Intelligent Equipment® for Pathfinder® and Trailblazer® Air-cooled Chillers, Magnitude® Magnetic Bearing Chillers, Single & Dual Compressor Centrifugal Chillers, Rebel® and Maverick® II Commercial Packaged Rooftops, Rebel Applied™ and RoofPak® Applied Packaged Rooftops, Rebel Chilled Water Rooftops, Outdoor Air Handling Units, and Self-Contained Systems

Models: AGZ-D, AGZ-E, AMZ, AWS, AWV, WCC, WDC, WMC, WME Gen 1, WSC, DAH, DFSA, DPS, DPSA, MPS, RAH, RDS, RDT, RFS, RPR, RPS, SWT and SWP
## Table of Contents

**Introduction** .............................................. 3
- Revision History ........................................ 3
- Reference Documents .................................. 3
- Limited Warranty ....................................... 3
- General Information .................................... 3
- Product Description .................................... 3
- Hazardous Information Messages ...................... 4

**Components** .................................................. 5
- Machine-to-Machine (M2M) Gateway .................. 5
- Antennas .................................................... 5
- Energy Management Module (EMM) .................... 5
- Current Transformers (CT’s) .......................... 5
- Power Supply .............................................. 5
- Fuse Block .................................................. 5
- USB-to-Ethernet Adapter (Generation 1 Gateway only) .... 5

**Installation** ................................................... 6
- Unpacking ................................................... 6
- Retrofit Installation .................................... 7
- Chiller Installation Instructions ...................... 8
- Installing M2M Gateway ................................ 8
- Installing Energy Management Module ................ 11
- Installing Power Supply ................................ 11
- Control Cabinet Penetrations ......................... 12
- Wiring Interconnections ................................ 14
- M2M Gateway Connection to MTIII .................... 14
- M2M Gateway Connection to WME Gen 1 Chiller .... 15
- M2M Gateway Connection to EMM ..................... 15
- Connection of Power Supply ............................ 16
- Connection of EMM to Split-Core CT’s ............... 18
- Connection of EMM to Rogowski Coil CT’s .......... 18
- Connection of Rogowski Coil CT’s to Power Supply .. 19
- Installing Split-Core CT’s ............................. 19
- Installing Rogowski Coil CT’s ......................... 20
- Connection of EMM to Line Voltage .................. 21
- Connection of M2M Gateway and EMM to Ground ... 21

**Antenna Installation** ....................................... 22
- Mounting ................................................... 22
- Wiring of Antenna ........................................ 22
- LAN Installation .......................................... 23

**Rooftop Installation Instructions** ........................ 24
- Installing Mounting Brackets .......................... 24
- Wire Routing .............................................. 25
- Control Cabinet Penetrations ......................... 27
- Wiring Interconnections ................................ 28
- Antenna Installation ..................................... 34
- LAN Installation .......................................... 35

**Wi-Fi Configuration (Generation 1 Gateway)** ............ 36
- Wi-Fi Configuration (Generation 2 Gateway) ............ 39
- Ethernet LAN Configuration (Generation 1 Gateway) ... 45
- Ethernet LAN Configuration (Generation 2 Gateway) ... 48

**Configuring the MicroTech II Centrifugal Chiller HMI for Intelligent Equipment** ............. 52
- Commissioning the Gateway in the Cloud ............... 53

**Troubleshooting** ............................................. 56
- Cellular Signal Verification (Generation 1 Gateway) .. 56
- Verify Time Zone Information .......................... 58
- Potential issues: .......................................... 60

**Appendix** ...................................................... 61
- Wi-Fi or Hardwired LAN Ethernet Connection Pre-Start-up Form .............................. 61
Revision History

<table>
<thead>
<tr>
<th>Literature Number</th>
<th>Release Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM 1240-8</td>
<td>July 2020</td>
<td>Addition of centrifugal chiller models WCC, WDC, WSC, WME Gen 1 and Self-contained air handler models SWP and SWT; corrections to available models.</td>
</tr>
<tr>
<td>IM 1240-7</td>
<td>March 2020</td>
<td>Update to WMC connection to Gateway. Addition of Wi-Fi Configuration (Generation 2 Gateway), Ethernet LAN Configuration (Generation 2 Gateway), and Cellular Signal Verification (Generation 2 Gateway) sections.</td>
</tr>
<tr>
<td>IM 1240-6</td>
<td>June 2019</td>
<td>Changes to the Intelligent Equipment gateway hardware.</td>
</tr>
<tr>
<td>IM 1240-5</td>
<td>December 2018</td>
<td>Addition of Rooftop systems, replaces IM 1219.</td>
</tr>
<tr>
<td>IM 1240-4</td>
<td>September 2018</td>
<td>Addition of WMC &amp; AMZ chillers, Gateway-on-the-Go, and IE Express.</td>
</tr>
<tr>
<td>IM 1240-3</td>
<td>March 2018</td>
<td>Addition of Rooftop systems, replaces IM 1219.</td>
</tr>
<tr>
<td>IM 1240-2</td>
<td>November 2016</td>
<td>Addition of Pathfinder AWV chiller.</td>
</tr>
<tr>
<td>IM 1240-1</td>
<td>November 2015</td>
<td>Revised LAN configuration instructions.</td>
</tr>
<tr>
<td>IM 1240</td>
<td>May 2015</td>
<td>Initial release.</td>
</tr>
</tbody>
</table>

Reference Documents

<table>
<thead>
<tr>
<th>Number</th>
<th>Company</th>
<th>Title</th>
<th>Source</th>
</tr>
</thead>
</table>

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).

General Information

This manual contains the information needed to install and configure the Intelligent Equipment solution on MicroTech® II Water Cooled Chiller models: WCC, WDC, WMC (Magnitude®) and WSC; MicroTech® III Air Cooled Chiller models: AGZ-D, AGZ-E, AWV, AWS, and AMZ (Pathfinder® and Trailblazer®); MicroTech® E Water Cooled Chiller model: WME (Magnitude®) Gen 1; Packaged Rooftop models: DPS (Rebel®), DFSA, DPSA (Rebel Applied™), MPS (Maverick® II), RPS, RPR, RDT, and RFS (RoofPak®), Outdoor Air Handling Unit models: DAH (Rebel®), RDS and RAH (RoofPak®); and Self-Contained Air Conditioning Systems models: SWP and SWT. For installation Technical Support, please contact the Daikin Applied Controls Support Group at (866) 462-7829.

NOTE: MicroTech II Chiller models WCC, WDC, WMC and WSC must have the latest version of HMI touchscreen hardware, which uses either an Axiomtek or a Siemens touchscreen PC. Update kits are available through Daikin Applied Service offices.

Product Description

The Daikin Applied Intelligent Equipment® Software-as-a-Service (SaaS) solution provides facility and equipment management, monitoring, control, analysis, and decision-making via a secure, cloud-communicating machine-to-machine gateway that captures, analyzes and delivers building and equipment information, and third party content (e.g., weather, utility, and CRM data), to a user device (smart phone, tablet, etc.) via wireless (cellular, Wi-Fi) or local area network (LAN) connection.

Intelligent Equipment provides real-time power monitoring of individual equipment. The user can view unit statuses, modes, temperatures, pressures and setpoints, and make adjustments to modes, schedules and temperature setpoints. Messages and alarms can be viewed, acknowledged and cleared.

User accounts are role-based, and user interaction, including setpoint changes and clearing of alarms, is logged for later reporting. System updates can be delivered automatically from the cloud. Built-in trending tools provide easy access to unit performance history. Hardware components consist of: one Machine-to-Machine (M2M) Gateway, one Energy Management Module (EMM), two Antennas, and three Current Transformers (CT’s).

NOTE: EMM and CT’s are not included with Gateway-on-the-Go, IE Express, or centrifugal chiller kits.
Hazardous Information 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.

<table>
<thead>
<tr>
<th><strong>CAUTION</strong></th>
<th>Cautions indicate potentially hazardous situations, which can result in personal injury or equipment damage if not avoided.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

| **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

**Machine-to-Machine (M2M) Gateway**

The M2M Gateway is a factory tested and commissioned device, which analyzes and delivers data to the cloud via wireless (Wi-Fi, cellular) or local area network (LAN) connection. The M2M Gateway implements security, including data delivery via secure HTTPS using SSL, and whitelisting protection. In the case of a unit ordered with Intelligent Equipment, the M2M gateway will be factory-installed in the unit control panel. For installation in retrofit applications, see document section titled, Chiller Installation Instructions on page 8 or Rooftop Installation Instructions on page 24. There have been two generations of the M2M Gateway. Generation 1 had a black case, while Generation 2 has a silver case. Images of both generations are located throughout this manual.

**Antennas**

The provided Cellular/Wi-Fi antennas must be field-mounted, regardless of whether the Daikin Applied Intelligent Equipment solution was ordered factory-installed or for retrofit installation. For cellular installations using the Generation 2 Gateway, both antennas are used. For cellular installations using the Generation 1 Gateway and for all Wi-Fi installations, only one antenna is used. The antenna has a magnetic base, which is suitable for directly mounting to the unit control panel or case.

**Energy Management Module (EMM)**

* (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The EMM is a factory tested and commissioned device, which monitors unit voltage, current, and power and transmits this data to the M2M Gateway for delivery to the cloud. In the case of a unit ordered with Intelligent Equipment, the EMM will be factory-installed in the unit control panel. For installation in retrofit applications, see document section titled, Installing Energy Management Module on page 11.

**Current Transformers (CT’s)**

* (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

Three Current Transformers (CT’s) are supplied with the Intelligent Equipment solution. At the time of order, the Maximum Current Ampacity (MCA) for the unit is specified, thereby driving selection of appropriately-sized CT’s (See Table 1 for CT sizing and specifications). In the case of a unit ordered with Intelligent Equipment, the CT’s will be factory-installed within the unit control panel. For installation of the CT’s in retrofit applications, see document section titled, Installing Split-Core CT’s on page 19 and Installing Rogowski Coil CT’s on page 20.

**Power Supply**

A 12 or 24 VDC Power Supply is provided to power the M2M Gateway. In the case of a unit ordered with Intelligent Equipment, the power supply will be factory-installed in the unit control panel. For installation of the power supply in retrofit applications, see document section titled, Installing Power Supply on page 11.

**Fuse Block**

* (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

A Fuse Block is provided to provide over-current protection for the Energy Management Module (EMM). Replaceable 5Amp fuses are pre-installed in the Fuse Block. In the case of a unit ordered with Intelligent Equipment, the Fuse Block will be factory-installed in the unit control panel. For installation of the Fuse Block in retrofit applications, see document section titled, Installing Fuse Block on page 12.

**USB-to-Ethernet Adapter**

* (Generation 1 Gateway only)

For installations where a Local Area Network (LAN) connection is to be used, a USB-to-Ethernet adapter is included in all shipments. The adapter is necessary because the M2M Gateway has a single Ethernet port, which is connected to the MicroTech III controller or touchscreen PC, and, therefore, unavailable for connection to the LAN.

