**DIN PROFILE LOCKPLUG**

SEE LOCK STYLE SELECTION OPTIONS.

- FOR HIGH SECURITY DIN LOCK ONLY - KEY CAN ONLY BE INSERTED/REMOVED IN LOCKED POSITION.
- FOR OTHER LOCK OPTIONS, KEY CAN BE INSERTED/REMOVED IN LOCKED OR UNLOCKED POSITION.

**EDGE DISTANCE**

SEE NOTE 2

**FRAME EDGE**

170.62

**WIN GRIP RANGE SEE NOTE 1 USING FLAT CAM NOT SHOWN IN THIS VIEW**

25

TO TOP EDGE OF PANEL EDGE PREP

**CAM (ORDER SEPARATELY)**

REFER TO TABLE FOR PART NUMBERS

**ELECTRONIC SWINGHANDLE ELECTRICAL CONNECTOR**

SEE ALSO SHEET 3

**GRIP RANGE 17.5**

(EXAMPLE USING OFFSET CAM P/N E5-6711)

**GRI/P CAM LENGTH (1) CAM LENGTH (2)**

28 MM 45 MM

15.5 E5-6710 -
17.5 E5-6711 -
19.5 E5-6712 -
21.5 E5-6713 -
23.5 E5-6714 E5-6714

OTHER PLEASE CONTACT SOUTHCOC

**NOTES:**

1. MIN GRIP RANGE WITH FLAT CAM 15.5mm.
   EXAMPLE SHOWN: 2mm OFFSET CAM - GRIP RANGE 17.5mm
2. FOR CAM LENGTH 38mm, EDGE DISTANCE 30mm.
   FOR CAM LENGTH 45mm, EDGE DISTANCE 37mm.
3. SELECT CAM PART NUMBERS ACCORDING TO TABLE TO PROVIDE GRIP REQUIRED.
4. THE H3-EM-60-000 IS SHIPPED WITHOUT A LOCKPLUG. THIS PRODUCT MUST BE PAIRED WITH A SOUTHCOC APPROVED LOCK TO FUNCTION PROPERLY. USE WITH AN UNAPPROVED LOCK PLUG voids THE PRODUCT WARRANTY.

**REVISION HISTORY**

<table>
<thead>
<tr>
<th>REV</th>
<th>DATE</th>
<th>BY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>05DEC2017</td>
<td>CB1/VK</td>
<td>PRN: P2017.3023</td>
</tr>
</tbody>
</table>

**LL LOCK STYLE**

000 NO LOCK OR KEYS
001 BLANK LOCKPLUG, BRIGHT CHROME
100 HIGH SECURITY DIN LOCK (3 KEYS)
200 KEY CODE CH-751 (KEYS INCLUDED)
3.LL KEY CODE RSXXX (2 KEYS INCLUDED)
LL - 00 FOR KEY CODE RS001
CONTACT SOUTHCOC FOR OTHER AVAILABLE KEY CODES.

**XX LOCK STYLE**

NONE NO LOGO
10 SOUTHCOC LOGO

**DIMENSIONS MILLI METERS [IN]**

ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.

**MATERIAL** LIFT HANDLE ELECTRONIC ACCESS CONTROL

**DRAWN BY** 10MAR2009

**ASME** Y14.5M-1994
1. USE ONLY MOUNTING HARDWARE SUPPLIED.
2. MAXIMUM TIGHTENING TORQUE FOR MOUNTING SCREWS 0.5 Nm.
3. PAWL SCREW INSTALLATION TORQUE 4 Nm MIN.
4. USE #1 Pozidriv driver when installing mounting screws.

