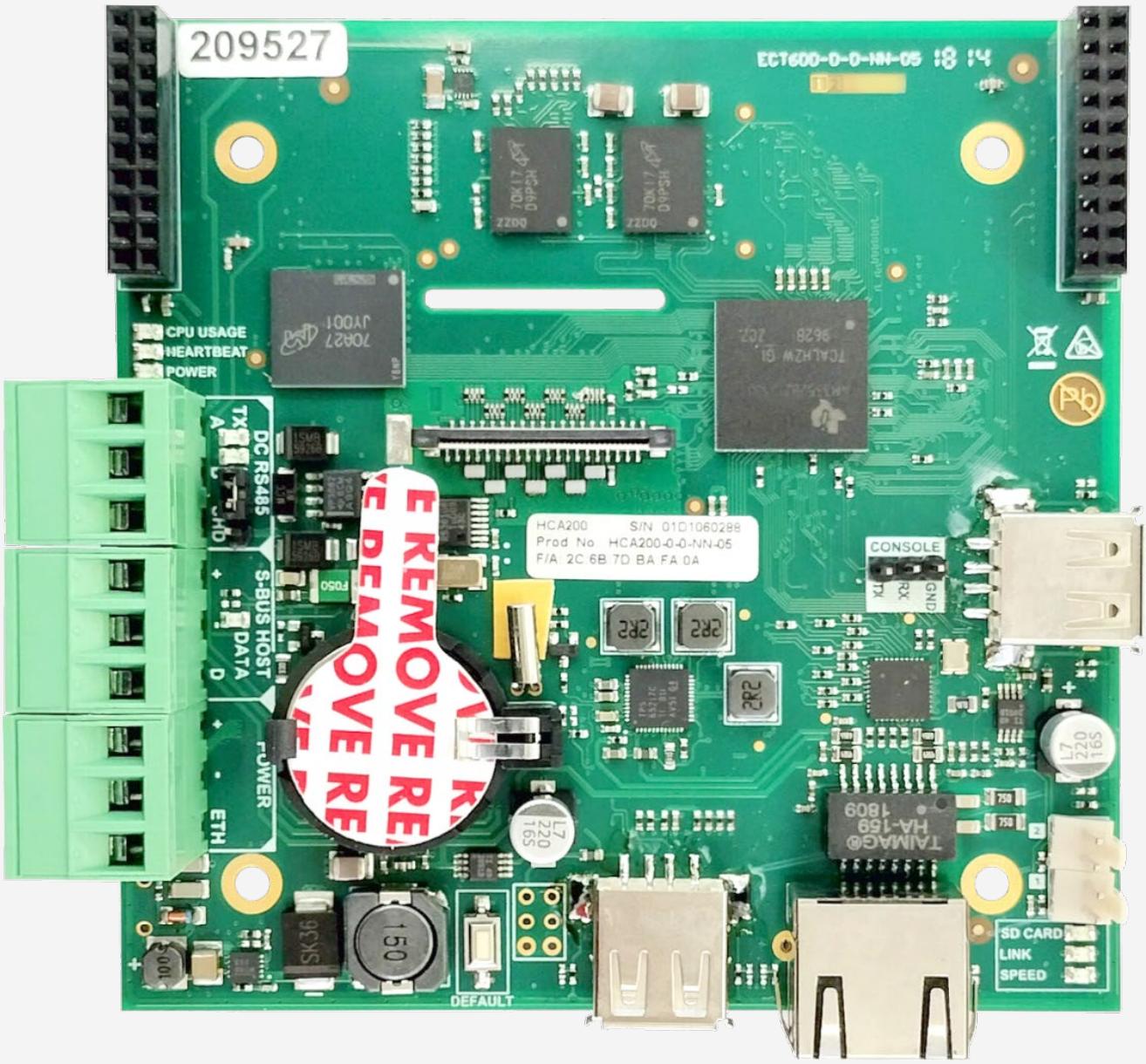


ASSA ABLOY

Application controller EAC-AP5 / EAC-AM5

Installation guide

Contents

1. Introduction

Overview

The application controller is a Linux-based system controller that can keep track of up to one million registered tag holders and 64 fixed addresses, even when the system server is offline. The EAC-AP5 unit comes in a tough, compact ABS plastic housing. The EAC-AM5 unit comes pre-installed in an Integrated Power Supply (IPS) steel cabinet, with space for a backup battery, and a charging PCB with a battery protection fuse.

