W & M Series
IDH MAX® & Electromechanical Locks
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IDH MAX® – Introduction

The IDH MAX® from BEST offers convenience and efficiency for your electrified lock applications. Instead of installing reader devices, installing electrified strikes, installing door contacts and installing request-to-exit devices, you can now install the IDH MAX® in cylindrical or mortise lock applications. With IDH MAX® all of the formerly separate equipment needed to control access are self-contained in a single installation. The complexity of multiple wire runs is drastically reduced.

You can let BEST show you how to MAXimize your access control system with the IDH MAX! For the name and location of your local office, visit our web site at www.bestaccess.com. IDH MAX® and W series locks are compatible with BEST’s NT500, Mercury and most other Access Control Systems. The IDH Max® 1300 option will only work with the Mercury system and only on electrically unlocked “EU” functions.

IDH MAX® – Features

IDH Max® Features
Includes latch status, door status and request to exit features
NOTE: Latch Status not available on Deadbolt functions
- The 1300 option eliminates the need for a PIM (Panel Interface Module)
- Requires only one 4 conductor wire run
- Reduces number of components installed and visible at the door (PIR, RQE push buttons and door contacts)
- Installation time is reduced
- The RQE switch senses the inside lever/knob rotation
- All of the door components are housed in one manufacturer’s hardware
- With the elimination of components, only the lockset is visible at the door
- The reader is integrated into the lockset escutcheon
- Available in magnetic stripe and proximity readers
- Available in all popular lever/knob styles and finishes
- Operates with BEST interchangeable core as a mechanical override
- Integrates with many manufacturer’s on-line EAC equipment

Mortise Features
- Lock case meets the requirements as listed in the ANSI/BHMA A156.13 standard for Series 1000, Grade 1 Operational and Grade 2 Security locks
- UL listed for GYQS Electrically controlled single point locks or latches for use on 3 hr, A label doors (4’x10’). The listing applies for both U.S. and Canadian applications
- Door contact, request-to-exit, and latch status sensors positioned inside lock case

- The door contact magnet is installed behind the strike and out of site (except when deadbolt option is ordered)
- All sensors are standard in IDH Max mortise locks
- The heavy duty design of the mortise lock results in less field maintenance and part failures
- Twist off lever spindle design protect internal lock parts from damage and failure.
- Oil impregnated stainless steel 3/4” anti-friction latchbolt reduces door closing force and wear.

Cylindrical Features
- Non-handed levers allow for ease of installation
- Lock chassis meets the requirements as listed in the ANSI/BHMA A156.2, standard for Series 4000 Grade 1 locks
- UL listed for GYQS Electrically controlled single point locks or latches for use on 3 hr, A label single doors (4’x10’). The listing applies for both U.S. and Canadian applications
- Request-to-exit sensor positioned inside lock trim
- The ISC (Intelligent System Controller) is embedded behind the escutcheon secured and out of site
- Request-to-exit and door contact sensors are standard in IDH MAX cylindrical locks

Magnetic Stripe Electronic Lock Features
- Durable material has teflon-like characteristics for increased life and wear resistance
- Variable read rate allows for easy usage
Proximity Card Reader Features
- HID and Motorola/Indala proximity cards supported
- Usable in most environmental/exterior applications.

1300 Option Features
- Eliminates need for small panel interface module
- Eliminates reader interface board
- Incorporates 3 modules into a single electronics board inside IDH Max escutcheon trim
- Connects directly to ACP via 2 wire RS485 connection

IDH MAX® & IDH MAX® 1300 Comparison Chart

HM, KM, HW & KW – Options

AL – Besides complying with a wide variety of accessibility codes and ordinances, lever handles are available with a special abrasive feature. Abrasive strip on the lever immediately identifies warnings on doors to hazardous areas for the blind.

BRK – When excessive force (approx. 300 inch lbs.) is applied to #4, #6 keyed knobs, they “breakaway” and spin freely, thus allowing entrance only by key. Simple part replacement returns lock to functional usage.

C – The easy to use quick connect system enables efficient installation to the respective BEST Lock electrical options ordered.

IDH – The Integrated Door Hardware groups three components into one hardware package. 1. Door status switch (normally closed) 2. Request-to-Exit switch (normally open) 3. Electrically controlled locking mechanism.

KNL – Knurl feature is available only on #6 knobs. The knurling is machined into the outer edge of the knob. The knurled feature can be used for blind, safety, or accessibility applications.

LL – Lead lined feature can be used to protect against X-rays. Since the majority of lead lined doors contain the lead in the surface of the door, the knob lockset provide lead lining for the holes cut in the door when preparing the door for the trim.

LM – The Lost Motion feature allows the lever handle to turn freely when it is locked without retracting the latchbolt assembly. This feature makes over-torque abuse more difficult to achieve.

SH – Security head provided for all exposed screws.

RQE – Cylindrical or Mortise locksets can be supplied with a request-to-exit switch. A normally open switch provides momentary switch closure when the inside lever/knob is rotated.

TAC – Grooves are machined into knobs to improve grip or to be used as a warning in hazardous areas. This option can be used for blind, safety, or accessibility applications.

Thick door – Specify thickness if other than 1 3/4”.

TL – Tactile levers may be used in areas where improved grip is required or as a warning in hazardous or Safety First areas. Grooves are machined into the back of the hand grasp portion of the lever to improve grip and/or provide a sensory warning. This option can be used for blind, safety, or accessibility applications.

