



# Aperio Technology

Wireless access control - The evolution starts here

**ASSA ABLOY**



The global leader in  
door opening solutions



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## Aperio Overview

Aperio is a new technology developed to complement new and existing electronic access control systems, providing end users with a simple, intelligent way to upgrade the controllability and the security level of their premises.

The heart of Aperio is a short distance wireless communication protocol; designed to link an online electronic access control.

## Application

An access control system is standard equipment for companies and public administrations and provides buildings with a very high standard of security. However, installing access control doors is very expensive due to the extensive wiring required. This is why access control systems often only cover doors with very high security requirements.

All other doors have mechanical locks and therefore cannot be monitored and managed. If a master key is lost, there can be a major security risk – not a satisfactory set of circumstances for security officers.

This is where Aperio technology comes in. Doors merely need to be equipped with wireless Aperio battery-powered cylinders, escutcheons or locks with integrated RFID readers and linked to the access-control system online via a communications Hub ASSA ABLOY's Aperio technology allows security and facility managers to conveniently and cost-effectively increase the number of doors that can be monitored.

Aperio uses HID genuine certified technology supports a range of credentials including iCLASS, MIFARE, DESFire, SEOS, Legic and 125 kHz Proximity (HID PROX/ EM410). With such a vast range of credentials supported there is generally no requirement to replace issued credentials.



## Key Features

### Affordable online door control of internal doors

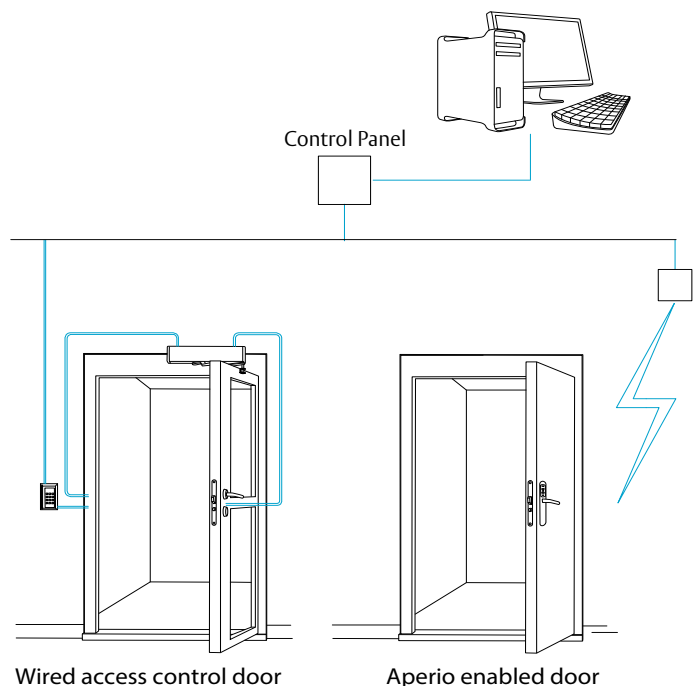
- Few components
- Very easy installation
- No changes to existing access control installations

### Extends existing access control system

- Connects over standard interface
- No separate management software:
  - uses existing access control system management software
- No change of cards

### Enhances security for internal doors

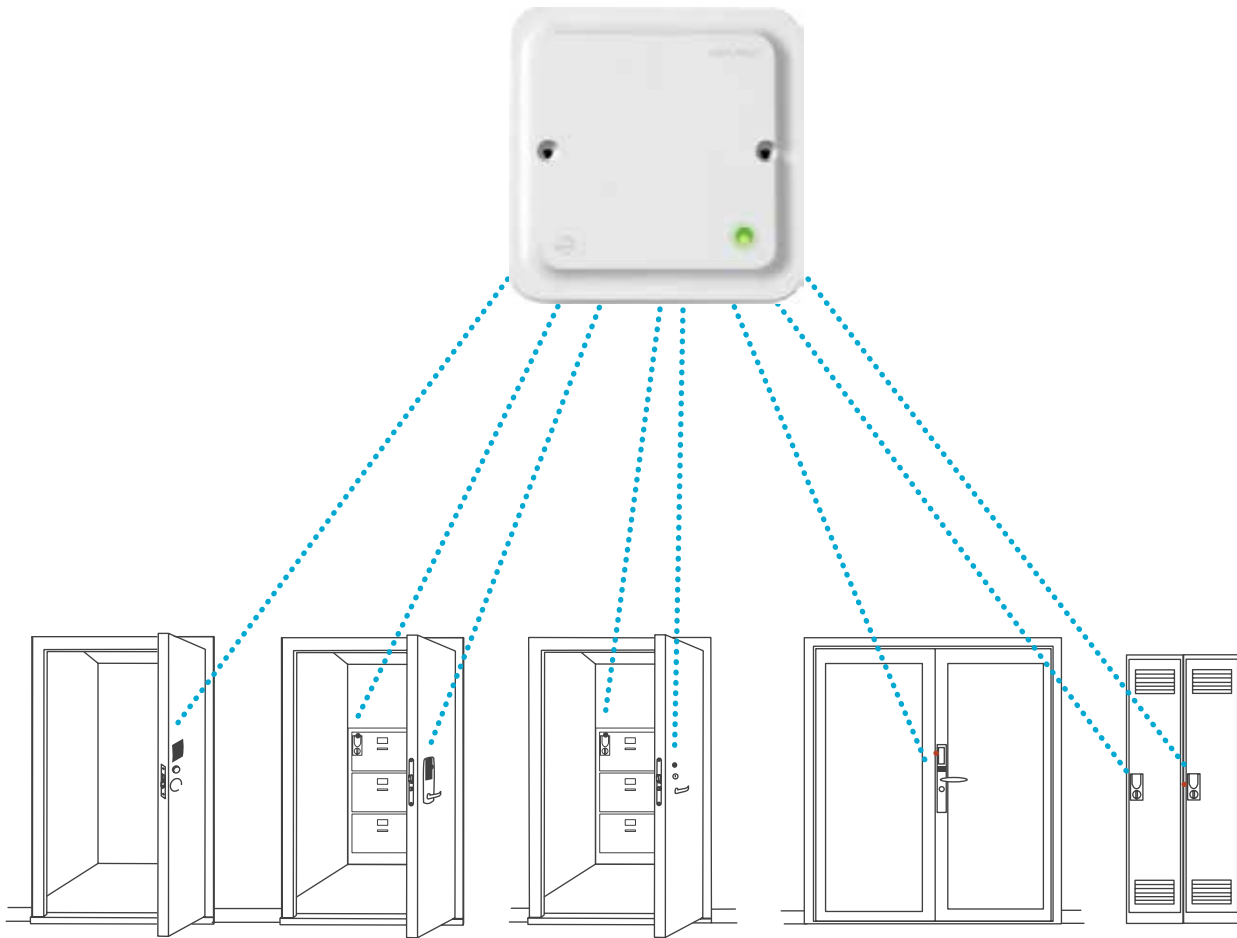
- Eliminates key management issues
- Authorization changes in real time
- Encrypted communication
- Audit trails and time zones through existing system



