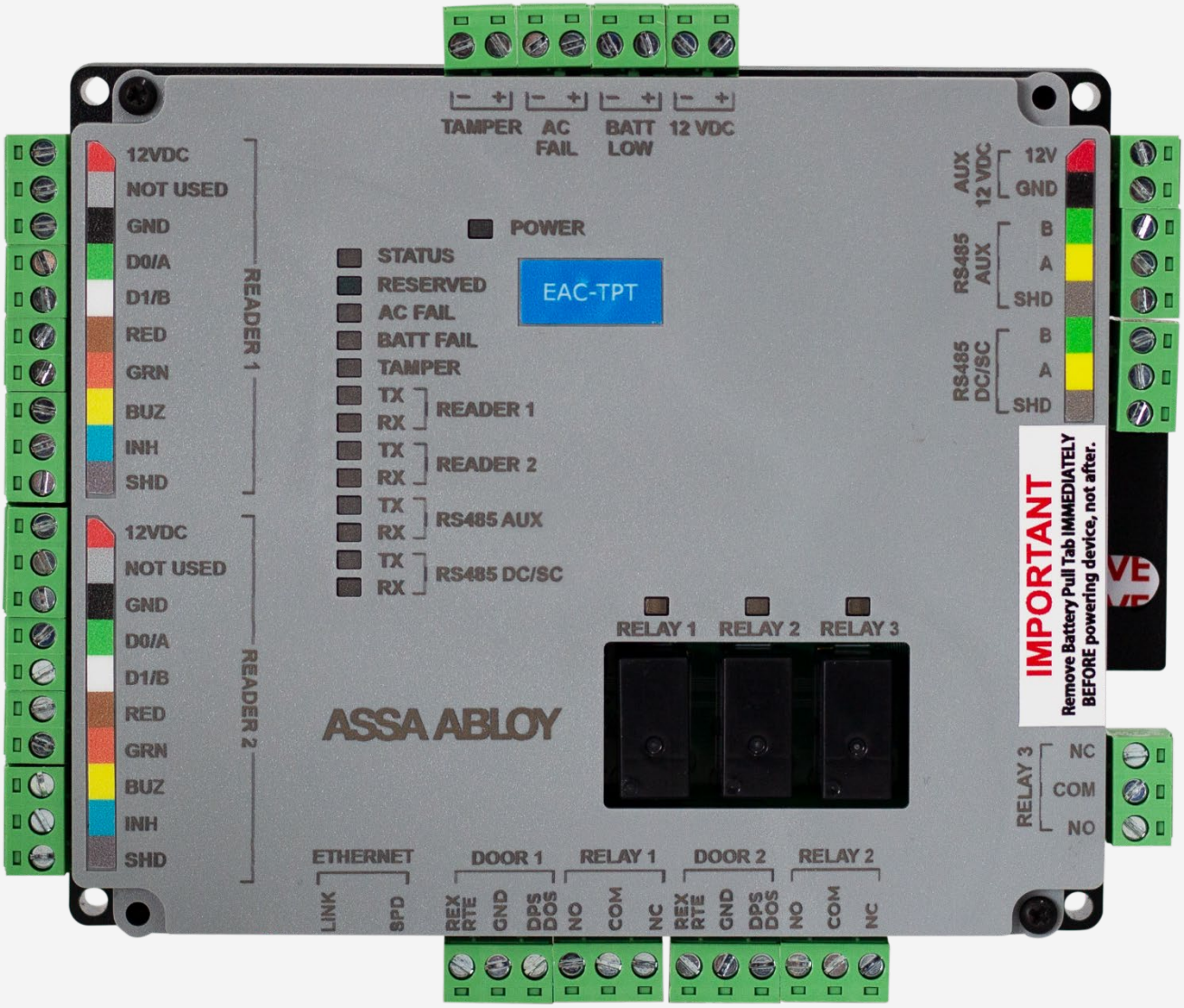


ASSA ABLOY

Distributed controller EAC-TPT / EAC-TPH / EAC-TMP

Installation guide

Contents

1. Introduction

Overview

Our distributed controller provides all the control, communications, credential buffer and memory, digital inputs and relays required to serve two readers and up to two doors. The controller support OSDP and Wiegand readers.

The controller can be configured for different roles depending on the size of the installation, the location and required function:

- Device controller: As part of a small or large Electronic Access Control System (EAC)
- Stand-alone EAC system controller for small premises (via an integrated web application)
- System controller, as part of a large EAC (Incedo Plus / Primo software) able to control downstream device controllers, which could be other controllers configured as device controllers

Models

This user guide covers the following models / housing combinations:

Model	Description
EAC-TPT	A stand-alone, two-door controller with accessible terminals
EAC-TMP	A two-door controller 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
EAC-TPH	A two-door controller in a plastic enclosure. Includes enclosure lid tamper sensing

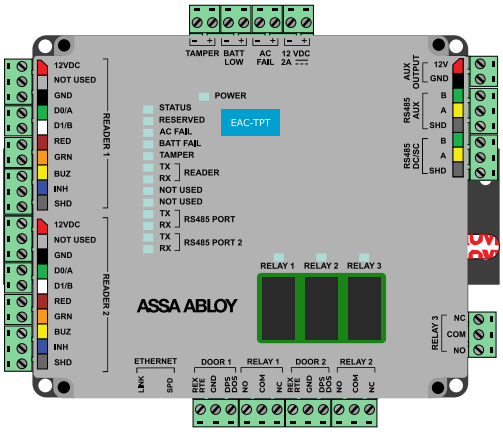
Guarantee or warranty

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

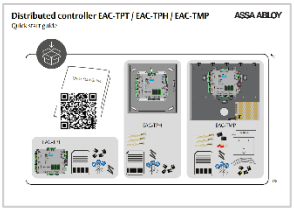
2. What is in the box

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

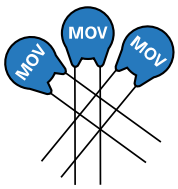
EAC-TPT – carton contents



Distributed controller

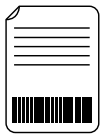


Quick start guide

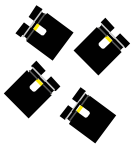


3 x Metal Oxide Varistors (MOVs)

3 x controller cover screws



Fixed address label

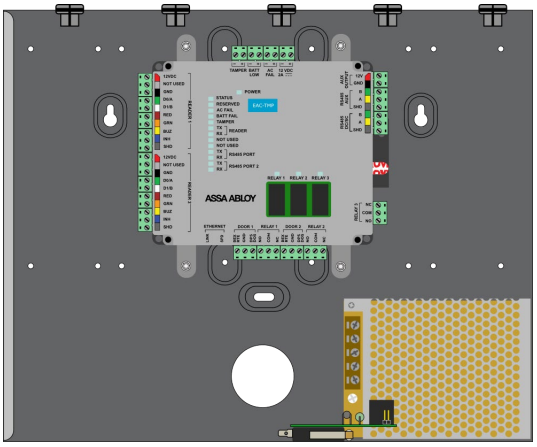


4 x jumpers

You will need:

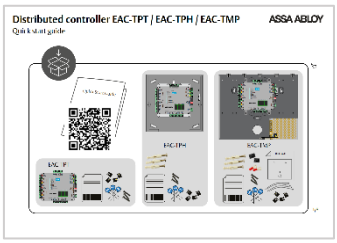
- Basic electrical installation tools
- 12 V DC 2.5 A DC power supply to power this controller
- An auxiliary power supply to power the electric locks
- Cables for Ethernet, readers, door sensor inputs and relay loads
- Magnetic reed switches for Door Open Sensor (DOS)
- Push buttons for Request To Exit (RTE)
- Mag locks or strike locks
- Mounting hardware: Fasteners suitable for the mounting surface

EAC-TMP – carton contents

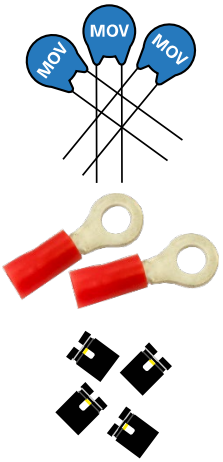


Distributed controller in a factory-wired steel cabinet with an integrated AC power adaptor

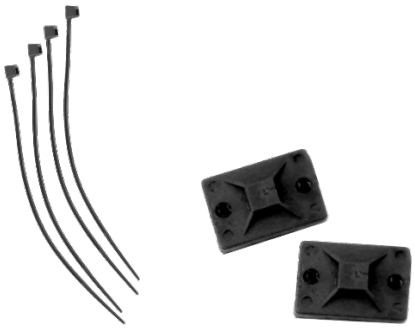
(shown with the cabinet door removed)



Quick start guide



3 x Metal Oxide Varistors (MOVs)
2 x crimp lugs
4 x jumpers



4 x cable ties
2 x cable tie cradles

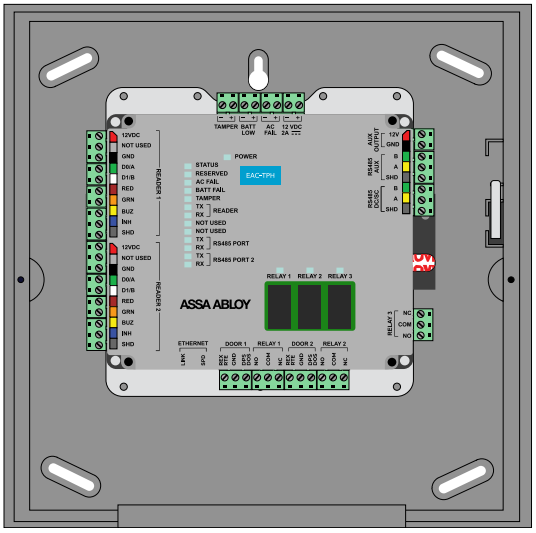
Fixed address label
3 x lid screws

3 x mounting screws
and 8 mm wall plugs

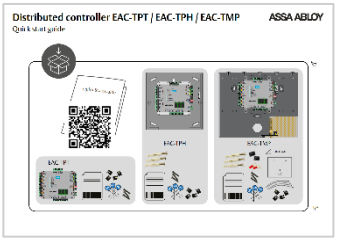
You will need:

