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Omni IQ™ G700 Series

Intelligent Differential Pressure Monitoring

User manual



Table of Contents

1. Solution Overview	4
2. Installation	4
2.1 Unpacking the device	4
2.2 Mount the device	5
2.2.1 Mounting with rugged case	5
2.2.2 Direct-mounting device	5
2.3 Connect tubing	6
2.3.1 Tubing connections	6
2.3.2 Installation notes	7
2.4 Power the device	7
2.4.1 Power requirements	7
2.4.2 Connect to power	8
2.4.3 Battery operation	8
2.4.4 Power-down and restart	8
2.5 Verify installation	Error! Bookmark not defined.
3. Get started	9
3.1 Power-on behavior	9
3.2 Connecting to Omni IQ	9
3.2.1 Register via Omni IQ Web Portal	9
3.2.2 Register via Omni IQ Mobile App	Error! Bookmark not defined.
4. Configure your device	10
4.1 Main screen overview	10
4.1.1 Status indicators	10
4.1.2 LED indicators	11
4.1.3 Alarm handling	11
4.1.4 Logging and reporting	12



4.1.5 Logging and reporting	12
4.2 System Settings	13
4.2.1 General Settings	13
4.2.2 Zone Configuration	13
4.2.3 Network Setting	14
4.2.4 Power Settings	14
4.2.5 System Information	15
5. Technical specifications	15
6. Contact & support	17
6.1 Technical Support	17
6.2 Technical Support	17
6.3 Replacement parts & accessories	18
6.4 Feedback & reporting	18



1. Solution Overview

The **Omni IQ™ G700 Series** is an intelligent differential pressure monitoring device designed to support infection prevention, containment validation, and environmental compliance across healthcare construction and maintenance projects.

It continuously measures and records differential air pressure between spaces to ensure negative pressure environments meet hospital and ICRA standards.

Key Features

- **Display and Control:** Integrated LED touchscreen with Omni IQ™ firmware user interface for local setup and monitoring.
- **Connectivity:** Wi-Fi and cellular options for remote control and monitoring.
- **Data Logging:** Automatic timestamped data storage and report generation.
- **Auto-zeroing:** Factory default zero-calibration interval of 1 minute. Users may adjust this interval under *Power*.
- **TriZone™ Monitoring:** The G720 tracks 2 zones plus a reference point, covering construction room, anteroom, and corridor.
- **Alarms & Indicators:** Dual LED side lights, and an audible buzzer provide immediate visual and audible status updates. Receive alarms via Omni IQ web portal, mobile app, email, and SMS.
- **FlexGo™ Mounting:** Universal mounting system that works with any containment.

Note: The G700 Series operates as a stand-alone device or as part of the Omni IQ ecosystem for centralized monitoring, alerting, and compliance documentation.

2. Installation

This section describes how to safely unpack, mount, and power your Omni IQ™ G700 or G720 device before operation.

2.1 Unpacking the device

When you open the product package, verify that all components are present and undamaged.



Item	Quantity	Description
G700 or G720 Device	1	Main unit
Power Adapter	1	24V DC
FlexGo™ Bracket Plate	1	Mounting bracket plate
Pressure Tubing Set	1 (G700) 2 (G720)	1/8" ID tubing for pressure sensing
Calibration Certificate	1	Factory-issued documentation
Quick Start Sheet	1	Basic setup reference
Erasable sticker	1	6-inch dry erasable sticker

2.2 Mount the device

The **Omni IQ™ G700 Series** supports flexible mounting across a variety of job-site conditions, including plastic containment walls, temporary drywall, and mobile HEPA carts.

The device can be mounted either **with its outer rugged case** or **using the FlexGo™ bracket system** for lighter installations.

2.2.1 Mounting with rugged case

Use this configuration when durability and protection are required (e.g., high-traffic construction areas).

Material / Surface	Method
Wood or drywall surfaces	Using a #6 drill bit, drill through holes in bracket on inside of outer case. Secure the outer case directly to the wall using 2 × [#6 (or M3)] screws . For drywall, be sure to use appropriate anchors to ensure secure installation.
Metal or framed partition	Use self-drilling screws or bolts no larger than #6 (or M3).

2.2.2 Direct-mounting device

Remove the G700 from the outer case and attach it to the wall directly for lightweight or semi-permanent installations.

