ELECTRIFIED MORTISE AND CYLINDRICAL LOCKS

Catalog

Yale®

An ASSA ABLOY Group brand

ASSA ABLOY
INTRODUCTION

Yale® electrified locksets incorporate the highest level of security available with the added flexibility and security of remote electrical control. A solenoid, integral to the lock mechanism, controls the lock function from any remote switch.

The system can be ordered for "Fail Safe" (doors open during power outage) or "Fail Secure" (doors locked during power outage).

Yale electrified locksets permit monitoring and control for locking and unlocking doors from a single remote location and can also be tied into fire alarm systems.

When mechanical key override is desired, Yale recommends the use of its patented key system, Yale KeyMark®. This helps ensure the security of the electromechanical lock by:
• Providing patent protection against unauthorized key duplication
• Providing increased resistance against picking and impressioning
• Enabling one key to operate small format IC, large format IC and fixed core cylinder

BASIC USE

Fail Safe
Ideally suited for fire-related stairwell doors where security is desired but where codes require positive latching (NFPA 80) and automatic unlocking (NFPA 101) in a fire alarm situation.

Fail Secure
Ideally suited for security doors, exterior or interior, where loss of electrical power will not cause the doors to unlock.

STANDARDS

• Conform to ANSI A156.25 (Grade 1)
• UL-cUL Fire Label for all door functions up to 3 hours
• Comply to UBC7-2 (1997)
• Manufactured in an ISO 9001 facility

WARRANTY

Electrified Locks: 1-year
### CONTROLED ENTRY

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent tenant turnover</td>
<td>Install Digital Keypad to allow code entry with an electric lock</td>
</tr>
<tr>
<td>Inconvenience of carrying keys</td>
<td>No keys required using a keypad</td>
</tr>
<tr>
<td>Re-keying expense</td>
<td>Codes changed within seconds on the keypad at the door</td>
</tr>
<tr>
<td>Keys easily duplicated</td>
<td>Patented Yale® KeyMark® cylinder (for emergency) prevents unauthorized duplication</td>
</tr>
</tbody>
</table>

**Operation**
- Door is normally closed, latched and secure.
- Inside lever allows free egress at all times.
- Entering a valid code on the 917 keypad will unlock outside trim for entry.
- Trim will relock after the time delay in the keypad has elapsed.
- Mechanical key in trim retracts latchbolt for entry. Key can only be removed in locked position.
- Outside trim remains locked during loss of power.

**Product**
1. AU5491LN Fail Secure Electric Lock
1. 917 Keypad
1. MPS10 Power Supply
1. PTH4 Electric Hinge

Consult YSG Technical Service for assistance in additional system applications.
TYPICAL APPLICATIONS

STAIRWELL RE-ENTRY

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stairwell doors remain locked during evacuation not allowing re-entry to floors</td>
<td>Install Fail Safe electric locks with power supply wired into fire alarm system</td>
</tr>
</tbody>
</table>

**Operation**
- Door is normally closed, latched and secure.
- Inside lever allows free egress at all times.
- Outside lever is locked preventing entry from stairwell.
- Fire alarm activation will release outside lever and allow entry from the stairwell to the floor.
- Mechanical key in trim retracts latchbolt for entry. Key can only be removed in locked position.
- Outside trim will unlock during loss of power.

**Product**
1 - AUE8790FL Fail Safe Electric Lock
1 - MPS10 Power Supply
1 - PTH4 Electric Hinge

Consult YSG Technical Service for assistance in additional system applications.
**TYPICAL APPLICATIONS**

**CONTROLLED ENTRY WITH ALARM SHUNT**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theft by forced entry</td>
<td>Install a Fail Secure electric lock with monitoring options</td>
</tr>
<tr>
<td>Theft by employees</td>
<td>Install digital keypad</td>
</tr>
<tr>
<td>Remote door location</td>
<td>Install door monitoring and wire complete locking system into an alarm system</td>
</tr>
</tbody>
</table>

**Operation**
- Door is normally closed, latched and secure.
- Inside lever allows free egress at all times and shunts alarm.
  - Alarm will sound if door is not closed within a preset time limit (programmed by alarm panel).
- Outside lever is locked preventing entry.
- A valid card or code presented to keypad will unlock trim for entry. Alarm will sound if door is not closed within a preset time limit.
- Mechanical key in trim retracts latchbolt for entry. Key can only be removed in locked position.
- Outside trim remains locked during loss of power.