Table 1: CT Sizing and Specifications

<table>
<thead>
<tr>
<th>Key Specifications</th>
<th>50A Model</th>
<th>100A Model</th>
<th>200A Model</th>
<th>600A Model</th>
<th>1000A Model</th>
<th>Rogowski Coil Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Size</td>
<td>0.4” (10 mm)</td>
<td>1” (25 mm)</td>
<td>1” (25 mm)</td>
<td>1.25” (31.8 mm)</td>
<td>2” (50.8 mm)</td>
<td>5”</td>
</tr>
<tr>
<td>Current Range</td>
<td>0.25 – 80A AC</td>
<td>1 – 200A AC</td>
<td>1 – 300A AC</td>
<td>12 – 780A AC</td>
<td>20 – 1300A AC</td>
<td>10 – 1300A AC</td>
</tr>
<tr>
<td>Output</td>
<td>333 mV at rated current</td>
<td>333 mV at rated current</td>
<td>333 mV at rated current</td>
<td>333 mV at rated current</td>
<td>333 mV at rated current</td>
<td>333 mV at rated current</td>
</tr>
<tr>
<td>Ratio Error</td>
<td>&lt;0.5% from 0.25 – 80A AC (typical)</td>
<td>&lt;0.3% from 1 – 200A AC (typical)</td>
<td>&lt;1.0% from 1 – 300A AC (typical)</td>
<td>&lt;1% from 12 – 780A AC (typical)</td>
<td>&lt;1% from 20 – 1300A AC (typical)</td>
<td>&lt;1% from 10 – 1300A AC (typical)</td>
</tr>
<tr>
<td>Phase Error</td>
<td>&lt;1.5° from 1 – 80A AC, &lt;2° from 0.25 – 1A AC</td>
<td>&lt;0.5° from 1 – 200A AC</td>
<td>&lt;0.5° from 1 – 300A AC</td>
<td>&lt;2° from 12 – 780A AC</td>
<td>&lt;2° from 20 – 1300A AC</td>
<td>&lt;2° from 10 – 1300A AC</td>
</tr>
</tbody>
</table>
Unpacking

Material shipped loose

Factory Installed Intelligent Equipment

If the Intelligent Equipment solution was ordered with the chiller, rooftop, or air handling unit, it shipped with the M2M Gateway, EMM, CT’s, Powers Supply and Fuse Block already installed in the control enclosure, and associated interconnections already made. On chillers, the antenna bases are shipped inside the control enclosure, along with the antenna flags and Ethernet adapter. The coaxial cable for the antenna bases must be routed to the control enclosure once the antenna bases are installed in the field. If needed, the Ethernet adapter is field-installed (Generation 1 Gateway only). For rooftop units, the antenna bases are pre-installed, antenna flags and Ethernet adapter ship inside the schematics envelope for the unit.

Retrofit Intelligent Equipment on Chillers

When the Intelligent Equipment solution is ordered for retrofit installation, the following components will ship as a kit:

- M2M Gateway
- Power Supply
- EMM (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- Fuse Block (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- Antenna flags and bases
- Three Current Transformers (CT’s) (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 3 ft. USB cable (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 6 ft. Ethernet Patch cable
- USB-to-Ethernet Adapter (Generation 1 Gateway only)
- 6" EMM Wiring Harness (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 6 ft. EMM Wiring Harness (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- Hardware packet, including (1) patch plate with two watertight grommets pre-installed
- (2) 5/8" bushings
- (1) grounding harness
- (1) 3-wire voltage harness, wire ties, wire tie hangers
- (12) self-tapping sheet metal screws
- (1) section of 600V-rated heat shrink tubing.

Upon receiving, verify that all components are present, and notify the supplier of any shortage.

Retrofit Intelligent Equipment on Rooftop, or Air Handling Unit

When the Intelligent Equipment solution is ordered for retrofit installation on a rooftop or air handling unit, the following components will ship loose:

- Two Mounting brackets. One bracket contains the M2M Gateway and power supply, the other contains the EMM and fuse block (with 5A Fuses pre-installed) (EMM and Fuse block not included for Gateway-on-the-Go or IE Express kits)
- Antenna flags and bases
- Three Current Transformers (CT’s) (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 3 ft. USB cable (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 6 ft. Ethernet Patch cable
- USB-to-Ethernet Adapter (Generation 1 Gateway only)
- 6" EMM Wiring Harness (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- 6 ft. EMM Wiring Harness (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
- Hardware packet, including (1) patch plate with two watertight grommets pre-installed
- (2) 5/8" bushings
- (1) grounding harness
- (1) 3-wire voltage harness, wire ties, wire tie hangers
- (12) self-tapping sheet metal screws
- (1) section of 600V-rated heat shrink tubing.

Upon receiving, verify that all components are present, and notify the supplier of any shortage.

Necessary Tools

- Corded (or powerful cordless) Drill
- 7/8" Step Drill Bit (suitable for drilling through metal enclosure)
- 1/4" Drill Bit for wire tie hangers (suitable for drilling through metal enclosure)
- 3/32" Drill Bit for pilot holes (suitable for drilling through metal enclosure)
- Multimeter
- Wire strippers
- SAE hex wrench set
- Precision screwdriver set
- #2 Phillips screwdriver
- #2 Flat screwdriver
- 5/16" Nut driver
- Hammer
- Pliers
- Small carpenter square (8" × 12")
- Level
- Clear silicone sealant
## Retrofit Installation

### DANGER

**Electric shock hazard. Can cause personal injury or equipment damage.**

Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.

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.

### CAUTION

**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

Sharp edges on sheet metal and fasteners can cause personal injury. This equipment must be installed, operated, and serviced only by an experienced installation company and fully trained personnel.

### CAUTION

To avoid damaging wires or components, verify clearance in and around the point of penetration prior to any drilling.

During any drilling, ensure that resultant metal shavings are not allowed to contact unit electronics.

Subsequent to any drilling, remove all resulting metal shavings from the control enclosure.

### NOTICE

For Cellular and Wi-Fi installations, do not power the M2M Gateway until the antennas have been installed and connected.

**NOTE:** The Intelligent Equipment retrofit installation should take approximately one hour for a skilled HVAC technician.
Chiller Installation Instructions

Installing M2M Gateway

Prior to installing any Intelligent Equipment components, 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 begin the install. The retrofit kit is shipped with the M2M gateway shipped loose.

The M2M gateway must be installed inside the unit control panel. The installation location will vary depending on the unit model and size of the control enclosure (see Figure 1 through Figure 5 for correct component locations on AGZ and AWV models). On AWS models, locate IE Hardware as space allows within control enclosure. Ensure adequate separation is maintained between low voltage and high voltage components and sources of high electromagnetic interference. Figure 6 and Figure 7 provide the typical layout of AWS small and large enclosures. On centrifugal chillers, only the M2M gateway and gateway power supply are used. Locate these components within the unit control enclosure as space allows, ensuring that adequate separation is maintained between low voltage and high voltage components and sources of high Electromagnetic interference. Figure 8 shows a typical retrofit install for WMC chillers. Figure 9 shows a typical retrofit install for WSC, WDC, and WCC chillers. Figure 10 shows a typical retrofit install for WME Gen 1 chillers. For AMZ chillers, field verify component locations, ensuring adequate separation is maintained between low voltage and high voltage components and sources of high Electromagnetic interference. Figure 11 is provided for reference. Begin by positioning the M2M gateway on the backplane of the enclosure and marking the screw holes. Next, drill pilot holes, through the marks just created, using a 7/64” drill bit. Finally, attach the M2M gateway to the backplane using (4) of the provided #6 sheet metal screws (5/16” head). On Generation 1 gateways only, install the ring terminal on one end of the M2M ground conductor under one of the (4) sheet metal screws (Figure 12). The M2M ground conductor has ring terminals at both ends. Termination for the other end of this conductor is described in the section entitled, Connection of M2M Gateway and EMM to Ground on Connection of M2M Gateway and EMM to Ground on page 21.

Figure 1: Component Locations – AGZ-D and E Small Panel

Figure 2: Component Locations – AGZ-D and E Medium Panel
Figure 3: Component Locations – AGZ-D Large Panel

Figure 4: Component Locations – AGZ-E Large Panel

Figure 5: Component Locations – AWV Large Panel

Figure 6: Component Locations – AWS Small Panel
Figure 7: Component Locations – AWS Large Panel

Figure 8: Component Locations – WMC Unit Control Enclosure (Shown with Generation 1 Gateway)

Figure 9: Component Locations - WSC, WDC, and WCC Unit Control Enclosure

Figure 10: Typical WME Gen 1 Unit Control Enclosure Layout

Figure 11: Typical AMZ Control Panel Layout

Figure 12: Installation of Grounding Ring to M2M Gateway (Shown with Generation 1 Gateway)
Installing Energy Management Module  
*(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)*

Prior to installing any Intelligent Equipment components, 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 begin the install. The retrofit kit is shipped with the EMM shipped loose. The EMM must be installed inside the unit control panel.

The installation location will vary depending on the unit model and size of the control enclosure (see Figure 1 through Figure 5 for correct component locations on AGZ and AWV models). On AWS models, locate Intelligent Equipment hardware as space allows within the control enclosure, ensuring adequate separation is maintained between low voltage and high voltage components. Figure 6 and Figure 7 provide a typical layout of AWS small and large enclosures. For AMZ chillers, field verify component locations, ensuring adequate separation is maintained between low voltage and high voltage components. Begin by positioning the EMM on the backplane of the enclosure and marking the screw holes. Next, drill pilot holes, through the marks just created, using a 7/64" drill bit. Finally, attach the EMM to the backplane using (4) of the provided #6 sheet metal screws (5/16” head).

Installing Power Supply

Prior to installing any Intelligent Equipment components, 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 begin the install.

The retrofit kit is shipped with the power supply shipped loose. The power supply must be installed inside the unit control panel. The installation location will vary depending on the unit model and size of the control enclosure (see Figure 1 through Figure 5 for correct component locations on AGZ and AWV models). On AWS models, locate Intelligent Equipment hardware as space allows within the control enclosure. Figure 6 and Figure 7 provide a typical layout of AWS small and large enclosures. For AMZ chillers, field verify component locations (Figure 11 provided for reference).

Begin by positioning the power supply on the backplane of the enclosure and marking the screw holes. Next, drill pilot holes, through the marks just created, using a 7/64" drill bit. Finally, attach the power supply to the backplane using (2) of the provided #6 sheet metal screws (5/16” head).

Installing Fuse Block  
*(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)*

Prior to installing any Intelligent Equipment components, 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 begin the install.

The retrofit kit is shipped with the fuse block shipped loose. The fuse block must be installed inside the unit control panel. The installation location will vary depending on the unit model and size of the control enclosure (see Figure 1 through Figure 5 for correct component locations on AGZ and AWV models). On AWS models, locate Intelligent Equipment hardware as space allows within the control enclosure. Figure 6 and Figure 7 provide a typical layout of AWS small and large enclosures. For AMZ chillers, field verify component locations (Figure 11 provided for reference).

Begin by removing the fuse covers and fuses from the fuse block (Figure 13). Prior to removal, make note of fuse orientation within the fuse block. Then, position the fuse block on the backplane of the enclosure and mark the screw holes. Next, drill pilot holes, through the marks just created, using a 1/8" drill bit.

Finally, attach the fuse block to the backplane using (2) of the provided #8 sheet metal screws (5/16” head). Fuses can be reinstalled, but the covers should remain off for subsequent install of necessary wiring.

*Figure 13: Fuse Block with Covers and Fuses Removed*
Control Cabinet Penetrations

Only the antenna cable(s) or Ethernet cable must be routed to the outside of the control enclosure; all other terminations remain within the control enclosure. This is done using a specific available knockout. The location of the correct knockout will vary depending on the unit model and size of the control enclosure (see Figure 14 through Figure 17 for knockout locations on AGZ and AWV models). On AWS models, field verify an available knockout. Figure 18 and Figure 19 provide the typical layout of AWS small and large enclosures. WMC chillers have available knockouts located on each side of the unit control enclosure and power box. WSC, WDC, and WCC have available knockouts in the top of the unit control enclosure and rear of the compressor control enclosure. WME Gen 1 has available knockouts in the bottom and rear of the unit control enclosure and rear of the power box enclosure. For AMZ chillers, field verify available knockout on rear of panel (Figure 20 provided for reference).

First, determine the correct knockout to remove, then remove it using a hammer, flat screwdriver and pliers. Use the hammer to gently tap the flat blade of a screwdriver into the open slit of the knockout. Once enough separation is gained between the knockout and the panel, use the pliers to fully remove the knockout. Insert the provided 0.875" grommet into the control enclosure from the outside. The knockout is now prepared for routing of the antenna cables.

