

SPECIFICATIONS

Airwall-250 Series	
Ethernet Ports	4 x 10/100/1000 Mbps on RJ-45 ports, auto MDI/MDIX 4 x Combo 10/100/1000 Mbps on RJ-45 ports, auto MDI/MDIX or 1 Gbps on SFP socket
Console Port	1x Micro USB
Power Input Failover	Automatic failover between all inputs
DC Power Input	Dual 12-48 VDC on terminal block
Storage Temp range	-40° to 85° C (-40° to 185° F)
Operating Temp range	-40° to 85° C (-40° to 185° F) -30° to 70° C (-22° to 158° F) 3GPP Class A (cellular models only)
Operating humidity	5% to 95%
Dimensions	188mm H x 188mm D x 130mm W (7.4" H x 7.4" D x 5.12" W)
Mounting	DIN-rail, wall-mount, or rubber feet
Weight	3.0 kg (6.61 lbs.)
Power-over-Ethernet (PoE)	
Operating Mode	Auto mode
PoE Power Output	Ports 1-8: IEEE 802.3at/af Max 30W/port Pin 1/2,7/8(-), Pin 3/6,4/5(+)
Protection Features	Overload, surge, and short-circuit protection
Cellular module (Sierra Wireless HL7588) – Supported Bands	
4g Cellular Modes	LTE: 1900(B2)/ 1700(B4)/ 850(B5)/ 700(B13)/ 700(B17) MHz LTE Category 4 Downlink: 150 Mbps Uplink: 50 Mbps
3.5g Cellular Modes	UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 1900(B2)/850(B5) MHz Data (HSPA+) rates: Downlink: Up to 42 Mbps (HSDPA category 24) Uplink: Up to 5.76 Mbps (HSUPA category 6)
Cellular antenna connectors	2x SMA female connectors (250g) 4x SMA female connectors (250gd)

SIM card slot	1x externally accessible 3FF micro SIM card slot (250g) 2x externally accessible 3FF micro SIM card slots (250gd)
Serial Interface (Port 1)	
Protocols	RS-232, RS-422, RS-485 (full and half duplex)
Connector	DE-9M
Isolation	2.5 kV minimum
Serial Interface (Port 2)	
Protocols	RS-422, RS-485 (full and half duplex)
Connector	Terminal block
Isolation	2.5 kV minimum
Regulatory Approvals	
CE (Airwall-250e only)	EN 62368-1:2014, EN55032:2012, EN 55024:2010
cETLus	UL 62368-1:2004 (2nd ed.), CSA C22.2 No 62368-1-14 (Ed. 2)
IEC	62368-1:2014 (2nd edition)
IC	ICES-3:2016 (Issue 6)
FCC	FCC Part 15B Class A™ FCC Part 22H, Part 24E, Part 27 (for 250g/250gd only)

Special Conditions of Use

- The equipment must be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with EN 60079-15 and accessible only by the use of a tool.
- Subject devices are for use in an area of not more than pollution degree 2 in accordance with EN 60664-1.
- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment.
- This equipment is an open-type device that is to be installed in an enclosure only accessible with the use of a tool, suitable for the environment.
- This equipment is suitable for use in non-hazardous locations only.

Deployment Overview

An Airwall appears online in the Conductor user interface once provisioning is complete. An authorized user can then log in to the Conductor, license and manage the Airwall, and then add it to an overlay network, configure protected devices attached to the Airwall, and enable communication between other Airwall Edge Services and protected devices. You use port 1 to connect the Airwall to your shared network and ports 2-8 to connect your local devices.

Note: You can also reconfigure port assignments from the diagnostic web interface.

Provisioning the Airwall-250

The Conductor is the central configuration and management point for all Airwall Edge Services. For provisioning, an Airwall must be able to locate the Conductor on your shared network, either by manually configuring the IP or URL in diagnostic mode, or by using a DNS SRV record that allows the Airwall Gateway to look up the address of the Conductor.