**Product**
1 - AUE8791FL x REX Fail Secure Electric Lock
1 - MPS10 Power Supply
1 - PTH6 Electric Hinge
1 - 917 Keypad
1 - MC-4 Door Position Switch

Consult YSG Technical Service for assistance in additional system applications.
**ELECTRIFIED MORTISE LOCKSET**

### 8970 SERIES - SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrought Steel Case</td>
<td>Zinc dichromated for corrosion resistance</td>
</tr>
<tr>
<td>3/4&quot; Latch Throw</td>
<td>Stainless steel two-piece anti-friction camming action provides strength and wear resistance</td>
</tr>
<tr>
<td>Sintered Steel Hubs</td>
<td>Copper infiltrated for additional strength</td>
</tr>
<tr>
<td>Fail Safe or Fail Secure</td>
<td>Provides versatility in meeting specific application requirements</td>
</tr>
<tr>
<td>Continuous Duty Solenoid</td>
<td>Allows locks to be energized continuously without doing and damage to the solenoid.</td>
</tr>
<tr>
<td>12 or 24 VAC/DC</td>
<td>Adapts to access control or fire alarm systems.</td>
</tr>
<tr>
<td>Knobs or Levers</td>
<td>Allows design continuum throughout a building by matching new or existing mechanical hardware</td>
</tr>
<tr>
<td>ANSI Conformance</td>
<td>ANSI A156.13, Series 1000, Operational Grade 1</td>
</tr>
<tr>
<td>UL Listed</td>
<td>Rated for both fire and electrical single-point locking operations on labeled openings by Underwriters Laboratories UL 38G5</td>
</tr>
</tbody>
</table>

### OPERATION

Electric locks provide the ability to electrically lock or unlock the outside trim from a remote location. Fail Safe locks are commonly used in stair towers to release upon fire alarm activation. Fail Secure locks are used on perimeter doors or security doors to allow ingress using access control technologies (proximity cards, keypads, etc.)

### ELECTRICAL SPECIFICATIONS

**Fail Safe/Fail Secure**
- 612mA @ 12 VAC/DC
- 330mA @ 24 VAC/DC

**Monitor Functions**
- LBM - 4 amp @ 250 VAC
- REX - 4 amp @ 250 VAC

**Note:**
System Requirements, see page 16-17
Power Supply - MPS Series
Power Transfer - PT Series
Controls - 400/700 Series

### OPTIONS

**LBM (Latchbolt Monitor)**
A SPDT switch that monitors the full extension of the main latch.

**REX (Request to Exit Monitor)**
A SPDT switch that monitors the activation of the free lever. Used for shunting alarms, releasing electromagnetic locks, or monitoring egress.
### FAIL SAFE

- Power on locks outside trim
- Deadlocking latchbolt
- Latchbolt by trim either side except when outside trim is locked by energizing solenoid
- Key outside retracts latchbolt when solenoid is energized
- Power off - unlocks trim
- For cylinder options see page 10

<table>
<thead>
<tr>
<th>Model</th>
<th>Lever (Power On)</th>
<th>Cylinder Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>8790</td>
<td>Outside Rigid/Inside Active</td>
<td>1 cylinder</td>
</tr>
<tr>
<td>8780</td>
<td>Outside Rigid/Inside Active</td>
<td>None</td>
</tr>
<tr>
<td>8784*</td>
<td>Inside &amp; Outside Rigid</td>
<td>None</td>
</tr>
<tr>
<td>8794-2</td>
<td>Inside &amp; Outside Rigid</td>
<td>2 cylinders</td>
</tr>
</tbody>
</table>

Available in knobs and levers.

