** on single door, hollow metal frame applications and using ANSI prep at standard height. Strike pocket inserts are provided to accommodate different manufacturers deadlocking trigger locations.

6211

Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, hollow metal frame applications. Designed to replace Von Duprin 3140 or Folger Adam 712.

6211AL

Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, aluminum frame applications. Designed to replace Folger Adam 722.

6211WF

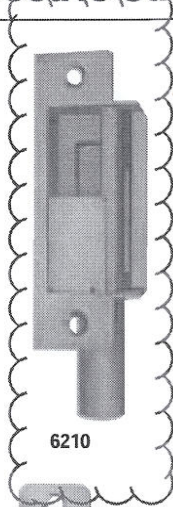
Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, wood frame applications. Designed to replace Folger Adam 732.

FEATURES

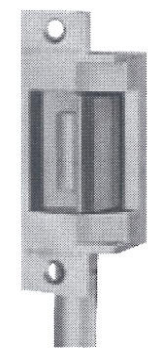
- All Stainless Steel Construction
- Accepts 3/4" (19mm) Throw Latchbolt
- Six Finishes
- Non-handed
- Fail Secure
- Horizontally Adjustable
- Plug Connectors

OPTIONS

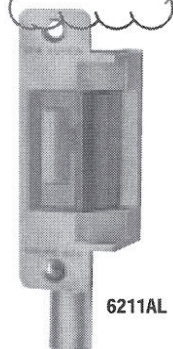
- Fail Safe
- Dual Monitor Switches
- Entry Buzzer



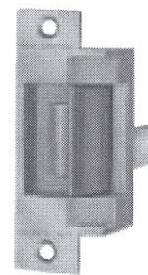
6210



6211



6211AL

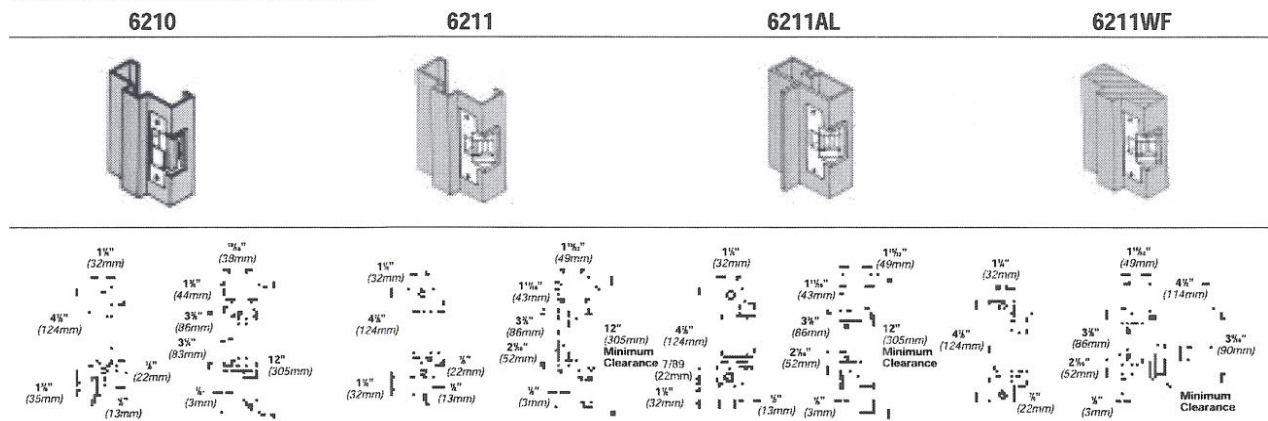


6211WF

UL listed Burglary Resistant CVXY and Electric Strike for fire doors or frames GXAY (fail secure only). ANSI E59321

SPECIFICATIONS	12V	24V
Resistance in Ohms±10% @ 70°F	21	72
Watt-seated @ 70°F	7.5	8
Amps-seated @ 70°F	.6	.33
Amps-inrush @ 70°F	.6	.33

DIMENSIONS AND CONFIGURATIONS



FOR FIELD USE

VON DUPRIN® Series 6000 Electric Strikes

Electric Strikes provide remote release of a locked door. They allow the door to be opened without retracting the latchbolt. This occurs by the releasing of the electric strike lip (sometimes called keeper or gate). When the door closes the beveled latchbolt rides over the lip and falls into the electric strike pocket.

VON DUPRIN SERIES 6000 ELECTRIC STRIKES

Von Duprin is the leading manufacturer of premium, heavy-duty electric strikes known for their reliability, durability and security.

Versatility

- Non-handed
- Furnished 24VDC standard with 12VDC and AC operation optional. 16V solenoids available.
- Furnished fail secure (FSE) standard, with fail safe (FS) optional.
- Strike box is adjustable to compensate for any misalignment of the door or frame.
- Two piece plug connectors are furnished for ease of installation and for removal during strike servicing.

Durability

Developed with Von Duprin's high standards and engineering expertise.

- Heavy-duty stainless steel construction.
- Tested to over 250,000 cycles.
- 1500 lbs. holding strength.
- 70 lbs. impact strength.

To assure the proper selection of an electric strike on new applications, lockset compatibility charts are shown on page 13. When using a lockset not listed or when retrofitting a strike to an existing application, consult Von Duprin for application assistance.

OPTIONS

AC Operation

SO12 and SO24 are rectifier kits to convert AC voltage to operate the DC solenoids. These kits are field installable and plug in-line to solenoid.

DS and DS-LC — Dual Switch Monitoring (Factory Installed Only)

Dual switch monitoring option has two SPDT contacts, one switch monitors the tripper which is depressed when the latchbolt is inserted into the strike pocket. The second switch monitors the condition of the strike lip, open or closed and locked.

DS is standard, rated 24V, operating range from 2 ampere to 50 milliampere.

DS-LC low volt gold contact switches for use on applications associated with computer control and monitoring, rated 24V, operating range 50 milliampere or below.

Fail Secure — FSE

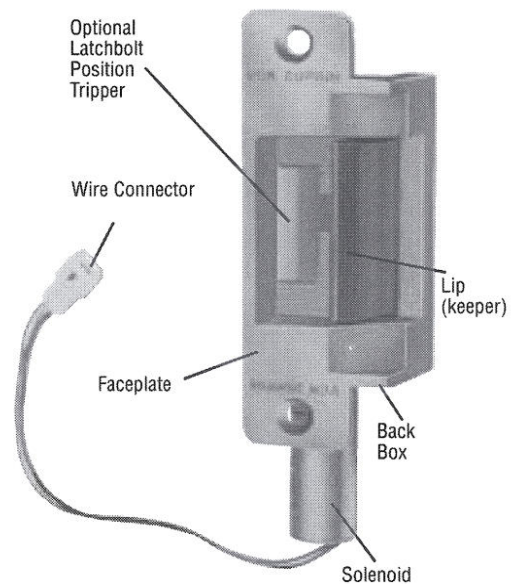
FSE — FAIL-SECURE electric strikes require power to be applied to unlock the strike lip. On loss of power, the strike is locked. Field convertible with parts.

Fail Safe — FS

FS — FAIL-SAFE electric strikes require power to be applied to lock the strike lip. On loss of power, the strike is unlocked. Building codes prohibit the use of fail-safe strikes on labeled openings. Field convertible with parts.

Entry Buzzer — EB

EB — Entry buzzer is available for use with fail-secure strikes. Installed in the frame and in parallel with the circuit, the buzzer will sound when the strike is unlocked.



UL LISTED

UL Listed Burglary-Resistant and Electric Strike for fire doors and frames. A label for single doors and B label for double doors. Strikes meet the requirements of ANSI 156.5, Grade 1, 1992.

TO ORDER, SPECIFY

1. Model number.
2. FS (fail safe, when required).
3. DS or DS-LC (dual switch, when required).
4. Voltage 12VDC or 24VDC
For 16V Solenoids order separately.
5. SO12 or SO24 (required when using AC)
6. Finish: US3, US4, US10, US10B, US32, US32D.
7. EB (Entry buzzer), FSE only (when required).

Note: Information listed is for use on new applications. On retrofit applications, modification of the frame preparation may be required, consult factory.

FOR FIELD USE

VON DUPRIN. 6210, 6211, 6211AL, 6211WF Electric Strikes

6210

Electric strike for use with mortise locks **without deadbolt** on single door, hollow metal frame applications and using ANSI prep at standard height. Strike pocket inserts are provided to accommodate different manufacturers deadlocking trigger locations.

6211

Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, hollow metal frame applications. Designed to replace Von Duprin 3140 or Folger Adam 712.

6211AL

Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, aluminum frame applications. Designed to replace Folger Adam 722.

6211WF

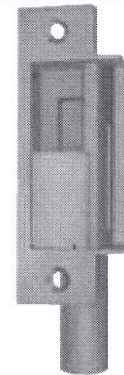
Electric strike for use on new installations with mortise locks **without deadbolt** or cylindrical locks on single door, wood frame applications. Designed to replace Folger Adam 732.

