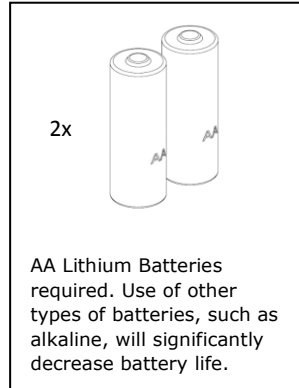
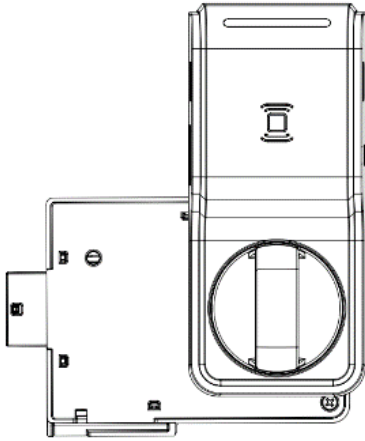


# HES K100 Aperio® Series Wireless Cabinet Lock

ASSA ABLOY

## Installation and Operating Instructions

The global leader in  
door opening solutions



## Products Specifications

**Wireless Frequency:** 2.4GHz, IEEE 802.15.4, using AES 128-bit encryption

**Lock Battery Type:** AA Lithium, 1.5 Volts (V)

**Battery Life:** 50,000 cycles\*

*\*All battery life claims are approximate and based on a set configuration profile. Battery performance is based on pre-defined system settings such as battery chemistry and battery model used, credential presentation settings (LED/buzzer), UHF polling period, UHF status intervals, and operations per day. Actual battery performance will vary and depends on the factors above.*

**Operating Temperature:** 32° to 122° F (0° to 50° C)

**HID® multiCLASS SE® technology Credentials Supported:**

- High Frequency (13.56 MHz):
  - HID iCLASS®
  - HID iCLASS SE® (SIO-enabled)
  - HID iCLASS® Seos™
  - HID MIFARE® SE
  - HID DESfire® EV1 SE
  - MIFARE CLASSIC
  - DESfire® EV1
- Low Frequency (125 kHz):
  - HID Prox®, AWID, EM4102, ioProx
- NFC/BLE-enabled Mobile Phones

# Recommended Tools

Flathead Drivers — 3/32", 3/16"

Drill, Drill Bits — 1/16", 3/16", 1/2"

Phillips Drivers — P0, P2

Pencil, Wire Stripper, Level, Square, Ruler, Punch, Scissors

# Hardware Specifications

**Table 1 – Shaft Length**

Door Thickness	Shaft Used
1/16" – 1/2"	L1
>1/2" – 1½"	L2
>1½" – 2¼"	L3

**Table 2 – Mounting Screw Length for Various Door Thickness**

Door Thickness	Reader Mounting	Cut to approx. screw length	Lock Mounting	Cut to Approx. Screw Length
1/16"	Coupling Nut and 3" Rod	10/16"	8-32 x 1-3/4" Break Away	1-1/16"
1/4"	Coupling Nut and 3" Rod	13/16"	8-32 x 1-3/4" Break Away	1-1/4"
1/2"	Coupling Nut and 3" Rod	1-1/16"	8-32 x 1-3/4" Break Away	1-7/16"
3/4"	Coupling Nut and 3" Rod	1-5/16"	8-32 x 1-3/4" Break Away	No Cut
1"	Coupling Nut and 3" Rod	1-9/16"	8-32 x 2-1/2"	2"
1-1/4"	Coupling Nut and 3" Rod	1-13/16"	8-32 x 2-1/2"	No Cut
1-1/2"	Coupling Nut and 3" Rod	2-1/16"	8-32 x 2-3/4"	No Cut

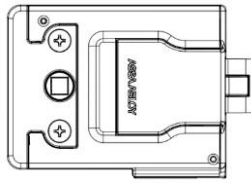
**For Technical Support Please call 1-800-810-WIRE**

