



Virus and Ransomware Protection

1G Network Switch Operating Manual

7 Port Gigabit Ethernet Air Gap Device



Package Contents

1G Network Switch

Mains Cable

1G Network Switch Operating Manual

Overview

The Air Gap 1G Network Switch is a self contained 7 port 1 Gigabit per second 1U 19" rack mounted Level 1 air gapping device.

The Air Gap Network Switch is designed to enable the selective connection and disconnection of Ethernet ports to facilitate the partitioning of a network to protect against Viruses, Malware and Data Theft.

The Air Gap 1G Network Switch provides 1 Ethernet input port and 7 air gapped Ethernet ports.

The 7 air gapped Ethernet ports can be selectively connected to the input Ethernet port to disconnect and connect network segments when not in use thus rendering them impenetrable to viruses, malware and inhibiting data theft.

Removing a device from a network when it is not in use means data on that device is not able to be either attacked or to be stolen.

Removing devices from a network inhibits an attacker from encrypting data on these devices when not being used by the legitimate client.

Removing devices from a network also means data on these devices can not be accessed by an attacker when not being used by a legitimate client which is analogous to having a clear desk policy for your computer network.

Air gaps provide a level of security which software can not.

Regulatory



Please contact point of purchase for product disposal

UK
CA

Specifications

The Air Gap 1G Network Switch is a 1G Base-T Ethernet layer 1, 1 input 7 output 19 inch rack mounted Air gap isolation unit with the following features

8 air gaped Ethernet ports, 1 input port, 7 air gapped ports

1 Ethernet Management port

2 USB ports (Mouse, Keyboard)

1 HDMI port

Configuration and operational state displayed on front and rear of unit

Fanless operation

Operational temperature range 0 to 40 C

1U 19 inch rack mounted with mounting lugs

Size 444 mm (Width), 44 mm (Height), 221 mm (Depth)

100 V to 230 V AC 50 and 60 Hz

Fully CE/UKCA approved

See 1G Network Switch Data Sheet for a full list of specifications.

Air Gap 1G Network Switch Unit

Air Gap 1G Network Switch Front Panel



The Air Gap 1G Network Switch Front Panel has

- A green power LED;
- 2 LEDs for each Ethernet port to show the configured state of each air-gap port and which air-gap ports are connected (non air-gapped) at any moment in time;
- 2 LEDs, green and red, are provided to display the current running status of the unit, Stopped or Running.

Air Gap 1G Network Switch Rear Panel



The Air Gap 1G Network Switch Back Panel has

- USB Mouse and Keyboard Sockets;
- HDMI Socket;
- 1 Ethernet Input port;
- 7 Ethernet switch ports;
- Ethernet Management port;
- Power Socket.

Unpacking Instructions

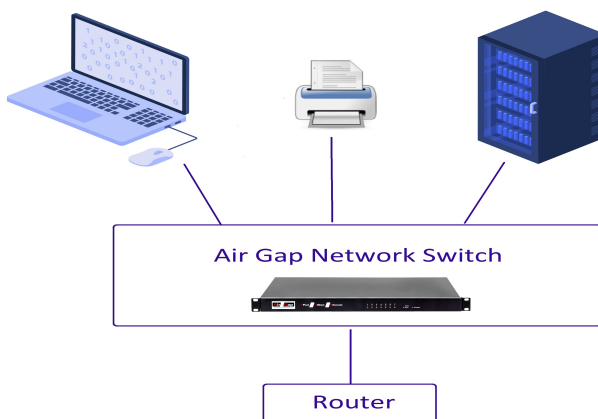
Remove the Air Gap 1G Network Switch, User Manual and Mains Cable carefully from the cardboard box. Please recycle the cardboard box in a suitable recycling centre.

Place the Air Gap 1G Network Switch on a stable flat surface and connect an HMDI monitor, capable of operating in 1920x1080 mode, a USB mouse and a USB keyboard to the Air Gap 1G Network Switch.

Connect the Ethernet input port to the network.

Connect between 1 and 7 network devices which are to be selectively isolated to the 7 air gapped Ethernet ports.

Below is an example of how and where an Air Gap Network Switch would be implemented within a computer network.



Powering On Unit

Connect the Mains Cable to the Air Gap 1G Network Switch unit and turn on mains switch on the rear of the unit.



The green power LED will display to signify that the unit has power.

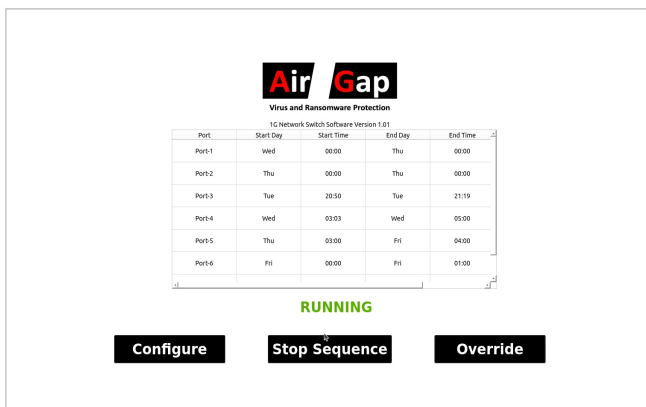
For the initial time of operation of the Air Gap 1G Network Switch unit the status LEDs should display red to signify the Air Gap 1G Network Switch unit is in the stopped state.

