

## Quick Start

**MATRIX COMSEC****Head Office**

394-GIDC, Makarpura, Vadodara - 390010, India

Ph: +91 265 2630555, +91 8511173344

Email: [Support@MatrixComSec.com](mailto:Support@MatrixComSec.com)

Website: [www.MatrixSecuSol.com](http://www.MatrixSecuSol.com)

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Please read this guide first for correct installation and retain it for future reference. The information in this guide is prevailing at the time of publication. However, Matrix Comsec reserves the right to make changes in product design and specifications without prior notice.

### Copyright

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### Warranty

Limited Warranty. Valid only if primary protection is provided, mains supply is within limit and protected, and environment conditions maintained within product specifications. Complete warranty statement is available on our website:

**[www.MatrixSecuSol.com](http://www.MatrixSecuSol.com)**

## FCC Compliance

This device complies with part15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.



This equipment has been tested and found to comply with the limits of Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Product	Compliance
ARC DC100P, ARC DC100S	  FCC
ARC IO 800	NO

## Disposal of Product after End-Of-Life

At the end of product life cycle; batteries, soldered boards, metal components and plastic components must be disposed through recyclers.

If you are unable to dispose-off the products or unable to locate e-waste recyclers, you may return the products to Matrix Return Material Authorization (RMA) department.

### Technical Specifications(ARC IO)

Specification Parameter	ARC IO 800
<b>General</b>	
Input Power	PoE (IEEE 802.3 af Class 0; Max 12W) OR External Power Adapter (12VDC@2A)
Communication mode	Ethernet and/or RS-485
Ethernet speed	10/100 Mbps
LED	1
<b>IN/OUT</b>	
No. of Inputs	8 inputs
No. of Outputs	8 outputs
Input Type	Four State Supervised
Output Type	Relay SPDT, Form C, 5A @ 24 VDC
<b>Physical</b>	
Dimensions (WxHxD)	107mmx125.5mmx55mm
Weight	260 g(approx.)
<b>Environmental</b>	
Operating Temperature	0 to 50 °C
Humidity Range	20% to 95% RH Non-Condensing

### Know Your COSEC ARC

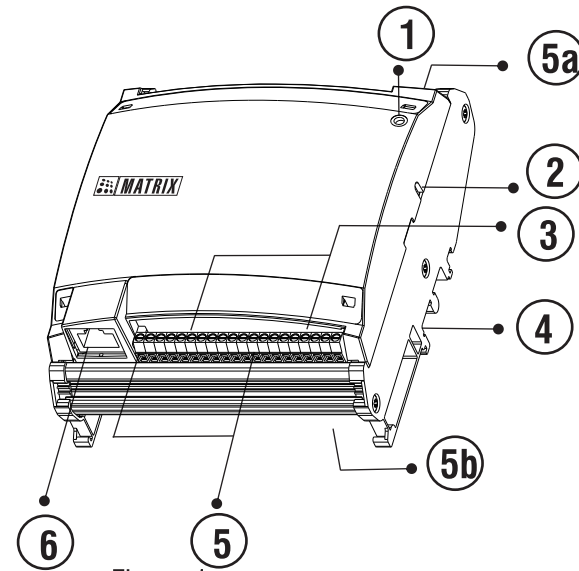


Figure 1:

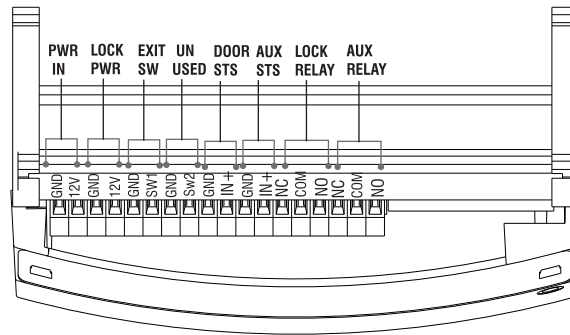
- 1 - LED Indicator
- 2 - Reset Button
- 3 - Screw Grips
- 4 - Mounting Clip
- 5 - Connection Terminals
- 5a- Upper Connectors
- 5b- Bottom Connectors
- 6 - Ethernet Port in DC 100P and IO 800