# Package Contents

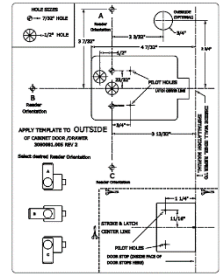
## Reader



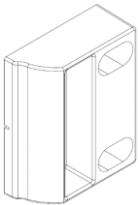
## Lock Body



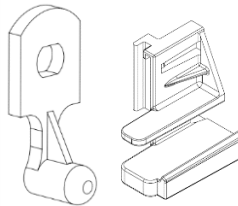
## Installation Template



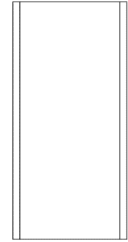
## Strike Plate



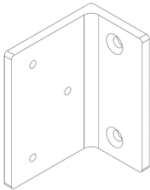
## Mechanical Key Override



## Threadlock Pillow Pack



## Double Door Bracket



## Hardware

2-56 X 7/16"

2x  
(A)



8-32 X 5/16"

(B)



6-32 X 5/16"

3x  
(C)



6 X 1/2"

6x  
(D)



8-32 X 2-3/4"

2x  
(E)



8-32 X 1-3/4"

2x  
(F)



8-32 X 2-1/2"

2x  
(G)



8-32 X 3" Rod

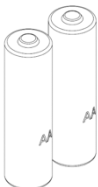
(H)



8-32 Nut  
(J)

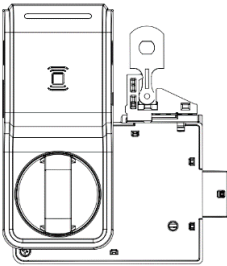
## Lithium Batteries

2x

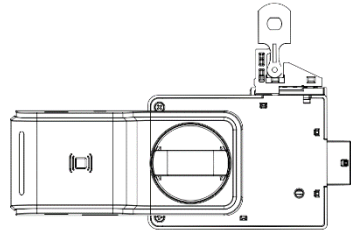


# Lock Orientation Options

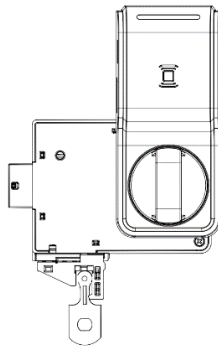
Orientation A



Orientation B



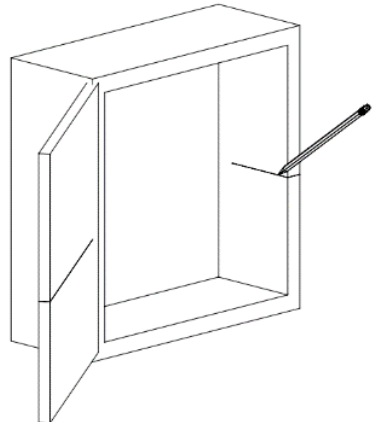
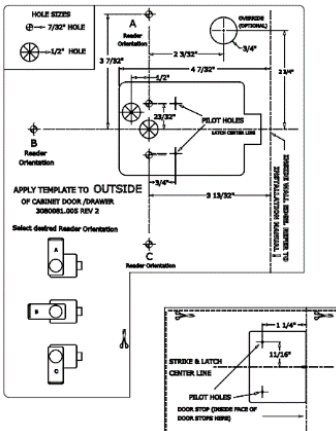
Orientation C



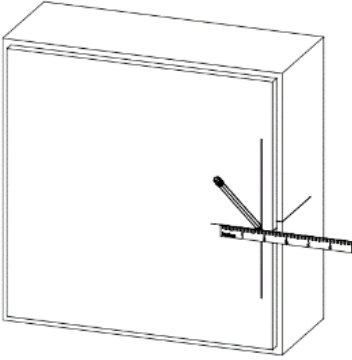
## Prepping the Cabinet/Drawer Face

1. Separate Strike Plate Template.

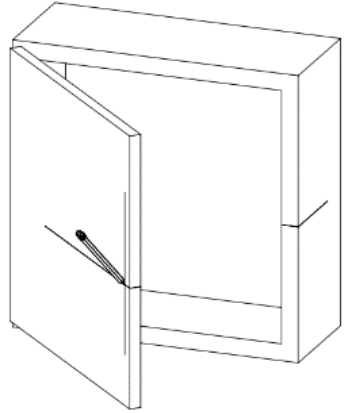
2. Establish centerline (for double door cabinet prep go to page 6).