*Shipped less cylinder unless specified

### FAIL SECURE

- Power on unlocks outside trim
- Deadlocking latchbolt
- Latchbolt by trim either side only when solenoid is energized
- Latchbolt retracted by key outside and trim inside when solenoid is not energized
- Power off - locks trim
- For cylinder options see page 10

<table>
<thead>
<tr>
<th>Model</th>
<th>Lever (Power Off)</th>
<th>Cylinder Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>8791</td>
<td>Outside Rigid/Inside Active</td>
<td>1 cylinder</td>
</tr>
<tr>
<td>8781</td>
<td>Outside Rigid/Inside Active</td>
<td>None</td>
</tr>
<tr>
<td>8785*</td>
<td>Inside &amp; Outside Rigid</td>
<td>None</td>
</tr>
<tr>
<td>8795-2</td>
<td>Inside &amp; Outside Rigid</td>
<td>2 cylinders</td>
</tr>
</tbody>
</table>

Available in knobs and levers.

*Shipped less cylinder unless specified
8790 LEVER DESIGNS

LEVER TRIM X ROSE

Arcadia - ARR
Augusta - AUR
Carmel - CRR
Jefferson - JNR
Monroe - MOR
Pacific Beach - PBR
Pinehurst - PNR
Virginia - VIR
Mayfair Rose - MF (Opt.)

LEVER TRIM X ESCUTCHEON

Arcadia - ARE
Augusta - AUE
Carmel - CRE
Jefferson - JNE
Monroe - MOE
Pacific Beach - PBE
Pinehurst - PNE
Virginia - VIE
Lenoir Escutcheon - LN (Opt.)
8790 KNOB DESIGNS

KNOB TRIM X ROSE

Brandywine - BRR
Carolina - CAR

Copenhagen - COR
Litchfield - LFR

KNOB TRIM X ESCUTCHEON

Brandywine - BRE
Carolina - CAE
Copenhagen - COE

Easton - CE
Lenoir Escutcheon - LFE
Litchfield - LFE
The following selection guide indicates the correct mortise cylinder for each locking segment.

### CYLINDER SELECTION GUIDE

<table>
<thead>
<tr>
<th>Cylinder Type</th>
<th>Fixed Core</th>
<th>Interchangeable Core (Large Format)</th>
<th>Interchangeable Core (Small Format)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mortise</td>
<td>2153</td>
<td>K100</td>
</tr>
<tr>
<td></td>
<td>Mortise - LFIC</td>
<td>2196</td>
<td>K820</td>
</tr>
<tr>
<td></td>
<td>Mortise - SFIC</td>
<td>N/A</td>
<td>K620</td>
</tr>
<tr>
<td>Lock Functions:</td>
<td>8790/8791</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8794-2/8795-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Types of Cylinder Mechanisms</td>
<td>Conventional</td>
<td>Patented KeyMark® Keyway</td>
<td>Security</td>
</tr>
<tr>
<td>Fixed Core</td>
<td>2153</td>
<td>K100</td>
<td>5153</td>
</tr>
<tr>
<td>Interchangeable Core</td>
<td>2196</td>
<td>K820</td>
<td>5194</td>
</tr>
<tr>
<td>Interchangeable Core (Small Format)</td>
<td>N/A</td>
<td>K620</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Refer to Yale® KeyMark® and/or Cylinders and Keys catalog section for all details and how to order examples.

**YALE® KEYMARK® PATENTED KEYWAY**

For those applications requiring patented key control protection.

**SECURITY CYLINDERS**

For those applications that require a high security cylinder to meet the requirements of UL 437 for pick and drill resistance, Yale offers the U5153 mortise cylinder and the U5109 rim cylinder. These cylinders have a hardened stainless steel cylinder head and rotating plug face. They also incorporate all the features listed for the standard security cylinders.

Note: *Yale KeyMark* is available through authorized dealers only.
5400LN ELECTRIFIED CYLINDRICAL LOCKSET

5400LN SERIES - FEATURES

- **Free Wheeling Levers** - Extends the life of the lockset, and reduces the amount of maintenance typically required of locksets with rigid levers.
- **Stainless Steel Latchbolt** - Provides added strength and wear resistance. Direct 1/2" throw is standard.
- **3/4" Latch Throw** - Available for fire-rated pairs of doors.
- **Wear-Resistant Plates in the Chassis** - Helps extend the life of the lockbody and provides smoother lock operation.
- **Longer Pins Through the Chassis** - Provides greater stability and prevents rotation.
- **Heavy-Duty Lever Return Springs** - Prevents lever sag and provides positive return of lever to horizontal position.
- **Door Adjustable Rose Support Plates** - Allows for easy adjustment of locks to fit doors ranging in thickness from 1-3/4" (44mm) to 2-1/4" (57mm). Rose spacers available for 1-3/8" (35mm) thick doors.
- **Three Non-Handed Lever Options** - (Augusta, Monroe and Pacific Beach) complys with ADA requirements for easy gripping and operation.
- **Cylinder and Keying Options** - Refer to page 13.
- **Continuous Duty Solenoid**
- **Available in 12 or 24VAC/VDC**
- **UL Listed for Rated Openings**