### Variants

- 1 - COSEC ARC DC 100P
- 2 - COSEC ARC DC 100S
- 3 - COSEC ARC IO 800

## COSEC ARC DC100P

### Upper Connectors



### Bottom Connectors

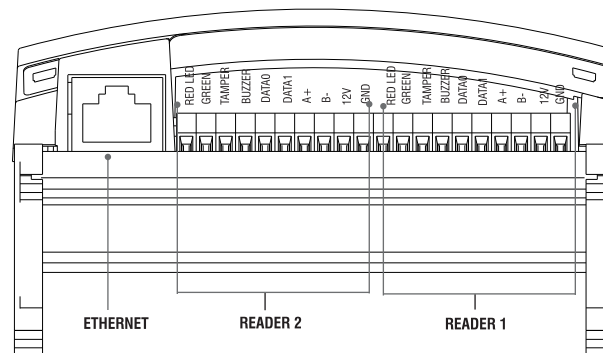


Figure 2: Connection Terminals

Specification Parameter	ARC DC100P	ARC DC100S
IN/OUT		
Exit Switch Port	Yes	
Door Status Sense	Four State Supervised	
Door Lock Relay	Relay SPDT, Form C, 2A @ 24 VDC	
Door Lock Power	12 VDC@1A (in case of power adapter supply mode only)**	
Aux Input Port	Yes	
Aux Output Port	Form C SPDT Relay output, max 2A@24 VDC	
Physical		
Dimensions (WxHxD)	107mmx125.5mmx55mm	
Weight	250 g (approx.)	
Environmental		
Operating Temperature	0° to 50°C	
Storage Temperature	0° to 50°C	
Humidity Range	5% to 95 % RH Non-Condensing	
Others		
System integration	Open API for software integration	

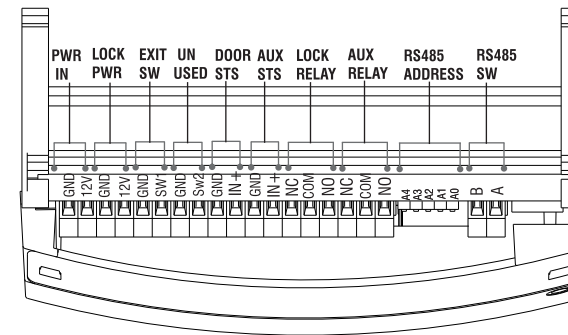
\*\* The maximum total of all output power from the device is 7.5 W with PoE and 15.6W with 12VDC/2A power adapter.  
It is not advisable to supply door lock power when device is operating in PoE mode.

## Technical Specifications(ARC DC)

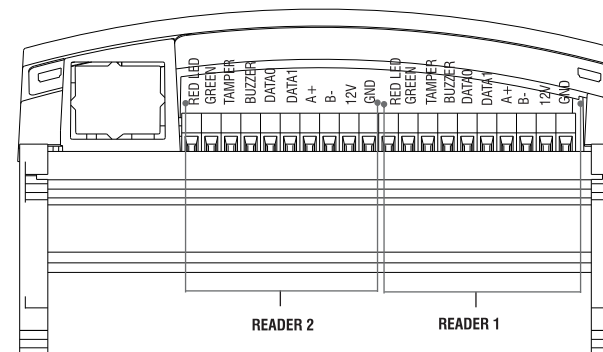
Specification Parameter	ARC DC100P	ARC DC100S
General		
Readers	Up to 2 readers per controller (Wiegand and/or RS485)	
Doors	1 door per controller	
User Capacity	10,000	
Event Buffer	1,00,000	
Input Power	PoE (IEEE 802.3 af Class 0; Max 12W) OR External Power Adapter (12VDC@2A)	External Power Adapter (12VDC@2A)
Communication	Ethernet (with Master Panel Lite controller and/or direct server communication)	RS-485 (For Master Panel Lite controller only)
LED	1 LED	
Readers		
Power	12VDC at maximum 150mA per reader	
Interface	Wiegand and RS-485	
Reader Types	2 reader ports for any Wiegand or Matrix PATH reader. <b>Note:</b> RS-485 interface is for Matrix PATH series reader only.	

