Connected Workflow Applications User Guide

Building Technologies & Solutions

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Contents

Connected Workflow Applications introduction

Connected Workflow Applications (CWa) are a suite of mobile applications that are primarily designed for field installers and technicians to deliver on-site validation and commissioning of BAS equipment at the customer site. The CWa also serves as a user specific task management platform, that helps the user prioritize assigned tasks. The CWa, combined with the Connected Workflow Wireless MS/TP Converter (CWCVT), is the successor to the Mobile Access Portal (MAP) Gateway, a web-based user interface. See CWCVT Wireless MS/TP Converter and refer to the *CWCVT Wireless MS/TP Converter Catalog Page (LIT-1901198)* for more information about the CWCVT.

Benefits and features

CWa benefits

- Assists with project planning, including punch list item management.
- Informs project owners of your work status.
- Records test samples of the BAS equipment at the work site during commissioning phase.
- Synchronizes with cloud applications.
- Provides a market-competitive, highly secured service to authenticated users.
- Performs automatic software updates when new software is made available to the user.
- Provides accurate and documented commissioning of BAS equipment.

Table 1: CWa features

Feature	Description
Point-to-Point Checkout	Performs tests on analog or binary input point types.
Command Test	Performs tests on analog or binary output point types by overriding the present value.
Step Test	Performs tests on analog or binary output point types by overriding the present value in incremental steps.
Attribute Write	Provides ability to view and modify point attributes which vary by point type.

CWa mobile device compatibility

CWa is a native application for Android™ and Apple™ iOS® operating systems, and mobile devices or tablets. To download CWa, visit the Google Play® Store or the Apple App Store and search for the Connected Workflow Application. The following devices and operating systems support the CWa.

Table 2: Supported operating systems and devices

Operating system	Version	Devices
Android	10.x or higher	Smartphones and tablets
Apple iOS	14.x or higher	iPhone®, iPad®

CWa equipment compatibility

The CWa can communicate with the following equipment:

- BACnet® IP and BACnet MS/TP field controllers of several different systems, including Metasys, Facility Explorer®, and BCPro™. Requires a wireless router to connect to multiple controllers.

- Smart Equipment rooftop units (RTUs) with Simplicity SMART Equipment (SSE) control boards. Requires a CWCVT.
- Johnson Controls branded BACnet MS/TP field controllers, including FEC, FAC, VMA, PCA, PCG, PCV, CGM, and CVM Series devices. Requires a CWCVT.
- Johnson Controls branded BACnet IP field controllers, including CGE and CVE Series devices. Requires a wireless router.
- Third-party BACnet MS/TP equipment that meet the ASHRAE standard 135-2012. Requires a CWCVT.

  ⓘ **Note:** Third-party support is not expected till the end of FY23.
- TEC3000 Series Thermostats. Requires a CWCVT.

ⓘ **Note:** The CWa and the CWCVT cannot be used on Smoke Control systems or Metasys for Validated Environment (MVE) sites.

CWCVT Wireless MS/TP Converter

The CWCVT is a pocket-sized communications converter that provides a temporary wireless connection between a host device and equipment controllers that support the BACnet MS/TP protocol. Through the CWCVT, the host device application can discover controllers connected to an MS/TP trunk, download applications, and commission the equipment. The CWCVT supports a Bluetooth wireless connection to iOS and Android mobile devices that run the CWa. The CWCVT also supports a Wi-Fi wireless connection for Windows computers that run Johnson Controls BAS Tools such as the controller configuration tool (CCT) or System Configuration Tool (SCT).

For more information about the CWCVT, refer to the *CWCVT Wireless MS/TP Converter Catalog Page (LIT-1901199)* and *CWCVT Wireless MS/TP Converter User Guide (LIT-12014120)*.

Detailed procedures

This section describes day-to-day use and features of the CWa, including where to find settings and how to navigate the screens, but does not address equipment controller details. For more information about individual controller and application settings, refer to Related documentation.

CWa logon navigation

About this task:
To logon to CWa, complete the following steps:

ⓘ **Note:** You require a preexisting Johnson Controls user account (global ID) and password to logon to the CWa.

ⓘ **Note:** The initial release of the CWa is available only to Building Solutions North America (BSNA).

