Aperio™ Technology

ASSA ABLOY

The global leader in
door opening solutions

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Introducing Aperio™ Technology

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 security level of their premises.

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

Key Benefits

Affordable online door control of internal doors

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

Extends existing access control system

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

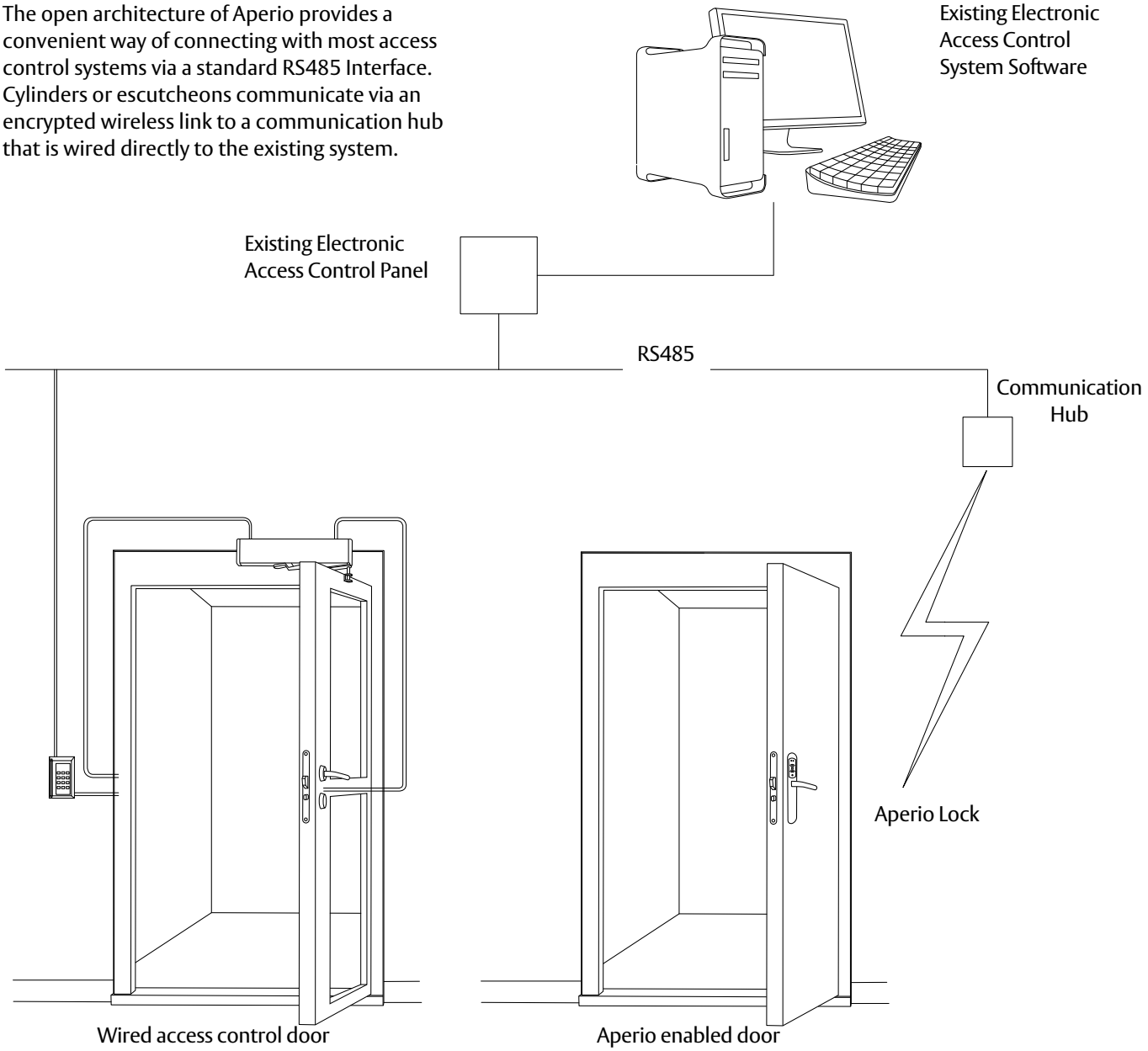
Enhances security for internal doors

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

"Wireless Locking Evolution for On-line Door Control"

Aperio System Overview

The open architecture of Aperio provides a convenient way of connecting with most access control systems via a standard RS485 Interface. Cylinders or escutcheons communicate via an encrypted wireless link to a communication hub that is wired directly to the existing system.



Aperio System Components

E100 Series Escutcheon

The E100 series escutcheon is designed to fit Lockwood mechanical 3570 series mortice locks. In addition to card access the external side of the door provides for key override entry, whilst the inside lever is designed for emergency egress.