## COSEC ARC DC100S

### Upper Connectors



### Bottom Connectors



## COSEC ARC IO800

### Upper Connectors

## COSEC ARC IO800

### Upper Connectors



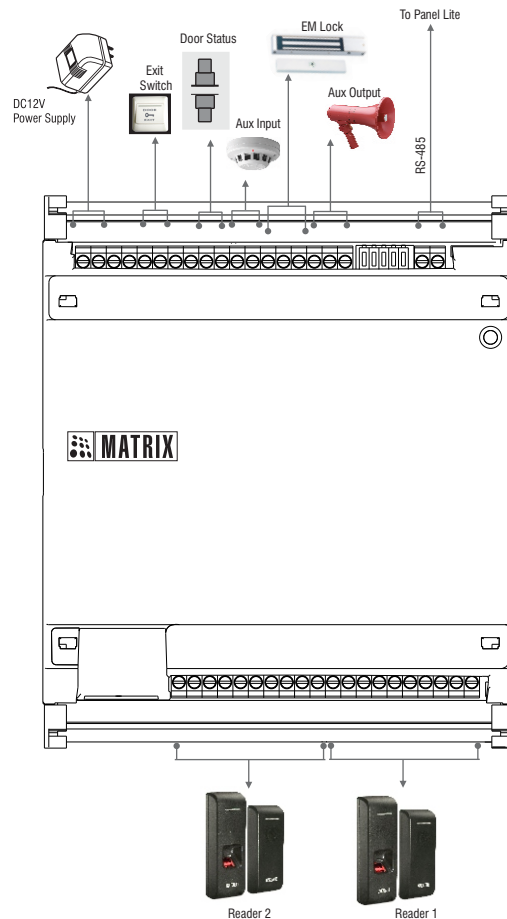
### Bottom Connectors



## Connecting Interfaces with COSEC IO800



## Connecting Interfaces with COSEC ARC DC100P/S



## What Your Package Contains

- COSEC ARC
- Power Adapter
- DC Jack Cable Assembly
- Warranty Card
- Quick Start

## Things You Will Need

- A Wire Stripper
- A Screw Driver Set
- Insulation Tape
- Access to the COSEC Server
- A Stand-alone Computer with a Web Browser to change the Network Settings of the ARC Controller.

## WARNING

- Installation and Servicing should be done only by a qualified technician.
- There are no user-serviceable parts inside.
- Opening or removing the device cover may result in electric shock or exposure to other hazards.
- The 3 VDC/18 mAh (Li-Al) alloy Manganese Dioxide Coin Battery should be replaced by authorized dealers only as there is a risk of explosion if the battery is replaced in an incorrect manner.
- Please dispose-off used batteries.

## Prepare For Installation

- Unpack the ARC Controller and check your package contents.
- Select a suitable location for Din Rail mounting. It must be a flat surface such as inside an electrical gauge box.
- The ARC Controller can be mounted using both 35 mm and G-section Profile Din Rails.
- Read the relevant sections on connecting and mounting the ARC Controller (recommended) before proceeding with installation.

## Mounting the COSEC ARC

- Connect the required cables with reference to Figures 1 & 2. To do this, insert the wires into their respective Connection Terminals as shown in Figure 2. Tighten the screw grips.
- Hold the COSEC ARC with its Mounting Clip facing the Din Rail.
- Lock the upper edge of the clip against the upper ridge of the rail as shown in Figure 3.
- Press the lower edge of the clip into the lower ridge of the rail, until it locks with a “click” sound (Figure 3).
- Tie the connected cables neatly using cable ties.