![Figure 14: AGZ Small Enclosure Knockout Location (Rear of Enclosure)](image1)

![Figure 15: AGZ Medium Enclosure Knockout Location (Rear of Enclosure)](image2)

![Figure 16: Location (Rear of Enclosure)](image3)

![Figure 17: AWV Large Enclosure Knockout Location (Rear of Enclosure)](image4)
Figure 18: AWS Small Enclosure Knockout Location (Rear of Enclosure)

Figure 19: AWS Large Enclosure Knockout Location (Rear of Enclosure)

Figure 20: AMZ Enclosure Knockout Location (Rear of Enclosure)
Wiring Interconnections

**DANGER**

Electric shock hazard. Can cause personal injury or equipment damage.

Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.

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, Package 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.

**CAUTION**

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**

Care must be taken to ensure a minimum of 5 inches of clearance between all cables and conductors with 300V-rated insulation or less and areas of the control enclosure containing higher voltage components and conductors.

**NOTICE**

In the event that 300V or lower rated cables and conductors cannot be practically isolated from 600V-rated cables and conductors, a section of 600V-rated shrink wrap tubing is included in the installation kit. This tubing can be cut-to-fit and placed over the lower voltage rated cables and conductors to increase their rating to 600V.

**M2M Gateway Connection to MTIII**

The M2M Gateway is connected to the MicroTech III unit controller via Ethernet. For Generation 1 gateways, connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH”, and the other end to the MicroTech III Unit controller port marked, “TIP” (Figure 21).

For Generation 2 gateways, connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH1”, and the other end to the MicroTech III Unit controller port marked, “TIP” (Figure 22).

**M2M Gateway Connection to WDC, WCC, WMC, WSC (MicroTech II)**

The Generation 1 M2M Gateway is connected to the MicroTech II Centrifugal chiller HMI PC via Ethernet. Connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH”, and the other end to the HMI PC port marked “LAN2” or “X1P1” depending on HMI hardware (Figure 25).

The Generation 2 M2M Gateway is also connected to the MicroTech II Centrifugal chiller HMI PC via Ethernet. Connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH1”, and the other end to the HMI PC port marked “LAN2” or “X1P1” depending on HMI hardware (Figure 26).

**NOTE:** MicroTech II Chiller models WCC, WDC, WMC and WSC must have the latest version of HMI Touchscreen hardware, which uses either an Axiomtek or a Siemens touchscreen PC. Update kits are available through Daikin Applied Service offices.
M2M Gateway Connection to WME Gen 1 Chiller
The Generation 1 M2M Gateway is connected to the WME Gen 1 chiller HMI PC via Ethernet. Connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH”, and the other end to any open port on the Ethernet switch located in the control enclosure (Figure 27).

The Generation 2 M2M Gateway is also connected to the WME Gen 1 chiller HMI PC via Ethernet. Connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH1”, and the other end to any open port on the Ethernet switch located in the control enclosure (Figure 28).

M2M Gateway Connection to EMM (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)
The Generation 1 M2M Gateway is connected to the EMM via USB. Connect the type-A end of the provided 3 ft. USB cable to the M2M port marked, “USB1”, and the type-B end of the same cable to the USB port of the EMM (Figure 23).

The Generation 2 M2M Gateway is also connected to the EMM via USB. Connect the type-A end of the provided 3 ft. USB cable to the M2M port marked, “USB 0” OR “USB 1”, and the type-B end of the same cable to the USB port of the EMM (Figure 24).

Figure 23: USB Connections (Generation 1 Gateway)

Figure 24: USB Connections (Generation 2 Gateway)

Figure 25: M2M Gateway Connection to MicroTech II Centrifugal Chillers (Generation 1 Gateway)

Figure 26: M2M Gateway Connection to MicroTech II Centrifugal Chillers (Generation 2 Gateway)
Connection of Power Supply

The Generation 1 M2M Gateway is powered by a 120VAC (primary) to 24VDC (secondary) power supply. On Generation 1 gateways, the 24 VDC connection is made via a pre-fabricated, keyed plug coming from the low voltage end of the power supply. Connect this plug to the M2M Gateway receptacle marked, “Power Input” (Figure 29). Generation 2 gateways use a slightly different power supply, which does not have the keyed plug on the 12 or 24 VDC connection. The 12 or 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 30).

On both Generation 1 and Generation 2 gateways, the 120VAC cable has the jacket and insulation pre-stripped, with the ends of both the Line and Neutral wires tinned. On a MicroTech III AGZ-D or AGZ-E unit, connect the Line (brown) conductor to terminal TB1-11B and the Neutral (blue) conductor to terminal TB1-32B (Figure 31). On a MicroTech III AWV or AWS unit, connect the Line (brown) conductor to terminal MQ-11 and the Neutral (blue) conductor to terminal MQ-17 (Figure 32).

On a MicroTech II WMC chiller, connect the Line (brown) conductor to terminal L1-30 and the Neutral (blue) conductor to terminal L2-29 (Figure 33). On WCC, WDC, and WSC chillers, connect the Line (brown) conductor to 120VAC terminal L3 in the compressor cabinet and the Neutral (blue) conductor to 120VAC terminal L2 the compressor cabinet (Figure 34). Field verify terminations on unit as-built drawing. On WME Gen 1 chillers, connect the Line (brown) conductor to terminal 106 of the auxiliary terminal strip and the Neutral (blue) conductor to terminal N of the auxiliary terminal strip (Figure 35). Field verify terminations on unit as-built drawing. On a MicroTech III AMZ connect the Line (brown) conductor to terminal TBH-7 and the Neutral (blue) conductor to terminal TB120N-60 (Figure 36).
Connection of EMM to Split-Core CT's
(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The high voltage side of the EMM has a hinged cover, which must be opened. First, remove the two installation screws (Figure 37), then flip the cover open. The EMM uses an open style hinge, so it may be easier to completely remove the hinged door while installing conductors.

The CT's have built-in output conductors, which must be connected to the EMM. Insert the white conductor from the CT on Line 1 into the CT_A+ terminal, and the black conductor from the CT on Line 1 into the CT_A- terminal. Next, insert the white conductor from the CT on Line 2 into the CT_B+ terminal, and the black conductor from the CT on Line 2 into the CT_B- terminal. Finally, insert the white conductor from the CT on Line 3 into the CT_C+ terminal, and the black conductor from the CT on Line 3 into the CT_C- terminal. (Figure 38).

---

Connection of EMM to Rogowski Coil CT's
(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

Chillers with larger incoming power bundles will require the use of a flexible CT called a Rogowski coil. The connection of the flexible CT is similar to that of a split-core CT. The Rogowski coil CT's have built-in output conductors, which must be connected to the EMM. Insert the white conductor from the Rogowski coil CT on Line 1 into the CT_A+ terminal, and the green conductor from the Rogowski coil CT on Line 1 into the CT_A- terminal. Next, insert the white conductor from the Rogowski coil CT on Line 2 into the CT_B+ terminal, and the green conductor from the Rogowski coil CT on Line 2 into the CT_B- terminal. Finally, insert the white conductor from the Rogowski coil CT on Line 3 into the CT_C+ terminal, and the green conductor from the Rogowski coil CT on Line 3 into the CT_C- terminal. Figure 39 provides an example of these connections.

---

Figure 37: Hinged Cover Screw Locations

Figure 38: Connection of EMM to CT's

Figure 39: Connection of EMM to Rogowski Coil CT’s
Connection of Rogowski Coil CT’s to Power Supply  
*(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)*

Unlike a standard split-core CT, the Rogowski coil CT’s have a built-in amplifier/integrator that must be powered. They are shipped with a 24VAC to 24VDC power supply with a terminal strip, which is used to power the three Rogowski coil CT amplifiers. The terminal strip must be secured to the control panel backplane using the provided sheet metal screws. Then, connect the Red wire from each Rogowski coil CT to the Vout (24VDC+) terminal block, and the Black wire from each Rogowski coil CT to the GND (Vout) terminal block *(Figure 40)*. The power supply is provided with a length of cable for connecting it to 24VAC in the unit control enclosure. On an AGZD or AGZE chiller, terminal Vin on the power supply should be connected to terminal TB2-42 or TB2-43, and terminal GND (Vin) on the power supply should be connected to terminal TB2-81, TB2-83, or TB2-84 *(Figure 42)*. On an AWV chiller, terminal Vin on the power supply should be connected to terminal MS-10, and terminal GND (Vin) on the power supply should be connected to terminal MS-20 *(Figure 43)*. On an AWS chiller, terminal Vin on the power supply should be connected to terminal MQ-10, and terminal GND (Vin) on the power supply should be connected to terminal MQ-20 *(Figure 44)*.

**NOTE:** Always confirm terminal designations on unit As-Built wiring diagram.

*Figure 40: Rogowski Coil Terminal Block*

Installing Split-Core CT’s  
*(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)*

Current Transformers (CT’s) are split-core type, to make installation easier. Snap split-core CT connected to EMM terminal CT_A on phase L1, snap split-core CT connected to EMM terminal CT_B on phase L2, and snap split-core CT connected to EMM terminal CT_C on phase L3 *(Figure 41)*. Ensure that the “Load” indicator on the CT is oriented correctly.

*Figure 41: CT Installation*
Installing Rogowski Coil CT's
(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

Snap the Rogowski Coil CT connected to EMM terminal CT_A on phase L1, the Rogowski Coil CT connected to EMM terminal CT_B on phase L2, and the Rogowski Coil CT connected to EMM terminal CT_C on phase L3 (Figure 45). Ensure that the “Load” indicator on the CT is oriented correctly. The molded arrow on the snap of the CT should be pointing toward the load.

Figure 42: Rogowski Coil Power Supply Connection – AGZ

Figure 43: Rogowski Coil Power Supply Connection – AWV

Figure 44: Rogowski Coil Power Supply Connection – AWS

Figure 45: Rogowski Coil Installation
Connection of EMM to Line Voltage
(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The EMM is connected to Line Voltage through the Fuse Block. Begin by removing the fuse covers and fuses from the Fuse Block. Prior to removal, make note of fuse orientation within the fuse block. Next, using the provided 6” wiring harness, connect the “VinA” (Tan), “VinB” (Orange), and “VinC” (Violet) terminals on the EMM to the “Load” terminals on the Fuse Block (Figure 46).

If needed, remove the plastic protective shield from Power Distribution Block 1 (PD1). Using the provided 6 ft. wiring harness, connect the corresponding “Line” terminals on the Fuse Block to the control panel (PD1) terminals “T1”, “T2”, and “T3”, such that EMM terminal “VinA” (Tan) is connected to PD1-T1, “VinB” (Orange) is connected to PD1-T2, and “VinC” (Violet) is connected to PD1-T3 (Figure 47).

Connection of M2M Gateway and EMM to Ground

One end of the M2M Gateway ground conductor should already be connected to the M2M case (see section entitled, “Installing M2M Gateway”). Connect the tinned end of the EMM ground conductor to the “GND” terminal on the EMM itself (Figure 48). Connect the free ring terminals for both the M2M and EMM to the nearest available grounding lug in the control enclosure (Figure 49).

Once all connections are made to the line voltage side of the EMM, close the hinged cover, and reinstall the screws. Figure 50 depicts an EMM with all high voltage terminations made and the hinged cover reinstalled.
Antenna Installation

**NOTE:** On Generation 2 Gateways, both antennas will be installed and connected to the M2M Gateway for cellular connectivity.

<table>
<thead>
<tr>
<th><strong>DANGER</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric shock hazard. Can cause personal injury or equipment damage.</td>
</tr>
<tr>
<td>Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>CAUTION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Static sensitive components. Can cause equipment damage.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>WARNING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sharp edges on sheet metal and fasteners can cause personal injury. This equipment must be installed, operated, and serviced only by an experienced installation company and fully trained personnel.</td>
</tr>
</tbody>
</table>

Wiring of Antenna (If Applicable)

As described previously, the antenna cable must be fed from the outside of the unit through the control enclosure and up to the mounting bracket with the M2M Gateway, EMM, power supply, and fuse block. On a Generation 1 gateway, the connection is made by screwing the SMA coaxial connector onto the appropriate M2M SMA coaxial connector; “3G/GPRS” for cellular or “WLAN” for Wi-Fi. (Figure 52).