OPERATION

Electric locks provide the ability to electrically lock or unlock the outside trim from a remote location. Fail Safe locks are commonly used in stair towers to release upon fire alarm activation. Fail Secure locks are used on perimeter doors or security doors to allow ingress using access control technologies (proximity cards, keypads, etc.)

**ELECTRICAL SPECIFICATIONS**

- 150 mA @ 24VAC/VDC
- 300 mA @ 12VAC/VDC
- Continuous duty solenoid

**System Requirements** (see page 16-17 for details):
- Power Supply - MPS
- Power Transfer - PT
- Controls - 400/700 pushbuttons and keyswitches

**FAIL SAFE**

- Power on locks outside lever
- Inside lever always free
- Latchbolt retracted by key when locked electrically
- Free Wheeling lever when locked electrically

**FAIL SECURE**

- Power on unlocks outside lever
- Inside lever always free
- Latchbolt retracted by key when power is off
- Free Wheeling lever when power is off (locked)
**Interchangeable Core. See page 13 for interchangeable core cylinder order options.
The following selection guide indicates the correct key-in-lever cylinder for each locking segment.

**CYLINDER OPTIONS**

**CYLINDER SELECTION GUIDE**

<table>
<thead>
<tr>
<th>Lock Functions:</th>
<th>5490LN/5491LN</th>
<th>Types of Cylinder Mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conventional</td>
<td>Patented Keyway</td>
</tr>
<tr>
<td>Fixed Core</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key-In-Lever</td>
<td>1802</td>
<td>K402</td>
</tr>
<tr>
<td>Interchangeable Core</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortise - LFIC</td>
<td>1210</td>
<td>K800</td>
</tr>
<tr>
<td>(Large Format)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mortise - SFIC</td>
<td>N/A</td>
<td>K600</td>
</tr>
<tr>
<td>(Small Format)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to Yale® KeyMark® and/or Cylinders and Keys catalog section for all details and how to order examples.

**PATENTED KEYWAY**

For those applications requiring patented key control protection.

Heavy-duty Cylindrical Lock AU5490LN with K800 Core

**SECURITY CYLINDERS**

Yale’s security cylinders contain two independent locking mechanisms.

Without Key

Spool Driver

Pin Tumbler

Driver Spring

Spring Forces Disc Into Keyway

Rotating Side Discs

Sidebar prevents cylinder plug from rotating unless side discs are perfectly aligned by the specific key’s side bitting.

**LEVERS ACCEPTING COMPETITORS’ INTERCHANGEABLE CORE CYLINDERS**

<table>
<thead>
<tr>
<th>Interchangeable Core System</th>
<th>Prefix</th>
<th>Ordering Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best®</td>
<td>B (i.e. B-AU, B-PB, B-MO)</td>
<td>B-AU5490LN x US26D</td>
</tr>
<tr>
<td>Schlage®</td>
<td>SI (i.e. SI-AU, SI-PB)</td>
<td>SI-AU5490LN x US26D</td>
</tr>
<tr>
<td>Corbin Russwin</td>
<td>R (i.e. R-AU, R-PB)</td>
<td>R-AU5490LN x US26D</td>
</tr>
</tbody>
</table>
5490LN STRIKES

Yale® 5400LN electric locksets are supplied standard with a 497 ANSI strike. A variety of optional strikes are also available. All strikes are located on the same vertical and horizontal center lines as the latchbolt. Some strikes are available in a variety of lip lengths to accommodate varying thickness of doors and frames. To determine the proper length of the lip, measure from the center line of the door to the edge of the jamb and add 1/4" (6mm). All strikes are reversible.