To provision an Airwall Gateway in diagnostic mode:

- Configure a computer to use DHCP to obtain an IP address and netmask; then connect the computer to port 2 of the Airwall.
- Apply power to the Airwall.
- Place the Airwall into diagnostic mode by pressing and holding the multi-purpose button for three seconds. The status LED will display a fast blink pattern, as described in the blink patterns section of this document. **Caution:** Do not continue pressing the multi-purpose button as this will factory-reset the Airwall.
- In your web browser, navigate to <http://192.168.56.3>. The diagnostic mode interface will load.
- Click **Configuration**, and select **Conductor URL**.
- Enter the Conductor URL in the **Host** field. Click **Submit**.
- Reboot the Airwall by selecting the **Actions** drop-down and clicking **Reboot** or by turning the power off and back on again.

To provision an Airwall using DHCP and a DNS SRV record:

For maximum scalability and flexibility, the DNS SRV record is the preferred connection type. The Airwall will use the DHCP-provided search domain to create a DNS SRV query for the Conductor.

Note: Before you begin, ensure there is a DHCP server on your shared network and that a DNS resolver or DNS server for the local domain is accessible from the shared network.

- On the DNS server, add a SRV record pointing to the Conductor. SRV records have the following format:

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

If your shared network domain is example.com and the Conductor has hostname conductor-01, then the SRV record should have the following values:

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

The TTL, priority and weight should be determined by your DNS environment and are provided above as an example. Port 8096 is the default, but you can change it in the Conductor and set it to an alternate port.

- Apply power to the Airwall
- Connect port 1 on the Airwall to your shared network. An IP address, netmask, and a default gateway are assigned to the Airwall from the DHCP server. The Airwall then does a DNS lookup and configures itself using the Conductor address.

TROUBLESHOOTING

If an Airwall is online, you can use the Conductor user interface to download a packet capture file, a diagnostic report, or a support bundle.

Troubleshoot an Airwall using packet capture:

Packet capture is one of several diagnostic tools that you can use to facilitate troubleshooting an Airwall.

- Select **Airwalls** and choose one from the list and click **Diagnostics**.
- Begin packet capture by clicking **Start Packet Capture** and then stop packet capture by clicking **Stop Packet Capture**.

Once the packet capture *.pcap* file has been created, you get a download link to the file. The *.pcap* file is a standard format file that can be viewed using any packet-capture and protocol-analysis tool, such as Wireshark.

Troubleshoot an Airwall by creating a diagnostic report:

Creating a diagnostic report is one of several diagnostic tools that you can use to get a general overview of the health of an Airwall.

- Select **Airwalls** and choose one from the list and click **Diagnostics**. If the Airwall is offline, you can put it into diagnostic mode and download a support bundle.
- Create your report by clicking **Request a diagnostic report**.

Once the report *.txt* file has been created, you get a download link to it. The diagnostic report is a text file that you can examine to see a high-level look at the overall health of the Airwall.

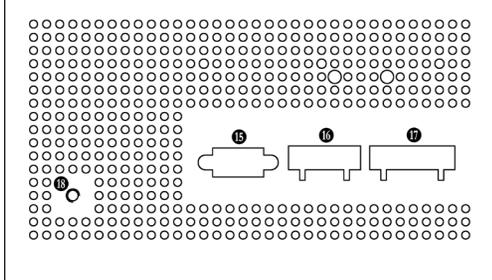
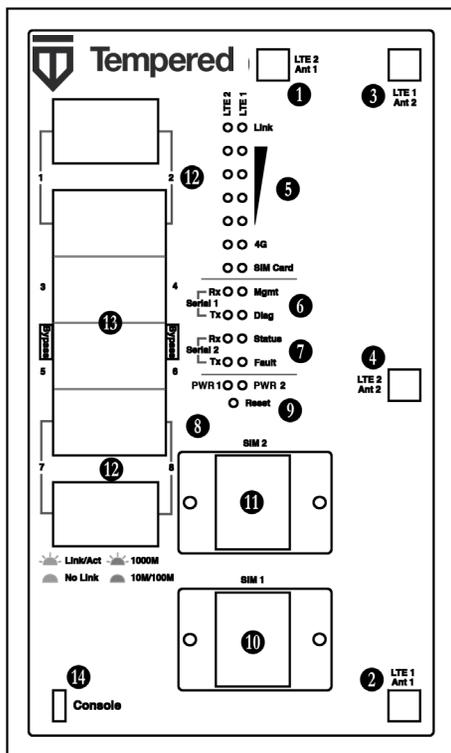
Create a support bundle:

