

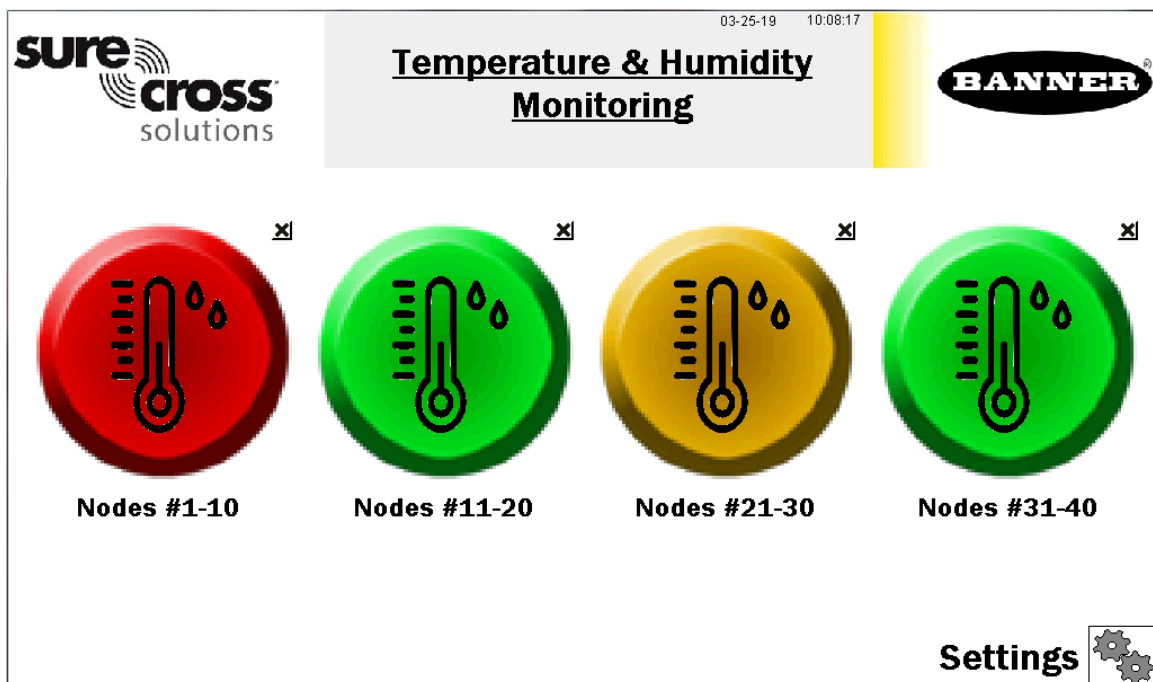
# Banner Temperature and Humidity Monitoring Solution Kit

The Solution Kit provides visual status of up to 40 Banner M12FTH4Q Temperature and Humidity Sensors attached to Performance Series Nodes communicating to the included DXM Wireless Controller. This provides a simple and effective way of monitoring the temperature and humidity of many locations in a single centralized point.

This kit uses a unique version of the [Banner Temperature and Humidity Monitoring Solutions Guide](#) software to program the DXM Controller. The sensor Nodes take a data sample every five minutes and the software uses the raw data to compare to user entered low or high warnings and/or alarms for visual indication of a potential problem. There is also indication of Node communication status and calculated dew point values for each sensor Node.

Included with the Temperature and Humidity Monitoring Solutions Kit:

- 10" Banner Touch Screen HMI with Ethernet connection
- [DXM700-B1R1 Wireless Controller \(900MHz\) or DXM700-B1R3 \(2.4 GHz\)](#)
- 5-port Ethernet switch
- M12/Euro-style power input connector
- [14"x12" Polycarbonate enclosure](#), DIN rails, and terminal blocks
- This kit also requires a 24 V DC Class 2 (UL) or a Limited Power Source (LPS) (CE) power supply that is sold separately (Banner recommends model PSW-24-1 (FCC/CE) or model PSD-24-4 (FCC/CE) if you are powering additional indicator lights)



Four top level icons represent groups of 10 assets. Each icon is a color coded indication of the status of temperature and humidity warnings or alarms, or wireless Node connection status within that group. It is also a touch button that brings up the 10 individual icons that represent that assets' status and is also a touch button to view that assets' screen where detailed data viewing options are available. (See page 2)