List No. 497 ANSI Strike
1-1/4" (32mm) supplied standard with 5400LN. 1-1/8" (29mm), 1-1/2" (38mm), and 1-3/4" (44mm) lip lengths available by special order. For door and frames with ANSI A115.2 preparations.

List No. 495 Strike
1-1/4" (32mm) curved lip, wrought box supplied. 1" (25mm), 1-1/2" (38mm), 1-3/4" (44mm) and 2" (51mm) curved lip lengths available by special order.

List No. 202 Strike Box
Available to special order. Specify 497 x 202.

DEADLOCKING LATCHBOLTS

<table>
<thead>
<tr>
<th>List No.</th>
<th>Front</th>
<th>Backset</th>
<th>Throw</th>
<th>Front Width</th>
<th>Latch Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>F694</td>
<td>Flat</td>
<td>2-3/4&quot; (70mm)</td>
<td>1/2&quot; (13mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
<tr>
<td>F480B</td>
<td>Flat</td>
<td>2-3/4&quot; (70mm)</td>
<td>3/4&quot; (19mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
<tr>
<td>694</td>
<td>Beveled</td>
<td>2-3/4&quot; (70mm)</td>
<td>1/2&quot; (13mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
<tr>
<td>480B</td>
<td>Beveled</td>
<td>2-3/4&quot; (70mm)</td>
<td>3/4&quot; (19mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
<tr>
<td>3694</td>
<td>Beveled</td>
<td>3-3/4&quot; (95mm)</td>
<td>1/2&quot; (13mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
<tr>
<td>3480B</td>
<td>Beveled</td>
<td>3-3/4&quot; (95mm)</td>
<td>3/4&quot; (19mm)</td>
<td>1-1/8&quot; (29mm)</td>
<td>1&quot; (25mm)</td>
</tr>
</tbody>
</table>

Note: To order with lockset specify part number. To order separate specify part number and finish.

ATTACHING SCREWS

For List No. 495
#8-8-32 x 3/4" (19mm) Phillips flat head combination wood and machine screws.
P/N 81-2012-0416 x Finish

For List Nos. 497 and 497B Plate
#12-12-24 x 1" Phillips flat head combination wood and machine screws.
P/N 81-2012-0620 x Finish

NOTE: When ordering strike or attaching screws individually, specify the finish required; i.e. 497 x 202 x 606.
Locksets shall be 8790 series electrically controlled locksets manufactured by Yale Commercial Locks and Hardware.

Functions available should be in one case, manufactured from heavy gauge steel, completely Zinc dichromated plated for corrosion resistance. Cases should be closed on all sides to protect internal parts. Locks shall have a 2-3/4" backset and a full 3/4", throw stainless steel two piece mechanical anti-friction latchbolt, and shall be available for a minimum door thickness of 1-3/4". All locks shall have a stainless steel auxiliary latchbolt for deadlocking.

The locking solenoid shall be continuous-duty and self-contained in the mortise lockcase, allowing the lockset to be installed in a standard mortise door preparation with a slight modification to provide clearance for wires by door manufacturer.

The 8790 series shall be available 12 or 24 volt AC and DC (rectifier to be included) and Fail Safe or Fail Secure. The optional Request to Exit switch shall be a SPDT (single pole double throw) switch self-contained in the mortise lockcase that is activated when the inside or outside trim is moved. The optional latchbolt monitoring switch shall be a SPDT (single pole double throw) switch self-contained in the mortise lockcase that is activated when the main latchbolt is retracted or tampered with.

Locksets with latchbolts regardless of trim shall be Underwriters Laboratories listed for A label doors, 4' x 8' single or 8' x 8' pair. Also available for B label doors, 4' x 9' single.

Mechanical cylinder override shall be available. Optional cylinders shall include interchangeable core, security and blockout types.

Sectional lock trim (knob/lever) shall be through-bolted through the lock case to ensure positive alignment. Escutcheon trim (knob/lever) is held in position by threaded posts which fit through the door and are through-bolted through the inside trim.

Locks shall meet requirements of ANSI A156.13 Series 1000, Grade 1, ANSI A117.1 Accessibility Code (lever trim) and UL 1034.