For a Generation 2 gateway, the cellular connection is made by screwing the SMA coaxial connector onto the M2M SMA coaxial connectors, “CELL MAIN” and “CELL DIV”. For Wi-Fi, the connection is made by screwing the antenna’s SMA coaxial connector onto the provided reverse polarity SMA adapter, then screwing the reverse polarity SMA adapter onto the “Wi-Fi/BT” connection on the gateway (Figure 53).

Mounting

The antennas provided with the Daikin Applied Intelligent Equipment solution (Figure 51) are omni-directional, and have a swiveling base. The antenna flags are shipped loose and must be screwed into the coaxial connector of the antenna base. The antennas should be oriented to avoid interference from structures or other antennas. For initial installation, it is recommended to install the antennas on top of the chiller, rooftop, or air handling unit with enough clearance from the edge to avoid accidental contact or damage. The antenna is held in place by its magnetic base. More information about aiming antennas can be found in the sections, Wi-Fi Configuration (Generation 1 Gateway) on page 36 and Troubleshooting on page 56 of this document.

**Figure 51: Wireless Antenna on Magnetic Mounting Base**

**Figure 52: 3G and WLAN Connections (Generation 1 Gateway)**

**Figure 53: Cellular and Wi-Fi Connections (Generation 2 Gateway)**
LAN Installation
(If Applicable)

LAN Connection
If using the local area network (LAN) for cloud connectivity on a Generation 1 gateway, a USB-to-Ethernet Adapter must be used. To complete the installation, connect the Ethernet patch cable from the network switch to the Ethernet end of the USB-to-Ethernet Adapter provided with the IE kit. Next, connect the USB end of the USB-to-Ethernet Adapter to the port labeled, “USB2”, on the M2M Gateway (Figure 54).

NOTE: The M2M Gateway will not communicate with the cloud if the USB-to-Ethernet Adapter is connected to the incorrect USB port.

For LAN connection to the Generation 2 gateway, there is no need for a USB-to-Ethernet Adapter. To complete the installation, connect the Ethernet patch cable from the network switch to the port labeled, “Eth0”, on the Generation 2 gateway (Figure 55).

NOTE: The M2M Gateway will not communicate with the cloud if the LAN cable is connected to the incorrect Ethernet port on the gateway.
Rooftop Installation Instructions

Installing Mounting Brackets

Prior to installing the mounting brackets, 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 begin the install.

The retrofit kit is shipped with two mounting brackets: one bracket contains the M2M Gateway and power supply, the other contains the EMM and fuse block (with 5A Fuses pre-installed). The EMM and Fuse block are not included for Gateway-on-the-Go or IE Express. In a retrofit scenario, these brackets must be installed inside the unit control panel.

For DPS units, the brackets are designed for installation inside of the main unit control panel, mounted to the top of the unit controller section (see Figure 56 for preferred locations) using the provided sheet metal screws (5/16” head). The bracket containing the M2M Gateway should be mounted to the left of the enclosure, and the bracket containing the EMM should be mounted to the right side of the enclosure (Figure 56).

For MPS units, the brackets are installed inside of the main unit control panel, mounted to the right side of the unit controller section using the provided sheet metal screws (5/16” head). The bracket containing the M2M Gateway should be mounted toward the top of the enclosure, and the bracket containing the EMM should be mounted toward the bottom of the enclosure.

For RPS, RPR, RDT, RFS, RDS and RAH units, the M2M bracket is designed for installation on the inside of the lower, left internal enclosure door (Figure 57), and the EMM bracket is designed for installation on the inside of the lower, right internal enclosure door (Figure 58).

Care must be taken to ensure that the mounting brackets are not installed in such a way as to interfere with closing of the control panel door, or to cover any panel knock-outs. It may be useful to mark the screw holes of the bracket, and drill small pilot holes, before screwing the brackets firmly to the top of the control enclosure.

In some enclosure configurations, particularly with early DPS and MPS units, the control enclosure layout and dimensions may not allow for the desired mounting locations. In these situations, the installer should use discretion in determining suitable replacement locations within the control enclosure, paying special attention to the following limitations:

- When routing wiring through the control enclosure, care must be taken to maintain a minimum of 5 inches of clearance between all cables and conductors with 300V-rated insulation or less and areas of the control enclosure containing higher voltage components and conductors, such as 575V.
- Avoid routing communication cables (Cat 5e, USB, etc.) near sources of line voltage.

For reference, Figure 59 shows suitable alternative locations in an early DPS unit with a smaller control enclosure footprint.

On SWP and SWT retrofits, the installer should field verify available space within the control enclosure for mounting required hardware. Ensure adequate separation is maintained between low voltage and high voltage components and sources of high Electromagnetic interference. Figures 60 and 61 provide sample control panel configurations for SWP and SWT units. Components, component layout, and component quantity may vary depending upon unit size, voltage, and options selected.
Wire Routing

**DANGER**

Electric shock hazard. Can cause personal injury or equipment damage.

Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.

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.

**WARNING**

Care must be taken to ensure a minimum of 5 inches of clearance between all cables and conductors with 300V-rated insulation or less and areas of the control enclosure containing higher voltage components and conductors.

**NOTICE**

In the event that 300V or lower rated cables and conductors cannot be practically isolated from 600V-rated cables and conductors, a section of 600V-rated shrink wrap tubing is included in the installation kit. This tubing can be cut-to-fit and placed over the lower voltage rated cables and conductors to increase their rating to 600V.

When routing wiring through the control enclosure, care must be taken to maintain a minimum of 5 inches of clearance between all cables and conductors with 300V-rated insulation or less and areas of the control enclosure containing higher voltage components and conductors, such as 575V. For practical purposes, this means routing all cables and conductors from the high-voltage side of the EMM (Figure 62) away from any cables and conductors connected to the M2M Gateway.
Figure 63 indicates the expected routing for a typical Maverick II unit, Figure 64 indicates the expected routing for a typical Rebel unit, and Figure 65 and Figure 66 indicate the expected routing for a typical RoofPak (RPS, RPR, RDT, RFS, RDS or RAH) unit. Wire routing for SWP and SWT installations should be verified by the installer, ensuring adequate separation is maintained between low voltage and high voltage components. In all retrofit situations, the installer should use discretion in determining suitable routing within the control enclosure, in order to ensure the required 5-inch clearance between all cables and conductors with 300V-rated insulation or less and areas of the control enclosure containing higher voltage components and conductors. In RoofPak installations, all non-600V-rated wires (Ethernet, Coax, USB) must be wrapped in the 600V-rated insulation sleeve provided with the retrofit kit.

Figure 63: Typical Maverick II Wire Routing (Generation 1 Gateway shown)
Control Cabinet Penetrations

Only the antenna cable(s) or Ethernet cable must be routed to the outside of the control enclosure. All other terminations remain within the control enclosure. To limit the risk of moisture damage, the required external penetration should be made in the lower part of the left stile of the control enclosure for DPS (A and B cabinets), and the right side for MPS units (Figure 67), or out the condenser box section of RoofPak units (Figure 68). For SWP and SWT units, the installer should field-verify an appropriate location for cables to exit the control enclosure.

The retrofit kit includes a patch plate containing two watertight grommets pre-installed. There are several options for using this plate. If only one of the antennas is used, as is the case for Wi-Fi installations, one of the two grommets can be removed from the patch plate and discarded (Figure 69). Ethernet installations will also use a single grommet.

In this case, only a single penetration will be made through the control enclosure. If two antennas are used, as is the case for cellular installations, both grommets will remain in place, and two penetrations will be required. Alternatively, the grommets can be removed from the patch plate entirely and installed directly into the sheet metal of the control enclosure. Regardless of which method is used, it is important that silicone sealant be used to seal all penetrations. If two antennas are used, it is recommended to remove the grommets and use the patch plate as a template for marking the two penetration prior to drilling. When setting the patch plate as a template, use a carpenter square and level to ensure that the patch plate is aligned squarely with the unit control enclosure.

On the outside of the unit enclosure, drill a 7/8” hole using a step drill bit, centered from right to left, no more than 6” from the bottom of the stile. Drill no deeper than necessary to ensure the 7/8” hole is created. After doing this, a smaller diameter hole should be present on the inside of the enclosure. Again using the step drill bit, drill this hole on the inside of the enclosure to a 5/8” diameter. Drill no deeper than necessary to ensure the 5/8” hole is created. Install the provided 5/8” bushing (Figure 70) on the inside of the enclosure within the newly drilled hole. The bushing should snap into place on the sheet metal.

Install the patch plate on the outside of the enclosure, using the self-tapping sheet metal screws included in the hardware kit. Prior to installation, remove the protective plastic from the patch plate. Apply a bead of silicone sealant around the perimeter of the back side of the patch plate, ensuring that all potential points of moisture entry are covered. Once the plate is located as desired, press the grommet(s) into the 7/8” hole created previously. Again, use a carpenter square and level to ensure that the patch plate is aligned squarely with the unit control enclosure. The grommet(s) should snap into place on the sheet metal. Using the drill and nut driver, screw the patch plate in place using the four pre-drilled mounting holes (Figure 71).

Next, temporarily attach the antenna(s) to the top of the air-handling unit, directly above the stile. The antenna’s coaxial cable is permanently affixed to the base, so the free end must be fed through the grommet (from outside inward) being careful to avoid sharp edges or pinch-points within the cabinet. Loosely coil the excess coaxial cable, until connected later during the installation procedure.
Installation

Wiring Interconnections

**DANGER**

**Electric shock hazard. Can cause personal injury or equipment damage.**

Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.

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.

---

**CAUTION**

**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.

---

**M2M Gateway Connection to MTIII**

The Generation 1 M2M Gateway is connected to the MicroTech III unit controller using an Ethernet patch cable. Connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH”, and the other end to the MicroTech III Unit controller port marked, “TIP” (Figure 72).

For Generation 2 gateways, connect one end of the provided 6 ft. Ethernet Patch cable to the M2M port marked, “ETH1”, and the other end to the MicroTech III Unit controller port marked, “TIP” (Figure 73).

---

**Figure 69: Patch Plate with One Grommet Removed**

**Figure 70: 5/8” Bushing for Installation Inside Control Enclosure**

**Figure 71: Patch Plate Installed**

**Figure 72: ETH and TIP Ports (Generation 1 Gateway)**

**Figure 73: ‘ETH1’ and ‘TIP’ Ports (Generation 2 Gateway)**
M2M Gateway Connection to EMM
(Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The Generation 1 M2M Gateway is connected to the EMM via USB. Connect the type-A end of the provided 3 ft. USB cable to the M2M Gateway port marked, “USB1”, and the type-B end of the same cable to the USB port of the EMM (Figure 74).

The Generation 2 M2M Gateway is also connected to the EMM via USB. Connect the type-A end of the provided 3 ft. USB cable to the M2M 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 75).

Connection of Power Supply

The Generation 1 M2M Gateway is powered by a 120VAC (primary) to 24VDC (secondary) power supply. The 24 VDC connection is made via a pre-fabricated, keyed plug coming from the low voltage end of the power supply. Connect this plug to the M2M Gateway receptacle marked, “Power Input” (Figure 76).

Generation 2 gateways use a slightly different power supply, which does not have the keyed plug on the 12 or 24 VDC connection. The 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 77).
The 120VAC cable has the jacket and insulation pre-stripped, with the ends of both the Line and Neutral wires tinned. On a MicroTech III Rebel A and B units, connect the Line (brown) conductor to terminal TB1-1 and the Neutral (blue) conductor to terminal TB1-3 (Figure 78). On Rebel C units, connect the Line to TB3 300 and the Neutral to TB3 303.