FEATURES

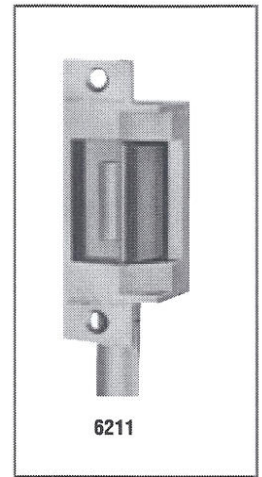
- Stainless Steel Construction
- Accepts 3/4" (19mm) Throw Latchbolt
- Six Finishes
- Non-handed
- Fail Secure
- Horizontally Adjustable
- Plug Connectors

OPTIONS

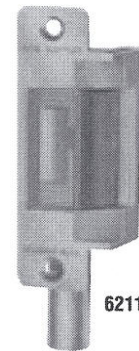
- FS (Fail Safe)
- DS or DS-LC (Dual Monitor Switches)
- EB (Entry Buzzer)



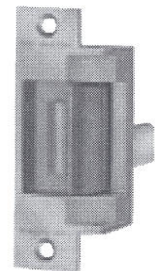
6210



6211



6211AL

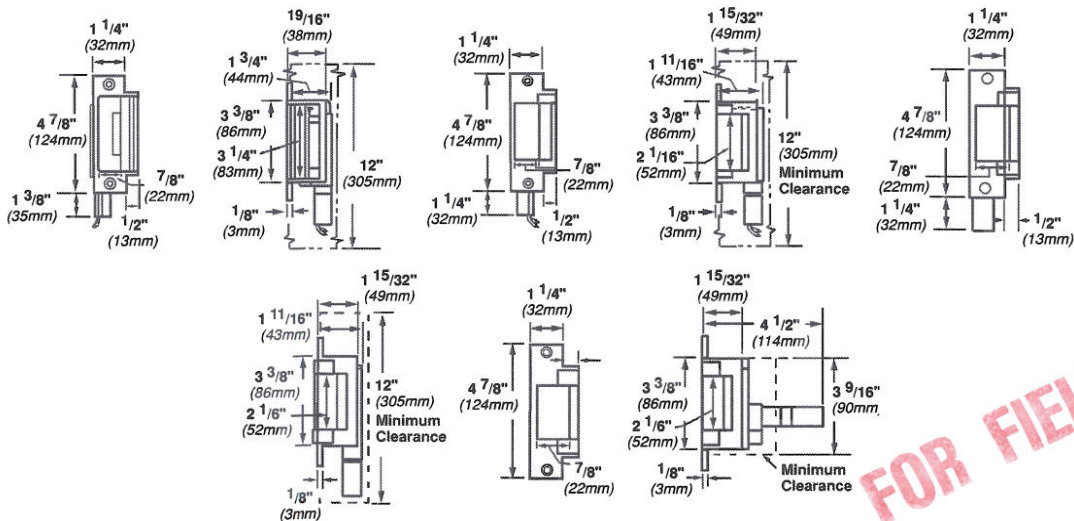
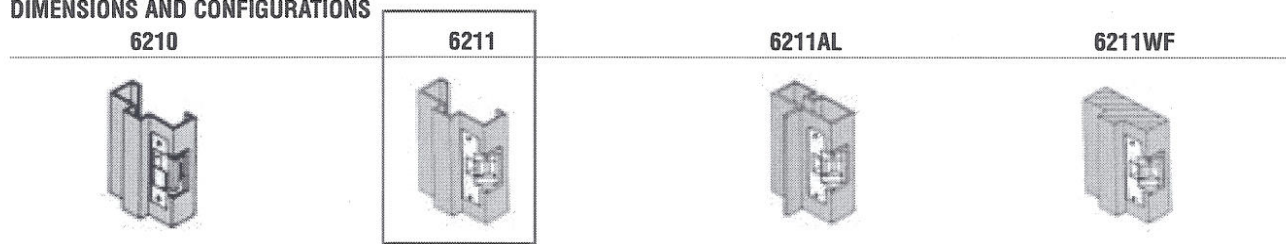


6211WF

UL listed Burglary Resistant CVXY and Electric Strike for fire doors or frames GXAY (fail secure only). ANSI E59321

SPECIFICATIONS	12V	24V
Resistance in Ohms±10% @ 70°F	21	82
Watt-seated @ 70°F	7.5	8
Amps-seated @ 70°F	.6	.33
Amps-inrush @ 70°F	.6	.33

DIMENSIONS AND CONFIGURATIONS



FOR FIELD USE

VON DUPRIN. 6213, 6214, 6215, 6216 Electric Strikes

6213

Electric strike for use with mortise locks **without deadbolt** or cylindrical locks on single door, hollow metal or aluminum frame applications (includes wood frame on retrofit application). Designed to replace Von Duprin 3041, 3042, 3061 and 3062.

6214

Electric strike for use with mortise locks **without deadbolt** or cylindrical locks on single door, hollow metal or aluminum frame applications. Designed to replace Folger Adam 310-2 $\frac{3}{4}$.

6215

Electric strike for use with mortise locks **without deadbolt** or cylindrical locks on single door, hollow metal or aluminum frame applications. Designed to replace Folger Adam 310-2.

6216

Electric strike for use with mortise locks **with deadbolt**, 1" (25mm) throw, on single door, hollow metal, aluminum or wood frame applications. Deadbolt must be manually operated. Designed to replace Folger Adam 310-3-1.

FEATURES

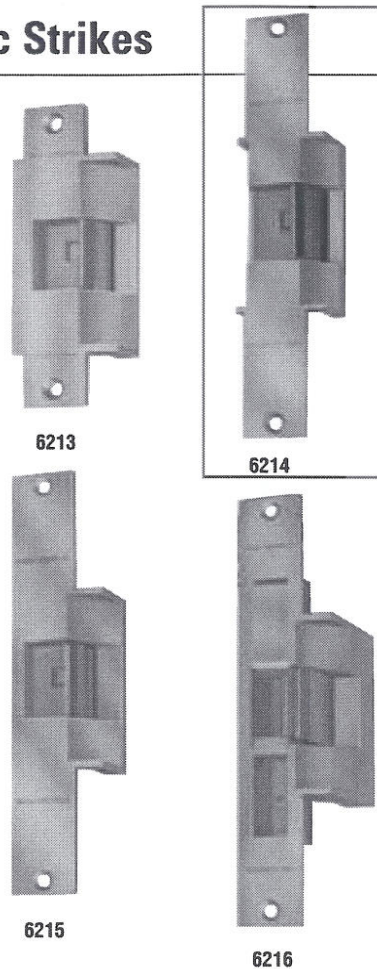
- Stainless Steel Construction
- Accepts $\frac{3}{4}$ " (19mm) Throw Latchbolt
- Six Finishes
- Non-handed
- Fail Secure
- Horizontally Adjustable
- Plug Connectors

OPTIONS

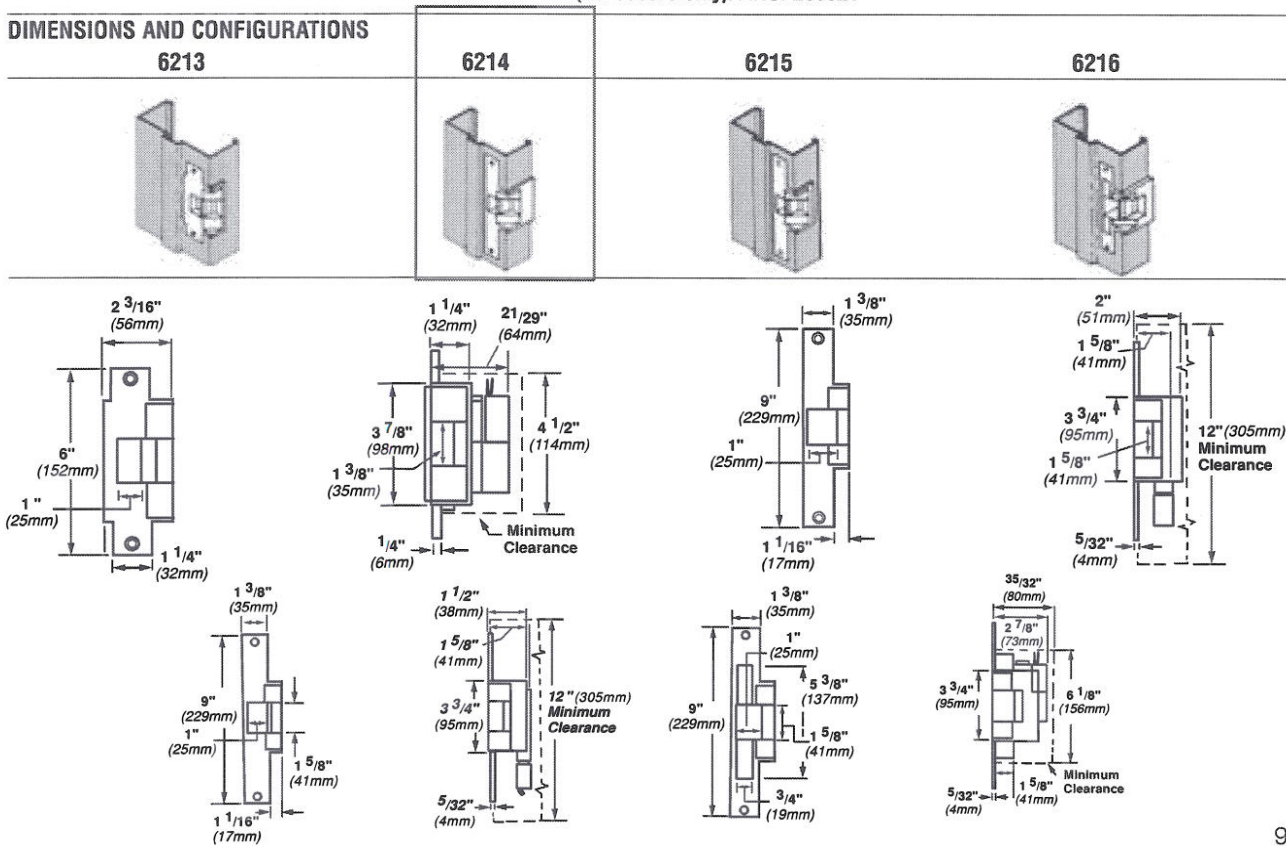
- FS (Fail Safe)
- DS or DS-LC (Dual Monitor Switches)
- EB (Entry Buzzer)

