SIEMENS

Access Control

SiPass integrated

ACC AP Technical Manual

MP 2.80

A6V11367717

07.09.2020

Smart Infrastructure

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Technical specifications and availability subject to change without notice.

Edition: 07.09.2020

Document ID: A6V11367717

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1 About this Document

This document contains information on the mounting and installation of the product.

The ACC-AP, SiPass Firmware and Aperio Wireless Locks (which can be configured only on ACC-AP) work in relation to each other. Hence, it is recommended that the following documents (from SiPass integrated Software bundle) are read in conjunction:

- ACC-AP Technical Manual (this document)
- SiPass integrated Firmware Configuration Guide
- SiPass integrated Configuration Client User Guide
- Aperio Wireless Lock Support Guide

2 Details for Ordering

The ACC-AP IP Door Controller can be ordered as a *Standalone* unit or as *ACC-APM PSU* unit in 12V/24V voltage options.

Part Number	Type	Description
S54502-C150-A100	ACC-AP	ACC-AP SiPass integrated IP Door Controller
S54502-C152-A100	ACC-APM-1220	ACC-APM-1220 SiPass IP Controller 12V 2A PSU
S54502-C153-A100	ACC-APM-2420	ACC-APM-2420 SiPass IP Controller 24V 2A PSU

3 Safety Regulations

General

- Follow all warnings and instructions marked on the device.
- Keep this document for reference purposes.
- Please take into account any additional country-specific local laws, safety standards or regulations concerning installation, operation and disposal of the product.
- Refer to a qualified electrician for installation.

Liability claim

- Do not make any changes or modifications to the device.
- Use only spare parts and accessories that have been approved by the manufacturer.

4 Standards and Guidelines

Siemens Switzerland Ltd. hereby declares that this product is in compliance with the essential requirements and other relevant provisions of:

- Directive 2011/65/EU (Restriction of the use of certain hazardous substances directive)
- Directive 2014/30/EU (Electromagnetic Compatibility directive)
- Directive 2014/35/EU (Low Voltage directive)

The EC Declaration of Conformity is available from your local Siemens sales office or from the address below:

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5 Technical Specifications

The technical data for the ACC-AP is as below:

Default IP Address	192.168.251.1 Subnet mask: 255.255.255.0
Supply voltage (nom.*)	12-24 Vnom +/- 10% 1Vpp ripple
Absolute voltage ratings**	9.5V DC – 29.5V DC The AP power supply input must be protected by a fuse (2A).
Current consumption	Without reader **Idle** 12V DC: 200mA 24V DC: 140 mA **Full on***** 12V DC: 600mA 24V DC: 400 mA
Battery Type	CR2032
Reader Interface An electronic fuse blows when the total current to both the reader interfaces exceeds 700mA.	Two OSDP Readers plus Power out. Two Wiegand Readers plus Power out. Max 700mA (jumper in Vin position) Max 200mA (jumper in 12V position)
Inputs	Four general inputs
Outputs	Two relay outputs. Max 30V DC, 2A. One bistable, one monostable. Four Open-collector outputs, max load 0.5A. One power supply output with Vin, max load 2A.
Resistor Value for Monitored Inputs	22k (alarm) 11k normal
Temperature Range	-40 to +55 ^{0}C
Humidity	25^{0}C @80% -> 55^{0}C @93% (III, IEC 60839-11-1)
Environmental Class	II, IEC 60839-11-1
Dimensions (H x W x D)	156 x 201 x 53 mm

* Nominal voltage has margins for transformer tolerances, mains supply variations and interruptions