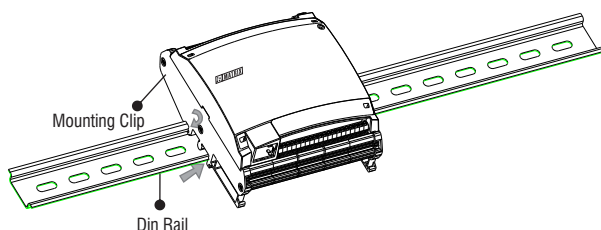


Figure 3: Mounting the COSEC ARC\*

### SAFETY INSTRUCTIONS

Do not install the device:

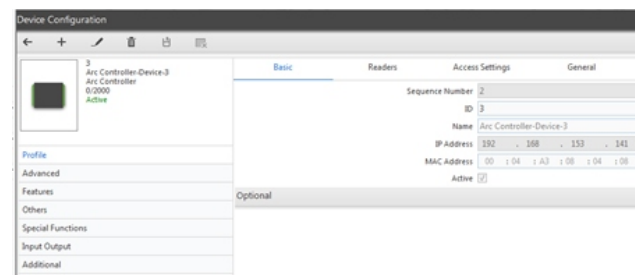
- On unstable surfaces.
- Where ferromagnetic field or noise is induced.
- Where static is created, such as desks made of plastic, carpets.
- Near volatile inflammable materials or inflammable goods such as drapes.
- Where volatile gas and/or inflammable gas is created.

\* Image shows mounting on a 35 mm plate.

- On the Door Web page, click on the **Network** tab.
- Under **Ethernet Interface** option, enter the IP Address to be assigned to your Door.
- If required, change the **Subnet Mask**, configure the **Gateway IP Address**, the **Preferred** and **Alternate DNS**.
- Note down the MAC address of the COSEC ARC.
- Under **Server Communication** option, enter the **IP Address/Host Name** of the server.
- Click the **Save** button to save your settings.

## Bringing Door Online

- Open the COSEC Server application on a browser.
- Go to **Devices > Device List** > Click the **New** icon.
- On the **Select Device Type To Be Added** window, select **COSEC ARC**.
- Click the **Continue** button. The **Device Configuration** window will open.



- Go to **Profile > Basic**.
- Enter the **Name** and **MAC Address** of the COSEC ARC.
- Click **Save**.
- After you have successfully added the door, the door will go online.



To configure network settings for the COSEC ARC, follow these steps:

- Open a Web browser on your computer.
- Enter the IP address of the Door (default: http://192.168.50.50), in the address bar of the browser and press the Enter key on your computer keyboard.
- When prompted, enter the login credentials for the Door.

Default Username: **Admin**

Default Password: **1234**

- Click **OK**.

The screenshot shows the COSEC ARC web interface with the 'Network' tab selected. The interface includes a sidebar with 'Network', 'Backup and Update', and 'General' options. The main content area is divided into sections for 'Ethernet Interface', 'Server Communication', and 'Command & Control Centre Communication'. The 'Ethernet Interface' section contains fields for IP Address (192.168.153.174), Subnet Mask (255.255.255.0), Gateway, Preferred DNS Server, Alternate DNS Server, and MAC Address (00:04:A3:08:04:08). The 'Server Communication' section has a 'Connectivity' dropdown set to 'Online', and fields for IP Address (192.168.153.143), Host Name, and Port (11000). The 'Command & Control Centre Communication' section includes a 'TCP Notification' checkbox, fields for IP Address (192.168.50.200) and Port (11000), and a 'Test Network Connection' section with 'Enter URL' and 'Status' fields. 'Save' and 'Logout' buttons are at the bottom.

## Powering On the Device

Apply Power to the COSEC ARC and wait for the reboot cycle to complete. At the time of device start up i.e. Bootloader state, the LED will glow to a constant Orange color.