SPECIFICATIONS	12V	24V
Resistance in Ohms \pm 10% @ 70°F	21	82
Watt-seated @ 70°F	7.5	8
Amps-seated @ 70°F	.6	.33
Amps-inrush @ 70°F	.6	.33

UL listed Burglary Resistant CVXY and Electric Strike for fire doors or frames GXAY (fail secure only). ANSI E59321



DIMENSIONS AND CONFIGURATIONS



Features

DC6000

DC6200 - Multi-Sized
DC6400 - Sizes 1-6, half size adjustable

Features

Spring Power

→ DC6200 closers: multi-sized; fully adjustable sizes 1 through 6.
DC6400 closers: sizes 1 through 6; half-size adjustability.
For recommended sizes, see page 14.

Handing

Non-handed (with the exception of some arms and accessories). →

Body

Cast-iron case with seamless cold headed steel spring tube.

Arm

Standard: forged steel.
Arm options pages 8-10.

Spindle

Heat-treated steel with a crowned gear set for increased efficiency.

Piston

Precision machined, heat-treated steel.

Springs

Chrome silicon wire.

Valves

Latching speed valve standard.

Closing speed valve standard.

Multiple backcheck location valve and backcheck intensity valve standard.

Delayed action valve optional. Delayed action preset for 20 seconds. Between 90° and 70° for all mountings. To order specify M71.

Seals

"O" rings.

Fluid

Standard: high lubricity extreme temperature hydraulic fluid.

Degree of Opening

Up to full 180° opening standard for regular, top jamb and parallel arm mountings, conditions permitting.

Power Adjustment Arm Bracket

15% adjustment standard.

Cover

Standard: plastic V-O flame rated cover.
Optional: slim cover; specify M76.
Optional: full metal cover; specify M73 x hand.

Mountings

Standard: regular, parallel or top jamb.
Optional mountings available; see Mountings, page 6.

Mounting Bracket

Quik-Install™ mounting bracket standard.

Fasteners

Standard: self-drilling screws.
Optional: sex nuts and bolts (SNBs); specify M54.

Corrosion Protection

Standard: painted protective coating on all metal surfaces for use in corrosive environments.

Security Package

Includes heavy-duty parallel or regular arm, full metal cover and security Torx® machine screws. Specify M87 x arm x hand. See pages 8-12 for arm options.

Warranty

Ten-year limited warranty. Refer to Corbin Russwin price book for details.

Finishes

Standard painted finishes

Old Designation	Description	Specify
USP	Primed	600
SBL	Silver Aluminum	689
LBL	Dark Bronze	690
DBL	Light Bronze	691
FBL	Black	693
GBL	Satin Brass	696

Plated finishes available on arms and full metal cover.

US3	Bright Brass	605
US4	Satin Brass	606
US9	Bright Bronze	611
US10	Satin Bronze	612
US26	Bright Chromium Plated	625
US26D	Satin Chromium Plated	626

For split finish of closer cover and arm, specify cover finish first, then arm finish (e.g., DC6200 x 625 x 689).

Certification/Compliance



Barrier-Free Code Compliance

The DC6000 Series Door Closers listed below conform to the 5 lbf. maximum door opening force requirement for non-fire-rated interior hinged doors, according to:

Americans with Disabilities Act (ADA)

Complies with the Accessibility Guidelines for Buildings and Facilities, Section 4.13.11

ANSI/BHMA

Meets A156.4, Grade 1.

Meets A117.1.

DC6200	DC6412
DC6210	DC6421
DC6220	DC6401
DC6411	

These door closers are certified by Corbin Russwin Architectural Hardware to comply with the above standards when properly installed and (if applicable) adjusted, in regular arm, parallel arm and top jamb mountings.

UL/ULC/UL10c

Listed for fire and cycle requirements.



GXAY.R7404 Electric Strikes

[Page Bottom](#)

Electric Strikes

[See General Information for Electric Strikes](#)

VON DUPRIN INC
2720 TOBEY DR
INDIANAPOLIS, IN 46219 USA

R7404

Electric strike, Model 3041 for use with mortise latches, Model 3042 for use with cylindrical latches, having 1/2 in., 5/8 in. and 3/4 in. latch bolts.

Electric strike, Models 3140, 3146 for use with cylindrical and mortise latches having 1/2 in., 5/8 in. and 3/4 in. latch bolts.

Electric strike, Series 6110 for use with Von Duprin 22-F, 98-F and 99-F Series rim type fire exit hardware and unit type locks. These devices may be used with single doors rated up to 3 hr or with this manufacturers removable mullion in assemblies rated up to 1-1/2 hr.

Electric strike, Series 6210 for use with cylindrical and mortise type latches having 1/2 in., 5/8 in. and 3/4 in. latch bolts.

Electric strike, Series 6220 for use on the inactive leaf of pairs of doors, for use with cylindrical and mortise type latches having 1/2 in., 5/8 in. and 3/4 in. latch bolts.

Electric strike, Series 6300 for use with Von Duprin 22-F, 98-F and 99-F Series rim type fire exit hardware and unit type locks.

[Last Updated](#) on 2010-07-02

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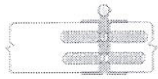
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Stainless Steel Continuous Hinges



Concealed Leaf



Flush Mount - Door of Any Material

For 1 3/4" (44 mm) doors up to 600 lbs.

790-907



Material: 14 Ga. (0.075" = 1.9 mm) Type 304 Stainless Steel
Finish: US32D Satin
Clearance: 3/8" (9.5 mm) minimum clearance between doors
Fasteners: #10-32 x 3/4" S/S machine (used with adjustment stud)
 #3/8-16 x 1 3/8" S/S adjustment stud (metal/wood door)

- Length Options:** Standard
Door Reinforcement: Wood - None required up to 200 lbs.
 Metal - Recommended 16 gauge channel at heavier weight
Frame Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
Fire Rating: Up to 3 hour metal and 90 minute wood composite
Special Features:
- 1/4" (6.3 mm) diameter Stainless Steel Pin
 - Dual 6/6 Nylon bearings between each knuckle
 - Door edge protection lip (both faces of door)
 - Can be used for door to door mounting
 - Not recommended for doors with a beveled edge on the hinge side



Swing Clear - Door of Any Material

For 1 3/4" (44 mm) doors up to 600 lbs.

790-911

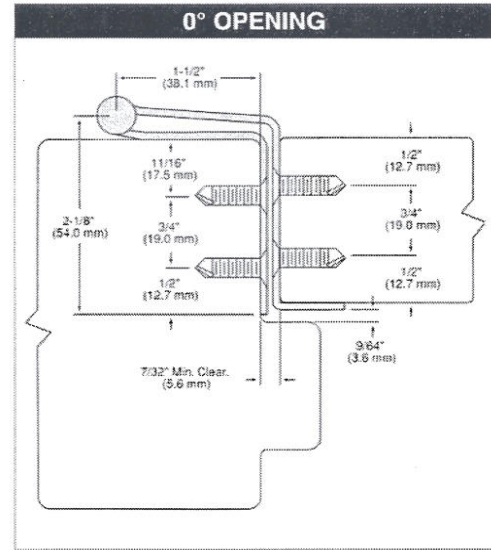
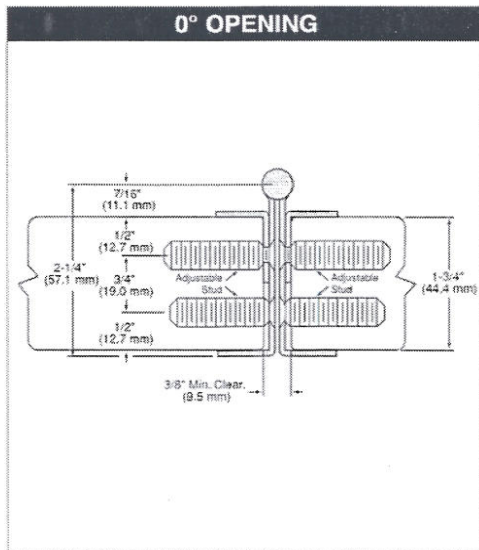


Material: 14 Ga. (0.075" = 1.9 mm) Type 304 Stainless Steel
Finish: US32D Satin
Clearance: 7/32" (5.6 mm) hinge side plus standard lockside clearance
Fasteners: #10-24 x 5/8" S/S Drill-Kwik® (metal frame/door)
 #10-16 x 1 1/4" S/S Type AB (wood door)

- Length Options:** Standard and custom
Door Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
Frame Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
Fire Rating: Up to 3 hour metal and 90 minute wood composite
Special Features:
- 1/4" (6.3 mm) diameter Stainless Steel Pin
 - Dual 6/6 Nylon bearings between each knuckle
 - Wrap-around frame leaf design for easy installation and protection
 - Door edge protection lip (stop side only)
 - Useful for ADA upgrade work
 - Not recommended for doors with a beveled edge on the hinge side

Hinge Length - Inches	79	83	85	95	119
Hinge Length - cm	200.7	210.8	215.9	241.3	302.3
Door Screws	19	21	21	23	27
Jamb Screws	19	21	21	23	27

Hinge Length - Inches	79	83	85	95	119
Hinge Length - cm	200.7	210.8	215.9	241.3	302.3
Door Screws	19	21	21	23	27
Jamb Screws	19	21	21	23	27



FOR FIELD USE

Roton Continuous Geared Hinges



General Information

DOOR AND FRAME PREPARATION

All Roton Continuous Geared Hinges are surface-applied. Cutout design and spacing coordination is thereby eliminated in both new construction and restoration work. Reinforcement plates are not required in doors or frames except where the gauge is too thin for the fasteners in relation to the door weight or where abusive operation is anticipated.