**OPTION 1 FOR INSTALLATION OF ROTATION LIMITER**
- Viewed from back-

**OPTION 2 FOR INSTALLATION OF ROTATION LIMITER**
- Viewed from back-

**LEFT HAND MOUNTING**
- To open: turn handle 90°
- Counter clockwise if viewed from front

**RIGHT HAND MOUNTING**
- To open: turn handle 90°
- Clockwise if viewed from front

**INSTALLATION OF BOTTOM MOUNTING BRACKET**

**OPERATION OF LOCK PLUG CORRESPONDS WITH ORIENTATION OF BOTTOM MOUNTING BRACKET**

**LEFT HAND MOUNT**
- When H3-51-55-33 multi point system is used.

**RIGHT HAND MOUNT**
- When H3-51-56-33 multi point system is used.
ACTUATOR MODULE

ELECTRICAL SPECIFICATION:

A. POWER: 12V to 24V
- OPERATING CURRENT: LESS THAN 200mA AT 12VDC
- WITH NO EXTERNAL MECHANICAL LOAD APPLIED TO HANDLE.
- MAX CURRENT WITH STALLED ACTUATOR: 1A MAX AT 12VDC (STALL LIMITED TO 2 SECONDS)
- STANDBY CURRENT: 25mA TYPICAL.

B. CONTROL INPUT:
- TO UNLOCK: SUPPLY 5VDC MINIMUM (DO NOT EXCEED SUPPLY VOLTAGE) FOR A MINIMUM OF 100 MILLISECONDS.
- THE LATCH WILL REMAIN UNLOCKED FOR AS LONG AS THE SIGNAL IS PRESENT OR A MINIMUM OF 3 SECONDS.

C. OUTPUT:
- OPEN COLLECTOR OUTPUT, RATING
  - 9 TO 24VDC, 100mA MAX LOAD
- CAUTION TO PREVENT DAMAGE TO THE PRODUCT DO NOT EXCEED MAXIMUM LOADS STATED AND FOLLOW WIRING DIRECTIVES.
- FOR OUTPUT SIGNAL DETAILS AND LED SEQUENCE SEE TRUTH TABLE.

D. CONNECTIONS:
- SIX POSITION CONNECTOR
- HIROSE ELECTRIC CO. LTD. PART NUMBER DF11-6P-20SA
- SEE PIN-OUT TABLE.

<table>
<thead>
<tr>
<th>PIN</th>
<th>DESCRIPTION</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VCCD</td>
<td>GROUND</td>
</tr>
<tr>
<td>2</td>
<td>VSUPPLY</td>
<td>12 TO 24VDC POWER SUPPLY INPUT</td>
</tr>
<tr>
<td>3</td>
<td>R/C</td>
<td>NO CONNDET</td>
</tr>
<tr>
<td>4</td>
<td>CONTROL SIGNAL</td>
<td>COMMAND INPUT (5VDC UP TO SUPPLY VOLTAGE, 100 MILLI-SECONDS MINIMUM)</td>
</tr>
<tr>
<td>5</td>
<td>ELECTRONIC LOCK STATUS</td>
<td>OPEN COLLECTOR OUTPUT (RATED FOR VSUPPLY, 100mA MAX LOAD)</td>
</tr>
<tr>
<td>6</td>
<td>MECHANICAL LOCK STATUS</td>
<td>OPEN COLLECTOR OUTPUT (RATED FOR VSUPPLY, 100mA MAX LOAD)</td>
</tr>
</tbody>
</table>

E. WIRE HARNESS (NOT INCLUDED)
SOUTHCOTE P/N: FA-WD1-100 •, SEE ALSO J-FA-WD1
FROM ACTUATOR MODULE TO STRIPPED AND TINNED END LENGTH: 1000MM
*CONTACT SOUTHCOTE FOR OTHER LENGTHS

ACTUATOR PIN-OUT DIAGRAM
(SEE NOTE D)

PANEL THICKNESS
1 TO 2.5
PANEL PREPARATION
## LATCH STATUS DEFINITION

<table>
<thead>
<tr>
<th>STATUS</th>
<th>LATCH/LED</th>
<th>PIN 6 OUTPUT</th>
<th>PIN 5 OUTPUT</th>
<th>PIN 4 OUTPUT</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECURED</td>
<td>BLUE</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
<td>ENCLOSURE SECURED. ACCESS DENIED</td>
</tr>
<tr>
<td>ELECTRONICALLY RELEASED</td>
<td>BLUE/RED</td>
<td>OPEN COLLECTOR</td>
<td>LOW</td>
<td>LOW</td>
<td>ENCLOSURE READY FOR ACCESS</td>
</tr>
<tr>
<td>MECHANICALLY RELEASED</td>
<td>BLUE</td>
<td>LOW</td>
<td>LOW</td>
<td>LOW</td>
<td>ACCESS GAINED. HANDLE LIFTED OR MECHANICALLY UNLOCKED</td>
</tr>
<tr>
<td>HANDLE NOT FULLY CLOSED</td>
<td>BLUE/RED</td>
<td>OPEN COLLECTOR</td>
<td>LOW</td>
<td>LOW</td>
<td>INTER V STATES ONLY DURING CLOSING OF HANDLE</td>
</tr>
</tbody>
</table>