- Basic electrical installation tools
- An AC supply cable to wire into the AC terminals (220 V AC) on the factory installed DC/mains power adaptor
- An auxiliary power supply to power the electric locks
- Cables for Ethernet, readers, door sensor inputs and relay loads
- Magnetic reed switches for Door Open Sensor (DOS)
- Push buttons for Request To Exit (RTE)
- Mag locks or strike locks

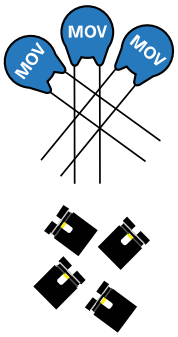
EAC-TPH – carton contents



Distributed controller in a plastic housing
(shown with the lid off)

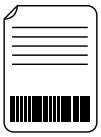


Quick start guide

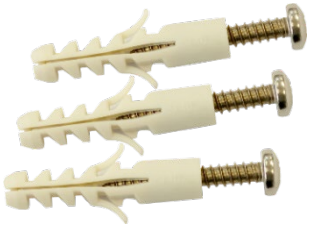


3 x Metal Oxide Varistors (MOVs)
4 x jumpers

3 x lid screws



Fixed address label



3 x mounting screws
and 8 mm wall plugs

You will need:

- Basic electrical installation tools
- 12 V DC 2.5 A DC power supply to power the distributed controller
- An auxiliary power supply to power the electric locks
- Cables for Ethernet, readers, door sensor inputs and relay loads
- Magnetic reed switches for Door Open Sensor (DOS)
- Push buttons for Request To Exit (RTE)
- Mag locks or strike locks
- Mounting hardware: Fasteners suitable for the mounting surface

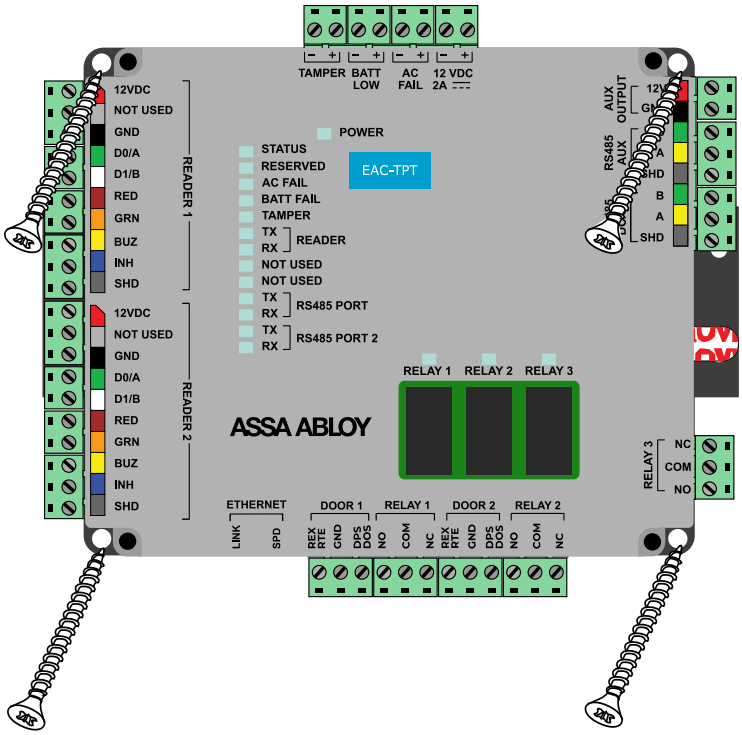
3. Mounting

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

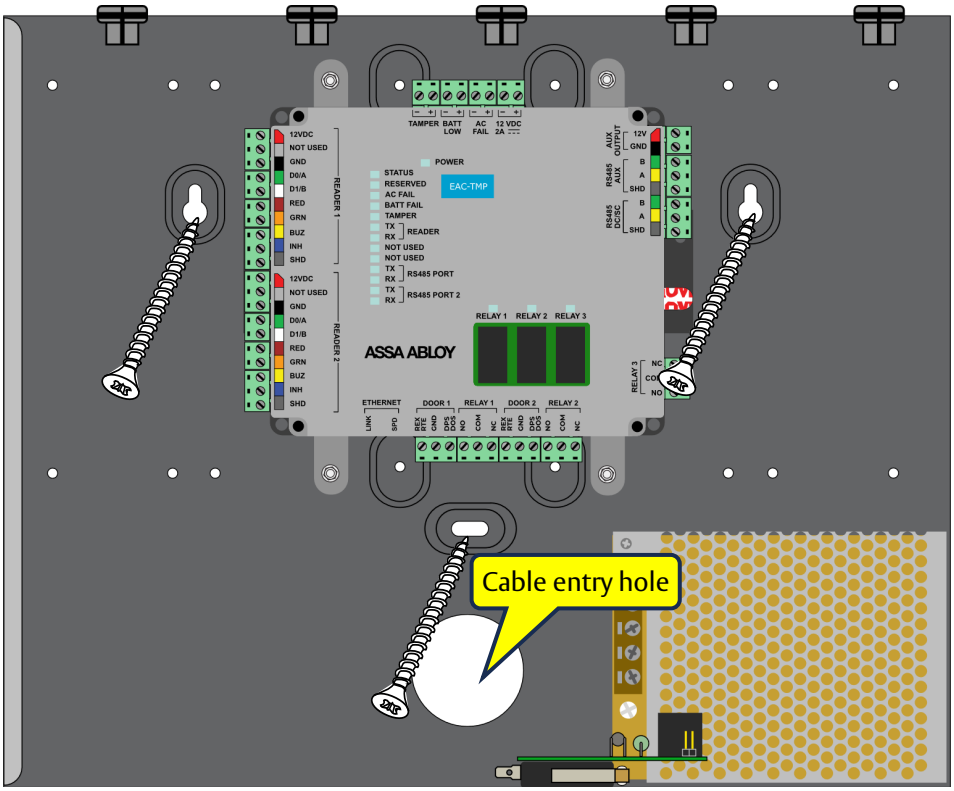
Skip to the mounting instructions for the distributed controller combination you are installing.

Mounting the EAC-TPT



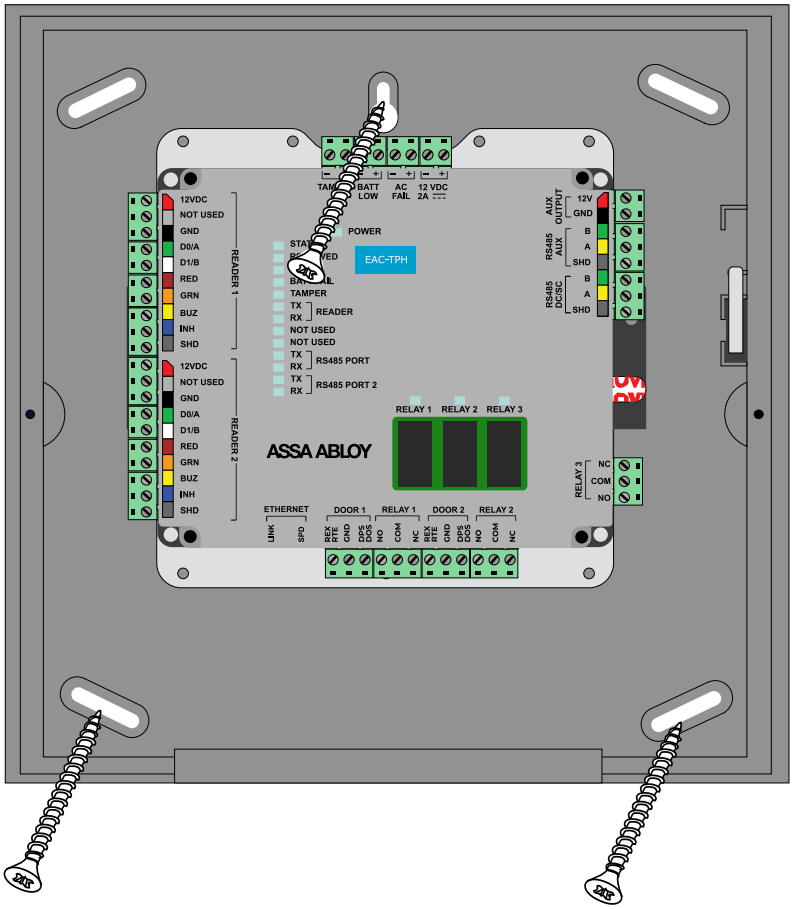
1. Hold the EAC-TPT against the mounting surface (making sure to position it level) and mark the position of the mounting holes on the mounting surface, remove the EAC-TPT and drill the mounting holes
2. Secure the EAC-TPT to the mounting surface, using suitable screws and wall plugs or bolts and nuts (*note that the mounting holes in the controller have a diameter of 4 mm*)
3. Note the relevant door location and the fixed address of the controller – see Site mapping

Mounting the EAC-TMP



1. Unplug the cabinet door earth strap
2. Unhook the door hinge lugs and remove the cabinet door
3. Hold the cabinet against the mounting surface and mark the mounting hole locations
4. Also mark the circular cable entry hole if you need to pass cables into (or through) the wall
5. With the cabinet safely laid aside, drill the 8 mm mounting holes and insert the included plastic wall plugs. Drill the cable entry hole in the wall, if needed
6. Secure the cabinet to the mounting surface, using suitable screws and wall plugs
7. Note the relevant door location and the fixed address of the controller – see Site mapping

