

# Aperio® Hub AH40 Installation Instructions

**ASSA ABLOY**

ASSA ABLOY, the global leader  
in door opening solutions

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**ETL marking**  
Recognized component



**Intertek**  
4002570

Conforms to ANSI/UL standard 294, ANSI/UL 60950-1  
Certified to CAN/CSA standard C22.2 No. 60950-1

For more detailed information about the Aperio system please read  
ST-001279-Aperio Technology Installation Guide AH40.

## AH40 - FCC and Industry Canada Statements

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*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 of the following measures:*

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

*This device complies with Part 15 of the FCC Rules and with RSS-210 of ISED. 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.

*Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:*

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

*The term "IC:" before the equipment certification number only signifies that the Innovation, Science and Economic Development Canada technical specifications were met.*

*Le terme "IC" devant le numéro de certification signifie seulement que les spécifications techniques Innovation, Sciences et Développement économique Canada ont été respectées.*

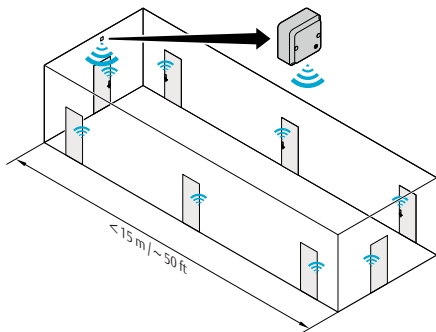
*FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.*

*This radio transmitter (IC: 9504A-AH40R02) has been approved by ISED to operate with the antenna types listed below with the maximum permissible gain indicated.*

*Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device. Antenna type: ASSA ABLOY AH-ANTENNA-1, max gain 2,15 dBi.*

*Le présent émetteur radio (IC: 9504A-AH40R02) a été approuvé par ISED pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur. D'antenne énumérés: ASSA ABLOY AH-ANTENNA-1, Gain maximal indiqué 2,15 dBi.*

## AH40 - Placement of Communication Hub

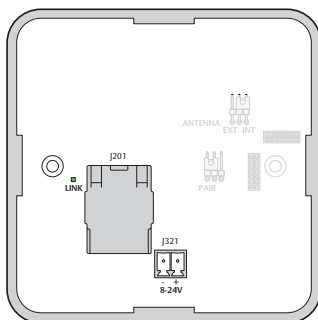


*Example of placement of the Hub with 8 locks. AH40 can manage up to 16 locks.*

**Note:** AH40 Communication hub must be installed into a junction box ex European 2-Gang, Aperio bottom cover or with Americas adaptor plate to junction box. AH40 must be installed by qualified and trained personal. Indoor installation only!

**Note:** The Aperio Communication hubs are not rated to be installed in the plenum space.

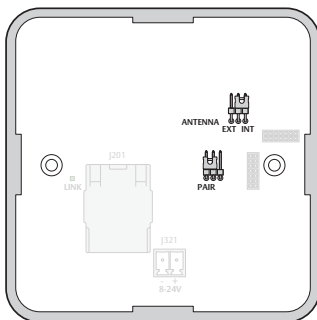
## AH40 - Connectors



CONNECTORS	DESCRIPTION
J201	Ethernet connector. Connection to the Electronic Access Control system through a 10BASE-T / 100BASE-TX Local Area Network. Can also be used for power supply if connected to a IEEE 802.3af compliant Power Sourcing Device (PSE). Wire requirements CAT5 or higher.
J321	Power supply input, 8-24 VDC, 3.5 W. The power supply shall be a Limited Power Source (LPS) according to EN 60950-1. The power supply shall be 3 A over current protected. Wire requirements 16-22 AWG.

**Note:** When PoE (Power over Ethernet) is used, no power supply should be connected to J321. The installation must comply with national wiring regulations.

## AH40 - Jumpers

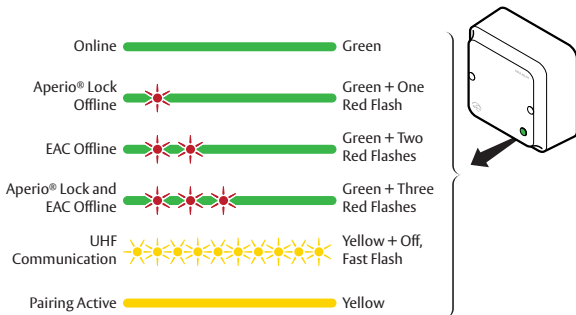


JUMPERS	DESCRIPTION
ANTENNA	Select external antenna by connecting the two left pins. Select internal antenna by connecting the two right pins.
PAIR	Select pairing mode by connecting the two left pins.

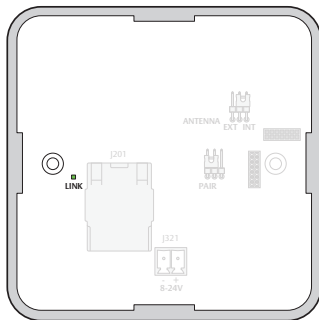
**Note:** To install an external antenna use a thin screw driver and gently bend the antenna cap loose. **Be careful**, there are sensitive components behind the cap!

## AH40 - Communication Hub LED Indications

The Communication Hub has a status LED visible through the front cover. It supports optical schemes with red, green and yellow. The indication schemes are described by the figure below:



**Note:** With the software tool Aperio® Programming Application and an USB radio dongle, further system installation parameters can be set.



The “LINK” LED on the communication Hub indicates both status of the Ethernet Link level and if communication is ongoing. Note: LED on the Ethernet connector is not used.

## AH40 - Technical Data

Physical Dimensions	82 mm x 82 mm x 37 mm (H x W x T)
Power Supply	8-24 VDC or Power over Ethernet (PoE)
Power Rating	Power supply The power supply shall be able to deliver minimum 3.5 W. The power supply shall be 3 A over current protected. PoE IEEE 802.3af compliant class 1 Powered device (PD)
Ethernet	10BASE-T / 100BASE-TX Local Area Network
Radio Standard	IEEE 802.15.4 (2400 – 2483,5 MHz) 16 channels (11-26) AES 128 bit encryption
Receiver Sensitivity	-100 dBm
Wireless Transmit Power	10 dBm/MHz according to EN ETSI 300 328. Maximum spectral density.
Wireless Operating Range	Indoors up to 15 m / ~ 50 ft depending upon installed environment.
Internal Antenna	Two port cross polarized patch antenna.
External Antenna	One reverse polarity SMA external antenna connector. AH40 is certified and is only allowed to be used with ASSA ABLOY external antenna AH ANTENNA 1.
Operating Temperature	5 °C to 35 °C
Humidity	< 95 % non-condensing
IP Classification	IP20
Safety and Emissions	FCC 47CFR Part 15 subpart B and subpart C IC RSS-GEN issue 5 IC RSS-247 issue 2 EN ETSI 301 489-1 v2.1.1 EN ETSI 301 489-17 v3.1.1 EN ETSI 300 328 v2.1.1 EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 UL 294-2010 C22.2



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