1300 – Integrated BAS1300/LNL1300 reader electronics board or (ISC) Intelligent System Controller is embedded behind the escutcheon secured and out of site. Functions with Mercury on-line equipment only.

NOTE: 1300 option not available on any “EL” electrically locked functions.
40HM IDH Max® – Specifications

Mechanical

Case – Heavy wrought steel, 5 7/8" H x 4 1/4" D x 1" W steel parts are zinc dichromate plated for corrosion protection.

Faceplate – Brass or bronze, 8" H x 1 1/4" W x 1/16" T. Lock face automatically adjusts to proper bevel during installation.

Strike – Brass, bronze or stainless steel base material, 4 7/8" H x 1 1/4" W x 3/32" T. Fits standard door frame cut out as specified in ANSI A115.1. Universal (non-handed) strike supplied standard with lock.

Backset – 2 3/4"

Door thickness – For doors 1 3/4" – 3" thick. (Specify thickness when ordering)

Installation – Lock requires modified door prep to mount the trim. Faceplate dimensions fit standard door preparation as specified in ANSI A115.1. Lockset is easily reversible to match door handing without opening the mortise case.


Deadbolt – Solid stainless steel, 1" throw.

Auxiliary bolt – Stainless steel, non-handed.

Escutcheons – 10 1/2" H x 3 5/16" W x 1" D (1" at the top, sloping down to 3/4" at the bottom)

Knobs – Diameter: 2 1/8" Projection on door: 2 7/8" #4, #6 knobs: Material machined from brass or bronze.

Lever handle – Brass, bronze or stainless steel. (Lever #3, #14 and #15 conform to California Titles 19 and 24.)

Mounting – Knob and lever attached with hardened set screw on inside knob or inside lever.

Finish –

- 605-bright brass, clear coated
- 606-satin brass, clear coated
- 611-bright bronze, clear coated
- 612-satin bronze, clear coated
- 613-oxidized satin bronze, oil rubbed
- 618-bright stainless steel
- 619-satin stainless steel
- 625-bright chromium plated
- 626*-satin chromium plated
- 629-bright stainless steel
- 630-satin stainless steel
- 631-oxidized stainless steel, oil rubbed
- 632AM – Satin Chrome Plated with UltraShield Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield Antimicrobial coating
- 690**-dark bronze.

* 613 finish is designed to wear over time, providing an "antique" appearance. ** 690 finish will continue as a dark brown appearance over time.

Antimicrobial Finishes –

- 626AM – Satin Chrome Plated with UltraShield Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield Antimicrobial coating

Electronic

Maximum current draw: 1.1 Amp for 50 milliseconds. Typical current draw (hold condition): 650 milliAmps Voltage: 10.2 to 13.2 V (DC only)

Magnetic Stripe Card Reader

Read Rate – 5 inches per second to 50 inches per second.

Card Thickness – ISO standard .030” ± .003 thick. Compliance to FCC, Canadian, and European EMC requirements; for interference FCC Class A digital apparatus.

Proximity Reader – ANSI/BHMA A156.25 compliant. Compatible with Motorola / Indala and HID proximity cards. ABA and Wiegand output.

Weatherproof bezel and gasket provide protection for outdoor use. (Usable in most environmental/exterior applications)

Card Read Range – 0 – 3 inches. Compliance to US FCC, Canadian FCC, and European EMC requirements

ESD Protection – 15 Kilo Volt

40HM IDH Max® – How To Order

45HM 7  DEU  14  MS  626  RH  KNL

<table>
<thead>
<tr>
<th>Series</th>
<th>Core Housing</th>
<th>Function</th>
<th>Lever/Knob Style</th>
<th>Trim Style *</th>
<th>Finishes</th>
<th>Handing</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>45HM – IDH Max® Mortise</td>
<td>0 – Keyless or less cylinder, 7 – 7 pin IC housing accepts all BEST cores</td>
<td>DEL – single key latch, fail safe</td>
<td>Levers 6 14 – curved return 6 15 – curved angle return 6 16 – curved no return 6 17 – gullwing no return</td>
<td>MS – magnetic stripe PM – proximity Motorola</td>
<td>605 606 611 612 613 618 619 625 626 690</td>
<td>RH  RHRB LH LHRB</td>
<td>C – quick connect SH – security head screws TAC – tactile lever Thick Door – specify thickness if other than 1 3/4&quot; 7/8&quot; LTC – flat lip strike 1300** – Mercury direct connect</td>
</tr>
<tr>
<td></td>
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<td>DEU – single key latch, fail secure</td>
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<td>Antimicrobial Finishes</td>
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<td>NXEL – keyless, latch, fail safe</td>
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<td></td>
<td>626AM – Satin Chrome Plated with UltraShield Antimicrobial coating</td>
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<td></td>
<td>NXEU – keyless, latch, fail secure</td>
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<td>630AM – Satin Stainless Steel with UltraShield Antimicrobial coating</td>
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<td>TDEL – single key deadbolt, fail safe</td>
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<td>TDEU – single key deadbolt, fail secure</td>
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<td>LEL – keyless, deadbolt, fail safe</td>
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<td></td>
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<td>LEU – keyless, deadbolt, fail secure</td>
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</tbody>
</table>