Locks, trim and cylinders shall be from one manufacturer. Mechanical locks electrically modified by second party are not acceptable.

Locksets shall carry a one year-limited warranty.

Locksets shall be 5490LN series Grade I Key in Lever electric cylindrical locksets as Manufactured by Yale Commercial Locks and Hardware.

Lockset chassis shall be constructed of heavy-gauge cold-rolled zinc dichromated plated to protect against rust and corrosion. Locksets shall be adjustable to fit doors between 1-3/4" to 2-1/4" thick.

The 5490LN series shall be available 12 or 24 volt AC and DC (rectifier to be included) and Fail Safe or Fail Secure.

The locking solenoid shall be continuous-duty and self-contained in the cylindrical lock chassis, allowing the lockset to be installed in a standard cylindrical door preparation with a slight modification to provide clearance for wires by door manufacturer.

Locksets shall be non-handed and shall install easily without the need for specialized installation tools. Locksets shall have separate anti-rotation through-bolts in the 6 o'clock and 12 o'clock position outside the 2-1/8" face bore, and shall have no exposed mounting screws.

Locksets shall have solid one-piece cast levers without plastic inserts, and shall be a minimum of 5-1/4" in length. Levers shall operate independently, and shall have inside and outside lever return springs. Outside levers on the keyed locksets shall be removable only when the designed key is in the cylinder.

Locksets shall have the capability of accepting 7-pin standard, interchangeable core and high security cylinders to provide expansion capacity for large master keyed systems.

Vandal resistant levers shall be offered as a standard feature in all locking functions, and shall be Free Wheeling in the locked condition. Locksets that are rigid in the locked condition, or which must require resetting (breakaway) are not acceptable.

The latchbolt shall be made of stainless steel.

Locksets shall carry a comprehensive five-year mechanical warranty with a one-year electrical warranty. Locksets shall carry a lifetime warranty against lever sag or lever spring breakage.

Locksets shall comply with ANSI A156.2 Series 4000 Grade 1, ANSI A117.1 Accessibility Code, ANSI A1 15.1B Preparation and UL 3 Hour Fire Rating and UL1034.
SYSTEM REQUIREMENTS

See How to Order page for details

Notes: For Door and Frame
- Wire raceway in door is required
- Proper frame preparation for conduit and hinge mortor box as required

1 - ELECTRIC LOCKS

Provide the ability to electrically unlock or lock the outside trim from a remote location. Used for security, safety and convenience.

<table>
<thead>
<tr>
<th>Mortise Lock</th>
<th>Cylindrical Lock</th>
</tr>
</thead>
<tbody>
<tr>
<td>8780/8781</td>
<td>5490LN/5491LN</td>
</tr>
<tr>
<td>8784/8785</td>
<td></td>
</tr>
<tr>
<td>8790/8791</td>
<td></td>
</tr>
<tr>
<td>8794-2/8795-2</td>
<td></td>
</tr>
</tbody>
</table>

2 - POWER TRANSFER

Used to transfer power from the frame to the door.

<table>
<thead>
<tr>
<th>Mortise Lock</th>
<th>Total Conductor Required</th>
<th>Hinge</th>
<th>Hinge</th>
<th>Pivot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fail Safe/Fail Secure</td>
<td>4-Wire</td>
<td>PTH-4</td>
<td>CC-4</td>
<td>EM-19</td>
</tr>
<tr>
<td>Fail Safe/Fail Secure x REX</td>
<td>6-Wire</td>
<td>PTH-6</td>
<td>CC-6</td>
<td>EM-19</td>
</tr>
<tr>
<td>Fail Safe/Fail Secure x LBM</td>
<td>6-Wire</td>
<td>PTH-6</td>
<td>CC-6</td>
<td>EM-19</td>
</tr>
<tr>
<td>Fail Safe/Fail Secure x REX x LBM</td>
<td>10-Wire</td>
<td>PTH-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylindrical</td>
<td></td>
<td>PTH-4</td>
<td>CC-4</td>
<td>EM-19</td>
</tr>
<tr>
<td>5490LN/5491LN</td>
<td>4-Wire</td>
<td>PTH-4</td>
<td>CC-4</td>
<td>EM-19</td>
</tr>
</tbody>
</table>
3 - POWER SUPPLY - FOLGER ADAM®

Provides a filtered and regulated power source for electric hardware.