### ELECTRONIC SWINGHANDLE MATERIALS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>MATERIAL</th>
<th>FINISH</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIRCUIT BOARD</td>
<td>DETAILS ON REQUEST</td>
<td>DETAILS ON REQUEST</td>
<td></td>
</tr>
<tr>
<td>MOTOR</td>
<td>DETAILS ON REQUEST</td>
<td>DETAILS ON REQUEST</td>
<td></td>
</tr>
<tr>
<td>GEAR SHAFT</td>
<td>STAINLESS STEEL</td>
<td>NATURAL</td>
<td></td>
</tr>
<tr>
<td>NUTM GEAR</td>
<td>PA66 130DS</td>
<td>NATURAL</td>
<td></td>
</tr>
<tr>
<td>PINION GEAR</td>
<td>POM N90-44</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>SPUR GEAR</td>
<td>POM N90-44</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>GEAR RETAINER</td>
<td>PC (LEXAN V0)</td>
<td>CLEAR</td>
<td></td>
</tr>
<tr>
<td>MOTOR COVER</td>
<td>PC ABS (UL94- V0)</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>LATCH BODY</td>
<td>30% GF NYLON (UL94- V0)</td>
<td>BLACK (ABB SURFACES VD136)</td>
<td></td>
</tr>
<tr>
<td>HANDLE MOUNTING BRACKET</td>
<td>30% GF NYLON (UL94- V0)</td>
<td>BLACK (ABB SURFACES VD136)</td>
<td></td>
</tr>
<tr>
<td>GLIDE</td>
<td>30% GF NYLON (UL94- V0)</td>
<td>WHITE</td>
<td></td>
</tr>
<tr>
<td>HANDLE SHAFT</td>
<td>DIE CAST ZINC</td>
<td>ZINC PLATE BRIGHT CHROMATE</td>
<td>2 SIZE OPTIONS SUPPLIED</td>
</tr>
<tr>
<td>ROTATION LIMITER</td>
<td>DIE CAST ZINC</td>
<td>ZINC PLATE BRIGHT CHROMATE</td>
<td></td>
</tr>
<tr>
<td>MOUNTING SCREW 25 LONG</td>
<td>STEEL</td>
<td>ZINC PLATE + BRIGHT CHROMATE</td>
<td>INSTALL WITH #1 POZIDRIV DRIVER</td>
</tr>
<tr>
<td>MOUNTING SCREW 14 LONG</td>
<td>STEEL</td>
<td>ZINC PLATE + BRIGHT CHROMATE</td>
<td>INSTALL WITH #1 POZIDRIV DRIVER</td>
</tr>
<tr>
<td>Output Gear Moulding</td>
<td>POM N90-44</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>REFLECTOR</td>
<td>POM N90-44</td>
<td>ORANGE WHITE</td>
<td></td>
</tr>
<tr>
<td>CONNECTING LEAD</td>
<td>DETAILS ON REQUEST</td>
<td>DETAILS ON REQUEST</td>
<td>ORDER SEPERATELY</td>
</tr>
<tr>
<td>PIN LOCKPLUG</td>
<td>DETAILS ON REQUEST</td>
<td>DETAILS ON REQUEST</td>
<td>ORDER SEPERATELY</td>
</tr>
<tr>
<td>LOCK PLUG RETAINING SCREW</td>
<td>STEEL</td>
<td>ZINC PLATE + BRIGHT CHROMATE</td>
<td>SEALER</td>
</tr>
<tr>
<td>SHAFT PIN</td>
<td>SAE 30302/30304</td>
<td>PLAIN, OILED</td>
<td></td>
</tr>
<tr>
<td>O-RING</td>
<td>BLACK NBR RUBBER</td>
<td>GREASES</td>
<td></td>
</tr>
<tr>
<td>PAWL SCREW</td>
<td>STEEL</td>
<td>ZINC PLATE + BRIGHT CHROMATE</td>
<td>ORDER SEPERATELY</td>
</tr>
<tr>
<td>PAWL</td>
<td>STEEL</td>
<td>ZINC PLATE + BRIGHT CHROMATE</td>
<td>ORDER SEPERATELY</td>
</tr>
<tr>
<td>BLANK LOCKPLUG</td>
<td>DIE CAST ZINC</td>
<td>CHROME PLATE/ CLEAR CHROMATE/ BLACK POWDER COAT</td>
<td></td>
</tr>
<tr>
<td>SLIDE SPRING</td>
<td>302 STAINLESS STEEL</td>
<td>NATURAL</td>
<td></td>
</tr>
</tbody>
</table>
H3-EM Electronic Locking Swinghandle
Operating Instructions

