

# Installation and Maintenance Manual

# IM-1326-1

Group: Controls

Part Number: IM-1326

Date: January 2022

## Replacement SiteLine™ Gateway

Generation 1 Intelligent Equipment® Gateway to  
Generation 2 SiteLine™ Building Controls Gateway



<b>Introduction</b> .....	<b>3</b>
Revision History .....	3
Reference Documents .....	3
Limited Warranty .....	3
General Information .....	3
Hazard Identification Messages .....	3
Components .....	4
Generation 2 Gateway .....	4
Special Instructions For Gateways Using Wi-Fi or LAN Connectivity .....	5
Check Wi-Fi Configuration Settings in Existing Generation 1 Gateway .....	5
Check LAN Configuration Settings in existing Generation 1 Gateway .....	5
<b>Removal and Installation Instructions</b> .....	<b>6</b>
Necessary Tools .....	6
Removal .....	6
Disconnecting Existing (Generation 1 Gateway) Wiring Interconnections .....	6
Installation .....	8
Installing New Generation 2 Gateway on Bracket ..	8
Generation 2 Gateway Connection to MTIII or HMI	8
Generation 2 Gateway Connection to EMM .....	9
Connection of Power Supply .....	9
Wiring of Antennas .....	10
LAN Connection .....	10
Wi-Fi or Hardwire LAN Ethernet Connection Configuration .....	10
Cloud connectivity check .....	10
Other Instructions .....	10

## Revision History

Number	Release Date	Action
IM 1326-1	Jan. 2022	Chaged Intelligent Equipment references to SiteLine
IM 1326	July 2021	Initial Release

## Reference Documents

Number	Company	Title	Source
OM 1241	Daikin Applied	Operation and Maintenance Manual	www.daikinapplied.com
IM 1240	Daikin Applied	Installation Manual	www.daikinapplied.com

## Limited Warranty

Consult your local Daikin Representative for warranty details. To find your local Daikin representative, go to [www.DaikinApplied.com](http://www.DaikinApplied.com).

### Notice

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Daikin reserves the right to change any information contained herein without prior notice. The user is responsible for determining whether this software is appropriate for his or her application.

## General Information

This manual contains the information you need to replace a Generation 1 Intelligent Equipment Gateway with a Generation 2 SiteLine Building Controls Gateway. For installation Technical Support, please contact the Daikin Applied Controls Support Group at (866) 462-7829.

## Hazard Identification Messages

### Recognize Safety Symbols, Words and Labels

The following symbols and labels are used throughout this manual to indicate immediate or potential hazards. It is the owner and installer’s responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of property damage and/or product damage, serious personal injury or death. Improper installation, operation and maintenance can void the warranty.

### CAUTION

Cautions indicate potentially hazardous situations, which can result in personal injury or equipment damage if not avoided.

Static sensitive components. Can cause equipment damage.

Discharge any static electrical charge by touching the bare metal inside the control panel before performing any service work. Never unplug cables circuit board terminal blocks, or power plugs while power is applied to the panel.

### WARNING

Warnings indicate potentially hazardous situations, which can result in property damage, severe personal injury, or death if not avoided.

### DANGER

Dangers indicate a hazardous situation which will result in death or serious injury if not avoided. Electric shock hazard. Can cause personal injury or equipment damage. This equipment must be properly grounded. Connections and service to the MicroTech II water-cooled centrifugal chiller, MicroTech E water-cooled centrifugal chiller, MicroTech III air-cooled chiller, packaged rooftop, self-contained air conditioning system or outdoor air handling unit controller, machine-to-machine Gateway and Energy Management Module must be performed only by personnel knowledgeable in the operation of the equipment being controlled.

### NOTICE

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause interference to radio communications. It 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. 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 or her own expense. **Daikin disclaims any liability resulting from any interference or for the correction thereof.**

# Components

## Generation 2 Gateway

The Generation 2 Gateway is a factory tested and commissioned device, which arrives ready to be installed on an existing mounting bracket. The existing Generation 1 Gateway will be removed and replaced by the new Generation 2 Gateway. Upon receiving, verify that all components are present and notify the supplier of any shortage.