** Absolute voltage has no margins and should be used for guidance only

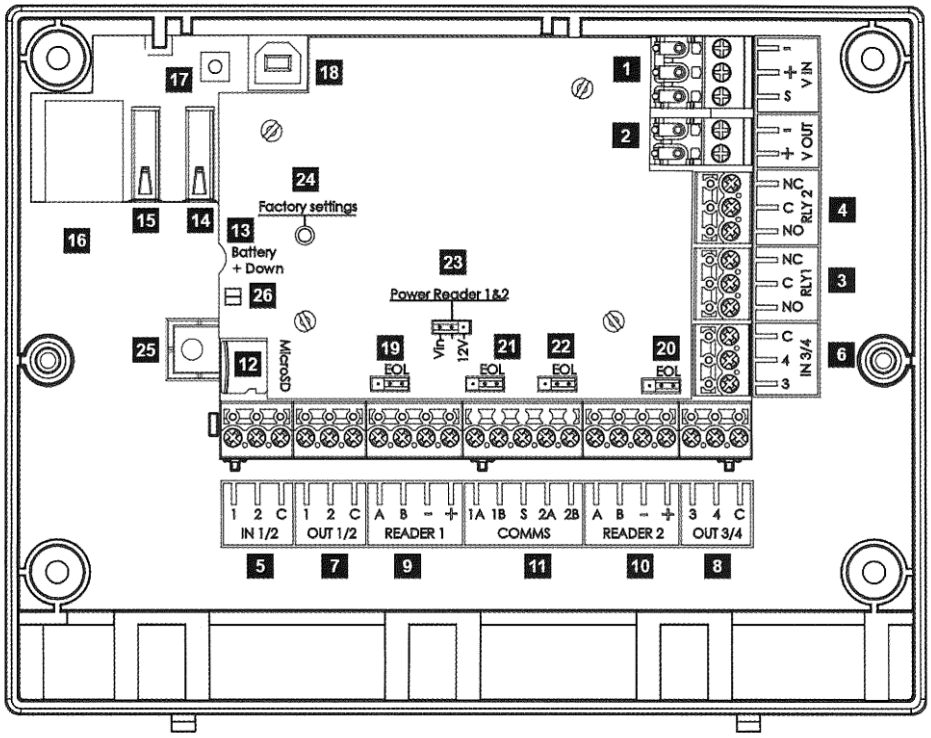
*** Full on represents:

- 500 mA (5V) load on high-speed USB connector
- 100 mA (5V) load on full-speed USB connector
- No readers connected
- Relays activated
- RJ485 communication on all ports with EOL resistors
- Micro-SD memory card installed

5.1 Battery

The “CR2032” battery type is supplied and should be mounted in the battery socket (see item 13 in the *AP Controller Diagram*) with the plus (+) mounted downwards. The battery keeps the Audit Trail data intact for about 30 days during any power fail.

5.2 ACC-AP Controller Diagram



See section Description of Numbered Items in the Diagram [→ 10] for detailed information.

5.2.1 Description of Numbered Items in the Diagram

Item Number	Description
1	Power supply input – Vin, 12-24V DC
2	Power out with Vin voltage (direct connection to Vin to allow daisy chaining of power to another devices)
3	Relay output 1. Potential free NC-COM-NO. Bistable function. Max 30V DC, 2A
4	Relay output 2. Potential free NC-COM-NO. Monostable function. Max 30V DC, 2A
5,6	General input 1 & 2 plus 3 & 4. Software defined. For instance, closing contact or monitored input.
7,8	Open-collector output 1 & 2 plus 3 & 4. Software defined.
9	Wiegand Reader 1 and 2 bus connection plus power. Max 700mA (Vin) or 200mA (12V) in total for both outputs.
10	Wiegand Reader 2
11	RS485 Communications Bus. See also 22.
12	Micro-SD card slot. Note that no card is supplied. Used for system restore / update.
13	Battery socket. Type CR2032. Note that the supplied battery should be mounted with the plus (+) downwards.
14	USB-A Full-speed – *future use*.
15	USB-A Hi-speed – *future use*.
16	Ethernet port RJ45 (Network)
17	Opening tamper switch. Protects for opening the lid.
18	USB-B connection to computer for setup.
19,20	Jumper – EOL Reader 1 & 2. End of line resistor for reader 1 & 2. *Default – ON*.
21,22	Jumpers – EOL communications 1 & 2. End of line resistor. *Default – ON*.
23	Jumper – Power reader 1 & 2. Voltage output for reader, Vin or 12V DC. *Default – Vin*.
24	Factory settings. Reset the unit to delivery status by pressing with a non-metal stick for at least five seconds.
25	Removal tamper. **Screw MUST be mounted to fulfill the tamper feature.**
26	LED indicator. • Red: Controller is starting up • Orange: Application running • Green: Application running, connected with SiPass integrated • Off (Dark): Application not running. (This can occur during a Firmware upgrade.)

