

# VANDERBILT



## **Access Control Aliro System**

### **Installation Guide**

MP1.15

**Vanderbilt International (IRL) Ltd.**

Product Line Access Control

Data and design subject to change without notice. / Supply subject to availability.

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Document nr: A-100239-5

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# 1 About this Document

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This document describes the planning and installation of the Aliro access control system, as well as giving information about power supply, cables and capacities related to the access system. It also describes the procedure to prepare the necessary software environment, how to install the Aliro software and launch the system. Further settings can then be edited in the user interface, which include online help for each feature.

## 1.1 Related Documents

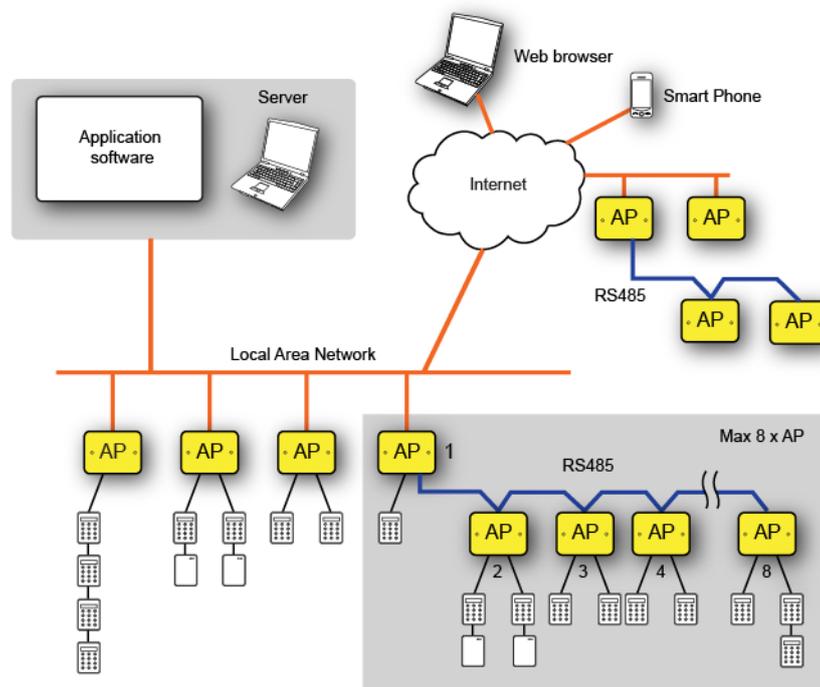
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The Aliro access control system comprises of Access Points (APs), card readers and software. Documents which are related to the Aliro access control system are:

Component	Document	Covers
<b>AP AP01P</b>	AP01P Aliro Access Point, 1 door	Installation manual which describes how to install the AP controller hardware unit
<b>AP AP01P</b>	AP Data sheet	Technical data for AP
<b>Card reader VRxxS-MF</b>	Reader Illustration Guide	Illustration guide for mounting the card reader
<b>Card reader VRxxS-MF</b>	Reader Installation Manual	Installation manual for mounting and connecting the card reader, including connection to systems
<b>Card reader VRxxS-MF</b>	Reader Data sheet	Technical data for card readers
<b>Aliro</b>	Online help and PDF	Explanations on all software related topics, such as user rights, cards, access schedules and event log. Also how to edit Aliro components via the user interface. The PDF is a print friendly version based on the online help.
<b>Aliro</b>	Data sheet	Technical data for Aliro

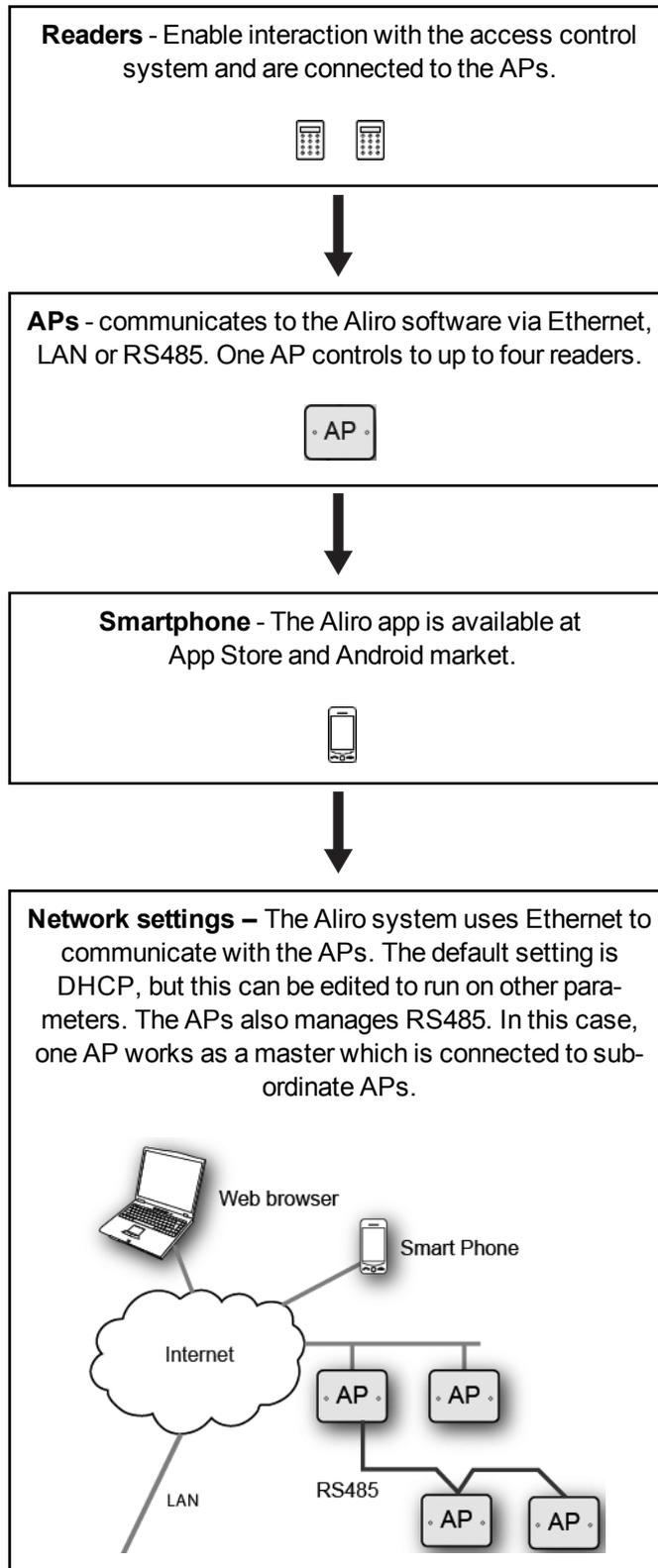
## 2 System Overview

The Aliro access control system is comprised of hard- and software. The hardware, such as readers and APs are connected to the software application via a network. The application server is available via the Internet and most hardware settings can be edited in the user interface. The different parts of the Aliro software are all installed at the same time. Included in the installation is a web server, an SQL server and an application server. The computer on which the software application is installed acts as a server. The software application can be accessed from any computer and smart phone app, providing that these are connected to the Internet. The software application is protected by a user name and password. The APs are connected via LAN or a network cable such as RS485.