Compatible hardware includes the Incedo module clusters as well as the EAC-TMP / EAC-TPH / EAC-TPT / EAC-TPE units – with their associated readers and peripheral hardware.

Models

This user guide covers the following models / housing combinations:

Model	Description
EAC-AP5	Housed in an ABS plastic enclosure. Includes enclosure lid tamper sensing. This model requires a 12 V DC power source
EAC-AM5	Housed in a factory-wired steel cabinet with integrated AC mains adaptor, battery management PCB and space for a backup battery. Includes cabinet lid tamper sensing

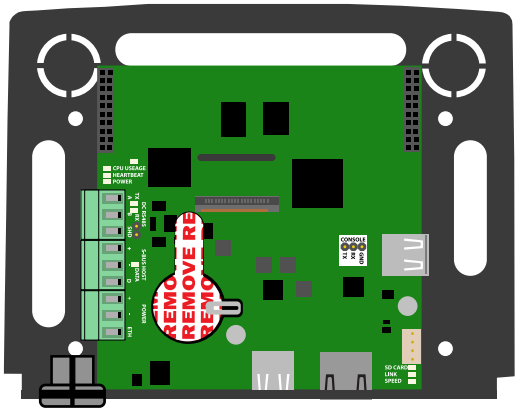
Guarantee or warranty

Three years, contact your regional ASSA ABLOY office for more information.

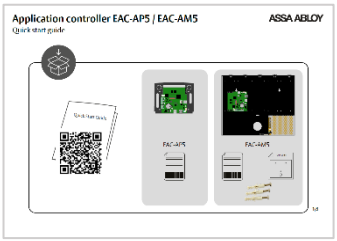
2. What is in the box

The application controller is offered in two different housing combinations – this section will tell you what you will find in the packaging for each model / housing combination.

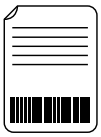
EAC-AP5 – carton contents



Application controller in a plastic housing



Quick start guide

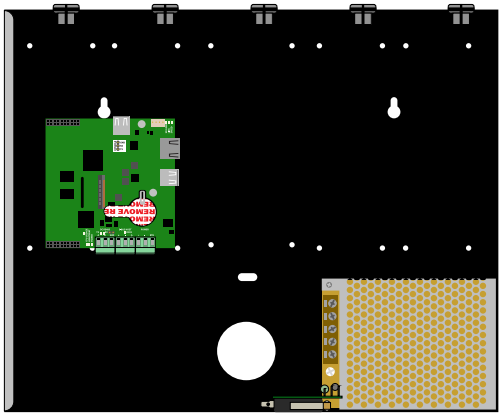


Fixed address label

You will need:

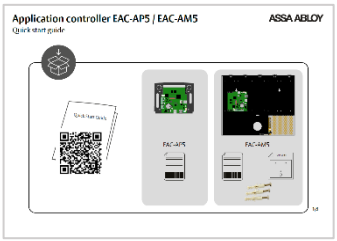
- Basic electrical installation tools
- 12 V DC 750 mA DC power supply to power this controller
- Category 5 or 6 network cable
- Shielded twisted pair 100Ω cable for any downstream RS485 device controllers
- Mounting hardware: Fasteners suitable for the mounting surface

EAC-AM5 – carton contents

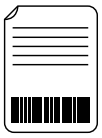


Application controller in a steel cabinet with integrated DC power supply and space for a backup battery

(shown with the cabinet door removed)

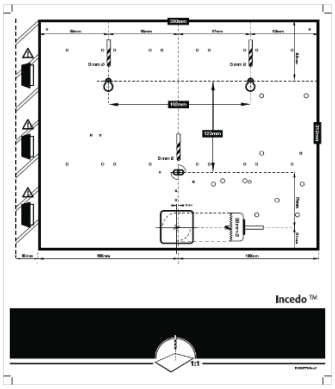


Quick start guide



Fixed address label

3 x mounting screws
and 8 mm wall plugs



Drilling template

You will need:

- Basic electrical installation tools
- An AC supply cable to wire into the AC terminals on the factory installed DC/mains power adaptor
- Recommended 12 V, 7 Ah SLA battery
- Category 5 or 6 network cable
- Shielded twisted pair 100Ω cable for any downstream RS485 device controllers

