Installation and Maintenance Manual IM 1332-1

Group: **Controls**
Part Number: **IM 1332**
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Supercedes: **IM 1219, IM 1229, IM 1240, OM 1241**

SiteLine™ Building Controls for Dedicated Equipment; 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

SITELINE™
DAIKIN BUILDING CONTROLS

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Limited Warranty

Consult your local Daikin Representative for warranty details. To find your local Daikin Representative, go to www.DaikinApplied.com.

General Information

This manual contains the information needed to install and configure the SiteLine™ Building Controls for Dedicated Equipment 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

SiteLine for Dedicated Equipment is a 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.

SiteLine for Dedicated 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™, Retrofit kit without EMM, or kits ordered without power monitoring.

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.

⚠ CAUTION

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

Static sensitive components. Can cause equipment damage.

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

⚠ WARNING

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

⚠ DANGER

Dangers indicate a hazardous situation which will result in death or serious injury if not avoided. Electric shock hazard. Can cause personal injury or equipment damage. This equipment must be properly grounded. Connections and service to the MicroTech II Water Cooled centrifugal chiller, MicroTech E Water-cooled centrifugal chiller, MicroTech 4 Packaged Rooftop, 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

⚠ CAUTION

Extreme temperature hazard. Can cause damage to system components. The SiteLine hardware is designed to operate in ambient temperatures from -22 to 158 degrees F (-30 to 70 degrees C) and in relative humidity up to 90% (non-condensing).

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 SiteLine Building Controls for Dedicated 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 7 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 SiteLine 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™, Retrofit kit without EMM, 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 SiteLine, 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 10.

Current Transformers (CT's)
(Not on Gateway-on-the-Go™, Retrofit kit without EMM, or Centrifugal Chiller kits)

Three Current Transformers (CT's) are supplied with the SiteLine 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 SiteLine, 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 Spilt-Core CT's on page 20 and Connection of EMM to Line Voltage 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 SiteLine 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 10.

Fuse Block
(Not on Gateway-on-the-Go™, Retrofit kit without EMM, 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 SiteLine, 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

Key Specifications	50A Model	100A Model	200A Model	600A Model	1000A Model	Rogowski Coil Model
Window Size	0.4" (10 mm)	1" (25 mm)	1" (25 mm)	1.25" (31.8 mm)	2" (50.8 mm)	5"
Current Range	0.25 – 80A AC	1 - 200A AC	1 – 300A AC	12 – 780A AC	20 – 1300A AC	10 – 1300A AC
Output	333 mV at rated current	333 mV at rated current	333 mV at rated current	333 mV at rated current	333 mV at rated current	333 mV at rated current
Ratio Error	<0.5% from 0.25 – 80A AC (typical)	<0.3% from 1 – 200A AC (typical)	<1.0% from 1 – 300A AC (typical)	<1% from 12 – 780A AC (typical)	<1% from 20 – 1300A AC (typical)	<1% from 10 – 1300A AC (typical)
Phase Error	<1.5° from 1 – 80A AC <2° from 0.25 – 1A AC	<0.5° from 1 – 200A AC	<0.5° from 1 – 300A AC	<2° from 12 – 780A AC	<2° from 20 – 1300A AC	<2° from 10 – 1300A AC

Unpacking

Material shipped loose

Factory Installed SiteLine for Dedicated Equipment

If the SiteLine for Dedicated 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 SiteLine on Chillers

When the SiteLine 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™, Retrofit kit without EMM, or Centrifugal Chiller kits)
- Fuse Block (Not on Gateway-on-the-Go, Retrofit kit without EMM, or Centrifugal Chiller kits)
- Antenna flags and bases
- Three Current Transformers (CT's) (Not on Gateway-on-the-Go, Retrofit kit without EMM, or Centrifugal Chiller kits)
- 3 ft. USB cable (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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, Retrofit kit without EMM, or Centrifugal Chiller kits)
- 6 ft. EMM Wiring Harness (Not on Gateway-on-the-Go, Retrofit kit without EMM, or Centrifugal Chiller kits)
- Hardware packet, including (1) patch plate with two watertight grommets pre-installed, (1) 0.875" grommet, (2) grounding harnesses, (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 SiteLine for Dedicated Equipment on Rooftop, or Air Handling Unit

When the SiteLine 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 Retrofit kit without EMM kits)
- Antenna flags and bases
- Three Current Transformers (CT's) (Not on Gateway-on-the-Go, Retrofit kit without EMM, or Centrifugal Chiller kits)
- 3 ft. USB cable (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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, Retrofit kit without EMM, or Centrifugal Chiller kits)
- 6 ft. EMM Wiring Harness (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 SiteLine 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 4 Packaged Rooftop, 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 SiteLine retrofit installation should take approximately one hour for a skilled HVAC technician.

Chiller Installation Instructions

Installing M2M Gateway

Prior to installing any SiteLine 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 M2M Gateway 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