C100 Series Cylinder

Designed to fit the standard Lockwood oval 570 series cylinder, the C100 provides a unique and cost effective migration to an on line electronic access control door.

Communication Hub

The Communication Hub is the link between Aperio locks and the existing access control system. The Hub has a standard RS485 connection, making it compatible with most systems on the market today.

Programming Application

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

USB Radio Dongle

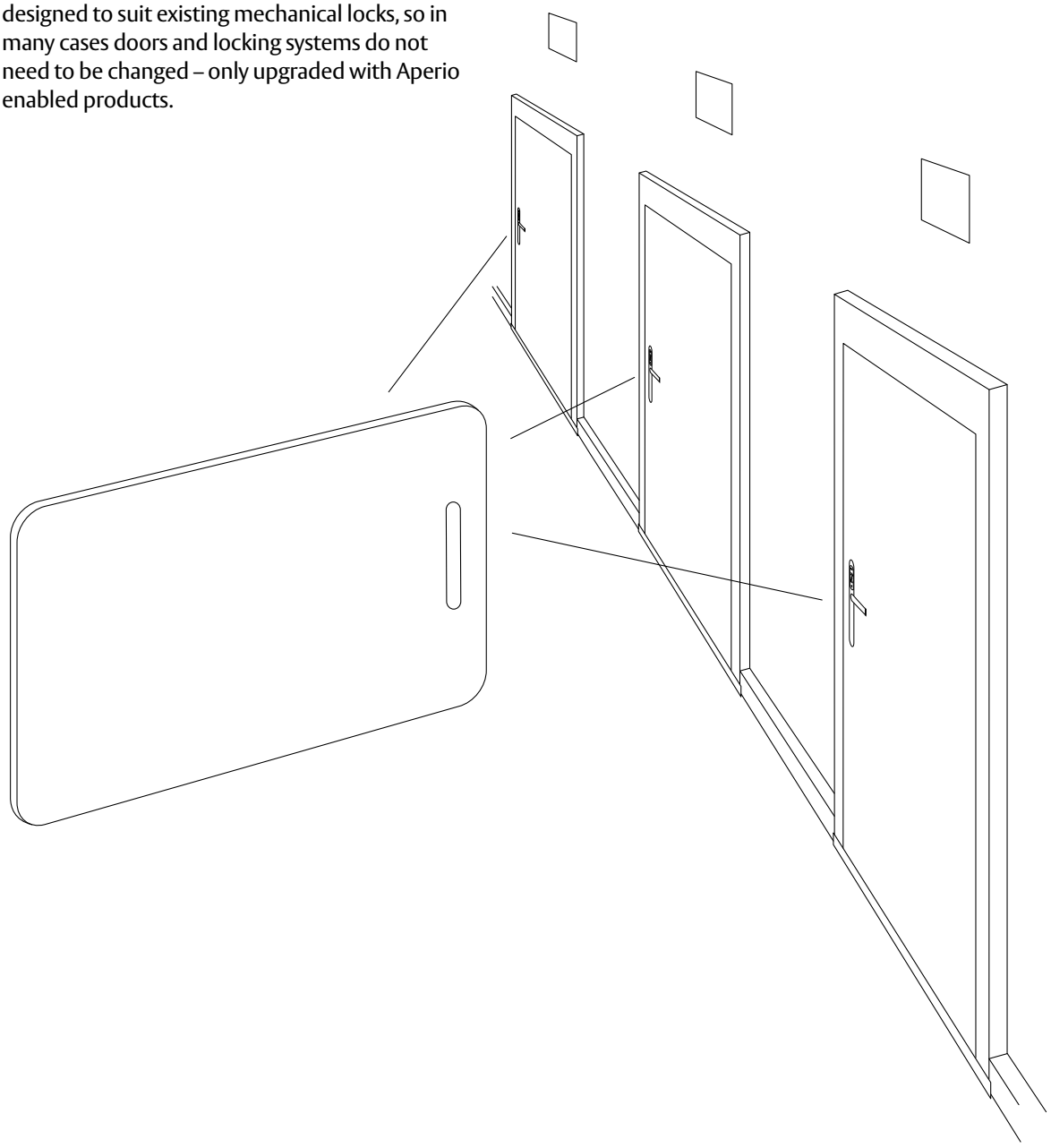
The Radio Dongle is used in conjunction with the programming application. It communicates via an encrypted wireless link directly to the Hub and Aperio enabled lock.

Upgrading Existing Systems

Expanding an electronic access control system with Aperio is more cost effective than alternative solutions because it is easy to install and does not require any wiring of the door.