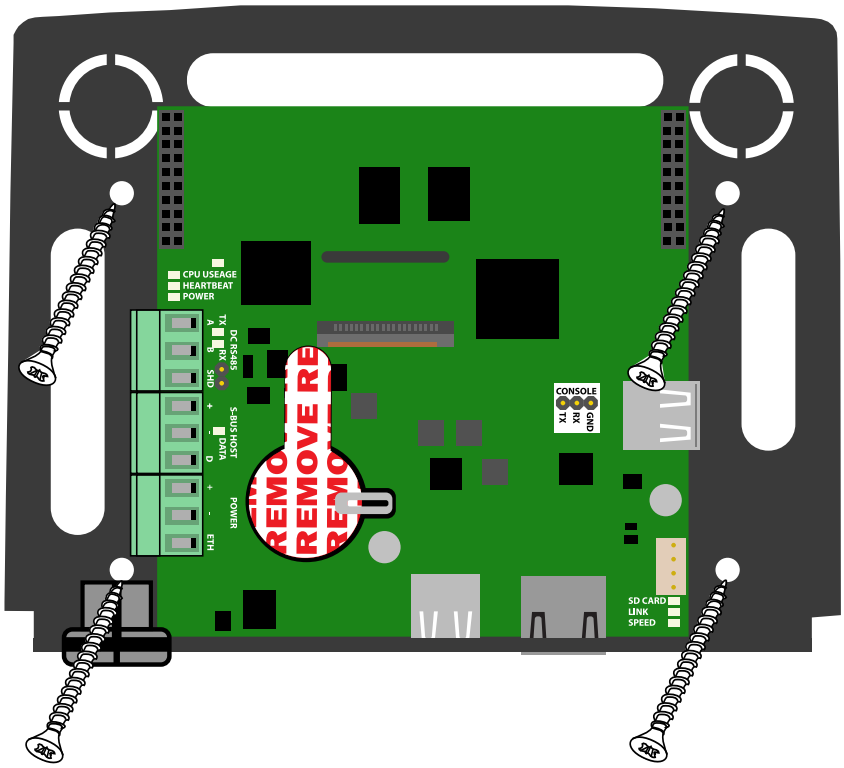
3. Mounting

Choice of mounting location

- Choose a vibration free surface that is sheltered from the sun and the weather
- Allow for the routing requirements for the cabling

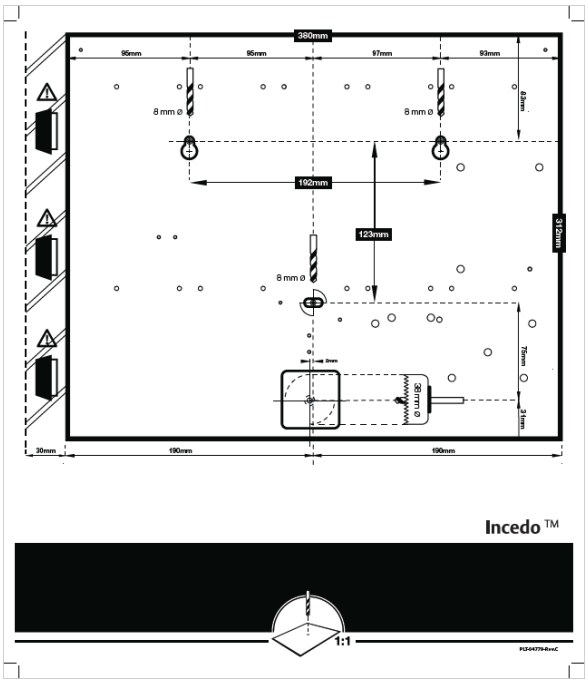
Skip to the mounting instructions for the application controller combination you are installing.