3. Measure cabinet wall thickness and mark offset line on face of cabinet/drawer. The offset line should match with the interior edge of the cabinet wall.

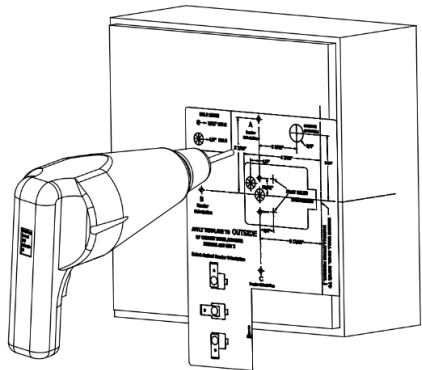
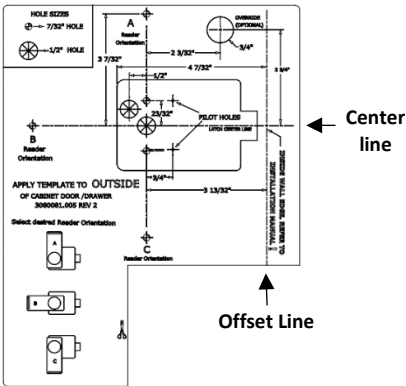


4. Continue centerline to face of cabinet/drawer



5. Align template to offset line and centerline. Remove backing and apply template onto cabinet/drawer face.

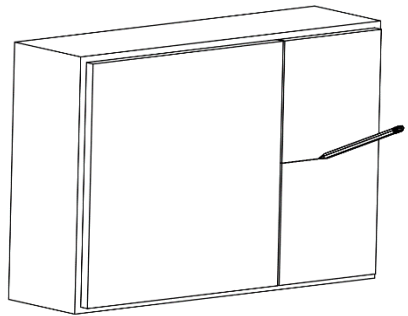
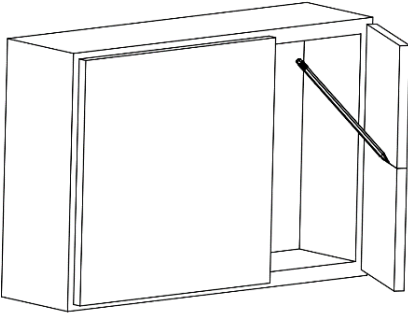
6. Use punch to mark drilling locations then drill mounting holes. If using mechanical key override, drill key override hole as well.



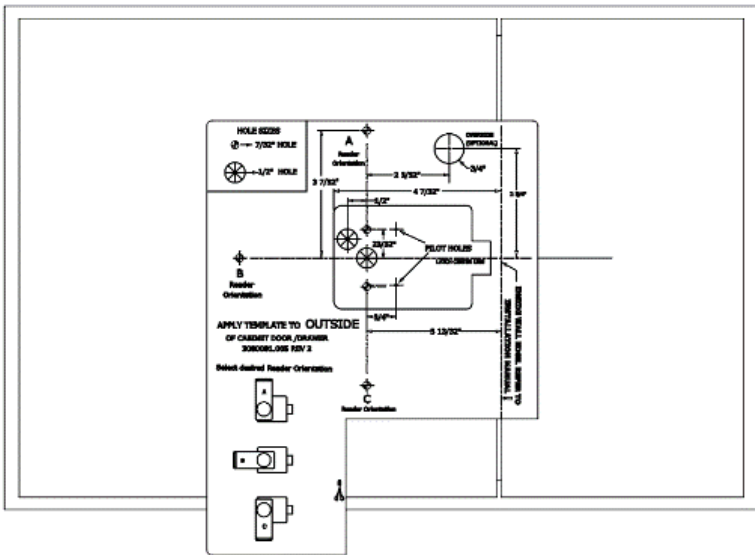
# Prepping the Cabinet/Drawer Face (Double Door)