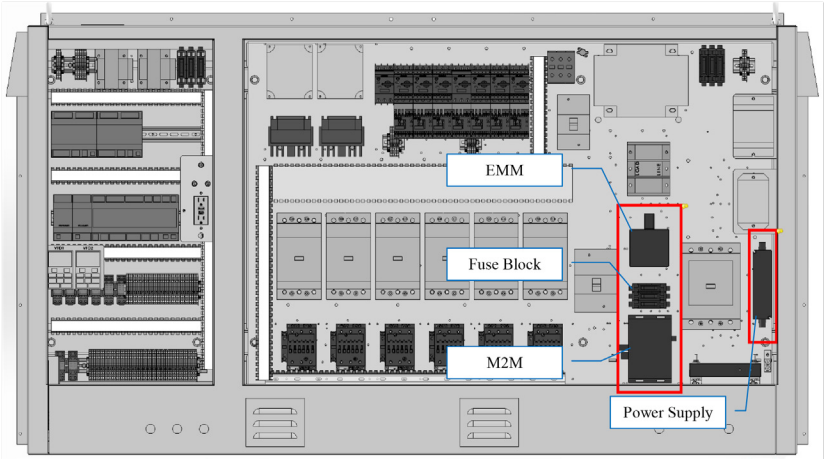


Figure 2: Component Locations – AGZ-D and E Medium Panel

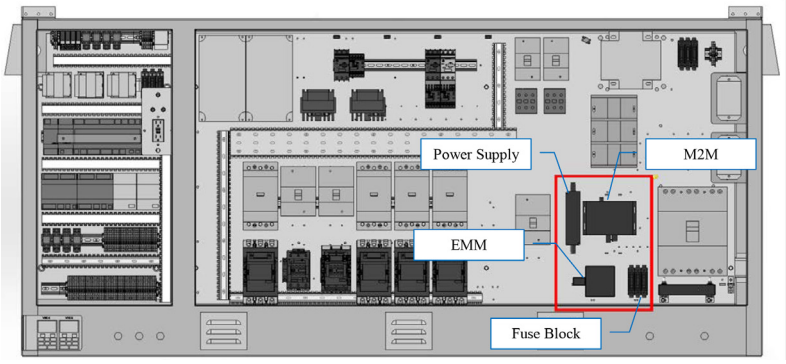


Figure 3: Component Locations – AGZ-D Large Panel

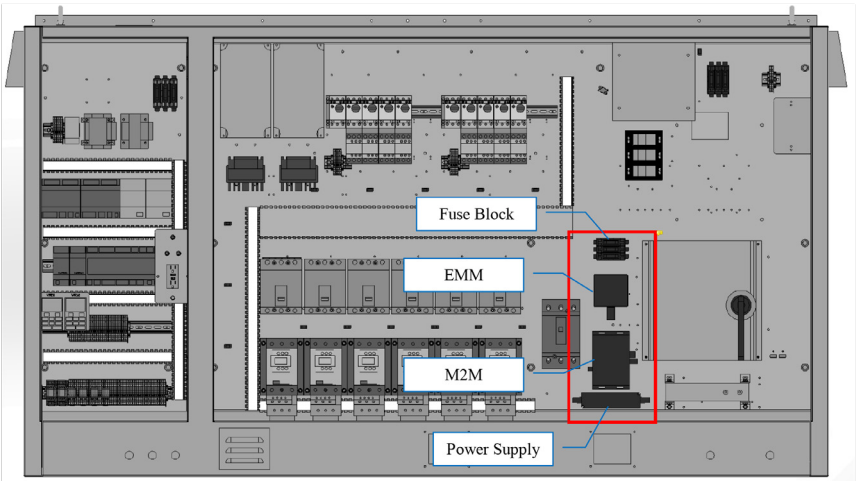


Figure 4: Component Locations – AGZ-E Large Panel

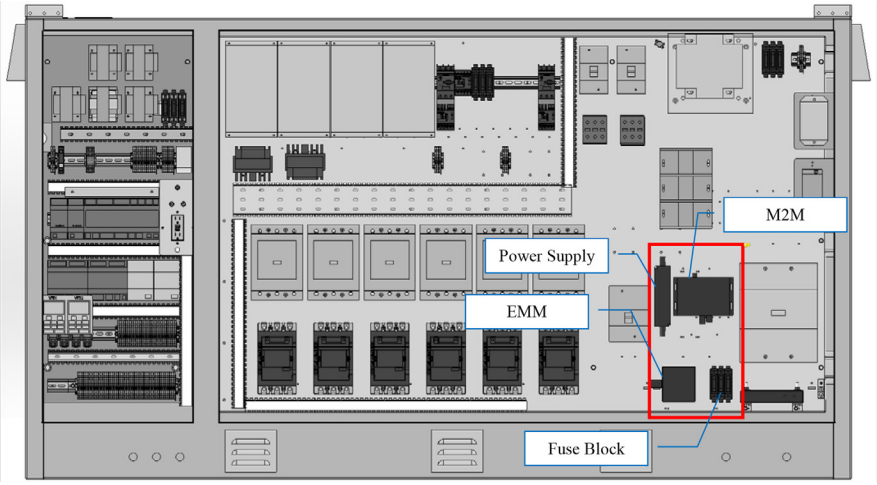


Figure 5: Component Locations – AWV Large Panel

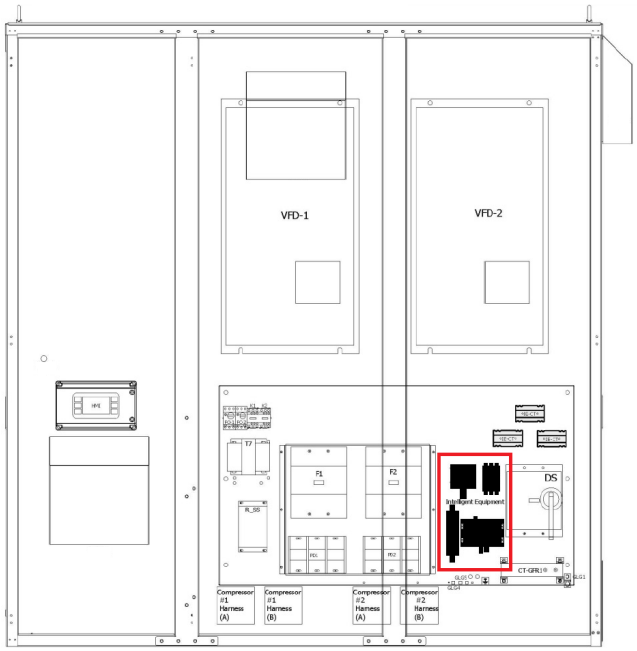


Figure 6: Component Locations – AWS Small Panel

Figure 7: Component Locations – AWS Large Panel

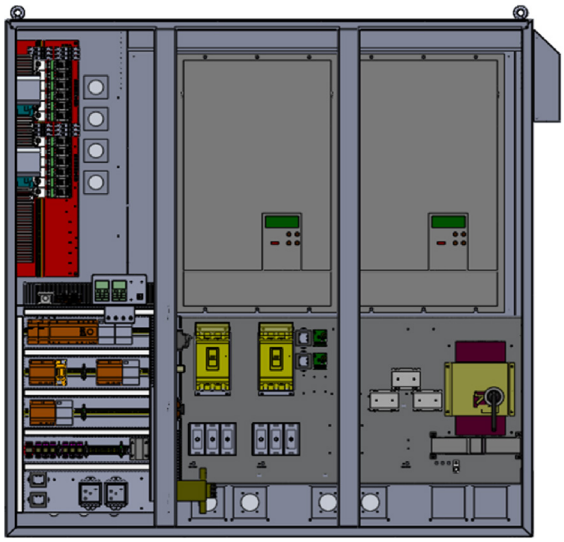


Figure 8: Component Locations – WMC Unit Control Enclosure (Shown with Generation 1 Gateway)

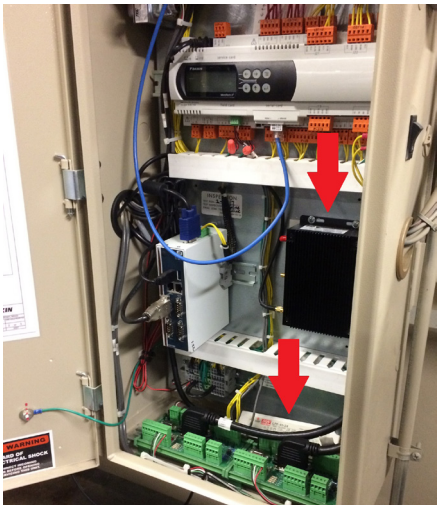


Figure 9: Component Locations - WSC, WDC, and WCC Unit Control Enclosure

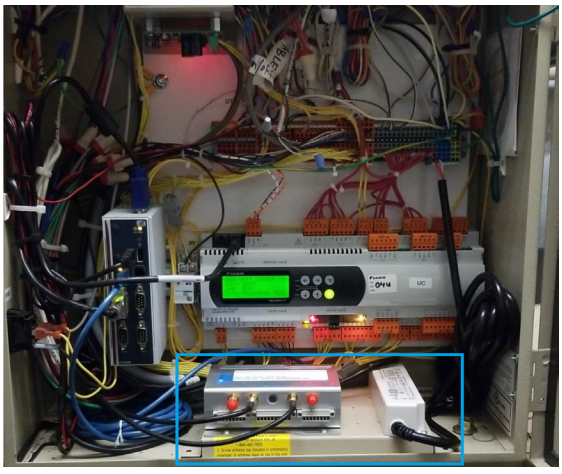


Figure 10: Typical WME Gen 1 Unit Control Enclosure Layout

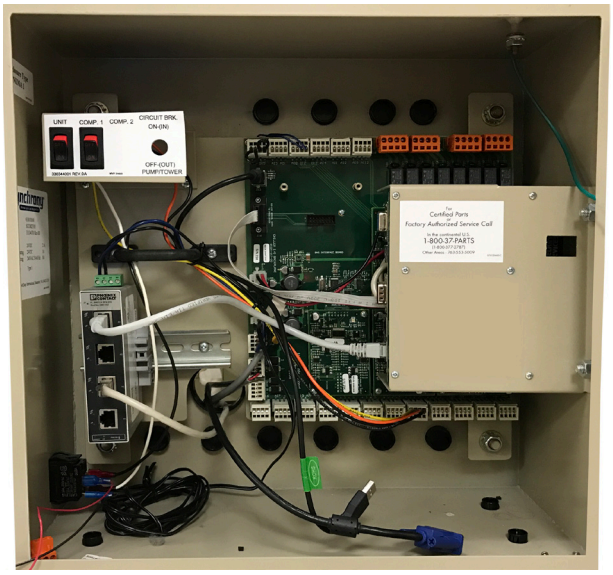


Figure 11: Typical AMZ Control Panel Layout

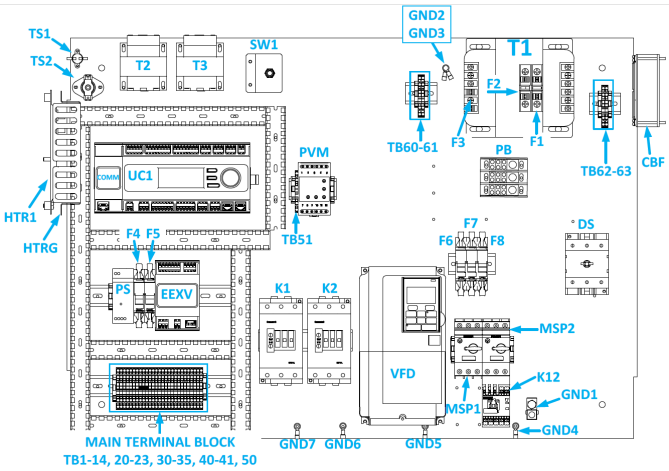


Figure 12: Installation of Grounding Ring to M2M Gateway (Shown with Generation 1 Gateway)