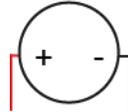
## 2.1 Getting Started

The Aliro access control system has a variety of components:





**Power supply** - The access control system can get the required power from central- or local power supply.



**Software installation** - Once the components are set up and connected, the software enables the system to be utilized and edited to personal preferences. Most components can be edited via the software.



**Application software** - The software is installed on a server computer. The user interface is available via the Internet, either from the server computer or any computer with Internet access as well as a smartphone with the Aliro app.



## 2.2 System requirements

The Aliro access control system requires the following:

System requirements				
<b>System requirements for host computer</b>	Minimum requirements	Recommended for up to 25 doors	Recommended for up to 100 doors	Recommended for more than 100 doors
<b>Processor</b>	Intel® Core™ i3 @ 1.8GHz or similar	Intel® Core™ i5 @ 2.6GHz or similar	Intel® Core™ i7 @ 2.6GHz with 4 cores or similar	Intel® Core™ i7 @ 3.4GHz with 6 cores, Intel® Xenon® or similar
<b>Memory</b>	4GB	8GB*	8GB*	16GB*
* <b>Note:</b> For 32 bit operating systems only 4GB is used.				
<b>Prerequisites for host computer</b>	Microsoft .NET Framework, latest version Microsoft Silverlight, latest version Microsoft SQL Server (2008/2012) . Aliro will automatically detect and install as required.  <b>Note:</b> For access control systems which support more than <b>100 APs</b> , or in which the overall memory exceeds <b>10 GB</b> , the server operating system is recommended. It is recommended to install an SQL server which holds more data than the SQL Express server.			
<b>System requirements for client computer</b>	Processor 1,4 GHz 2GB RAM Minimum supported screen resolution 1366x768			

## 2.3 System Capacities

The Aliro access control system supports the following:

System capacities	
<b>Operating systems</b>	Windows 7 SP1 32-bit, supports max 4 GB memory Windows 7 SP1 64-bit Windows 8.1 32-bit, supports max 4 GB memory Windows 8.1 64-bit Windows Server 2008 SP2 (or later) Windows Server 2008 R2 SP1 (or later) Windows Server 2012 Windows Server 2012 R2
<b>Web browser Windows</b>	Internet Explorer, minimum version 10 (or later) Mozilla Firefox, minimum version 1.15 (or later) Please note that the web browser support for Windows 8 is for desktop mode only.
<b>APs</b>	Ethernet (IPv4) and RS485
<b>Card readers per AP</b>	4
<b>Users</b>	10 000
<b>Cards</b>	100 000
<b>Doors</b>	512
<b>Access schedules</b>	1000
<b>Security exceptions</b>	100
<b>Access groups per user</b>	10
<b>Areas</b>	No limit
<b>Event log</b>	80 000 offline events stored in AP

# 3 Aliro Components

## 3.1 Readers

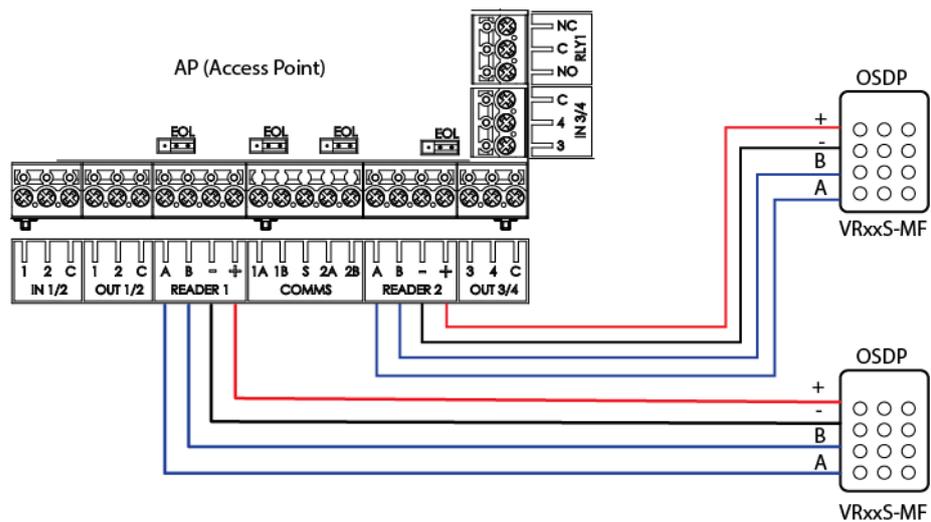
The VRxxS-MF are a series of executive designed card readers which are highly recommended for the Aliro access control system. The VRxxS-MF series of readers run on OSDP protocol. The Aliro access control system also supports readers with Wiegand and Clock-Data technology.

From unit	To unit	Type of cable	Maximum length (m)
AP	Reader (OSDP)	RS485 (A,B,-,+) Pair twisted screened (2 pairs + screen), for example Belden 9502	100 m providing that the cable is at least 0,25 mm <sup>2</sup>
	Reader (Wiegand)	Wiegand (D0, D1, -, +) Recommended cable: Pair twisted screened (3 pairs + screen), for example Belden 9503 for also wiring two LEDs.	30 m
	Reader (Clock-Data)	Clock-Data (C,D,-,+) Recommended cable: Pair twisted screened (3 pairs + screen), for example Belden 9503 for also wiring two LEDs.	30 m

### 3.1.1 Wiring of OSDP Readers to AP

In an OSDP reader, like the VRxxS-MF, the LED and buzzer control is managed via the protocol and no extra communication lines are required.

The drawing below illustrates how the two reader ports are wired.



### 3.1.2 Wiring of 500-series Clock-Data readers to AP

The wiring of the **500-series** of Clock-Data readers to AP normally requires that the outputs of AP is used for controlling the LEDs. Note that there are two variants of these readers but the wiring is the same.

- **Cotag** card reading technology
- **EM 4102** reading technology (not available for HF500)

The communication signals Clock and Data are connected to the appropriate A and B terminals of the APs Reader interfaces. (**A** to **D0** to and **B** to **D1**.)