Mounting the EAC-AP5

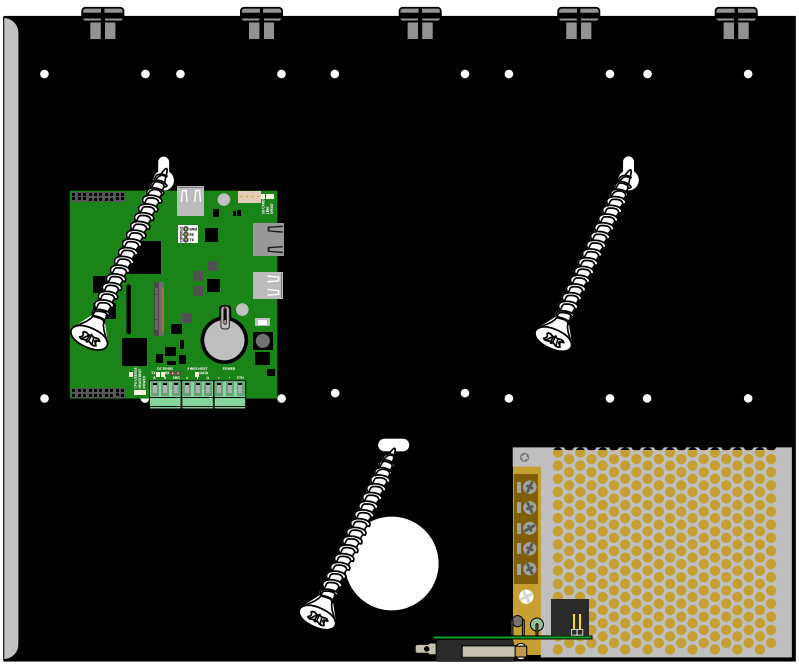


1. Remove the housing lid and hold the plastic housing base against the mounting surface (making sure to position it level) and mark the location of four mounting holes on the mounting surface, set aside the controller and drill the suitable mounting holes for your choice of fasteners
2. Secure the controller (on its base) to the mounting surface
3. Note the relevant door location and the fixed address of the controller – see Site mapping

Mounting the EAC-AM5



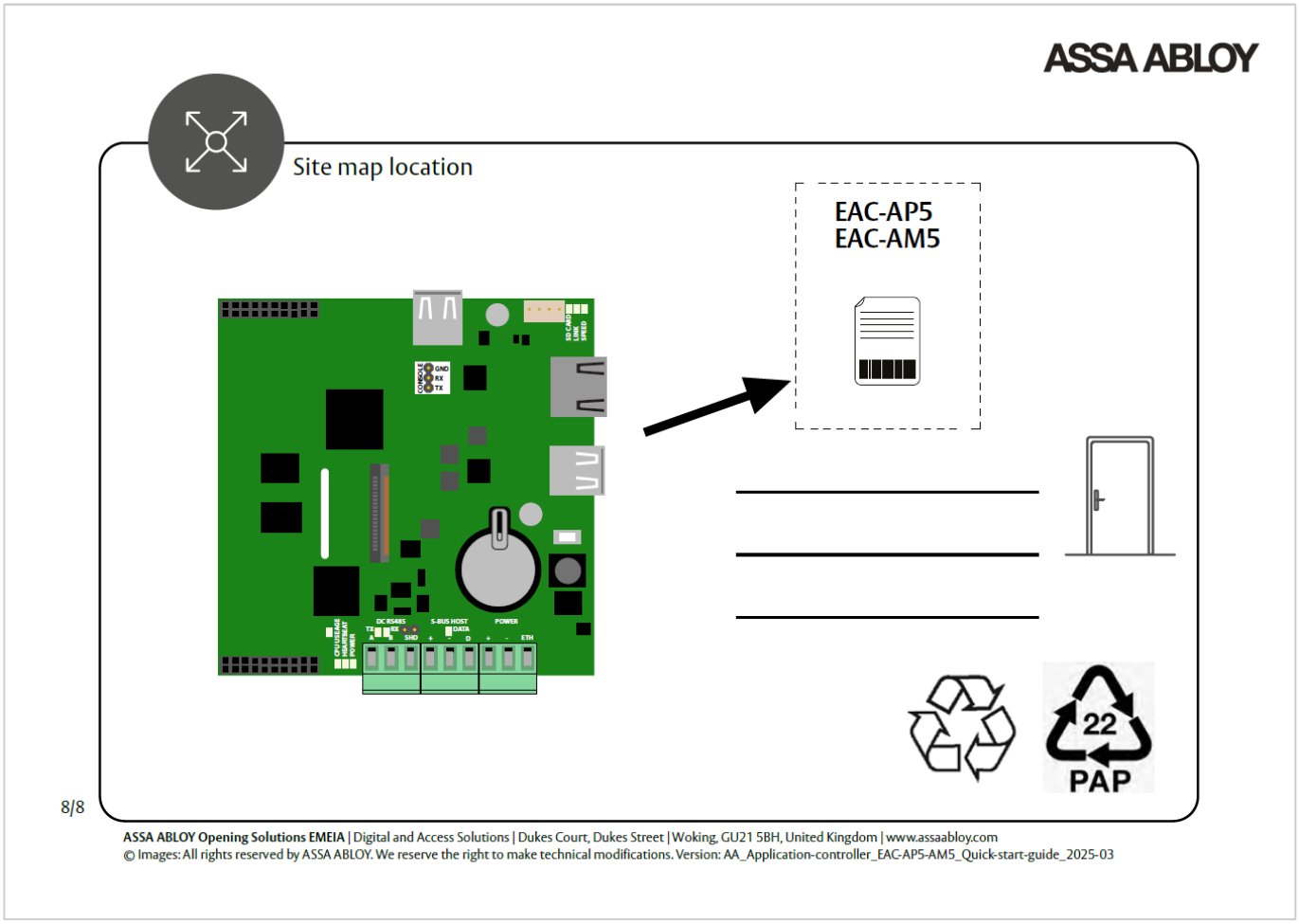
1. Tape the drilling template to the mounting surface, allowing the indicated left hand margin so that the cabinet door will be able to hinge properly
2. Mark and/or centre-punch the three mounting hole locations, as well as the cable exit in the rear of the cabinet – if you intend routing cables through, or into the wall
3. Drill the holes and insert the plastic wall plugs into the mounting holes
4. Open the steel cabinet door and unplug the cabinet door earth strap
5. Unhook the door hinge lugs and remove the cabinet door
6. Secure the cabinet to the mounting surface
7. Note the relevant door location and the fixed address of the controller – see Site mapping