# The 1 to 8 Communication Hub



- Live real time access & audit
- Significantly reduces cost for integrated access control doors
- Reduced time and effort required for installation
- Connects up to 8 Aperio devices
- Operates on a transmission range of about 25 meters



## Aperio Components



**C100 Cylinder**  
Converts any mechanical cylinder to an access control door.



**K100 Cabinet Lock**  
Audit trail to medicine cabinets, cupboards, display cases, etc.



**KS100 Data Cabinet Lock**  
Control access to data cabinets and servers. Data centre rack access solution.



**AU100 Escutcheon**  
All in one door furniture, reader and keypad with key override and full door monitoring.



ASSA ABLOY's Aperio™ technology is leading the evolution of Online Wireless Door Locks.

The new ASSA ABLOY AU100 series (available with the Australian, ANSI and Euro Lockset variants) is a fully commercial grade digital lockset that offers the durability and quality that is synonymous with ASSA ABLOY.

Aperio is well known to provide a cost effective migration to an online electronic access control door.

Sophisticated battery powered technology communicates wirelessly to a Hub.

The Hub is then wired directly to the access control system and enables standard online access control functionality at significantly reduced costs to that of a hard wired door.

ASSA ABLOY's AU100 series is now fully retrofit-able with various mortice lock variants without modification to the mortice whatsoever.

In addition, for the first time, a capacitive keypad and proximity reader are also included in the one lock.

Also available is the capability to wirelessly monitor the internal lever and door positioning.

(Optional on the ANSI and Euro versions)

The ASSA ABLOY AU100 series features the V3 platform, which enables high frequency entrance doors to operate for two years on a standard set of batteries; maintaining remote opening functions of typically 5 seconds communication time between the Aperio lock and the access control system throughout the battery life.

ASSA ABLOY's AU100 series provides the benchmark for premium wireless digital locking. The strong vandal proof keypad is weather rated for outdoor conditions, including protection against light rain, sun and dust.

The ASSA ABLOY AU100 series features ultra-smooth lever action provided by the ergonomic Lever which is designed to be compliant with the Disabled Door Act.

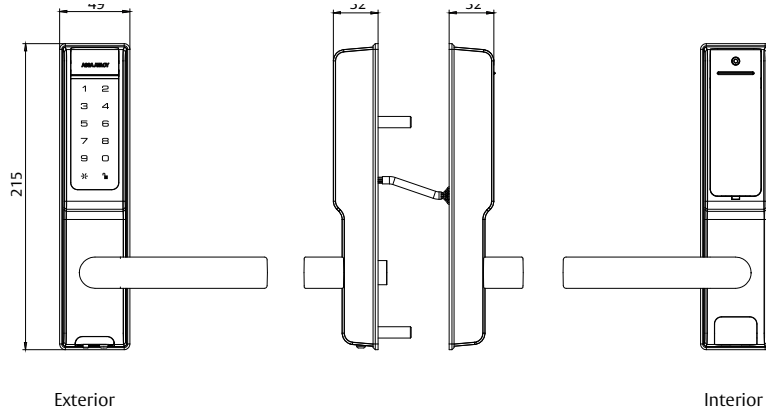


The AU100 is available in a range of form factors:

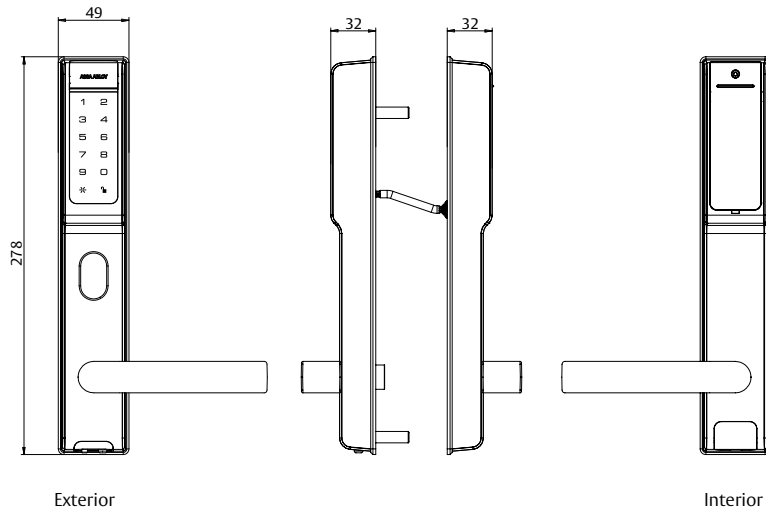
- Tubular Latch Version AU100-530
- Australia Standard Mortise Lock AU100-3772
- Australian Short Backset Mortise Lock AU100-5782
- European Mortise Lock AUE100-AA3806
- ANSI Mortise AUA100-AA8707