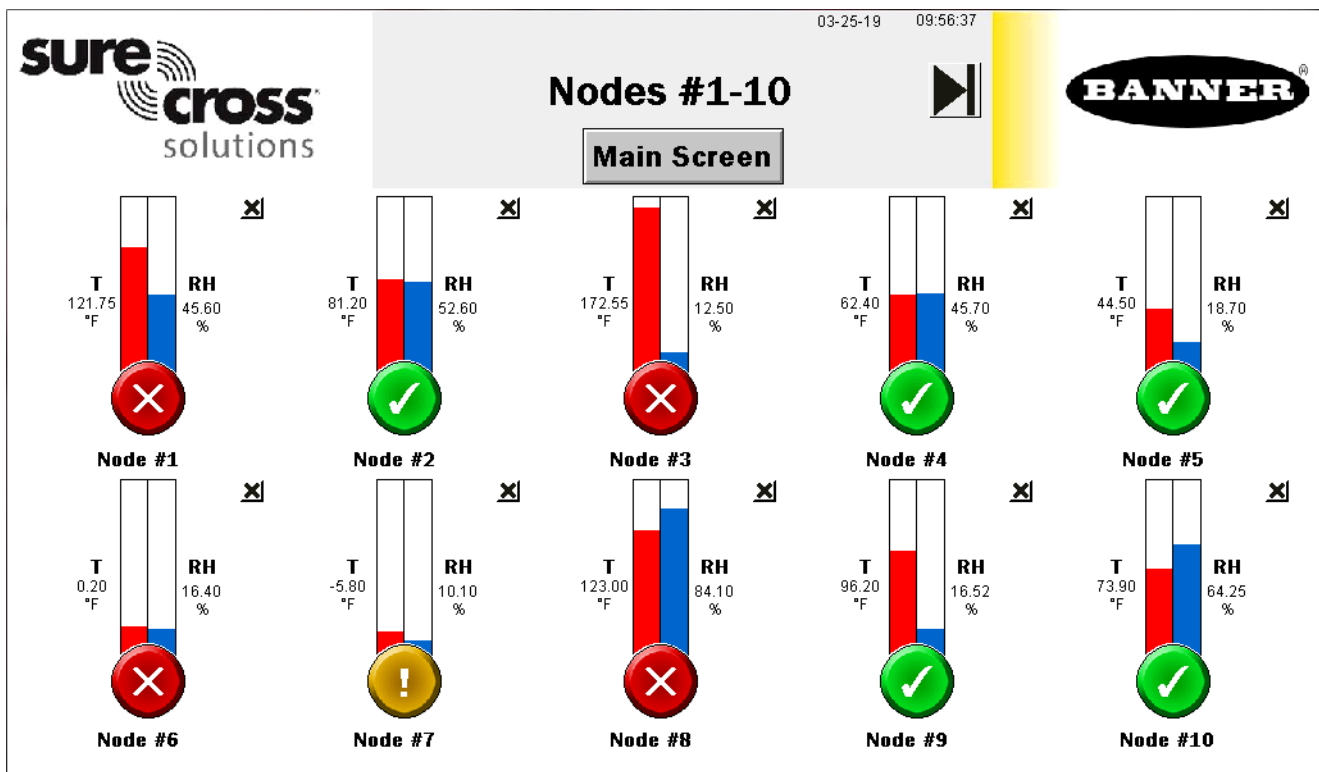
Touch the “X” button in the upper right hand corner of each icon to hide that group of assets and prevent Node status alerts for any Nodes within that group. Use the button that appears after pressing the X to unhide that group for future expansion.

The **Settings** button opens access to Node binding, Node site survey, alarm settings, log file downloads, and many additional settings. (See page 4)

Each asset group label can also be touched to re-label the icon.

## Temperature and Humidity Node Group Screens

Each asset/Node group on the main page has a screen of 10 individual icons, one for each sensor/Node. These icons use colored icons to represent the alarm status. A temperature and humidity gauge and raw sensor readings are also displayed.



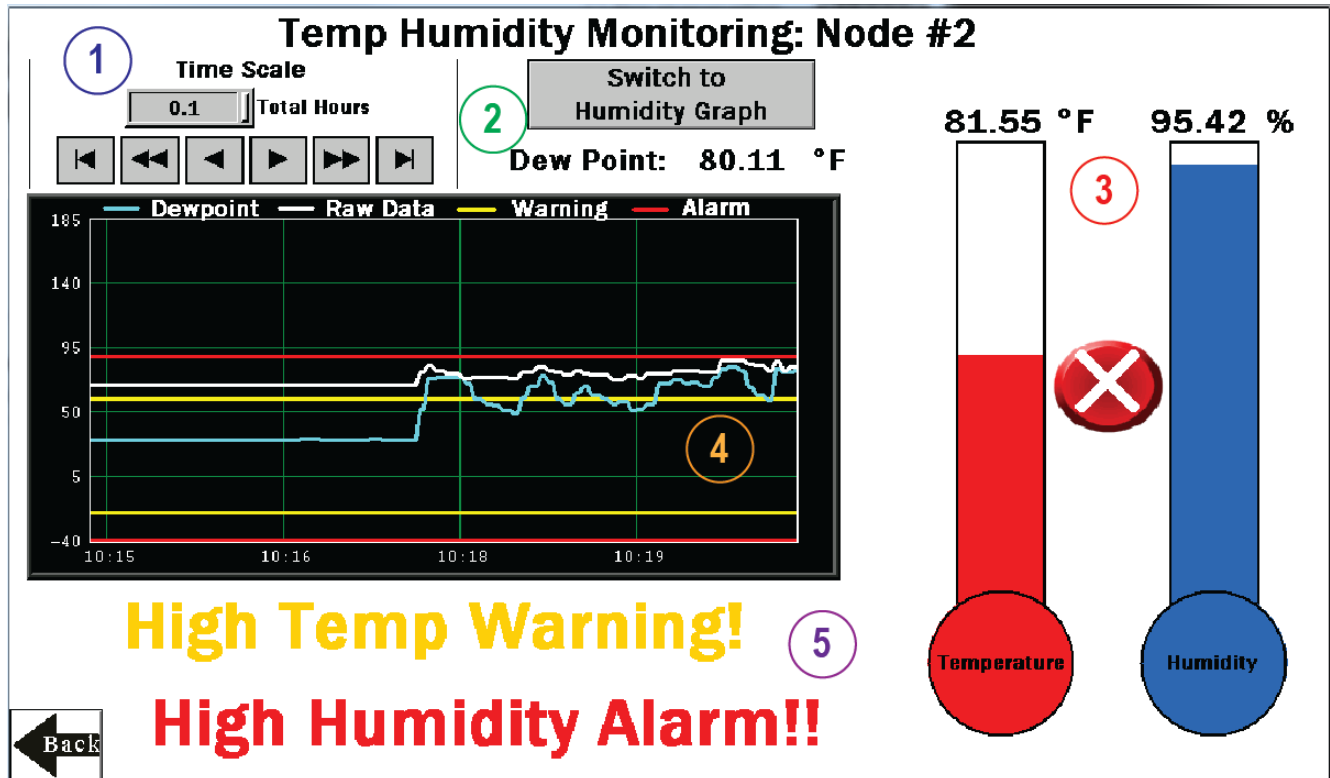
Touch any icon to bring up the individual sensor Node’s screen that includes historic graphs, dew point value, and raw data. (See page 3)