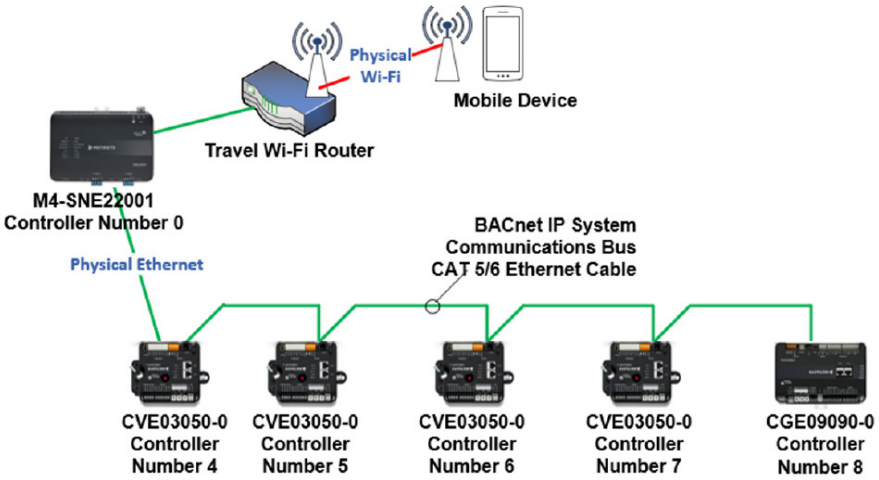
1. Open the Connected Workflow application.
2. Open the CWa for Installer module.
3. Click the **Click here to Sign In** button when prompted.
4. Use your registered email address, or global ID for Johnson Controls employees.
5. Enter your password when prompted.
6. Select choice when presented with the Legal Disclaimer.

   ⓘ **Note:** You must select **I Agree** to use the CWa.

Connecting to the BACnet IP network

Connect to the site Wi-Fi network to communicate through the network engine associated with the controller that you want to commission.

Figure 1: Sample site diagram BACnet IP



Connecting to the BACnet MS/TP network

About this task:
Connect the CWCVT to a field controller and verify that it runs in the BLE Router mode before you attempt to use the CWa with the CWCVT. Refer to the *CWCVT Wireless MS/TP Converter User Guide, LIT-12014120* for information. To wirelessly connect the CWa to the CWCVT, complete the following steps:

1. From the CWa app, search for and select the CWCVT-xx:xx:xx device.
2. Enter the PIN code, if requested.

   ⓘ **Note:** Use the A button on the CWCVT to navigate to the Pairing Info page to view the PIN.
3. On the CWCVT display, verify the wireless connection. If the connection is successful, the CWCVT Connect Status bar indicates Conn'd and turns blue.
4. Use the CWa app to discover and commission the controllers on the MS/TP bus.

Connecting to the MAP Gateway

About this task:
To wirelessly connect the CWa to the MAP Gateway, complete the following steps:

1. Connect MAP Gateway to the MS/TP device. Refer to the *Mobile Access Portal Gateway Installation Guide, Part No. 24-10737-8* for information.
2. Connect the device that hosts CWa Wi-Fi to the MAP Gateway Wi-Fi AP.

   ⓘ **Note:** You must enable the MAP Gateway's BACnet router mode.
3. In the CWa, when you turn MS/TP integration online, select MAP Gateway as the connection device.

CWa user screen navigation

When the CWa is open and connection to the network is confirmed, the active list of projects and equipment displays depending on the projects assigned to the user in Connected Workflow dashboard (CWd).

CWa functions

Table 3: CWa release 1.0 functions

Menu selection	Sub-menu	Description
Device and Point Checkout	Device Checkout validation	With this option you can verify the point wiring for each controller on an MS/TP trunk and obtain a report on each device that captures the verification steps.
	Point Attribute Write	You can access common point attributes, with the ability to change the value, where applicable, such as changing the Offset for point calibration.
	Feedback Points	You can select Feedback points while testing outputs in the Point Checkout feature. You can pass or fail the feedback points, and verify multiple points at one time.
	Manual Step Test	The analog output Step Test is updated. You can control the number of steps to take, if the test should start with a command to the 0% position, and when the test should proceed to the next step.
Punch List Tagging		Tag notes within the Device and Point Checkout and Airflow Balancing features to be added to a Punch List. View the Punch List through the embedded Punch List Tailored Summary and report by selecting a Punch List option when generating your Site report.

ⓘ **Note:** For more information about the various features, visit uLearn at: https://jc.kzoplatform.com/library and search for Connected Workflow Applications or CWa.