Note that also the **EOL** jumpers for the Reader interfaces must be set on **OFF**.

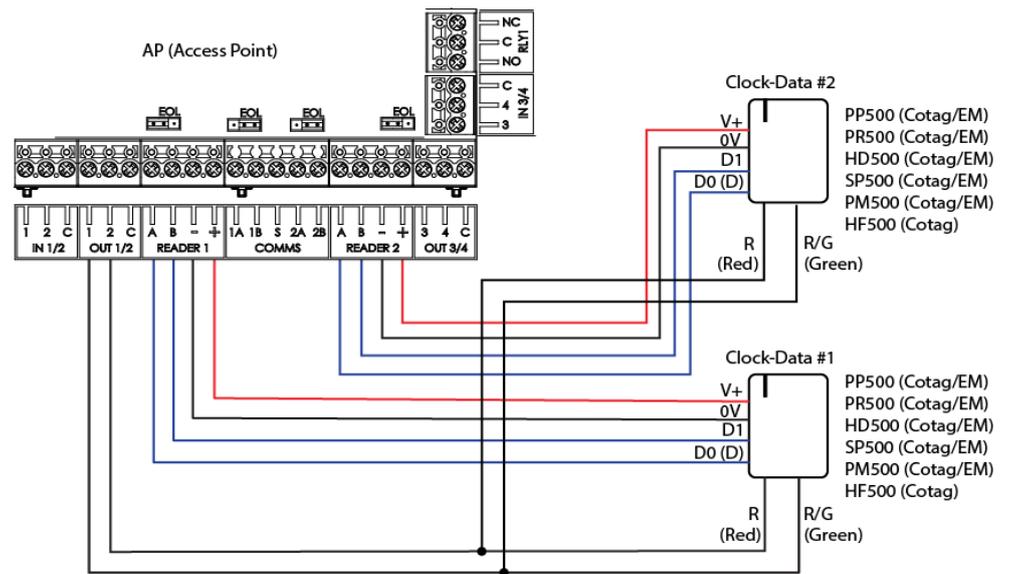
The **Power Reader 1&2** jumper of the AP is by default set to **Vin** which is correct for these readers if the AP power supply input is 12V-24V DC.

#### Two readers

The drawing illustrates how two Clock-Data readers are wired to the AP. If only one reader is used the wiring is the same (but obviously without the second reader).

We control the red and green LEDs via the outputs OUT1 - OUT2 in the AP. These must be hardware mapped in the Aliro software. Currently named "**Wiegand - red**" and "**Wiegand - green**".

The outputs OUT3 and OUT4 can optionally be used for a buzzer and any other LED.



### 3.1.3 Wiring of Clock-Data readers to AP

The wiring of Clock-Data readers to AP normally requires that the outputs of AP is used for controlling the LEDs.

The communication signals Clock and Data are connected to the appropriate **A** and **B** terminals of the APs Reader interfaces. (**Clock** to **A** and **Data** to **B**)

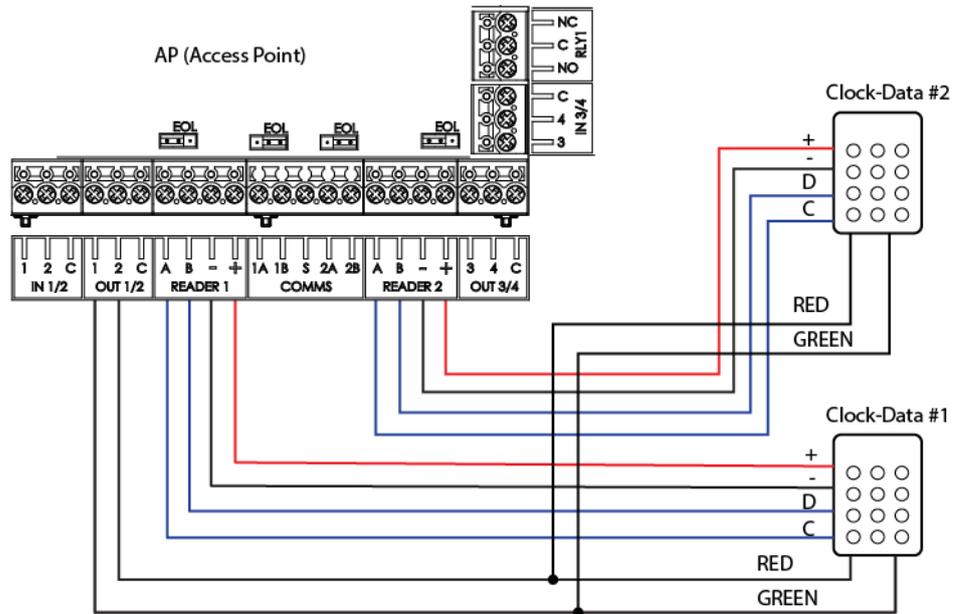
Note that also the **EOL** jumpers for the Reader interfaces must be set to **OFF**. The **Power Reader 1&2** jumper of the AP must also be correctly placed. Please check the readers specification for the voltage range and place the jumper in either Vin (default) or 12V.

#### Two readers

The drawing illustrates how two Clock-Data readers are wired to the AP. If only one reader is used the wiring is the same (but obviously without the second reader).

We control the red and green LEDs via the outputs OUT1 - OUT2 in the AP. These must be hardware mapped in the Aliro software. Currently named "**Wiegand - red**" and "**Wiegand - green**".

The outputs OUT3 and OUT4 can optionally be used for a buzzer and any other LED.



### 3.1.4 Wiring of Wiegand readers to AP

The wiring of Wiegand readers to AP normally requires that the outputs of AP is used for controlling the LEDs.

The communication signals D0 and D1 are connected to the appropriate A and B terminals of the APs Reader interfaces. (**D0 to A** and **D1 to B**). Should the reader not work, try reversing D0 and D1. Some readers have reverse connections.

