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Sanitation Solution Kit: Cycle Timer (CT)

# Kit Contents



Direct Select Operator Interface  
includes C battery



K70 Wireless Indicator  
includes bracket and power  
supply



DXM Controller



Power Supply

## Not Included

1/4"-20 mounting fasteners

## Tools Needed

Phillips screwdriver

# How it Works

The Sanitation Solution Kit works by indicating to an operator when station sanitation is required. User-defined cleaning cycles trigger a yellow indicator on the Operator Interface and Indicator Light to indicate when the work station requires cleaning. If the station is not cleaned before a user-defined time (in minutes), a red indicator on the Operator Interface and Indicator Light alerts the operator that the work station is overdue to be cleaned.

Cycle Timer (CT) Solution Kits are configured to visually alert four operators at four distinct stations when their respective station requires cleaning. The Operator Interface provides a visual display of the time since the station was last cleaned and an indicator to alert when a cleaning cycle is required. The Indicator Light mirrors the status of the Operator Interface and can be mounted on the station so it is visible from a distance.

The user inputs the amount of time, in minutes, they want between cleaning cycles and the amount of time allowed to clean the station, which runs continuously on a cycle. Each station can have its own cleaning cycle times. The system can be expanded to allow for up to 20 stations.

Schedule Application (SA) Solution Kits are available when a user requires setting sanitation schedules at a specific time(s) instead of a continuous interval.

The **DXM Controller** sets the user-defined cleaning cycle times. The display shows the individual station cycle times and other system metrics.

- **Time BTW Cleans**—Defines the time between each cleaning cycle for that individual station.
- **Time to Clean**—Defines the time the operator has to clean the station. If the time is exceeded, the Operator Interface and Indicator Light turn red.

Mount the DXM Controller in a secure location outside of any metal cabinets or enclosures.



The **Direct Select Operator Interface** has a numerical display that calculates and shows the time (in minutes) since the last cleaning cycle was completed. The Operator Interface flashes yellow when the station requires cleaning. Operators confirm they sanitized their workstation by pressing the touch button on the Operator interface. After the confirmation, the Operator Interface display reads zero and the light turns off. The cleaning cycle will re-initiate at the user-defined interval after the confirmation. The Operator Interface may take up to two (2) seconds to update the display and indicator status.

If the operator has not confirmed a sanitation cycle within the **Time to Clean** setting, the Operator Interface flashes red. The display always shows the time that has passed since the last cleaning. If the Operator Interface status is red for more than 60 minutes, the Operator Interface's display and lights turn off to conserve the battery.



The **K70 Indicator Light** alerts operators when a cleaning cycle is required (yellow). Each supplied Indicator Light is tied to an Operator Interface and mirrors the status of that station.

If the operator has not confirmed that the cleaning cycle was completed within the **Time to Clean** setting, the Indicator Light turns red to alert the operator that the station has not been cleaned.



Indicator Light bracket, model LMB30LP (included with kit)

# Set Up Your Hardware

## 1 Supply power to all devices

The Sanitation Solution Kit arrives with all necessary power sources needed to get the system operating quickly. This includes lithium batteries for the Direct Select Operator Interfaces and DC power supplies for the DXM Controller and K70 Wireless Indicator Lights.

### Supply Power to the DXM Controller

Plug the power supply into the DXM Controller, aligning the keys in the connector, and hand tighten. Plug the power supply into a power outlet using the appropriate regional wall adapter.



### Supply Power to the Direct Select Operator Interface



1. Unscrew the four corner screws with a Phillips screwdriver and open the Operator Interface.

2. Insert the 3.6 V lithium battery. Verify the battery's positive and negative terminals align to the positive and negative terminals as marked.

Caution: There is risk of damage if the batteries are installed incorrectly.

3. If the indicator LED does not automatically begin flashing, turn on the Operator Interface by pressing and holding  and  together for five seconds or until the small light starts flashing red.

4. Reassemble the Node and tighten the four corner screws. Do not over-tighten.

### Mount and Supply Power to the K70 Wireless Indicator Light



1. Position the Indicator Light on the bracket and secure with the supplied lock nut. Hand tighten only.



2. Connect the power supply to the Indicator Light, aligning the keys in the connector. Hand tighten.

3. Connect the power supply into a power outlet using the appropriate regional wall adapter.

## 2 Mount the System Components

Mounting hardware is not included with the Sanitation Solution Kit. Banner recommends using 1/4-20 mounting bolts, self tapping screws, magnetic mounts, or hardware compatible with the mounting surface.

Do not mount any radios inside metal enclosures. Metal around the radios can reduce wireless signal strength.



Mount the DXM Controller in a secure location, outside of any metal cabinets or enclosures.

The DXM Controller has four mounting holes. Use 1/4-20 mounting bolts or self tapping screws to secure the controller to a rigid surface.



The indicator light can be mounted at eye level near the operator or at a high point in the station for remote monitoring.

Mount the indicator light using the supplied bracket and 1/4-20 mounting bolts, self tapping screws, or optional magnetic mounts listed at the end of this document.