Mounting the EAC-TPH

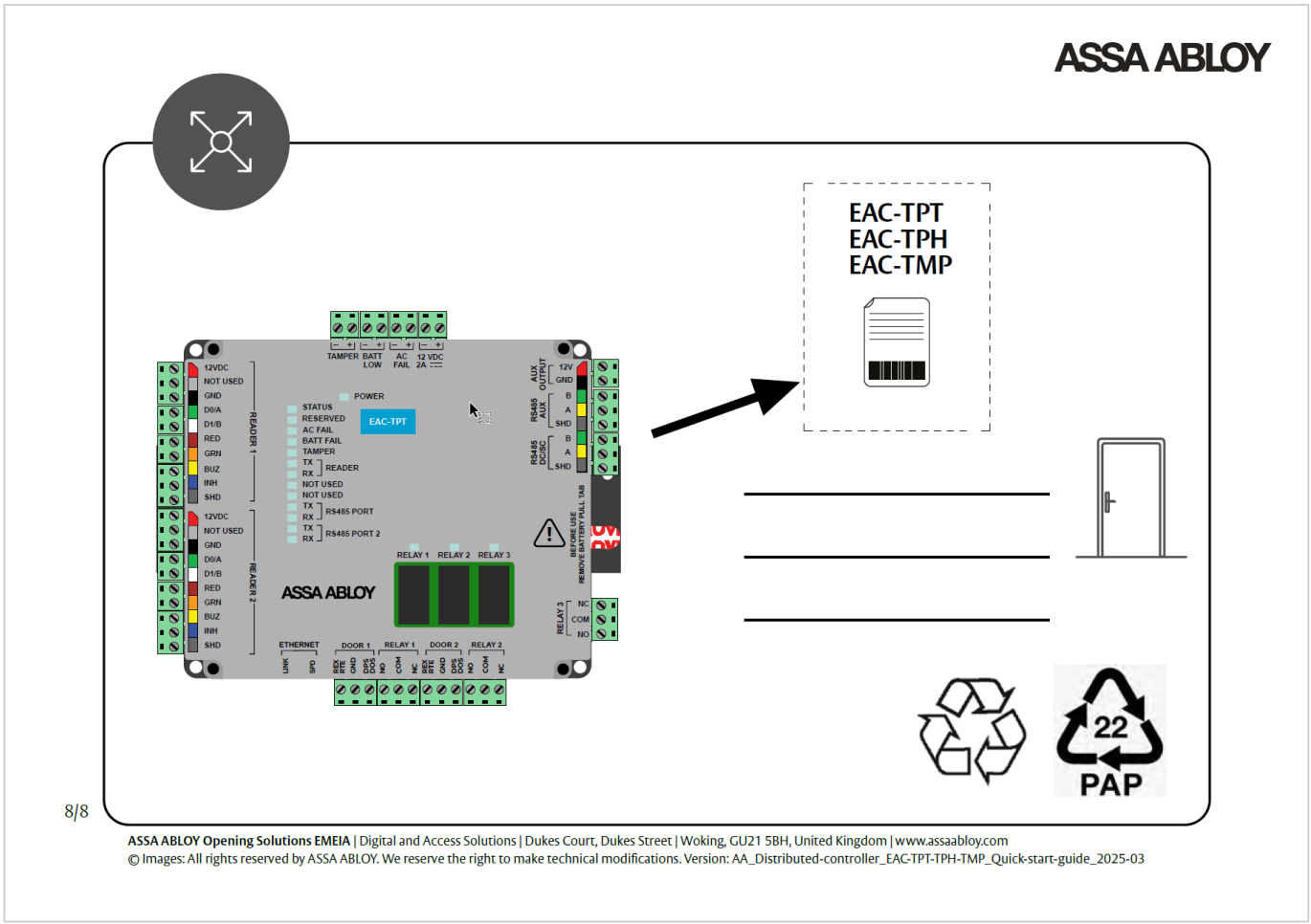


1. Remove the housing lid and hold the plastic housing base against the mounting surface (making sure to position it level) and mark the location of three mounting holes on the mounting surface, remove the cabinet and drill the 8 mm mounting holes
2. Insert the provided 8 mm plastic wall plugs and secure the housing to the mounting surface, using the provided screws
3. 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:

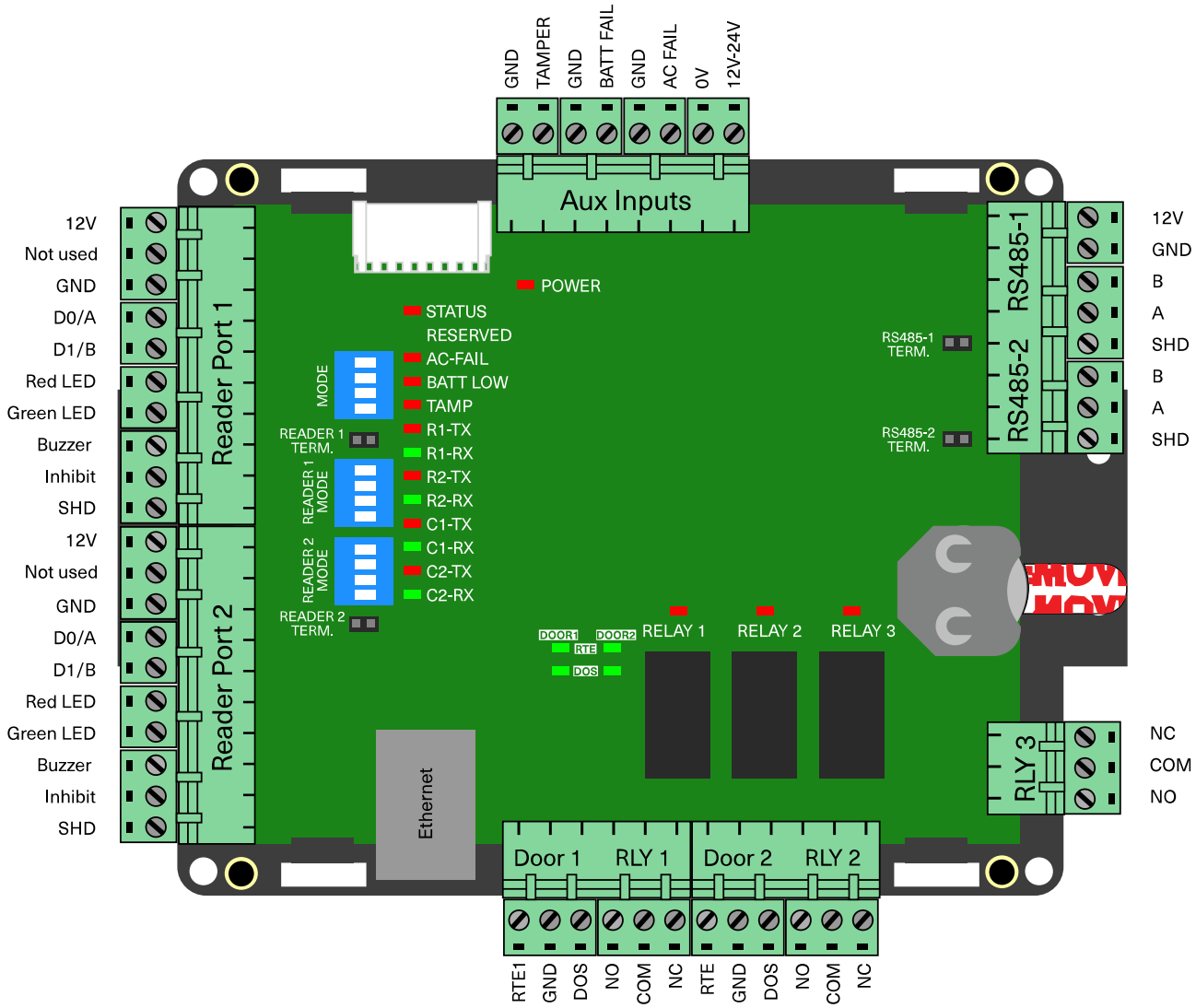
- Apply the spare fixed address label for the controller to the quick start guide that is also included in the packaging
- Fill in a name for the door served by this controller – examples: Front reception, Goods receiving, Main gate, etc.



- 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

5. Pinout configuration

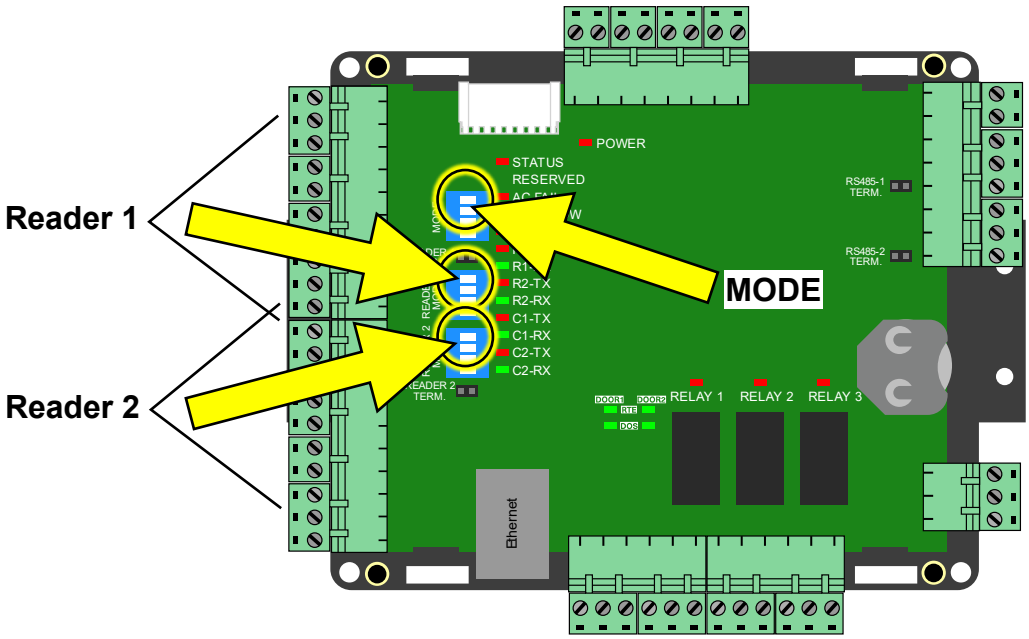
Pinout and key components



6. DIP switch settings

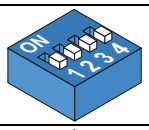
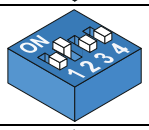
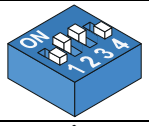
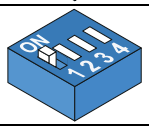
NOTE:

The DIP switch settings (Reader 1, Reader 2 and MODE) are only read on power-up.
Remember to cycle the power any time you make changes to these DIP switches.