*Standard readers use BEST concealed cylinder; Adaptation trim can accept other manufacturers cylinders.
**1300 option not available on any "EL" electrically locked functions.
### 40HM IDH Max® – Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Latch</th>
<th>Outside Knob/Lever</th>
<th>Inside Knob/Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEL–Locked</strong>&lt;br&gt;Fail Safe</td>
<td>- Outside knob/lever when power is removed from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains locked while power is on.</td>
<td>Removing power from the solenoid</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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</tr>
<tr>
<td><strong>DEU–Unlocked</strong>&lt;br&gt;Fail Secure</td>
<td>- Outside knob/lever when power is applied from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains unlocked while power is on.</td>
<td>Removing power from the solenoid</td>
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<td>Powered by 12V DC. temperature control module is not needed.</td>
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<tr>
<td><strong>NXEL–Locked</strong>&lt;br&gt;Fail Safe</td>
<td>- Outside knob/lever when power is removed from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
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<tr>
<td><strong>NXEU–Unlocked</strong>&lt;br&gt;Fail Secure</td>
<td>- Outside knob/lever when power is applied from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains unlocked while power is on.</td>
<td>Removing power from the solenoid</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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<tr>
<td><strong>TDEL–Locked</strong>&lt;br&gt;Fail Safe</td>
<td>- Outside key&lt;br&gt; - Outside knob/lever when power is removed from the solenoid.&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains locked while power is on. Deadbolt operated by: &lt;br&gt; - Outside key&lt;br&gt; - Inside thumb turn</td>
<td>Removing power from the solenoid</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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<tr>
<td><strong>TDEU–Unlocked</strong>&lt;br&gt;Fail Secure</td>
<td>- Outside knob/lever when power is applied from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains unlocked while power is on.</td>
<td>Applying power to the solenoid; remains unlocked while power is on.</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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<tr>
<td><strong>LEL–Locked</strong>&lt;br&gt;Fail Safe</td>
<td>- Outside knob/lever when power is removed from the solenoid&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains locked while power is on. Deadbolt extended by: &lt;br&gt; - Inside thumb turn</td>
<td>Removing power from the solenoid</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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<tr>
<td><strong>LEU–Unlocked</strong>&lt;br&gt;Fail Secure</td>
<td>- Outside knob/lever when power is removed from the solenoid&lt;br&gt; - Outside key&lt;br&gt; - Inside knob/lever&lt;br&gt; Latchbolt is deadlocked by an auxiliary latch</td>
<td>Applying power to the solenoid; remains locked while power is on. Deadbolt extended by: &lt;br&gt; - Inside thumb turn&lt;br&gt; - Outside lever when power is removed</td>
<td>Removing power from the solenoid</td>
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<tr>
<td>Powered by 12V DC. temperature control module is not needed.</td>
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</table>

Shading indicates a ridged lever/knob in a non-energized state.
9KM IDH MAX® – Specifications

**Mechanical**

Materials – Internal parts are brass, zinc or corrosion-treated steel.
Chassis – 2 1/16" diameter to fit 2 1/8" diameter hole in door.
Strike – Brass, bronze, or stainless steel base material; STK 2 3/4" H standard, S3 4 7/8"
Fits standard door frame cut out as specified in ANSI A115.1. Strike box supplied as standard.
Backset – 2 3/4" standard, 3 3/4" and 5" available.
Door Thickness – Standard lock configuration designed for doors 1 3/4" – 2 1/4" thick.
Installation – Lock dimensions requires modified door prep ANSI A156.2 Series 4000, Grade 1 to mount housing.
Latchbolt – 9/16" throw.
Escutcheons – 10 1/2" H x 3 5/16" W x 1" D (1" at the top, sloping down to 3/4" at the bottom).
Knobs – Diameter: 2 1/8" Projection on door: 2 7/8", #4, #6 knobs: Material machined from brass or bronze.
Lever handle – Made from high-quality zinc alloy. Body is approximately 1 58" in diameter: Handle is approximately 4 34" in length (from center-line of chassis). Lever styles 14 and 15 return to a minimum of 1/2" of door surface. Lever 16 does not return.
Finish –
- 605-bright brass, clear coated
- 606-satin brass, clear coated
- 611-bright bronze, clear coated
- 612-satin bronze, clear coated
- 613*-oxidized satin bronze, oil rubbed
- 625-bright chromium plated
- 626-satin chromium plated
- 626AM – Satin Chrome Plated with UltraShield Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield Antimicrobial coating

* 613 finish is designed to wear over time, providing an "antique" appearance. ** 690 finish will continue as a dark brown appearance over time.

**Antimicrobial Finishes** –
- 626AM – Satin Chrome Plated with UltraShield Antimicrobial coating
- 630AM – Satin Stainless Steel with UltraShield Antimicrobial coating

**Electronic**

Maximum Current Draw – 850 MilliAmps, for 50 milliseconds
Typical Current Draw (hold condition) – 550 milliAmps
Voltage – 10.2 to 13.2 V (DC only)
Magnetic Stripe Card Reader:
Read Rate – 5 inches per second to 50 inches per second.
Card Thickness – ISO standard .030" ± .003 thick. Compliance to FCC, Canadian, and European EMC requirements; for interference FCC Class A digital apparatus.
Proximity Reader – ANSI/BHMA A156.25 compliant, Compatible with Motorola / Indala and HID proximity cards, ABA and Wiegand output Weatherproof bezel and gasket provide protection for outdoor use. (Usable in most environmental/exterior applications).
Card Read Range – 0 – 3 inches. Compliance to US FCC, Canadian FCC, and European EMC requirements
ESD Protection – 15 Kilo Volt