The Operator Interface should be mounted near the operator work station.

Mount the Operator Interface to a rigid surface using the mounting holes and 1/4-20 bolts, self tapping screws, or optional magnetic mounts listed at the end of this document.

# Define Your Sanitation Cycles

## Set Up the Cleaning Interval Settings Using the DXM Controller Display



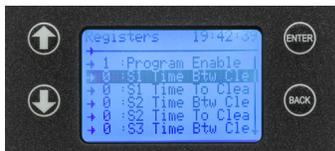
The Sanitation Solution Kit is designed to provide a visual indication to alert an operator when a sanitation cycle is required for their work station.

The Operator Interface provides a visual display of the time since the station was last cleaned and an indicator to alert when a cleaning cycle is required. The Indicator Light mirrors the status of the Operator Interface and can be mounted so that a manager may remotely monitor each station.

Use the Controller's LCD, button keys, and menu system to configure the time between sanitation cycles and time allowed to complete the sanitation cycle.



On the DXM Controller, use the arrow keys to select the **Registers** menu and press **ENTER**.



Highlight **S# Time Btw Cleans** and press **ENTER**.

Enter your desired **Time Btw Cleans**. This is the amount of time in minutes that an operator has between cleaning cycles.



1. Using the up and down arrow buttons, select the first digit and press **ENTER** to set the first digit.
2. Use the up and down arrows to set the second digit and press **ENTER**.
3. Repeat if you are adding a third digit.
4. Press **ENTER** once more to highlight **SEND** and press **ENTER** to confirm.

The screen should now display the entered **Time Btw Cleans**.



Enter your desired **Time to Clean**. This is the amount of time, in minutes, that an operator has to clean their station.



1. Using the up and down arrow buttons, select the first digit and press **ENTER** to set the first digit.
2. Use the up and down arrows to set the second digit and press **ENTER**.
3. Repeat if you are adding a third digit.
4. Press **ENTER** once more to highlight **SEND** and press **ENTER** again to confirm.

The screen should now display the entered **Time to Clean**. Repeat this process for each additional station.

The installation and configuration of your Solution Kit is complete.

# Troubleshooting

Problem	Possible Causes / Solutions
Operator Interface display does not show any values	After the DXM Controller is rebooted, a delay of 5 minutes may occur before the times are displayed.
Operator Interface display does not change from 999	If the amount of time until the next scheduled clean time is greater than 999 minutes, the Operator Interface displays 999 until the remaining time is less than 999 minutes.
Operator Interface no longer counting down/up.  Operator Interface no longer responds to touch.	The Operator Interface may not be in sync with the DXM Controller. Verify the green indicator LED is flashing above the Check Mark button. If the LED is flashing red, change positioning of the DXM Controller or Operator Interface to improve the radio signal. If the indicator LED does not begin to flash green, contact your local distributor or Banner Engineering's technical support team at 1-800-203-5616.
Operator Interface LEDs will not turn on. Operator Interface's capacitive touch button will not turn on.	If no light is flashing above the Check Mark button, hold both the Check Mark and Back buttons for five (5) seconds to power on the device. If this doesn't power on the device, replace the battery.
A station's Indicator Light is red, but the Operator Interface is off.	To conserve battery power, the Operator Interface turns off if the Operator Interface has been flashing red for more than one (1) hour. The station is still due to be cleaned and the Indicator Light remains red to indicate cleaning is due.  After the capacitive touch button is pressed on the Operator Interface to indicate the station has been cleaned, normal operation resumes.

## Optional: Cloud Connectivity

Banner Engineering's Sanitation Solution Kit offers a fast and easy way to gain access to the data and history of sanitation compliance at your facility. The following section will show you how to configure your DXM over Ethernet and quickly create your solution on the Banner CDS platform. See your data on a default dashboard and create your own visual tools and reporting.

1. Plug the threaded end of the Ethernet cable to the DXM Controller. Aligning the pins and connect the quick disconnect connector. Hand-tighten only.
2. Connect the RJ45 connector to a local area network device, such as a Wi-Fi router or network modem.

### Network Configuration

The Sanitation Solution Kit can be connected to a network using either Static IP or Dynamic IP (DHCP). By default, the Solution Kit is configured to use DHCP. Use DHCP when connecting directly to a modem or router. Use a Static IP address if directed to by your IT department.

### Setting a Static IP Address

To define a specific IP address of your choosing:

1. On the DXM, use the arrows and move to the **System Config** menu. Press **ENTER**.
2. Use the arrow keys to select the **Ethernet** menu. Press **ENTER**.
3. Highlight the **DHCP** selection and press **ENTER**. Set **DHCP** to **OFF**.
4. The system will request a restart, press **ENTER** to confirm.
5. Follow steps 1 and 2 to enter the **Ethernet** menu. Use the arrow keys to select **IP**. Press **ENTER**.
6. Use the up and down arrows to change the IP address. Press **ENTER** to move to the next octet.
7. Press **ENTER** on the final octet to accept the changes.
8. Cycle power to the DXM1200. The changes are saved on the DXM1200 and the new IP address will be used.