Figure 1: Wireless LAN Configuration

The screenshot shows a configuration interface with three main sections:

- lan Configuration:** Connection Type is set to DHCP, and Interface is eth0.
- wlan0 Configuration:** This section is highlighted with a yellow border. Connection Type is Static IP, Interface is wlan0, and Type is None. Below this are input fields for IP Address, Netmask, and Default Gateway.
- wlan0 DNS Servers:** A section with an input field and an 'Add' button.
- wwan Configuration:** Connection Type is WWAN, Interface is 3g-wwan, and Device is /dev/ttyACM0.

Figure 2: Wireless Configuration Screen

The screenshot shows the 'WIND RIVER Intelligent Device Platform' interface. At the top right, system information is displayed: 'Wind River Intelligent Device Platform XT 2.0', 'Host: Daikin\_IIC\_1.2', 'Date: 2018-07-25', 'Uptime: 24 min, 1 user', 'Time: 14:58:31', and 'Load: 1.98, 1.83, 1.51'. Navigation tabs include Status, Log, System, Network, and Logout. The 'Networks' section is active, showing 'Wireless' and 'MultiWAN' options. The 'Wireless Configuration' section includes:

- Wireless Adapter wlan0 Configuration:** Radio is turned On.
- Wireless Virtual Adaptor Configuration for Wireless Card wlan0:**
  - Network: wlan0
  - Mode: Client
  - ESSID Broadcast: On
  - RTS (Default off): Off
  - Fragmentation (Default off): Off
  - ESSID: [empty]
  - Encryption Type: WPA2 (PSK)
  - WPA PSK: [masked]
- Network:** The Network field is set to ReadOnly.
- Mode:** When switching to a different mode, firewall forwarding rules, dhcp settings, and static route settings on Firewall, DHCP, Routes pages must be adjusted.
- ESSID:** When switching to Access Point mode, set the ESSID field to a unique string; when switching to Client mode, set ESSID field to the remote Access Point; when switching to Ad-hoc mode, set the ESSID field to the adhoc network you want to join.
- Encryption Type:** WEP key should be alpha-numeric and should not end with 0 and it should be either 10 or 26 characters or you can type something in WEP PASS and generate it through GUI. WPA-PSK/WPA2-PSK key should be from 8 to 63 printable ASCII characters or 64 hexadecimal digits.

Buttons for 'Save Changes' and 'Apply Changes <' are located at the bottom right.

## Special Instructions For Gateways Using Wi-Fi or LAN Connectivity

If the existing Generation 1 Gateway is connected to the cloud through the customer’s corporate network using either Wi-Fi or local area network (LAN), the following instructions must be followed before removing the old Gateway.

### Check Wi-Fi Configuration Settings in Existing Generation 1 Gateway

1. Connect the USB-to-Ethernet adapter to USB2 on the Generation 1 Gateway (this is necessary because the Generation 1 Gateway has a single Ethernet plug, which is connected to the equipment unit controller, and, therefore, unavailable for the purpose of connecting to the local network).
2. Connect the provided Ethernet patch cable to the USB-to-Ethernet adapter and to the local network (DHCP is enabled by default).
3. Using a laptop computer and Ethernet cable, connect to the “ETH” port of the Generation 1 Gateway (the Ethernet cable between the Generation 1 Gateway and the equipment unit controller must be temporarily disconnected, to make use of the “ETH” port on the Generation 1 Gateway).
4. Navigate to the laptop’s Local Area Connection settings screen and change the IP subnet mask to **255.255.0.0**, and set the IP address to be compatible with the default Generation 1 Gateway IP address of **https://172.31.255.1** (example compatible address: 172.31.255.7). For more information on how to change the computer’s IP settings, consult the Operating System’s “Help” files.
5. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.
6. Open a web browser page and type, **https://172.31.255.1**, then press enter.
7. Click the `Network` tab. Under wlan0 Configuration and wlan0 DNS Servers, record the value for all settings (Figure 1).

8. Click the `Wireless` tab. Under Wireless Configuration, record the values for all settings (Figure 2).
9. Turn the wireless adapter(s) back to be enabled once configuration setting is recorded.