Blank frames may be ordered with strike prep only or with a strike prep furnished on both sides to eliminate handing with any Roton model that will cover the frame rabbet. Doors should always be ordered without cutouts except for use in labeled openings in which the tested door assembly may have manufacturing restrictions. Continuous frame mortar guards are desirable for masonry walls to avoid screw fastener interference with the mortar. An effective mortar guard made from an ordinary 1" (25.4 mm) x 2" (51 mm) stud, fastened to the back side of the frame can also be used. Check with both the frame supplier and the contractor for the best method.

The main cause of door and frame breakdown is "kickback shock" transferred to conventional butt hinges or pivots. Roton bonds the door frame into a single, integrated unit, dissipating impact loads harmlessly.

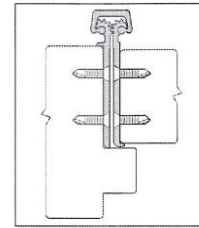
Door Closers

Conventional surface or concealed sliding closers may be used with Roton. (Note: Pivot type floor closers with a fixed, conflicting pivot point may not be used). Closers will last considerably longer, adjust to operating requirements more readily and show consistent settings due to the reduced operating forces of Roton hinging.

ROTON TYPES

Concealed

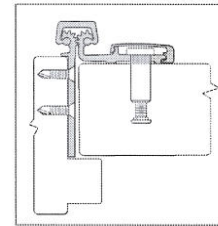
These models have leaves which are concealed between the rabbet of the frame and the hinge edge of the door.



Models available: 500-048, 780-041, 780-041HD, 780-110, 780-110HD, 780-111, 780-111HD, 780-112, 780-112HD, 780-112LL, 780-224, 780-224HD, 780-224LL, 780-226, 780-226HD, 780-226LL, 1200-600, 1200-650

Half Surface

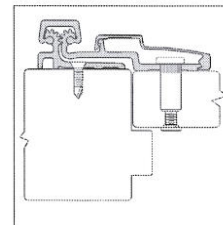
These models have the frame leaf concealed between the rabbet of the frame and the edge of the door. The door leaf is mounted to the face of the door with six bolts (thru-bolts) or screws.



Models available: 500-200, 780-045, 780-045HD, 780-046, 780-046HD, 780-053, 780-053HD, 780-054, 780-054HD, 780-211HD, 780-300HD

Full Surface

These models have the frame leaf mounted to the face of the frame. The door leaf is mounted to the face of the door with six bolts (thru-bolts).



Models available: 500-220, 780-057, 780-057HD, 780-157, 780-157HD, 780-210, 780-210HD, 780-257HD

OR FIELD USE



Roton Continuous Geared Hinges

General Information

PROCESS FOR CHOOSING THE CORRECT ROTON MODEL

Determine	Select
Door and frame application (i.e. flush door and frame, inset door, door thickness, door height, etc.)	Roton model
Frequency of door cycling and weight of door	Light, Standard, Heavy or Extra Heavy Duty, or Lead Lined
Door and frame material	Fasteners
Door opening finish	Roton finish
Fire rating requirements, if needed	With stud or without stud

Checking the Load

To assist in the selection of an appropriate Roton Continuous Geared Hinge Series, divide the door weight including the weight of the hardware by the number of bearings in the Roton Continuous Geared Hinge under consideration, then use the following guideline, with a maximum 4'0" wide door:

- 500 Series:** 4" Centers
- 750 Series:** 5 1/8" Centers (Typical 7' door: 16 bearings)
- 780 Series:** 5 1/8" Centers (Typical 7' door: 16 bearings)
- 780 HD & LL:** 2 9/16" Centers (Typical 7' door: 32 bearings)
- 1200 Series:** 2 1/2" Centers (Typical 7' door: 33 bearings)

Frequency	Load
Low frequency interior doors	20 lbs. per bearing
Low frequency, very heavy doors (lead lined x-ray doors, ballistics doors, high security doors) with double rows of fasteners	30 lbs. per bearing
Medium frequency interior doors	15 lbs. per bearing
Medium frequency exterior doors	10 lbs. per bearing
High frequency exterior doors	7.5 lbs. per bearing
Very high frequency doors	5 lbs. per bearing

FIRE RATINGS

Underwriters Laboratories, Inc.

Fire Rating/File #R14627

780 Series Roton Continuous Geared Hinges are approved for use on 4'x10' swing type door



- Hollow metal, tin-clad, sheet-metal and steel covered composite type rated up to and including 3 hours
- Wood composite doors rated up to and including 1 1/2 hours
- Wood core doors rated up to 20 minutes without hose stream, non-studded

Fire Rated Roton	Fully Concealed	Half Surface	Full Surface
20 Minute Fire Rated Wood Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
20 Minute Fire Rated Metal Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
30 Minute Fire Rated Wood Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
30 Minute Fire Rated Metal Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
45 Minute Fire Rated Wood Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
45 Minute Fire Rated Metal Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
90 Minute Fire Rated Wood Door x Fire Rated Hollow Metal Frame	U/L — Stud	U/L — Stud	U/L — Stud
90 Minute Fire Rated Metal Door x Fire Rated Hollow Metal Frame	U/L — FF	U/L — FF	U/L — FF
3 Hour Fire Rated Hollow Metal Door x Fire Rated Hollow Metal Frame	U/L — Stud	U/L — Stud	U/L — Stud

- 780 Series Roton Continuous Geared Hinges meet requirements for positive pressure UL10C, UL10B and UBC7-2 Part 1
- 780 Series Roton Continuous Geared Hinges are approved for ANSI A156.26 Grade 1 for 150 lb. doors
- 780 Series Roton heavy duty hinges are approved for ANSI A156.26 Grade 1 for 300 lb. doors
- 780-112 Roton Continuous Geared Hinge is Warnock-Hersey certified in accordance with ANSI A250.13 Severe Windstorm Resistant Components

FOR FIELD USE

Roton Continuous Geared Hinges



General Information

Standard Lengths

Roton Continuous Geared Hinge standard lengths are for 6'8" doors - 79", for 7' doors - 83", for 7'2" doors - 85", for 8' doors - 95" and for 10' doors - 119", for convenience in application to nominal doors. This provides for threshold clearance, head clearance and door height allowances for carpeting. Other lengths may be ordered as non-standard items.

Roton Continuous Geared Hinges are always installed flush with the top edge of the door. No more than 1/16" (1.5 mm) to 3/32" (2 mm) head clearance is recommended.

Where many net heights are likely to appear on the same job, group the sizes to 1/2" (13 mm) increments to be consistent in appearance. Generally, up to 1/2" (13 mm) of door heel exposure is acceptable, but all Roton Continuous Geared Hinges should be within 1" (25.4 mm) of the net door height.

Field Modifications

While Roton Continuous Geared Hinges can be field cut, any product modifications may void all warranties. Should in-the-field modifications be required, cut only from bottom of hinge. Do not cut through bearings or screw holes. When cutting electric hinges it is extremely important to clamp both hinge leaves securely to prevent hinge "chatter" which can damage the hinge's internal wiring. Consult the St. Louis technical team before proceeding.

Template Hinges

Hager Companies has developed templated hole patterns for Roton Continuous Geared Hinge models in standard lengths. Drawings are available upon request by contacting Hager Companies Customer Service or accessing the Hager Companies website at www.hagerco.com. Due to normal variances inherent in the manufacturing process, Roton custom length hinges are deemed by Hager Companies to be non-templated.

Standard Finishes

Roton Continuous Geared Hinges are available in either clear satin anodized aluminum Alcoa 202-R1 (similar to US28) or in a dark bronze exterior anodized coating Alcoa 204-R1.

Special Anodizing

Hager Companies can supply unfinished materials to selected finishers for special projects which require unusual colors, but will require that final assembly be completed by Hager Companies. Because of special non-removable metal coatings applied to all hinges during assembly, users are cautioned against attempting to refinish any Roton product. Roton Continuous Geared Hinges are available in various special colors including black, gold, and other special anodized finishes with fasteners to match. All hinges ordered in special colors should be ordered at the same time to guarantee finish uniformity. Supply color chip for best match.

Painted Hinges

Hager Companies can supply unfinished materials to selected finishers for special projects which require unusual colors or coatings, but will require that final assembly be completed by Hager Companies. Because of special non-removable metal coatings applied to all hinges during assembly, users are cautioned against attempting to refinish any Roton product.