Touch the X button in the upper right hand corner of each icon to hide that asset and prevent Node status alerts from that Node from appearing on the main HMI screen. Use the button that appears after pressing the X button to unhide that group for future expansion.

Touch each asset label to re-label the icon. That label remains in non-volatile memory and appears on the Node’s status, binding, site survey, and alarm setting screens.

# Individual Temperature and Humidity Node (Asset) Status Screen

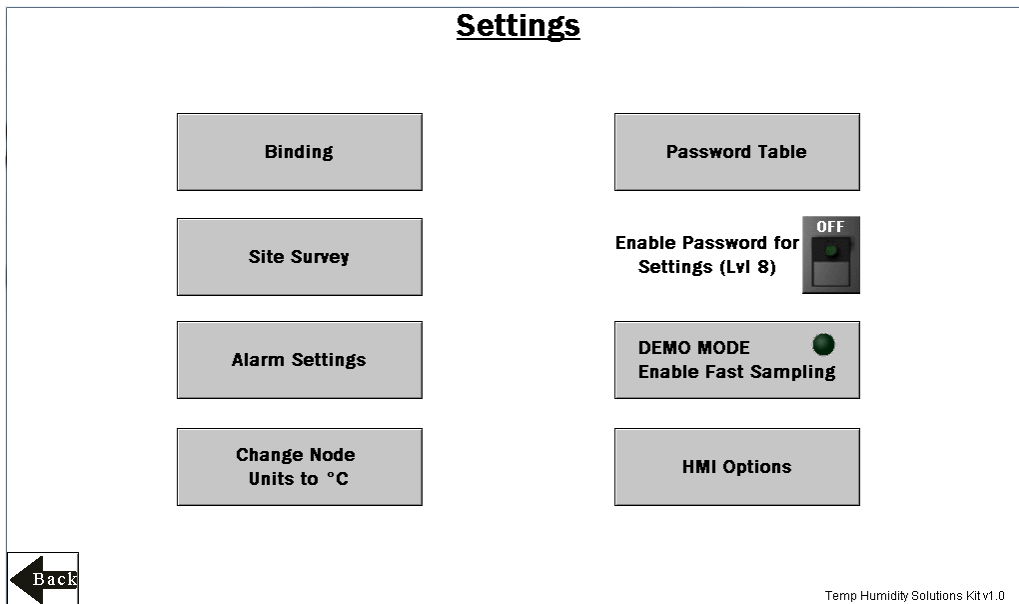
Selecting an individual node icon brings up an individual Node status screen along with many other key pieces of information, shown below:



- 1 - Select the time scale of the graph from 0.1 to 168.0 total hours. The arrow keys scroll right or left to see different periods of the collected data. Up to 168 hours or 7 days is the maximum for viewable data on the HMI.
- 2 - This area includes the raw dew point data and a button to switch between the temperature and dew point graph to the humidity graph.
- 3 - Gauges and raw data of the temperature and humidity levels. Also contains a green, yellow, red icon indicating the warning or alarm state of the node based on the thresholds set on the alarm settings screen.
- 4 - Graphical representation of temperature, dewpoint, humidity, warning levels, and alarm levels.
- 5 - Indication of any current warnings or alarm will be displayed here.

# Settings Screen

**Binding** – Opens a screen to bind each sensor Node to the Solutions Kit’s controller. (page 5)



**Site Survey** – Opens a screen to perform a site survey on any sensor Node bound to the kit. (page 5)

**Alarm Settings** – Set alarm and warning thresholds for both temperature and humidity on both high and low levels. (page 6)

**Change Node Units** – Changes the default Node units from °F to °C; displays raw data and scaling of graphs and gauges.

**Enable Password for Settings (Lvl 8)** – Turn ON/OFF the switch to enable/disable a password to access the Settings menu. The default password for User Level 8 is “88888888”. To change the password, click the **Password Table** button. The password for level 8 may be any numbered password up to nine numbers long.

**DEMO MODE** – Used only for demonstration purposes when fast sampling is required. This enables Teach mode on all the bound sensor Nodes, puts them into a two second sample rate, and changes the HMI graphs to log at two second sample rate for 15 minutes (status indicated by the green light within the button. Using Demo Mode drains battery life faster and creates a larger log that fills up memory quicker, so it is only recommended to use when running a demonstration, not during standard operation. You **must use the Q45U Node** for fast sample mode; the Q45TH will not go into fast sample mode.