<table>
<thead>
<tr>
<th>Mortise Lock</th>
<th>Current Draw</th>
<th>MPS10</th>
<th>MPS15</th>
<th>MPS40</th>
</tr>
</thead>
<tbody>
<tr>
<td>12VAC/VDC</td>
<td>612mA</td>
<td>1 Lock</td>
<td>2 Locks</td>
<td>6 Locks</td>
</tr>
<tr>
<td>24VAC/VDC</td>
<td>330mA</td>
<td>3 Locks</td>
<td>4 Locks</td>
<td>12 Locks</td>
</tr>
<tr>
<td>Cylindrical Lock</td>
<td>360mA</td>
<td>3 Locks</td>
<td>4 Locks</td>
<td>12 Locks</td>
</tr>
<tr>
<td>24VAC/VDC</td>
<td>150mA</td>
<td>6 Locks</td>
<td>8 Locks</td>
<td>24 Locks</td>
</tr>
</tbody>
</table>

Notes:
- Chart reflects maximum quantities based on typical wire runs. Consult Yale® technical specialist for system layout assistance.
- Batteries are not included.

4 - EXTERIOR CONTROL - FOLGER ADAM

Used to unlock or lock and monitor electric hardware for momentary or maintained periods.

- 917 Keypad
  - 160 Users
  - Keypad/Programmable SPDT Relay

Key Switch
700-6 Series

5 - INTERIOR CONTROL AND MONITORING - FOLGER ADAM®

Used to unlock or lock and monitor electric hardware for momentary or maintained periods.

- Push Button
  400 Series

- Key Switch
  700-6 Series

- Monitor Stations
  L400 Series

6 - DOOR POSITION SENSORS AND MONITOR STRIKES

Used to monitor the position of the door or monitor status of the latchbolt.

- Folger Adam® MC-4
- Rixson® CS-M19
- McKinney® CS Hinge
**HOW TO ORDER**

### 1 - ELECTRIC LOCKS

<table>
<thead>
<tr>
<th>Design</th>
<th>Lock</th>
<th>Keying Level</th>
<th>Voltage</th>
<th>Description</th>
<th>Finish</th>
<th>Hand</th>
<th>Cylinder</th>
<th>Door Thickness</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>8780/8781</td>
<td>8784/8785</td>
<td>8790/8791</td>
<td>8794-2/8795-2</td>
<td>5490LN/549TLN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2 - POWER TRANSFER

<table>
<thead>
<tr>
<th>Hinges - Folger Adam®</th>
<th>Finishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-1/2 x 4-1/2</td>
<td>P, AP, 605, 608, 612, 613, 625, 626</td>
</tr>
<tr>
<td>PTH-4 (4 wire)</td>
<td></td>
</tr>
<tr>
<td>PTH-6 (6 wire)</td>
<td></td>
</tr>
<tr>
<td>PTH-10 (10 wire)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hinges - McKinney®</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CC-4</td>
<td>605, 608, 612, 613, 625, 626</td>
</tr>
<tr>
<td>CC-6</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pivots - Rixson®</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EM-19 (2, 4 or 6 wire)</td>
<td>605, 608, 612, 613, 625, 626</td>
</tr>
<tr>
<td>EFM-19 Fire-Rated (2 or 4 wire)</td>
<td></td>
</tr>
</tbody>
</table>

### 3 - POWER SUPPLY - FOLGER ADAM®

- MPS10 . . . . . . 1 amp
- MPS15 . . . . . . 1.5 amps
- MPS15A . . . . . 1.5 amps
- MPS40 . . . . . . 4 amps

**Options**
- RB12V4: Rechargeable battery for battery backup (2 required for 24V)
- CR4: 4 zone relay board (4 trigger inputs and 4 outputs)
- UR-2A: Universal 2 zone relay board with time delays (use with MPS15A or MPS40)
- UR-4A: Universal 4 zone relay board with time delays (use with MPS15A or MPS40)

### 4 - EXTERIOR CONTROL - FOLGER ADAM®

<table>
<thead>
<tr>
<th>Product</th>
<th>Finishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>917 Keypad (160 Users)</td>
<td>605, 606, 613, 625, 630</td>
</tr>
</tbody>
</table>

**Keyswitches (Refer to Accessory Section for Details)**
- 701-6 MA SPDT
- *702-6 MO SPDT
- *704D-6 MO SPDT-1-120 sec timer
- 705-6 AA DPDT
- 706-6 MO SPDT x RD & GR LEDs
- *707-6 2 MO SPDT
- *708-6 1 MO SPDT & 1 MA SPDT

Requires 1-1/8 or 1-1/4 mortise cylinder with clover leaf cam.