On a MicroTech III Maverick II unit, connect the Line (brown) conductor to terminal TB1A-1, 2, 3, or 4 and the Neutral (blue) conductor to terminal TB1A-5, 6, 7, 8, or 9 (Figure 79).

On a MicroTech III RPS, RPR, RDT, RFS, RDS or RAH unit, connect the Line (brown) conductor to terminal TB1A-1, 2, 3, or 4, and the Neutral (blue) conductor to terminal TB1A-5, 6, 7, 8, or 9 (Figure 80).

On a MicroTech III SWP or SWT unit, connect the Line (brown) conductor to terminal TB1A-1, 2, 3, or 4, and the Neutral (blue) conductor to terminal TB1A-5, 6, 7, or 8 (Figure 81).

**Figure 78: Typical MicroTech III Rebel A and B 120VAC Wiring**

**Figure 79: Typical MicroTech III Maverick II 120VAC Wiring**

**Figure 80: Typical MicroTech III RoofPak Unit 120VAC Wiring**
Figure 81: Typical MicroTech III SWP and SWT Unit 120VAC Wiring
Connection of EMM to CT’s (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The high voltage side of the EMM has a hinged cover, which must be opened. First, remove the two installation screws (Figure 82), then flip the cover open. The EMM uses an open style hinge, so it may be easier to completely remove the hinged door while installing conductors.

The CT’s have built-in output conductors, which may need to be connected to the EMM. Insert the white conductor from the CT on Line 1 into the CT_A+ terminal, and the black conductor from the CT on Line 1 into the CT_A- terminal. Next, insert the white conductor from the CT on Line 2 into the CT_B+ terminal, and the black conductor from the CT on Line 2 into the CT_B- terminal. Finally, insert the white conductor from the CT on Line 3 into the CT_C+ terminal, and the black conductor from the CT on Line 3 into the CT_C- terminal. (Figure 83).

Installing CT’s (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

Current Transformers (CT’s) are split-core type, to make installation easier. Snap split-core CT connected to EMM terminal CT_A on phase L1, snap split-core CT connected to EMM terminal CT_B on phase L2, and snap split-core CT connected to EMM terminal CT_C on phase L3 (Figure 84). Ensure that the “Load” indicator on the CT is oriented correctly.

Connection of EMM to Line Voltage (Not on Gateway-on-the-Go, IE Express, or Centrifugal Chiller kits)

The EMM is connected to Line Voltage through the Fuse Block pre-installed on the mounting bracket. Using the provided 6” wiring harness, connect the “VinA” (Tan), “VinB” (Orange), and “VinC” (Violet) terminals on the EMM to the “Load” terminals on the Fuse Block (Figure 85).
For DPS and MPS Units, use the provided 6 ft. wiring harness, to connect the corresponding “Line” terminals on the Fuse Block to the control panel Power Block 1 (PB1) terminals “T1”, “T2”, and “T3”, such that EMM terminal “VinA” (Tan) is connected to PB1-T1, “VinB” (Orange) is connected to PB1-T2, and “VinC” (Violet) is connected to PB1-T3 (Figure 86).

For RoofPak Units, use the provided 6 ft. wiring harness to connect the “Line” terminals on the Fuse Block to the control panel Power Block 11 (PB11) terminals “T1”, “T2”, and “T3”, such that EMM terminal “VinA” (Tan) is connected to PB11-T1, “VinB” (Orange) is connected to PB11-T2, and “VinC” (Violet) is connected to PB11-T3 (Figure 87). For SWT and SWP field verify connections to unit power block. Once all connections are made to the line voltage side of the EMM, close the hinged cover, and reinstall the screws. Figure 88 depicts an EMM with all high voltage terminations made and the hinged cover reinstalled.

**Figure 86: DPS and MPS Fuse Block Connected to Line Voltage**

**Figure 87: RoofPak Fuse Block Connection to Line Voltage**

**Figure 88: EMM Following Reinstallation of Hinged Cover**

**Connection of M2M Gateway and EMM to Ground**

Both the M2M Gateway and EMM arrive with their respective ground conductors connected at the device. In the case of the M2M Gateway, one end of the ground conductor is connected to the mounting bracket, while in the case of the EMM, one end of the ground conductor is connected to the “Safety” terminal on the EMM itself. For both the M2M Gateway and EMM, the “free” end of the ground conductor should be connected to the nearest available grounding lug in the control enclosure.
## Antenna Installation

**NOTE:** On Generation 2 Gateways using cellular, both of the provided antennas are used.

### DANGER

**Electric shock hazard. Can cause personal injury or equipment damage.**

Prior to installing Intelligent Equipment hardware, power must be removed from the unit. This means removing power at the breaker panel serving the unit, and following proper lockout/tagout procedures at said breaker panel for the duration of the install. Power should not be reapplied until all electrical interconnections have been made and verified.

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.

### CAUTION

**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.

### CAUTION

**Sharp edges on sheet metal and fasteners can cause personal injury. This equipment must be installed, operated, and serviced only by an experienced installation company and fully trained personnel.**

### Mounting

The antennas provided with the Intelligent Equipment solution (Figure 89) are omni-directional, and have a swiveling base. The antenna flags are shipped loose and must be screwed into the coaxial connector of the antenna base. The antennas should be oriented to avoid interference from structures or other antennas. For initial installation, it is recommended to install the antennas on top of the rooftop unit, with enough clearance from the edge to avoid accidental contact or damage. The antenna is held in place by its magnetic base. More information about aiming antennas can be found in the sections, **Wi-Fi Configuration (Generation 1 Gateway)** on page 36 and **Troubleshooting on page 56** of this document.

**Figure 89: Wireless Antenna on Magnetic Mounting Base**
Wiring of Antennas (If Applicable)

As described previously, the antenna cables must be fed from the outside of the unit through the control enclosure and up to the mounting bracket with the M2M Gateway. For a Generation 1 gateway, the connection is made by screwing the SMA coaxial connector onto the appropriate M2M SMA coaxial connector; “3G/GPRS” for cellular or "WLAN" for Wi-Fi. (Figure 90).

For a Generation 2 gateway, the cellular connection is made by screwing the SMA coaxial connector onto the appropriate M2M SMA coaxial connectors, “CELL MAIN” and “CELL DIV”. For Wi-Fi, the connection is made by screwing the antenna’s SMA coaxial connector onto the provided reverse polarity SMA adapter, then screwing the reverse polarity SMA adapter onto the “Wi-Fi/BT” connection on the gateway. (Figure 91).

LAN Installation (If Applicable)

LAN Connection

If using the local area network (LAN) for cloud connectivity on a Generation 1 gateway. A USB-to-Ethernet Adapter must be used. To complete the installation, connect the Ethernet patch cable from the network switch to the Ethernet end of the USB-to-Ethernet Adapter provided with the IE kit. Next, connect the USB end of the USB-to-Ethernet Adapter to the port labeled, “USB2”, on the M2M Gateway (Figure 92). NOTE: the M2M Gateway will not communicate with the cloud if the USB-to-Ethernet Adapter is connected to the incorrect USB port.

For LAN connection to the Generation 2 gateway, there is no need for a USB-to-Ethernet Adapter. To complete the installation, connect the Ethernet patch cable from the network switch to the port labeled, “Eth0”, on the Generation 2 gateway (Figure 93).

NOTE: The M2M Gateway will not communicate with the cloud if the LAN cable is connected to the incorrect Ethernet port on the gateway.
Wi-Fi Configuration (Generation 1 Gateway)

The following procedures should be used to configure the Intelligent Equipment solution for Wi-Fi connectivity.

**NOTE:** Wi-Fi is one of three possible methods of cloud connectivity. The method of connectivity is specified at the time of order. The gateway should be configured for Wi-Fi connectivity only if Wi-Fi was specified at the time of order. If unsure, contact the salesperson or Daikin Applied Controls Technical Response Center. Prior to configuring the gateway for Wi-Fi, please refer to Appendix A of this document for required IT information.

1. Mount and connect the antenna per the instructions included in document section, **Antenna Installation on page 22**.

2. Using a laptop computer and Ethernet cable, connect to the “ETH” port of the M2M Gateway (the Ethernet cable between the M2M Gateway and the MicroTech III controller must be temporarily disconnected, to make use of the “ETH” port on the M2M Gateway).

3. 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 M2M 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.

4. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.

5. Open a web browser page and type, https://172.31.255.1, then press enter.

**NOTE:** The browser will likely provide notification of a security risk related to an unsigned security certificate. This is expected, and does not indicate a gateway defect. Simply click the ‘advanced’ menu link within the browser, then accept the security exception.

   a. When prompted, enter the User Name: “service”
   b. Enter the unique password that was provided with the Gateway hardware and press ENTER.
   c. This opens the Gateway home page (**Figure 94 on page 37**). The System Information section of the Gateway home page will indicate that permission is denied. This is expected, and does not inhibit access to the functionalities required for properly configuring the gateway.

6. If the M2M Gateway will be using DHCP, skip to step 8. If the M2M Gateway will be using a Static IP address, go to step 7.

7. Click the ‘Network’ tab

   a. Under wlan0 Configuration (**Figure 95**), select ‘Static IP’ for Connection Type
   b. Enter the IP, Subnet, and Gateway address information
   c. Under wlan0 DNS Servers enter the primary DNS server and click ‘Add’
   d. If a secondary DNS server address is to be entered, enter it after the page has reloaded and click ‘Add’ and enter the secondary address or set ESSID Broadcast to ON.
   e. Click ‘Save’.
   f. Click ‘Apply Changes’

8. Click the ‘Wireless’ tab (**Figure 96**)

   a. Enter the ESSID of the network
   b. If Wi-Fi security is enabled enter in Wi-Fi network SSID and password and security type

9. Click the ‘Save Changes’ button in the lower right corner of the page. Then, click ‘Apply Changes’.

10. Click the System tab, then click the Reboot tab.

   a. Click the ‘Yes, really reboot now’ button
   b. The gateway will automatically refresh after several minutes.

11. Click the ‘Status’ tab

   a. Under ‘WLAN’, verify Wi-Fi signal strength (**Figure 97**).

12. Adjust antenna as necessary to establish a strong Wi-Fi connection

   a. For reliable operation, signal level should be 60 dBm or higher and link quality power should be 50/70 or higher.
   b. As the antenna is adjusted, be mindful that signal strength is impacted by structures or other antennas. As much as practically possible, make efforts to avoid such interference while adjusting the antenna.
13. Once a strong Wi-Fi connection is obtained, close the web browser, and disconnect the laptop and Ethernet cable from the M2M Gateway.

14. Reconnect the Ethernet cable between the M2M Gateway and the MicroTech III controller.

NOTE: Be certain that the IT staff has allowed incoming and outgoing Internet traffic on TCP ports 80, 443, 3197, 3199, 5222, 5223, 8080 and 8883.

IT Group must also create rules to allow access to the following:
- 8.8.8.8
- www.google.com
- iedata.daikinapplied.com
- Two or more of the following NTP servers:
  - ntp.pool.ntp.org
  - 0.pool.ntp.org
  - 1.pool.ntp.org
  - 2.pool.ntp.org
  - 3.pool.ntp.org
- daamachines.riptideio.com on port 8883
- iedata.daikinapplied.com on port 3199
- 52.176.101.12

It can take up to two hours for an initial push of all unit data to the cloud.
Figure 96: Wireless Configuration Screen

Figure 97: Wireless Signal Strength
Wi-Fi Configuration (Generation 2 Gateway)

The following procedures should be used to configure the Intelligent Equipment solution for Wi-Fi connectivity.