1. Establish center line on inside of stationary door.

2. Continue center line onto outside face of cabinet.

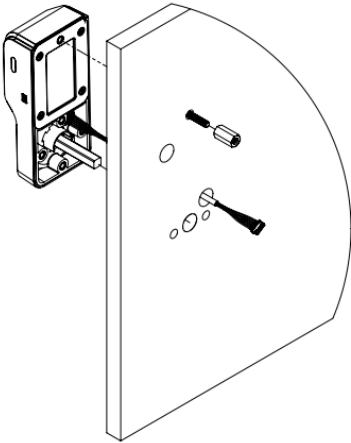


3. Align offset line on template to the edge of the stationary door and align center line with the established center line above. Remove backing and apply template to cabinet face. Continue with Step 6 in previous section.

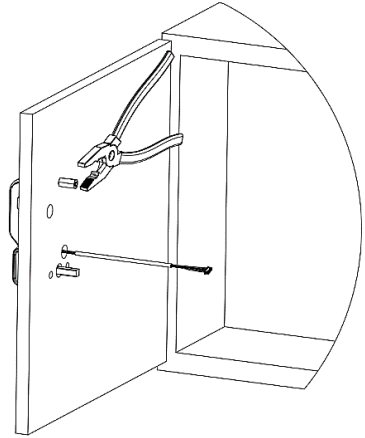


# Reader Installation

1. Align reader with mounting holes and pull cable through as shown. Trim Threaded rod to length as outlined in table 2.

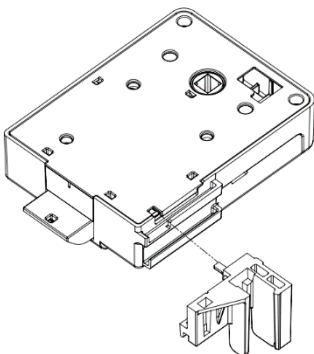


2. Add Threadlock to threaded rod. Secure Reader to cabinet/drawer using the cut threaded rod and coupling nut. DO NOT overtighten.

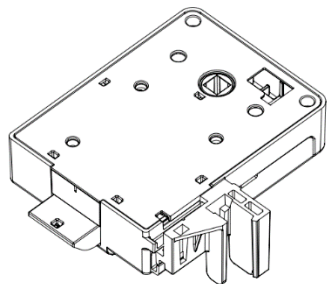


# Mechanical Override (Optional)

1. Slide Override into slot as shown.

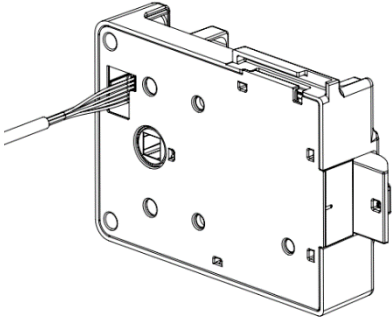


2. Ensure that override retracts latch bolt before installation. Override should rest loosely until lock body and battery cover are installed.

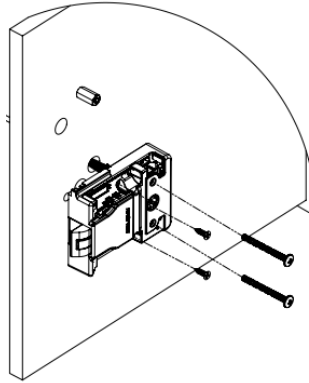


# Lock Body Installation

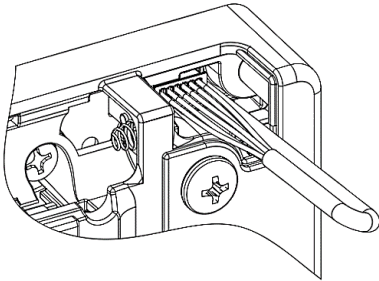
1. Insert reader cable through hole in back of lock body.



