Configure a SmartSolutions™ StarterKit for an Ethernet Connection

Introduction and Required Cables

By default, the DXM Controllers within the SmartSolutions™ StarterKit Series are intended to push data wirelessly to the Banner Cloud Data Services platform through widely available cellular network connection.
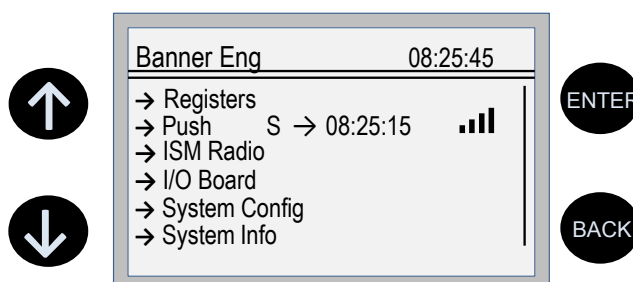
As with any wireless network, there may be applications for which cellular communication is not feasible or appropriate. Cellular reception can be problematic in areas without sufficient network infrastructure or in environments that have disruptive wireless interference. These complications can be remedied by establishing a wired Ethernet connection.

To configure your StarterKit to use an Ethernet connection, you first need the appropriate Ethernet cable.

DXM Model	Ethernet Cable Model	Description
DXM1200	IVUC-E-406	Ethernet Adaptor, Pico 4-pin to RJ45, 2 m (6 ft) length
	IVUC-E-415	Ethernet Adaptor, Pico 4-pin to RJ45, 5 m (15 ft) length
DXM700	Banner recommends using a common RJ45 unshielded twisted pair (UTP) cable for connection with this DXM and the enterprise IT network.	

LCD and Menu System

The LCD has four user-defined LED indicators, four control buttons, and an LCD. The four buttons control the menu system on the LCD menu.

The top-level menu always displays the time in a 24-hour format.
- The up and down arrows scroll through display items.
- The **ENTER** button selects the highlighted items on the display
- The **BACK** button returns to a previous menu option.

The left display column shows an arrow at the beginning of the line if the menu has submenus. The right column shows a vertical line with an arrow at the bottom if the user can scroll down to see more menu items.
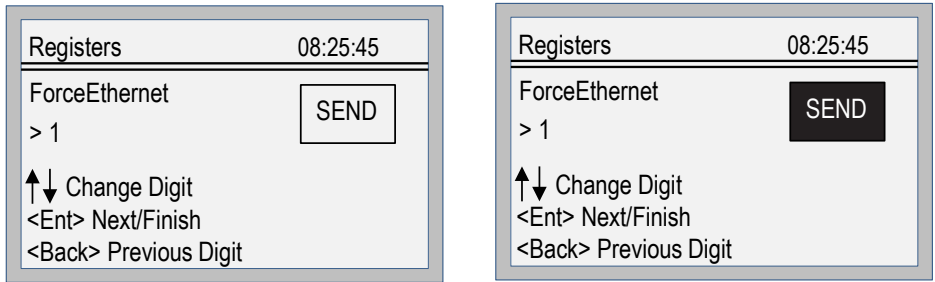
Configure the StarterKit for Ethernet

Follow these steps to configure your DXM to use an Ethernet communication connection.

1. Connect the power supply to DXM using the Euro-style or barrel jack connector and plug the power supply into a wall socket.
2. Connect the adapter end of the Ethernet cable to DXM and plug the RJ45 connector to a port on the enterprise IT network.

3. On the DXM: From the main menu, use the arrow keys to highlight **Registers** and press **ENTER**.

Registers ⟶ Version
Number of Nodes
Cell Strength
Push Attempts
Push Successes
Push Misses
Force Ethernet

↑ ↓ to change the value

ENTER to accept

BACK to return to the previous menu

4. Scroll to the bottom of the Register list to highlight **ForceEthernet**. Press **ENTER**.
5. Use the arrow keys to change the Register value to one (1). Press **ENTER**.

   By default, this Register value is set to zero (0).
6. Press **ENTER** again until **SEND** is highlighted and blinking.

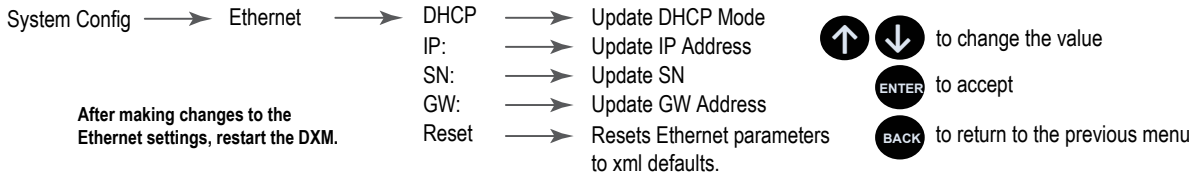| Registers 08:25:45	Registers 08:25:45
ForceEthernet SEND	ForceEthernet SEND
> 1	> 1
↑↓ Change Digit	↑↓ Change Digit
<Ent> Next/Finish	<Ent> Next/Finish
<Back> Previous Digit	<Back> Previous Digit

7. Press **ENTER** to send the command.
   The clock in the upper right corner of the DXM display pauses briefly while the DXM reboots. The DXM Gateway Controller has successfully rebooted when the screen returns to the main menu and the clock begins to operate again.

The DXM is now set to communicate through an Ethernet connection. The SmartSolutions™ Starter Kit transmits data once every ten minutes, so please allow sufficient time to determine that a successful push has been received by the Banner Cloud Data Services platform.

Set a Static IP Address

Change the IP address of the DXM to connect to a local area network, Modbus TCP/IP host controller, or EtherNet/IP host controller.

There are two ways to set the IP address: using the DXM's LCD menu or using the configuration software to change the XML file. IP addresses entered into the LCD menu system override the IP addresses in the XML configuration files. To use the IP addresses set in the XML configuration file, clear the IP addresses from the menu system.

System Config ⟶ Ethernet ⟶ DHCP ⟶ Update DHCP Mode
IP: ⟶ Update IP Address
SN: ⟶ Update SN
GW: ⟶ Update GW Address
Reset ⟶ Resets Ethernet parameters to xml defaults.

After making changes to the Ethernet settings, restart the DXM.

↑ ↓ to change the value

ENTER to accept

BACK to return to the previous menu

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 reenter the Ethernet menu. Use the arrow keys to select **IP**. Press **ENTER**.
   The octet of the IP address displays (for example, 192.168.10.1).
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 DXM.
    The changes are saved on the DXM and the new IP address will be used.

Use this 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.