Painted Cover Channels

Painted Roton Cover Channels in Bone White are offered as a standard stock color option. This is only available on the standard Roton cover channel.

Polished Cover Channels

Any Roton Continuous Geared Hinge may be ordered with a polished clear cover channel (similar to US26) to complement clear anodized hinge leaves or a polished gold cover channel (similar to US3) to complement satin gold anodized hinge leaves.

Special Cover Channels

Special covers for rounded, fluted or decorative effects may be ordered. Not available for hinges with electrical modifications



Rounded Back



Fluted Back

1/2" wide insert



Decorative Back

Roton Cover Channel Compatibility				
Hinge Model	Flat FBCC	Rounded RBCC	Fluted FLC	Decorative DBCC
750-134	•	•	•	•
750-138	•	•	•	•
780-041	•	•		
780-045	•	•		
780-046	•	•		
780-053	•	•		
780-054	•	•		
780-057	•	•		
780-110	•	•	•	•
780-111	•	•	•	•
780-112	•	•	•	•
780-113	•	•	•	•
780-114	•	•		
780-155	•	•		
780-157	•			
780-208	•		•	•
780-210	•	•		
780-211	•	•		
780-213	•	•		
780-224	•	•	•	•
780-226	•	•	•	•
780-235	•	•	•	•
780-257	•			
780-259	•	•		
780-300	•			

FOR FIELD USE



Roton Continuous Geared Hinges

General Information

Extra Long Hinges

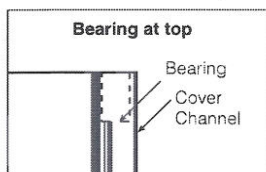
Hager Companies manufactures hinges over 119" long as two separate lengths with a staggered joint for onsite connection. Roton will select hinge segment lengths from standard sizes for best economics in relation to quantity required. Hanging specifications are required to position the cuts inconspicuously and to finish symmetrical pairs in double door applications.

Dutch Door Hinges

Hager Companies will prepare any of its hinge models for a dutch door application. The frame leaf is furnished as a continuous extrusion and the door leaf is cut to fit the dutch door heights specified. Upper and lower door leaves are prepped for extra screws. Hanging, overall net door height, amount of clearance between the top and bottom doors, their individual heights and door and frame materials should be clearly specified.

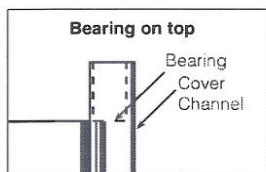
Bearing At Top

This application allows for the bearing to be set at the very top of the channel cover. The cover channel is flush with the top of the geared hinge, preventing any obstructions or debris to be inserted in the top channel.



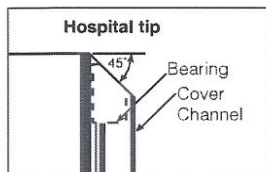
Bearing On Top

This application allows for the bearing to be set at the very top of the extended channel cover. The cover channel is extended the depth of the bearing and projects beyond the top edge of the hinge by the thickness of the bearing. This modification prevents any obstructions or debris from being inserted in the top of the channel.



Hospital Tip

Concealed models only can be prepared with a cover channel tapered at 45° angle at the top of the hinge. These are ideal for use in hospitals and correctional facilities to help provide a clean and safe environment. Please consult the sales office for available models.



Tamper Resistant Hinge

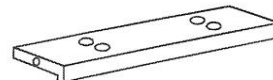
This application is intended for use in hospital psychiatric areas and places of high security. The hinge is prepared with a hospital tip (concealed models only) and every other bearing is supplied with a set screw to lock against the inside of the cover channel for additional security.

Bearing Replacement Kits

Available in standard or heavy duty and in Clear Anodized or Dark Bronze Anodized finish for 780 and 1200 Series Roton.

Special Holes

Any hinge may be ordered with special hole locations for unusual frame or door conditions. Please provide specifications for each leaf.



Marking Jigs

Marking jigs are available to locate the centers of the top end frame screws. These jigs must be ordered at the same time as the hinges to ensure fabrication accuracy.



Center Punches

Self-Centering punches are available for #12 countersunk screws that are supplied. To make sure screw heads seat properly, accurate center punching is required.



1/16" x 1 1/2" Wide x 7' or x 10' Long
1/8" x 1 1/2" Wide x 7' or x 10' Long

Shim Stock

For clearance between the door and frame that may be excessive, a continuous shim is helpful (applied behind the frame leaf only). Anodized aluminum extrusions are supplied with no holes.

Item Marking

Marking and special packaging for job-site identification.

Replacement Moldings

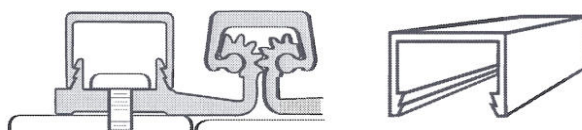
780-210M

Replacement door leaf molding for 780-210, 780-210HD, 780-211,



780-211HD, 780-213, 780-213HD, 780-045, 780-045HD, 780-046, 780-046HD. Furnished with Allen head set screw and wrench. Shipped in standard lengths for trimming in the field.

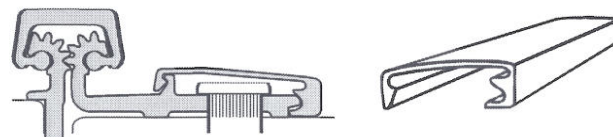
780-247M



Replacement frame leaf molding for 780-157, 780-157HD, 780-257, 780-257HD. Shipped in standard lengths for trimming in the field.

780-052M

Replacement door leaf molding for 780-053, 780-053HD, 780-054, 780-054HD, 780-155, 780-155HD, 780-057, 780-057HD, 780-157, 780-157HD, 780-257, 780-257HD, 780-259, 780-259HD. Furnished with Allen head set screw and wrench. Shipped in standard lengths for trimming in the field.



FOR FIELD USE

Roton Continuous Geared Hinges



General Information

Fasteners

Hager Companies uses custom made, carefully engineered, and thoroughly tested fasteners exclusively. Each fastener is designed for ease of use as well as durability. Appropriate fasteners are furnished with each hinge, together with installation instructions for typical metal or wood doors and frames. **The standard screw pack includes self-drilling screws; if wood screws are required, please specify in the ordering process.**

Fasteners for use with hinges in the 750 and 780 Series

Metal Doors or Frames (Undercut Head Phillips Countersunk Screws):

Two types of screws are available for metal doors and frames: the self-drilling screw (with drill point tip) and the thread forming screw (no tapping necessary). The #12-24 x 1¹/₁₆" self-drilling screw has a machine thread in the screw shank. The #12-24 x 1³/₃₂" thread-forming screw has a machine thread in the screw shank.

The standard screw pack contains #12-24 self-drilling machine thread. This screw has a hardened steel drill point built into the end of the screw, allowing it to be installed without a pre-drilled hole if the metal thickness is no more than 1/8" (3.2 mm). It forms its own threads as the screw is drilled into the door or frame. It is longer than most screws of the type because of the built-in drill point.

When installing the self-drilling screw, make certain that the installer is familiar with the proper use and torque settings of a screw gun. Proper center-punching is extremely important with self-drilling screws. If center-punching is omitted or incorrectly done, the screw will "walk" in the same way as a drill bit, resulting in cocked screw heads and improperly closing hinge leaves.

The optional self-threading screw is typically used on grout filled frames to prevent bowing of the frame. This screw has a short tapered section at the tip. A drilled pilot hole (Range: 0.173" to 0.185") is required prior to tapping.

Either of these screws may be used for the attachment of Roton Continuous Geared Hinges to metal doors or frames, generally without reinforcement except in thin aluminum or with doors of very heavy weight or anticipated abuse. Both types require centerpunching to ensure that the screw seats properly in the hinge leaf. Self-centering countersinking center-punches are available.

In all cases, care should be taken to ensure that no drill chips build up behind the hinge. It is best to premark the holes and drill for self-threading screws with the hinge removed, or hold the hinge very tightly against the door or frame when using the self-drilling screws.

Hinges normally requiring sex bolts will be furnished with suitable mounting holes. Blank leaves, special countersinking or door fastening with pan-head screws are available upon request.

If special fasteners are required, customers must supply them except upon prior agreement. Please consult the factory for alternate fastener recommendations.

Sex Bolts (Thru-Bolts)

On all applicable surface-mounted hinges, sex bolt sets are furnished in the hardware package together with a transfer punch for accurate marking of the 3/8" (10 mm) drilled holes required. The 1/4"-20 bolt has a 3/8" (10 mm) shoulder under a 9/16" (14 mm) pan head so that it can be reversed for exterior in-swing doors or for additional security.

Roton sex bolts are intentionally designed to be shorter than the door thickness for proper clamping action with doors of slightly varying thickness and gauge in the 1" to 2 1/2" (63.5 mm) range. Unless otherwise requested, bolts suitable for the 1 3/8" (35 mm) to 1 3/4" (45 mm) range will be shipped. Shorter or longer bolts may be requested. Bolts which are outside the door thickness range of 1" (25.4 mm) to 2 1/2" (63.5 mm) must be provided by the installer.