Material / Surface	Method
Wood or drywall surfaces	<ol style="list-style-type: none"> 1. The device has holes for direct wall mounting 2. Position the device on the wall at the desired height. 3. Fasten it with 2 × [#6 (Or M3)] screws. For drywall, be sure to use appropriate anchors to ensure secure installation.
Plastic barrier / temporary wall	<ol style="list-style-type: none"> 1. The G700 series contains integrated magnets. 2. Place the FlexGo bracket plate on the opposite side of the plastic sheet; the magnetic force holds both pieces together securely. 3. Confirm the device is secure before releasing.
HEPA mobile cart	The G700 series may be attached directly to any mild steel metal HEPA mobile cart surface. Magnets on the device allow quick placement without tools or fasteners.

2.3 Connect tubing

The **Omni IQ™ G700 Series** uses high-precision differential pressure sensors to compare the containment area to a reference space.

Each model provides labeled ports on the front panel for easy identification.

Model	Available Ports	Description
G700	Ref, Zone 1	Measures differential pressure between the containment (Zone 1) and the reference area.
G720	Ref, Zone 1, Zone 2	Supports two independent containments (e.g., construction room and anteroom) referenced to ambient pressure.

2.3.1 Tubing connections

1. Zone 1 → Containment area

- Connect the tubing with port labeled **1** to the containment side or inside the negative-pressure space.

2. Zone 2 → Secondary containment (G720 only)

- If using the G720 model, connect *port 2* to the second controlled space, such as an anteroom or adjacent enclosure.

3. Ref → Reference area

- Connect the **Ref** port to the corridor or ambient area outside the containment.

- If the device is installed **outside** the containment, the *Ref* port may remain open to ambient air without tubing.

4. Inspect the setup

- Confirm that all fittings are tight, and tubing runs are free of bends or kinks.
- Avoid placing tubing near doors, vents, or high-velocity airflow sources.

2.3.2 Installation notes

⚠ Caution: Incorrect port connections may result in reversed readings (positive instead of negative pressure). Always verify the port labels before operation.

⚠ Disclaimer: The total length of tubing between the device and monitored zone should not exceed 100 feet (30 meters) per line. Longer tubing runs may introduce airflow resistance and pressure lag, resulting in inaccurate readings or delayed alarm response.

2.4 Power the device

The **Omni IQ™ G700 Series** can operate using DC power or its internal rechargeable battery. The device automatically switches between power sources without interrupting measurement or logging.

2.4.1 Power requirements

Parameter	Specification	Description
Input voltage	24V DC	Rated DC input voltage from the included adapter. Use only certified power supplies.
Power connector	DC barrel	Located on the bottom side of the device.
Battery type	Rechargeable Li-ion [5200 mAh]	Factory-installed, non-user-replaceable.
Typical runtime	3 – 15 days	Actual runtime varies with sampling, data uploading, auto zero frequency, connection type mode, and screen timeout.
Charging time	Approx. 8 hours	Approximate time for full battery charge.

Note (Firmware version 1.1.1.x.x only): The unit does not include a physical power switch.

If the device has been fully shut down, it must be initially plugged into external power to boot up — even if the



internal battery is charged.

Once powered on, it can operate normally on battery power after being unplugged.

Warning: Use only the supplied or approved Omni CleanAir power adapter. Third-party adapters may cause unstable readings or permanent damage.

2.4.2 Connect to power

1. Insert the **power connector** firmly into the device's DC input port.
2. Plug the adapter into a grounded AC outlet.
3. Verify that the **Side LEDs** illuminate, and the display activates within seconds.
4. The internal battery begins charging automatically when connected to AC power.

2.4.3 Battery operation

- When disconnected from external power, the device automatically switches to battery mode.
- The **battery icon & status** in the top status bar displays the remaining battery time based on your configuration settings.
- When the internal battery monitoring system detects that the charge has reached a low-power threshold, the device displays a low-battery alert and records the event in the system log.
- When the battery time is near zero, the device will automatically log into a critical battery alert and then shut down, to protect the battery.
- To avoid data interruption, connect the adapter as soon as possible when battery is running low.

Note: The battery uses a “learning mode” in which charge accuracy improves over time as it goes through charge and discharge cycles. It typically requires at least one full cycle (charging to 100%, discharging close to empty, then charging back to full) for the battery level readings to become more accurate.