Controller MODE settings

The controller can function as a device controller or as one of two system controller options:

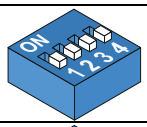
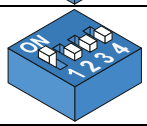
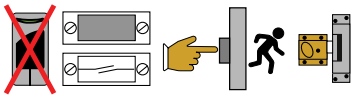
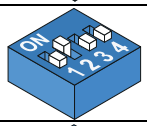
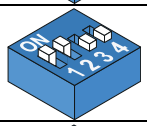
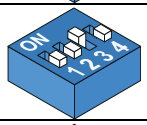
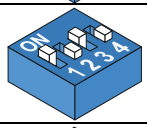
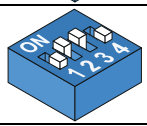
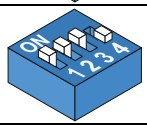
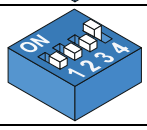
MODE switches	Controller MODE	
0000 	Device controller MODE	
0100 	http://incedo/	Incedo Lite system controller MODE Built-in browser accessible web application All Incedo Lite functions include built-in help
0110 		Incedo Plus / Primo system controller MODE Requires Incedo Plus / Primo software running on a Windows PC
1XXX 		Factory default MODE On power-up this setting will default the controller **Be sure to return the first switch to OFF after power-up**

Reader port settings

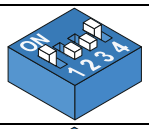
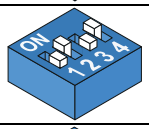
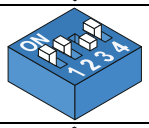
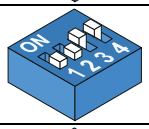
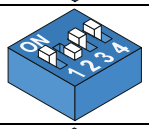
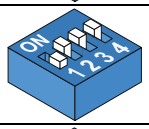
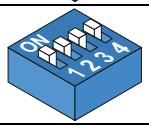
Each of the two reader ports has a dedicated 4-way DIP switch to select the function of that port.

NOTE:

- *Where you have no multi-discipline reader connected, setting both remote DIP switches to the all off position during an Auto-ID will not return any fixed addresses*
- *When Wiegand and multi-discipline readers are used on the same system, all DIP switches should take on the Wiegand settings*

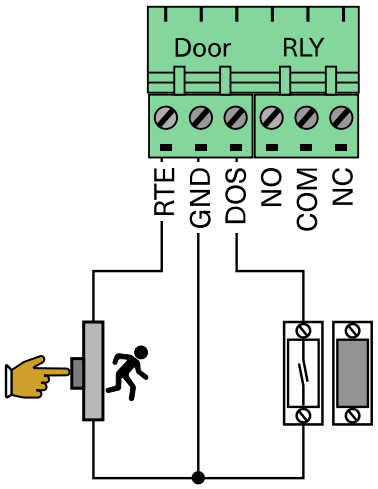
Reader switches	Reader port function	
0 	Reader channel unused	
1 		Reader port is disabled The associated relay and digital inputs remain operative
2 	Not used	
3 	Not used	
4 	Not used	
5 	Not used	
6 	Not used	
7 		Wiegand 26, 32, 34, 35, 37, 38, 40, 42, 44, 48-bit, Tag + PIN code or Reason code mode
8 		Wiegand open format

This table is continued on the next page.

Reader switches	Reader port function	
9 	Not used	
10 	Not used	
11 	Not used	
12 	Not used	
13 		**OSDP reader – with parity** *This option will NOT strip off any parity bits that are read from the tags*
14 		**OSDP reader – parity stripped** *This option will strip off any parity bits that are read from the tags – it is the more commonly used option*
15 	Not used	

7. Door wiring

Wiring door sensors and push buttons

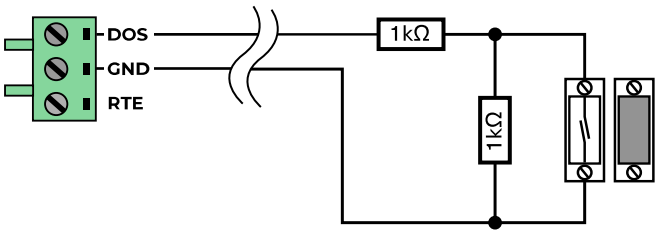


Wiring end-of-line (EOL) sensing circuit (optional)

End-of-line sensing enables the controller to raise an alarm when somebody tampers with the circuit (cutting or shorting the wires) connected to any of the RTE or DOS inputs – as long as the EOL resistors have been fitted, and the access control software is configured for end-of-line monitoring.

The resistors must be located at the door sensor / push button, on the secure side of the door.

When the circuit is cut, or the resistors are bypassed, the controller detects the invalid resistance and raises an alarm. (This feature works identically for the RTE input.)



Wiring the relay terminals

Relay contact specifications

Voltage	Maximum current
< 28 V DC	10 A

NOTE:

It is recommended that a separate power supply is used for the external loads.

AUX relay

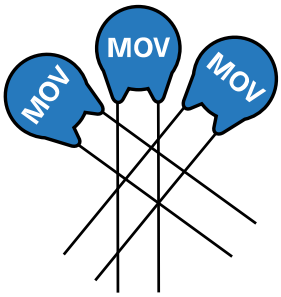
The AUX relay is reserved for future functionality.

Wiring snubber devices (warranty requirement)

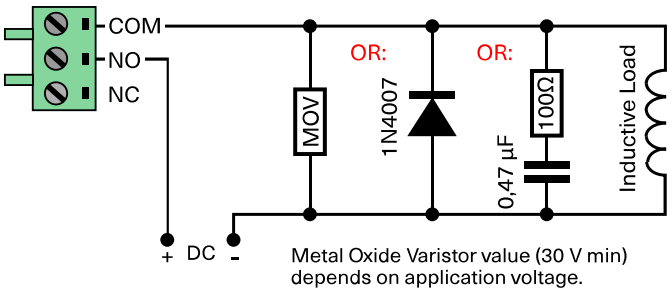
Snubber devices suppress sparking across the relay contacts caused by switching current to inductive loads, such as solenoid driven strike locks and mag locks. Failure to install suitable snubber devices will severely impact relay life and void the manufacturer's warranty.

NOTE:

Some locks include built-in snubber components, some don't.
In the case of the latter, Metal Oxide Varistors (MOVs) suitable for inductive loads up to 24 V DC are included with the controller.



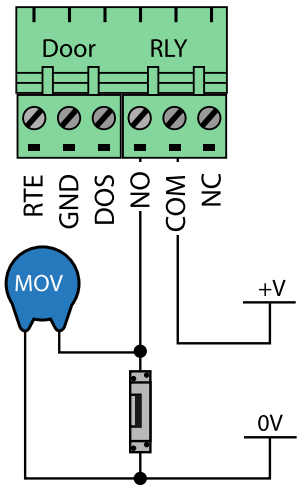
The diagram below shows alternative snubber arrangements.



Wiring a strike lock

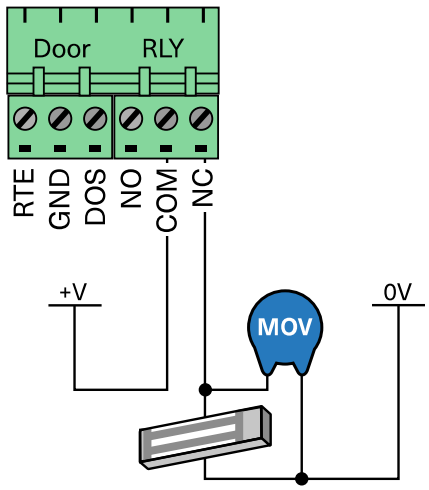
This method is suitable for inductive loads that are powered from a DC supply of up to 24 V, using the Metal Oxide Varistors (MOVs) that are included in packaging with the controller.

This wiring arrangement will be "fail SECURE": Loss of control of the relay, or a broken wire, would leave the door in the LOCKED state.



Wiring a magnetic lock

This wiring arrangement will be fail SECURE: Loss of control of the relay would leave the door in the LOCKED state. If the supply to the solenoid is cut off the door is no longer locked.