9KM/8KM IDH MAX® – How To Order

<table>
<thead>
<tr>
<th>9KM3</th>
<th>7</th>
<th>DDEU</th>
<th>14</th>
<th>MS</th>
<th>STK</th>
<th>626</th>
<th>TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDEU</td>
<td>electrically unlocked</td>
<td>electrically locked</td>
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<tr>
<td>0– keyless housing</td>
<td>accepts all BEST cores</td>
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<tr>
<td>Lever</td>
<td>14– curved return</td>
<td>15– curved angle return</td>
<td>16– curved no return</td>
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<tr>
<td>Knobs</td>
<td>4– round</td>
<td>6– tulip</td>
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<tr>
<td>Strike</td>
<td>MS–magnetic stripe</td>
<td>PM–proximity Motorola</td>
<td>PH–proximity HID</td>
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<tr>
<td>Package</td>
<td>STK–2 3/4&quot; ANSI</td>
<td>S3–4 7/8&quot; ANSI</td>
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<tr>
<td>Finish</td>
<td>605 606 611 612 613 618 625 626 690</td>
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<tr>
<td>Antimicrobial Finishes</td>
<td>626AM – Satin Chrome Plated with UltraShield Antimicrobial coating</td>
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<td>630AM – Satin Stainless Steel with UltraShield Antimicrobial coating</td>
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<tr>
<td>Options*</td>
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</tbody>
</table>

* Please reference the BEST price list for a complete list of options. ** Handles and trim are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed. *** 1300 option not available on any "EL" electrically locked functions.
Cylindrical Lock – Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Latch</th>
<th>Outside Knob/Lever</th>
<th>Inside Knob/Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Operated by</td>
<td>Locked by</td>
<td>Unlocked by</td>
</tr>
<tr>
<td>DDEL–Locked</td>
<td>• Rotating the inside knob/lever, • Rotating the outside knob/lever– only when power is off, • Turning the key in the outside knob/lever. Latchbolt is deadlocked</td>
<td>Applying power to the solenoid; remains locked while power is on.</td>
<td>Removing power from the solenoid</td>
</tr>
<tr>
<td></td>
<td>Powered by 12V DC. Temperature control module (TCM) is not needed.</td>
<td></td>
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</tr>
<tr>
<td>DDEU–Unlocked</td>
<td>• Rotating the inside knob/lever, • Rotating the outside knob/lever– only when power is on, • Turning the key in the outside knob/lever. Latchbolt is deadlocked</td>
<td>Removing power from the solenoid</td>
<td>Applying power to the solenoid; remains unlocked while power is on.</td>
</tr>
<tr>
<td></td>
<td>Powered by 12V DC. Temperature control module (TCM) is not needed.</td>
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</tbody>
</table>

Shading indicates a ridged lever/knob in a non-energized state.

40HW/8KW/9KW Electrified Lock Introduction

The 40HW, 8KW, and 9KW electromechanical locks provide fail-safe (electrically locked) and fail-secure (electrically unlocked) operation. They also provide a way to lock and unlock the door from a remote location for safety, security, or convenience through an individual switch, switch lock, relay, access control system, or other automatic control system. More importantly, these locks exhibit the same features and meet the same standards and specifications as our mechanical 40H mortise and 8K/9K heavy duty cylindrical locksets.

How To Order BEST Quick Connect Pre-Wired Plug-In Connectors

To order the BEST Quick Connect pre-wired plug-in connectors, include the “C” suffix for the BEST Locks. See page 20 for more details on how the BEST Quick Connect systems works.

Example:
BEST Locks
45HW 7 DEL 14H 626 RH DSC
BEST Locks
9KW 37 DEU 15CS TK 626 24 V

40HW Electrified – Specifications

Types:
- 12 volts AC or DC — 0.60 amps
- 24 volts AC or DC — 0.45 amps
- All EU functions: Electrically Unlocked (Fail Secure)
- All EL functions: Electrically Locked (Fail Safe)

Approval Listings:
- UL listed for GYQS Electrically-controlled singlepoint locks or latches.
- This product has been approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
- Approved by the city of New York Board of Standards and Appeals under calendar number 49-88-SA. See CSFM listing No. 4136-1175:101 for allowable values and/or conditions for use concerning material presented in this document. It is subject to re-examination, revisions and possible cancellation.

NOTE: All w-series locks require the use of a (TCM) Temperature Control Module. TCM and TCM connector are supplied standard with every order.
### 40HW Electrified – How To Order

<table>
<thead>
<tr>
<th>Series</th>
<th>Core Housing</th>
<th>Function</th>
<th>Lever Style</th>
<th>Trim Style</th>
<th>Finishes</th>
<th>Handing</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0– keyless or less cylinder</td>
<td>12– solid tube/no return</td>
<td>J– wrought</td>
<td>605</td>
<td>606</td>
<td>RH</td>
<td>C – quick connect</td>
</tr>
<tr>
<td></td>
<td>7– 7 pin IC housing accepts all BEST cores</td>
<td>14– curved return</td>
<td>M– forged</td>
<td>611</td>
<td>612</td>
<td>LH</td>
<td>LL – lead lined</td>
</tr>
<tr>
<td>47HW</td>
<td>47HW– keyless, latch, fail safe</td>
<td>15– contour/angle return</td>
<td>N– forged concealed cylinder</td>
<td>613</td>
<td>618</td>
<td>LHRB</td>
<td>LS – latch status</td>
</tr>
<tr>
<td></td>
<td>7– 7 pin (accepts SC cores only)</td>
<td>16– curved/no return</td>
<td>S– 3 1/2” concave</td>
<td>619</td>
<td>625</td>
<td>RH</td>
<td>DS – door status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17– gullwing no return</td>
<td>47HW:</td>
<td>626</td>
<td>630</td>
<td>LHRB</td>
<td>RQE – request to exit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knobs: 4– round</td>
<td>M– forged</td>
<td>630</td>
<td>690</td>
<td>RH</td>
<td>SH – security head screws</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Levers: 3– solid tube/return</td>
<td>605</td>
<td>606</td>
<td>611</td>
<td>612</td>
<td>TH – tactile lever Charge Door – specify thickness if other than 1 3/4” (1 3/4” min x 4” max)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12– solid tube/no return</td>
<td>613</td>
<td>618</td>
<td>619</td>
<td>625</td>
<td>Thick Door – specify thickness if other than 1 3/4” (1 3/4” min x 4” max)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14– solid tube</td>
<td>626</td>
<td>630</td>
<td>690</td>
<td>12V– Specify 12 Volt System (standard lock voltage is 24V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15– solid tube</td>
<td>626</td>
<td>630</td>
<td>690</td>
<td>12V– Specify 12 Volt System (standard lock voltage is 24V)</td>
<td></td>
</tr>
</tbody>
</table>

