SPECIFICATIONS

Airwall-100 Series	
Ethernet Ports	2 x 10/100 Mbps on RJ-45 ports, auto MDI/MDIX
Power Input Failover	Automatic failover between all inputs
DC Power Input	Dual 12-48 VDC on terminal block
Power consumption	5W, typical
Storage Temp range	-40° to 85° C (-40° to 185° F)
Operating Temp range	-20° to 70° C (-4° to 158° F)
Operating humidity	5% to 95%
Enclosure	IP-30
Dimensions	45mm W x 81mm D x 95mm H (1.77” W x 3.19” D x 3.74” H)
Mounting	DIN-rail or wall-mount
Weight	410g (0.9 lbs.)
Power-over-Ethernet (PoE)	
Operating Mode	IEEE 802.3at PoE PD
PoE Input Failover	Automatic failover between all three inputs
Protection Features	Overload and short-circuit protection
Isolation voltage	1000 VDC minimum
Isolation resistance	100 MΩ minimum
Cellular module (100g model only) – Supported Bands	
4g Cellular Modes	LTE: 1900(B2)/ 1700(B4)/ 850(B5)/ 700(B13)/ 700(B17)/ 1900(B25) MHz Data rates: Category 3 Downlink: 100 Mbps (20MHz bandwidth), 50 Mbps (10 MHz bandwidth) Uplink: 50 Mbps (20 MHz bandwidth), 25 Mbps (10 MHz bandwidth)
3g Cellular Modes	CDMA/EVDO rev. a/b: 800/1900 MHz Data rates: CDMA IS-856 (1xEV-DO Release A), Up to 3.1 Mbps forward channel, Up to 1.8 Mbps reverse channel CDMA IS-2000, Up to 153 kbps, simultaneous forward and reverse channel Circuit-switched data bearers up to 14.4 kbps
3.5g Cellular Modes	UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 2100(B1)/1900(B2)/1700(B4)/850(B5)/900(B8) MHz Data (HSPA+) rates: Downlink: Up to 42 Mbps (category 24) Uplink: Up to 5.76 Mbps (category 8)
2g Cellular Modes	GSM/GPRS/EDGE: GSM850/EGSM900/DCS1800/PCS1900 MHz Data rates: EDGE throughput up to 236 kbps
Cellular antenna connectors	Two SMA female connectors
SIM card slot	1 externally accessible
Serial Interface (-s models only)	
Protocols	RS-232, RS-422, RS-485
Connector	DE-9M
Isolation voltage	2500 Volts minimum
Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A IC ICES-003
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Safety	EN60950-1

Special Conditions of Use

• The equipment shall 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 into the Conductor, license and manage the Airwall, and then add it to an overlay network, configure protected devices attached to it, and enable communication between other Airwalls and protected devices. Use port 1 to connect the Airwall to your shared network and port 2 to connect your local devices.

Provision the Airwall-100

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. You can either manually configure the I or URL in diagnostic mode, or use a DNS SRV record that allows the Airwall to look up the address of the Conductor.

To provision an Airwall in diagnostic mode:

1. Configure a computer to use DHC to obtain an IP address and netmask; then connect the computer to port 2 of the Airwall.
2. Apply power to the Airwall.
3. 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.
4. In your web browser, naviagte to *http://192.168.56.3* to open the diagnostic mode interface.
5. Click **Configuratio** , and select **Conductor URL**.
6. Enter the Conductor URL in the **Host** field. Click **Submit**.
7. Reboot the Airwall by selecting the **Actions** drop-down and clicking **Reboot** or by turning it off and back on again.

To provision an Airwall using DHCP and DNS SRV record:

For maximum scalability and flexibilit , 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.

1. 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

For example, 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.

2. Apply power to the Airwall
3. Connect port 1 on the Airwall to your shared network. The DHCP server assigns an IP address, netmask, and a default gateway to the Airwall. The Airwall then does a DNS lookup and configure 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.

1. Select **Airwalls**, choose one from the list, and click **Diagnostics**.
2. 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.

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

Once the report *.txt* file is 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.

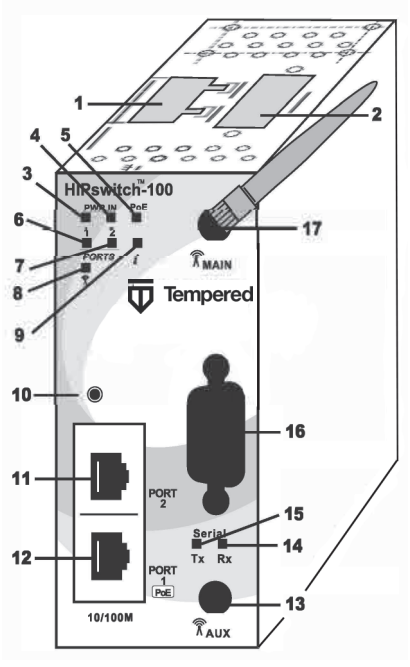
To create a support bundle:

To facilitate customer troubleshooting, Tempered may request a Conductor support bundle.

1. Log in to the Conductor with a system administrator or network administrator account.
2. Select **Airwalls**, choose one from the list, and click **Diagnostics**. If the Airwall is offline, you ca put it into diagnostic mode and download a support bundle.
3. 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 encryp - ed archive that facilitates technical support by Tempered only.

