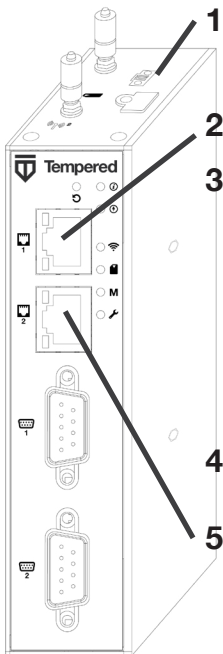# Manual Quick Start   Airwall – 110

Place the Airwall where it can reach the Conductor on your shared network. The fastest method is to connect the Airwall via the console port:

1 Plug in the Airwall – Locate the Airwall in an area that complies with its safe operating guidelines, then plug it in or apply power.

2 Connect to your network – Plug in to your network using port 1.

3 Connect a computer to the Airwall – Plug in using the micro USB console port located on the bottom.
- Using a terminal (macOS, Linux) or terminal emulator (Windows), connect to the Airwall using baud rate 115200.
- At the login prompt, log in with: name: airsh, password: airsh.
- Set the Conductor IP address, or URL and port (optional). For example:
  conductor set my-conductor.tempered.com

4 Ping the Conductor URL –
ping my-conductor.tempered.com

**5 Connect to devices** – Connect the devices you want to protect to the Airwall on Port 2.

The Airwall should now be recognized in the Conductor, showing up on the Licensing tab, or on the Airwalls page as ready to manage.

Once the Airwall is connected to the Conductor, you can manage and configure it there (including serial ports). For alternate methods of provisioning the Airwall or installing the console port driver, go to Airwall help at https://webhelp.tempered.io/webhelp/.

For the latest info, see Airwall help:

DHCP Quick Start   Airwall – 110

Place the Airwall where it can reach the Conductor on your shared network. **Once you set up DHCP on your network, you can skip steps 2 and 3 when setting up any additional Airwalls.**
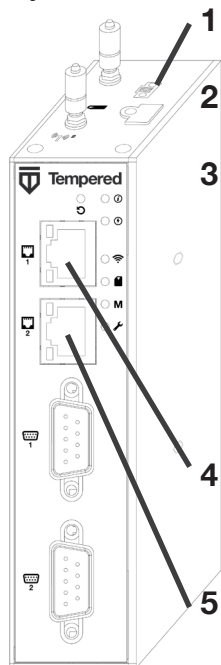
1 Plug in the Airwall – Locate the Airwall in an area that complies with its safe operating guidelines, then plug it in or apply power.

2 Check DHCP – Ensure there is a DHCP server and a DNS resolver or DNS server for the local domain accessible from the shared network.

3 Create a DNS SRV record – On the DNS server, add a SRV record pointing to the Conductor URL:

    _service._proto.name TTL class SRV priority
    weight port target

For example, if your shared network domain is example.com and the Conductor hostname is cond-01, then the SRV record should be:

    _ifmap._tcp.example.com. 3600 IN SRV 10 0
    8096 cond-01.example.com

*Use the TTL, priority and weight for your DNS environment. Port 8096 is the default, but you can change it in the Conductor and set it to an alternate port.

4 Connect to your network – Connect the Airwall to your network using Port 1. The DHCP server assigns an IP address, netmask, and a default gateway to the Airwall. The Airwall then does a DNS lookup and configures itself using the Conductor address.

5 Connect to devices – Connect the devices you want to protect to the Airwall on Port 2.

The Airwall should now be recognized in the Conductor, showing up on the Licensing tab, or on the Airwalls page as ready to manage.

Once the Airwall is connected to the Conductor, you can manage and configure it there (including serial ports). For alternate methods of provisioning the Airwall or installing the console port driver, go to Airwall help at https://webhelp.tempered.io/webhelp/.

For the latest info, see Airwall help:

Platform Guide

Airwall 110e and Airwall 110g
**Security Appliance**

Tempered

The Airwall 110 platforms are small form factor industrial security appliances that facilitate private overlay networks between customer-provided equipment and devices. This document contains important operating information, specifications, and installation instructions.
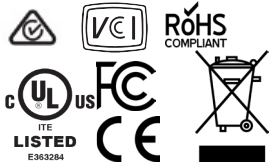
MODELS

Part Number	Model	Cellular	Eth Ports	Serial Ports
PLF-0138-01	Airwall 110e	No	2	2
PLF-0140-01	Airwall 110g	Yes	2	2