Installing Energy Management Module
(Not on Gateway-on-the-Go, Retrofit kit without EMM, or Centrifugal Chiller kits)

Prior to installing any SiteLine 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 SiteLine hardware as space allows within the control enclosure, ensuring adequate separation is maintained between low votage 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 SiteLine 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 SiteLine hardware as space allows within the control enclosure. Figure 6 and Figure 7 provide a typical layout of AWS small and large enclosures. On WMC, WSC, WDC, WCC and WME Gen 1 chillers, only the M2M Gateway and Gateway power supply are used. Locate these components within the unit control enclosure as space allows. 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. Based on available space, the Gateway and power supply may need to be removed from the provided backplane. 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, Retrofit kit without EMM, or Centrifugal Chiller kits)

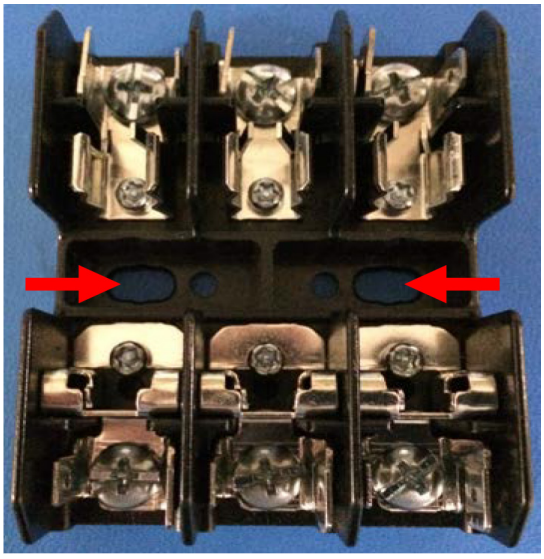
Prior to installing any SiteLine components, power must be removed from the unit. Power must be removed at the breaker panel serving the unit, and proper lockout/tagout procedures should be followed for the duration of the install. After removing unit power at the breaker panel, the installer must verify 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 SiteLine 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)

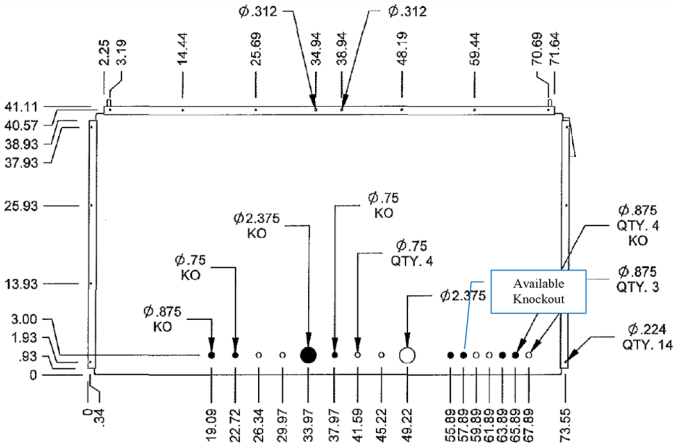


Figure 15: AGZ Medium Enclosure Knockout Location (Rear of Enclosure) AGZ Large Enclosure Knockout

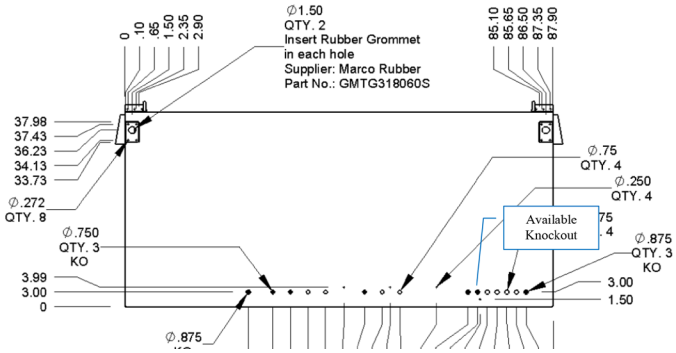


Figure 16: Location (Rear of Enclosure)

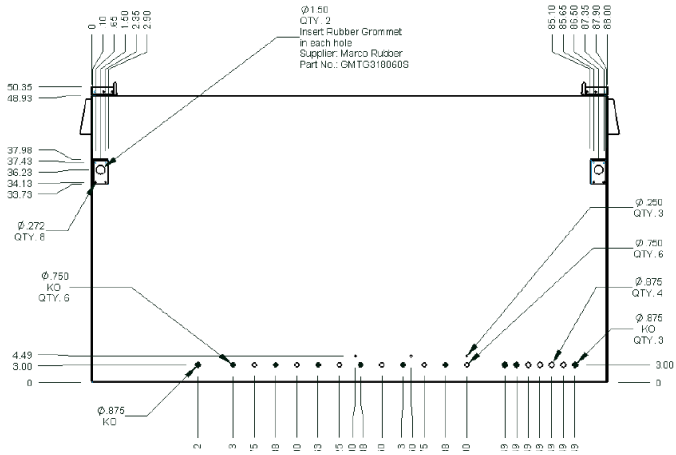


Figure 17: AWV Large Enclosure Knockout Location (Rear of Enclosure)

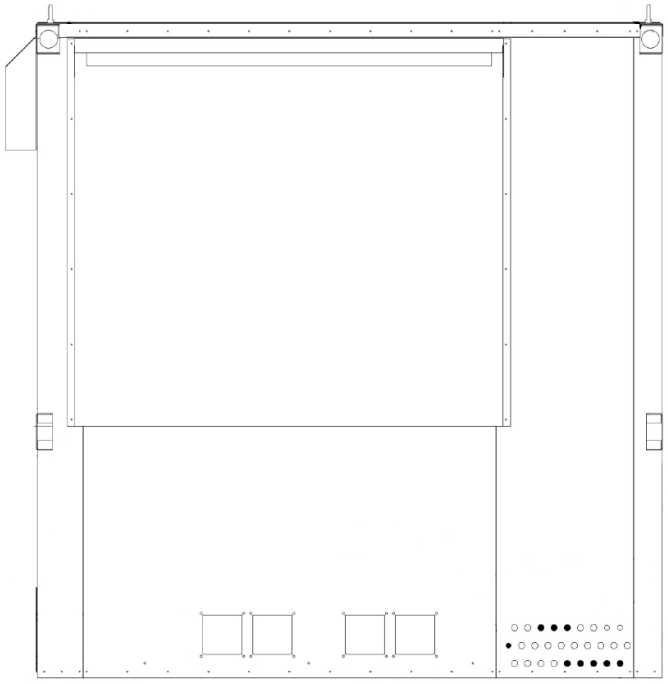


Figure 18: AWS Small Enclosure Knockout Location (Rear of Enclosure)