4. Site mapping

Do the following for every controller that is installed:

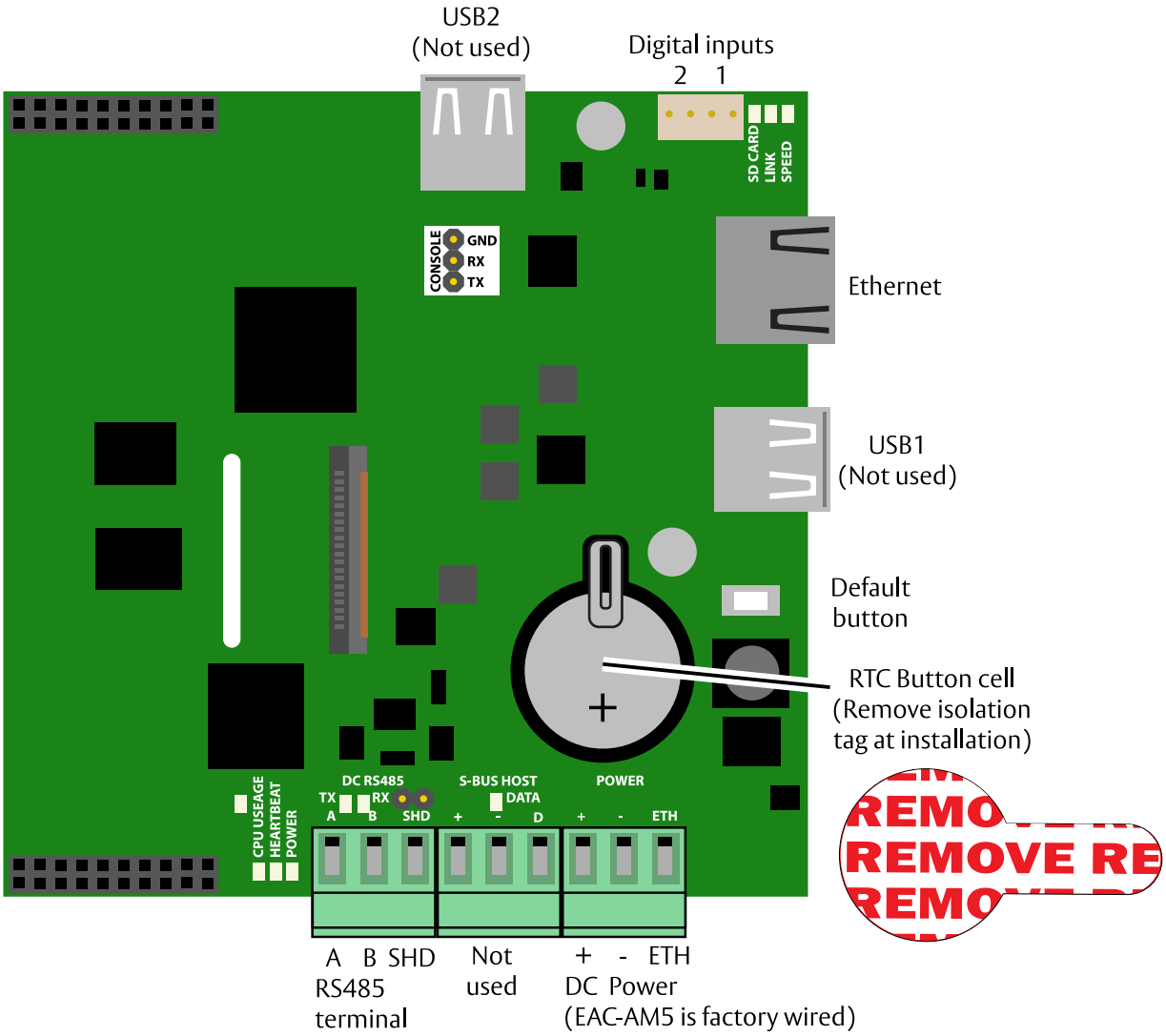
- Apply the spare fixed address label for the controller to the quick start guide that is also included in the packaging (last page)
- Fill in a name for the door closest to this controller – examples: Front reception, Goods receiving, Main gate, etc.