### 40HW Electrified – Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Latch Outside Knob/Lever</th>
<th>Inside Knob/Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEL–Locked Fail Safe</td>
<td>Applying power to solenoid; remains locked while power is on</td>
<td>Removing power from solenoid</td>
</tr>
<tr>
<td></td>
<td>Removing power from solenoid</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
</tr>
<tr>
<td>DEU–Unlocked Fail Secure</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
<td>Removing power from solenoid</td>
</tr>
<tr>
<td>WEL–Locked Fail Safe</td>
<td>Applying power to solenoid; remains locked while power is on</td>
<td>Removing power from solenoid</td>
</tr>
<tr>
<td>WEU–Unlocked Fail Secure</td>
<td>Applying voltage locks inside &amp; outside knobs/levers simultaneously.</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
</tr>
<tr>
<td>TDEL–Locked Fail Safe</td>
<td>Applying power to solenoid; remains locked while power is on</td>
<td>Removing power from solenoid</td>
</tr>
<tr>
<td></td>
<td>Removing power from solenoid</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
</tr>
<tr>
<td></td>
<td>Cannot be locked</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
</tr>
<tr>
<td></td>
<td>Always unlocked</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
</tr>
</tbody>
</table>

*N" trim not available on double keyed functions.
### 40HW Electrified – Functions (Continued)

<table>
<thead>
<tr>
<th>Function</th>
<th>Latch</th>
<th>Operated by</th>
<th>Locked by</th>
<th>Outside Knob/Lever</th>
<th>Inside Knob/Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDEU–Unlocked Fail Secure</td>
<td>Latchbolt is deadlocked by an auxiliary latch</td>
<td>• Outside key</td>
<td>Removing power from solenoid</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
<td>Cannot be locked</td>
</tr>
<tr>
<td>TWEL–Locked Fail Safe</td>
<td></td>
<td>• Outside &amp; inside key</td>
<td>Applying power to solenoid; remains locked while power is on</td>
<td>Appying power to solenoid; remains locked while power is on</td>
<td>Temperature control module (TCM) included</td>
</tr>
<tr>
<td>TWEU–Unlocked Fail Secure</td>
<td></td>
<td>• Outside &amp; inside key</td>
<td>Removing power from solenoid</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
<td>Temperature control module (TCM) included</td>
</tr>
<tr>
<td>NXEL–Locked Fail Safe</td>
<td></td>
<td>• Outside knob/lever when power is applied to the solenoid</td>
<td>Applying power to solenoid; remains locked while power is on</td>
<td>Cannot be locked</td>
<td>Always unlocked</td>
</tr>
<tr>
<td>NXEU–Unlocked Fail Secure</td>
<td></td>
<td>• Outside knob/lever when power is applied to the solenoid</td>
<td>Removing power from solenoid</td>
<td>Applying power to solenoid; remains unlocked while power is on</td>
<td>Temperature control module (TCM) included</td>
</tr>
<tr>
<td>LEU–Unlocked Fail Secure</td>
<td></td>
<td>• Outside knob/lever when power is applied to the solenoid</td>
<td>Removing power from the solenoid</td>
<td>Applying power to the solenoid; remains unlocked while power is on</td>
<td>Temperature control module (TCM) included</td>
</tr>
</tbody>
</table>

**ATTENTION:** Locksets that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the inside lever could be hazardous or even fatal.
8KW & 9KW Electrified Locks – Specifications

Types:
- 12 volts AC/DC when used with supplied TCM — 0.50 amps
- 24 volts AC/DC when used with supplied TCM — 0.18 amps
- All EU functions: Electrically Unlocked (Fail Secure)
- All EL functions: Electrically Locked (Fail Safe)

Approval Listings:
- UL listed for GYQS Electrically-controlled singlepoint locks or latches.
- This product has been approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
- Approved by the city of New York Board of Standards and Appeals under calendar number 730-89-SA. See CSFM listing No. 4136-1175:103. It is subject to re-examination, revision and possible cancellation.

Door thickness:
- Standard lock configuration designed for doors 1 3/4” – 2 1/4” thick.

*Handles are made from a zinc alloy, and have been plated to be equivalent in appearance to the finishes listed.