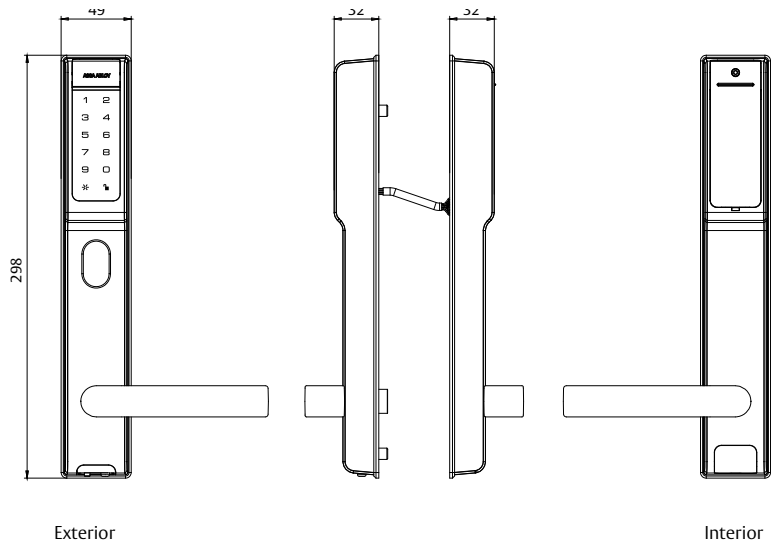
AU100-530



AU100-3772

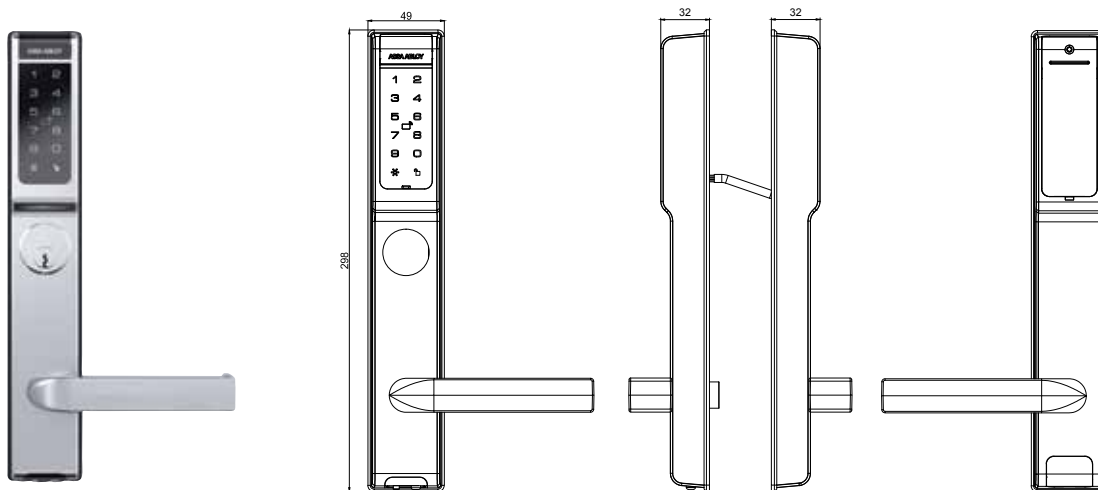


AU100-5782



The AU100 is available in a range of form factors:

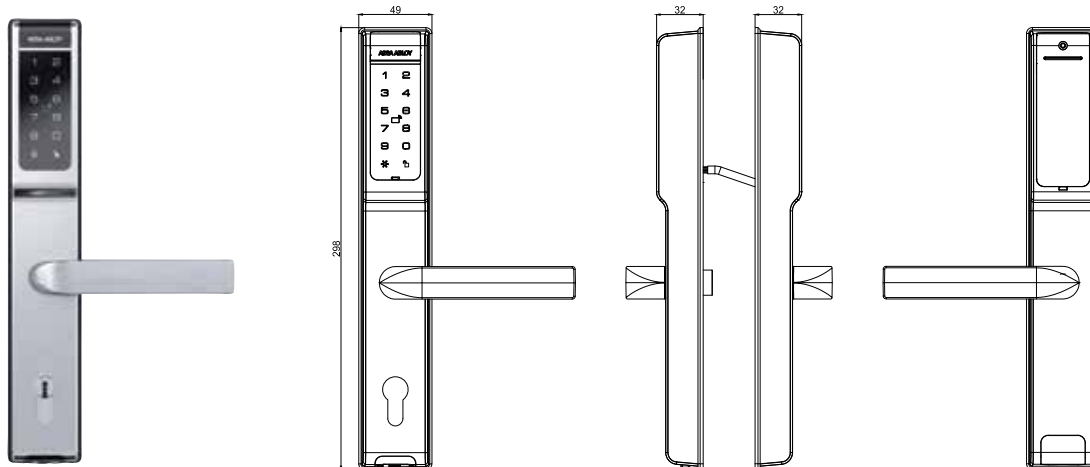
- Tubular Latch Version AU100-530
- Australia Standard Mortise Lock AU100-3772
- Australian Short Backset Mortise Lock AU100-5782
- European Mortise Lock AUE100-AA3806
- ANSI Mortise AUA100-AA8707



AUA100-AA8707

Exterior

Interior



AUE100-AA3806

Exterior

Interior



## Electronic Features

- Wireless online access control
- Authorization changes in real time
- Audit trails and time zones managed through existing system
- Additional Key Override
- Rex (internal lever monitoring)
- Door Position switch
- Smart off line Credential Cache for last 200 users
- Store last 200 events and audit trails locally in the lock
- Battery powered – up to 40,000 operations
- LED status
- Battery low warning sent to EAC system
- Powerful new electronics with USB interface
- Supports multiple RFID credentials and SEOS mobile access
- Heartbeat communication: 5-10 seconds
- Remote door opening/locking functions
- Supports multiple high frequency RFID technologies and SEOS mobile access
- Audit trails and time zones managed through existing system

## Mechanical Features

- Emergency egress
- Compatible with Lockwood 3772, 5782 Series Mechanical Mortise Locks. ASSA ABLOY AA3806 European Mortise Locks and ASSA ABLOY AA8707 ANSI Mortise Locks (Model Specific)
- Additional Key Override (except for 530 latch version)
- Fire Rated
- Multiple lockset formats
- Emergency egress



## Functions

**External** - lever is always locked. To unlock badge card and activate lever. Door automatically re-locks after set time. Can also be opened via Key override