Electronic cylinders and escutcheons have been designed to suit existing mechanical locks, so in many cases doors and locking systems do not need to be changed – only upgraded with Aperio enabled products.

Being compatible with most RFID technologies, there is no need to change user's credentials – just use existing cards.

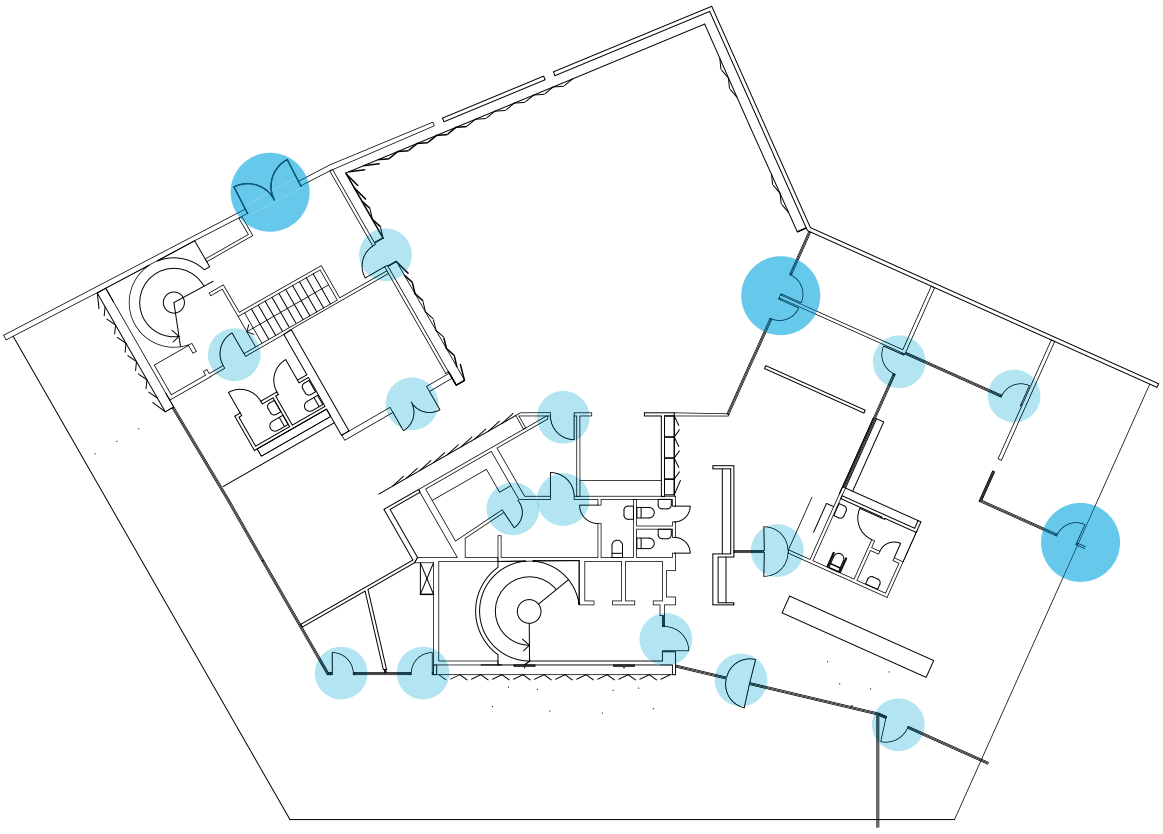


Simplified Management of Security

Installing Aperio provides a simple way to facilitate card-based access, while also fulfilling end-users needs for an easily operated system.

Aperio enabled products are managed with existing electronic access control systems and management software. This means that all decisions and updates are in real time. This offers a high level of security and control over audit trails, usage, and adding/deleting users.

Any number of doors can be wirelessly connected to the access control system through Aperio technology, providing a cost effective solution to upgrade internal mechanical doors to online access control.



Wired access control door

Aperio enabled door

E100 Series Escutcheon

General Description

The E100 series escutcheon is designed to fit Lockwood mechanical 3570 series mortice locks & provide a cost effective migration to an on line electronic access control door. In addition to card access the external side of the door provides for key override entry, whilst the inside lever is designed for emergency egress.

The external plate incorporates 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 functionality at significantly reduced costs to that of a hard wired door.