### Check LAN Configuration Settings in existing Generation 1 Gateway

1. Connect the USB-to-Ethernet adapter to USB2 on the Generation 1 Gateway (this is necessary because the Generation 1 Gateway has a single Ethernet plug, which is connected to the equipment unit controller, and, therefore, unavailable for the purpose of connecting to the local network).
2. Connect the provided Ethernet patch cable to the USB-to-Ethernet adapter and to the local network (DHCP is enabled by default).
3. Using a laptop computer and Ethernet cable, connect to the “ETH” port of the Generation 1 Gateway (the Ethernet cable between the Generation 1 Gateway and the equipment unit controller must be temporarily disconnected, to make use of the “ETH” port on the Generation 1 Gateway).
4. Navigate to the laptop’s Local Area Connection settings screen and change the IP subnet mask to **255.255.0.0**, and set the IP address to be compatible with the default Generation 1 Gateway IP address of **https://172.31.255.1** (example compatible address: 172.31.255.7). For more information on how to change the computer’s IP settings, consult the Operating System’s “Help” files.
5. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.
6. Open a web browser page and type, **https://172.31.255.1**, then press enter.
7. Click the `Network` tab. Under wan Configuration, record the value for all settings (Figure 3).

Figure 3: WAN Configuration Settings

The screenshot shows the 'Network Configuration' page for a Wind River Intelligent Device Platform. The 'Network' tab is selected, and the 'wan Configuration' section is expanded. The 'Connection Type' is set to 'Static IP'. The 'Interface' is 'eth1'. The 'IP Address' is '192.168.2.41', the 'Netmask' is '255.255.255.0', and the 'Default Gateway' is '192.168.2.1'. The 'Connection Type' section includes a note: 'Disabled: The network interface will be disabled. Static IP: IP address of the interface is statically set. DHCP: The interface will fetch its IP address from a dhcp server. WWAN: The interface (SIM card) will establish a 3G connection.' The 'Interface' section includes a note: 'Virtual Interface used by this network, can have multiple interfaces separates by spaces with Bridged type. For example, valid interface names are eth0, eth0.100, wlan0, usb0, 3g-wwan.' The 'IP Settings' section includes a note: 'IP Settings are optional for DHCP. They are used as defaults in case the DHCP server is unavailable.'

## Necessary Tools

- Multimeter
- #2 Phillips Screwdriver
- #2 Flat Screwdriver
- 5/16" Nut Driver

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## Removal

### Disconnecting Existing (Generation 1 Gateway) Wiring Interconnections

Prior to replacing the Generation 1 Gateway, power must be removed from the unit. Power must be removed at the breaker panel serving the unit, and proper lockout/tagout procedures should be followed for the duration of the install. After removing unit power at the breaker panel, the installer must verify the absence of power at the unit using a multimeter. Only if power has been verified absent, should the technician continue the replacement process.

#### Generation 1 Gateway Connection to MTIII or HMI

The Generation 1 Gateway is connected to the MicroTech III unit controller or chiller HMI via Ethernet. Disconnect the Ethernet Patch cable from the Generation 1 port marked, "ETH" (Figure 4).

Figure 4: 'ETH' Port



#### Generation 1 Gateway Connection to EMM

If the Gateway has the Energy Management Module (EMM) option, the Generation 1 Gateway is connected to the EMM via USB. Remove the USB cable connection from the Generation 1 Gateway port marked, "USB1" (Figure 5). IE Express kits do not have an EMM connected.

Figure 5: USB Connection



### **Connection of Power Supply**

The Generation 1 Gateway is powered by a 120VAC (primary) to 24VDC (secondary) power supply. The 24 VDC connection is made via a prefabricated, keyed plug coming from the low voltage end of the power supply. Disconnect this plug from the Generation 1 Gateway receptacle marked, "Power Input" (Figure 6).

**Figure 6: Generation 1 Gateway Power Input**



### **Antenna and Ethernet Connections**

Depending on the application, the Generation 1 Gateway could be connected to the cloud via cellular, Wi-Fi, or LAN. If the application is cellular or Wi-Fi, unscrew the SMA coaxial connector from the Generation 1 Gateway SMA coaxial connector; "3G/GPRS" for cellular or "WLAN" for Wi-Fi. (Figure 7).

**Figure 7: 3G and WLAN Connections**



If the application is LAN, unplug the USB-to-Ethernet adapter (Figure 8) from the "USB2" port of the Generation 1 Gateway.

**Figure 8: USB-to-Ethernet Adapter**



### Removing Existing Generation 1 Gateway from Bracket

The existing mounting bracket, which contains the Generation 1 Gateway and power supply, is mounted to the inside of the control enclosure. Depending on the cabinet layout, the bracket may be located in several different places within the control enclosure. Prior to removing the existing Gateway from this bracket, ensure that all wiring interconnections have been removed from the existing Generation 1 Gateway, as described in the preceding section. In addition, make note of the orientation of the existing Gateway on the mounting bracket. The new Generation 2 Gateway must be installed in the same orientation. Remove the existing Gateway by unscrewing the 5/16" head sheet metal screws located at the four corners of the Gateway (Figure 9). Set these screws aside, as they will be reused for the new Generation 2 Gateway.