**Keypad** – Touch Keypad to wake up unit, enter pin and activate lever.

**Internal** - lever is set to escape – free egress at all times

**REX** - Allows the access control to recognize valid egress when the internal lever is pressed followed by DPS

**DPS** - Allows the access control system to detect door/open closed status and forced door

## Applications

- Internal doors and semi protected outdoor
- Retrofit mechanical Mortise Locks
- Expand existing access control installations
- New access control installations
- Doors that can't be hard wired
- Heritage listed buildings

## Electronic Technical Information

<b>Battery Type</b>	4 x AA Alkaline
<b>Battery Lifetime</b>	>40,000 cycles
<b>Radio Standard</b>	IEEE802.15.4 (2.5GHz)
<b>Encryption</b>	AES128Bit
<b>Wireless Range</b>	5-25m depending on location of Hub & Environment
<b>RFID Technology</b>	Mifare Classic / Desfire, Mifare Classic / Plus, iCLASS
<b>iClass, SEOS</b>	>85% Non condensating
<b>RFID Reading</b>	UID/sector/block
<b>Card Range</b>	>2cm
<b>Operating Temperature</b>	-10°C - 60°C
<b>Humidity</b>	<85% non condensating
<b>Approvals</b>	RCM, CE, EN
<b>Finish</b>	Brushed Satin Chrome
<b>Door Thickness</b>	35-50mm

## Standards and Compliance

### AU100

### Australian Version



“Successfully tested up to 2 hours on fire door assemblies in accordance with Australian Standard AS1905.1 2005 - Part 1: Fire Resistant Doorsets.”

### SL8

(Security) Australian Lock Standard (AS4145.2:1993).

### DL8

(Durability) Australian Lock Standard (AS4145.2:1993).



Australian Electrical Regulatory Compliance

### AUE100

### European Mortice Lock Version



European Electric Compliance

### EN

“Complies to EN 14846:2008 Building hardware. Locks and latches. Electromechanically operated locks and striking plates.”

### AUA100

### ANSI Mortice Lock Version



“Complies to UL 10C Standard for Positive Pressure Fire Tests of Door Assemblies”

## Product Details

	AU100-530	AU100-3772	AU100-5782	AUE100-AA3806	AUA100-AA8707
<b>Finish</b>	SC	SC	SC	SC	SC
<b>Backset</b>	60mm	60mm	30mm	60mm	30mm
<b>Lever</b>	77A	77A	77A	77A	778A
<b>Door Thickness</b>	35-50mm	35-50mm	35-50mm	35-50mm	35-50mm
<b>Body Material</b>	Zinc Alloy	Zinc Alloy	Zinc Alloy	Zinc Alloy	Zinc Alloy
<b>Override Cylinder</b>	No	Yes	Yes	Yes	Yes
<b>Lock Type</b>	Tubular Latch 530	Suited for 3570 and 3770	Suited for 5580 and 5780	AA3806 Euro Mortise	AA8707 ANSI Mortise
<b>Door Application</b>	Retrofit Latch	Timer door 60mm Backset	"Metal or Aluminium narrow Style doors 30mm Backset"	"European Standard (DIN) Mortice Lock"	"ANSI Standard Mortise Locks"

## Ordering Information

Product Description	Part Number
<b>Australia AU Version with DPS (All Australian versions come standard with DPS)</b>	
Aperio AU100 V3 HF Reader + Pin Australian 530 with latch version 35-50mm door	AU103MU2SC1/1
Aperio AU100 V3 HF Reader + Pin Australian 3772 version no lock 35-50mm door	AU103MU2SC1/2
Aperio AU100 V3 HF Reader + Pin Australian 5782 version no lock 35-50mm door	AU103MU2SC1/3
<b>ANSI AUA Version with DPS</b>	
Aperio AUA100 V3 HF Card, PIN, DPS ANSI AA8707 Lock & Cylinder 40-43mm door	AUA103MUSC1/40-43
Aperio AUA100 V3 HF Card, PIN, DPS ANSI AA8707 Lock & Cylinder 44-47mm door	AUA103MUSC1/44-47
Aperio AUA100 V3 HF Card, PIN, DPS ANSI AA8707 Lock & Cylinder 48-51mm door	AUA103MUSC1/48-51
Aperio AUA100 V3 HF Card, PIN, DPS ANSI AA8707 Lock & Cylinder 52-55mm door	AUA103MUSC1/52-55
Aperio AUA100 V3 HF Card, PIN, DPS ANSI No Lock or Cylinder 40-45mm door	AUA103MUSC2/40-55
<b>ANSI AUA Version with No DPS</b>	
Aperio AUA100 V3 HF Card + PIN ANSI AA8707 Lock & Cylinder 40-43mm door	AUA103MUSC3/40-43
Aperio AUA100 V3 HF Card + PIN ANSI AA8707 Lock & Cylinder 44-47mm door	AUA103MUSC3/44-47
Aperio AUA100 V3 HF Card + PIN ANSI AA8707 Lock & Cylinder 48-51mm door	AUA103MUSC3/48-51
Aperio AUA100 V3 HF Card + PIN ANSI AA8707 Lock & Cylinder 52-55mm door	AUA103MUSC3/52-55
Aperio AUA100 V3 HF Card, PIN, DPS ANSI No Lock or Cylinder 40-45mm door	AUA103MUSC3/40-55
<b>EURO AUE Version with DPS</b>	
Aperio AUA100 V3 HF Card, PIN, DPS EURO AA3806 Lock & Cylinder 35-42mm door	AUE103MUSC1/35-42
Aperio AUA100 V3 HF Card, PIN, DPS EURO AA3806 Lock & Cylinder 43-50mm door	AUE103MUSC1/42-50
Aperio AUA100 V3 HF Card, PIN, DPS EURO No Lock or Cylinder 35-50mm door	AUE103MUSC2/35-50
<b>EURO AUE Version with No DPS</b>	
Aperio AUA100 V3 HF Card + PIN EURO AA3806 Lock & Cylinder 35-42mm door	AUE103MUSC3/35-42
Aperio AUA100 V3 HF Card + PIN EURO AA3806 Lock & Cylinder 43-50mm door	AUE103MUSC3/42-50
Aperio AUA100 V3 HF Card + PIN EURO No Lock or Cylinder 35-50mm door	AUE103MUSC4/35-50

Note \*DPS - Door Position Switches are used to detect the open or closed status of an opening and then send this status to the access control panel

## General Description

Designed to fit the standard Lockwood Mortice Lock and Euro Profile Mortice Locks, the C100 provides a unique and cost effective migration to an online electronic access control door.