Door wiring cable specifications

Application	Conductors (# of wires)	Cross sectional area	AWG	Max. length
Door strike / mag lock (12 V and higher)	2	0.75 mm² (0,0012 in²)	20	150 m (492 ft)
Door open sense (DOS)	2	0.75 mm² (0,0012 in²)	20	150 m (492 ft)
Request-to-exit (RTE)	2	0.75 mm² (0,0012 in²)	20	150 m (492 ft)

Relay contact specifications

Voltage	Maximum current
< 28 V DC	10 A

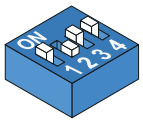
8. Reader wiring

Wiring OSDP readers

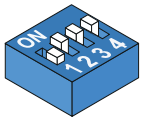
The two sets of reader terminals on the controller are independent and can be set up to accommodate different reader types on each channel.

NOTE:

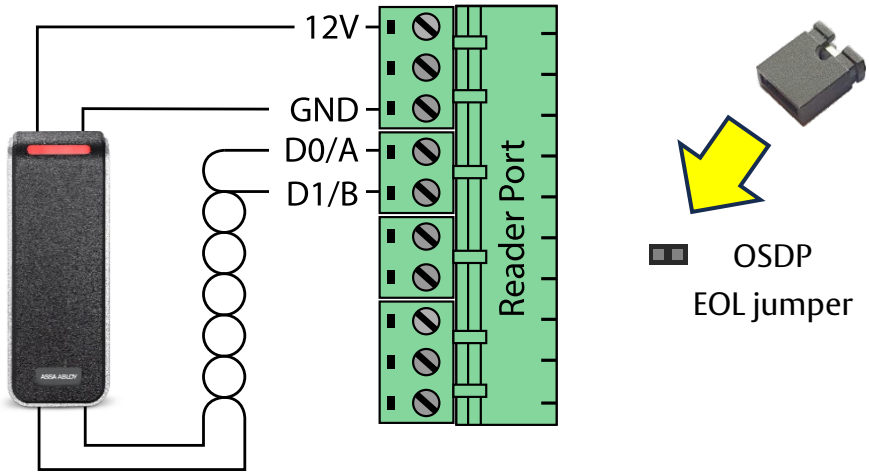
OSDP readers should be powered from the 12 V output terminal provided only if the reader cable run is less than 150 m. Longer cable runs will require a 12 V DC supply within 150 m of the reader (and full spec RS485 cables). The 12 V terminal is internally fused and can supply up to 350 mA. The fuse will reset when current falls below the 350 mA threshold.



OSDP reader



OSDP reader (Strip parity bits from the data read from the card)



Maximum distances for Wiegand and OSDP

NOTE:

- *It is recommended that OSDP cables any longer than 150 m should comply fully to the RS485 EIA/TIA standard*
- *If the reader cable length exceeds 150 m, a local 12 V DC power supply will be needed to power the OSDP reader. The volt drop across long cables would otherwise result in insufficient supply voltage at the reader*

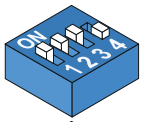
Cable length	Power source	Cable spec
Up to 150 m	+12 V from the controller	see reader manufacturers details
Up to 1000 m	Local DC power source	see reader manufacturers details

Wiring Wiegand readers

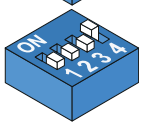
The diagram below shows the connections for Wiegand readers. The coloured labels on the controller cover are included in the diagram for reference.

NOTE:

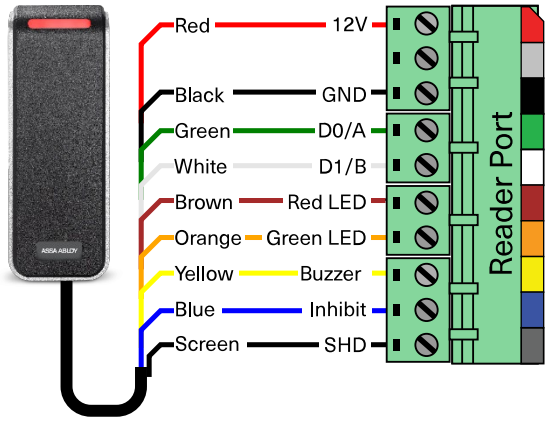
There are two DIP switch setting options for Wiegand readers.
The 12 V terminal is internally fused and can supply up to 350 mA. The fuse will reset when current falls below the 350 mA threshold.



Wiegand 26, 32, 34, 35, 37, 38, 40, 42, 44, 48-bit, Tag + PIN code or Reason code mode



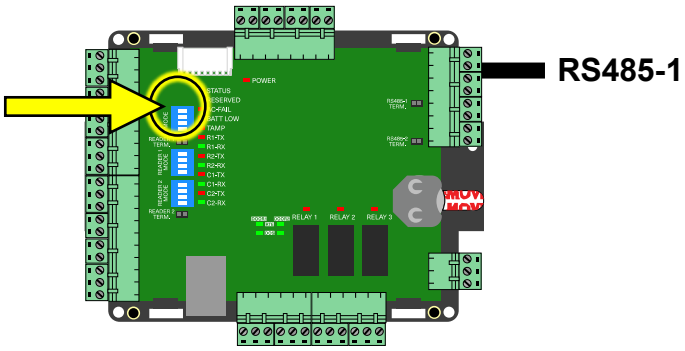
Wiegand open format



Wiegand cable specifications

Application	Conductors	Max. length
Wiegand	See reader manufacturer's details	150 m (492 ft)

9. Controller MODES



Device controller MODE

Use this mode when this controller is part of an Incedo Plus / Primo system, where:

- The device controller is networked via IP
- OR via RS485 from another controller configured as an Incedo system controller

Use this mode when this controller is part of an Incedo Lite system, where:

- The device controller must be networked (via RS485) to another controller configured as an Incedo Lite system controller

Set the controller MODE DIP switch settings to 0000 for device controller MODE

Fixed address handling capacity

As a device controller the controller only uses up a maximum of two fixed addresses.

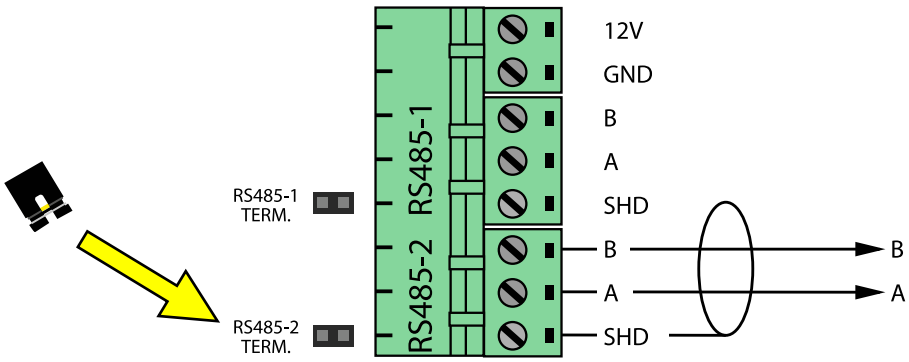
RS485 wiring

Use the RS485-2 port for device controller networking.

Daisy-chain the connections and be sure to install the RS485-2 terminating jumper, only on the device controller that is the last in the chain.

NOTE:

The 12 V terminal is internally fused and can supply up to 350 mA. The fuse will reset when current falls below the 350 mA threshold.

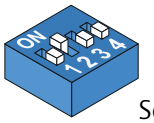


Incedo Lite controller MODE

- This system controller mode configures the controller to function as a stand-alone electronic access control (EAC) system for maximum of 32 fixed addresses
- The user can manage and configure the system on any (HTML 5 compliant) browser via the Ethernet port, using the embedded web application within the controller
- Make sure that you back up the Incedo Lite settings using the firmware update utility:

NOTE:

Incedo Lite MODE does NOT support IP communications with other controller units.



Set the controller MODE DIP switches to 0100 for Incedo Lite MODE

Fixed address handling capacity

Incedo Lite MODE can handle a maximum of 32 fixed addresses including:

- Up to two addresses for the on-board reader interfaces
- Daisy-chained device controllers on RS485-1, with their reader port addresses contributing to a max. of 32

Ethernet connection

Connect this to the Ethernet network to allow access to the built-in Incedo Lite web application. Login and setup as discussed under Incedo Lite in the commissioning section.

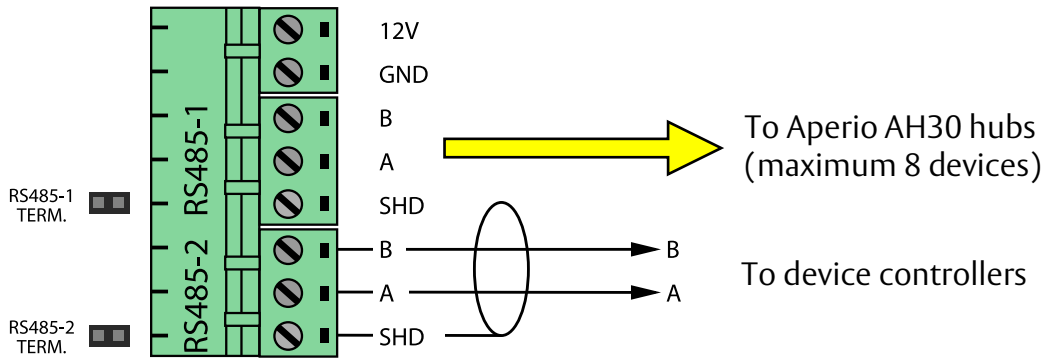
Connect only the APC Controller.

RS485 wiring

- Use the RS485-2 port to daisy-chain to any downstream device controllers. Be sure to connect the RS485-2 terminating jumper on the device controller that is most distant from the distributed controller
- Use the RS485-1 port to connect to Aperio® hubs for wireless lock control

NOTE:

The shield connection should only have a single connection to ground.



Incedo Plus / Primo controller MODE

This system controller mode sets up the controller to be used in an Incedo Plus / Primo system, configured as a networked controller to control a maximum of 64 fixed addresses.