PANEL LAYOUTS
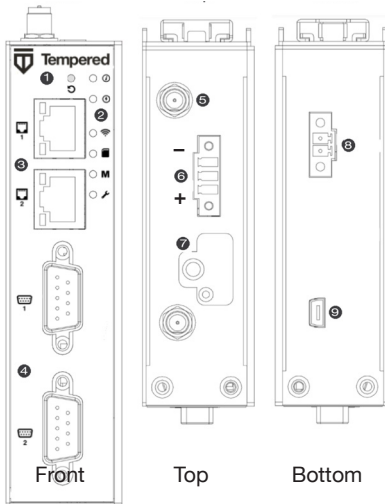
1. Multi-purpose button
2. LED - Signal indicators:
   - Status
   - Power
   - Cellular connection status
   - SIM card
   - MAP connection (Conductor)
   - Diagnostic mode
3. Ethernet ports
4. Serial ports
5. Antenna connectors
6. Power input connector
7. SIM card slot
8. Relay
9. Micro-USB console port

Front   Top   Bottom

Specifications

Airwall 110 Series		
Ethernet Ports	2 x 10/100 Mbps RJ-45 ports, auto MDI/MDIX	
Console Port	1 x micro USB	
Controls	1 x multi-purpose button (actuated with pin)	
Indicators	1x Power 1x Status 1x Map / Conductor	1x Diagnostic mode 1x Cellular Link (110g) 1x SIM card (110g)
Relay	Contact ratings: 30VDC, 2A, 60W Mode: Normally-Open	
DC Power Input	DC 9-48V, 0.78A-0.15A Over-voltage protection Reverse-polarity protection	
Storage Temp range	-45° to 85° C (-49° to 185° F)	
Operating Temp range	-40° to 68° C (-40° to 154° F)	
Operating humidity	5% to 95% (non-condensing)	
Dimensions	31mm W x 100mm D x 125mm H 1.22in W x 3.94in D x 4.92in H	
Mounting	DIN-rail, desk-mount	
Weight	290g (10.23 oz)	
Serial Interfaces		
Protocols	RS-232, RS-485, RS-422	
Connector	2 x DE-9M	

Fault Relay

This device also has a normally-open relay contact that is connected when the device is fully functional and has underlay connectivity. The relay disconnects when communication via this device is not possible. Connect your custom circuitry bearing in mind the maximum ratings in the specification table above.

Specifications (continued-pg 2)

Cellular Connectivity (110g)	
SIM card	1x micro (3FF) Push-Push SIM card slot
3G	DC-HSDPA Category 24. 42mbps DL max HSUPA Category 5. 5.76Mbps UL max 24dBm+1dB/-3dB maximum transmit power
4G	LTE Category 4: 1.4 – 20MHz bandwidth FDD 150mbps DL, 50mbps UL max TDD 130mbps DL, 30mbps UL max 23dBm±2dB maximum transmit power
3G bands	WCDMA B1, B2, B4, B5, B6, B8, B19
4G LTE FDD bands	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28
4G LTE TDD bands	B38, B39, B40, B41
Regulatory approvals	
Global	IECEE CB Scheme safety
European Union	LVD, EMCD, RoHS, REACH, WEEE RED (110g)
United States	FCC Part 15B Class A, cULus, FCC Radio
Canada	ICES-03 Class A, cULus, ISED/IC Radio
Japan	VCCI, JATE (110g), TELEC (110g)
Australia	ACMA TLN 2015, RLN 2014, EMR LN 2014 (110g) ACMA EMC LN 2017 (110e, 110g)
New Zealand	Radio Standards Notice 2020 (110g) EMC Standards Notice 2019

Parts List

WALL-HW-110e
WALL-HW-110g
included with above:
   USB A to micro USB cable
   Micro SIM card slot door
   2x Antennas-ACC-HW-ANT-LTE-5
   (ACC-HW-ANT-LTE-3 in Japan)
   1x 3 pin power connector
   1x 2 pin relay connector
   DIN rail mounting kit
	Power Supply:
	ACC-HW-110-PSU-25W
	AC Power cables:
	ACC-HW-PWR-C13-NA, (North America)
	ACC-HW-PWR-C13-JP, (Japan)
	ACC-HW-PWR-C13-AU, (Australia / New Zealand)
	ACC-HW-PWR-C13-UK, (UK, Singapore, Malaysia)

Maximum approved antenna gain (dBi, peak)

Band	Uplink Freq (MHz)	USA	Canada	Japan
LTE B12	699 – 716	8.70	7.76	N/A
LTE B28	703 – 748	N/A	N/A	3.00
LTE B13	777 – 787	9.16	8.09	N/A
LTE B5, B19, B20, B26, B18, WCDMA VI	814 – 849	9.36	8.25	3.00
LTE B8	880 – 915	N/A	N/A	3.00
LTE B3, B4	1710 – 1785	5.00	5.00	3.00
LTE B2, B25, B39	1850 – 1920	8.00	8.00	N/A
LTE B1	1920 – 1980	N/A	N/A	3.00
LTE B7, B38, B41	2496 – 2690	8.00	8.00	3.00

Hereby, Tempered Networks, Inc declares that the radio equipment type Airwall 110g is in compliance with the Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: https://repo. tempered.io/DoC/110.