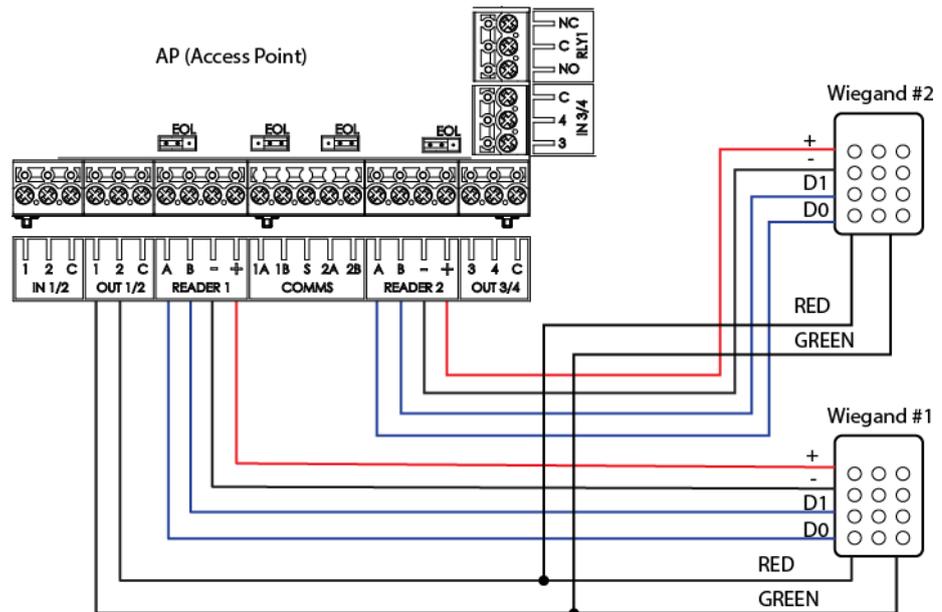
Note that also the **EOL** jumpers for the Reader interfaces must be set to **OFF**. The **Power Reader 1&2** jumper of the AP must also be correctly placed. Please check the readers specification for the voltage range and place the jumper in either Vin (default) or 12V.

#### Two readers

The drawing illustrates how two Wiegand readers are wired to the AP. If only one reader is used the wiring is the same (but obviously without the second reader).

We control the red and green LEDs via the outputs OUT1 - OUT2 in the AP. These must be hardware mapped in the Aliro software. Currently named "**Wiegand - red**" and "**Wiegand - green**".

The outputs OUT3 and OUT4 can optionally be used for a buzzer and any other LED.



## 3.2 AP Controller

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The AP is used for controlling a one door environment as part of an Aliro access control system. It can be configured from the Aliro user interface via Ethernet or a combination of Ethernet and RS485 as well as via the built in AP web server using the USB-port. The AP also uploads any events to the server.

The AP offers reader control as well as input and output functionality.

### 3.2.1 AP Mounting

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For mounting the AP, kindly consider the following:

#### Protected area

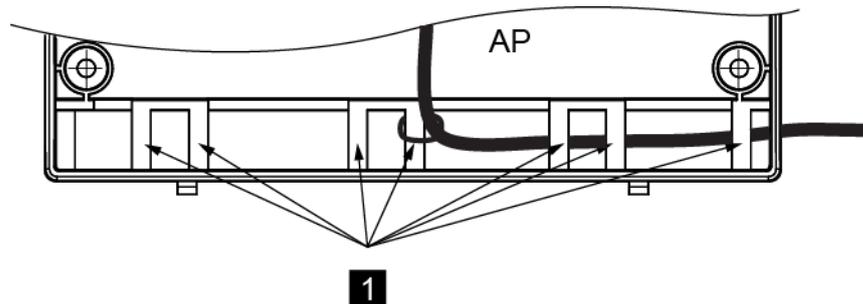
The AP is not portable and must be mounted inside a protected area.

#### Housing

The mechanical design allows for a robust mounting. There are four mounting holes to fix the housing on a wall. Remember to leave enough space around it to enable for an easy demount of the lid.

#### Cable fixing

To make the mounting resistant to shock and vibrations for instance, it is important to fix the cable in a correct way. The housing has some fixing details where cable ties can be applied. See item 1 in the illustration below.



## 3.3 AP Setup

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The design and approach of the AP enables a very easy setup and operation. There are two main ways to configure the basic settings:

### 1. In the same Local Area Network

Should the AP be installed in a local area network where the PC is located, the Aliro software can send out an auto detect message to the AP. This message contains all the necessary settings for the AP to establish a link to the software PC where the system settings can then be made.

### 2. Outside the Local Area Network

The AP must be configured locally with the parameters for the communication to the Aliro PC. Proceed as follows:

1. Power up the AP.
2. Connect a USB cable from the installer PC to the USB-B connector.
3. Install the USB-driver found on the software DVD or via Windows Update to create an Ethernet over USB connection. If Windows Update is used ensure that driver installation is allowed.
4. Start the web browser in the PC and browse to the IP-address 192.168.250.1.
5. Enter the **User name** "admin" and **Password** "spirit" in the AP web interface.
6. A window with the AP settings is displayed. Note that all APs on the same LAN are listed and one has to be selected.
7. Configure the **IP settings** and the host **address to the Aliro server**. Do not use 192.168.250.0/24. Those are reserved for internal USB communication.
8. The AP should then communicate with the Aliro software.

The overall system settings can be made in the Aliro software PC. Refer to the AP Installation manual for more information. Should a reader be connected to the AP and the system settings are configured, a card or tag could be used for verifying the functions.

#### 3.3.1 AP Factory Reset

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The AP has a reset button which can be used whenever there is a need for resetting the hardware. This can be done without powering down the AP.

Proceed as follows:

1. Remove the lid of the AP. Please be careful whenever this is done with the power applied.
2. Locate the "Factory Settings" on the sticker.
3. Use a non-metal stick and apply this to the reset button for five seconds.
4. A long buzzing, approximately five seconds, indicates that the AP starts the factory reset to the factory settings. Before and during long buzzing, if the reset button is released, then the factory reset will be aborted. To execute the factory reset, ensure to press the Factory Settings button until the buzzing stops.
5. It takes about five seconds to stop the buzzing and eight seconds to turn off the LEDs. The AP is now at factory settings.

Should the AP fail to start, it will neither stop the buzzing nor turn off the LEDs. Please note that this is an indication that the AP has lost the connection with the host. Set up the AP as previously described. "AP Setup" on the previous page for further information.

Kindly remember that when the lid is removed, the tamper switch will act according to settings. This can activate the buzzer.

## 3.4 AP Communication Settings

In cases when the AP cannot be discovered by the Aliro software, the installer must setup the IP addressing parameters directly by using a USB interface. "AP Setup" on page 15 for further details on communicating with USB over Ethernet. When the AP has established the communication with the Aliro software, there is a Device list displayed with all the units that are found on the LAN.

The following parameters apply:

### General tab

Parameter (examples only)		Comment
<b>Device Info</b>		
<b>Hardware version</b>	1.1	Not editable
<b>Software version</b>	1.0.0.866	Not editable
<b>Serial number</b>	9000129	Not editable
<b>Device settings</b>		
<b>Device name</b>	MyAccessPoint	Editable
<b>Discoverable</b>	Yes/No	Tick-box selection. If selected - this AP is discoverable from the Aliro software. This also applies when several Aliro systems are using the same network.