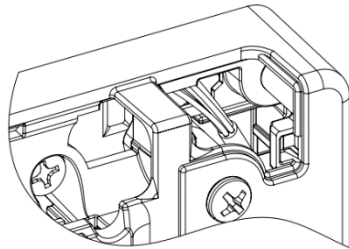
2. Align lock body to mounting holes and secure to cabinet/drawer face using 2x screw F and 2x screw D. If thick cabinet/drawer then use 2x screw E or 2x screw G instead of 2x screw F. DO NOT over tighten.



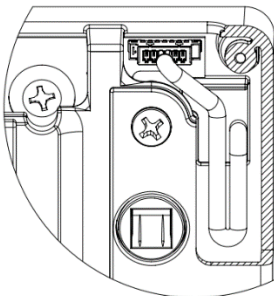
3. Plug cable into slot on lock body.



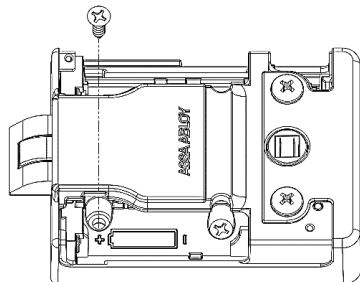
4. Tuck excess cable into lock body cavity as shown.



5. Any excess cable should be inserted into the cavity as shown below.



6. For cabinet/drawer face thicker than 1/2", add a third screw D as shown.

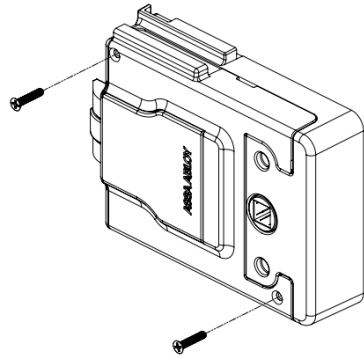
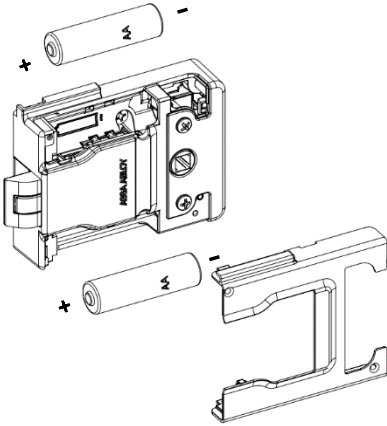




# Installing the Batteries

1. Install AA lithium batteries in appropriate position.

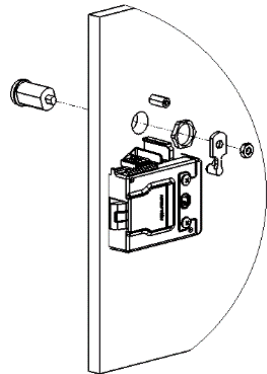
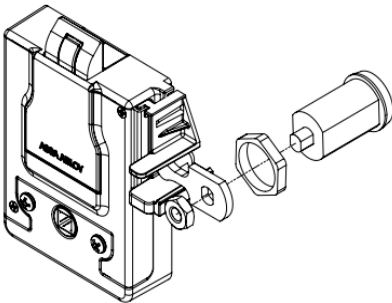
2. Install cover and secure using 2x screw A.



## Mechanical Key Override (Optional)

Mechanical key override cam lock sold separately.

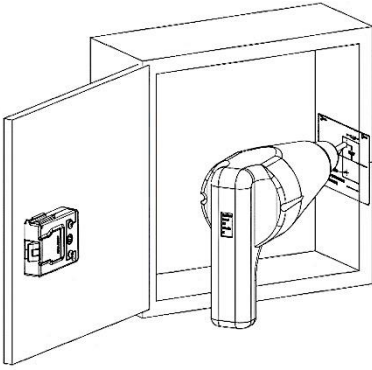
1. Insert cam lock through the outside of the cabinet/drawer face and secure with locking nut. Insert the end of Cam into the mechanical override and secure with nut as shown.