8KW & 9KW Electrified Locks – How To Order

<table>
<thead>
<tr>
<th>Series</th>
<th>Core Housing</th>
<th>Function</th>
<th>Lever Style</th>
<th>Trim Style</th>
<th>Snk/Pack</th>
<th>Finishes*</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>8KW4– 3 3/4”</td>
<td>7 pin housing accepts all BEST cores</td>
<td>(See Below)</td>
<td>(page 11)</td>
<td>(page 11)</td>
<td></td>
<td>611 612</td>
<td>9KW only: 9KW: AL – abrasive lever</td>
</tr>
<tr>
<td>8KW5– 5”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>613 618</td>
<td>LM – lost motion</td>
</tr>
<tr>
<td>9KW: 9KW3– 2 3/4”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>619 625</td>
<td>RQE – request to exit</td>
</tr>
<tr>
<td>9KW4– 3 3/4”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>626 690</td>
<td>TL – tactile lever</td>
</tr>
<tr>
<td>9KW5– 5”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8KW & 9KW Electrified Locks – Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Latch</th>
<th>Outside Knob/Lever</th>
<th>Inside Knob/Lever</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEL-Locked</td>
<td>• Rotating the inside knob/lever,</td>
<td>Applying power to the solenoid; remains locked while power is on.</td>
<td>Cannot be locked</td>
</tr>
<tr>
<td></td>
<td>• Rotating the outside knob/lever—only when power is off,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Turning the key in the outside knob/lever.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Removing power from the solenoid</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shading indicates a ridged lever/ knob in a non-energized state.
Knob Styles

#4 knob  #6 knob

Lever Styles

#3 lever  #12 lever  #14 lever

#15 lever  #16 lever  #17 lever

Mortise Rose Trims

H rose  R rose  S rose

Cylindrical Rose Trims

C rose  D rose  K rose  L rose

Escutcheon Trim Variations

J escutcheon  M escutcheon  N escutcheon  MS escutcheon  Prox escutcheon
**ELECTRIFIED ACCESSORIES**

8WS99 Features:
- Offers exceptionally high power for its compact size
- UL listed
- Thermally fused
- Convenient 4 point mounting provision allows rapid installation in a standard 1/2” knockout

Specifications:
- Primary voltage – 120 VAC (Wire Leads)
- Secondary voltage – 124 VAC (Screw Terminals)
- Secondary VA – 140 volts-amperes
- Dimensions – 12 1/4” x 2 1/8” x 2 15/16”

To order specify: 18WS99

Function/Application:
Transforms 120 volts AC to 24 volts AC. (To get 24 volts DC, use with 8WCON, AC to DC converter) Typically used as a power supply for electrically-operated locks.

8WCON Features:
- 400 Ampere surge capability
- Electrically isolated base
- UL recognized
- Single-phase, full wave bridge

Specifications:
- Average forward current – 25 amps
- Case – Plastic case with an electrically isolated aluminum base
- Polarity – Terminal designation embossed on case: +DC output, -DC output, AC not marked
- Mounting position – Bolt down. Gain the highest heat transfer efficiency through the surface opposite the terminals. Use silicone heat sink compound on mounting surface for maximum heat transfer.
- Terminals – Suitable for “fast-on” connections. Readily solderable and corrosion resistant. Soldering is recommended for applications greater than 15 amperes.
- Mounting torque – 20 inch-pounds maximum
- Case size – 1.030 x 1.030 inches
- Temperature range – -85° to 347°F (-65° to + 175°C)

To order specify: 8WCON

Function/Application:
Converts AC (alternating current) to DC (direct current) for locking circuit applications. (Typically used with 8WS99 transformer.)

8WBU-1-A / 8WBU-1-N Features:
- Positive “snap” feedback
- Industrial-grade switch designed for rugged control applications
- Factory assembled with trimplate
- Standard or narrow plate available
- 1 3/16” dia. mushroom head—red in color

Specifications:
- Wire leads – Two 6” long 20 AWG insulated wire leads
- Electrical rating – 28VDC or 115 VAC, 10A resistive, 5A inductive, 3A lamp load (see terminology on the back cover)
- Switch type – SPST-NO-DB, FORM-X contacts, 25,000 cycles at full load, 50,000 cycles mechanical life
- Mounting hole – 5/8” (.625) dia.
- Switch dim. – 1.187 dia.x 1.528 overall length
- Standard wall plate – 2 3/4” x 4 1/2”
- Narrow wall plate – 1 1/2” x 4 1/2”
- Material/finish – Satin stainless steel

To order specify – 8WBU-1-A standard plate 8WBU-1-N narrow plate

Function/Application:
Converts AC (alternating current) to DC (direct current) for locking circuit applications. (Typically used with 8WS99 transformer.)
**TERMINOLOGY**

Closed – A state in which a connection exists between the common terminal and another terminal on the switch. See Open also.

Common terminal – A terminal on a switch whose contact can be connected to one or more terminals on the switch.

Door status – A switch that monitors whether the door is open or closed. This switch is used to detect a forced entry, or a door that is propped open.

Inductive load – An electrical device such as a motor, relay, or solenoid. 

NOTE: this type of load can cause arcing across switch contacts and may burn the contacts. See Resistive load and Lamp load also.

Latchbolt status – A switch that monitors whether the latch is engaged or retracted. This switch is used to detect a forced entry, or a latch that has been taped open.

Lamp load – An electrical device that produces light using a tungsten filament, such as an incandescent light bulb.

Note: this type of load can cause surges of current upon contact closure. This may cause the contacts to weld together. See Inductive load and Resistive load also.

Maintained – Remaining in a given state until the switch lever or button is actuated. Actuating the switch lever or button causes the switch to change to another maintained state.

Momentary – Remaining in a given state only as long as an external force is applied to the switch lever or button.