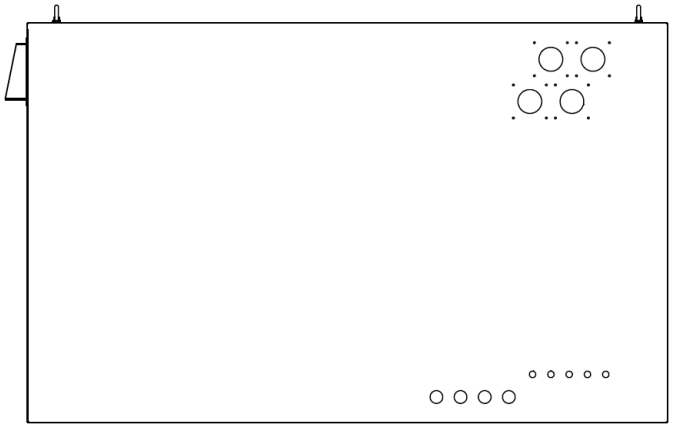


Figure 19: AWS Large Enclosure Knockout Location (Rear of Enclosure)

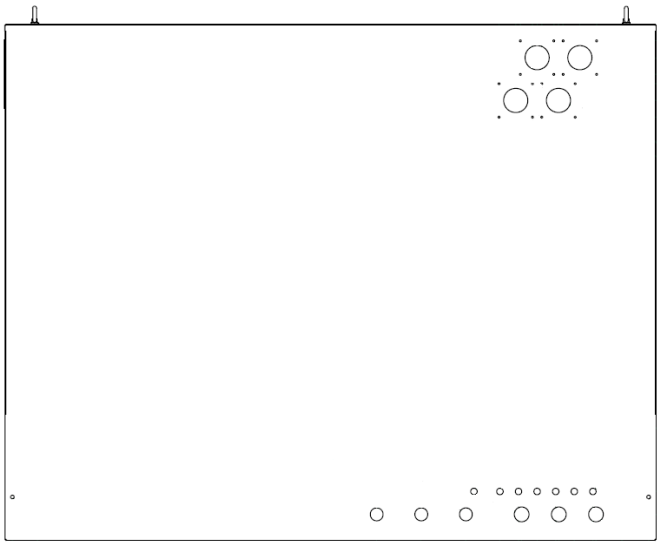
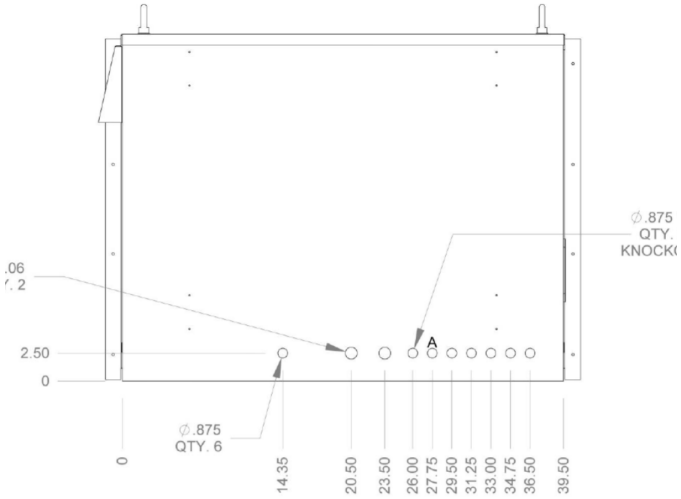


Figure 20: AMZ Enclosure Knockout Location (Rear of Enclosure)



Wiring Interconnections

⚠ DANGER

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

Prior to installing SiteLine 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 4 Packaged Rooftop, 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

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).

Figure 21: ‘ETH’ and ‘T_{IP}’ Ports (Generation 1 Gateway)

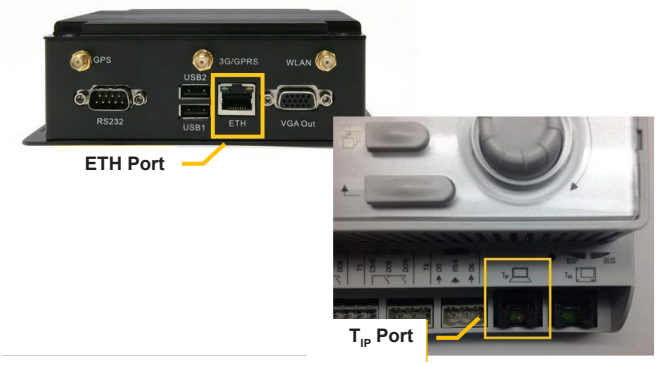
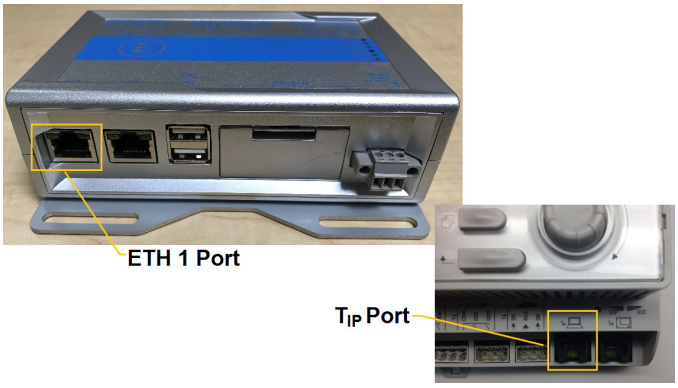


Figure 22: ‘ETH1’ and ‘T_{IP}’ Ports (Generation 2 Gateway)



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, Retrofit kit without EMM, 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)

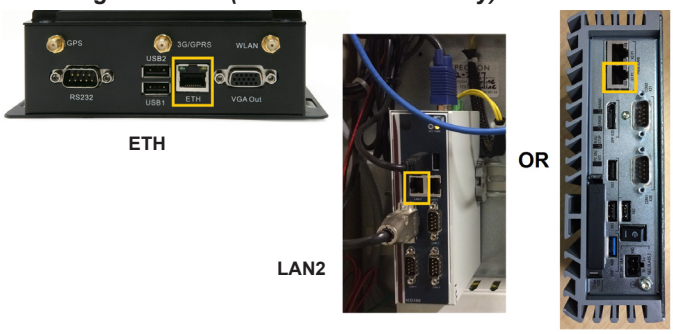


Figure 26: M2M Gateway Connection to MicroTech II Centrifugal Chillers (Generation 2 Gateway)

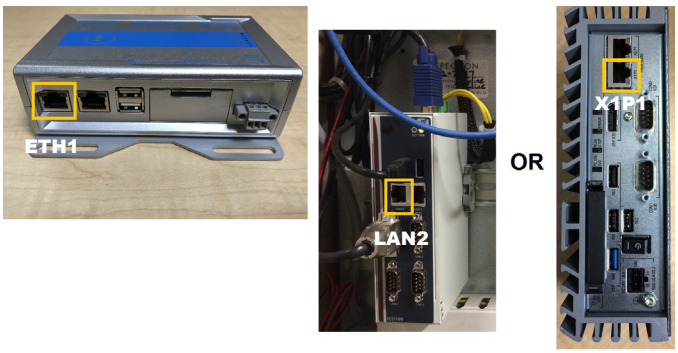


Figure 27: M2M Gateway Connection to WME Gen 1 Chiller (Generation 1 Gateway)

ETH

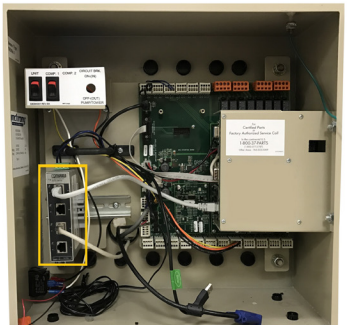
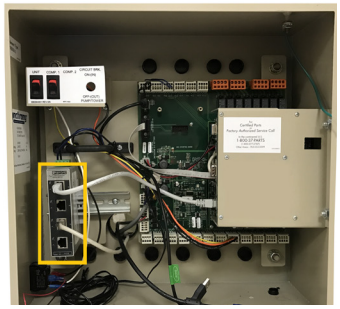


Figure 28: M2M Gateway Connection to WME Gen 1 Chiller (Generation 2 Gateway)



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 sightly 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 or red) conductor to terminal TB1-11B and the Neutral (blue or white) conductor to terminal TB1-32B (Figure 31). On a MicroTech III AWV or AWS unit, connect the Line (brown or red) conductor to terminal MQ-11 and the Neutral (blue or white) conductor to terminal MQ-17 (Figure 32).