**HMI Options** – Provides the ability to copy/manage HMI log files, configure the HMI for advanced options and functional HMI options, and displays an icon and graph legend. (page 7)

## Temperature and Humidity Alarm Settings Screen

Each temperature and humidity sensor Node reports back data in Fahrenheit or Celsius and relative humidity percent. The operating minimums and maximums are -40°F to 185°F (-40°C – 85°C) and 0-100%.

Each temperature and humidity sensor Node can have low and high warning and/or alarm levels. Set those values between -40°F to 185°F (or -40°C – 85°C if the **Change Node Unit to °C** button has been used) and 0 – 100% for humidity. Leave the values at -40°F/C or 0% for Low, and 185°F/85°C or 110% for High if you are not using that warning or alarm.

Use the tabs “**Assets #1-8**”, “**Assets #9-16**”, “**Assets #17-24**”, “**Assets #25-32**”, and “**Assets #33-40**” to access alarm settings for the up to 40 sensor Nodes. Alarm Settings are saved in non-volatile memory and remain through a power outage or reboot.

### Temperature and Humidity Alarm Settings

Click on the numeric entry box to set the warning and alarm thresholds.  
Threshold settings are not required. Temperature Range (-40°F/°C - 185°F/85°C) / Humidity Range (0 - 100%)

	Low Temp Alarm	Low Temp Warning	High Temp Warning	High Temp Alarm	Low Humidity Alarm %	Low Humidity Warning %	High Humidity Warning %	High Humidity Alarm %
Node #1	-20	-5	90	95	15	20	70	90
Node #2	-40	-20	60	90	20	40	70	85
Node #3	-30	-5	100	150	10	20	70	80
Node #4	-40	-40	75	80	0	0	110	110
Node #5	-40	-40	185	185	0	0	110	110
Node #6	-40	-40	185	185	0	0	110	110
Node #7	-40	0	185	185	0	0	110	110
Node #8	-40	-40	185	185	0	0	110	110

Assets #1-8   Assets #9-16   Assets #17-24   Assets #25-32   Assets #33-40

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## Temperature and Humidity Node (Asset) Site Survey and Binding Screen

Banner Wireless Q45 or P6(L) Nodes combined with Banner M12FTH4Q sensors must be bound to the DXM Wireless Controller to begin communicating.

After you run the binding procedure, the Q45/P6(L) Nodes are assigned a Node address and begin communicating with the DXM. Nodes and sensors are purchased separately and after they are combined, must be bound individually.

Run the binding procedure at any time to add a new Node and sensor to the network.

Perform a site survey on each Node after they are installed to ensure proper radio communication between the Nodes and DXM.

### Temp Humidity Node Binding

Click ON to begin binding of the desired Node  
Binding must be turned OFF on one to bind another node.

Node #1	OFF	Node #6	OFF	Node #11	OFF	Node #16	OFF
Node #2	OFF	Node #7	OFF	Node #12	OFF	Node #17	OFF
Node #3	OFF	Node #8	OFF	Node #13	OFF	Node #18	OFF
Node #4	OFF	Node #9	OFF	Node #14	OFF	Node #19	OFF
Node #5	OFF	Node #10	OFF	Node #15	OFF	Node #20	OFF

Nodes #1-20   Nodes #21-40

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## Bind a Node

1. Touch the ON/OFF rocker switch on the HMI screen for the desired Node to turn on binding mode.
2. On the Node, connect the M12FTH4Q sensor.
3. Enter binding mode by triple-clicking the binding button under the Q45 lid or by triple-clicking button 2 on a P6 or P6L. For the P6, follow the Node’s datasheet to set the rotary dials before binding. After the node is bound, the LEDs are on momentarily, then flash four times. The Node automatically exits binding mode.
4. On the HMI: Touch the same ON/OFF rocker switch on the HMI screen to turn the switch to off. The DXM exits binding mode. After the DXM exits binding mode, the indicator LED on the Node flashes green when the Node is in sync with the DXM.

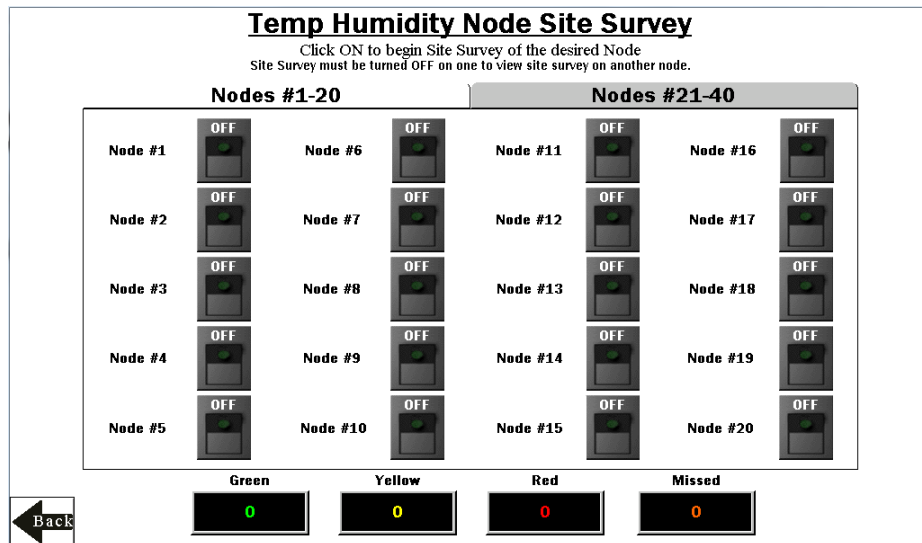
- Repeat steps 2 through 4 for as many Nodes as are needed for the system. Use the tabs “Nodes #1-20” and “Nodes #21-40” to access binding switches for the up to 40 sensor Nodes. **NOTE:** Entering binding mode will cause all the Nodes to go out of sync until the DXM exits binding mode. They will re-sync with the master radio within a few seconds.