**NOTE:** Wi-Fi is one of three possible methods of cloud connectivity. The method of connectivity is specified at the time of order. The M2M Gateway should only be configured for Wi-Fi connectivity if certain that Wi-Fi was specified at the time of order. If unsure, contact the salesperson or Daikin Applied Controls Technical Response Center. Prior to configuring the M2M Gateway for Wi-Fi, please refer to Appendix A of this document for required IT information.

1. Mount and connect the antenna per the instructions included in document section, See Antenna Installation on page 22.

2. Temporarily remove the factory-provided Ethernet patch cable from the “ETH1” port of the M2M Gateway. This cable will be reconnected when the configuration procedure is complete. NOTE: The opposite end of the factory-supplied Ethernet patch cable is connected to the unit controller, and this connection can remain in place during the configuration procedure.

3. Using a laptop computer and Ethernet patch cable, connect to the “ETH1” port of the M2M Gateway.

4. Navigate to the laptop's Local Area Connection settings screen and change the IP subnet mask to 255.255.255.0 and set the IP address to be compatible with the default M2M Gateway ETH1 IP address of 192.168.1.40 (example compatible address: 192.168.1.45). 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 Gateway Configuration User Interface.

6. Open a web browser page and type, 192.168.1.40:5050, then press enter.

7. When prompted, enter the User Name: “service”, then enter the unique password that was provided with the M2M Gateway hardware and click ‘Sign In’ (Figure 98).
   a. If either the username or password is incorrect, a message displays to indicate the incorrect value (Figure 99 and Figure 100).

8. If the username and password are correct, the Gateway Configuration User Interface displays a message indicating the login is successful and shows the ‘Status’ screen (Figure 101).

9. The Gateway Configuration User Interface has three tabs, ‘Status’, ‘Diagnostics’, and ‘Network’, which provide information about the M2M Gateway (Figure 102).
   a. ‘Status’ indicates uptime, firmware, and memory information
   b. ‘Diagnostics’ indicates memory usage and data transmission information
   c. ‘Network’ indicates network settings and status.

10. Because it has not yet been configured to communicate on the network, the Wi-Fi connection will indicate, “No Connection Available” (Figure 103).

11. To configure the M2M Gateway Wi-Fi settings, click the ‘Configuration Settings’ link in the upper-right corner of the interface (Figure 104).

12. On the Wi-Fi tab of the Configuration screen (Figure 105), enter the following information provided by the facility IT Staff (refer to Wi-Fi or Hardwired LAN Ethernet Connection Pre-Start-up Form of this document for required IT information):
   a. In the ‘Network Name’ field, enter the SSID (service set identifier).
   b. In the ‘Wireless Security’ field, select the appropriate security protocol for the wireless network.
   c. In the ‘Wireless Password’ field, enter the password for the wireless network.
   d. In the ‘Key Management’ field, enter the type of key management used by the network.
   e. If used, enter the correct settings for ‘Pairwise Ciphers’ and ‘Group Ciphers’.

13. Once all settings are entered, click the ‘Apply’ button at the bottom of the Wi-Fi tab.

14. Click the LAN tab of the Configuration screen (Figure 106).

15. If the M2M Gateway will use DHCP (Dynamic Host Configuration Protocol) for its network configuration parameters, select “DHCP” in the ‘Configure’ field, then click the ‘Apply’ button at the bottom of the LAN tab.

**NOTE:** With “DHCP” selected in the ‘Configure’ field, all other fields are disabled. Proceed to step 17.
16. If the M2M Gateway will use a Static IP Address, enter the following information provided by the facility IT Staff (refer to Wi-Fi or Hardwired LAN Ethernet Connection Pre-Start-up Form of this document for required IT information):
   a. In the ‘Configure’ field, select “Static”.
   b. In the ‘IP Address’ field, enter the required device IP address.
   c. In the ‘Sub Mask’ field, enter the required network Subnet Mask.
   d. In the ‘Gateway’ field, enter the required network Gateway.
   e. If required by the network, enter the correct settings for ‘DNS Servers’ and ‘Search Domains’.

16. Once all settings are entered, click the ‘Apply’ button at the bottom of the LAN tab.

17. Click the ‘HOME’ link in the upper-left corner of the screen, then click the Network tab (Figure 107).
   a. Confirm the Wi-Fi icon in the middle of the screen indicates, “Connected”.
   b. Confirm the ‘Status’ under ‘Wireless Settings’ indicates, “OK”.

18. If 17a and 17b are true, click the ‘Logout’ link (Figure 108) in the upper-right corner of the screen, then close the computer’s browser. Disconnect the laptop computer and Ethernet cable used for the configuration procedure from the M2M Gateway and restore the laptop’s Local Area Connection settings to the previous values. Procedure complete.

19. If 17a and 17b are not true, repeats steps 5 thru 18. For further assistance, review the ‘Troubleshooting’ section of this document.

NOTE: Be certain that the IT staff has allowed incoming and outgoing Internet traffic on TCP ports 80, 443, 3197, 3199, 5222, 5223, 8080 and 8883. IT Group must also create rules to allow access to the following:

   — 8.8.8.8
   — www.google.com
   — iedata.daikinapplied.com
   — Two or more of the following NTP servers:
     – us.pool.ntp.org
     – 0.pool.ntp.org
     – 1.pool.ntp.org
     – 2.pool.ntp.org
     – 3.pool.ntp.org
   — daamachines.riptideio.com on port 8883
   — iedata.daikinapplied.com on port 3199
   — 52.176.101.12

It can take up to two hours for an initial push of all unit data to the cloud.
Figure 101: Login Successful

Login Successful with: 'service'

SORY, NO CONNECTION AVAILABLE.

LAN: No Connection
WiFi: No Connection
Cell: No Connection

Status Diagnostics Network

Device Information

Uptime: 11:12:57 up 16 days, 1:38; 0 users, load average: 0.61, 0.55, 0.77
Firmware: 4.9.57-eurotech-8
Total RAM: 1020548 KB
Free RAM: 55688 KB

Figure 102: User Interface Tabs

Status Diagnostics Network
**Figure 103: User Interface – No Connection**

_SORRY, NO CONNECTION AVAILABLE._

**LAN**
No Connectivity

**WiFi**
No Connectivity

**Cell**
No Connectivity

**Figure 104: Configure Settings Icon**

**Figure 105: Wi-Fi Configuration**
Figure 106: LAN Configuration

Sorry, no connection available.
Figure 107: Connection Successful

Figure 108: Log Out
Ethernet LAN Configuration (Generation 1 Gateway)

NOTE: Ethernet LAN is one of three possible methods of cloud connectivity. The method of connectivity is specified at the time of order. The gateway should be configured for Ethernet LAN connectivity if Ethernet LAN was specified at the time of order. If unsure, contact the salesperson or Daikin Applied Controls Technical Response Center. Prior to configuring the gateway for Ethernet LAN, please refer to Wi-Fi or Hardwired LAN Ethernet Connection Pre-Start-up Form of this document for required IT information.

The M2M Gateway is configured using a set of HTML interface pages within the Wind River Intelligent Device Platform. The table below identifies the Wind River configuration parameters, along with the corresponding physical port on the M2M Gateway. For reference, it also includes the corresponding device connection to the M2M Gateway.

<table>
<thead>
<tr>
<th>Wind River configuration parameter</th>
<th>M2M Gateway port</th>
<th>Device Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN ETH (which is eth0)</td>
<td>chrome</td>
<td>MTIII Unit Controller</td>
</tr>
<tr>
<td>wan</td>
<td>USB1</td>
<td>Local Network</td>
</tr>
<tr>
<td>wlan0</td>
<td>WLAN</td>
<td>WiFi</td>
</tr>
<tr>
<td>wwan</td>
<td>3G/GPRS</td>
<td>Cellular</td>
</tr>
</tbody>
</table>

The following procedures should be used to configure the Intelligent Equipment solution for Ethernet LAN connectivity (NOTE: it is the "wan" interface in the gateway that will be configured).

1. Connect the USB-to-Ethernet adapter to USB2 on the M2M Gateway (this is necessary because the M2M Gateway has a single Ethernet plug, which is connected to the MicroTech III controller, and, therefore, unavailable for the purpose of connecting to the local network).
   a. Connect the provided Ethernet patch cable to the USB-to-Ethernet adapter and to the local network (DHCP is enabled by default).
2. Using a laptop computer and Ethernet cable, connect to the "ETH" port of the M2M Gateway (the Ethernet cable between the M2M Gateway and the MicroTech III controller must be temporarily disconnected, to make use of the "ETH" port on the M2M Gateway).
3. 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 M2M 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.
4. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.
5. Open a web browser and type, https://172.31.255.1, then press enter.
   a. When prompted, enter the User Name: “service”.
   b. Enter the unique password that was provided with the Gateway hardware and press ENTER.
   c. This opens the Wind River Intelligent Device Platform configuration page in the gateway (Figure 109).

NOTE: If DHCP will be used for the local network configuration, please proceed to step 8.
6. Click the ‘Network’ tab
7. Locate the ‘wan Configuration’ section (Figure 110 on page 47)
   a. Under wan Configuration select ‘Static IP’ for Connection Type
   b. Ensure that Interface = eth1
   c. Enter the IP, Subnet, and Gateway address information the customer’s IT provided. See Appendix on page 61.
   d. Under wan DNS Servers enter the network’s primary DNS server and click ‘Add’ (NOTE: If a public DNS server is preferred, use 8.8.8.8 or 4.2.2.2)
   e. If a secondary DNS server address is to be entered, enter it after the page has reloaded and click ‘Add’ and enter the secondary address.
8. Click the ‘Save Changes’ button in the lower right corner of the page. Then, click ‘Apply Changes’.
   a. IMPORTANT: Allow the page to refresh
   b. Confirm that there is a number in parentheses next to “Review Changes”. If so, proceed to step 9; if not, repeat steps 7 and 8.
9. Click the ‘Apply Changes’ button in the lower right-hand corner of the screen. The page will automatically refresh when complete (this can take up to two minutes).
10. Click the ‘Multiwan’ tab
    a. Scroll to the bottom of the page and Click ‘Add New Interface’ (Figure 111 on page 47)
    b. Name the interface, “wan” (must match the name of the interface configured in step 7.
    c. Click ‘Add new interface’
11. Once created, set “ICMP hosts” of new interface to “disable”
12. Under ‘Add New Interface to Monitor’, type “wan” in the ‘New Interface Name’ field (Figure 111). Then, click the ‘Add New Interface’ button.

NOTE: Creating the “wan” interface effectively breaks the cellular connection within the gateway’s configuration. If the Intelligent Equipment installation subsequently decides to switch to cellular for connectivity, then the “wan” interface will need to be deleted within the configuration screen.
14. Click ‘Save changes’ button
   a. IMPORTANT: Allow the page to refresh
   b. Confirm that there is number in parentheses next to “Review Changes”. If so, proceed to step 12; if not, repeat steps 10-14.
15. Remove ‘wwan’ interface
16. Remove ‘wlan0’ interface
17. Click the ‘Save Changes’ button
   a. IMPORTANT: Allow the page to refresh
   b. Confirm that there is number in parentheses next to “Review Changes”. If so, proceed to step 18; if not, repeat steps 10-17.
18. Click the ‘Apply Changes’ button in the lower right-hand corner of the screen. The page will automatically refresh when complete (this can take up to two minutes).
19. Confirm that ‘ICMP host’ of “wan” interface is still set to “disable”
   a. If so, go to step 20.
   b. If not, set to “disable”
   c. Click ‘Save changes’ button
      i. IMPORTANT: Allow the page to refresh
      ii. Confirm that there is number in parentheses next to “Review Changes”. If so, proceed to step 21; if not, repeat steps 18-19
   d. Click the ‘Apply Changes’ button in the lower right-hand corner of the screen. The page will automatically refresh when complete (this can take as much as two minutes).