On a MicroTech II WMC chiller, connect the Line (brown or red) conductor to terminal L1-30 and the Neutral (blue or white) conductor to terminal L2-29 (Figure 33). On WCC, WDC, and WSC chillers, connect the Line (brown or red) conductor to 120VAC terminal L3 in the compressor cabinet and the Neutral (blue or white) 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 or red) conductor to terminal 106 of the auxiliary terminal strip and the Neutral (blue or white) 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 or red) conductor to terminal TBH-7 and the Neutral (blue or white) conductor to terminal TB120N-60 (Figure 36).

Figure 29: M2M Power Input (Generation 1 Gateway)

Figure 30: M2M Power Input (Generation 2 Gateway)

Figure 31: AGZ-D and AGZ-E 120VAC Wiring

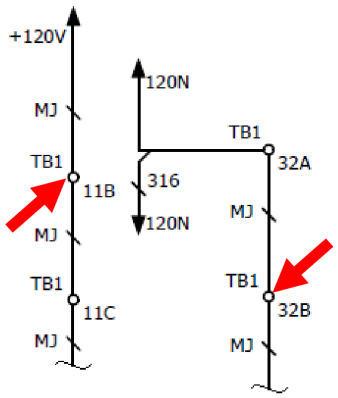


Figure 32: AWV and AWS 120VAC Wiring

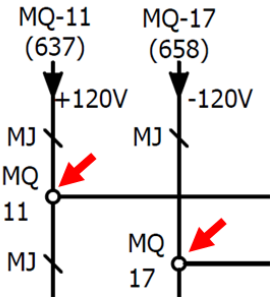


Figure 33: WMC 120VAC Wiring

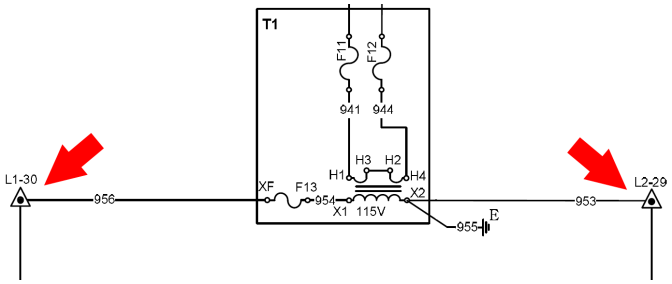


Figure 34: WCC, WDC, and WSC 120VAC Wiring

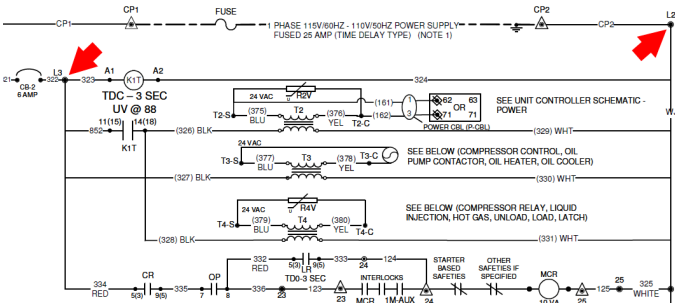


Figure 35: WME Gen 1 120VAC Wiring

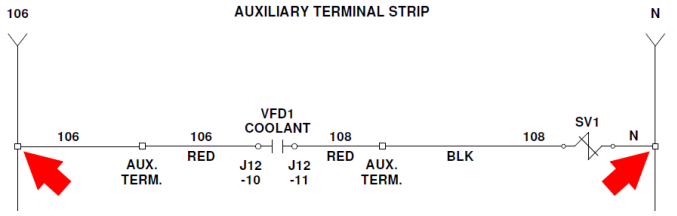
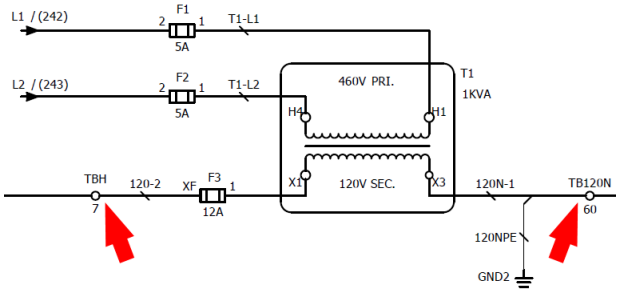


Figure 36: AMZ 120VAC Wiring



Connection of EMM to Split-Core CT's
(Not on Gateway-on-the-Go, Retrofit kit without EMM, 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).

Figure 37: Hinged Cover Screw Locations

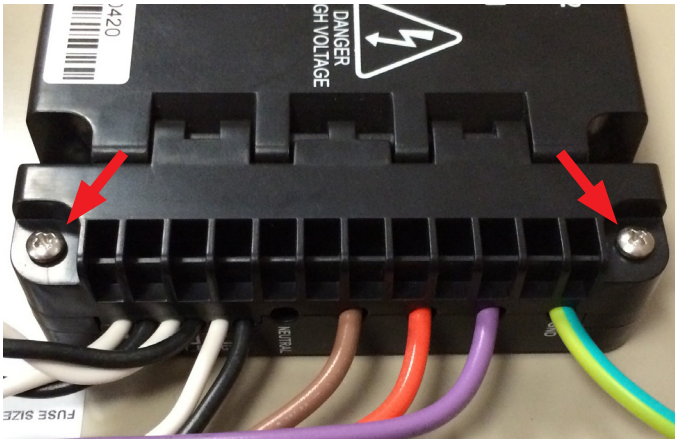
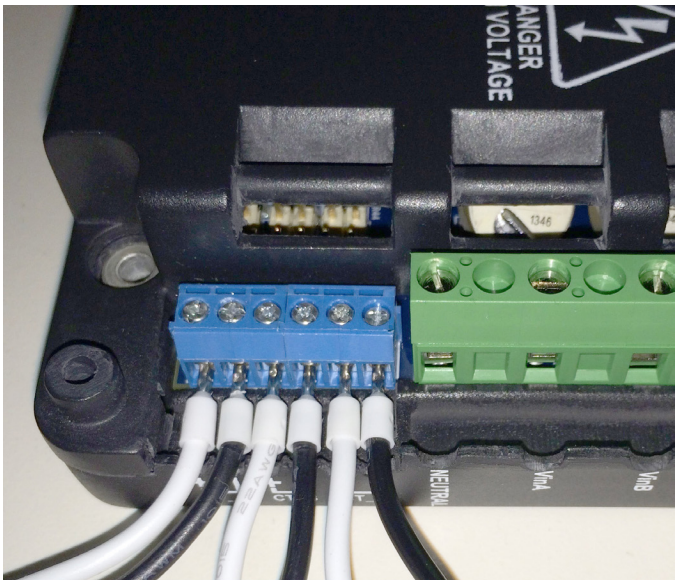


Figure 38: Connection of EMM to CT's



Rogowski Coil Installation Instructions

Chillers with larger incoming power bundles will require the use of a flexible CT called a Rogowski coil. An updated Rogowski Coil kit has been developed for SiteLine for Dedicated Equipment. The components included with the Rogowski Coil kit include:

- (1) Rogowski Coil Integrator and (1) Power Supply installed on Din Rail and pre-wired (Figure 39)
- (3) Rogowski Coil CT's (Figure 40)