## Temp Humidity Node (Asset) Site Survey Screen

Perform a site survey on each Q45/P6(L) Node after they are installed to verify you have good radio communication between the Nodes and DXM.

### Conduct a Site Survey

- Touch the ON/OFF rocker switch on the HMI screen for the desired Node to turn on Site Survey for the desired Node.
- If the selected Node is communicating with the DXM, the results display at the bottom of the HMI screen. The results add up to a total of 100. It takes several seconds for the first 100 packets to display complete results.
- To interpret the results, refer to the interpreting section of the [Conducting a Site Survey and Interpreting the Results](#) tech note on [bannerengineering.com](http://bannerengineering.com).
- After the site survey is complete, touch the ON/OFF rocker switch to turn it to the off position on the HMI screen.
- Repeat steps 1 through 4 for each additional Node. Use the tabs “Nodes #1-20” and “Nodes #21-40” to access site survey switches for the up to 40 sensor Nodes. **NOTE:** Entering site survey mode causes all the Nodes to go out of sync until the DXM exits site survey mode. They will re-sync with the master radio within a few seconds.



## HMI Options Menu Screen

This screen provides some added HMI functionality along with an icon and graph legend.

**HMI System Setup** – Enter HMI Panel Setup, which clears logged data from the graphs but will not clear any data saved to files.

**Restart HMI Application** – Restarts the HMI application, which clears all graphed data but retains saved logs.

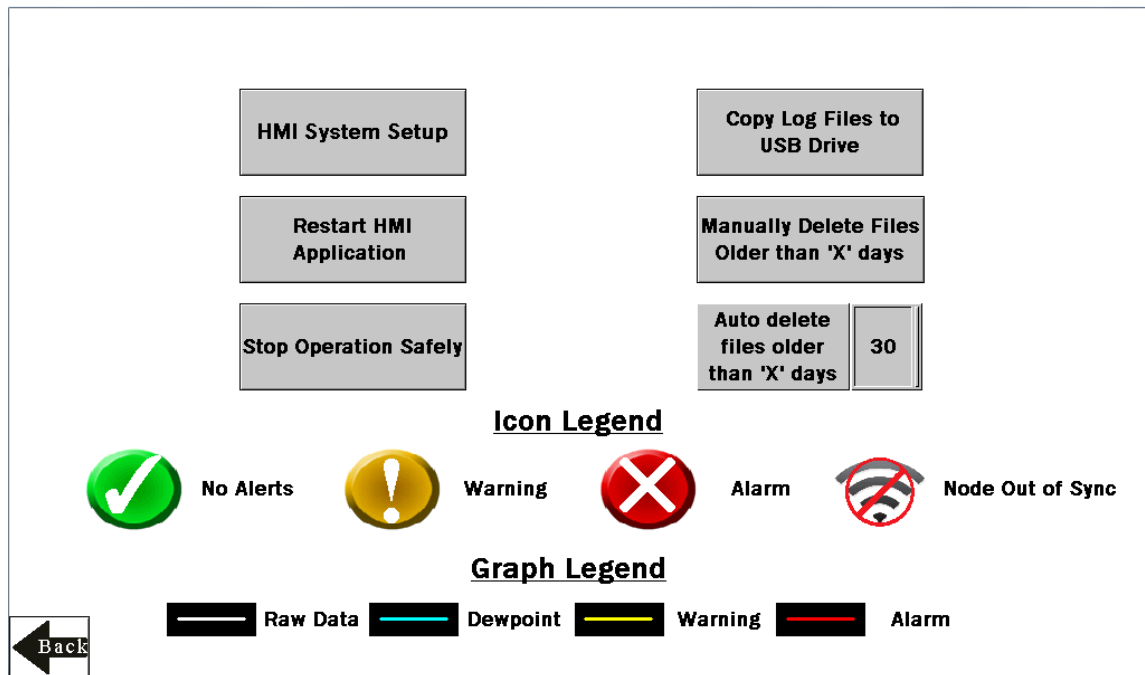
**Stop Operation Safely** – Stops HMI operation safely without data corruption before you power off the HMI.

The HMI provides data logging of all the temperature and humidity levels, warning or alarm settings, and any triggered warnings and/or alarms (in a bit-packed register). This data is saved to a file every 30 minutes and a new file is generated every day and stored in monthly folders. The HMI has storage for about 45 days of log files. Below are some options for managing and retrieving those files.

**Copy Log Files to USB Drive** – Plug in a USB drive to the back of the HMI and click here to select the log files or folders to copy.

**Manually Delete Files Older than ‘X’ Days** – Delete files older than a specified number of days immediately. Use this option if the HMI is warning about an inability to save data or lack of storage space. Shortening the auto delete days may be necessary.

