Cybersecurity sheet

Maintaining chiller health through advanced analytics and insights

Securing chiller performance

1. Solution overview

OpenBlue Services for Optimizing Chiller Performance feature tailored, AI-powered technology that enables remote diagnostics, predictive maintenance, compliance monitoring, advanced risk assessments, and more.

At Johnson Controls, we harness innovation to create connected solutions that maintain the health of critical equipment such as chillers, ensuring they last longer and perform better with our best-practice optimization strategies.

Increase uptime and reliability

Increase energy savings and sustainability

Reduce total cost of ownership

Increase staff efficiency

2. General cybersecurity features

Security is designed into all our products – Johnson Controls hardware, software and hosted services.

- **Encrypted communications:** Chiller data is sent encrypted from the Connected Equipment Gateway (CEG) to the cloud using Transport Layer Security (TLS)
- **Zero-trust connection:** All messages are sent to cloud services using the tempered zero-trust solution which further encapsulates all traffic from the site using Host Identity Protocol (HIP)
- **Zero-trust policy-managed authorizations:** Only a single path is permitted between the CEG and cloud services
- **Hidden IP addresses:** The IP address for the CEG is not exposed to the internet
- **Outbound communications only:** Only two outbound ports are required to initiate CEG site-to-cloud data exchange
- **Remote updates:** CEG periodically requests security updates from the authenticated cloud service. Updates are downloaded and installed automatically.
- **Forced password change:** Default user account passwords must be changed when commissioning the CEG
- **Forced Wi-Fi setting change:** When optional Wi-Fi is used, default Wi-Fi IDs and pass phrases must be changed during initial configuration
- **Read-only chiller communications:** When exclusively using YORK® or Wuxi Chillers, a dedicated port will ignore all BACnet commands

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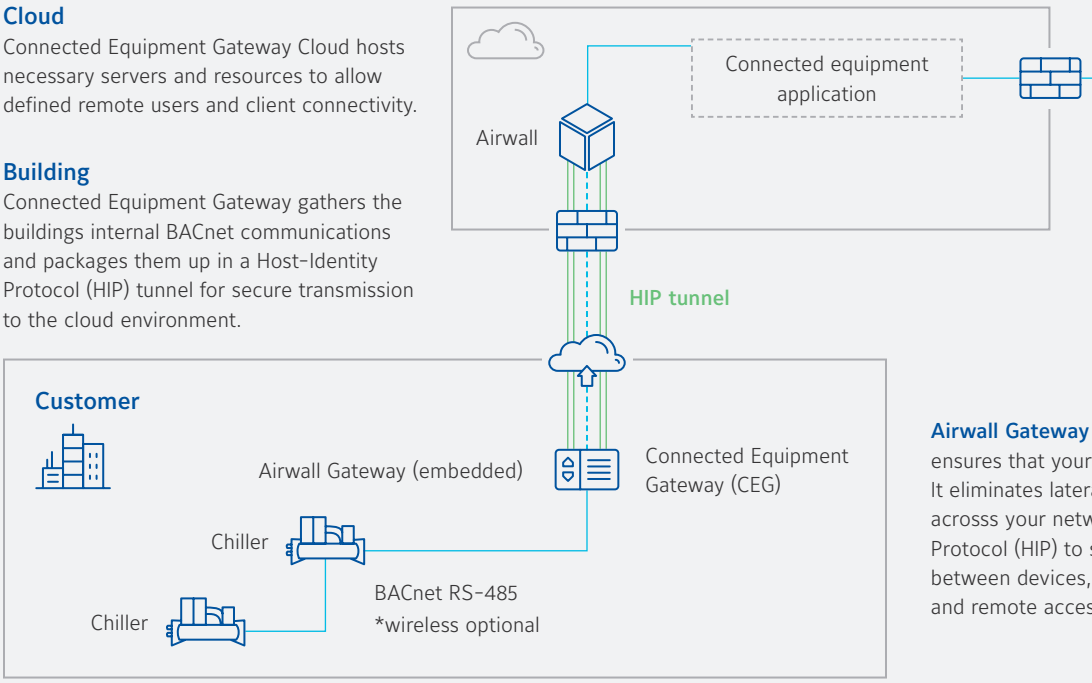
3. Architecture and data flow

The specifics of this flow depend on the components chosen by our customer and how we implement our solution in their facility.

Cloud
Connected Equipment Gateway Cloud hosts necessary servers and resources to allow defined remote users and client connectivity.

Building
Connected Equipment Gateway gathers the buildings internal BACnet communications and packages them up in a Host-Identity Protocol (HIP) tunnel for secure transmission to the cloud environment.



Connected Chiller Customer Access
Authorized users can view and report on metrics and diagnostics of connected chillers.

Airwall Gateway is a virtual air-gap solution that ensures that your device network traffic is invisible. It eliminates lateral movement from bad actors acrosss your network. Airwall uses Host Identity Protocol (HIP) to secure network communication between devices, enabling micro-segmentation and remote access at scale on any network.

4. ISASecure® Security Development Lifecycle Assurance (SDLA) program certified

All Johnson Controls global development locations were found to be in compliance with this security lifecycle development certification conforming with ISA/IEC 62443-4-1 and encompassing all associated brands. This certification reinforces our commitment to our customer to provide cyber-resilient solutions that follow best-in-class industry practices.

5. ISASecure Component Security Assurance (CSA) certification - an industry first

Johnson Controls is the industry's first to receive ISA/IEC 62443 CSA certification of YK/YZ Centrifugal Chiller achieved on September 15, 2021. This chiller is a primary play for data centers around the globe. Our organization continues to be future-focused and strives to achieve further accolades in the industry.

6. Privacy Center

At Johnson Controls, we pride ourselves on developing products and processes which follow the most stringent global privacy and data protections laws. Visit **www.johnsoncontrols.com/privacy-center** today for more information.

Future-proof your chiller with OpenBlue Services for Optimizing Chiller Performance and discover technology that enables you to pinpoint problems before they occur.

Visit **www.johnsoncontrols.com/buildings/specialty-pages/connected-chillers** today for more information.

The power behind **your mission**

Johnson Controls