- Log in to the Conductor with a system administrator or network administrator account.
- Select **Airwalls** and choose one from the list and click **Diagnostics**. If the Airwall is offline, you can put it into diagnostic mode and download a support bundle.
- Create an Airwall support bundle by clicking **Request a support bundle**. Once the support bundle *.pkg* file has been created, you get a download link to the file. A support bundle *.pkg* file is an encrypted archive that facilitates technical support by Tempered only.

Send the support bundle as an email attachment to support@tempered.io.

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

TOP & FRONT PANEL LAYOUTS



1. LTE 2, primary antenna connector (250g/250gd)
2. LTE 1, primary antenna connector (250g/250gd)
3. LTE 1, second antenna connector (250g/250gd)
4. LTE 2, second antenna connector (250g/250gd)
5. LED: Signal indicators, LTE modems 1 & 2
6. LED: Serial port 1 activity indicator
7. LED: Serial port 2 activity indicator
8. LED: Power input 1 & 2 indicators
9. Multi-purpose button
10. LTE modem 1 microSIM card slot (250g/250gd)
11. LTE modem 2 microSIM card slot (250g/250gd)
12. Ethernet, Combo RJ-45/SFP ports
13. Ethernet ports
14. Micro-USB console port
15. Serial interface, port 1
16. Serial interface, port 2
17. Power input connector
18. Ground (earthed)

MULTI-PURPOSE BUTTON

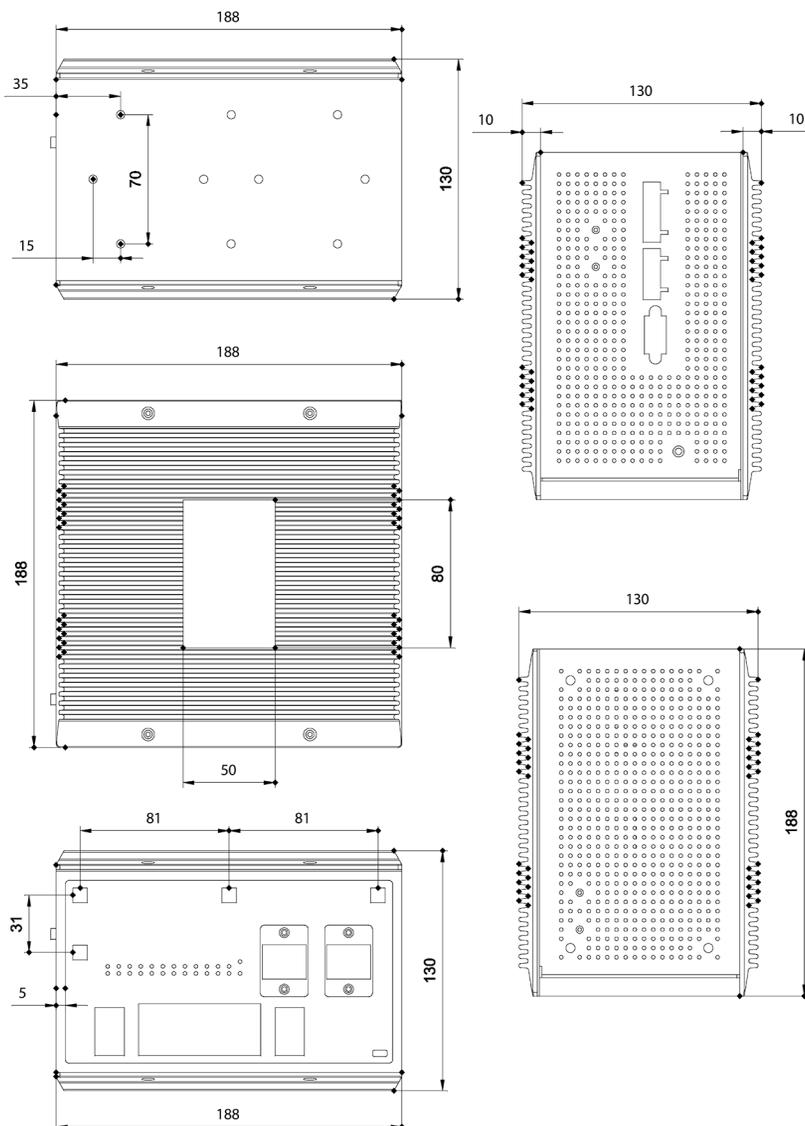
NOTE: Some Tempered documents may refer to this as a “Reset” button.