NC – (Normally Closed) Switch contacts that are closed as long as no external force is applied to the switch lever or button.

NO – (Normally Open) Switch contacts that are open as long as no external force is applied to the switch lever or button.

Open – A state in which no connection exists between the common terminal or any other terminal on the switch.

Pole – The number of independent circuits in a switch. For example, a double-pole, single-throw switch can control two separately powered motors.

See Throw also.

Resistive load – An electrical device, such as a heater, having none of the characteristics of an inductive or lamp load. This type of load is the least severe on the switch because only a small amount of arcing occurs when the switch contacts open and close.

See Inductive load and Lamp load also.

RQE – Request-to-exit. A switch that allows the user to exit without setting off an alarm. Turning the inside knob or lever actuates the switch and, when wired to an alarm system, sends a signal to disable or sound an alarm, start a timer, etc.

Throw – The number of circuits, or contacts controlled by each pole. For example, a single-pole, double-throw switch can control a motor with two contacts—a forward contact, and a reverse contact.

See Pole also.

1300 – Integrated BAS1300/LNL1300 reader electronics board or (ISC) Intelligent System Controller is embedded behind the escutcheon secured and out of site. Functions with Mercury on-line equipment only.

**ELECTRIFIED ACCESSORIES**

Temperature control module Features

- All circuitry completely sealed

Specifications

- Wire leads: Input – 24 AWG – Stranded wire with PVC insulation (approx. 60” in length)
- Output – 24 AWG – Stranded wire with Teflon insulation (approx. 2.6” in length)
- Input Voltage: 12 or 24 volts AC or DC
- Output Voltage: Full voltage out @ 1 amp maximum for 0.5 seconds then 30% of voltage out for 5 seconds
- Output protection: Short circuit current limiting set at one (1) amp.
- Operating temp: -4 to 158°F (-20 to 70°C)
- Size: 1/2” x 2 1/4” x 1/2”

Function/Application

A temperature control module (TCM) reduces the amount of current flow to a lockset one second after energizing, thereby lowering the temperature of the lockset trim. A TCM also converts AC power to DC power and should be used on all electrified mortise and cylindrical locksets.

NOTE: The TCM is not used with any IDH-Max function.
**Electric Switch Lock – Introduction**

BEST offers a line of electric switch locks available in various “on-off” and “momentary” keyed switch functions. Circuitry variations are available in single, double and triple pole with varied voltage and amperage ratings. Units may be keyed into any BEST® system. The BEST interchangeable core offers versatility and adaptability for new and existing electrical controls, panels, machines, etc.

**Features**

- Double D lock cylinder prevents slipping and turning
- Screw terminals on all switch locks (except the 1W7A1) provides ease of installation
- All switches are UL recognized or listed

Note on functionality: Switch lock keys can only be removed in the 12 o’clock position.

**How to select a switch lock**

1. Determine the electrical requirements for the device being controlled:
   
   A. Voltage (for example: 115 VAC or 24 VDC)
   
   B. Current or horsepower (for example: 6 amps or 1/2 horsepower)
   
   C. Type of load
      - Resistive (for example, heater elements)
      - Inductive (for example, motors, large transformers)
      - Lamp (for example, incandescent lights)

2. Determine the switch configuration (poles and throws) and key removal condition:
   
   A. Poles
      To determine the number of poles, find how many wires from the power source need to be switched on and off by the switch lock.

   B. Throws
      To determine the number of throws, find how many wires to the device the switch needs to control. For example, if a switch needs two different “on” conditions (low and high speed), two throws are needed. Or if the device is simply an “on-off” type (only one wire), you need one throw.

   C. Key removal
      To determine the key removal condition, ask the question, “When the key is removed, should the switch be “off”, or could the switch be either “on” or “off”? Although the key can only be removed in the 12 o’clock position, the switch itself may be left in two or three positions. Check each switch lock for key removal switch positions.

3. Use the information collected and find the switch lock that best meets the requirements. Refer to the following catalog pages for a description of each switch lock. If environmental conditions make it necessary that the switch lock be housed in an electrical box, see the Optional boxes below for the box that best suits the switch lock and your application.

**Optional Boxes**

- OC1: Standard octagon 3 1/2”x 3 1/2” x 1 5/8”
- OC2: Deep octagon 3 1/2”x 3 1/2” x 3 1/4”
- INT: Interior box 4”x 2 1/8”x 1 7/8”
- SWR: Standard weather resistant box 4 5/8”x 2 7/8”x 3”

**How To Order – 1W Electric Switch Lock**

<table>
<thead>
<tr>
<th>1W</th>
<th>7</th>
<th>B1</th>
<th>626</th>
<th>SWR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>Core Housing</td>
<td>Function</td>
<td>Finishes</td>
<td>Box</td>
</tr>
<tr>
<td>1W</td>
<td>7–7 pin housing accepts all BEST® cores</td>
<td>see pages 15–19</td>
<td>605 606 611 612 613 619 622 625 626 690</td>
<td>OC1 OC2 INT SWR</td>
</tr>
</tbody>
</table>
1W Electric Switch Locks

1W7A1
Contacts – Silver or gold flash
Contact rating –
28 VDC, 10 amps resistive
28 VDC, 3 amps inductive, lamp
125 VAC, 10.1 amps resistive
250 VAC, 10.1 amps resistive
Horsepower rating – 125 VAC, 1/4 HP
Operating temperature – -85°F to +257°F
(-65° to +125°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Maintained
Number of switches per assembly – One