*Dual switches require standard cam.

**Options**
- L1: Specify red or green LED
- L2: Red or green LED
5 - INTERIOR CONTROL AND MONITORING - FOLGER ADAM®

Pushbutton
- 401 MA SPDT
- 402 MO SPDT
- 403D MO 1-30 sec adj. time delay
- 405 MA DPDT
- 406 2 MO SPDT

Specify lens color: red, green, yellow, white

Options
- E: Exit engraved button
- L1: Specify red or green LED
- L2: Specify red or green LED
- MA - Maintained
- MO - Momentary

Monitor Stations
- L400-L1
- L400-L2
- L400-L3

Specify lens color: red, green, yellow, white

Sirens and buzzers
- 400 - RMB buzzer on 1 gang plate
- 400 - SN siren on 1 gang plate

6 - DOOR POSITION SENSORS AND MONITOR STRIKES

Monitor Strike - Folger Adam®
- MS14 Cylindrical latch monitor SPDT
- MS14D Cylindrical latch monitor DPDT
- MS-20 Mortise latch and deadlock monitor SPDT
- MS-20D Mortise latch and deadlock monitor DPDT
- MC-4 Concealed magnetic switch (hollow metal and aluminum doors and frames)

Door Position Sensor
- CS M19 - Door Position Pivot - Rixson®
- CS Hinge - McKinney®

SYSTEM ORDERING EXAMPLE
- 1 - AUE 8791FL x KD - 24V - Lockset 626 RHR
- 1 - PTH-4 4-1/2 x 4-1/2 Hinge 626
- 1 - 917 Keypad
- 1 - MS20 Monitor Strike
- 1 - MPS 15 Power Supply

FINISHES

BHMA Symbol | Description
--- | ---
605 | Bright Brass, Clear Coated
606 | Satin Brass, Clear Coated
611 | Bright Bronze, Clear Coated
612 | Satin Bronze, Clear Coated
613 | Satin Bronze, Oxidized and Oil Rubbed
625 | Bright Chrome Plated
626 | Satin Chrome Plated
629 | Bright Stainless Steel

FINISHES

WIRE SELECTION

<table>
<thead>
<tr>
<th>VOLTAGES</th>
<th>50 FT.</th>
<th>100 FT.</th>
<th>150 FT.</th>
<th>200 FT.</th>
<th>250 FT.</th>
<th>300 FT.</th>
<th>400 FT.</th>
<th>500 FT.</th>
<th>750 FT.</th>
<th>1000 FT.</th>
<th>1500 FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V</td>
<td>16 AWG</td>
<td>16 AWG</td>
<td>14 AWG</td>
<td>12 AWG</td>
<td>12 AWG</td>
<td>10 AWG</td>
<td>10 AWG</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>24V</td>
<td>20 AWG</td>
<td>20 AWG</td>
<td>18AWG</td>
<td>18 AWG</td>
<td>16 AWG</td>
<td>14 AWG</td>
<td>14 AWG</td>
<td>12 AWG</td>
<td>10 AWG</td>
<td>10 AWG</td>
<td>–</td>
</tr>
</tbody>
</table>

Cylindrical

| 12V | 16 AWG | 18 AWG | 16 AWG | 14 AWG | 14 AWG | 12 AWG | 12 AWG | 10 AWG | 10 AWG | – | – |
| 24V | 24 AWG | 24 AWG | 22 AWG | 20 AWG | 18 AWG | 18 AWG | 18 AWG | 16 AWG | 14 AWG | 14 AWG | 12 AWG |

Note: These are recommended minimum wire sizes for providing sufficient current and are for reference only. The contractor and/or installer should verify compliance with local codes before installation.
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