Caution: Do not operate or store the device in environments exceeding 45 °C (113°F) ambient temperature while on battery power. Excessive heat shortens battery life.

2.4.4 Power-down and restart

- To **shut down:** When the screen is on, press and hold the Power button for 2 seconds, then release. When the passcode screen appears, enter the passcode to access the power menu, and select **Power Off** twice to confirm. If the screen is off, wake the device first before performing these steps.
- If the unit is in standby, press the Power button to wake the device first. Then press and hold the Power button for 2 seconds and release. When the passcode screen appears, enter the PIN to access the power menu, and select **Restart**.



- If the unit was shut off, to restart: Plug in the AC adapter (Firmware version 1.1.1.x.x only). Or press the power button to restart the device.
- After restarting, the system resumes the last recorded state.

3. Get started

This section guides you through the initial setup and configuration of the Omni IQ™ G700 Series.

3.1 Power-on behavior

1. After connecting power (see *Section 2.4*), the device boots and briefly shows a splash screen.
2. Once the startup sequence completes, the main display appears showing either:
 - One zone for the G700 model.
 - Two zones for the G720 model.
3. Each zone is preconfigured with default names (“Zone 1”, “Zone 2”) and default alarm/warning thresholds.
4. The device immediately begins with live monitoring and logging.

3.2 Connecting to Omni IQ

The **Omni IQ™ G700 Series** can be registered to the **Omni IQ Cloud** for centralized monitoring, alert notifications, and data reporting.

Device registration links your G700 or G720 unit to a secure cloud account so that project teams can access real-time readings, logs, and calibration data from anywhere.

3.2.1 Register via Omni IQ Web Portal

Item	Description
URL	https://iq.omnicleanair.com/
Requirements	Device must have active Wi-Fi or cellular connection.
Account type	Registered Omni IQ user with administrator permissions.



To register via the web portal:

1. Power on the device and connect it to either Wi-Fi or Cellular.
2. On your computer, log into the **Omni IQ Web Portal**. If you do not have an account, you will need to register one first.
3. From the navigation bar, select **Register Device**.
4. Enter the **Device Serial Number**. You can find the serial number on the device's rear sticker or under *System* → *System Information*.
5. Follow the steps on the registration panel
6. Confirm and save to complete registration.

4. Configure your device

Once the device is powered, connected, and registered, the Omni IQ™ G700 Series main screen provides real-time visualization of differential pressure, system status, and alerts. This section explains the main interface elements and how to operate the device during normal use.

4.1 Main screen overview

The main display provides live readings, device identifiers, and quick-access controls through a bottom navigation bar.

Main screen layout

- Top bar - Shows device name, Wi-Fi/cellular status, battery level, USB export status, update available, and clock.
- Central display - Large numeric pressure reading(s): one for G700, two for G720.
- Below the pressure display is a status message for each zone.
- Bottom navigation bar - Provides quick access to Acknowledge Alarms, Silence, Contacts, System Activity, and System Settings.

4.1.1 Status indicators

The top bar contains names and icons that summarize system health and connectivity.

Icon/Text	Indicator Name	Description	Typical State
Time	Clock	Displays current system time.	24-hour format

	Wi-Fi	Wi-Fi connectivity status.	Solid = Connected / Slash = Disconnected
	Cellular	Cellular connectivity status.	Solid = Connected / Slash = Disconnected
	Battery	Indicates current power level	Battery status in terms of days and hours
	USB drive	USB driver connected for file export	Solid = Detected
	Firmware Update	New firmware version is available.	Update is available. Access under <i>Systems</i> -> <i>System</i> -> <i>Firmware Version</i>
Left & Right corner	Device Name	Displays name assigned during setup.	User-defined. Defaults : Zone 1 (G700), Zone 1 and Zone 2 (G720)

4.1.2 LED indicators

The **G700 Series** features dual side LEDs providing quick visual feedback without viewing the screen.

LED State	Meaning	Description
Flashing Green	Normal operation	Pressure within safe thresholds; data recording active.
Flashing Red	Active alarm	Differential pressure outside alarm threshold.
Flashing Red + Green	Alarm acknowledged Past unacknowledged alarm	(1) User has acknowledged an active alarm, but the condition still persists, or (2) a previously unacknowledged alarm event with condition has cleared but remains flagged for confirmation in the log.
Solid Off	Power off	Device is powered off or in standby mode.