Set the controller MODE DIP switches to 0110 for Incedo Controller MODE

Offline operation

The controller will remember all credentials that have successfully accessed the doors that it controls. If the network connection is broken or lost, the controller will continue to allow access for those credentials.

Fixed address handling capacity

Incedo Controller MODE will allow the controller to handle up to 64 fixed addresses, including:

- Up to two addresses for the on-board reader interfaces
- Daisy-chained device controllers on RS485, with their reader port addresses contributing to a total no larger than 64

Ethernet connection

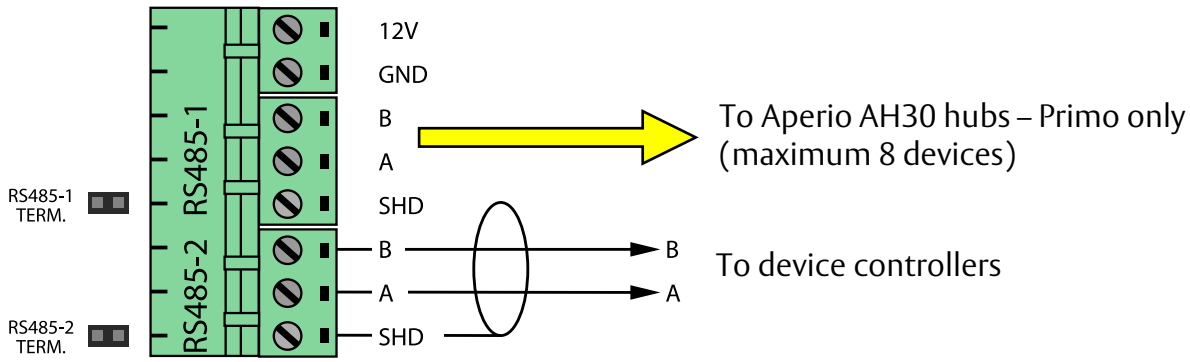
Connect the controller to the access control system computer via Ethernet.

RS485 wiring

Use the RS485-2 port to daisy-chain to any downstream device controllers. Be sure to connect the RS485-1 terminating jumper on the device controller that is most distant from the system controller.

NOTE:

Only connect the controller end of the RS485 screen to SHD, this will prevent ground loops.



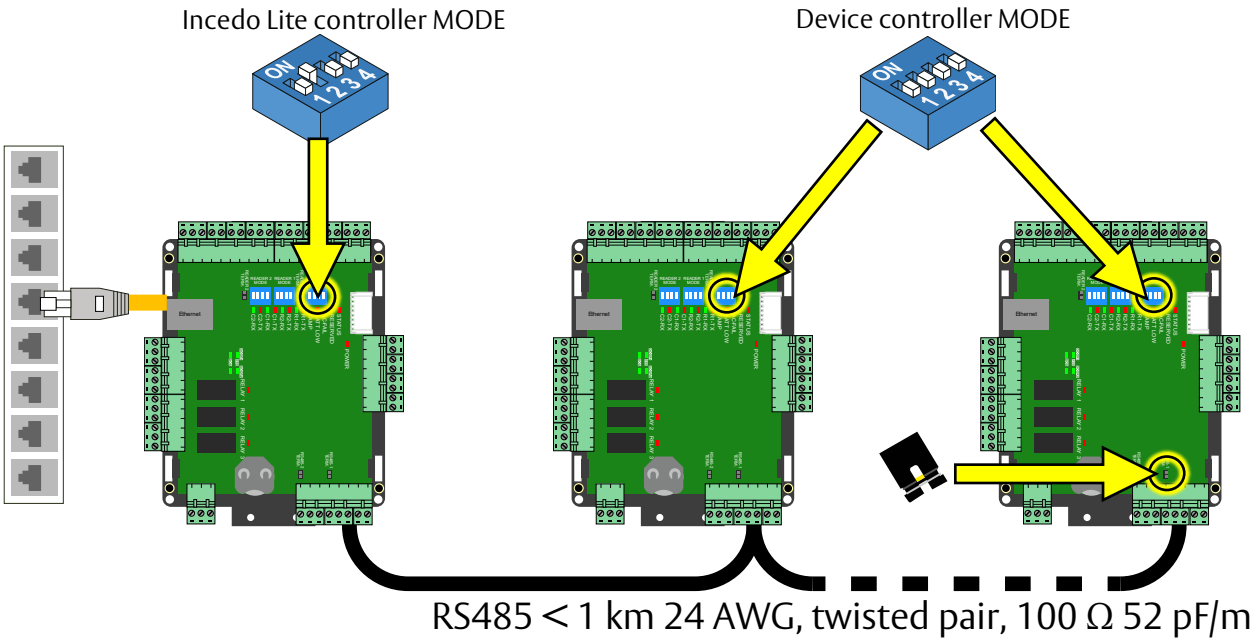
10. Networking the controllers

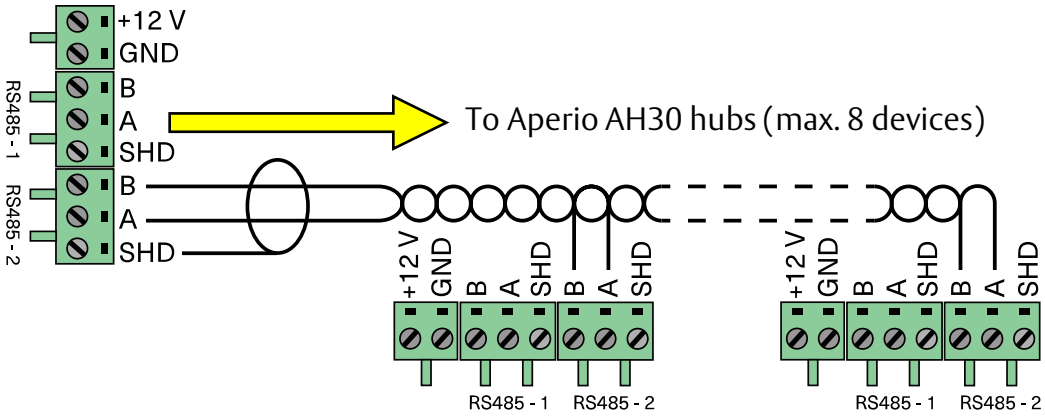
MODE settings for different locations in an installation

Incedo Lite installations

NOTE:

In Incedo Lite installations all device controllers must be daisy-chained to the Incedo Lite controller.
Install RS485-2 jumper for most distant device controller on the RS485 daisy-chain.
Only connect the Incedo Lite controller end of the RS485 screen to SHD, this will prevent ground loops.