The external housing contains a sophisticated battery powered proximity reader that communicates wirelessly to a Hub. The Hub is then wired directly to the access control system and enables standard on line access control features at significantly reduced costs than that of a hard wired door.

## Key Features

- Wireless online access control
- Authorisation changes in real time
- Audit trails and time zones managed through existing system
- Compatible with standard Lockwood 3570/3770 series and European (DIN) Standard mortise locks
- Cylinder can store up to 10 override credentials/RFID cards
- Stores last 200 events and audit trails locally in the cylinder
- LED status indication
- Battery powered 40,000 operations
- Battery low warning sent to EAC system
- Available in Stainless Steel Knob

## Applications

- Internal doors only
- Expand existing access control systems
- New access control installations
- Doors that cant be hard-wired
- Heritage listed buildings

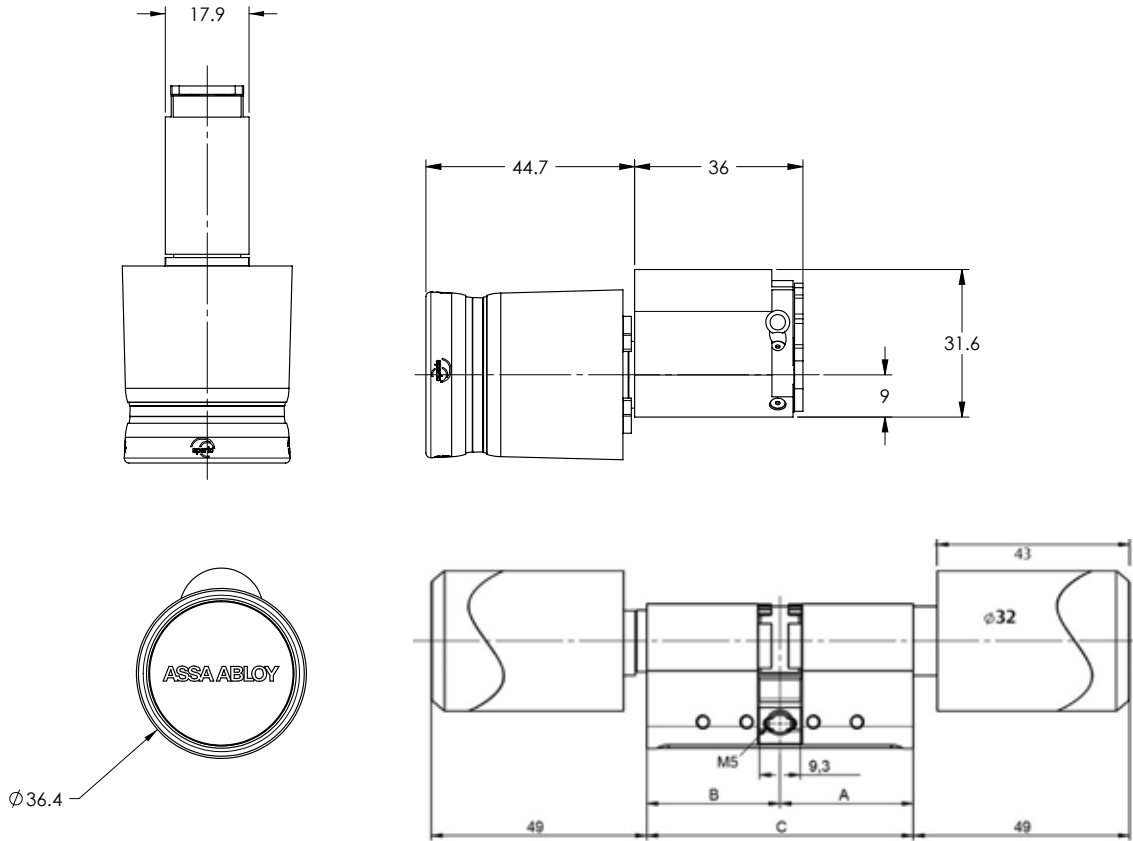


C100 (570 Lockwood 3570/3770 Cylinder)

C100 (Euro Profile Cylinder)

## Function

- **External** – badge card in front of cylinder and rotate knob to retract latch.
- **Internal** – lever on mortice lock is set to escape – free egress at all times.



C100 Technical Information	
<b>Battery type</b>	1 x Lithium CR2
<b>Battery lifetime</b>	>40,000 cycles
<b>Radio standard</b>	IEEE 802.15.4 (2.4GHz)
<b>Encryption</b>	AES 128 Bit
<b>Wireless range: Cylinder to Hub</b>	5-25m depending on location of Hub & environment
<b>RFID technology**</b>	iClass Mifare Classic / Desfire, Mifare Classic / Plus
<b>RFID reading</b>	UID / sector / block
<b>Card reading range</b>	< 4cm
<b>Operating temperature</b>	0°C - 60°
<b>Humidity</b>	< 85% non condensation
<b>IP-degree</b>	IP 30
<b>Knob colour</b>	Satin Nickel
<b>Cylinder Colour</b>	Satin Chrome
<b>Cylinder format</b>	Lockwood Australian oval 570 European (DIN) Cylinder
<b>Door thickness</b>	Suits standard doors up to 50mm
<b>Approvals</b>	CE

## Ordering Information

Product Description	Part Number
Aperio C100 Aust 570 Cyl SC V2 iCLASS SS Knob	C102IASCSS
Aperio C100 Aust 570 Cyl SC V2 Mifare /Desfire SS Knob	C102MASCSS
Aperio C100 European (DIN) Cylinder*	C100 EURO MET

\* Aperio C100 European (DIN) Cylinder basic length is 30/30 extendable in 5mm increments up to 60mm

\*\* Model dependant



## General Description

The KS100 server cabinet lock is a convenient way to bring real-time access control in a single-card system to individual server cabinet doors.