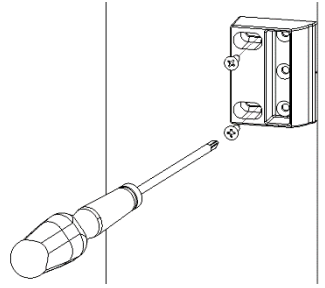
**Important Note** – Reader MUST be programmed before installing the strike plate. If the cabinet is closed before the reader is programmed and after the strike plate is installed, you will be locked out of the cabinet.

# Strike Plate Installation

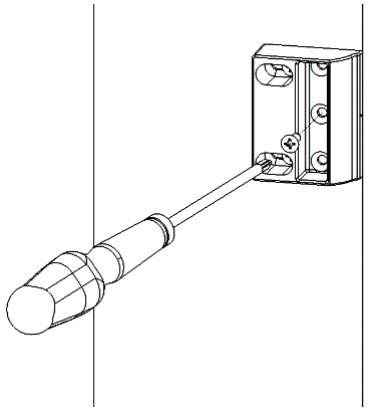
1. Align strike plate template to centerline and edge of cabinet. Drill mounting holes.



2. Secure strike plate to inside cabinet wall using 2x screw D, but do not fully tighten. Adjust strike plate so the edge is flush with the cabinet wall edge then tighten.

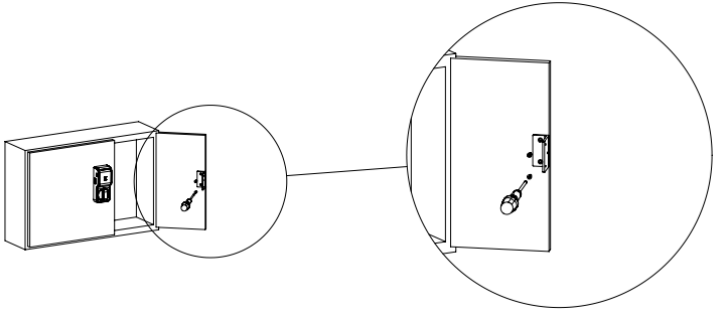


3. After the strike plate is in the desired position, fasten screw D into strike plate as shown below.

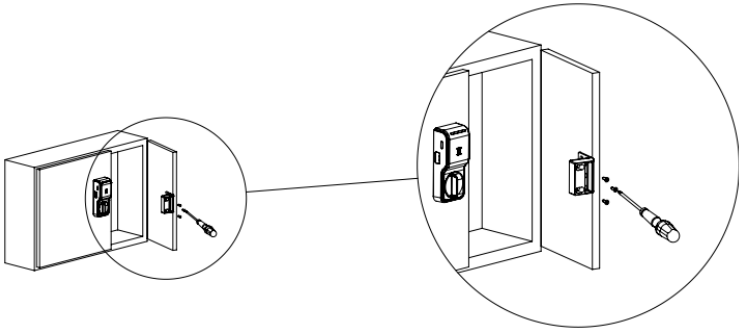


# Double Door Strike Installation











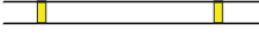
1. Align Double door bracket with mounting holes from the strike plate template. Secure double door bracket using 3x screw D.