6 Installation

6.1 OSDP Reader Connections

Reader connection via OSDP V1 or V2 encrypted.

The readers should be connected to the appropriate terminal blocks (A, B, -, +) of the **READER 1 port**. For the reader interface, there is an End of Line (EOL) jumper available. This can optionally be used to terminate the reader communication wires.

- When connecting Aperio HUBs to the ACC-AP in a daisy chain configuration, the EOL jumper must be enabled at the ACC-AP end only.
- If using a Star Configuration for connecting the Aperio HUBs (not recommended), the EOL jumper must again be enabled at the ACC-AP end only.

6.2 Wiegand Reader Connections

When connecting Wiegand Readers, the “A-Line” of the ACC-AP Reader 1 and 2 ports has a fixed 560-ohm pullup resistor. Some reader types, such as the *Siemens AR6111-MX* Readers, do not have sufficient drive strength to pull the A line low enough.

For such Readers to work correctly, an external 330 ohm pulldown resistor must be tied from the A-Line to the negative (-ve) power on the Reader 1 & 2 ports.

This can be done easily at the time of installation by simply placing the resistor across the connector of the ACC-AP.

The readers should be connected to the appropriate terminal blocks (A, B, -, +) of the READER ports.

Pins A and B of READER 1 port are the data lines for Wiegand Reader 1.

Label on AP Controller	Wiegand Reader Port
D1	A
D0	B

Pins A and B of READER 2 port are the data lines for Wiegand Reader 2.

Label on AP Controller	Wiegand Reader Port
D1	A
D0	B

Note

If Wiegand readers are connected to the ACC AP DRIe, the End of Line (EOL) jumper for the readers MUST BE DISABLED.

If the EOL jumpers are On (default setting), the Wiegand reader will not work.

- Reader point allocation is the same for Wiegand door sets and the corresponding OSDP door sets.
- When Wiegand door set is selected, there are no designated auxiliary outputs to doors. OUT 1, 2, 3 and 4 are reserved for LED control of the Wiegand Readers.

Output	Wiegand Reader LED
OUT 1	Reader 1 Green LED
OUT 2	Reader 1 Red LED
OUT 3	Reader 2 Green LED
OUT 4	Reader 2 Red LED

- RELAY 1 and RELAY 2 allocation is the same for Wiegand door sets and the corresponding OSDP door sets:
  - Relay 1 = Door 1
  - Relay 2 = Door 2
- Input point allocation is the same for Wiegand door sets and the corresponding OSDP door sets:
  - Input 1 = Door 1 Passback
  - Input 2 = Door 1 Door Frame
  - Input 3 = Door 2 Passback
  - Input 4 = Door 2 Door Frame

6.3 Mounting

Mount the unit in such a way that the wiring and connectors can be easily applied. There must be a minimum of 10 mm free area around the housing to de-mount the lid.

The dimensions of the layout are shown in the diagram below (not actual size).