### Network tab

Parameter (examples only)		Comment
<b>IP settings</b>		
<b>DHCP</b>	Yes/No	Tick-box selection
<b>IP</b>	10.1.11.128	Editable - if no DHCP selected
<b>Netmask</b>	255.255.248.0	Editable - if no DHCP selected
<b>Gateway</b>	10.1.11.249	Editable - if no DHCP selected
<b>DNS 1</b>	10.1.11.201	Editable - if no DHCP selected
<b>DNS 2</b>		Editable - if no DHCP selected
<b>Apply</b>	Apply to actual device	Button command
<b>Apply to all devices</b>	Apply to all listed devices	Button command - if DHCP selected

**Proxy tab**

	Parameter (examples only)	Comment
<b>Proxy settings</b>		
<b>Use Network Proxy</b>	Yes/No	Tick-box selection
<b>Proxy server</b>	IP address or computer name	Editable - if Proxy selected
<b>Proxy port</b>	0	Editable - if Proxy selected
<b>Proxy Username</b>	MyUserName	Editable - if Proxy selected
<b>Proxy Password</b>	MyPassword	Editable - if Proxy selected
<b>Apply</b>	Apply to actual device	Button command
<b>Apply to all devices</b>	Apply to all listed devices	Button command

**Comms tab**

Host Comms settings	Parameter (examples only)	Comment
<b>Host address</b>	Yes/No	Editable
<b>End Point</b>	/access	Editable
<b>Apply</b>	Apply to actual device	Button command
<b>Apply to all devices</b>	Apply to all listed devices	Button command

## 3.5 AP Application Settings

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When the AP is reset to its factory settings it uses default settings that normally fits the most common application for a door environment. This means that it is very easy to get it up and running and it is prepared for controlling a lock and use of an exit button. However it is always possible to alter the settings from the user interface and download this to the AP.

### Hardware connections

The AP has input and output terminal blocks for connecting external equipment. The supplied AP installation manual describes the layout of these but it is important to consider how these in- and outputs are used and wired. There are two relay outputs, four open-collector outputs and four inputs.

### Software defined with default functional settings

The Aliro user interface enables changes for the functionality of the in-and outputs. The default factory settings will be restored if a hardware reset is performed on the AP.

### Optional functional settings

The Aliro User manual and/or online help will explain the options that are available for each of the inputs and outputs.

For example: The default settings for an AP are to use two of the open collector outputs for warning and alert. Should a Wiegand reader, which requires the four open collector outputs to be defined as Wiegand buzzer, Wiegand green, Wiegand red and Wiegand yellow LED be connected, then these can easily be modified within the software.

### 3.5.1 Inputs

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The following input connectors are available:

Connector	Function
General input 1	Default function is <b>Exit button</b>
General input 2	<not preconfigured>
General input 3	Default function is <b>Door monitor contact</b>
General input 4	<not preconfigured>

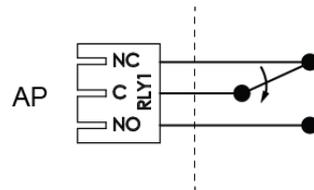
### 3.5.2 Outputs

There are two types of output connectors available - relay and open collectors.

#### 3.5.2.1 Relay Outputs

The two relay outputs have the following functions by default:

Connector	Function
Relay Output 1	Potential free NC-COM-NO. Bistable function.
Relay Output 2	Potential free NC-COM-NO. Monostable function. Default function is <b>Lock</b> .



#### 3.5.2.2 Open-collector Outputs

The four outputs have the following functions by default:

Connector	Function
Open-collector out 1	Default function is <b>Warning - door held</b>
Open-collector out 2	<not preconfigured>
Open-collector out 3	Default function is <b>Door Alert - door held too long</b>
Open-collector out 4	<not preconfigured>

<p><b>Wiring when using AP power</b></p> <p><math>R_L</math> = Resistive loads such as relays and buzzers.</p>	
<p><b>Wiring when using external power</b></p> <p><math>R_L</math> = Resistive loads such as relays and buzzers.</p>	

## 4 Power Supply

---

The power supply is a vital part of an access control system and can be supplied in many ways depending on the application environment. Both 12Vdc and 24Vdc solutions are supported. Kindly consider the following when planning the power supply:

- The cable distances and areas must be accounted for as well as the current consumption of units.
- The power supply units must be of the same kind.

### Power fail

Note that the AP has a lithium battery, which once installed keeps data if power disappears. The Aliro access control system supports a power fail function. Normally, power supplies backed up by battery offer a signal which can be connected to an AP which has a power fail input defined .

### Power supply to readers

Please be careful when connecting readers to the AP. The overall **power output** cannot exceed 500 mA @24Vdc or 200 mA @12Vdc. An electronic fuse blows when the total current to both reader interfaces exceeds 700 mA.

Even if the communication software can manage up to four readers on each AP, there must be enough power available. If more than two readers are used the recommendation is to use 24V.

Also note that the default setting **Vin** of the AP Power out jumper would only be set to 12V if there is a specific need for a 12V output (in a 24V environment). A normal 12V environment should still have the jumper in the Vin position.

### Uninterrupted power supply

Ensure that the power supply is stable and within the rated voltage of the unit. Use an uninterrupted power supply (UPS) to ensure a continuous function of the unit in the event of power dips on the mains supply.

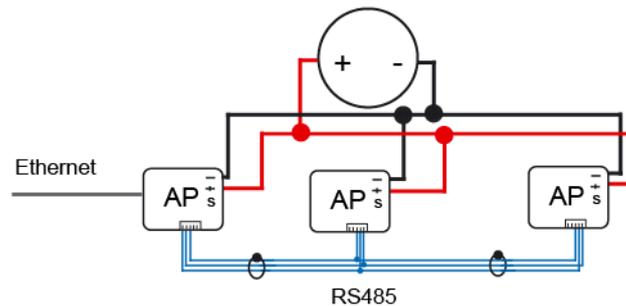
## 4.1 Central DC Power Supply

Central power supplies are often used to power an access control system. The advantages with using central power supplies are amongst others:

- Backup power if main voltage falls.
- Fewer units to install.
- Easier to expand the system (if enough margin from the start).

### Central power supply with master AP connected to Ethernet

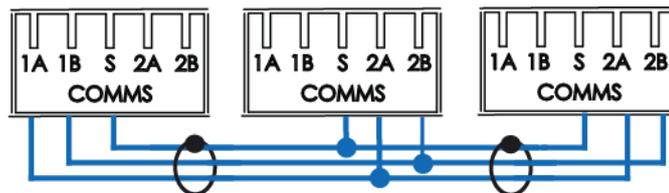
The illustration depicts an example of how central power can be utilized when the master AP is connected to Ethernet:



The principle is as follows:

- The AP connected to Ethernet is the master, all other APs are slaves.
- The APs communicate via RS485. All plus (+) cables are connected together.
- All minus (-) cables are connected together.