The multi-purpose button provides two different functions, depending on how long it is pressed and held.

Short Tap	Press for 3 seconds and release. The Status LED will now blink steadily.	Places the Airwall in diagnostic mode.
Long Tap	Press for at least 8 seconds and release. The Status LED will now 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 the power of the Airwall off and back on again.

DIMENSIONS



The Airwall™-250 Series is a small form factor industrial grade security appliance that facilitates private overlay networks between customer-provided equipment and devices. This document contains important operating information, specifications, and installation instructions.

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19410 HWY 99 STE A #119
 Lynnwood, WA 98036

Airwall 250g(d) contains transmitter module: FCC ID: N7NHL7588 / IC ID: 2417C-HL7588
 Device Contains Approved Radio: NL-SW-LTE-S7588

CAN ICES-3 (A)/NMB-3(A)

MODELS

Part Number	Model	10/100/1000 Ethernet	4g Cellular	Serial	802.3at/af PoE
PLF-0062-02	Airwall-250e	8	No	Yes	Yes
PLF-0066-02	Airwall-250g	8	Yes	Yes	Yes
PLF-0111-02	Airwall-250gd	8	Yes	Yes	Yes



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

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.

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.

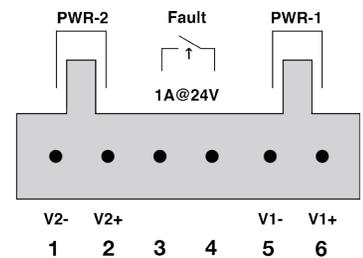
Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing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

WIRING

Power Inputs

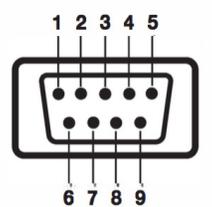
This device supports dual redundant power supplies, power supply 1 (PWR 1) and power supply 2 (PWR 2). The connectors for PWR 1 and PWR 2 are located on the terminal block.

- 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 (4-wire)	RS-485 (2-wire)
1	DCD	Tx-	Tx-	DATA-
2	RxD	Tx+	Tx+	DATA+
3	TxD	Rx+	Rx+	N/C
4	DTR	Rx-	Rx-	N/C
5	GND	GND	GND	GND
6	DSR	N/C	N/C	N/C
7	RTS	N/C	N/C	N/C
8	CTS	N/C	N/C	N/C
9	RI	N/C	N/C	N/C



Status LED Codes

Normal Operation	On Steady	No Conductor Connection	●●●● = ●● =
Conductor Blink	●● =	System Error	●●●● = ●●●● =
Missing Identity	●●● = ● =	Secure Network Error	●●●● = =
Factory Reset	●● = ● =	No Shared Network	●●●● = ● =
Diagnostic Mode	● = ● = (fast blink)	Downloading Firmware	●●● = ●● =
		Updating Firmware	●●● = =

○ Blink = Pause