2. Secure strike plate to double door bracket using 3x screw D as shown below.

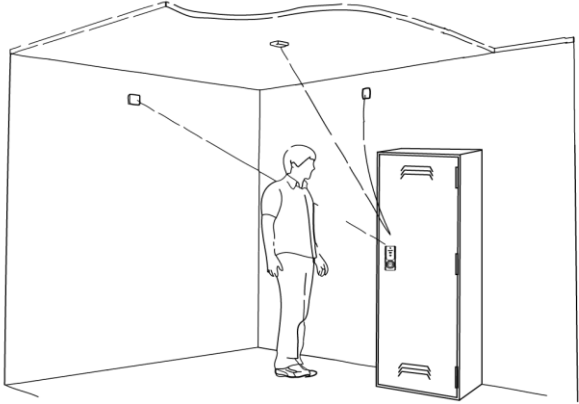


# LED Codes

<b>ASSA ABLOY</b>		Aperio LED LOCK Codes:		
One yellow flash		Card read		
One green flash		Access granted		
Five yellow, one red flash		Force closed (in open mode)		
Continuous yellow flashes (.25 sec every second)		Comhub busy		
One red flash		Access denied (AC online)		
Three red flashes		Access denied (AC offline)		
Continuous red flashes (.125 sec every second)		Lock is blocked (when closing)		
Ten red flashes		Error in Lock		
Continuous yellow flashes (.25 sec every 5 seconds)		Low Battery		
Continuous red flashes (.25 sec every 5 seconds)		Dead Battery		

<b>ASSA ABLOY</b>		Aperio LED HUB Codes:		
Steady Green		Online		
Green, 1 red flash		Lock offline		
Green, 2 red flashes		Access control offline		
Green, 3 red flashes		Access control offline and Lock offline		
		UHF communication		

# Aperio Hub

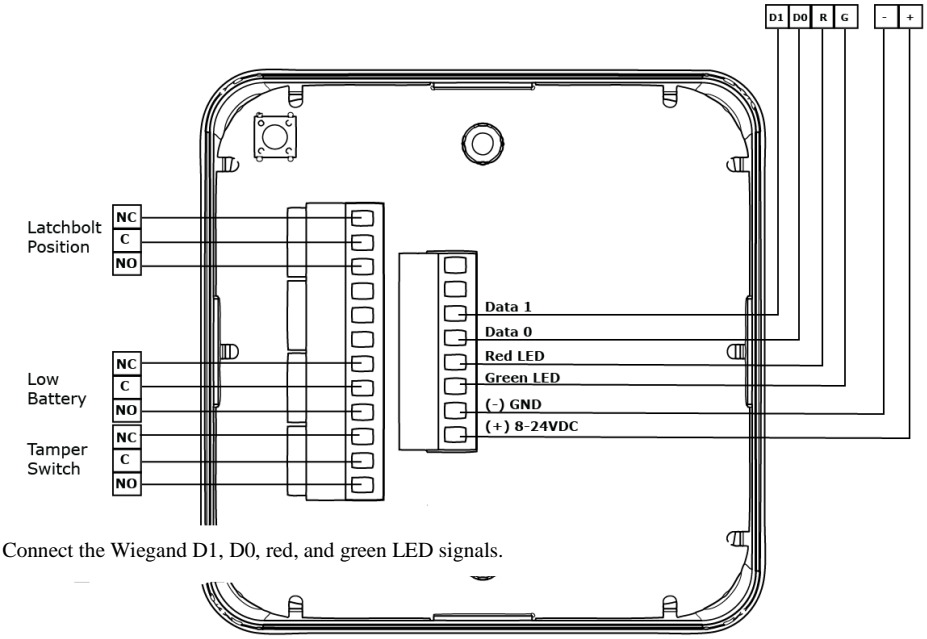


## Technical Data – AH20

Approvals	CE, ETL, FCC, IC, C-Tick
Safety and emissions	FCC 47CFR Part 15 subpart B and subpart C; IC RSS-210 EN ETSI 301 489-17 v2.1.1; ENETSI 300 328 v1.7.1; EN 60950-1 ed.2 2007
Dimensions	82x82x37
Power Supply	8-24 VDC
Current	250 mA minimum
Internal Antenna	2cross polarized dipoles
External Antenna (Part No. EXT-10-ANT)	One reverse polarity SMA external antenna connector. Optional antenna type dipole with max antenna gain of 3.9dBi
Radio Standard	IEEE 802.15.4(2.4GHz) – 15 channels (11-25)
Encryption (Radio Communications)	AES 128 bits
Wireless Operating Range	Up to 50 ft
Receiver Sensitivity	100dBm 20%PER
Wireless Transmit Power	10 dBm/MHz
Class of Protection	IP 20
Operating temperature range	5°C to 35°C
Humidity	< 95% non-condensing
Status	LED (red/green/orange)

# Connecting the Hub

The following applies only to Aperio factory paired kits with AH20 Hubs.