**Auto Delete Files Older than 'X' Days** –The HMI automatically deletes files older than the selected number of days.



## Advanced Options

### Install a Warning/Alarm Light Indicator

Add a tower light or indicator light (such as a K70, TL50, TL70, etc.) to the solutions kit for added local indications of all clear, warnings, or alarms. The DXM Wireless Controller uses PNP outputs with a maximum of 100 mA per output, so an interposing relay may need to be added to accommodate higher amperage lights. To install:

1. Cut a hole in the box and mount the light accordingly.
2. Wire DC ground to the light or an interposing relay from the bottom row of the gray 2-row terminal blocks inside the Solutions Kit on the DIN rail adjacent to the DXM Controller.
3. Wire the input of the light or interposing relay to the DXM as follows:
  - a. O1 – Pin 5 – indicates any Node/asset in Alarm condition
  - b. O2 – Pin 6 – indicates any Node/asset in Warning condition
  - c. O3 – Pin 7 – indicates any Node/asset in either Warning or Alarm condition
  - d. O4 – Pin 8 – indicates no Warning or Alarms conditions exist

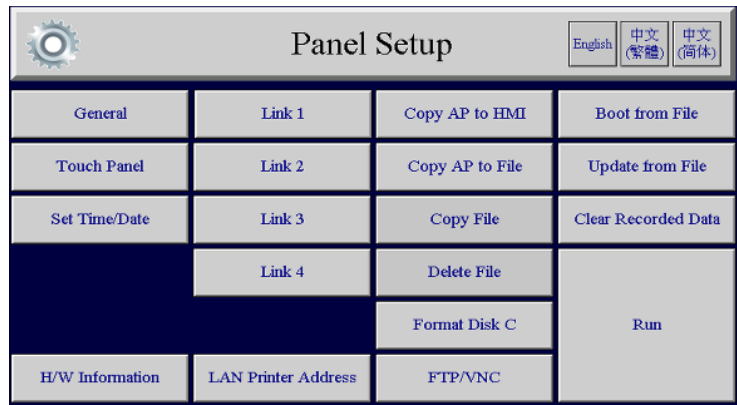
### Connect the DXM and HMI to a Wide Area Network (WAN)

By default, the HMI and DXM Wireless Controller are configured to communicate via static IP addresses. To connect to a WAN, adjust the two devices to use a new static IP address on the new network or to acquire their own IP address via DHCP.

Connecting to a WAN allows the devices to be accessed for configuration by any computer on the network and allows the DXM to be configured to push data to a cloud webserver for remote monitoring on the web. Follow instructions in the next section for connecting to the DXM to the Banner cloud webserver.



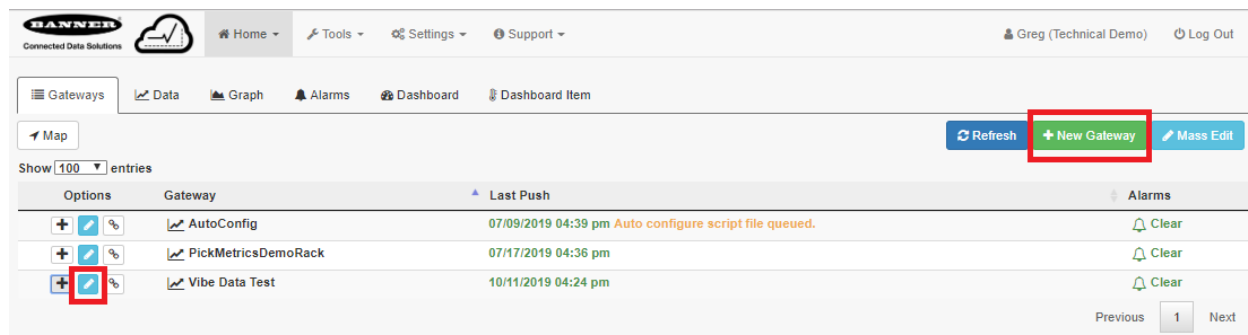
1. Open the solution box and connect an ethernet cable from the WAN to the ethernet switch inside the solution box.
2. [DXM]: With power applied to the DXM, use the arrow keys to select **System Config** and hit **Enter**.
3. [DXM]: Use the arrow keys to select **Ethernet**.
4. [DXM]: If using a static ip address, select the IP address shown and click **Enter**. Then use the arrow and Enter keys to set the new static IP address. If using DHCP, click **Enter** on **DHCP** and use the arrow keys to select **DHCP ON** and hit **Enter**. A reboot of the device will be requested on the screen if any changes are made to these settings.
5. [DXM]: If using DHCP, navigate to the **System Info-> Ethernet** and write down the IP address for entering into the HMI. Subnet mask can be adjusted here as well if needed.
6. [HMI]: From the main screen go to the **HMI Options** screen and then choose **HMI System Setup**.
7. [HMI]: In the Panel Setup screen select, **General**.
8. [HMI]: On the pop-up screen that appears, either type in the IP address and network information for a static IP address by pushing on the appropriate fields or next to the field that states **Get an IP address automatically** push on the the False to change it to True then push **OK**. This sets up DHCP.
9. [HMI]: Push **Link 1** and push on the field of the IP address. Then enter in the IP address of the DXM from earlier and push **OK**.
10. [HMI]: To finish press **Run**.



## Push Information to the Cloud

The DXM Wireless Controller can connect to the Web via Ethernet or an internal cell module. The controller pushes data from the DXM to the cloud to be stored and displayed on a website. To enable this capability, modify the DXM's XML configuration file.