This greatly improves the monitoring and security level of each server cabinet. It uses existing access control cards so there are no keys to control or replace and no codes to secure or remember.

It also uses local wireless communication between the lock and an Aperio Hub to connect to the access control system, eliminating the cost and difficulty of bringing integrated access control to the cabinet.

## Key Features

- Wireless online access control
- Authorisation changes in real time
- High security Grade 1 asset protection
- Server cabinet door and lock status monitoring
  - 250 lb holding force, Grade 1 rating per ANSI A156.11-2003
  - Online & offline transaction audit trail capabilities
- Fast, easy to install wireless lock tied to existing electronic access control system infrastructure
- Maintenance free Hardwired power; POE (Power over Ethernet) 48VDC or standard 8-24VDC - Low energy use
- Two forms of override available, including
  - Mechanical key override or offline credential
- Store up to 10 override credentials on lock locally
- LED status indication
- Designed for standard 25mm x 100mm server lock opening
- For use on left or right hand doors



## KS100 Technical Information

<b>Power</b>	48VDC Power over Ethernet (PoE) 802.3af compliant 8-24VDC, 250mA
<b>Radio standard</b>	IEEE 802.15.4 (2.4Ghz)
<b>Encryption</b>	AES128 Bit
<b>Wireless range</b>	5-25m depending on location of Hub & environment
<b>RFID Technology</b>	iClass, Mifare and Desfire
<b>Card read range</b>	Card read range < 3cm
<b>Operating Temperature</b>	0-50°
<b>Finishes</b>	Black
<b>Product dimensions</b>	42W x 34 D x 223 H Suitable for 25mm x 150mm server lock openings
<b>Approvals</b>	FCC Part 15, Compliant, Industry Canada Compliant BHMA: A156.3, A156.36, A156.25 Compliant

## Internal Applications

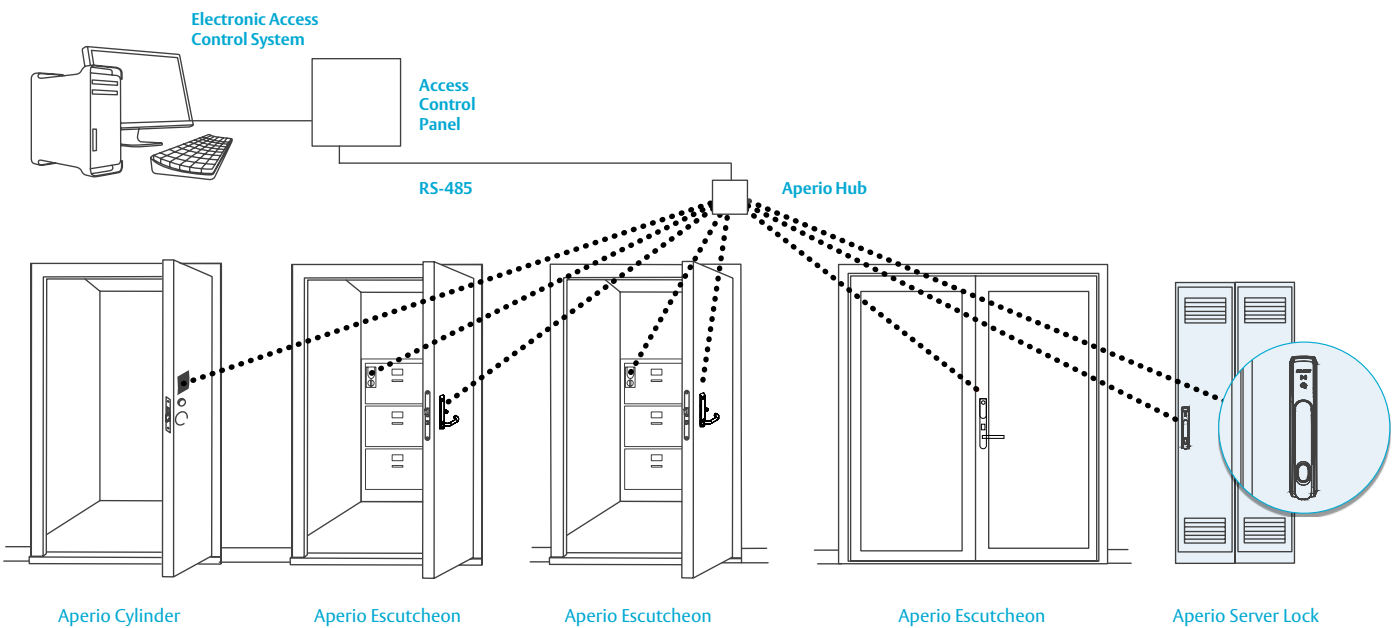
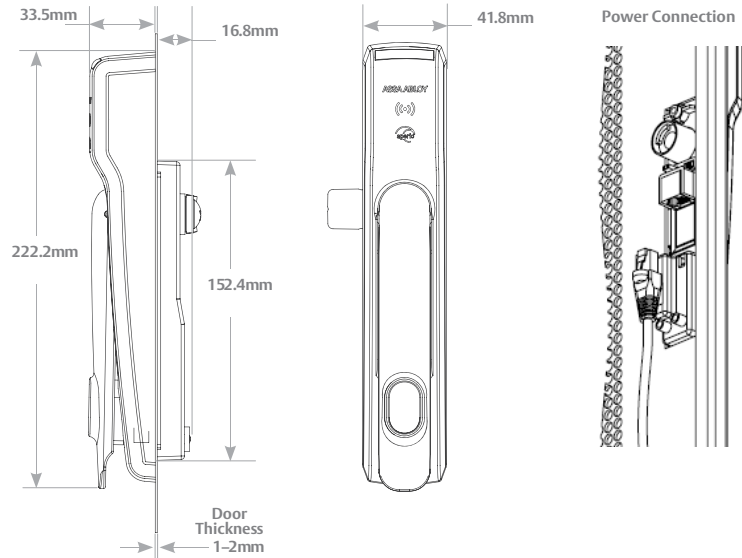
Ideal for collocation data centres with multiple companies requiring access and single door data storage cabinets.