- Alternatively, you can print a plan, or sketch up a rough plan on a sheet of paper and apply the address labels to the plan
- Keep this site mapping material safe and available for use during the configuration of the access control software – it will also be useful for locating hardware when performing maintenance, or system upgrades

5. Pinout configuration

Pinout and key components



Anti-tamper switch

Digital input 1 is factory-wired to the housing anti-tamper switch.

Default button

If you are moving a used controller to a new site, if there has been a database corruption, if the IP address has been set to a static address that is outside of the mask, you may need to default the unit.

- Default is initiated after holding the default button down for five short beeps
- After defaulting, two short beeps will let you know when the controller has booted up
- Defaulting the controller erases all user data

User data will have to be restored from the last backup from within Incedo Plus or Primo.

RTC button cell

The on-board real-time clock is synchronised with the network through the access control software applications. The RTC is powered by a CR2032 3 V lithium button cell (indicated above), ensuring correct time is kept if DC power to the controller is interrupted.

6. Networking

Ethernet cable

Category 5 or 6 is recommended.

The application controller must be connected to an Ethernet switch, all configuration and administration will be performed from a networked PC that is running the Incedo Plus, or Primo access control system.

RS485 cable

Mylar shielded 100 Ω twisted pair cable is recommended.

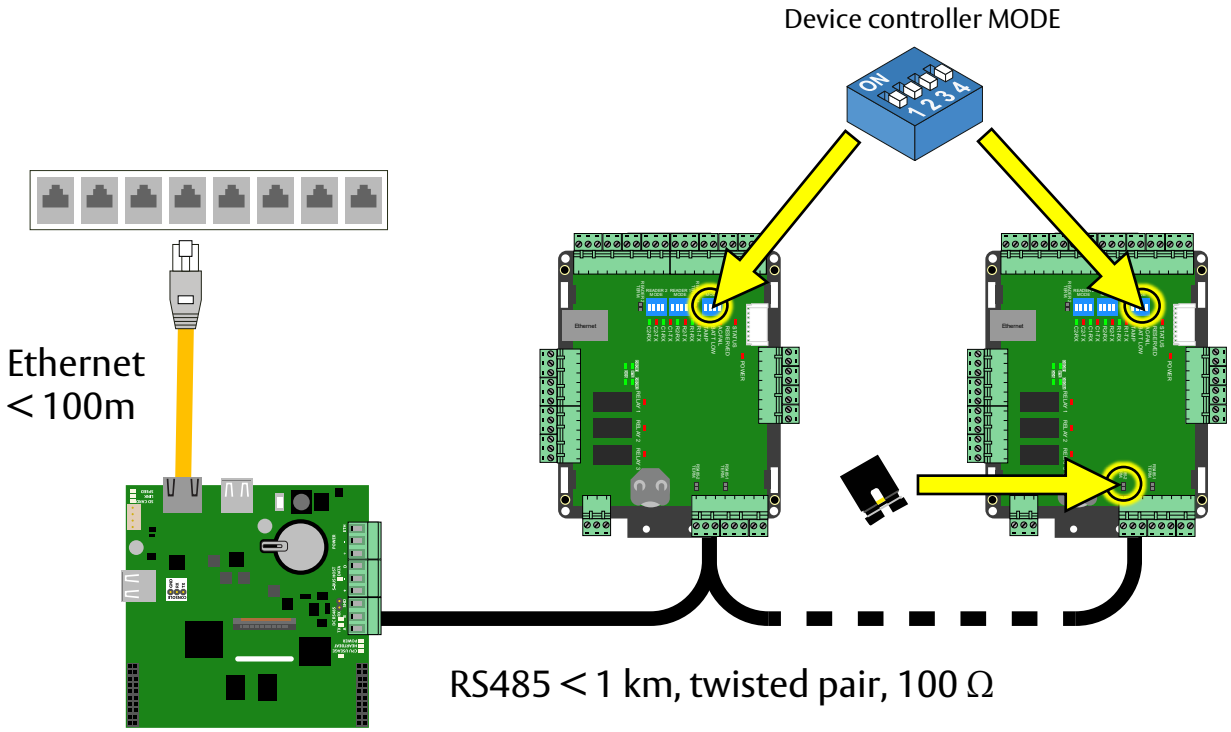
Only ground the master (application controller) end of the cable screen drain wire.