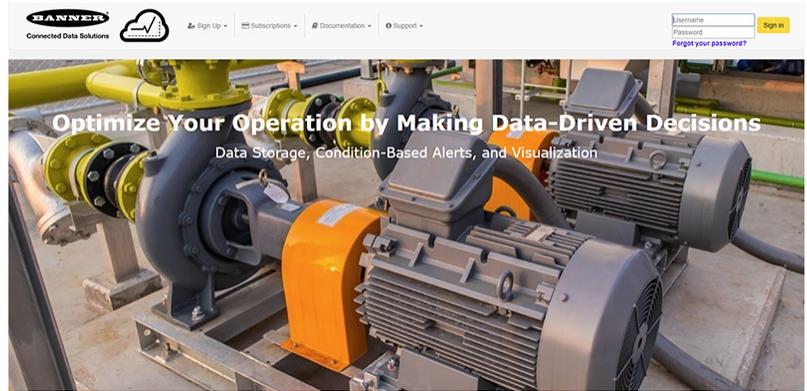
Use the same procedures to set the subnet mask (SN) and default gateway (GW) to match your network requirements. Your IT department can provide these settings if needed.



# 2

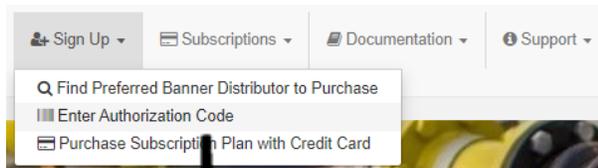
## Banner Cloud Data Service (Banner CDS)

Navigate to bannercds.com.



### Enter Your Authorization Code

1. Register your account by going to the **Sign Up** menu.
2. Select **Enter Authorization Code**.
3. Enter the requested information. The authorization code is on the Banner Cloud Authorization Code Insert included with the Solution Kit.



 The image shows a registration form titled "Register your account." It contains several input fields: "Authorization Code:" with a sub-field "Authorization Code"; "Email:" with a sub-field "Email Address"; "Company:" with a sub-field "Company Name"; "User Name:" with a sub-field "User Name"; "Password:" with a sub-field "Password"; and "Verify Password" with a sub-field "Verify Password". At the bottom of the form is a yellow "Sign up" button.

# 3

## Add a New Gateway

After launching the CDS webpage, the **Gateways** screen displays. Use the **Gateways** screen to add the DXM Controller to the Cloud application and generate a Dashboard.

1. Click on **+ New Gateway** (+New Gateway) in the top-right corner of the **Gateways** screen.
2. Name your DXM Controller and enter the Serial Number. The Serial Number can be found using the DXM Controller's LCD. On the DXM's main menu, scroll to **System Info** and then press **ENTER** twice to view the seven-digit serial number at the bottom of the information list.
3. Enter all seven digits into the DXM Serial # entry field on Banner CDS.
4. Verify that **Configuration** is set to **Solutions** and select **Cycle Timer** for the **Kit Type**. This allows the Banner CDS application to automatically create Dashboard layouts and metrics for the solution. Click **Create** (Create).

The Banner CDS application creates a site for the system and begins searching for a data push from the DXM Controller. The Sanitation Solution Kit is designed to push data once every five minutes to the Cloud.

The DXM Controller could take up to five minutes to complete recognition by the system.

## View Dashboard and Set Parameters

After Banner CDS has created the site and detected the DXM Controller, click on [Go to Dashboard](#) (Go to Dashboard). The [Dashboard](#) (Dashboard) panel appears and indicates the metrics of the Sanitation Solution Kit.

# Optional Accessories

To add additional sanitation stations, order one of each model listed below (900 MHz or 2.4 GHz).

	Indicator	Operator Interface	Indicator Bracket	Battery	Power Supply
					
900 MHz	K70DXN9GYRQ (Green-Yellow-Red)	DX80N9DSTS	LMB30LP	BWA-BATT-013	PSW-24-1
2.4 GHz	K70DXN2GYRQ (Green-Yellow-Red)	DX80N2DSTS		C Battery	

900 MHz models are more commonly used in the United States; 2.4 GHz models are required in the EU and many other countries. The 900 MHz models ship with batteries. The 2.4 GHz models ship without batteries.

## Cellular Modem

### SXI-LTE-001

- Used with DXM Controller
- Allows for Cellular Connectivity to the Banner CDS platform

## Power Supply Extension Cordset

### MQDEC-415SS-PUR

- Used with the K70 Indicator Light or DXM Controller
- 4-pin Euro-style connector
- 15 ft length

## Additional Mounting Options

### BWA-BK-020 Magnet Mount

- Used with the Direct Select Operator Interface or DXM Controller
- Includes two 80-lb pull rare-earth magnet mounts and two #10-32 x 1 inch screw mounts
- Used on multiple mounting brackets
- 31.75 mm (1.25 inch) diameter
- No fasteners included



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