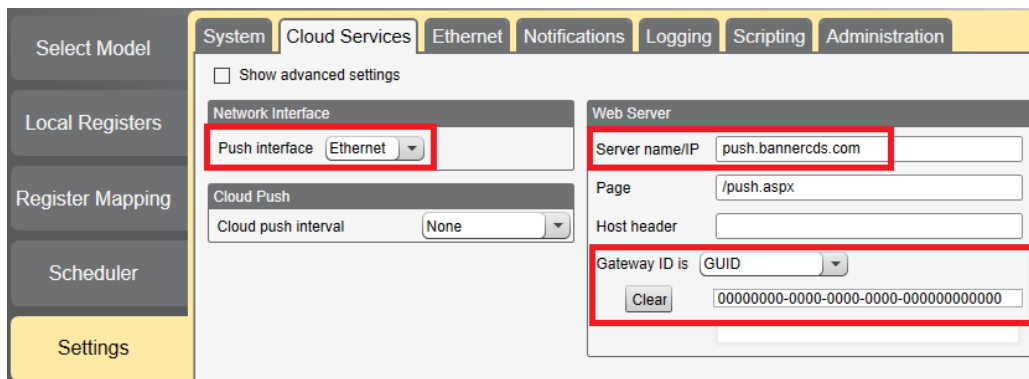
The Banner website for storing and monitoring the system's data is <https://bannercds.com/>. The Banner Cloud Data Services (CDS) website automatically generates dashboard icons and graphs for the kit that can be placed in the Dashboard tab. Email alerts can be set up on the Alarms tab as well.



1. On the Website: Visit the Banner Cloud Data Services website (<https://bannercds.com/>) and log into an existing account or register a new account. Click **+ New Gateway**. Name the Gateway then click **Create**.
2. After the Gateway appears, click the + symbol on the far left and highlight and copy the Gateway ID.
3. On the computer: Open the [DXM Configuration Software v4](#).
4. On the DXM: Apply power to the DXM.



5. Connect the DXM Controller to the computer with a USB cable or skip if the DXM is connected to the same network as the computer.
6. Select DXM Model as **DXM700** and connect the DXM to the tool by clicking **Device-> Connection Settings** in the menu bar.
7. If you are using the USB cable, select **Serial**, then select the COM port that the USB cable is plugged into. Click **Connect**. If you are unsure which COM port and multiple appear, attempt to connect to each one of them until successful. If connected to the same network as the DXM, select **TCP/IP** and enter the DXM IP address and click **Connect**.
8. After the DXM is connected to the software, get the current XML file by clicking **Device->Get XML configuration from DXM**. Name and save the file to the computer.
9. Within the tool, click the **Settings** tab on the left and then the **Cloud Services** tab on the top.
10. Make sure the **Server name/IP** is set to push.bannercds.com.
11. Select the appropriate **Push interface** to either Cellular or Ethernet. (To set up Ethernet, use the Network Tab under settings. To set up cellular, refer to the [Activating a Cellular Modem](#) tech note.)
12. Leave the **Cloud push interval** and **Sample count** set as they were. The DXM script controls this to push every 5 minutes.
13. Registers are preselected to push to the cloud. Some registers can be removed if you are not using all 40 sensors. Additional registers can be added by going to the **Local Registers** tab on the left. The preselected READ registers are 1-80 for sensor data, 81-120 for radio connection status, 121-160 for dew point, and 481-520 for bit-packed alarm status. The preselected READ/WRITE registers are 7001-7320, which are the user adjustable warning and alarm levels. To modify registers either:
  - a. Click on each register and edit the Cloud Permissions at the bottom of the screen; or
  - b. Choose the Modify Multiple Registers tab at the bottom of the screen of the Local Register tab to edit the Cloud Permissions for a block of registers
14. Under Web Server heading, keep the **Site ID is** drop-down selection as **GUID** and paste the copied ID from the webpage into the Site ID field.
15. Save the XML file (**File > Save**).
16. Upload the file to the DXM (**Device > Send XML Configuration to the DXM**).
17. On the Website: Click the blue pencil icon under the **Options** column on the row of the newly created Gateway. Click the “Choose File” next to **Update XML** and select the XML file that was just uploaded to the DXM.
18. Click **Save** to complete the connection to the website.



## VNC Viewing on Laptop and Mobile Device

The Solutions Kit HMI has the capability of being viewed and controlled through a VNC app on either a mobile phone, tablet, or laptop that is connected to the same network as the Solutions Kit. Follow the steps in [Tech Note: View Solution Kit Data on a Mobile Device or PC \(b. 4492805\)](#) to set up VNC remote viewing and control.

This creates continuity between the site created on the website with the DXM. If the DXM has a network connection, it will push up data on its next cloud push interval. Refer to the [Banner Cloud Data Services Instruction Manual](#) to review all the features available for monitoring, comparing data, and establishing warnings/alarms on the website.

To access a demonstration version of the website please contact your local Banner distributor and follow the instructions in the [Tech Note: Connecting a DXM Wireless Controller to the Banner Web Services Demo Site](#) for modified instructions on how to send data to the demo site.

For additional advanced options using the DXM such as email or SMS alerts, refer to the [Temperature and Humidity Monitoring Solutions Guide](#) on the Banner Engineering website. NOTE: The files used in the Solutions Kit are different than those used with the Solutions Guide and should NOT be installed on the DXM being used with the HMI. Use the DXM Configuration Software and perform a Device -> Get XML configuration from DXM to make modifications to the file pre-loaded to the DXM in the Solutions Kit.