## Function

External lever is always locked. To unlock present card and rotate lever clockwise.

## Server Lock

Rotate lever clockwise, close data cabinet. Rotate lever anti-clockwise.



## Ordering Information

Product Description	Part Number
KS100 server cabinet lock LF	KS102MB
KS100 server cabinet lock PX	KS102PB



## General Description

The K100 series cabinet lock makes it easy and cost effective to bring access control to cabinets and drawers where audit trail and monitoring are becoming increasingly critical. It uses local wireless communication between the lock and an Aperio Hub to connect to an access control system, eliminating the cost and difficulty of bringing integrated access control to the cabinet.

The lock incorporates a sophisticated battery powered reader with 30,000 cycles of operation with a single CR123A battery.

## Key Features

- Wireless online access control
- Authorisation changes in real time
- High security Grade 1 asset protection with audit control
  - Cabinet lock latch bolt status monitoring
  - 112kg (250 lb) holding force, Grade 1 rating per ANSI A156.11-2003
- Fast, easy to install wireless lock tied to existing electronic access control system infrastructure
- Low maintenance with 50,000 cycles of operation with a two AA lithium batteries
- Two forms of override available, including mechanical key override and battery jump start pack
- Store up to 10 override credentials on lock locally
- LED Status
- Battery low warning sent to EAC system

## Internal Applications

Single door cabinets  
Drawers

## Function

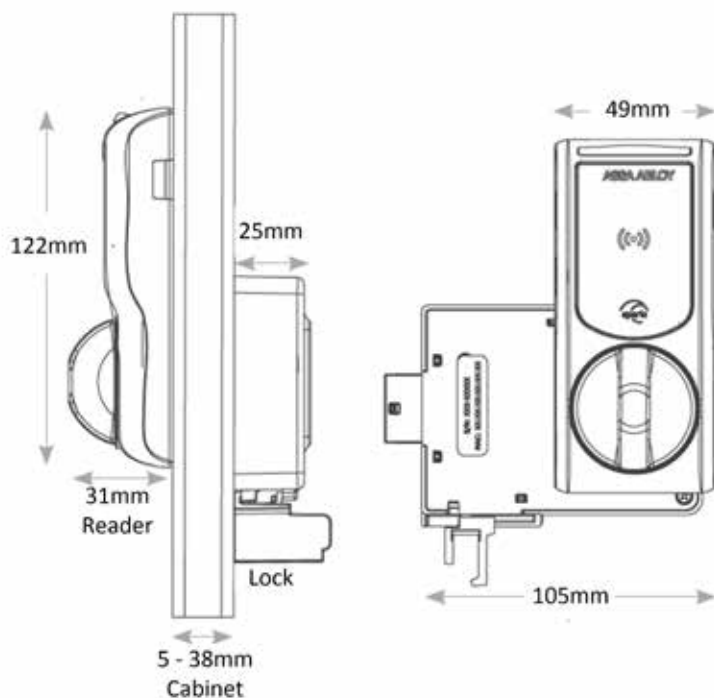
### Unlock

External knob is always locked. To unlock present card and turn knob anti-clockwise.

### Lock

Push cabinet or drawer closed until latched. Lock with automatically re-lock.





## K100 Technical Information

<b>Battery type</b>	Two AA Lithium
<b>Battery Lifetime</b>	50,000 operations
<b>Radio Standard</b>	IEEE 802.15.4 (2.4Ghz)
<b>Encryption</b>	AES128 Bit
<b>Wireless range</b>	5-25m depending on location of Hub & environment
<b>RFID Technology</b>	iClass, Mifare and Desfire
<b>Card read range</b>	< 3cm
<b>Operating Temperature</b>	0-50°
<b>Approvals</b>	CE Ctick & ANSI A156.11-2003 Grade 1
<b>Finishes</b>	Black or White
<b>Cabinet Thickness</b>	13-38mm

## Ordering Information

Product Description	Part Number
K100 Cabinet Lock Black	K102MB
K100 Cabinet Lock White	K102MW
620 Jumpstart Pack	620JSPK100

## General Description

The R100 series surface mounted wireless reader offers an elegant way to extend access control to glass, stone, granite and marble entryways. The easy-to-install wireless reader, requires no drilling or pulling of wires and adheres quickly to the outside of a glass door.

Glass entryways can now integrate robust access control while maintaining a clean, wireless appearance.

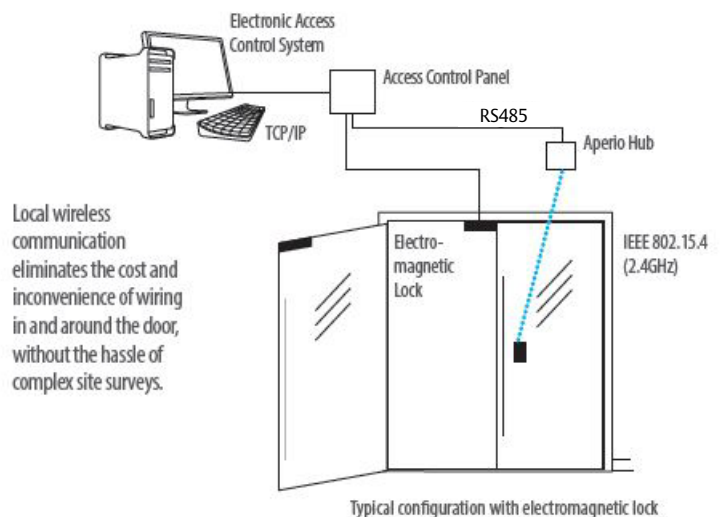
Available in both standard Aperio integration and a prepaired Weigand Aperio Hub for connection to any access control system.