Figure 39: Pre-wired Integrator and Power Supply

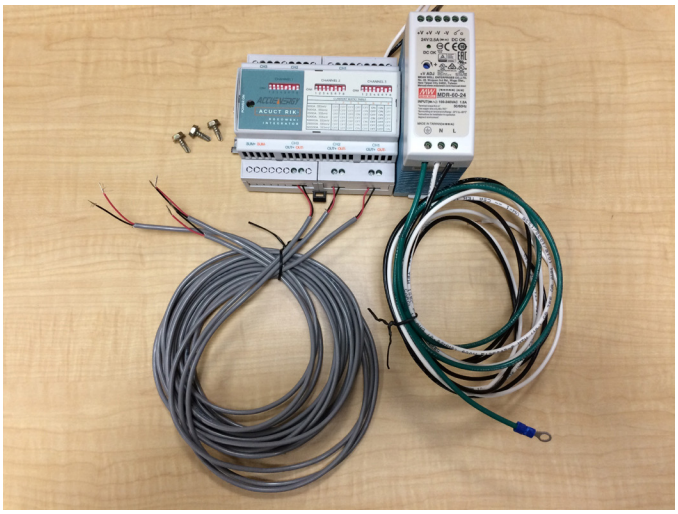


Figure 40: Rogowski Coil CT's

1. Using the provided sheet metal screws and Din Rail, install the Rogowski Coil Integrator and Power Supply at an available location within the Unit Control Panel. The mounting location must be within reach of the Rogowski Coil leads (6.5'). See Figure 41 for an example panel layout (actual configuration may vary).

Figure 41: AWV Control Panel Example

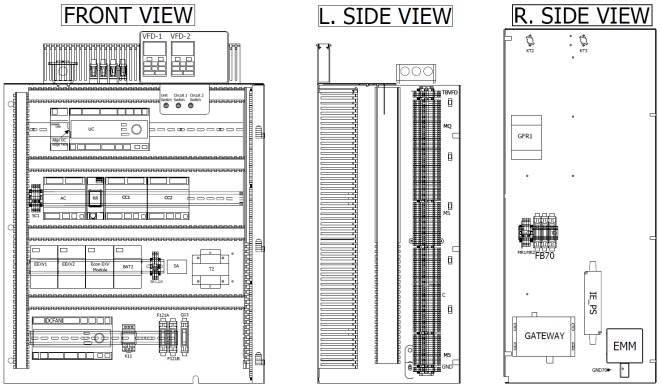


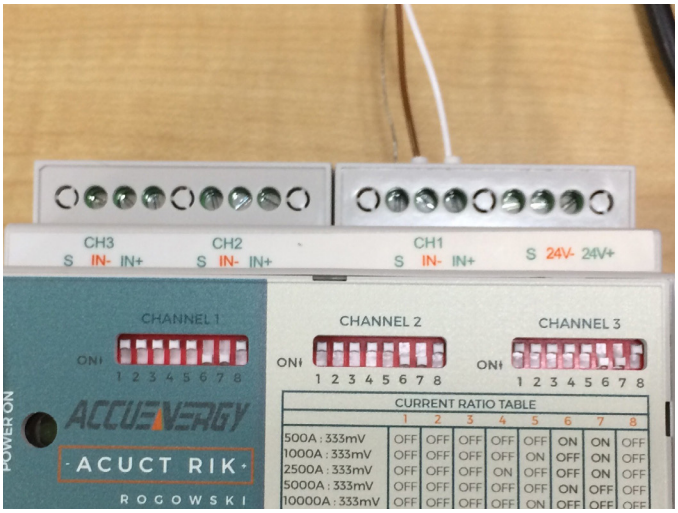
Figure 43: Indicator Arrow

2. Once the Rogowski Coil Integrator and Power Supply are installed in the control panel, install each of the three Rogowski Coils on a leg of three-phase power (Figure 42). Open the Rogowski Coil by pulling apart the black connector of the CT. Install the CT around the conductor to be measured with the arrow on the Rogowski coil connector pointing to the load (Figure 43).

3. Connect the leads of the CT installed on line L1 to the CH1 input on the Rogowski Coil Integrator. Connect the white lead to the 'IN+' terminal, the brown lead to the 'IN-' terminal, and the shield wire to the 'S' terminal (Figure 44). Repeat the same process for the other lines, ensuring L2 is connected to CH2 and L3 is connected to CH3.

Figure 42: Installed Rogowski Coils

Figure 44: CT Wiring to Input of Integrator



4. Connect the pre-wired leads on CH1 'OUT+' and CH1 'OUT-' (Figure 45) to the 'CT_A+' and 'CT_A-' terminals on the Energy Management Module (EMM). Connect the Red lead to 'CT_A+' and the Black lead to 'CT_A-' (Figure 46). Repeat the same process for the other outputs, ensuring CH2 is connected to CT_B and CH3 is connected to CT_C.

Figure 45: CH1 Output Connections

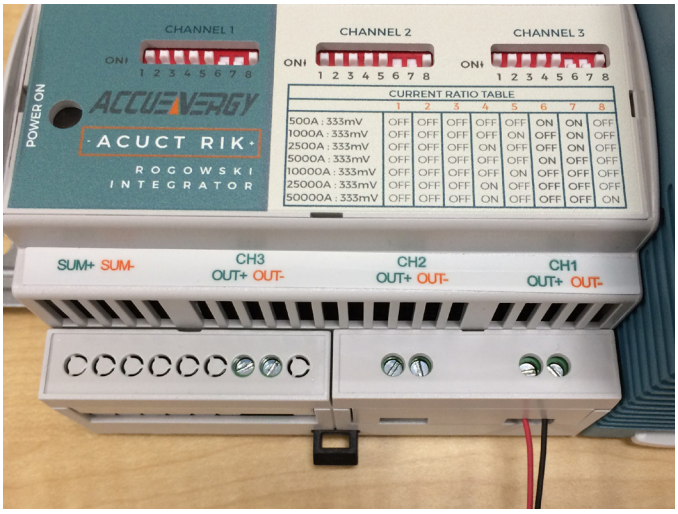
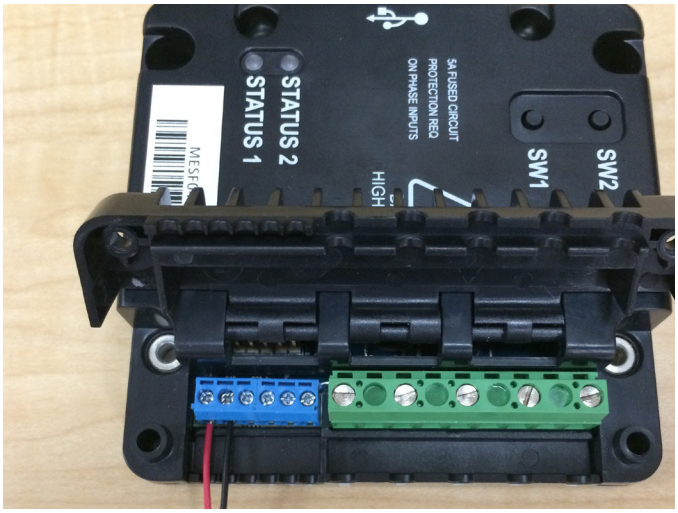
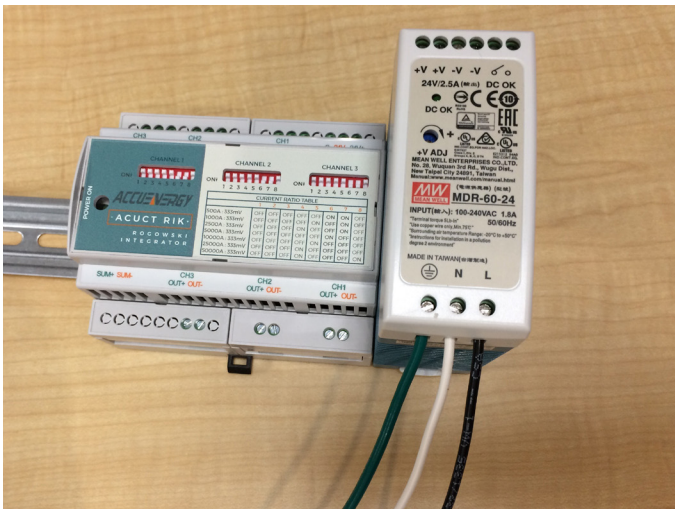