The COSEC ARC has a multicolour LED indicator for different states of device. The table below shows some common indications:

### LED Status Indicators

Device State	LED Response
Online	Green-Constant ON
Offline	Red blinking for 200ms
Degrade	Green blinking for 200ms
Bootloader State	Orange-Constant ON
Waiting for firmware upgrade	Red & Green-Alternate blinking for 600ms
Firmware upgrade process	Orange blinking for 600ms

## Connecting the Door to COSEC Server

The COSEC ARC can communicate with the COSEC Server in two ways:

- As a Direct Door
- As a Panel Door

## Connecting as a Direct Door

In this type of architecture, you can connect the COSEC ARC either directly to the monitoring computer using an Ethernet Crossover/Straight cable or through an Ethernet Switch or hub using standard straight-through Ethernet cables (Figure 4).

### Note

ARC DC 100S and ARC IO 800 do not support Direct door connection.

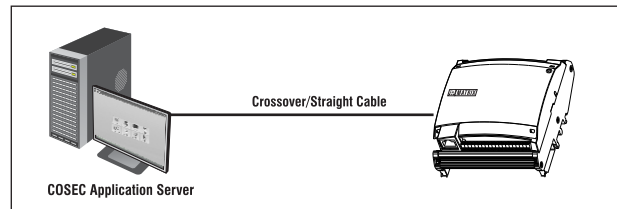
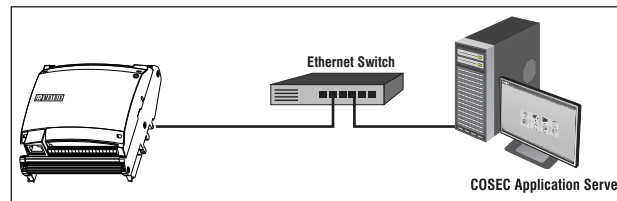


Figure 4: Connecting to the Monitoring Computer



## Connecting as a Panel Door

To use the COSEC ARC as a Panel Door, connect it either directly to a Panel Lite over Ethernet, or serially through RS-485 looping. The typical master-slave architecture shall appear as shown in Figure 5.

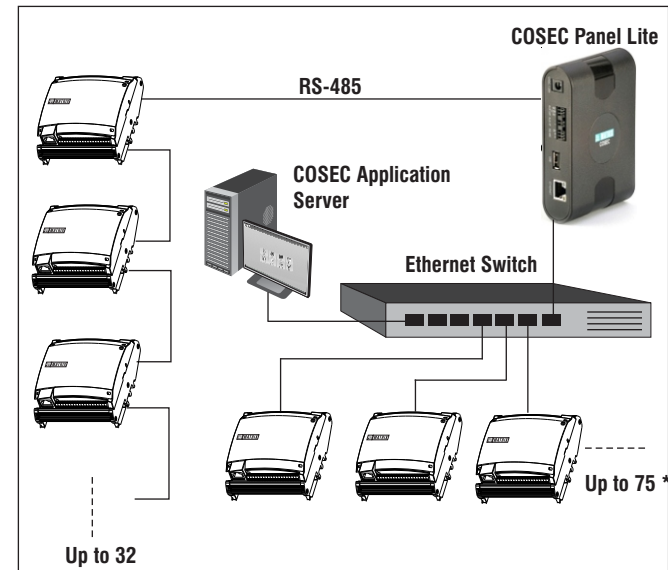


Figure 5: Connecting as Panel Door

## Configuring Network Settings

The COSEC ARC can be connected to the network over Ethernet. The COSEC ARC is pre-configured with a default IP address and Subnet Mask.

- Default IP Address: Direct Door-**192.168.50.50**, Panel Door- **192.168.50.51**
- Default Subnet Mask: **255.255.255.0**

The Door IP Address can be changed if required. Ask your network administrator for an IP Address for the Door. Also ask your network administrator, if you will need to change the Subnet Mask, or configure the Gateway IP Address and DNS.

\* 255 doors are supported with PANEL Lite V2.