1W7B1 & 1W7J1
Contact rating –
30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
25 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating – 125–250 VAC, 1/2 HP
Operating temperature – up to +176°F (+80°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Maintained
Number of switches per assembly – 1W7B1: One, 1W7J1: Two

Key & switch positions
Remove key
Optional boxes

Key pos.1 – Swt. pos.1
Key pos.2 – Swt. pos.2
Key pos. 1 only - Swt. pos. 1

1W7B1—One switch
1W7J1—Two switches
1W Electric Switch Locks (Continued)

1W7B2 & 1W7J2
Contact rating –
0 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating – 125–250 VAC, 1/2 HP
Operating temperature – up to +176°F (+80°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Maintained
Number of switches per assembly –
1W7B2: One, 1W7J2: Two

Contact rating –
0 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating – 125–250 VAC, 1/2 HP
Operating temperature – up to +176°F (+80°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Maintained
Number of switches per assembly –
1W7B2: One, 1W7J2: Two

Hole cutout
The shaded area shows the additional 1W7J2 switch and cam length.

Key & switch positions
Remove key
Optional boxes
OC1 (1W7B2 only)
OC2
INT
SWR

1W7B3 & 1W7J3
Contact rating –
30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating – 125–250 VAC, 1/2 HP
Operating temperature – up to +176°F (+80°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Momentary
Number of switches per assembly –
1W7B3: One, 1W7J3: Two

Hole cutout
The shaded area shows the additional 1W7J3 switch and cam length.

Key & switch positions
Remove key
Optional boxes
OC1 (1W7B3 only)
OC2
INT
SWR
1W7D2
Contact rating – 110 VAC or VDC, 16 amps, resistive
220 VAC or VDC, 8 amps, resistive
Horsepower rating – 1 HP @ 125–250 VAC or VDC
Operating temperature – 0°F to +150°F
(-18°C to +66°C)
Switch type – DPST (Double pole-single throw)
Switch lock action – Maintained
Number of switches per assembly – One

1W7B2 & 1W7J2
Contact rating – 110 VAC or VDC, 10 amps, lamp
220 VAC or VDC, 5 amps, resistive
Operating temperature – -40°F to +150°F (-40° to +65°C)
Switch type – SPST (Single pole-single throw)
Switch lock action – Maintained
Number of switches per assembly – One
1W Electric Switch Locks (Continued)

1W7E2
Contact rating –
110 VAC, 15 amps, resistive
220 VAC, 10 amps, resistive
Horsepower rating – 125–250 VAC or VDC, 3/4 HP; 1, 2, or 3 phase
Contact rating –
110 VAC, 15 amps, resistive
220 VAC, 10 amps, resistive
Horsepower rating – 250 VAC, 1/2 HP
Operating temperature – 0 to +150°F
(-18°C to 66°C)
Switch type – TPDT (Triple pole-double throw)
Switch lock action – Maintained
Number of switches per assembly – One
Operating temperature – up to +221°F (+105°C)
Switch type – DPDT (Double pole-double throw)
Switch lock action – Momentary
Number of switches per assembly – One

Key & switch positions

Key pos.1
Swt. pos.1
Key pos.2
Swt. pos.2
Key pos. 1 only
Swt. pos. 1
Key pos. 1 only
Swt. pos. 1, 2, and 3*†

*Installing the limiting plate limits key removal to switch position 2, or 3. The key is always removed in the vertical position (key position 1).

Remove key

Optional boxes

SWR

1W7E2

1W7K4

Hole cutout

Limiting plate*

Hole cutout

Side view

Front view

Back view

Side view
1W7L2
Contact rating –
110 VAC or VDC, 12 amps, resistive
220 VAC or VDC, 6 amps, resistive
Operating temperature – up to +221°F (+105°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Maintained
Number of switches per assembly – One

Key & switch positions
Key pos.1 Swt. pos.1
Key pos.2 Swt. pos.2
Key pos. 1 only Swt. pos. 1
Key pos. 1 only Swt. pos. 1, 2, and 3†
†Installing the limiting plate limits key removal to switch position 1 or 2. The key is always removed in the vertical position (key position 1).

1W7P4 & 1W7R4
Contact rating –
30 VDC, 15 amps, resistive
125 VDC, 0.6 amps, resistive
250 VDC, 0.3 amps, resistive
125 VAC, 15 amps, resistive
125 VAC, 5 amps, lamp
250 VAC, 15 amps, resistive
Horsepower rating – 125–250 VAC, 1/2 HP
Operating temperature – up to +176°F (+80°C)
Switch type – SPDT (Single pole-double throw)
Switch lock action – Momentary
Number of switches per assembly – 1W7P4: Two, 1W7R4: Four

The shaded area shows the additional 1W7R4 switches and cam length.
BEST Quick Connect System
BEST Quick Connect plug-in connectors must be used with the following components to work as a complete plug-and-play system:
1. Specify appropriate PRECISION or BEST electrified products
2. Specify correct wire harness length from door hardware to electric power transfer device or electrified hinge
3. Specify either the NEW electric power transfer (EPT-12C) or the NEW electrified hinge (CECB179-12C)
4. Specify correct wire harness length from power transfer or electrified hinge to wire extension (WH-6E)
5. Choose wire harness extension to connect to power source

How To Order
To order the BEST Quick Connect pre-wired plug-in connectors, include the “C” suffix for the BEST electrified locks. See example below.

Example:
BEST Locks
45HW 7 DEL 14H 626 RH DSC
BEST Locks
9KW 37 DEU 15CS TK 626 24 VC