**Figure 9: Mounting Screw Locations**



## Installation

### Installing New Generation 2 Gateway on Bracket

Remove the new Generation 2 Gateway from the box and align it on the bracket. Place the Gateway so the existing power cable, Ethernet cable, EMM USB connector and Antenna cable are connected without undue strain on the wires (Figure 10). Note that the screw location to install the Generation 2 Gateway is different from Generation 1 because Generation 2 requires two antennas to be installed. Drill new screw holes and secure the Gateway to the mounting bracket using the four 5/16" head sheet metal screws. Be careful not to let metal particles enter any electronic components.

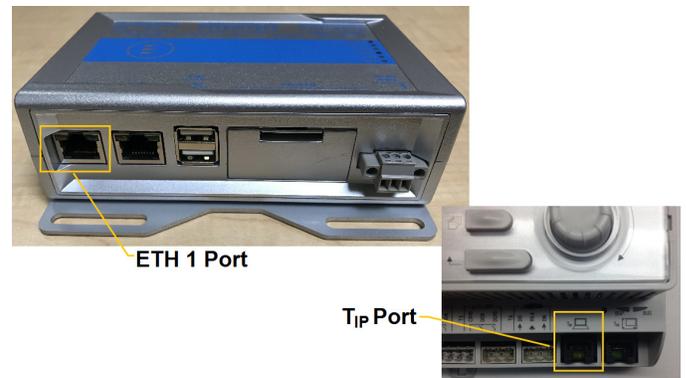
**Figure 10: Example of Generation 2 Gateway Mounting Location**



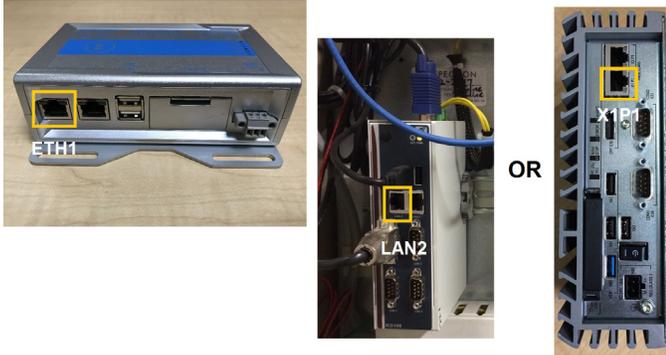
### Generation 2 Gateway Connection to MTIII or HMI

For Generation 2 Gateways, connect one end of the provided 6 ft. Ethernet Patch cable to the Gateway port marked, "ETH1" and the other end to the equipment controller or chiller HMI PC. (Figure 11, Figure 12 and Figure 13).

**Figure 11: 'ETH1' and 'TIP' Ports of MicroTech III (Generation 2 Gateway)**



**Figure 12: Gateway Connection to MicroTech II Centrifugal Chillers (Generation 2 Gateway)**



**Figure 13: Gateway Connection to WME Gen 1 Chiller**



## Generation 2 Gateway Connection to EMM

The Generation 2 Gateway is also connected to the EMM via USB. Connect the type-A end of the provided 3 ft. USB cable to the Generation 2 Gateway port marked, "USB 0" OR "USB 1", and the type-B end of the same cable to the USB port of the EMM (Figure 14). Do not disturb existing EMM to CT connections or CT installation.

**Figure 14: USB Connections (Generation 2 Gateway)**



## Connection of Power Supply

Generation 2 Gateways use a slightly different power supply, which does not have the keyed plug on the 24 VDC connection. Clip and strip the original power cable to expose the red and black wires (Figure 15). The 24 VDC connection is made by wiring the power supply red wire to the Gateway terminal marked, "PWR IN +", and the power supply black wire to the Gateway terminal marked, "PWR IN -" (Figure 16). Do not disturb existing 120VAC cable terminations (brown and blue conductors).