Key Features

- Wireless on line access control
- Authorisation changes in real time
- Audit trails and time zones managed through existing system
- Compatible with Lockwood 3570 series mechanical mortice locks
- Additional Key Override
- Emergency egress
- Lock can store up to 10 override credentials/ prox cards
- 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

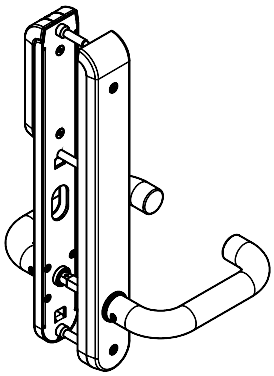
Applications

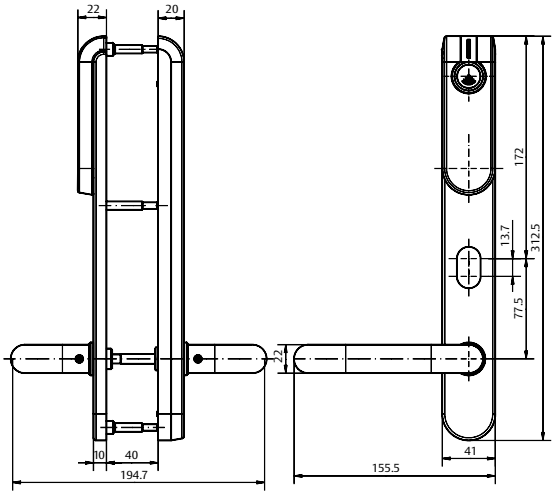
- Internal doors only
- Retro fit mechanical mortice locks
- Expand existing access control installations
- New access control installations
- Doors that cant be hard wired
- Heritage listed buildings

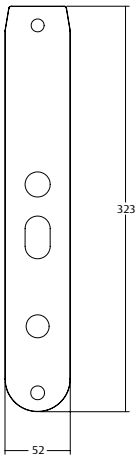
Function

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

E100 Series Escutcheon







E100 cover plate

E100 Technical Information

Battery type	1 x Lithium CR123A
Battery life time	>40,000 cycles
Radio standard	IEEE 802.15.4 (2.4GHz)
Encryption	AES128 Bit
Wireless range	5m – same side of wall
RFID technology**	Mifare Classic iCLASS
RFID Reading	UID / sector / block
Card read range	< 4cm
Operating temperature	0°C – 60°C
Humidity	< 85% non condensating
IP-degree	IP30
Approvals	CE
Colour	Brushed stainless steel
Override cylinder	Lockwood Australian oval 570 series
Door Thickness	35-45mm & 46-55mm
Spindles	7.6mm
Backset	60mm

Ordering Information

Product Description	Part Number
E100 RS485 Hub Mifare 35-45mm door	E100MU1SS1/485
E100 RS485 Hub Mifare 46-55mm door	E100MU1SS2/485
E100 RS485 Hub iCLASS 35-45mm door	E102IU1SS1/485
E100 RS485 Hub iCLASS 46-55mm door	E102IU1SS2/485

Notes:
- iCLASS reader format not available at time of print.

Accessories

Product Description	Part Number
E100 Cover Plate – Pair	E100-PL2SSS
3572 series mortice lock to suit E100 series	3572SCNOHD

Notes:
- E100 cover plate is used only if required when retro fitting existing door furniture.
- Each cover plate is 1.2mm thick. A total of 2.4mm should be added to door thickness if using these plates

C100 Series Cylinder

General Description

Designed to fit the standard Lockwood oval 570 series cylinder, the C100 provides a unique and cost effective migration to an on line 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 On line access control
- Authorisation changes in real time
- Audit trails and time zones managed through existing system
- Compatible with standard Lockwood 3570 series mortice locks
- Cylinder can store up to 10 override credentials/prox 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