Package Contents

- H3-EM-60×00 Electronic Locking Swinghandle
- EM-0-45827 M3×25 POZIDRIV Mounting Screws (qty 4)
- EM-0-47151 M3×14 POZIDRIV Mounting Screw (qty 1)
- EM-0-45825 Rotation Limiter (qty 1)
- EM-0-58124 Rotation Limiter (qty 1)
- E5-C-04 Pawl Screw (qty 1)
- M3-0-24943-11 Lock Plug Screw (qty 1) (optional)
- EM-0-45826 Top Mounting Bracket (qty 1)
- EM-0-45822 Bottom Mounting Bracket (qty 1)
- Operating Instructions

H3-EM-60×00 Electronic Locking Swinghandle

1. Handle
2. Tri-Color Status LED
3. Lock Plug (optional)

Features

- Remote lock and unlock capability
- Single or multi-point lock actuation
- Momentary or continuous lock actuation
- Tri-color LED (blue/magenta/red) to indicate lock and handle status
- DIN lock manual override
- Accommodates both left and right doors
- For indoor use only

**WARNING:** The H3-EM-60-000 is shipped without a lockplug. This product must be paired with a Southco-approved lock to function properly. Use with an unapproved lockplug voids the product warranty. Contact Southco for additional support.

Specifications

Supply Voltage ($V_{\text{supply}}$): 12VDC to 24VDC (NOTE: Status LED will blink red if the supply voltage is out of range.)
Standby Current: 50mA maximum at 12VDC
Operating Current: 200mA maximum at 12VDC (with no external mechanical load applied to handle)

Stalled Current: 1A maximum (at 12VDC, limited to 2 seconds)
Operating Transit Time: 1 second maximum (NOTE: Power must be present during transit times. If power is removed while the lock slide is in transit, it will complete its cycle when power is restored.)
Electronic Unlock Time: 3 seconds minimum
Open Collector Outputs: Rated for $V_{\text{supply}}$, 100mA maximum load
Overall Dimensions: 170.8 x 37 x 50.25mm

Mounting and Installation

Please refer to Southco trade drawing J-H3-EM-60-100 for mounting and installation details.

**NOTE:** Use a #1 POZIDRIV® driver when installing the mounting screws. See Southco trade drawing J-H3-EM-60-100 for additional details.

Wiring Diagram

The H3-EM is equipped with a six-position connector on the rear of the unit, shown below.

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$V_{\text{PE}}$</td>
<td>ground</td>
</tr>
<tr>
<td>2</td>
<td>$V_{\text{supply}}$</td>
<td>12 to 24 VDC power supply input</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
<td>no connect</td>
</tr>
<tr>
<td>4</td>
<td>Control Signal</td>
<td>command input (9VDC up to supply voltage, 100 milliseconds minimum)</td>
</tr>
<tr>
<td>5</td>
<td>Electronic Lock Status</td>
<td>open collector output (rated for $V_{\text{supply}}$, 100mA max. load)</td>
</tr>
<tr>
<td>6</td>
<td>Mechanical Lock Status</td>
<td>open collector output (rated for $V_{\text{supply}}$, 100mA max. load)</td>
</tr>
</tbody>
</table>

**NOTE:** The mating connector/harness is not provided with the H3-EM-60×00. Refer to Southco trade drawing J-H3-EM-60-100 for mating connector/harness requirements.
H3-EM Electronic Locking Swinghandle Operating Instructions

Control Input Signal
This signal is used to control the electronic lock slide position.