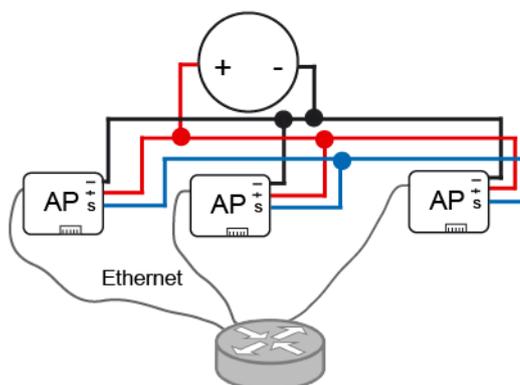
The connectors, here in close up from the above picture, shows that the connectors are wired as follows:



- Connector 1A on the master AP is connected to the slave AP connector 2A.
- Connector 1B on the master AP is connected to the slave connector 2B.
- Connector shield (S) on the master AP is connected to the connector shield (S) on the slave APs.
- The cables are shielded.

**Central power with APs connected to Ethernet via a router**

The APs can also have central power supply and be connected to Ethernet via a router:



The illustration follows the idea that:

- All plus (+) cables are connected together
- All minus (-) cables are connected together
- All shield (S) cables are connected together

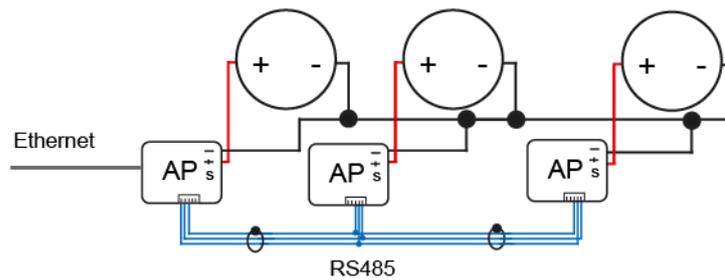
## 4.2 Local DC Power Supply

Local power supplies are often used to power an access control system. Kindly ensure that:

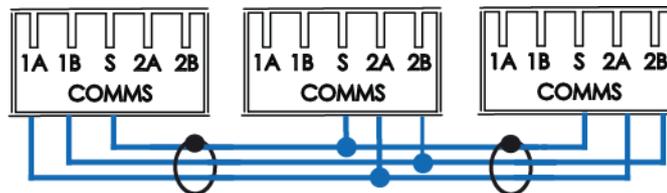
- The PSUs have a stable voltage output. Even if the Aliro components are tolerant to voltage fluctuations, the locks may be more sensitive.
- Use enough wire cross section area of the power cables – especially if there are long distances involved.

### Local power supply for APs

The illustration shows an example of one master connected to the Ethernet. The slave APs communicate via RS485. All APs have local power supply and the minus (-) cables are connected together.



The connectors, here in close up from the above picture, shows that the connectors are wired as follows:



- Connector 1A on the master AP is connected to the slave AP connector 2A.
- Connector 1B on the master AP is connected to the slave AP connector 2B.
- Connector shield (S) on the master AP is connected to the connector shield (S) on the slave APs.
- The cables are shielded.

## 5 Cables

There are several communication levels in a Aliro system which requires cables:

- From computer and server to APs
- Between APs
- From AP to readers
- From PC-USB to AP-USB

The table below indicates the recommended cable types and length.

From unit	To unit	Type of cable	Maximum length (m)
<b>Computer/ server</b>	AP	Network Cat-5 cable, 10/100 Mbit. If in doubt - consult IT responsible.	Depends on network structure, normally 100 m to router/switch/hub.
<b>AP</b>	AP	RS485: The global circuit between the APs. Specified cable: Screened twisted pair (1 pair + screen), for example Belden 9502. OR Kombi 2-hf100 or 2010-2-hf100 (custom cable comprising com- munication and power in one cable).	1200 m
<b>AP</b>	Reader (OSDP)	RS485 (A,B,-,+) Pair twisted screened (2 pairs + screen), for example Belden 9502	100 m providing that the cable is at least 0,25 mm <sup>2</sup>
	Reader (Wiegand)	Wiegand (D0, D1, -, +) Recommended cable: Pair twisted screened (2 pairs + screen), for example Belden 9502	30 m
	Reader (Clock-Data)	Clock-Data (C,D,-,+) Recommended cable: Pair twisted screened (2 pairs + screen), for example Belden 9502	30 m
<b>PC-USB (A)</b>	AP-USB (B)	USB cable	3 m

## 6 Network Settings

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The Aliro system mainly uses Ethernet for communicating. An AP which is connected via the network needs to find the way to the Aliro software. The AP connects to and initiates the communication with the server.

Usually, the AP uses a DHCP for this communication. Otherwise, the following parameters as applicable must be according to the network topology:

- network address
- netmask
- gateway
- DNS

The parameters are compiled in this document. "AP Communication Settings" on page 17 to view the parameters. For information regarding different and applicable network settings, please consult the responsible IT and/or network technicians. Also ensure that the firewall on the Aliro server does not block incoming https connections on port 443, it is used by APs for communication with the Aliro server.

The Aliro system discovery process enables the APs to be automatically configured from the software, thus making the installation process smooth and effortless. Depending on whether the AP is located on the same LAN or not might effect the Aliro system discovery process.

### **Configure an AP on the same LAN**

To use the discovery process, ensure that the firewall of the network is temporarily disabled. Should the server PC have an active firewall, the discovery process may fail to configure the AP. The firewall can block the ports which are used for discovery. To avoid this:

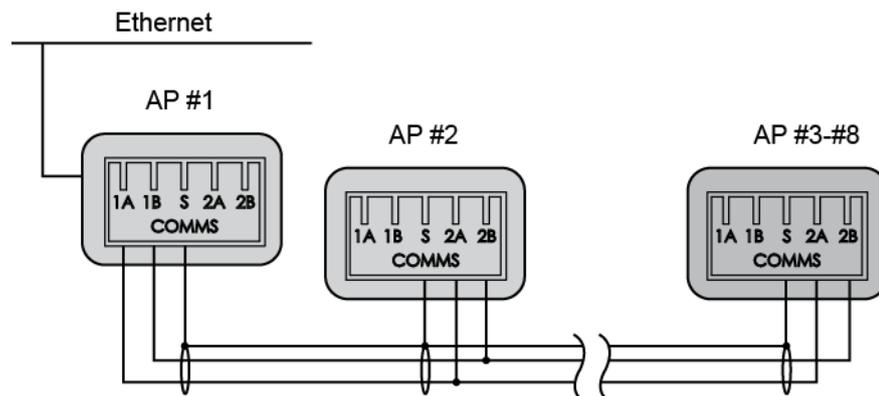
- Disconnect the firewall in the server PC temporarily.
- The system automatically uses port 51526 for inbound and port 20000 for outbound.