**Figure 15: Original Connector Clipped and Stripped**



**Figure 16: Generation 2 Gateway Power Input (Generation 2 Gateway)**



## Wiring of Antennas

For a Generation 2 Gateway, the connection is made by screwing the SMA coaxial connector onto the appropriate Generation 2 Gateway SMA coaxial connector; both “Cell Main” and “Cell Div” for cellular or only “Wi-Fi/BT” for Wi-Fi (Figure 17).

Check that cable connection and flag connection are tight. Antenna flags mounted should be at 90 degree angle relative to one another.

**Figure 17: Cellular and Wi-Fi Connections (Generation 2 Gateway)**



## LAN Connection

For LAN connection to the Generation 2 Gateway, there is no need for a USB-to-Ethernet Adapter. To complete the installation, remove the USB-to-Ethernet adapter, then connect the Ethernet patch cable from the network switch to the port labeled, “Eth0”, on the Generation 2 Gateway (Figure 18). NOTE: The Generation 2 Gateway will not communicate with the cloud if the LAN cable is connected to the incorrect Ethernet port on the Gateway.

**Figure 18: LAN Connection (Generation 2 Gateway)**



## Wi-Fi or Hardwire LAN Ethernet Connection Configuration

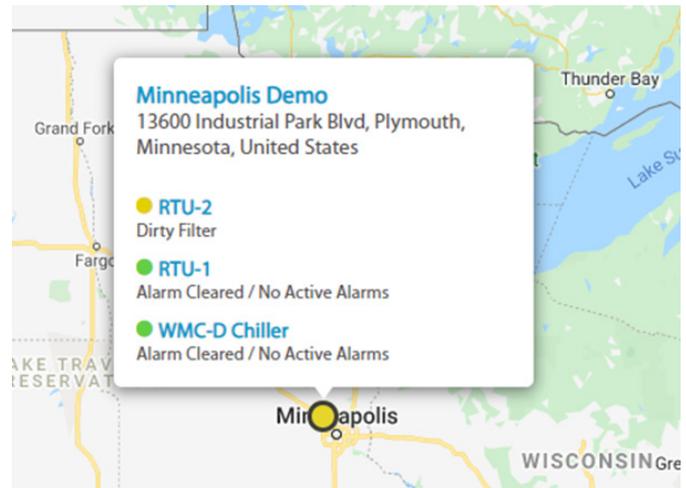
If the new Gateway needs to be configured for cloud connection via Wi-Fi or Building LAN, refer to IM-1240 for detailed instructions necessary to complete the setup. The previously recorded configuration parameters will be needed for this process.

**NOTE:** The new Gateway will have a different Ethernet MAC address than the old Gateway. Contact the customer’s building IT expert to allow the new Gateway’s Ethernet MAC address on the network.

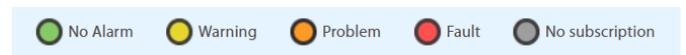
## Cloud connectivity check

To verify cloud connectivity, access the SiteLine User Interface using a web browser. The green icon means a cloud connection is established (Figure 19). See Figure 20 for a summary of the possible icon colors. A red fault icon could indicate the Gateway is not connected to the cloud. Hovering over the icon will indicate if the fault alarm is for Gateway connectivity. For assistance in troubleshooting, contact the Daikin Applied Controls Support Group at (866) 462-7829.

**Figure 19: Equipment Key Status Icons in SiteLine Map View**



**Figure 20: Key Status Data Color Codes**



## Other Instructions

For additional information, please access the Daikin Applied website ([www.daikinapplied.com/resources/IOM-Manuals](http://www.daikinapplied.com/resources/IOM-Manuals)) and download Installation Manual 1240 and Operation Manual 1241.





### ***Daikin Applied Training and Development***

Now that you have made an investment in modern, efficient Daikin equipment, its care should be a high priority. For training information on all Daikin HVAC products, please visit us at [www.DaikinApplied.com](http://www.DaikinApplied.com) and click on Training, or call 540-248-9646 and ask for the Training Department.

### ***Warranty***

All Daikin equipment is sold pursuant to its standard terms and conditions of sale, including Limited Product Warranty. Consult your local Daikin Applied representative for warranty details. To find your local Daikin Applied representative, go to [www.DaikinApplied.com](http://www.DaikinApplied.com).

### ***Aftermarket Services***

To find your local parts office, visit [www.DaikinApplied.com](http://www.DaikinApplied.com) or call 800-37PARTS (800-377-2787). To find your local service office, visit [www.DaikinApplied.com](http://www.DaikinApplied.com) or call 800-432-1342.

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