For additional information on the DXM Wireless Controller, Q45U/Q45TH Wireless Nodes, P6/P6L Nodes, or M12FTH4Q sensor, visit [www.bannerengineering.com/wireless](http://www.bannerengineering.com/wireless).

## Specifications

### Supply Voltage

24 V DC ( $\pm 10\%$ ) (use only with a Class 2 (UL) power supply or a Limited Power Source (LPS) (CE) power supply)

### Power Consumption

9 W average; 30 W maximum

### Operating Conditions

0 °C to +50 °C (32 °F to +122 °F) (HMI);  
-40 °C to +85 °C (-40 °F to +185 °F) (DXM);  
-20 °C to +80 °C (-4 °F to +176 °F) (DXM LCD)  
Micro SD Card (if applicable): -25 °C to +85 °C (-13 °F to +185 °F)  
90% maximum relative humidity (non-condensing)

### 900 MHz Compliance (1 Watt)

Contains FCC ID: UE3RM1809: This device complies with FCC Part 15, Subpart C, 15.247  
Contains IC: 7044A-RM1809

### 2.4 GHz Compliance (DX80-2400 Radio Module)

Radio module is indicated by the product label marking  
Contains FCC ID: UE300DX80-2400: This device complies with FCC Part 15, Subpart C, 15.247 ETSI EN 300 328: V1.8.1 (2012-04)  
Contains IC: 7044A-DX8024  
ANATEL: 15966-21-04042 Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL [www.gov.br/anatel/pt-br/](http://www.gov.br/anatel/pt-br/)

### 2.4 GHz Compliance (SX243 Radio Module)

Radio module is indicated by the product label marking  
Contains FCC ID: UE3SX243: FCC Part 15, Subpart C, 15.247  
Radio Equipment Directive (RED) 2014/53/EU  
Contains IC: 7044A-SX243

### Radio Range

900 MHz, 1 Watt: Up to 9.6 km (6 miles)  
2.4 GHz, 65 mW: Up to 3.2 km (2 miles)

### Spread Spectrum Technology

FHSS (Frequency Hopping Spread Spectrum)

### Antenna Minimum Separation Distance

900 MHz, 150 mW and 250 mW: 2 m (6 ft) 900 MHz, 1 Watt: 4.57 m (15 ft)

2.4 GHz, 65 mW: 0.3 m (1 ft)

### Radio Transmit Power

900 MHz, 1 Watt: 30 dBm (1 W) conducted (up to 36 dBm EIRP)  
2.4 GHz, 65 mW: 18 dBm (65 mW) conducted, less than or equal to 20 dBm (100 mW) EIRP

### Mounting

A mounting system that provides for various mounting options has been provided with this enclosure. To connect the mounting brackets, turn the enclosure such that the backside is visible. Place the mounting brackets over the octagon bosses either horizontally, diagonally, or vertically, and fasten them with the ¼"-20 x 0.25" SS, countersunk Philips drive screws provided (torque limit = 30 in. lbs.). The enclosure can be mounted vertically (on a wall) or horizontally (table top).

### Certifications



(NOM applies only to the 900 MHz models)



Banner Engineering Europe Park Lane, Culliganlaan 2F bus 3, 1831 Diegem, BELGIUM (CE/UKCA applies only to model SOLUTIONSKIT2-TH)



Turck Banner LTD Blenheim House, Blenheim Court, Wickford, Essex SS11 8YT, Great Britain

## FCC Part 15 Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the

instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## Industry Canada

IC: 7044A-RM1809, 7044A-DX8024, 7044A-SX243—This device contains licence-exempt transmitters(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs/récepteurs exemptés de licence conformes à la norme Innovation, Sciences, et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## Banner Engineering Corp. Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.

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For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

## Notas Adicionales

Información México: La operación de este equipo está sujeta a las siguientes dos condiciones: 1) es posible que este equipo o dispositivo no cause interferencia perjudicial y 2) este equipo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Banner es una marca registrada de Banner Engineering Corp. y podrán ser utilizadas de manera indistinta para referirse al fabricante. "Este equipo ha sido diseñado para operar con las antenas tipo Omnidireccional para una ganancia máxima de antena de 6 dBd y Yagi para una ganancia máxima de antena 10 dBd que en seguida se enlistan. También se incluyen aquellas con aprobación ATEX tipo Omnidireccional siempre que no excedan una ganancia máxima de antena de 6dBd. El uso con este equipo de antenas no incluidas en esta lista o que tengan una ganancia mayor que 6 dBd en tipo omnidireccional y 10 dBd en tipo Yagi, quedan prohibidas. La impedancia requerida de la antena es de 50 ohms."

Antenas SMA	Modelo
Antena, Omni 902-928 MHz, 2 dBd, junta de caucho, RP-SMA Macho	BWA-902-C
Antena, Omni 902-928 MHz, 5 dBd, junta de caucho, RP-SMA Macho	BWA-905-C

Antenas Tipo-N	Modelo
Antena, Omni 902-928 MHz, 6 dBd, fibra de vidro, 1800mm, N Hembra	BWA-9O6-A
Antena, Yagi, 900 MHz, 10 dBd, N Hembra	BWA-9Y10-A


## Mexican Importer

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## ANATEL

Modelo (Model): DX80-2400—Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados. Para maiores informações, consulte o site da ANATEL [www.gov.br/anatel/pt-br/](http://www.gov.br/anatel/pt-br/)



 ANATEL: 15966-21-04042