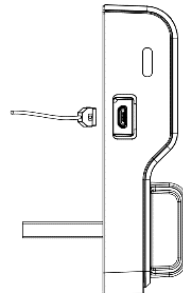
Connect the Wiegand D1, D0, red, and green LED signals.

**Note:** The **Green LED** input is used to grant access to the cabinet lock. If the Green LED signal is not available to indicate approved access, the approval input can be activated by a relay with “NO” attached to Green LED and “C” to GND.

The **Red LED** input is used to indicate access denied. If the RED LED signal is not connected, the lock will flash RED three times when a non-approved card is presented indicating loss of connection to the hub rather than access denied. Any other codes may be reference on the LED reference card.

## Micro USB Port

For Emergency Power & Local (Hard Wired) Firmware Updates, use micro USB port located on the side of the K100



## FCC Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Operation with non-approved equipment is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

To comply with FCC and Industry Canada RF radiation exposure limits for general population, the module must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

Contains FCC ID: VC3-R100V3

Contains IC: 7160A-R100V3

## IC Statement

This device complies with Industry Canada license-exempt RSS standards(s).

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation.

## Conformité aux normes FCC

Cet équipement a été testé et trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle. Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du

fabricant, peut causer des interférences nuisibles aux communications radio. Rien ne garantit cependant que l'interférence ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en éteignant, l'utilisateur est encouragé à essayer de corriger les interférences par une ou plusieurs des mesures suivantes:

1. Réorienter ou déplacer l'antenne de réception.
2. Augmenter la distance entre l'équipement et le récepteur.
3. Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté.
4. Consultez votre revendeur ou un technicien radio / TV pour assistance. Avertissement

Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

**L'opération est soumise aux deux conditions suivantes:**

**(1) Cet appareil ne doit pas causer d'interférences nuisibles, et**

**(2) Cet appareil doit accepter toute interférence reçue, y compris les interférences susceptibles de provoquer un fonctionnement indésirable.**

**Pour se conformer aux limites d'exposition aux rayonnements RF de la FCC et d'Industrie Canada pour la population en général, le module doit être installé pour fournir une distance de séparation d'au moins 20 cm de toutes les personnes et ne doit pas être localisé ou en combinaison avec une autre antenne ou émetteur.**

**Ce module est étiqueté avec son ID FCC et son numéro de certification IC. Si l'identifiant FCC et le numéro de certification IC ne sont pas visibles lorsque le module est installé à l'intérieur d'un autre appareil, l'extérieur de l'appareil dans lequel le module est installé doit également afficher une étiquette faisant référence au module ci-joint. Dans ce cas, le produit final doit être étiqueté dans une zone visible avec ce qui suit:**

**Contient FCC ID: VC3-R100V3**

**Contient IC ID: 7160A-R100V3**

### **Conformité aux normes IC**

Cet appareil est conforme avec Industrie Canada exempt de licence RSS standard(s).  
Son fonctionnement est soumis aux deux conditions suivantes:

- (1) cet appareil ne peut causer d'interférences, et
- (2) cet appareil doit accepter toute interférence, y compris des interférences qui peuvent provoquer un fonctionnement indésirable du périphérique.



**ELECTRONIC SECURITY HARDWARE**

HES | Securitron

[techsupport.esh@assaabloy.com](mailto:techsupport.esh@assaabloy.com) | [assaabloyesh.com](http://assaabloyesh.com)

800.626.7590 | 10027 S. 51<sup>st</sup> Street, Ste. 102 Phoenix, AZ 85044 USA

Patent pending and/or patent [www.assaabloydss.com/patents](http://www.assaabloydss.com/patents)

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