### **Configure an AP on another LAN**

The communication parameters have to be set directly in the AP via the browser. "AP Communication Settings" on page 17 for details on how to configure the AP offline.

### **APs using RS485**

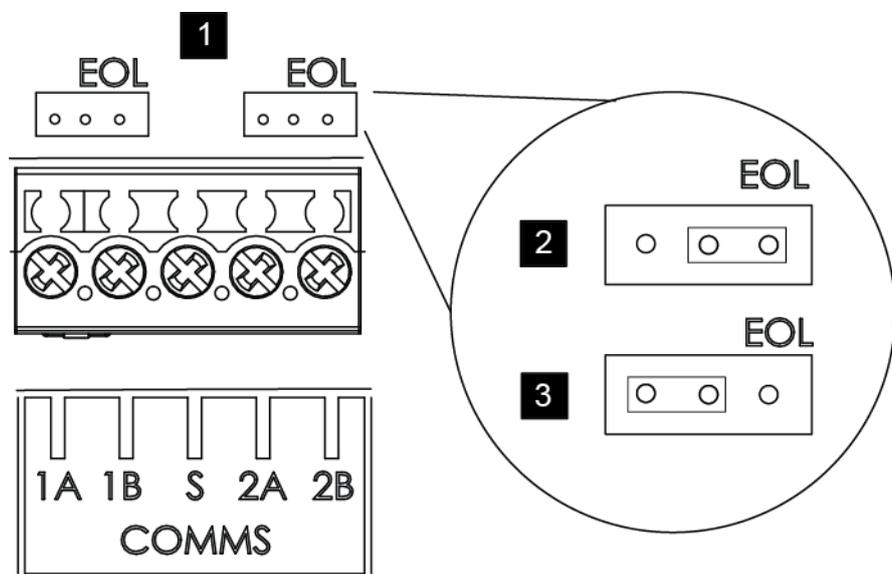
The APs can also manage RS485 networks to communicate. Please note that one master AP supports seven other APs, creating groups of max eight APs, where one of them acts as a master and must be connected to Ethernet. The RS485 cabling master AP must be connected to the other APs according the following principle:



Any of the APs can be the master which is connected to Ethernet, but the master AP must use 1A and 1B. The other APs are connected via 2A and 2B.

For APs connected with terminal blocks used in RS485, End Of Line (EOL), is to be considered. EOL is a resistor which is selected in the beginning and the end of an RS485-bus. Any APs in the middle of an RS485 cable must not have EOL selected. To select the EOL jumper:

1. Identify which of the AP connectors which are to work as the first and last EOL.
2. Place the EOL jumpers in accordance to the EOL text printed on the plastic cover, as indicated by item 1 in the illustration below. The EOL is terminated when the jumper is to the right, see item 2 in the illustration. In item 3, the jumper is set to the left and the EOL is therefore not terminated.



## 7 Aliro Software

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The software installation is a smooth process based on a wizard. Once installed, functions such as users, access schedules and site plans can be created and edited to personal preferences.

### 7.1 Prerequisites

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Upon the Aliro Software DVD being inserted in the computer on which the Aliro system is installed, it will automatically detect and install as required:

- Microsoft .NET Framework 4.0
- Microsoft Silverlight 5
- Microsoft SQL Server 2012

Should any of the above mentioned not be installed in the computer, a wizard for the respective programs will commence automatically. Perform the necessary steps as requested in the wizards. When the above resources are installed, the Aliro System installation window is displayed.

### 7.2 Installing an SQL server

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For systems which support more than 100 APs, or in which the overall memory exceeds 10 GB, it is recommended to install an SQL server which holds more data than the SQL Express server. For details regarding the SQL license, kindly refer to Microsoft. To install a standard SQL server, follow these steps:

1. Insert the **SQL server DVD**. The SQL Server Setup will detect if any software components are required. If so, the window **Microsoft SQL Server Setup** is displayed. The SQL Server Setup will, if needed, install the following:
  - .NET Framework 3.5 SP1
  - Server Native Client SQL
  - Server Setup support files

Click **OK** to carry out the installation.
2. When all software components are available, the window **SQL Server Installation Center** is displayed.
3. In the section **Installation**, click **New installation or add features to an existing installation**.
4. In the **Setup Support Rules** window, click to **Show Details** or continue the installation by clicking **OK**.
5. Enter the **SQL Product Key**, click **Next**.
6. **Accept** the license agreement and click **Next**.
7. In the **Setup Support Files**, click **Install**.
8. In the **Setup Support Rules** window, a couple warnings might be highlighted. Please refer to an IT technician for details regarding those warnings.
9. Click **Next** to continue.

10. In the **Setup Role**, select the **Default SQL server Feature installation**. Click **Next**.
11. In the **Feature Selection**, tick the boxes which are required for Aliro:
  - Database Engine Services
  - SQL Server Replication
  - SQL Client Tools Connectivity

All other features are optional. Click **Next**.
12. In the **Installation Rules** section, click to **Show Details** or continue the installation by clicking **Next**.
13. In the **Instance Configuration** window, select a **Default instance** or a **Named instance**. For the latter, fill out the details.
14. In the **Server Configuration** window, select **SQL Server Database Engine** and **SQL Server Browser**. Click **Next** to continue.
15. In the **Database Engine** configuration window, select **Mixed Mode** and add an **SQL Server system administrator**. Click **Next**.
16. In the **Error Reporting** window, read about the options.
17. Click **Next** and the installation process will commence.
18. The window **Complete** will confirm that the SQL server is successfully installed.

## 7.3 Installing the Software

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1. Insert the Aliro Software DVD and ensure that the steps for the prerequisites are executed. The Aliro System installation window is displayed.
2. Click **License** to read the terms and conditions.
3. Click **Language** and choose the preferred one. By default, the Windows language is used.
4. Click **Documentation** to access and read the Aliro documents.
5. Click **Settings** to view and select which SQL Server instance to use. The default option is the database server name. Click the drop down menu should another SQL Server be preferred. The system requires a total of 1.60 GB for the installation. The available space for the selected location of installation is displayed.
6. Select one or both **Features** which are selected by default. Both features can be installed on the server computer. Another option is to install one on the server computer and the other on another computer. In this case, select the one to be installed on the computer of choice and continue to follow the instructions. To install a feature on another computer, insert the software DVD in that computer and follow the instructions.
  - **Access Control Server** - installs the server components and databases. Click the drop down menu to select an instance from the available SQL

server instances on the local computer.