The 14 Ethernet air-gapped ports status LEDs, 2 LEDs for each port – orange and green - will all be unilluminated except for port 1 green LED.

When the unit is powered off the device status and the configuration of the 7 air gap ports is saved internally to the unit.

On subsequent powering on of the unit the red and green unit status LEDs and the 14 Ethernet air-gapped ports status LEDs will display illuminate to reflect the status of the device prior to it being powered off.

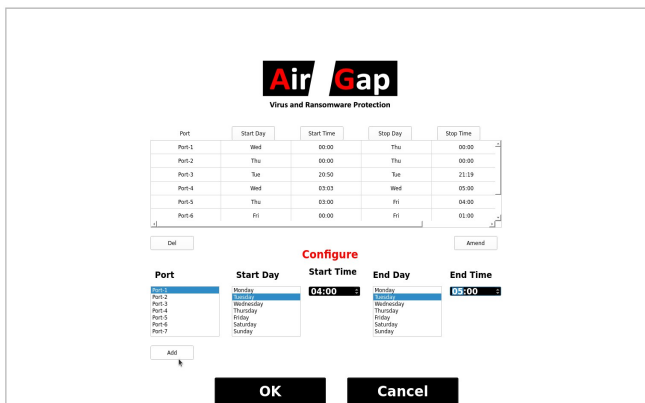
The unit will display the Air Gap logo splash screen on the HDMI monitor, if attached, and then display the main screen on the HDMI monitor as shown below



Configuring Unit

To configure the unit press the Configure button.

The Configure screen will display as shown below



The configuration screen will display a table of ports, days and times when the air gaps are set to connect devices from the network.

The configure screen allows the user to change the Air Gap 1G Network Switch unit's current configuration by allowing the user to select which ports, times and days the devices are connected to the network.

The user is able to add, amend or delete a sequence to the list of sequences.

When the Air Gap 1G Network Switch is set to running mode initially no ports will be connected and thus each port and as a result the devices connected to it, will be disconnected creating an air-gap between the input port and all 7 Ethernet air gap ports.

The inbuilt scheduler will check the current day of the week and compare this to the days of the week as set in the configuration settings.

When the current day is the same as one of the days set in the

configuration the scheduler will compare the current time and the time set in the configuration settings.

When the time of day is reached the Air Gap 1G Network Switch will connect the relevant port configured until the stop day and time is reached after which time the relevant port will be disconnected.

The scheduler continues and connects and disconnects ports in line with the current day and time.

For example, to make the unit to close ports 1 on a Monday from 10 am to 6 pm and Port 3 on a Monday, Tuesday and Wednesday from 11:30 am to 7:15 pm:

Select any previous settings in the table and press Delete until all settings are removed.

Select Port 1 Monday 10:00 Monday 18:00

Press Add

Select Port 3 Monday 11:30, Monday 19:15

Press Add

Select Port 3 Tuesday 11:30, Tuesday 19:15

Press Add

Select Port 3 Tuesday 11:30, Wednesday 19:15

Press Add

Press OK

At this point Ports 1 and 3 should display with green LEDs lit on front panel indicating that they are selected ports and the main screen should display the set configuration.

Setting unit Running / Stopping the unit



To set the unit Running – select the Start Sequence button.

The front panel green Run LED should display lit and the main screen should display “Running” in green.

This will load the configured sequence as described above into the devices scheduler.

In the described case at 10am on Monday Port 1 will connect to the unit until 6 pm. This will be signified by the Port 1 orange LED illuminating during this time.

In addition Port 3 will also connect between the hours 11:30 am and 7:15 pm on Monday, Tuesday and Wednesday.

This will be signified by the Port 3 orange LED illuminating during this time.

When a port is closed allowing a device to be connected to the network data can flow between any of the connected ports. As such a device connected to Port 1 can see the network on the Input port as can Port 3 and additionally the device connected to Port 1 can see the device on Port 3 and visa versa. As such the devices operate seamlessly as a whole network.

In addition input devices can see port 1 and port 3 devices.

When the port is disconnected then the disconnected device is isolated from the network.

The ports will continue with this sequence until the unit is set to Stopped by pressing the Stop button. This will set the front panel status LED to red and “Stopped” will be displayed on the main screen.

Override Port Settings

The Override page allows the the user to be able to connect one or more ports not on the schedule.

The Override screen shows a log of the last 7 connections made by the Air Gap 1G Network Switch between the input port and the air gapped ports.

Multiple ports can be connected simultaneously. To connect a port, for example port 3, press Port 3 and this will connect port 3 to the input port.

Press Return to go back to main screen.

Power down

Once a unit is configured the unit will remember the status (Running/Stopped, Time, Days, Ports selected) every time it is unpowered and re-powered.

This enables the unit, for example, to be configured at a desk and then be installed in a rack in a computer room or to recover in the event of a power failure to the unit.

Press the power button to power down the unit.

Configuring user hardware

As the Air Gap 1G Network Switch operates seamlessly there is no requirement to configure the network devices specifically for operation with the Air Gap 1G Network Switch.

Errors

Power LED does not display : Check power lead, fuse and switch on rear of unit is On.

The unit does not ever show orange LED illuminated : Ensure the unit is Running (Running LED is illuminated).