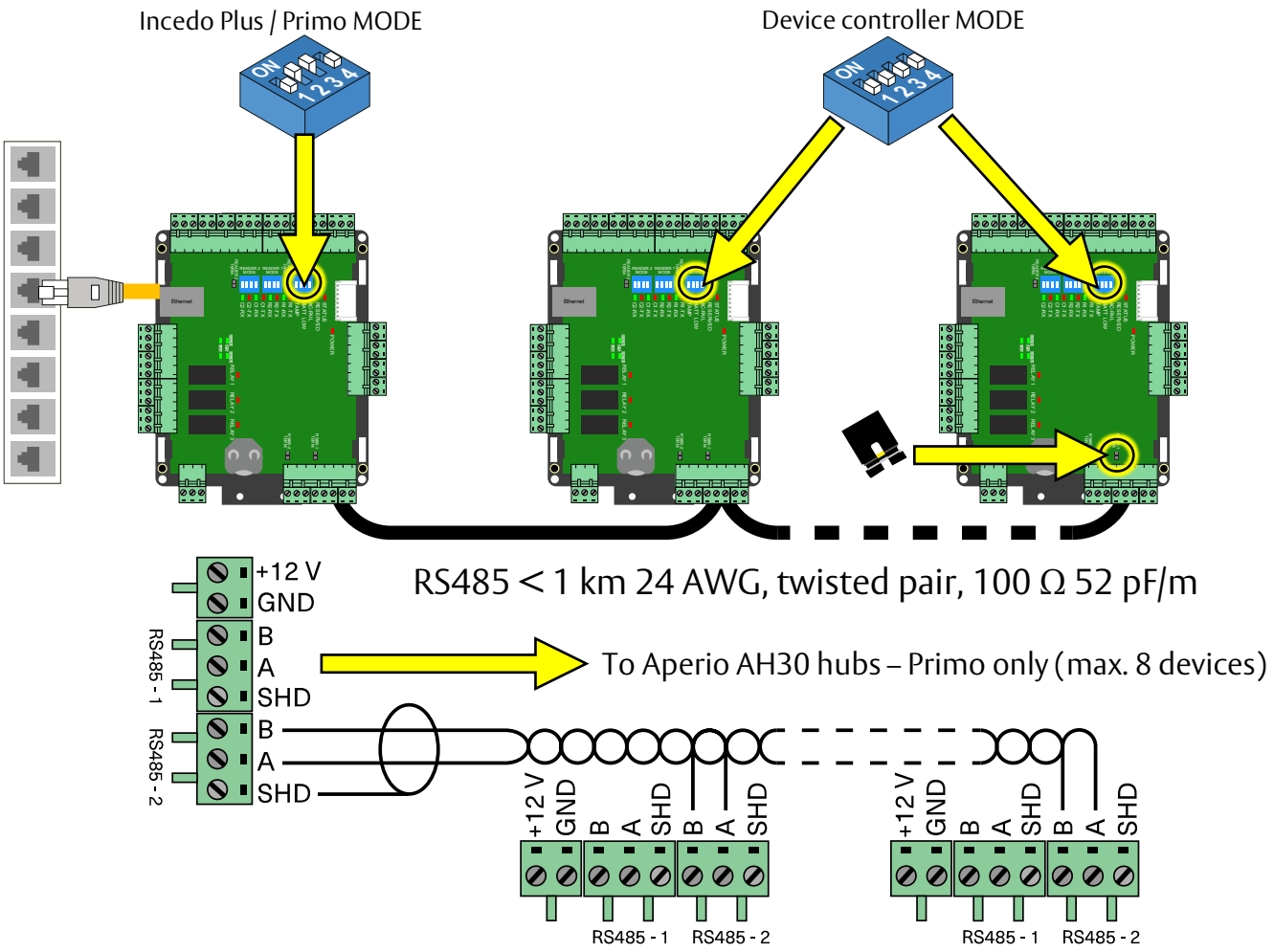


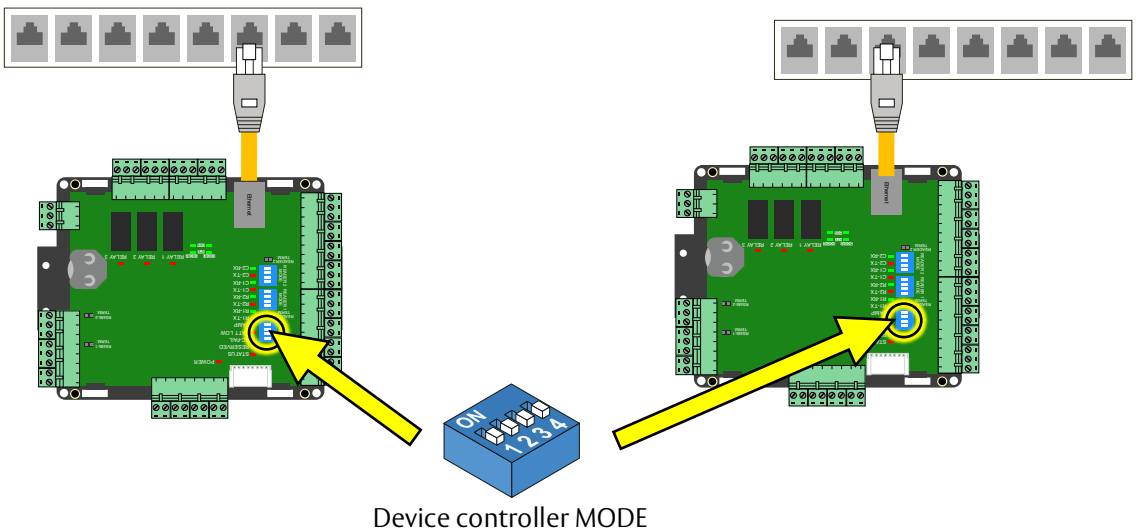


Incedo Plus / Primo installations

NOTE:

*Device controllers in Incedo Plus / Primo installations can be daisy-chained to an Incedo system controller **OR** connected directly to an Ethernet switch, **OR** some to each – whatever is most practical for the site.*
Install RS485-2 jumper for most distant device controller on the RS485 daisy-chain.
Only connect the Incedo Plus / Primo controller end of the RS485 screen to SHD, this will prevent ground loops.





11. Commissioning

Before powering up:

- Check the wiring, making sure that any peripheral wiring, such as door sensors and locks, are correct and properly secured
- If controllers are linked with RS485, make sure that the most distant unit has the RS485-2 line termination jumper in place

NOTE:

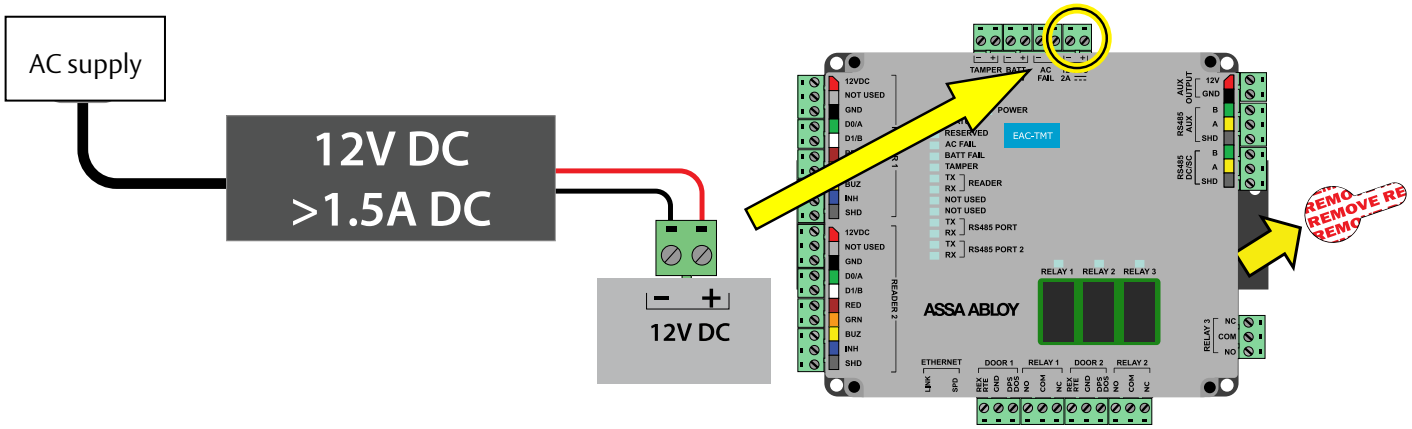
Different models / housing combinations can require different power connection arrangements – follow the instructions under the heading for the variant you have on hand.

Powering up the EAC-TPT

1. Wire the 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. Connect equipment to AC power supply
4. Allow a minute for the controller to boot up and test both the RAM and flash checksums
5. When the controller passes the self-test, the red status LED will remain steadily illuminated as long the unit is powered up
6. Use a separate power supply to power up any loads that are switched using the onboard relays

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.



7. The access control software can now be configured:
   - Incedo Lite for small installations
   - Incedo Plus / Primo for medium, large and multi-site installations

Powering up the EAC-TMP

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. Allow a minute for the distributed controller to boot up and test both the RAM and flash checksums
5. When the unit passes the self-test, the red status LED will remain steadily illuminated as long the unit is powered up
6. Use a separate power supply to power up any loads that are switched using the onboard relays

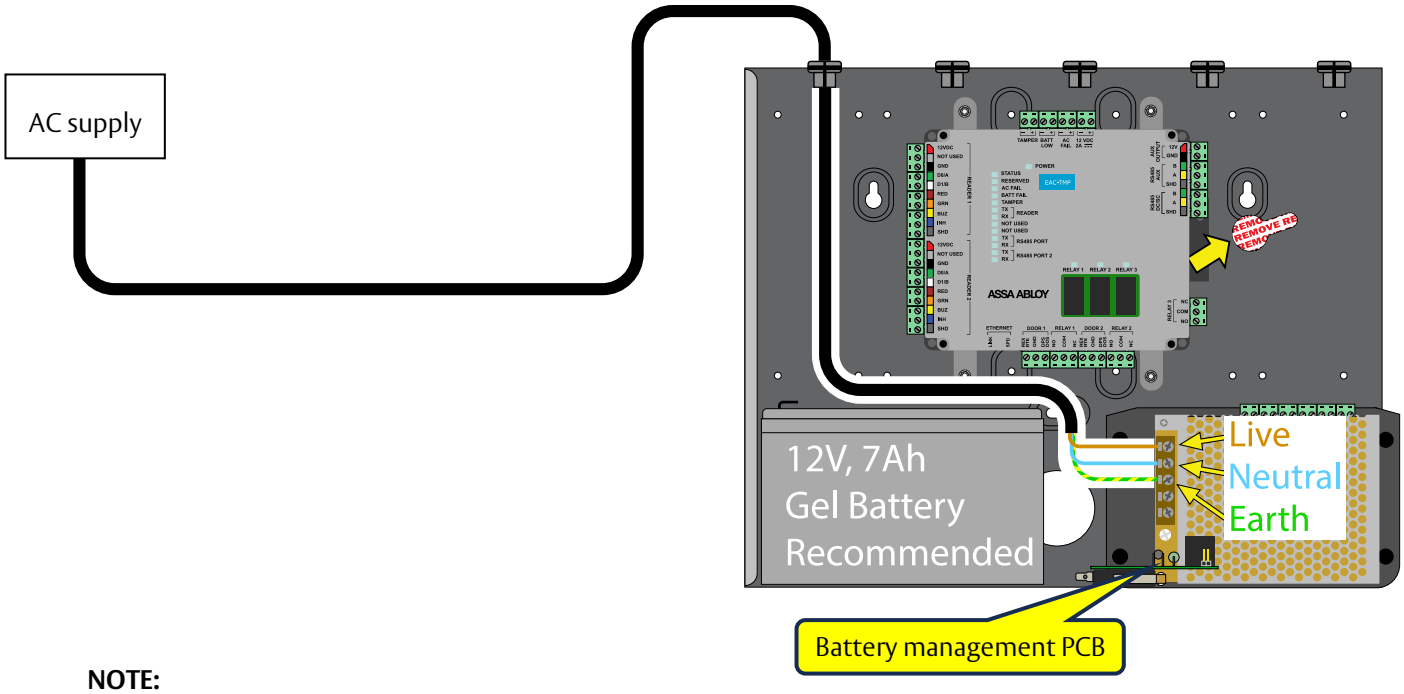
Optional gel battery

Installing the recommended 12 V gel battery will allow the distributed 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 protecting the battery when it runs flat.