4.1.3 Alarm handling

1. **Alarm triggered** – When differential pressure exceeds the configured threshold, the side LEDs flash red and the audible alarm sounds.
2. **Acknowledge alarm** – Tap the **ACK button** on the bottom bar.
3. Enter the authorized **PIN code** when prompted.

4. The alarm state changes to *acknowledged* (LED flashing red + green).
5. **Silence alarm** – Tap the **Silence button**  to mute the buzzer for 60 seconds.
6. **Resolve alarm** – Once pressure returns within the acceptable range, LEDs revert to flashing green and the buzzer stops automatically.
7. **Alarm resolved but unacknowledged** – Pressure condition returns to normal before user acknowledgement; the alarm is marked as resolved but unacknowledged, LEDs flashing red + green, and remains highlighted in System Activity.

4.1.4 Logging and reporting

The **System Activity** module records all events in the past 24 hours.

1. Tap the **System Activity** button on the bottom bar.
2. It displays all events in the past 24 hours.
3. To clear logs (admin only):
 - Tap **Clear All** → Enter PIN → Confirm.
 - System/System Settings/Factory Reset

Caution: Deleting logs will permanently erase local history; ensure data is backed up to the Omni IQ Cloud before clearing.

4.1.5 Emergency Contacts

The **Emergency Contacts** screen stores key personnel information for on-site response and alert coordination.

Field	Description
Name	Contact person's full name.
Phone Number	Primary number for notifications or calls.

Procedure:

1. Tap Edit Contact button.
2. Enter PIN Code to access.
3. Enter Name and Phone Number.
4. Tap Save.

4.2 System Settings

The System Settings menu allows administrators to adjust all operational parameters of the Omni IQ™ G700 Series.

Access to this menu is **PIN-protected** to prevent unauthorized configuration changes.

4.2.1 General Settings

To open:

1. Tap the **System**  **button** on the bottom navigation bar.
2. Enter the authorized PIN code.
3. Select **General** from the list.

Parameter	Description	Options / Range
Measurement Units	Display format for pressure.	inWC / Pa
Mute Audio	Sets buzzer function.	On / Off (mute)
Date and Time	Local Machine Date and Time	Year, Month, Day, Timezone Hour, Minute, Second

Note: All locally stored data and logs are time-stamped based on the device’s date and time settings. Ensure the date and time are correctly configured for accurate records.

4.2.2 Zone Configuration

Each zone operates independently and can be named, threshold-adjusted, and linked to a specific room or project area.

Setting	Description	Typical Value (in WC)
Room Name	Custom identifier displayed on main screen & reports.	“Containment-1”
Warning Threshold	Pre-alert level before alarm. Warning threshold must be less than alarm threshold.	-0.015
Alarm Threshold	Level triggering visual & audible alarms.	-0.01 to -0.02
Alarm Delay	Time delay before an alarm is triggered after the threshold is exceeded. Prevents false alarms from short fluctuations.	Options: Off/30s/60s/5minutes
Zone 2 (G720 only)	Configuration is identical to Zone 1, with an optional enable/disable toggle for two-zone operation.	N/A



4.2.3 Network Setting

Use this menu to manage Wi-Fi connection.

Field	Description
Wi-Fi Network (SSID)	Lists all available networks. Select and enter password.
Wi-Fi Password	Case-sensitive field for network credentials.
Test Connection	Executes ping-style check; result: <i>Success</i> or <i>Failed</i> .

To configure network:

1. Go to *System* → *Network Settings*.
2. Enable Wi-Fi or Cellular as required.
3. If using Wi-Fi:
 - Select the desired SSID from the Wi-Fi Network list.
 - Enter the Wi-Fi Password.
4. Tap Test Connection to verify connectivity.

4.2.4 Power Settings

The device allows you to configure sleep behavior, display timeouts, and operational frequencies independently for **Power Mode** (plugged in) and **Battery Mode** (on internal battery).

These settings help balance visibility, runtime, and data usage.