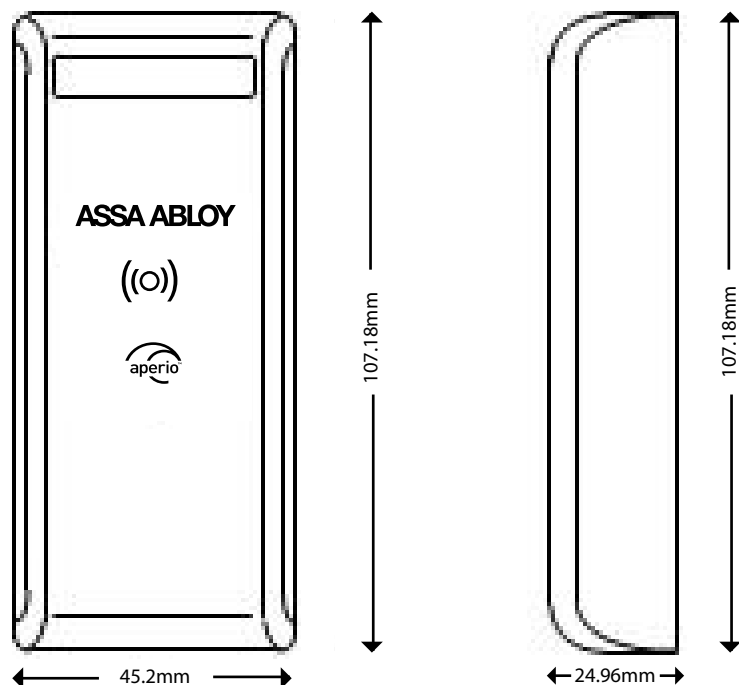
## Key Features

- Wireless online access control
- Authorisation changes in real time
- High security Grade 1 asset protection with audit control
- Fast, easy to install wireless reader tied to existing electronic access control system infrastructure
- Low maintenance with 35,000 cycles of operation with a single CR2 battery
- Store up to 10 override credentials on lock locally
- LED Status
- Battery low warning sent to EAC system

## Applications

- Glass Door Entryways
- Granite or Marble Facades





## K100 Technical Information

<b>Battery type</b>	Cr123A Lithium
<b>Battery Lifetime</b>	35000 operations
<b>Radio Standard</b>	IEEE 802.15.4 (2.4Ghz)
<b>Encryption</b>	AES128 Bit
<b>Wireless range</b>	5-25m depending on location of Hub & environment
<b>RFID Technology</b>	iClass and Mifare
<b>Card read range</b>	< 3cm
<b>Operating Temperature</b>	0-50°
<b>Approvals</b>	CE Ctick & ANSI A156.11-2003 Grade 1
<b>Finishes</b>	Black

## Ordering Information

Product Description	Part Number
R100 Wireless Surface Mount Reader	R102MB
R100 Wireless Surface Mount Reader & Wiegand Hub	R102MBH

## General Description

The communication Hub is the link between Aperio Locks and the access control system. Depending on the type of Hub used, up to 8 locks can be paired with one Hub.

The hub communicates directly with the locks over an encrypted 2.4ghz wireless.

There are four communication hub types. Depending on the access control system you are connecting the hubs to, will depend on the type of hub selected.

### AH20

The AH20 utilises a standard Wiegand interface between the Hub and the existing access control system and in addition provides 4 relays to provide a low level interface to report, low battery, Lock Jamb, Unlocked and Lock Offline. The Hub is designed to communicate with a lock within a 25m range.

### AH30

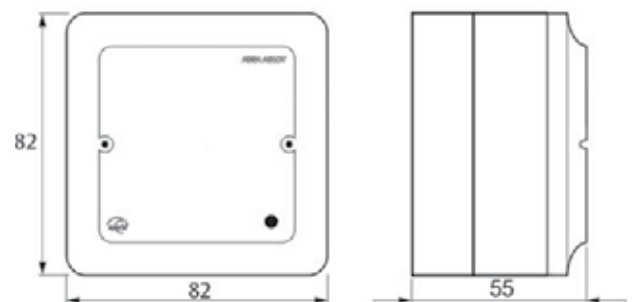
The AH30 utilises a RS-485 connection between the Hub and the access control system. The Hub is designed to communicate with up to 8 locks within a 25m range.

### AH40

The AH40 utilises an IP (Ethernet) connection between the Hub and the access control system. The Hub is designed to communicate with up to 8 locks within a 25m range. The AH40 can be powered via both an external power supply and POE 3.5w.

## Key Features

- Connect up to 8 Aperio devices to a single Hub
- Different interfaces allowing connection to a wide range of access control systems
- 128 Bit AES Encrypted Radio Communications
- Integrated antenna
- Led Status for visual indication
- Applications



## Communication Hub Technical

Hub Version	Interface	Max. No. of Locks
AH20	Advanced Wiegand	1
AH30	RS-485	8
AH40	IP ( Ethernet)	8

## Ordering Information

Product Description	Part Number
AH20 Aperio 1:1 Advance Wiegand Hub	AH20-2-0
AH30 Aperio 1:8 RS485 Hub	AH30-3-0
AH40 Aperio 1:8 IP(Ethernet) Hub	AH40-4-0

## General Description

The Aperio Programming Application is the software tool used to set up and programme Aperio based products.

Using the software the installer simply plugs in the USB radio dongle to the PC to communicate directly to the Aperio lock via the Communication Hub.

The software has an encrypted installation data base that can be used to manage any number of sites.

## Key Features

### Software

- Multilingual installation tool
- Encrypted installation database
- Installation management:
  - Unit configuration
  - Firmware update
  - Pair/Un-pair
  - Override credentials
  - Wireless status link
  - RS485 settings

### Radio Dongle

- Provides communication to Aperio based products
- Encrypted radio communication

## Applications

- Tools designed for the installer to set up and program Aperio based products



## Ordering Information

Product Description	Part Number
USB Dongle	APRD1/PAP1



ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

ASSA ABLOY is represented in all major regions, in both mature and emerging markets, with leading positions in Australia, Europe and North America.

As the world's leading lock group, ASSA ABLOY offers a more complete product range of door opening solutions than any other company on the market.

## Disclaimer

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