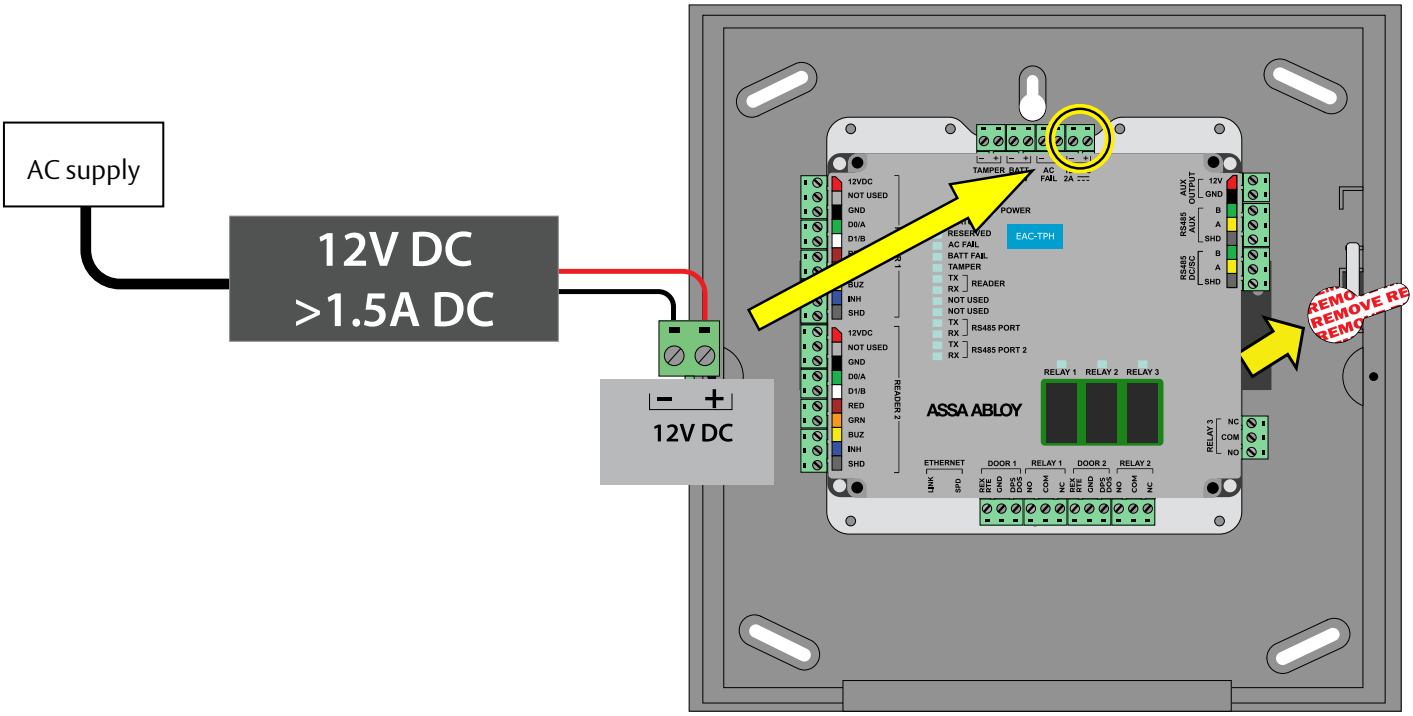
NOTE:

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

7. The access control software can now be configured:
   - Incedo Lite for small installations
   - Incedo Plus / Primo for medium, large and multi-site installations

Powering up the EAC-TPH

1. Wire a 12 V DC power supply (not included) to the 12 V DC terminal block on the distributed controller
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. Allow a minute for the distributed controller to boot up and test both the RAM and flash checksums
5. When the unit passes the self-test, the red status LED will remain steadily illuminated as long the unit is powered up
6. Use a separate power supply to power up any loads that are switched using the onboard relays



NOTE:

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

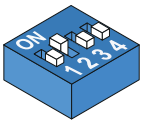
7. The access control software can now be configured:
   - Incedo Lite for small installations
   - Incedo Plus / Primo for medium, large and multi-site installations

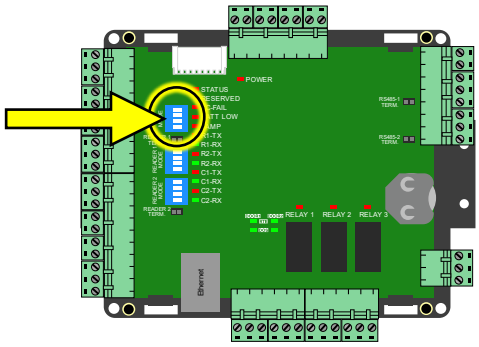
Setting up Incedo Lite

Incedo Lite is suitable for installations having 32 or less readers/doors and a maximum of 1000 credential holders.

Getting started with Incedo Lite web application

MODE:





You will need any site mapping information that was gathered during the hardware installation.

1. Use an HTML 5 compliant browser to access the web application embedded in the controller – with only ONE* controller (set for Incedo Lite MODE) connected to the network
2. Follow this link: http://incedo
3. Login using the default username and access code:
    - username: **admin**
    - Access code: **12345**

NOTE:

** More than one EAC-TPE can exist on the same network – but you will have to manually specify IP.*

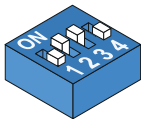
All Incedo hardware includes spare fixed address labels that should be applied to a site map that you can refer to when allocating the hardware devices to their respective doors and areas.

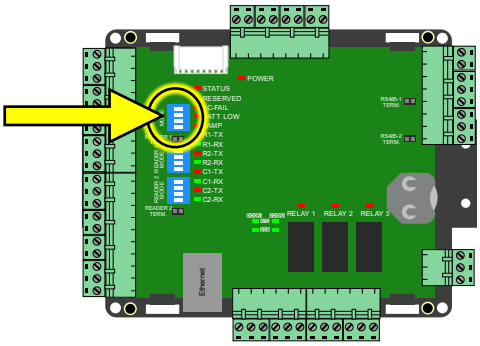
Default IP address is 192.168.100.1

Create the necessary user accounts and use the options available to add and configure hardware. All functions include context sensitive help.

Contact your regional ASSA ABLOY office for more assistance.

Setting up the Incedo Plus / Primo controller

MODE: 



This full-featured personnel access control system is offered with different license options suitable for sites ranging from medium to large, as well as enterprises that are located on multiple campuses any distance apart.

With the Incedo Plus / Primo software installed and running, log in, create the necessary user accounts, and use the options available to add and configure hardware. All functions include context sensitive help.

You will need any site mapping information that was gathered during the hardware installation.

Contact your regional ASSA ABLOY office for more assistance.

NOTE:

All Incedo controllers include spare fixed address labels that should be applied to a site map that you can refer to when allocating the hardware devices to their respective doors and areas.

12. Factory reset and RTC

Factory reset

NOTE:

Defaulting the controller will erase all Incedo Lite related user data stored in the controller.
A factory reset will default the network settings.

- Back up the Incedo Lite data using the firmware update utility
- This same firmware update tool can be used to restore the Incedo Lite settings after a factory reset is performed – or if the controller is replaced, for any reason
- If you have set a static IP address, make a note of it as it will be reset when you perform a factory reset
- If no address is assigned by a DHCP server, the module will revert to 192.168.100.1 with a subnet of 255.255.255.0

How to factory reset

NOTE:

The DIP switches are read on power-up.

Do the following with the **MODE** bank of DIP switches:

1. Set **DIP switch 1** to the **ON** position (ignore the other switches)

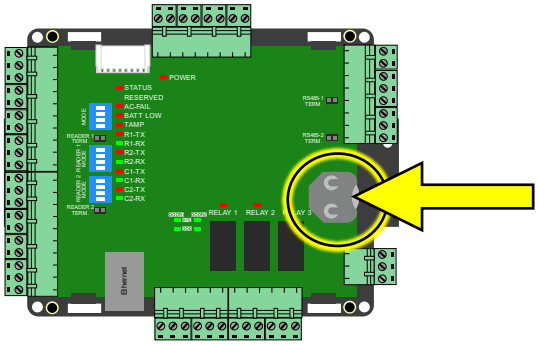
2. Cycle the DC power to the controller PCB (remove and replace the power plug on the PCB)
3. Allow 30 seconds for the start-up process to complete
4. Set **DIP switch 1** back to the **OFF** position. (**If you don't do this the controller will factory reset every time the power cycles.**)

Real-time clock (RTC)

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 below), ensuring correct time is kept if DC power to the controller is interrupted.

NOTE:

The battery should be changed every two years for maintenance, failure to do so may result in the loss of the Incedo Lite database. Be sure to back up all Incedo Lite data before replacing the battery.



13. 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

Input voltage range	12 to 15 V DC, polarity sensitive	
Power requirements	**Current (mA)**	**Power (W)**
12 V DC with no readers connected and relays off	20	0.24
12 V DC with maximum reader load and both relays energised	600	7.2

Communication ports

Ethernet port

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

RS485 port-1

Purpose	This port is reserved for controlling Aperio wireless lock hubs
Electrical interface	RS485
Baud rate	19 200
Data format	8 bits, no parity, 1 stop bit
Communications protocol	Aperio communications protocol
Line termination (RS485)	Provision is made for line termination (jumper)

RS485 port-2

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

Power and status indicators

LED indication	Meaning of the indication
Continuous red	Power is on
Intermittent flashing red	Device controller communications failure
Continuous flashing red	Controller fault

Power supply and tamper indicators

LED indication	Meaning of the indication
Red AC-FAIL LED on	AC power is down and the controller is running on battery
Red BAT LOW LED on	The battery is either flat or not connected
Red TAMP LED on	Open circuit across the tamper switch terminals

Ethernet indicators

LED indication	Meaning of the indication
Link LED continuous red	Ethernet is connected
SPD LED continuous red	Speed at 100 MHz
SPD LED OFF	Speed at 10 MHz

RS485 indicators (1 & 2)

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

Reader indicators (1 & 2)

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

14. Copyright and trademarks

Copyright

Trademarks

Aperio is a registered trademark and is used under license.

Support

Visit www.assaabloy.com or contact your regional ASSA ABLOY office.

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