FOR FIELD USE



Roton Continuous Geared Hinges

General Information

DOOR AND FRAME DIMENSIONING

Half Surface Models

780-045, 780-045HD, 780-046, 780-046HD, 780-053, 780-053HD, 780-054, 780-054HD, 780-155, 780-155HD, 780-211HD, 780-213, 780-213HD, 780-259, 780-259HD, 780-300HD (Leaf thickness clearance not required for 780-300HD)

Designed primarily for work involving new doors and frames, one leaf concealed and one leaf surface mounted. They can also be used on retrofit work where a new door can be ordered to fit an existing frame, the existing door is made of wood and can be reduced in size to accommodate the 1/8" (3.2 mm) leaf thickness, or the frame is to be replaced and can be furnished with an oversized header.

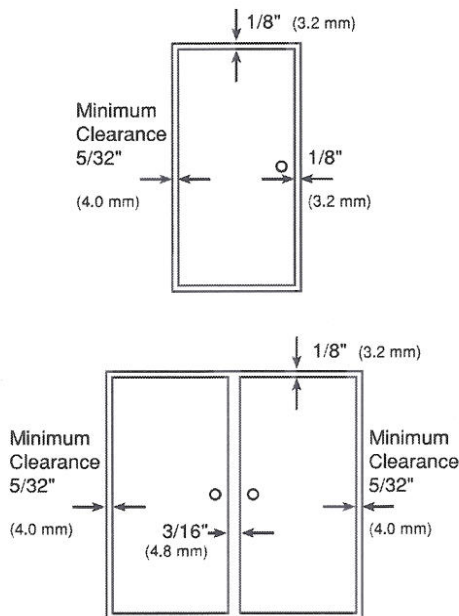
Clearance required as follows:

Single Doors (Square and Beveled Edge)

A. Leaf thickness	1/8"	3.2 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Lockside clearance for single door	1/8"	3.2 mm
Total	9/32"	7.2 mm

Pairs of Doors (Square and Beveled Edge)

A. Leaf thickness	1/8"	3.2 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Edge to edge clearance (recommended)	3/16"	4.8 mm
D. Second allowance for frame irregularities	1/32"	0.8 mm
E. Second leaf thickness	1/8"	3.2 mm
Total	1/2"	12.8 mm



DOOR AND FRAME DIMENSIONING

Full Surface Models

780-057, 780-057HD, 780-157, 780-157HD, 780-210, 780-210HD, 780-257HD

The above models are designed for retrofit applications and require no special dimensioning. Full Surface models are designed to be mounted to the exposed surface of the door and frame. No additional clearance is required except for door and frame painting.

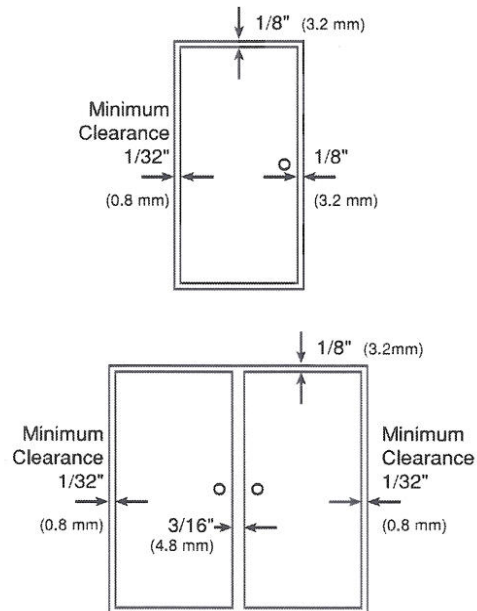
Clearance required as follows:

Single Doors (Square and Beveled Edge)

A. Additional allowance for frame irregularities	1/32"	0.8 mm
B. Lockside clearance for single door	1/8"	3.2 mm
Total	5/32"	4.0 mm

Pairs of Doors (Square and Beveled Edge)

A. Additional allowance for frame irregularities	1/32"	0.8 mm
B. Edge to edge clearance (recommended)	3/16"	4.8 mm
C. Second allowance for frame irregularities	1/32"	0.8 mm
Total	1/4"	6.4 mm



FOR FIELD USE

Roton Continuous Geared Hinges



General Information

DOOR AND FRAME DIMENSIONING

Concealed Models

750-134, 750-138, 780-110, 780-110HD, 780-111, 780-111HD, 780-111LL, 780-112, 780-112HD, 780-112LL, 780-224, 780-224HD, 780-224LL, 780-226, 780-226HD, 780-226LL, 780-235HD. The following are not recommended for doors with beveled edged applications – 780-041, 780-041HD and 780-041LL.

Designed primarily for work involving new doors and frames, these models have parallel, fully concealed leaves. They can also be used on retrofit work where a new door can be ordered to fit an existing frame, the existing door is made of wood and can be reduced in size to accommodate the 5/16" (7.9 mm) hinge thickness, or the frame is to be replaced and can be furnished with an oversized header.

Clearance required as follows:

Single Doors (Square Edged)

A. Hinge thickness*	5/16"	7.9 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Lockside clearance for single door	1/8"	3.2 mm
Total	15/32"	11.9 mm

Single Doors (Beveled Edged)

A. Hinge thickness*	5/16"	7.9 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Lockside clearance for single door	1/8"	3.2 mm
D. Allowance for beveled edge	1/32"	0.8 mm
Total	1/2"	12.7 mm

Pairs of Doors (Square Edged)

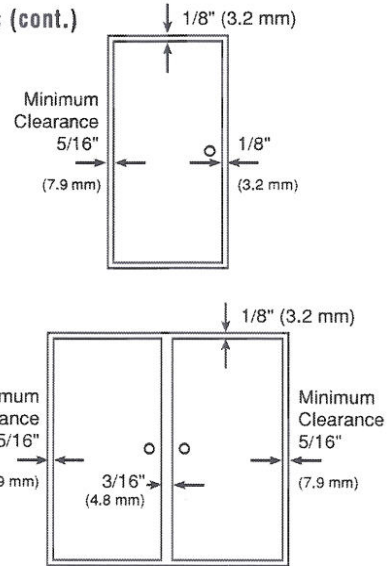
A. Hinge thickness*	5/16"	7.9 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Edge to edge clearance (recommended)	3/16"	4.8 mm
D. Second allowance for frame irregularities	1/32"	0.8 mm
E. Second hinge thickness*	5/16"	7.9 mm
Total	7/8"	22.2 mm

Pairs of Doors (Beveled Edged)

A. Hinge thickness*	5/16"	7.9 mm
B. Allowance for beveled edge	1/32"	0.8 mm
C. Additional allowance for frame irregularities	1/32"	0.8 mm
D. Edge to edge clearance (recommended)	3/16"	4.8 mm
E. Second allowance for frame irregularities	1/32"	0.8 mm
F. Second allowance for beveled edge	1/32"	0.8 mm
G. Second hinge thickness*	5/16"	7.9 mm
Total	15/16"	23.8 mm

* See exceptions

Concealed Models (cont.)



Concealed Model Exceptions

780-113, 780-113HD

Single Doors (Square Edged)

A. Hinge thickness	13/16"	20.6 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Lockside clearance for single door	1/8"	3.2 mm
Total	31/32"	24.6 mm

Single Doors (Beveled Edged)

A. Hinge thickness	13/16"	20.6 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Lockside clearance for single door	1/8"	3.2 mm
D. Allowance for beveled edge	1/32"	0.8 mm
Total	1"	12.8 mm

Pairs of Doors (Square Edged)

A. Hinge thickness	13/16"	20.6 mm
B. Additional allowance for frame irregularities	1/32"	0.8 mm
C. Edge to edge clearance (recommended)	3/16"	4.8 mm
D. Second allowance for frame irregularities	1/32"	0.8 mm
E. Second hinge thickness	13/16"	0.6 mm
Total	17/8"	47.6 mm

Pairs of Doors (Beveled Edged)

A. Hinge thickness	13/16"	20.6 mm
B. Allowance for beveled edge	1/32"	0.8 mm
C. Additional allowance for frame irregularities	1/32"	0.8 mm
D. Edge to edge clearance (recommended)	3/16"	4.8 mm
E. Second allowance for frame irregularities	1/32"	0.8 mm
F. Second allowance for beveled edge	1/32"	0.8 mm
G. Second hinge thickness	13/16"	20.6 mm
Total	115/16"	49.2 mm

FOR FIELD USE



ELECTRIC HINGE MODIFICATIONS

Exposed Electric Contacts:

- Transfers power to door in closed position
- To order, use symbol "E" plus the number of contacts required as a suffix
- Must have at least two (2) contacts to transfer power
- Example: 780-112HD 85" Clear E4
- Specify handing and the dimension from the top edge of the door to the centerline of the electric contact location
- Templates regarding location of contacts available upon request

Exposed Electric Switches:

- Miniature push button switch is incorporated in the hinge frame leaf to monitor position of the door
- Three 12" wire leads
- To order, use symbol "E1S" as a suffix
- Each monitoring hinge only needs one E1S switch
- Example: 780-112HD 85" Clear E1S
- Specify handing and the dimension from the top edge of the door to the centerline of the electric switch location
- Templates regarding location of contact switch available upon request

Concealed Electric Through-Wire:

- Transfers power discreetly from building to door hardware
- Four, six, eight or ten wire continuous electric conductors
- To order, use symbol "ETW" plus the number of wire leads, 12" per side required as a suffix
- Example: 780-112HD 85" Clear ETW - 4
- Specify handing and the dimension from the top edge of the door to the centerline of electric through-wire location
- Templates regarding location of through-wires available upon request