20. Click the ‘System’ tab, then click the Reboot button.

NOTE: Be certain that the IT staff has allowed incoming and outgoing internet traffic on TCP ports 80, 443, 3197, 3199, 5222, 5223, 8080 and 8883.
   IT Group must also create rules to allow access to the following:
   — 8.8.8.8
   — www.google.com
   — iedata.daikinapplied.com
   — Two or more of the following NTP servers:
       – us.pool.ntp.org
       – 0.pool.ntp.org
       – 1.pool.ntp.org
       – 2.pool.ntp.org
       – 3.pool.ntp.org
       – daamachines.riptideio.com on port 8883
       – iedata.daikinapplied.com on port 3199
       – 52.176.101.12
   It can take up to two hours for an initial push of all unit data to the cloud.
### Figure 110: WAN Configuration Settings

#### Network Configuration

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>Type</th>
<th>Static IP</th>
<th>IP Address</th>
<th>Netmask</th>
<th>Default Gateway</th>
<th>DNS Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interface</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### WAN DNS Servers

| 8.8.8.8 | Remove |
| 4.2.2.2 | Remove |

### Figure 111: ‘Add New Interface’ Selection

#### Monitor Configuration for wlan0

<table>
<thead>
<tr>
<th>Health Interval</th>
<th>Health Fail Retries</th>
<th>Health Recovery Retries</th>
<th>Failover To</th>
<th>DNS</th>
<th>Auto Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Add New Interface to Monitor

<table>
<thead>
<tr>
<th>New Interface Name</th>
<th>Add New Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>wlan</td>
<td></td>
</tr>
</tbody>
</table>
Ethernet LAN Configuration (Generation 2 Gateway)

The following procedures should be used to configure the Intelligent Equipment solution for Ethernet LAN connectivity.

NOTE: Ethernet LAN is one of three possible methods of cloud connectivity. The method of connectivity is specified at the time of order. The M2M Gateway should only be configured for Ethernet LAN connectivity if certain that Ethernet LAN was specified at the time of order. If unsure, contact the salesperson or Daikin Applied Controls Technical Response Center. Prior to configuring the M2M Gateway for Ethernet LAN, please refer to Appendix A of this document for required IT information.

1. Connect the Ethernet patch cable from the network switch to the port labeled, “ETH0”, on the M2M Gateway.
2. Temporarily remove the factory-provided Ethernet patch cable from the “ETH1” port of the M2M Gateway. This cable will be reconnected when the configuration procedure is complete. NOTE: The opposite end of the factory-supplied Ethernet patch cable is connected to the unit controller, and this connection can remain in place during the configuration procedure.
3. Using a laptop computer and Ethernet patch cable, connect to the “ETH1” port of the M2M Gateway.
4. Navigate to the laptop's Local Area Connection settings screen and change the IP subnet mask to 255.255.255.0 and set the IP address to be compatible with the default M2M Gateway ETH1 IP address of 192.168.1.40 (example compatible address: 192.168.1.45). 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 Gateway Configuration User Interface.
6. Open a web browser page and type, 192.168.1.40:5050, then press enter.
7. When prompted, enter the User Name: ‘service’, then enter the unique password that was provided with the M2M Gateway hardware and click ‘Sign In’ (Figure 100).
   a. If either the username or password is incorrect, a message displays to indicate the incorrect value (Figures 101 and 102).
8. If the username and password are correct, the Gateway Configuration User Interface displays a message indicating the login is successful and shows the ‘Status’ screen (Figure 103).
   a. ‘Status’ indicates uptime, firmware, and memory information
   b. ‘Diagnostics’ indicates memory usage and data transmission information
   c. ‘Network’ indicates network settings and status.
10. Because it has not yet been configured to communicate on the network, the Ethernet LAN connection will indicate, “No Connection Available” (Figure 104).
11. To configure the M2M Gateway Ethernet LAN settings, click the ‘Configuration Settings’ link in the upper-right corner of the interface (Figure 105).
12. Click the LAN tab of the Configuration screen (Figure 106).
13. If the M2M Gateway will use DHCP (Dynamic Host Configuration Protocol) for its network configuration parameters, select “DHCP” in the ‘Configure’ field, then click the ‘Apply’ button at the bottom of the LAN tab.
   NOTE: With “DHCP” selected in the ‘Configure’ field, all other fields are disabled. Proceed to step 17.
14. If the M2M Gateway will use a Static IP Address, enter the following information provided by the facility IT Staff (refer to Appendix A of this document for required IT information):
   a. In the ‘Configure’ field, select “Static”.
   b. In the ‘IP Address’ field, enter the required device IP address.
   c. In the ‘Sub Mask’ field, enter the required network Subnet Mask.
   d. In the ‘Gateway’ field, enter the required network Gateway.
   e. If required by the network, enter the correct settings for ‘DNS Servers’ and ‘Search Domains’.
15. Once all settings are entered, click the ‘Apply’ button at the bottom of the LAN tab.
16. Click the ‘HOME’ link in the upper-left corner of the screen, then click the Network tab (Figure 107).
   a. Confirm the LAN icon in the middle of the screen indicates, “Connected”.
   b. Confirm the ‘Status’ under ‘Ethernet Settings’ indicates, “OK”.

a. If either the username or password is incorrect, a message displays to indicate the incorrect value (Figures 101 and 102).
b. If the username and password are correct, the Gateway Configuration User Interface displays a message indicating the login is successful and shows the ‘Status’ screen (Figure 103).
17. If 17a and 17b are true, click the ‘Logout’ link (Figure 108) in the upper-right corner of the screen, then close the computer’s browser. Disconnect the laptop computer and Ethernet cable used for the configuration procedure from the M2M Gateway, reconnect the factory-supplied Ethernet patch cable to the “ETH1” port of the M2M Gateway, and restore the laptop’s Local Area Connection settings to the previous values. Procedure complete.

18. If 17a and 17b are not true, repeats steps 6 thru 18. For further assistance, review the ‘Troubleshooting’ section of this document.

NOTE: Be certain that the IT staff has allowed incoming and outgoing Internet traffic on TCP ports 80, 443, 3197, 3199, 5222, 5223, 8080 and 8883. IT Group must also create rules to allow access to the following:

- 8.8.8.8
- www.google.com
- iedata.daikinapplied.com
- Two or more of the following NTP servers:
  - us.pool.ntp.org
  - 0.pool.ntp.org
  - 1.pool.ntp.org
  - 2.pool.ntp.org
  - 3.pool.ntp.org
- daamachines.riptideio.com on port 8883
- iedata.daikinapplied.com on port 3199
- 52.176.101.12

It can take up to two hours for an initial push of all unit data to the cloud.
Figure 115: Login Successful

Login Successful

Figure 116: User Interface – Not Connected

SORRY, NO CONNECTION AVAILABLE.
Figure 117: Configure Settings Icon

Figure 118: LAN Configuration

Figure 119: Connection Successful

Figure 120: LAN Tab
Configuring the MicroTech II Centrifugal Chiller HMI for Intelligent Equipment

In order for the a MicroTech II chiller model WCC, WDC, WMC, or WSC to exchange data with the M2M gateway (Generation 1 or Generation 2), the API (Application Programming Interface) Server on the HMI (Human-Machine Interface) must be enabled. To enable the API Server:

1. Press the ‘Operator’ icon in the lower-right corner of the HMI (Figure 121).
2. Press the ‘API Server Enable’ field.
3. When prompted, enter the Technician-level password using the numeric keypad that appears on the HMI. Once the password is entered, press the ‘Enter’ button.
4. Pressing the ‘API Server Enable’ field again will open a drop-down menu. Select, “Enable,” from the list, then press the ‘Enter’ button to confirm the selection.
5. The ‘API Server Enable’ field on the HMI should now indicate, “Enabled” (Figure 122). Procedure complete.

Figure 121: The ‘Operator’ Icon

Figure 122: The ‘API Server Enable’ Field on the HMI
Commissioning the Gateway in the Cloud

NOTE: The Intelligent Equipment User Interface works best with Chrome and Firefox browsers. If using Internet Explorer, compatibility mode must be disabled in the browser, as it blocks key HTML 5 features of Intelligent Equipment. For instructions on disabling compatibility mode, please reference Internet Explorer’s help files.

In order for data to be populated on a unit’s detail pages in the cloud-based user interface, it must first be commissioned to the cloud application. To complete this process, first log into the Intelligent Equipment (IE) user interface at https://ie.daikinapplied.com (Figure 123). If you have not been given access to the unit gateway, please contact Daikin Applied. Once logged in, the user interface displays a building list and map of all assigned units (Figure 112). Under the ‘Buildings’ list (Figure 113), locate the building with the new unit and click the drop-down arrow (Figure 114). Locate the desired unit from the list and click the unit tag, which opens the unit details screen (Figure 127). Click the ‘Commissioning Procedure’ button. A message will display indicating that the commissioning procedure must be completed within 30 days (Figure 128). Clicking the ‘OK’ button opens the ‘Commissioning Procedures’ screen for the unit (Figure 129). Commissioning of the unit can be completed within IE or outside of IE (traditional paper form). Either method commissions the IE gateway in the cloud. If the unit will be commissioned outside of IE, simply click the checkbox for ‘Commission has been performed outside IE Application’, then navigate to the bottom of the ‘General’ tab and click, ‘Submit’. If using IE to commission the unit itself, complete all of the fields on each tab, then navigate to the bottom of the ‘General’ tab and click, ‘Submit’.

It can take up to 2 hours for all data to be pushed to the cloud and indexed. However, some data should begin to appear within 15 minutes. To check for connectivity, wait for 15 minutes, then navigate to each of the sections of the Unit Details screen and verify that some unit data has begun to appear. If no data is present, contact Daikin Applied for additional support.

Figure 123: Login

Figure 124: Buildings List and Map View
Figure 125: Buildings List

- Daikin Applied Office
- Daikin Applied Labs

Figure 126: Unit List

- Daikin Applied Office
- 15 ton Rebel
- Engineering_AGZ
- Main Office_AWV
- RTU-1
- AC - 1
- Daikin Applied Labs

Figure 127: Unit Details

- AC - 1
- Commissioning Procedure

UNIT HAS NOT BEEN COMMISSIONED
LIVE DATA IS NOT AVAILABLE
Figure 128: Thirty Day Message

By clicking ‘Ok’ you will be provided 30 Days of access to the equipment through IE interface to support Startup and Commissioning of Unit AC-1. During this period you must submit the Commission procedure document otherwise Unit AC-1 reverts to a non-commissioned status and access will be limited.

Ok  Cancel

Figure 129: Commissioning Procedures Screen

Commissioning Procedures for AC-1

II. Pre Start-Up Checklist
Pre Start-Up Checklist, All NO checks require an explanation under “Description”: Please check yes or no.

A. Is the unit free of visible shipping damage, corrosion or paint problems? ☒ ☐
B. Is unit installed level? ☒ ☐
C. Does the unit meet all location, installation and service clearances per IM Bulletin? ☒ ☐
D. Has thermostat bulb been properly installed in the well? ☒ ☐
E. Are all set screws on all pulleys, bearings, and fans tight? ☒ ☐
F. Does electrical service correspond to unit nameplate? ☒ ☐

Volts: ☒ Hertz: ☒ Phase: ☒
G. Has electrical service been checked for proper phasing at each circuit power terminal block? ☒ ☐
Cellular Signal Verification (Generation 1 Gateway)

The following procedures should be used to verify the cellular signal strength for the Intelligent Equipment gateway.

1. Mount and connect the cellular antenna per the instructions included in document section, Antenna Installation on page 22.

2. Using a laptop computer and Ethernet cable, connect to the “ETH” port of the M2M Gateway (the Ethernet cable between the M2M Gateway and the MicroTech III controller must be temporarily disconnected, to make use of the “ETH” port on the M2M Gateway).

3. 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 M2M 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.

4. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.

