LeadSolar Energy Digi^{TM} Gateway Installation Guide
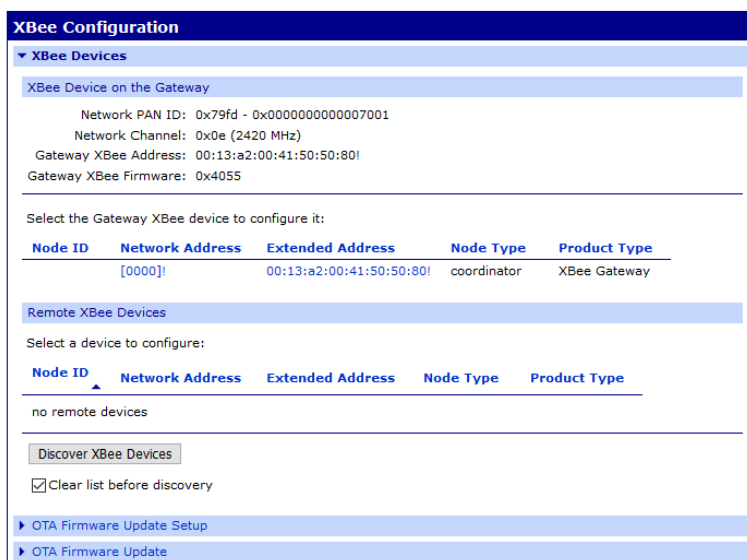
For LS600/LS1400 with ZigBee Communication

Rev 2018-02

The Digi Gateway provides a connection between the Zigbee communication network built into the LeadSolar microinverters and the system owner's router via either wifi or an Ethernet Connection.   The Gateway can be installed either indoors or outside in a secured housing (temperature control may be necessary in some colder areas). For optimal signal strength, the Digi gateway should be located within 100 ft of the solar array. Signal repeaters can be used to extend the signal range if necessary. The gateway can be used to reliably monitor approximately 100 microinverters. System sizes much greater than this can experience prohibitively long data acquisition times.

Install Digi^{TM} gateway

1) Plug the Digi gateway into a 120V outlet near the WiFi router
2) Connect the Digi gateway to the WiFi router via CAT5/Ethernet cable
3) Connect your laptop to the WiFi wirelessly
4) Find the IP address of the Digi gateway in the WiFi router's internal webpage
    a. Access the admin settings of the WiFi router to find the Digi IP address
5) With your computer connected to the WiFi, enter the Digi IP address into the browser URL bar
6) Login into the built-in webpage
7) Confirm Zigbee communications. Go to XBee Network.
8) Select "Clear List Before Discovery, and then click "Discover XBee Devices."

9) Under "Remote XBee Devices," a line item will appear for each microinverter. Each Extended Address will match the MAC ID of each microinverter. (Here, only one microinverter was detected. Multiples will be detected on standard installations.) The node type is listed as "router," but it is in fact a microinverter.

XBee Configuration

▼ **XBee Devices**

XBee Device on the Gateway

Network PAN ID: 0x79fd - 0x0000000000007001
Network Channel: 0x0e (2420 MHz)
Gateway XBee Address: 00:13:a2:00:41:50:50:80!
Gateway XBee Firmware: 0x4055

Select the Gateway XBee device to configure it:

Node ID	Network Address	Extended Address	Node Type	Product Type
	[0000]!	00:13:a2:00:41:50:50:80!	coordinator	XBee Gateway

Remote XBee Devices

Select a device to configure:

Node ID ▲	Network Address	Extended Address	Node Type	Product Type
	[244b]!	00:13:a2:00:41:4f:16:f0!	router	Unspecified

1 router

[Discover XBee Devices]

☐ Clear list before discovery

▶ OTA Firmware Update Setup

▶ OTA Firmware Update

10) Go to wireless network configuration

Wireless Network Configuration

Current IP Parameters

Automatic address assignment via DHCP is **enabled**.
IP Address: 192.168.1.249
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1

Interface Configuration

☑ Enable this network interface

[Run Wizard] Use the **Wireless Wizard** for the security configuration of this network interface.

Stored IP Configuration

◉ Obtain an IP address automatically using DHCP
○ Use the following IP address:
IP Address: 0.0.0.0
Subnet Mask: 0.0.0.0
Default Gateway: 0.0.0.0

11) Go to **Interface Configuration** and click **Run Wizard**

Interface Configuration

☑ Enable this network interface

[Run Wizard] Use the **Wireless Wizard** for the security configuration of this network interface.

Stored IP Configuration

12) Wait for the Digi™ gateway to scan for WiFi signals

Wireless Network Configuration Wizard

Step 1: Choose from the list, or enter a Network SSID below:

Scanning for wireless networks...

Network SSID: [　　　　　　　　　　　　　　　]

13) Select the network you wish to connect the Digi™ gateway to

Device Configuration and Management

XBee Gateway Wi-Fi

Wireless Network Configuration Wizard

Step 1: Choose from the list, or enter a Network SSID below:

5ccf7f84f088	[-47 dBm]
AP13	[-86 dBm]
AP138	[-84 dBm]
AP166	[-90 dBm]
aWiFi-iv5i	[-91 dBm]
ChinaNet-aaPa	[-92 dBm]
ChinaNet-d9j2	[-87 dBm]
ChinaNet-KIVm	[-81 dBm]
ChinaNet-WZ9g	[-92 dBm]
ChinaNet-wFnV	[-93 dBm]

Network SSID: [　　　　　　　　　　　　　　　]

Click "Continue" to continue, "Refresh" to scan for Network SSIDs, or "Cancel" to end the wizard and return to the Wireless Network Configuration page.

[Continue] [Refresh] [Cancel]

14) Click continue
15) Chose the "**Security Mode**" "open" and type in the WiFi network password.

Wireless Network Configuration Wizard

Step 2: Select Security Mode and enter associated parameters:

Security Mode: [Open　　　　　　　　　　　　　　　▾]

Click "Finish" to continue or "Cancel" to end the wizard and return to the Wireless Network Configuration page.

[Finish] [Cancel]

Wireless Network Configuration Wizard

Step 2: Select Security Mode and enter associated parameters:

Security Mode: [WPA/WPA2 Personal　　　　　　　　▾]
WPA Shared Key: [••••••••••••]
Confirm Key: [••••••••••••]

Click "Finish" to continue or "Cancel" to end the wizard and return to the Wireless Network Configuration page.

[Finish] [Cancel]

16) Click finish to complete the process
17) Register the new Digi^{TM} gateway in the client's LeadSolar monitoring portal
18) Register the LeadSolar microinverters in the client's monitoring portal

The wireless configuration is now complete. The Digi^{TM} gateway can be unplugged from the router and moved to 120V plug in a convenient location that is out of the way.

Refer to the *Create Monitoring Account Using the Digi^{TM} Gateway* document for more information about registering accounts and devices for online monitoring.