Figure 46: Connections to CT_A on EMM



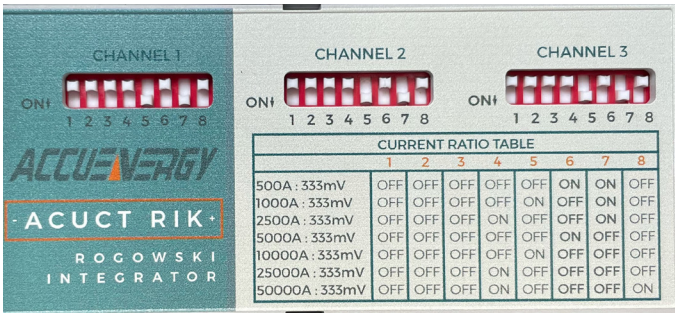
5. The Power Supply 24VDC comes pre-wired to the Rogowski Coil Integrator. The Power Supply is provided with leads pre-wired to the 120VAC inputs (Figure 47). To connect the Power Supply to 120VAC, wire the Black lead to 120VAC Line, the White lead to 120VAC Neutral, and the Green lead to unit Ground. Field verify available 120VAC Line, Neutral and Ground connections on the unit as-built wiring diagram.

Figure 47: 120 VAC Leads on Power Supply



6. Ensure each integrator channel is set for the 1000 Amp range. Only switches 5 and 7 should be in the “ON” position (Figure 48).

Figure 48: Integrator Channel Amp Range Setting



Installing Spilt-Core CT's

(Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 49). Ensure that the "Load" indicator on the CT is oriented correctly.

Figure 49: CT Installation

Connection of EMM to Line Voltage

(Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 50).

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 51).

Figure 50: EMM Connection to Fuse Block

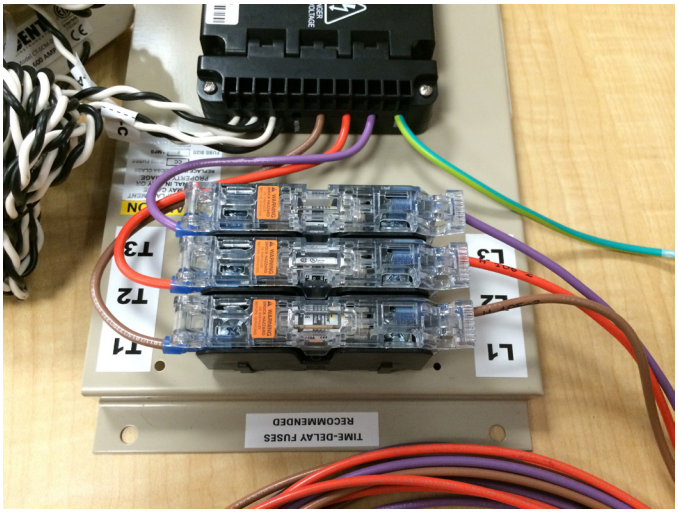
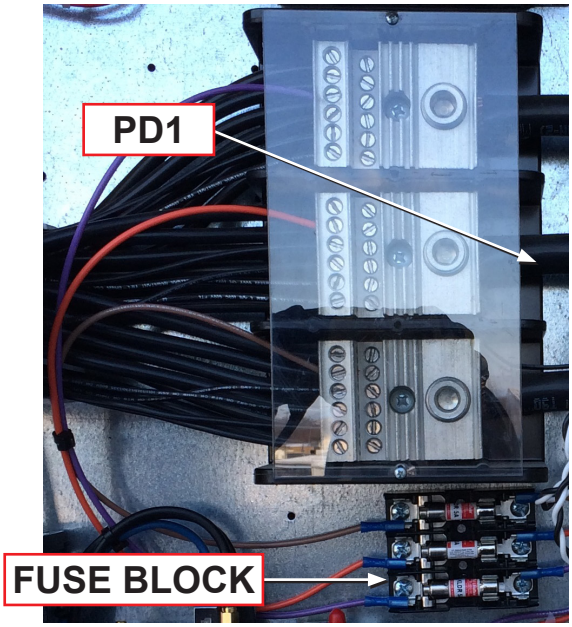


Figure 51: Fuse Block Connected to Line Voltage



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 52). Connect the free ring terminals for both the M2M and EMM to the nearest available grounding lug in the control enclosure (Figure 53).

Once all connections are made to the line voltage side of the EMM, close the hinged cover, and reinstall the screws. Figure 54 depicts an EMM with all high voltage terminations made and the hinged cover reinstalled.

Figure 52: Ground Wire Connected to EMM

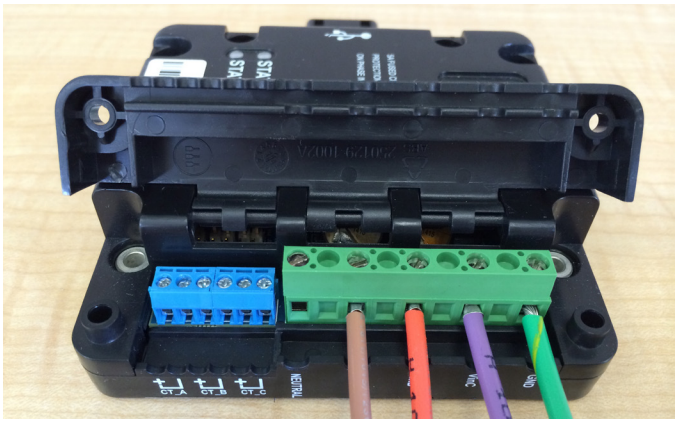
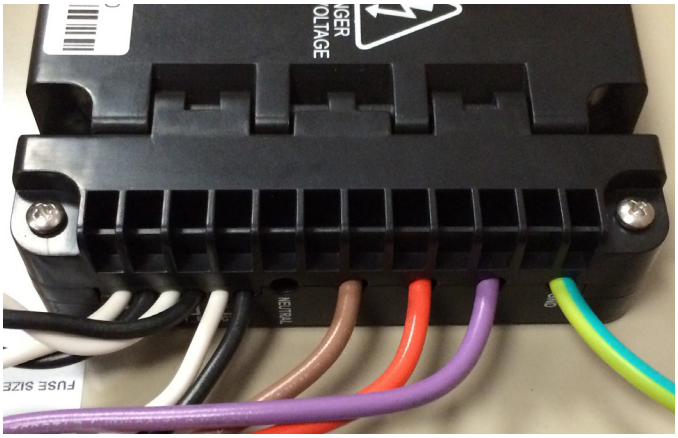


Figure 53: Typical Grounding Lug

Figure 54: EMM Following Reinstallation of Hinged Cover



Antenna Installation

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

⚠ DANGER

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

Prior to installing SiteLine 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 4 Packaged Rooftop, 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.

Mounting

The antennas provided with the kit (Figure 55) 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 37 and Troubleshooting on page 57 of this document.

Figure 55: Wireless Antenna on Magnetic Mounting Base

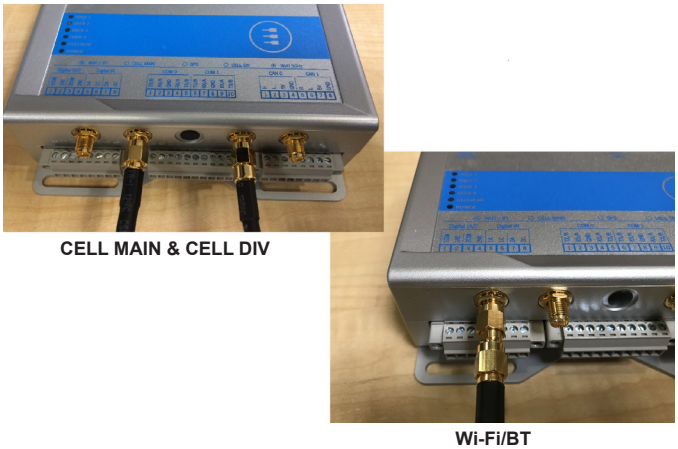
Wiring of Antenna
(If Applicable)

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 56).