- for UNLOCKED position: Supply 9VDC minimum (do not exceed supply voltage) for at least 100 milliseconds. The lock will remain unlocked for as long as the signal is present, or a minimum of 3 seconds. Signal timing can typically be adjusted at the access control device. The control signal current draw is less than 10mA.
- for LOCKED position: Supply an open contact or 0VDC (0 to 0.5V)

Electronic Lock Status Output and Mechanical Lock Status Output Signals

Electronic Lock Status Output Signal
This output will be LOW (GND) when the lock slide is electromechanically moved to the unlocked position. It will be in the open collector state (high-impedance) when in the locked position.

Mechanical Lock Status Output Signal
This output will be LOW (GND) when the handle is in the open position or when the keylock in the actuator is manually unlocked. It will be in the open collector state (high-impedance) when in the secured position.

⚠️ NOTE: These outputs are open collector outputs rated for \( V_{\text{supply}} \) with a maximum load of 100mA. To avoid damage to the H3-EM, do not exceed voltage and current ratings.

Status LED and Output Signals

The latch is equipped with a tri-color (blue/magenta/red) LED visible from the front of the latch. This LED provides a visible notification of the latch status. The different latch states are described below. Please refer to the Control Input Signal, Electronic Lock Status Output Signal, and Mechanical Lock Status Output Signal sections for further details on these signals.

Secured
The latch is securely closed, prohibiting access.

- The Status LED will be solid blue.
- The electronic lock status output is at its open collector state.
- The mechanical lock status output is at its open collector state.

Electronically Released
The electronic lock slide is in the unlocked position and the handle can be pulled open.

- The Status LED will alternate flashing blue/magenta.
- The electronic lock status output is 0V while the lock slide is in the unlocked position.
- The mechanical lock status output is at its open collector state.

Mechanically Released
The latch is released by opening the handle or moving the cam from its lock position.

- The Status LED will flash blue.
- The electronic lock status output will be at its open collector state if the electronic lock slide is in the locked position. It will be 0V if the lock slide is in the unlocked position.
- The mechanical lock status output is 0V.

⚠️ NOTE: The lock sensor is an optical device that senses the presence of the lock pawl. Reflectivity of the lock pawl material can affect sensing. Use only Southco-supplied locks.
H3-EM Electronic Locking Swinghandle
Operating Instructions

Handle not Fully Closed
This is an interim state and may occur while closing the handle when the cam is not secured by the electronic lock slide. The latch is not fully secured during this state.
- The Status LED will alternate flashing blue/red if the cam is not detected. It will flash blue/red/red if the cam is detected, but the lock plate is not in the right position. This could be due to mechanical failure or tampering.
- The electronic lock status output is 0V if the lock slide is in the unlocked position. It will be at its open collector state if it is in the lock position.
- The mechanical lock status output is 0V if the cam is not detected. It will be at its open collector state if it is detected.

Electronic Lock Slide Error
The electronic lock slide does not respond to the command input signal.
- The Status LED will flash magenta if the latch is secured. It will alternate flashing red/magenta if the latch is mechanically released.
- The electronic lock status output is at its open collector state.
- The mechanical lock status output will be at its open collector state if the cam is in its lock position. It will be 0V if the mechanical key is moved from its lock position.

Error Input Command Sequence
The H3-EM can accept an input command from an external controller to flash the status LED red three times. This feature can be used to indicate that an error event has occurred (e.g. unauthorized access attempt).

The control input signal needs to meet the timing requirements shown below to flash the status LED red.

POZIDRIV® is a registered trademark of the Phillips Screw Company

FCC Compliance Statement
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) This device may not cause harmful interference and
2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement
This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

For technical support of this product contact: info@southco.com or visit: www.southco.com.