The application controller, together with all its downstream device controllers (that are connected via RS485) will continue to run as required in the event of loss of Ethernet communications.

The RS485 port will support up to 64 fixed addresses, and a maximum cable length of 1000 m.

The device controllers should be daisy-chained, with the end-of-line jumper installed on the device controller that is most distant from the master.

In this example the EAC-AP5 / EAC-AM5 is networked to a string of EAC-TPTs, controlling downstream doors.



7. Commissioning

Before powering up:

- If device controllers are linked with RS485, make sure that the most distant unit has its RS485 line termination jumper in place
- Check the wiring, making sure that any peripheral wiring, such as readers, door sensors and locks, are correct and properly secured

NOTE:

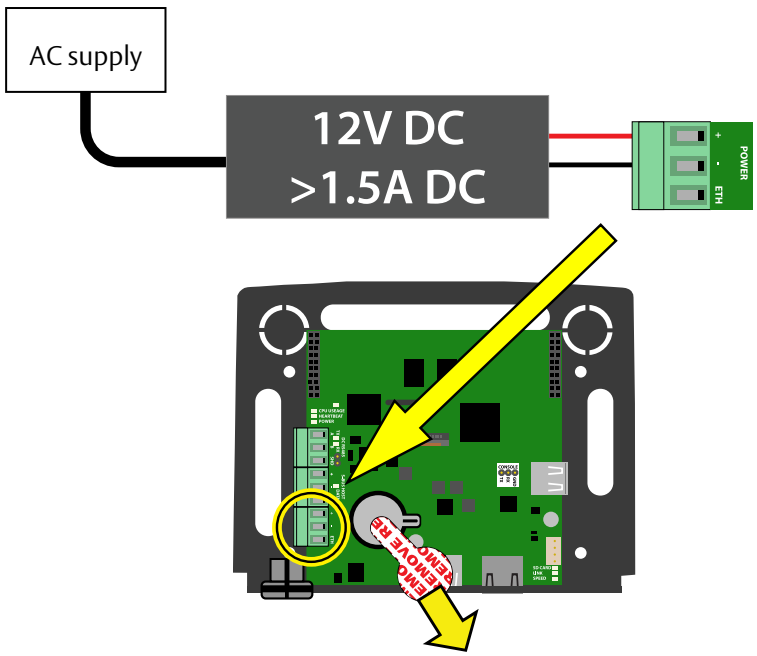
Different models / housing combinations can require different power connection arrangements – follow the instructions under the heading for the variant you have on hand.

Powering up the EAC-AP5

1. Wire a 12 V DC power supply to the 12 V DC terminal block on the controller
2. Remove the insulating tag from the button cell holder on the PCB
3. The controller will start up and emit two beeps
4. When the controller passes the self-test, the red status LED will remain steadily illuminated as long the unit is powered up

NOTE:

Always double-check your connection to ensure correct polarity on the controller's power terminals.
If any part of the self-test fails, the red status LED will keep flashing.



5. The access control software can now be configured

Powering up the EAC-AM5

1. Wire the 220 V AC power cable to the AC power terminals on the power supply module inside the cabinet
2. Remove the insulating tag from the button cell holder on the PCB
3. Plug the mains cable into a mains outlet and switch it on
4. The controller will start up and emit two beeps
5. When the controller passes the self-test, the red status LED will remain steadily illuminated as long as the unit is powered up