Send the support bundle as an email attachment to support@tempered.io. A Tempered support engineer will contact you when it is received.

TOP & FRONT PANEL LAYOUTS



1. Power input connector
2. SIM slot (100g only)
3. LED: Power input #1 indicator
   ON = Activated
4. LED: Power input #2 indicator
   ON = Activated
5. LED: PoE indicator
   ON = Power supplied over Ethernet on port 1
6. LED: Link and activity for port 1
   ON = Port is linked
   Blinking = Data is being transmitted
7. LED: Link and activity for port 2
   ON = Port is linked
   Blinking = Data is being transmitted
8. LED: Blink = Cellular modem ready
9. LED: Status (see Status Codes)
10. Multi-purpose button
    (see Multi-purpose button table)
11. Ethernet port 2
12. Ethernet port 1
    (optional PoE)
13. Aux. cellular antenna connector
    (100g only)
14. LED: Serial receive activity (-s models only)
15. LED: Serial transmit activity (-s models only)
16. Serial connector (-s models only)
17. Main cellular antenna connector (100g only)

MULTI-PURPOSE BUTTON

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

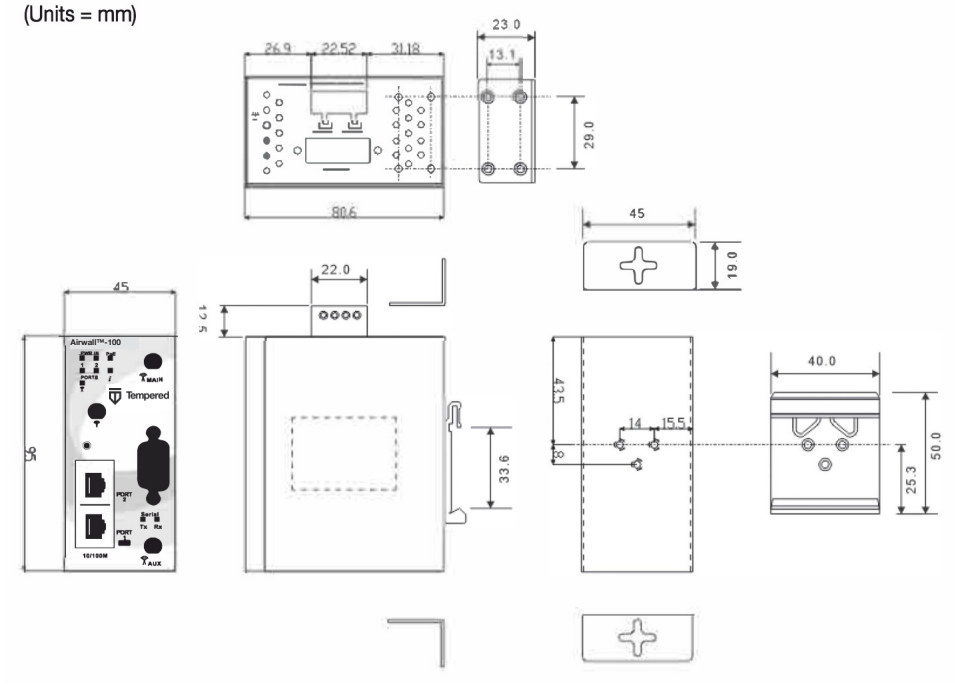
The multi-purpose button provides two different functions, depending on how long it is pressed and held.

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 patter	Resets the Airwall to factory defaults.

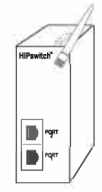
NOTE: To exit diagnostic mode, press the reboot button in the diagnostic interface or cycle the input power of the Airwall.

DIMENSIONS

(Units = mm)



PACKAGE CONTENTS

Qty	Item
x1	AIrwall-100 
x1	DIN-rail kit (attached) 

Qty	Item
x2	Wall-mount kit 
x2	4-pin terminal block 

Tempered

e-mail: **support@tempered.io**
Phone: **+1 206.452.5500 ext. 2**
www.tempered.io

19410 HWY 99 STE A #119
Lynnwood, WA 98036

Be invisible

The Airwall™-100 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 for the Airwall™-100.

MODELS

Airwall™-100 Series

Part Number	Model	10/100 Ethernet	4g Cellular	Serial	802.3af PoE
101e-201	Airwall-100e	2	No	No	Yes
101g-201	Airwall-100g	2	Yes	No	Yes
101e-s-201	Airwall-100e-s	2	No	Yes	Yes
101g-s-201	Airwall-100g-s	2	Yes	Yes	Yes

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 manufacture .

Reduced Air Flow: Make sure the mount 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.

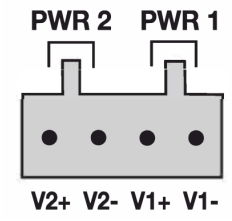
Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing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

Explosion Hazard: Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

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.

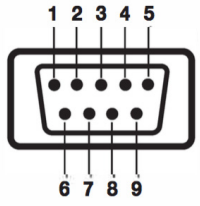
Power over Ethernet Warning

Use only with IEEE 802.3af compliant power sources. Power over Ethernet is optional on port 1.
DO NOT attempt to apply Power over Ethernet on port 2

Serial Connector

(-s models only)

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

O Blink **=** Pause

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)	Downloading Firmware	**O O O = = O O = =**
		Updating Firmware	**O O O = = =**