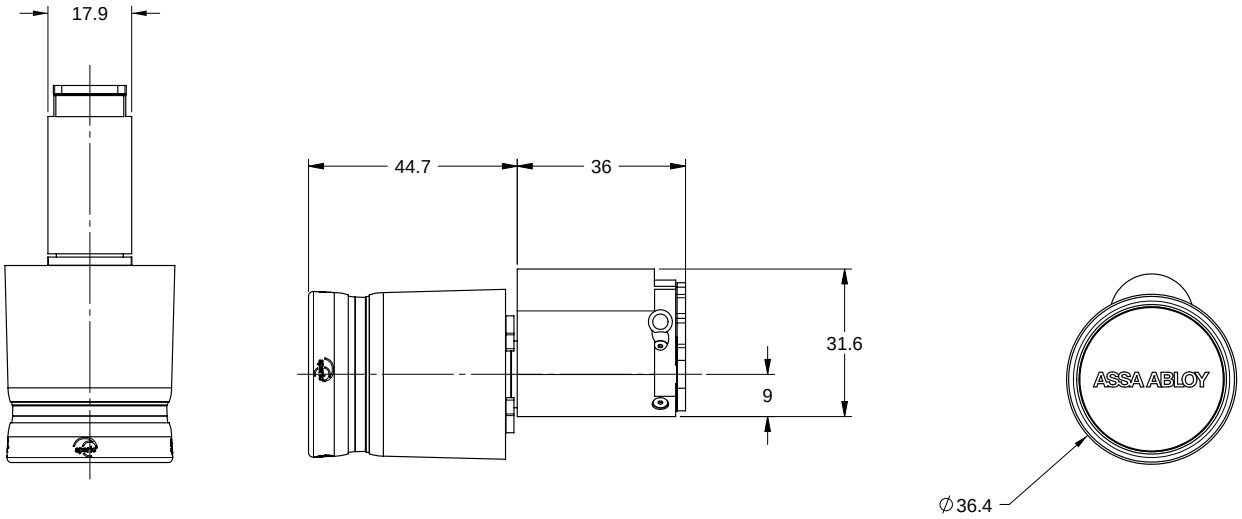
Applications

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

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 Series Cylinder



C100 Technical Information

Battery type	1 x Lithium CR2
Battery lifetime	>40,000 cycles
Radio standard	IEEE 802.15.4 (2.4GHz)
Encryption	AES 128 Bit
Wireless range: Cylinder to Hub	5m – same side of wall
RFID technology	Mifare Classic iCLASS
RFID reading	UID / sector / block
Card reading range	< 4cm
Operating temperature	0°C - 60°
Humidity	< 85% non condensation
IP-degree	IP 30
Knob colour	Black
Cylinder Colour	Satin Chrome. Other finishes on application
Cylinder format	Lockwood Australian oval 570 series
Door thickness	Suits standard doors up to 50mm
Approvals	CE

Ordering Information

Product Description	Part Number
C100 cylinder & RS485 Hub Mifare	C100MASC/485
C100 cylinder & RS485 Hub iCLASS	C102IASC/485

RS485 Communication Hub

General Description

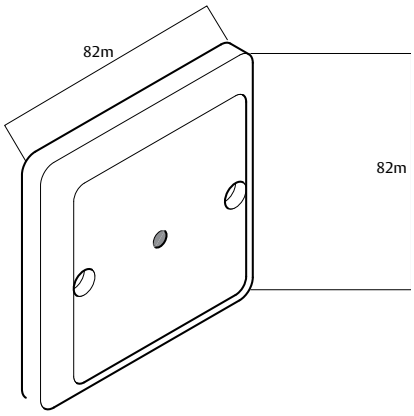
The Communication Hub is the link between Aperio locks and the existing access control system. The Hub has a standard RS485 connection, making it compatible with most systems on the market today. It communicates directly with Aperio enabled locks via an encrypted 2.4GHz wireless link, and is designed to be positioned above the door within approximately 5m of the lock.

Key Features

- RS485 interface
- Encrypted radio communication
- Integrated antenna
- LED status for visual indication
- Hub/Aperio Lock supplied paired 1:1

Applications

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



RS485 Communication Hub Technical Information

Power	5-30Vdc
Power consumption	15mA
Radio standard	IEEE 802.15.4 (2.4GHz)
Encryption	AES 128 Bit
Range between lock/Hub	5M/same side of the wall
Operating temperature	0°C - 60°
Humidity	< 85% non condensation
IP-degree	IP 30
Approvals	CE

Programming Application – Software & USB Radio Dongle

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

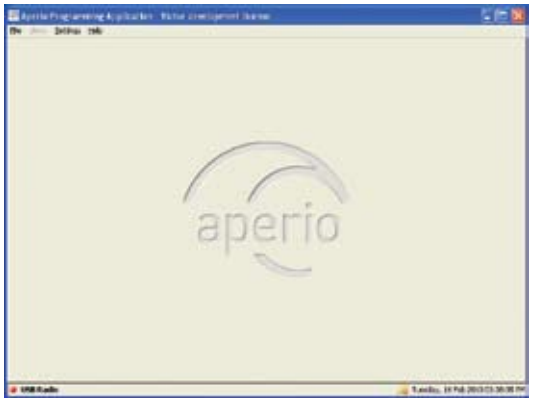
- Multilingual installation tool
- Encrypted installation database
- Installation management:
  - Unit configuration
  - Firmware update
  - Pair/Un-pair
  - Override credentials
  - Wireless status link
  - RS485 settings

Radio Dongle

- Provides communication to Aperio based products
- Encrypted radio communication

Applications

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



Ordering Information

Product Description	Part Number
Software and USB Dongle	APRD1/PAP1

ASSA ABLOY

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.

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