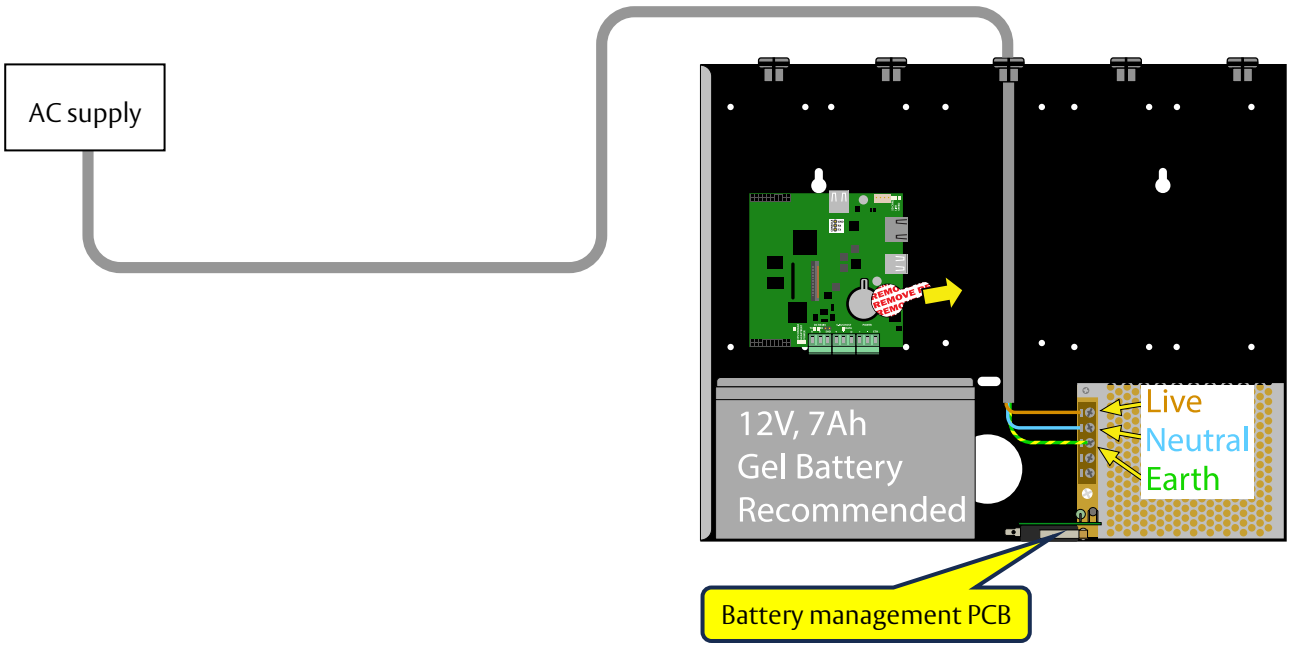
Recommended battery

Installing the recommended 12 V SLA battery will allow the controller to continue normal operation in the event of a power outage. Connect the factory installed battery leads to the battery, observing the correct polarity.

The battery management PCB (mounted to the back of the tamper switch) includes a relay that will disconnect the battery to protect the battery from being ruined when its voltage falls below what is safe for the battery.

NOTE:

If you wish to power up the unit on the battery alone (on a healthy battery) you will need to engage the relay by momentarily shorting the two pins next to the relay. Do NOT leave this short in place, as it will prevent the relay from opening and protecting the battery when it runs low.



NOTE:

If any part of the self-test fails, the red status LED will keep flashing.

6. Hang the cabinet door back on its hinges and plug the door earth strap back onto its lug
7. The access control software can now be configured

8. Specifications

Working temperature range

−20 °C to +65 °C

Environment

Designed to work in an indoor (dry) environment (IP10), the controller is not sealed against water.

Power supply requirements (EAC-AP5)

Input voltage range	10 to 15 V DC, polarity sensitive	
Power requirements	**Current (mA)**	**Power (W)**
12 V DC, peak current	500	6
12 V DC, average current	150	1.8

Communication ports

Ethernet port

Port type	Standard Ethernet RJ45 connector 10/100 Base T, half/full duplex

RS485 port

Purpose	This port is for networking controller hardware
Electrical interface	RS485
Baud rate	38 400
Data format	8 bits, no parity, 1 stop bit
Communications protocol	Secure Communications Protocol
Line termination (RS485)	Provision is made for line termination (jumper)

Ethernet indicators

LED indication	**Meaning of the indication**
LNK LED continuous red	Ethernet is connected
SPEED LED continuous red	Speed at 100 MHz
SPEED LED OFF	Speed at 10 MHz

RS485 indicators

LED indication	**Meaning of the indication**
Red TX LED on	Sending data
Green RX LED on	Receiving data

Power and status indicators

LED indication	**Meaning of the indication**
Continuous red	Power is on
Flashing red	controller fault

9. Copyright and trademarks

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