Removable Electric Through-Wire:

- Transfers power discreetly from building to door hardware
- 4" removable ETW module can easily be removed for adjustment or service
- To order, use symbol "RETW"
- Available on heavy duty models only
- Example: 780-112HD 85" Clear RETW
- Specify handing and the dimension from the top edge of the door to the centerline of electric monitoring location
- To order 4" removable module only, use component number
- Templates regarding location of module available upon request

Concealed Electric Monitoring:

- Miniature switch is incorporated into the frame leaf
- Three 12" wire leads
- To order, use symbol "EMN", as a suffix
- Example: 780-224HD 119" Bronze EMN
- Specify handing and the dimension from the top edge of the door to the centerline of electric monitoring location
- Templates regarding location of monitoring switch available upon request

Concealed Electric Through-Wire and Monitoring:

- This combines the continuous electric conductors and the miniature switch to provide both power transfer and monitoring
- Four, six, eight or ten continuous electric conductors
- Miniature switch is incorporated into the frame leaf
- To order, use symbol "ETM" plus the number of wires required as a suffix
- Example: 780-224LL 85" Bronze ETM - 4
- Specify handing and the dimension from the top edge of the door to the centerline of each electric modification location
- Templates regarding location of monitoring switch, available upon request

Von Duprin EPT 2 or EPT 10 Electric Power Transfer Preparation

- Hinge leaf cutout to accommodate power transfer device
- Specify handing and the dimension from the top edge of the door to the centerline of the power transfer location

Special Electric Modifications and EPT locations may require additional charges if screw holes have to be moved. Contact Hager Companies Customer Service for charges. Please feel free to contact the Hager Companies technical team for further information pertaining to electric modifications.

Mortar Box - 430

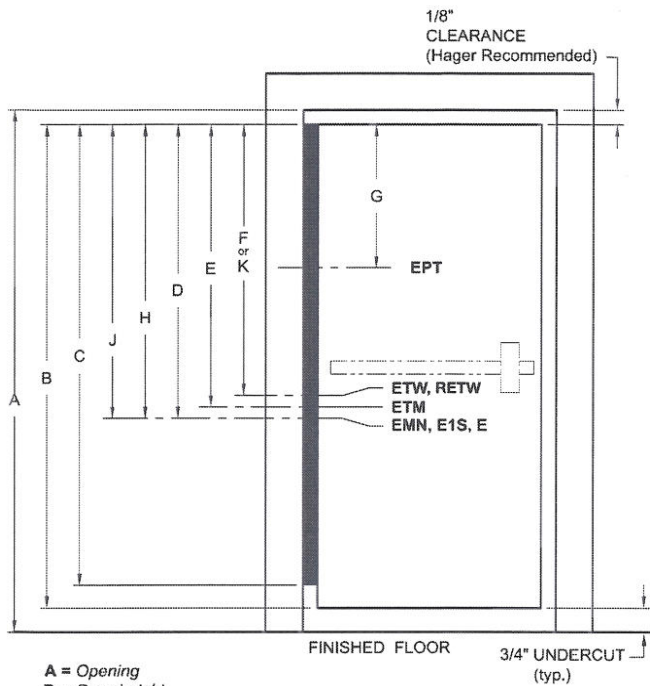
- Serves as a mortar shield
- Overall dimensions: 9" (229 mm) length with tabs, 7" (178 mm) inside, 1 3/4" x 1 3/4" (45 x 45 mm) inside dimension
- Galvanized steel 0.040" (1 mm)
- Top and bottom knockouts for standard conduit fittings

FOR FIELD USE



Roton Continuous Geared Hinges

General Information



- A = Opening
- B = Door height
- C = Actual hinge length
- D = C.L. of EMN (electric monitor)
- E = C.L. of ETM (electric through-wires & monitor)
- F = C.L. of ETW (electric through-wires)
- G = C.L. of EPT (electric power transfer)
- H = C.L. of E1S (exposed switch)
- J = C.L. of E (exposed contact)
- K = C.L. of RETW (removable electric through-wires)

ELECTRIC HINGE MODIFICATIONS

	A	B	C	D	E	F	G	H	J	K
79 SD	80"	79 1/8"	78 11/16"	42 1/2"	41 1/4"	40"	24 1/2"	42 1/2"	42 1/2"	-
79 HD	80"	79 1/8"	78 11/16"	42 1/2"	40 5/8"	38 3/4"	24 1/2"	42 1/2"	42 1/2"	41 7/8"
83 SD	84"	83 1/8"	83"	46 1/2"	44 5/8"	42 3/4"	28 7/16"	46 1/2"	46 1/2"	-
83 HD	84"	83 1/8"	83"	46 1/2"	45 1/4"	44"	28 7/16"	46 1/2"	46 1/2"	44 1/16"
85 SD	86"	85 1/8"	85"	48 1/2"	47 1/4"	46"	30 7/16"	48 1/2"	48 1/2"	-
85 HD	86"	85 1/8"	85"	48 1/2"	46 5/8"	44 3/4"	30 7/16"	48 1/2"	48 1/2"	45 1/16"
95 SD	96"	95 1/8"	95 1/16"	59 3/4"	57 7/8"	56"	40 1/2"	59 3/4"	59 3/4"	-
95 HD	96"	95 1/8"	95 1/16"	59 3/4"	57 7/8"	56"	40 1/2"	59 3/4"	59 3/4"	56 1/2"
119 SD	120"	119 1/8"	119"	83 3/4"	81 7/8"	80"	64 3/8"	83 3/4"	83 3/4"	-
119 HD	120"	119 1/8"	119"	83 3/4"	81 7/8"	80"	64 3/8"	83 3/4"	83 3/4"	80"

For ease of ordering, Hager Companies has established standard locations for power transfer cutouts. All standard location dimensions are referenced from the top edge of the door to the centerline of the power transfer cutout. Please specify handing.

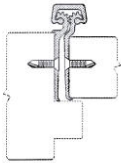
PART NUMBER	VON DUPRIN EPT 2 OR EPT 10 POWER TRANSFER PREPARATION	EXPOSED ELECTRIC CONTACTS	EXPOSED ELECTRIC SWITCHES	CONCEALED ELECTRIC THROUGH-WIRE	CONCEALED ELECTRIC MONITORING	CONCEALED ELECTRIC THROUGH-WIRE AND MONITORING	REMOVABLE ELECTRIC THROUGH-WIRE
750-134							
750-138							
780-041							
780-041HD							
780-041LL							
780-045	•						
780-045HD	•						
780-046	•						
780-046HD	•						
780-053	•						
780-053HD	•						
780-054	•						
780-054HD	•						
780-110	•		•	•			
780-110HD	•		•	•			
780-111	•	•	•	•	•	•	
780-111HD	•	•	•	•	•	•	•
780-111LL	•	•	•	•	•	•	
780-112	•	•	•	•	•	•	
780-112HD	•	•	•	•	•	•	•
780-112LL	•	•	•	•	•	•	
780-155							
780-155HD							
780-211HD							
780-224	•	•	•	•	•	•	
780-224HD	•	•	•	•	•	•	•
780-224LL	•	•	•	•	•	•	
780-226	•	•	•	•	•	•	
780-226HD	•	•	•	•	•	•	•
780-226LL	•	•	•	•	•	•	
780-235HD		•	•	•	•		

FOR FIELD USE

Roton Continuous Geared Hinges



Concealed Leaf

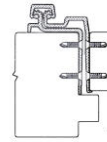


Solid Core Wood Door

For medium frequency 1 3/4" solid core wood interior doors up to 100 lbs.

750-138

- Clearance: 5/16" (8 mm) hinge side plus standard lockside clearance
 Fasteners: Dril-Kwik® and wood screws
 Length Options: Standard and Custom
 Door Reinforcement: None required
 Frame Reinforcement: None required
 Special Features:
 - Door edge protection lip
 - Offset joint to clear casing
 - Frame leaf alignment rib for proper hinge location



Door of any Material - Standard and Heavy Duty 1 3/4" Doors

Standard Duty for medium frequency doors. Heavy Duty for high frequency doors.