Parameter	Description	Configured Power Options	Configured Battery Options	Default
Screen Timeout	Determines screen timeout during operation.	5/15/30/60 min, Never	4s/10s/30s/1min/5min	Power: Never Battery: 10s
Reading Frequency	Interval between sensor samples.	15s/30s/ 1m/2m/5m/10m/15m	15s/30s/ 1m/2m/5m/10m/15m	Power: 15s Battery: 5 min
Auto-Zero Frequency	Automatic recalibration frequency.	1/15/30/60 min	1/15/30/60 min	Power: 1 min Battery: 60 min
Data Upload Frequency	Device uploads data to the Omni IQ Cloud	1/2/5/15/60 min, Event Only	1/2/5/15/60 min, Event Only	Power: 5 min Battery: 60 min
Connection Type	communication mode used for cloud upload	WiFi/Cellular/None	WiFi/Cellular/None	Cellular



Note: The G700 Series includes a 5-year cellular plan at no cost. Cellular becomes active automatically when Connection Type = Cellular. This is the only location in the menu where Cellular can be enabled or disabled.

Note: Battery life estimates are calculated values and may differ from actual performance in the field.

4.2.5 System Information

Displays device identification and diagnostic data.

Field	Description
Device Model	Identifies G700 or G720.
Serial Number	Unique hardware ID.
Firmware Version	Current software build.
Uptime	Time since last restart.
Auto Zero	Allows the user to manually initiate a zero calibration.
Reboot	Opens the Power menu to access additional power options.
Factory Reset	Allows selection of data to retain, then resets the device to factory defaults.

5. Technical specifications

This section provides the detailed technical specifications of the Omni IQ™ G700 Series, including electrical, mechanical, environmental, and performance characteristics.

	G700	G720
Performance		
Operating Pressure Range	+/- 0.10 in. W.C.*	
Accuracy	+/- 0.0007 in. W.C.	
Monitor Zones	2	3
Hysteresis	.05% of selected range (0.05 * 0.2 in. W.C.)	
Non-repeatability	.025% of range (0.025 * 0.2 in. W.C.)	



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Long-term Stability	+/- 0.005 in. W.C. per year	
Overpressure	120 in. W.C.	
Pressure Media	Air or non-conductive, non-explosive gases	
Pressure Fittings	2x Pressure port for tubing with 1/8" inner diameter	3x Pressure port for tubing with 1/8" inner diameter
Display		
Touch Screen Display	5"	
Resolution	0.0001 in. W.C.	
Power		
Power	24V DC	
Rechargeable Battery Life	Up to 15 days	Up to 15 days
Connectivity & Storage		
Wi-Fi	Yes	
Cellular	Yes (5-year included)	
Local Data Storage	32 GB	64 GB
Environmental		
Operating Temp	32°F to 104°F (0°C to +40°C)	
Storage Temp	4°F to 140°F (-20°C to +60°C)	
Humidity	10% to 90% RH**, non-condensing	
Physical Description		
Dimensions (Inner Enclosure)	8.2" x 5.6" x 2.2" (208x143x55mm)	
Dimensions (Outer Enclosure)	12.4" x 10.4" x 5.3" (314x265x134mm)	
Weight	8 lbs	8.2 lbs
Side LED Indicator	Green, Red, Off	
Audible Alarm	90 dB	
USB Port	USB-A Data Only	
Regulatory Compliance		
FCC	Part 15.107 Class A	



ISED Canada	ICES-003 Class A
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6. Contact & support

For assistance with installation, operation, or troubleshooting of the Omni IQ™ G700 Series, please contact Omni CleanAir Technical Support.

Support resources include phone assistance, email support, online documentation, and warranty service.

6.1 Technical Support

Support Type	Details
Phone Support	+1 425-290-3922
Email Support	info@omnicleanair.com
Website	https://omnicleanair.com/contact-us/
Hours of Operation	Monday–Friday, 8:00–17:00 (Pacific Time)

6.2 Technical Support

The G700 Series includes a standard **1-year limited warranty** covering defects in materials and workmanship under normal use.

For warranty claims:

1. Contact Omni CleanAir Support for an RMA.
2. Provide the device **serial number, purchase information**, and a description of the issue.
3. Follow the packaging and shipment instructions provided with the RMA documentation.

Note: Warranty does not cover damage caused by misuse, unauthorized modifications, or operation outside specified environmental limits.



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6.3 Replacement parts & accessories

Replacement tubing, power adapters, mounting brackets, and certified calibration services can be ordered through:

Shopify: <https://shop.omnicleanair.com/>

Sales PO: orders@omnicleanair.com

6.4 Feedback & reporting

To submit feature requests, usability comments, or feedback about the Omni IQ™ platform, contact: info@omnicleanair.com