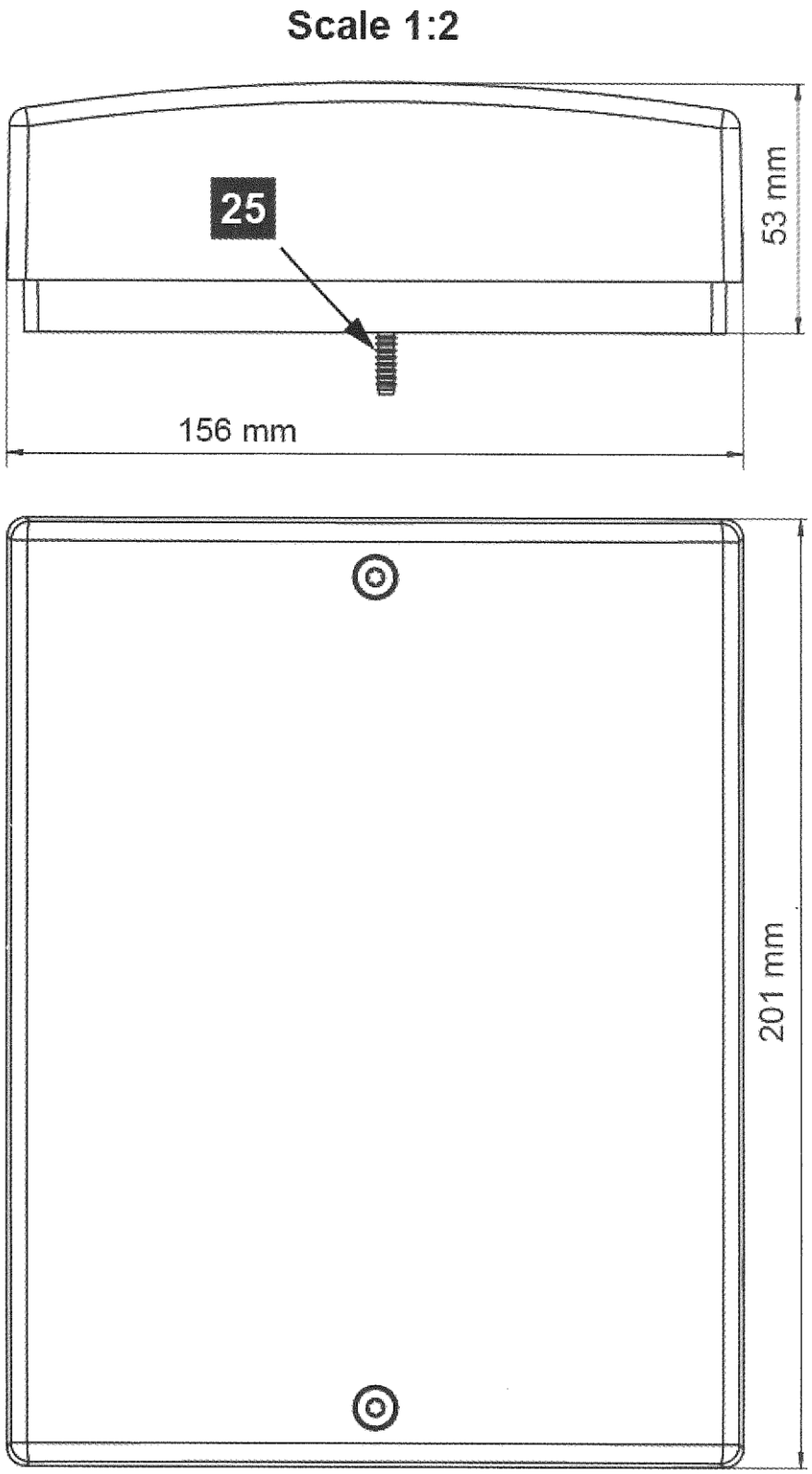


Figure 1: ACC-AP Controller Mounting

6.4 Tamper Function

The tamper is very important for the protection of the mounting. There are two types of tamper switches:

- Opening the lid (see item 17 in the *AP Controller Diagram*)
- Removing unit from the wall (see item 25 in the *AP Controller Diagram*)

The wall tamper requires that the unit is properly fixed to wall with a screw. If the unit is removed, the plastic plug (which presses on the tamper switch) breaks, and the tamper alarm becomes active.

6.5 Configuration

The ACC-AP must be configured locally with the parameters for communication to the SiPass integrated computer where the overall system settings can be made. If a reader is connected to the ACC-AP and the system settings are configured, a card or tag could be used for verifying the functions.

For Firmware configuration and more information, see the *Controller and Device Installation Guide* in the SiPass integrated software bundle.

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A6V11367717