780-041

780-041 HD

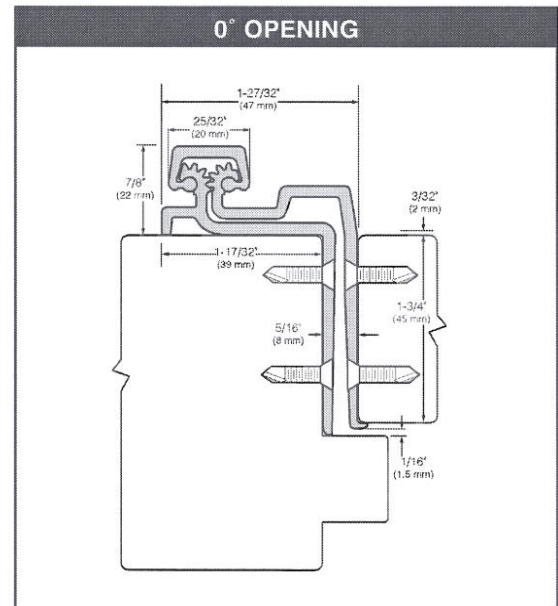
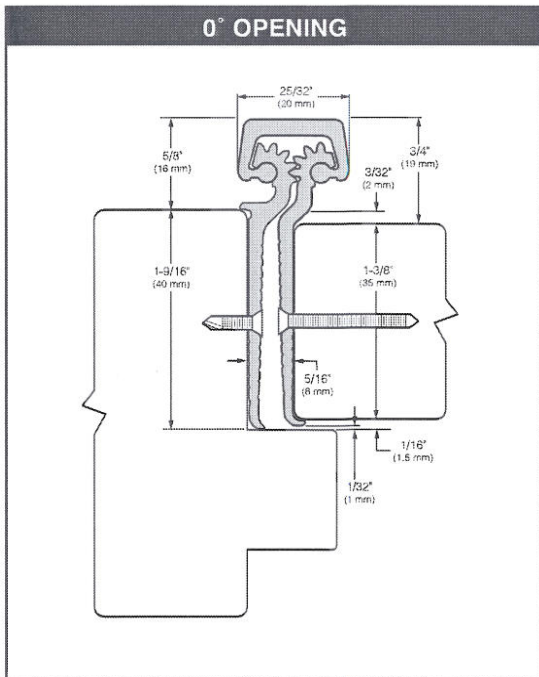
780-041 LL



- Clearance: 5/16" (8 mm) hinge side plus standard lockside clearance
 Fasteners: Dril-Kwik® screws
 Length Options: Standard and Custom
 Door Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
 Frame Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
 Fire Rating: Up to 3 hr. metal and 90 min. wood composite (with studs)
 Special Features:
 - Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (specify "LL")
 - Door edge protection lip
 - Swing-clear action and ADA compliant for classroom or patient room doors
 - Not recommended for doors with a beveled edge on the hinge side

Hinge Length - Inches		79	83	85	95	119
Hinge Length - cm		200.7	210.8	215.9	241.3	302.3
Door Screws	Std	10	12	12	14	16
Jamb Screws	Std	10	12	12	14	16

Hinge Length - Inches		79	83	85	95	119
Hinge Length - cm		200.7	210.8	215.9	241.3	302.3
Door Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48
Jamb Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48



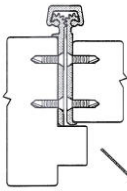
FOR FIELD USE

800-325-9995
 www.hagerco.com

Roton Continuous Geared Hinges



Concealed Leaf



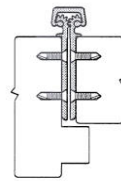
Door of any Material - Standard and Heavy Duty - 1 1/4" Thick Doors

Standard Duty for medium frequency doors. Heavy Duty for high frequency doors or heavy medium frequency doors.

780-224
780-224 HD
780-224 LL



- Clearance: 5/16" (8 mm) hinge side plus standard lockside clearance
- Fasteners: Dril-Kwik® screws
- Length Options: Standard and Custom
- Door Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
- Frame Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
- Fire Rating: Up to 3 hr. metal and 90 min. wood composite (with studs)
- Special Features:
 - Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify "LL")
 - Door edge protection lip
 - Frame leaf alignment rib for proper hinge and door location
 - 3/32" (2 mm) inset



Door of any Material - Standard and Heavy Duty - 2" Thick Doors or Greater

Standard Duty for medium frequency doors. Heavy Duty for high frequency doors or heavy medium frequency doors.

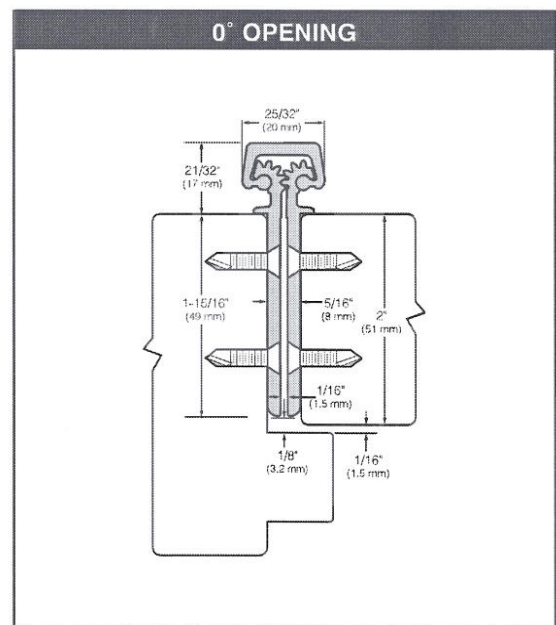
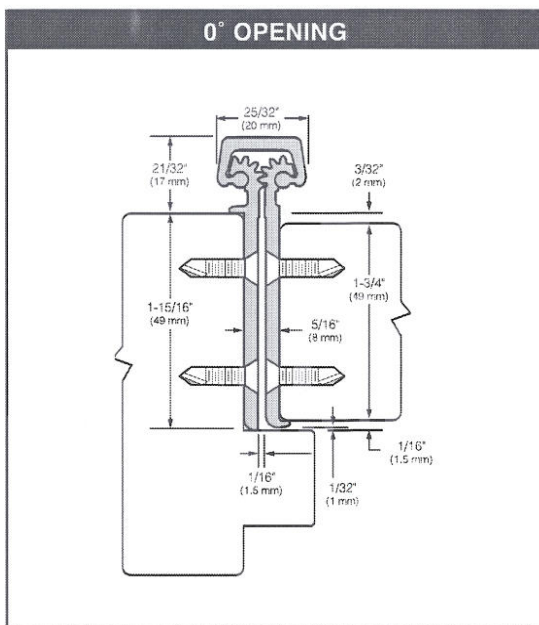
780-226
780-226 HD
780-226 LL



- Clearance: 5/16" (8 mm) hinge side plus standard lockside clearance
- Fasteners: Dril-Kwik® screws
- Length Options: Standard and Custom
- Door Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
- Frame Reinforcement: None required to 200 lbs. Heavier weight use 16 gauge channel
- Fire Rating: Up to 3 hr. metal and 90 min. wood composite (with studs)
- Special Features:
 - Lead lined model for hospital x-ray room doors with double row of screws to straddle lead (Specify "LL")
 - Frame and door leaf alignment ribs for proper hinge and door location

Hinge Length - Inches	79	83	85	95	119	
Hinge Length - cm	200.7	210.8	215.9	241.3	302.3	
Door Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48
Jamb Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48

Hinge Length - Inches	79	83	85	95	119	
Hinge Length - cm	200.7	210.8	215.9	241.3	302.3	
Door Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48
Jamb Screws	Std	15	19	19	19	21
	HD	15	19	19	19	21
	LL	32	36	36	42	48



FOR FIELD USE



GWZQ.R14627 Door Hinges

[Page Bottom](#)

Door Hinges

[See General Information for Door Hinges](#)

HAGER COMPANIES
139 VICTOR ST
ST LOUIS, MO 63104 USA

R14627

Series 780R0TON Aluminum continuous door hinge also meets the requirements of UL 10C and UBC 7-2 (1997) when installed on swinging type fire doors of the hollow metal, tin-clad, sheet metal and steel covered composite type rated up to and including 3 hours, wood composite rated up to and including 1-1/2 hours and wood core rated up to 20 minutes without hose stream.

Model 780-112 HD ROTON Aluminum continuous door hinge without steel pins also meets the requirements of UL 10C and UBC 7-2 (1997) when installed on hollow metal and steel covered composite fire doors rated up to and including 1-1/2 hours with a maximum overall size of 4 ft 0 in. x 8 ft 0 in. and wood and plastic covered composite doors rated as twenty minute type door assemblies fire tested without hose stream with a maximum overall size of 4 ft 0 in. x 10 ft 0 in.

Model 780-112 HD with Intumescent Seal ROTON Aluminum continuous door hinge without steel pins also meets the requirements of UL 10C and UBC 7-2 (1997) when installed on hollow metal and steel covered composite fire doors rated up to and including 3 hours with a maximum overall size of 4 ft 0 in. x 8 ft 0 in. and wood and plastic covered composite doors rated as twenty minute type door assemblies fire tested without hose stream with a maximum overall size of 4 ft 0 in. x 10 ft 0 in.

Series 790-900, 790-903, 790-904, 790-905, 790-906, 790-907, 790-909, 790-911, 790-915, 790-926, and 790-935 stainless steel continuous door hinge for use on swinging type fire doors of the hollow metal, sheet metal and steel covered composite type rated up to and including 3 hours; wood composite rated up to and including 1-1/2 hours and wood core rated up to 20 minutes without hose stream. Overall door sizes to be a maximum of 8 ft 0 in. x 10 ft 0 in. for standard pairs and a maximum overall size of 4 ft 0 in. x 10 ft 0 in. for single swing.

Series 1700, 1800, 7700, 8700 hinge for use with swinging type fire doors, hollow metal, steel composite rated up to and including 3 hours, wood composite rated up to and including 1 1/2 hours and wood core rated up to 20 minutes without hose stream.

Models RHB200 and RHB201 Aluminum continuous door hinges, also meets the requirements of UL 10C and UBC 7-2 (1997), when installed on swinging type fire doors of the hollow metal, tin-clad, sheet metal and steel covered composite type rated up to and including 3 hours, wood composite rated up to and including 1-1/2 hours and wood core rated up to 20 minutes without hose stream.

Door size to be maximum 3 ft 0 in. x 7 ft 0 in. x 1 ft 3/4 in. thick. May have prefix or suffix letters.

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