- **Web Server (IIS)** - installs the web server components. Should this option be selected, the address of the access control server is required. The **Access Control Server Name** is the computer name or its IP address.
7. Should the option **Firewall Exception** be applicable, tick **Add exceptions to Windows firewall**.
  8. Click **OK** to save the settings or click **Cancel** to use the default settings.
  9. Click **Install**. An Install Summary is displayed. Should any changes be required, click **Settings** and edit as appropriate.
  10. Enter the **Product Key**, which is written on the DVD cover, in the field.
  11. Read the license. Tick **I agree to the license terms and conditions** to accept.
  12. Click **Continue**. The window Setup Progress is displayed during the installation.
  13. Click **Launch** to start the Aliro System. A web browser is started and the application is running.
  14. Enter the details for **User** and **Password**. The default login details is "admin" for both. Please refer to the online help to setup the site specific access control system.

Note that when installing the Aliro Service (Access Control Server), it runs under a Local System Account. This account may not have permission to access the configured network drives. Should the backup be configured to save the file to a network drive, this operation will fail due to lack of permission.

In this case, the Log On account needs to be manually changed to a known domain account with permissions to access the specified network drive:

1. Open **Start > Control Panel > Administrative Tools > Services**.
2. In the list, select **Access Control Server Properties** and open the tab **Log On**. Edit the account details to a known domain account with permissions to access the specified network drive.

## 7.4 Self-Signed Certificates

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To ensure the most secure communication possible in the Aliro access control system, each installation creates and uses a randomized self-signed certificate. As the identity of this certificate cannot be verified by the web browser, it might generate a warning when navigating to the Aliro system. This does not mean that the installation is insecure. However, should a number of clients be used to administrate the Aliro system, an installation of the Self-Signed Certificate is required.

*Kindly note that it is recommended to use an official certificate to improve security.*

### Exporting a Self-Signed Certificate

To export a Self-Signed Certificate, please follow those steps:

1. Login to the Server PC where the **Aliro Web server (IIS)** is installed.
2. Click on the **Windows Start** button. Type "**InetMgr.exe**" and press **Enter**. The IIS Manager opens. Double click on the **Server Certificates** icon.

3. Under the **Issued To** column, find the Self-Signed Certificate with the Server PC name. Right click on this certificate.
4. Click on the **Export** option in the context menu.
5. Browse and enter the location which the certification file is to be exported to.
6. Enter a **Password** to prevent unauthorised users from installing this certificate. Click **OK**.
7. The Self-Signed Certificate is now available in the location specified in step 6.

### **Installing the Self-Signed Certificate on the Windows OS Client PC.**

Please proceed as follows:

1. Copy the exported **Self-Signed Certificate** from the **Export Self-Signed Certificate** instructions to the client PC.
2. In the client PC, double click on the **Self-Signed Certificate**.
3. Follow the instruction in the wizard.
4. If prompted to select **Store Location** of the certificate (**Current User** or **Local Machine**), select the option best for the configuration.
5. When prompt to enter the **Password**, ensure to enter the correct one and only select the option **Include all extended properties**. Click **Next**.
6. Select the location where the Self-Signed Certificate should be stored.
7. Select the option **Place all certificates in the following store**.
8. Click the browse button and select **Trusted Root Certification Authorities**.
9. Click **Next** and then **Finish**.
10. The message **The import was successful** should be displayed.

The Aliro system can now be accessed from a local browser.

### **Installing a Certificate Issued by a Trusted Authority**

Please obtain a valid certificate from a known certificate provider. To remove the existing self-signed certificate and install the new certificate:

1. Login to the Server PC where the Aliro Web server (IIS) is installed.
2. Click the **Windows Start** button.
3. Type "**InetMgr.exe**" and press **Enter**.
4. The IIS Manager opens. Find the **Server Certificates** icon and double click it.
5. Under the **Issued To** column, find the Self-Signed Certificate called the Server PC name. Right click on this and select the option **Remove**.
6. Follow the instructions from the certificate provider to complete the certificate installation.

### **Installing the Self-Signed Certificate on the Mac OS Client Computer**

To install a Self-Signed Certificate on a Mac OS client computer, follow these instructions:

1. Copy the exported Certificate from the **Export Self-Signed Certificate** as previously described to the client computer.
2. On the client computer, double click on the **Self-Signed Certificate**. Add Certificate Utility is displayed.
3. Select the **Keychain** option best for the configuration (**Login** or **System**).
4. Click the **Add** button. The Keychain Access Utility opens.
5. Enter the **Password** to unlock the Keychain Access Utility.
6. Enter the **Certificate password**. Click **OK**.
7. Click the **Always Trust** button.
8. The authenticate procedure may repeat. Enter the **Password** to continue.
9. In the Keychain Access windows, find the **Self-Signed Certificate** named with the client computer name under the **Name** column.
10. Double click on the **Self-Signed Certificate** .
11. Expand the **Trusted** section. Find the **Secure Sockets Layer (SSL)** and set the permission to **Always Trusted**. Apply the changes.
12. The authenticate procedure may repeat. Enter the **Password** to continue.
13. The **Import Certificate** should be completed. The Aliro system can be accessed using the local browser.

### 7.5 Upgrading the Software

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1. Click **Upgrade**. An upgrade summary with the installed version as well as the new version is displayed.
2. Click **Browse** to select the **Backup Location**, should another location than the software location be preferred.
3. Click **Continue** to upgrade.

### 7.6 Uninstalling the Software

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To uninstall the Aliro System:

1. Back up all data before uninstalling the system, should the data be required later.
2. Open **Start menu > Control Panel > Programs and Features > Aliro**.
3. Select **Uninstall**. The Aliro window for Uninstall Summary is displayed.
4. Tick **Uninstall databases**. This removes all data from the SQL Server.
5. Click **Continue**. The window Setup Progress is displayed while the software is uninstalled.

## 8 Accessing the User Interface

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The Aliro access control system is accessed from the server computer, computers on the same network as the server or any computer with Internet connection:

1. Open an **Internet browser**.
2. Type in the **host name** of the Aliro access control system in the domain address field.
3. Enter the details for **User** and **Password**. The default login details for both is "admin".
4. Click **Login**.

Kindly note that the Aliro web server must be publicly available from the Internet in order to gain access to the user interface from external networks.

Issued by

Vanderbilt International (IRL) Ltd.  
Clonshaugh Business and Technology Park  
Clonshaugh  
Dublin 17  
Ireland

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Document Nr A-100239-5  
Edition Date 2015-10-15