Troubleshooting

Table 4: Troubleshooting

Problem	Solution
What if I forget my password for CWa?	CWa does not implement it's own authentcation, you are required to logon with your Johnson Controls global ID. Follow Johnson Controls password management to reset your password.
What happens if I cannot communicate with the MS/TP controller through my CWCVT?	The CWCVT or mobile device possibly lost its pairing information. Ensure the CWCVT is configured and connected correctly, refer to the *CWCVT Wireless MS/TP Converter User Guide (LIT-12014120)* for details. Try to delete or forget the CWCVT in the mobile device settings and then reconnect or pair to the CWCVT through the CWa.

Frequently asked questions

Table 5: Frequently asked questions about the CWa

Question	Answer
Do I need to install an application on my mobile device to use the CWa?	Yes, to download CWa, visit the Google Play Store or the Apple App Store and search for the Connected Workflow Application.

Table 6: Frequently asked questions about the CWCVT Wireless MS/TP Converter

Question	Answer
Does the CWCVT have its own touch screen display?	No, the CWCVT features a small display to provide connection and configuration information, but physical buttons on the device enable selection of various functions.
How many users can the CWCVT support in BLE Router mode?	CWCVT in BLE Router mode can be paired with three different mobile devices in BLE Router mode, however, it can connect only to one mobile device at a time.
Do I need to install an application on my mobile device to use the CWCVT?	Yes. While the CWCVT uses standard Bluetooth Low Energy (BLE) functionality, the CWa mobile application is required to utilize the BLE Router mode.
How is the CWCVT powered?	The CWCVT gets power from the controller it is connected to. When you connect to a third-party controller, you need external power to power the CWCVT. You can power the CWCVT from a USB battery pack or laptop through the CWCVT's USB-C port.
Does the CWCVT have a battery?	No, the CWCVT loses power when disconnected from the controller. However, the CWCVT does retain its configuration settings.
Where do I plug in the CWCVT?	The CWCVT ships with a 6 pin RJ12-RJ12 phone cord that plugs into any one of three locations: • Sensor Actuator (SA) bus on the Smart Equipment control board, Johnson Controls field controller, or Johnson Controls VAV Box controller. • Bottom SA bus jack of any NS series sensor. • Field Controller (FC) bus of the Smart Equipment control board or MS/TP field controller. ⓘ **Note:** If the controller is connected to a ZFR18x0 wireless router or if the controller is an IP controller, use the SA bus only.
Can I access all MS/TP controllers with the CWCVT from a single location?	Yes, the CWCVT can access all controllers on a FC bus trunk or network from any of the three CWCVT connection points - SA bus, sensor, or FC bus. ⓘ **Note:** If connected into the SA bus of an IP controller, then that controller only can be accessed by the CWa.

Related documentation

To search for training videos about the use of the CWa and CWCVT, visit uLearn at https://jc.kzoplatform.com/library and search for Connected Workflow Applications, CWa, or CWCVT.

Table 7: Related documentation

For information about	See document
Ordering the CWa	*Connected Workflow Applications Catalog Page (LIT-1901199)*
Ordering the CWCVT	*CWCVT Wireless MS/TP Converter Catalog Page (LIT-1901198)*
Using the CWCVT	*CWCVT Wireless MS/TP Converter User Guide (LIT-12014120)*
How to use Controller Tool (CCT or PCT) software	*Controller Tool Help (LIT-12011147)*
TEC3000 Series Thermostat Controllers	*TEC3000 Color Series Thermostats Product Bulletin (LIT-12013193)*
General information about Metasys Field Controllers, including FECs, FACs, VMAs, and IOMs	*Metasys System Field Equipment Controllers and Related Products Product Bulletin (LIT-12011042)*
General information about Facility Explorer Programmable Controllers, including FX-PCAs, FX-PCGs, FX-PCXs, and FX-PCVs	*FX-PC Series Programmable Controllers and Related Products Product Bulletin (LIT-12011657)*
General information about CH-PC Programmable Controllers, including CH- PCAs, CH-PCGs, CH-PCXs, and CH-PCVs	*CH-PC Series Programmable Controllers and Related Products for the BCPro System Product Bulletin (LIT-12011914)*
Getting up and running quickly with Smart Equipment Controls (SEC), including RTUs and SSEs	*Smart Equipment Controls (SEC) Quick Start Guide (LIT-12011938)*

Patents

Patents: https://jcipat.com

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