5. Open a web browser page and type, https://172.31.255.1, then press enter.

**NOTE:** The browser will likely provide notification of a security risk related to an unsigned security certificate. This is expected, and does not indicate a gateway defect. Simply click the ‘advanced’ menu link within the browser, then accept the security exception.

   a. When prompted, enter the User Name: “service”
   b. Enter the unique password that was provided with the Gateway hardware and press ENTER.
   c. This opens the Gateway home page (Figure 130 on page 57). The System Information section of the Gateway home page will indicate that permission is denied. This is expected, and does not inhibit access to the functionalities required for properly configuring the gateway.

6. Click the ‘Status’ tab
   a. Select the ‘WWAN Modem’ tab
   b. Under ‘Signal Quality, verify cellular signal strength (Figure 131).

7. Adjust antenna as necessary to establish a strong cellular connection
   a. For reliable operation, signal quality and power should both be in the good or excellent range.
   b. As the antenna is adjusted, be mindful that signal strength is impacted by structures or other antennas. As much as practically possible, make efforts to avoid such interference while adjusting the antenna.

8. Once a strong cellular connection is obtained, close the web browser, and disconnect the Ethernet cable between the laptop and M2M Gateway.

9. Reconnect the Ethernet cable between the M2M Gateway and the MicroTech III controller.
Figure 130: M2M Gateway Home Page

<table>
<thead>
<tr>
<th>Status</th>
<th>Log</th>
<th>System</th>
<th>Network</th>
<th>Logout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

System Information

Permission Denied

Figure 131: Verify Cellular Signal Strength

<table>
<thead>
<tr>
<th>Status</th>
<th>Log</th>
<th>System</th>
<th>Network</th>
<th>Logout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

System Interfaces | WWAN Modem | Diagnostics |

**WWAN Modem Status**

<table>
<thead>
<tr>
<th>Modem Device Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection Device</td>
<td>/dev/ttyACM0</td>
</tr>
<tr>
<td>Supported Protocol</td>
<td>3G</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Telit</td>
</tr>
<tr>
<td>Vendor ID</td>
<td>1bc7</td>
</tr>
<tr>
<td>Product</td>
<td>ME910</td>
</tr>
<tr>
<td>Product ID</td>
<td>0021</td>
</tr>
<tr>
<td>Serial Number</td>
<td>358136076393414</td>
</tr>
<tr>
<td>Revision</td>
<td>12.00.024</td>
</tr>
</tbody>
</table>

**SIM/UICC Card Information**

<table>
<thead>
<tr>
<th>APN</th>
<th>daikinappliedpub.com.att2</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSI</td>
<td>310170231462199</td>
</tr>
<tr>
<td>Operator</td>
<td>AT&amp;T</td>
</tr>
<tr>
<td>Operator Code</td>
<td>310410</td>
</tr>
</tbody>
</table>

**Signal Quality**

<table>
<thead>
<tr>
<th>Signal Quality:</th>
<th>Power (dBm):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unreliable</td>
<td>-113...-95</td>
</tr>
<tr>
<td>Variable</td>
<td>-93...-85</td>
</tr>
<tr>
<td>Good</td>
<td>-83...-75</td>
</tr>
<tr>
<td>Excellent</td>
<td>-73...-51</td>
</tr>
</tbody>
</table>
Verify Time Zone Information  
(If Needed on Generation 1 Gateway only)

The M2M Gateway comes pre-configured from the factory with the Time and Time Zone set based on the location of the installation site. However, during troubleshooting, the installer may need to confirm that the factory setting is accurate, and ensure that the correct information is also set in the MicroTech III unit controller.

1. Using a laptop computer and Ethernet cable, connect to the “ETH” port of the M2M Gateway (the Ethernet cable between the M2M Gateway and the MicroTech III controller must be temporary disconnected, to make use of the “ETH” port on the M2M Gateway).

2. 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 M2M 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.

3. Temporarily disable the wireless adapter(s) on the computer, as these may prevent accessing the HTML Interface page.

   a. When prompted, enter the User Name: “service”
   b. Enter the unique password that was provided with the Gateway hardware and press ENTER.
   c. This opens the Gateway home page.

5. Click the ‘System’ tab (Figure 132 on page 59).
   a. Select the ‘Settings’ tab
   b. Under ‘Time Zone’, verify that the indicated Time Zone is accurate. If so, continue to step 9.

6. If the Time Zone is inaccurate, use the list to select the correct Time Zone, then click, ‘Save Changes’.
   a. After saving changes, the screen will refresh.

7. Click, ‘Apply Changes’ to write the change to the Gateway’s configuration file.
   a. After applying changes, the screen will briefly indicate that the configuration is being updated, then will refresh to display the new time zone.

8. The time in the upper right corner of the webpage will now reflect accurately based on the selected Time Zone (Figure 133).

9. Once the Time Zone is verified in the M2M Gateway, you will verify the time in the MicroTech III unit controller. Begin by entering the password of 6363. Next, from the main menu of the unit controller (Figure 134), turn the knob clockwise until ‘View/Set Unit’ is highlighted, then depress the knob to enter the ‘View/Set Unit’ menu.
   a. Press in on the knob to enter the ‘View/Set Unit’ menu

10. From the ‘View/Set Unit’ menu, turn the knob clockwise until ‘Date/Time/Schedules’ is highlighted. Press the knob to enter the ‘Date/Time/Schedules’ menu. Verify that the ‘Time’, ‘Date’, and ‘UTC Diff’ (Figure 135) are all correct. If any require a change, simply use the knob to highlight that field, then press in on the knob to select, which makes the item adjustable. Use the knob to increase/decrease the value, then press in on the knob to enter

11. Once the ‘Time’, ‘Date’, and ‘UTC Diff’ are all correct, press the BACK button to return to the main menu.

NOTE: For more information on navigating the MicroTech III rooftop unit controller keypad display, please see the appropriate operation manual for the unit model.
Figure 132: System Tab

WIND RIVER
Intelligent Device Platform 2.0

System Settings

Host Name

Time Settings

Timezone
POSIX TZ String
NTP Server
NTP Server Port
Remove NTP Server
Add NTP Server

Webif® Settings

Language
Theme

Figure 133: Time Updated to Time Zone

Wind River Intelligent Device Platform 2.0
Host: WR-IntelligentDevice
Date: 2014-08-19
Uptime: 9 days, 23:12, 0 users
Time: 14:54:25
Load: 3.74, 3.22, 2.92

Figure 134: Keypad Controls

Figure 135: Date/Time/Schedules Menu
Potential issues:

**Gateway does not power up (LED does not illuminate)**
- Verify 120V at TB1 or TB3, depending on the unit
- Verify that power supply wires are properly installed to unit terminal block
- Verify that power supply is properly connected to the Gateway
- Contact Daikin Applied

**Energy Management Module does not power up**
- Verify USB cable connection to Gateway and Energy Management Module
- Verify that Gateway has power
- Contact Daikin Applied

**Cell connection cannot be established**
- Check antenna connection to magnetic base
- Check antenna connection to 3G/GPRS port on Generation 1 Gateway or CELL MAIN and CELL DIV ports on Generation 2 Gateway
- Confirm SIM card is fully seated in the gateway (Generation 1 Gateway only); this may require ejecting, then re-inserting the SIM card. See Figure 136 for SIM card location. The SIM Card is not field-serviceable in a Generation 2 Gateway and accessing it will void the product warranty.
- Check signal strength through Wind River interface (Generation 1 Gateway)
- Contact Daikin Applied

**Wi-Fi connection cannot be established**
- Check antenna connection to magnetic base
- Check antenna connection to WLAN port on Generation 1 Gateway or Wi-Fi/BT port on Generation 2 Gateway
- Check signal strength through Wind River interface (Generation 1 Gateway), or Gateway Configuration User Interface (Generation 2 Gateway)
- Verify Wi-Fi IP addressing, ESSID, and login credentials match customer supplied Wireless LAN requirements
- Connect to Wi-Fi network and try to ping the Gateway's IP address to prove the Gateway is on the network.
- Contact Daikin Applied

**LAN connection cannot be established**
- Confirm proper installation of USB to Ethernet adapter
- Verify LED activity on USB to Ethernet adapter
- Verify LAN addressing through Wind River interface (Generation 1 Gateway) or Gateway Configuration User Interface (Generation 2 Gateway)
- Connect to LAN and try to ping the Gateway's IP address to prove the Gateway is on the network
- Contact Daikin Applied

**MicroTech III Data Not Showing Up In User Interface**
- Confirm Ethernet cable is plugged into 'ETH' port on Generation 1 Gateway or 'ETH1' port on Generation 2 Gateway
- Confirm Ethernet cable is plugged into ‘TIP’ port on MicroTech III controller
- Check for LED activity on Gateway’s ‘ETH’ port (Generation 1 Gateway) or ‘ETH1’ port (Generation 2 Gateway)
- Verify IP address of Eth0 on the Generation 1 Gateway is 192.168.1.40
  — This is found at the Network/Networks/Ian Configuration section of the Wind River interface (see Figure 96)
- Verify IP address of the MicroTech III controller is 192.168.1.42
  — View/Set Unit —> Ctrlr IP Setup
- Contact Daikin Applied

---

**Figure 136: SIM Card Location (Generation 1 Gateway)**

![SIM Card Location](image)
**Wi-Fi or Hardwired LAN Ethernet Connection Pre-Start-up Form**

**NOTE:** This form must be completed in collaboration with site IT staff prior to configuring the gateway for Wi-Fi or Hardwired LAN Ethernet connectivity.

This form is not required for Cellular connectivity.

The Intelligent Equipment gateway is capable of communicating via cellular connection, Wi-Fi connection, or wired Ethernet LAN connection. For both Wi-Fi and wired Ethernet LAN, the gateway supports DHCP to have an IP address assigned automatically, or it can be field programmed with a static IP address.

If either Wi-Fi or wired Ethernet LAN is used for cloud connectivity, the customer's LAN Administrator should review and supply the following information (as necessary) prior to a technician going to the jobsite and commissioning the gateway.

A CAT 5E Ethernet communication cable with an extra: [ ] feet of coiled cable and a RJ45 connector on the free end has been run per local codes from the customer's LAN to the unit main control box of each unit with an Intelligent Equipment gateway.

1. IT Group must allow incoming and outgoing internet traffic on TCP ports 80, 443, 3197, 3199, 5222, 5223, 8080 and 8883.

2. IT Group must also create rules to allow access to the following:
   - 8.8.8.8
   - www.google.com
   - iedata.daikinapplied.com
   - Two or more of the following NTP servers:
     - us.pool.ntp.org
     - 0.pool.ntp.org
     - 1.pool.ntp.org
     - 2.pool.ntp.org
     - 3.pool.ntp.org
   - daamachines.riptideio.com on port 8883
   - iedata.daikinapplied.com on port 3199
   - 52.176.101.12

3. If the gateway will be required to use a static IP address the following information will need to be supplied:

   | Internal LAN Static IP Address: | — — — — — — (required) |
   | IP Subnet Mask: | — — — — — — (required) |
   | Default Gateway: | — — — — — — (required) |
   | DNS Server (primary): | — — — — — — (required) |
   | DNS Server (secondary): | — — — — — — (if applicable) |
   | Proxy Server IP Address: | — — — — — — (if applicable) |
   | Proxy Server Port Number: | — — — — — — (if applicable) |
4. For Wi-Fi Ethernet connections the following information will be required as well:

<table>
<thead>
<tr>
<th>Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wi-Fi network SSID</td>
<td></td>
</tr>
<tr>
<td>Wi-Fi network password</td>
<td></td>
</tr>
<tr>
<td>Wi-Fi encryption type</td>
<td></td>
</tr>
<tr>
<td>Wi-Fi Mode</td>
<td></td>
</tr>
<tr>
<td>Preferred Wi-Fi channel</td>
<td></td>
</tr>
</tbody>
</table>
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 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.

Aftermarket Services

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

This document contains the most current product information as of this printing. For the most up-to-date product information, please go to www.DaikinApplied.com.

Products manufactured in an ISO Certified Facility.