The Airwall-110e and Airwall-110g can be used in all EU Member States.

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Radiation Exposure

This equipment complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20cm between the radiator and your body and must not be co-located or operating in conjunction with any other antenna or transmitter.

If this device is installed with an antenna other than the type included with it, you must select an antenna and cabling system that respects the maximum antenna gain listed in the tables. If your selected antenna does not meet these criteria, you may void your legal authority to operate this equipment.

Status LED Codes

| Normal Operation | On Steady | No Conductor Connection | O O O O = = O O = = |
Conductor Blink	O O = =	System Error	O O O O = = O O O = =
Missing Identity	O O O = = O = =	Secure Network Error	O O O O = = =
Factory Reset	O O = = O = =	No Shared Network	O O O O = = O = =
Diagnostic Mode	O = O = (fast blink)	Firmware Download	O O O = = O O = =
		Firmware Update	O O O = = =

Caution

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO YOUR LOCAL REGULATIONS.

Wiring
Power Inputs

This device supports one power supply. The connector for PWR 1 is located on the terminal block on the top of the unit.
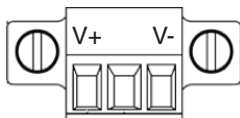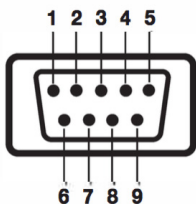

Step 1: Insert the negative DC into the V- terminal and the positive DC into the V+ terminal.
Step 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-damp screws in the front of the terminal block connector.

Serial Connector

Pin #	RS-232	RS-422	RS-485
1		TX-	Data-
2	RxD	TX+	Data+
3	TxD	RX+	
4		RX-	
5	GND	GND	GND
6			
7	RTS		
8	CTS		
9			

SIM Card Orientation

Insert the SIM card with the cut corner up, as shown in the picture on the right.

Wrong   **Correct**

Multi-Purpose Button

Also called the Reset button, the multi-purpose button provides two different functions, depending on how long it is pressed and held.

Short Press	Press for 5 seconds and release. The Status LED will blink steadily.	Places the Airwall in diagnostic mode.
Long Press	Press for at least 8 seconds and release. The Status LED will blink in a 2 flash, 1 flash pattern.	Resets the Airwall to factory defaults.

NOTE: To exit diagnostic mode, select Reboot in the diagnostic interface or turn it off and back on again.

⚠️ **Safety and Warnings**

Elevated Operating Ambient: If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature specified by the manufacturer.

Reduced Air Flow: Make sure the amount of air flow required for safe operation of the equipment is not compromised during installation.

Mechanical Loading: Make sure the mounting of the equipment is not in a hazardous condition due to uneven mechanical loading.

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Note: This equipment has been tested and found to comply with the limits for a 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.

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。　　VCCI－A

Troubleshooting

If an Airwall is online, you can use the Conductor to download a packet capture file, a diagnostic report, or a support bundle for troubleshooting. Log in to the Conductor with a system administrator or network administrator account, then go to the Airwall's Diagnostics page: Select **Airwalls**, choose the one you want from the list, then click **Diagnostics**.

Start a packet capture to troubleshoot networking issues:
1. On the Airwall's **Diagnostics** page, begin a packet capture by clicking **Start Packet Capture**.
2. Stop the packet capture by clicking **Stop Packet Capture**.

You will receive a download link once the Conductor has finished creating the packet capture .pcap file. View the .pcap file using any packet-capture and protocol-analysis tool, such as Wireshark.

Create a diagnostic report to check Airwall health:
1. On the Airwall's **Diagnostics** page, you can put it into diagnostic mode and download a diagnostics report. If the Airwall is offline, you can put it in Diagnostics mode to download the report.
2. Create your report by clicking **Request a diagnostic report**.

You will receive a download link once the Conductor has finished creating the report .txt file. Review the diagnostic report for a high-level look at the overall health of the Airwall.

Create a support bundle for Tempered Support:
A support bundle .pkg file is an encrypted archive that facilitates technical support by Tempered.

1. On the Airwall's **Diagnostics** page, you can put it into diagnostic mode and download a support bundle. If the Airwall is offline, you can put it in Diagnostics mode to download the support bundle.
2. Create a support bundle by clicking **Request a support bundle**.
3. When the support bundle .pkg file is ready, download the file and send it as an email attachment to support@tempered.io.