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 57).

Figure 56: 3G and WLAN Connections (Generation 1 Gateway)

Figure 57: Cellular and Wi-Fi Connections (Generation 2 Gateway)



CELL MAIN & CELL DIV

Wi-Fi/BT

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 Retrofit Kit. Next, connect the USB end of the USB-to-Ethernet Adapter to the port labeled, “USB2”, on the M2M Gateway (Figure 58).

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 59).

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

Figure 58: LAN Connection (Generation 1 Gateway)

Figure 59: LAN Connection (Generation 2 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 Retrofit kit without EMM.** 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 60 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 60).

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 61), and the EMM bracket is designed for installation on the inside of the lower, right internal enclosure door (Figure 62).

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 63 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. Figure 64 and Figure 65 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.

For DPSA (Rebel Applied) units, the gateway bracket is designed for installation on the left side of the Main Control Panel (Figure 66).

Figure 60: DPS Bracket Mounting Locations (Generation 1 Gateway shown)

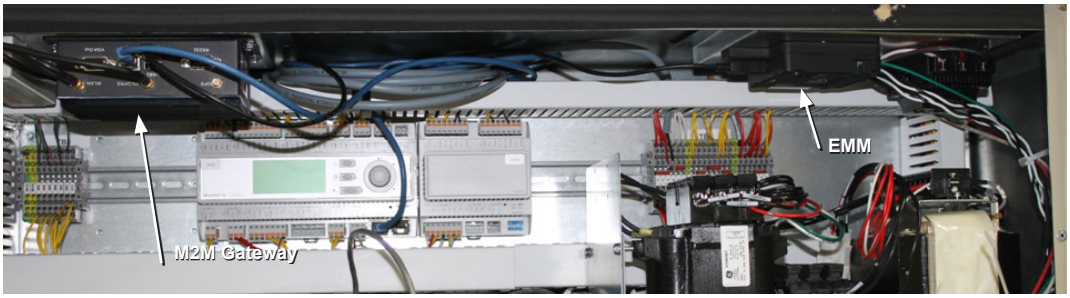


Figure 61: M2M Bracket Mounting Location – RoofPak (Generation 1 Gateway shown)

Figure 62: EMM Bracket Mounting Location – RoofPak

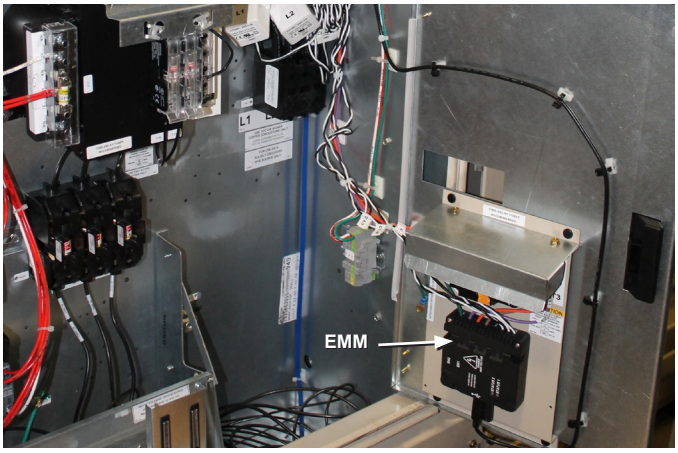


Figure 63: Example Alternative Location for Mounting Brackets – DPS C-Cabinet Unit (Generation 1 Gateway shown)

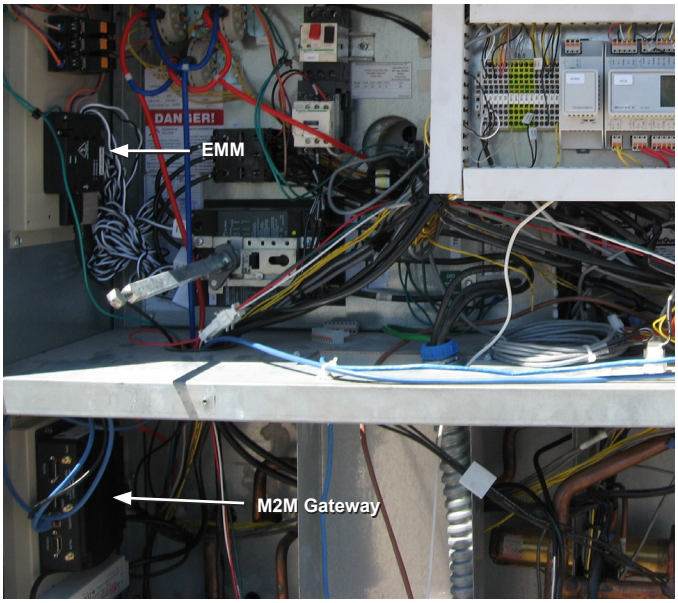


Figure 64: SWP Control Enclosure Example (460V, 6-Compressor Unit)

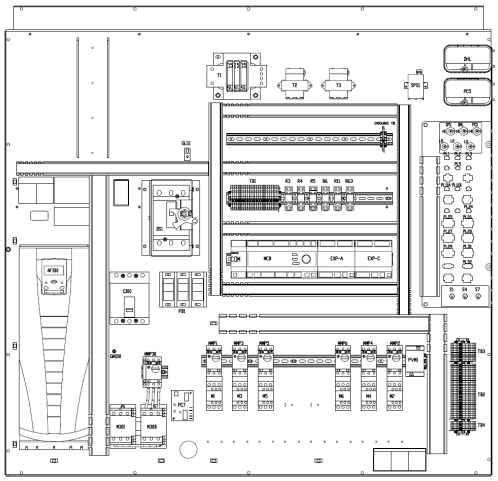


Figure 65: SWT Control Enclosure Example (460V, 6-Compressor Unit)

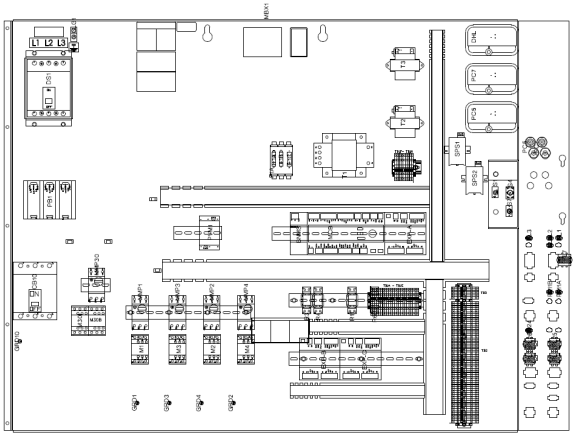


Figure 66: DPSA (Rebel Applied) Gateway Bracket Mounting Location

Wire Routing

⚠ DANGER

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

Prior to installing SiteLine 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 4 Packaged Rooftop, 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 67) away from any cables and conductors connected to the M2M Gateway.

Figure 67: Line Voltage Side of EMM

Figure 68 indicates the expected routing for a typical Maverick II unit, Figure 69 indicates the expected routing for a typical Rebel unit, and Figure 70 and Figure 71 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. For DPSA (Rebel Applied) installations, the Ethernet cable will be routed into the Low Voltage Panel, directly behind the Gateway mounting location. The power and antenna cables will be routed to the left-side of the Main Control Panel.

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 and Rebel Applied installations, all non-600V-rated wires (Ethernet, Coax, USB) must be wrapped in the 600V-rated insulation sleeve provided with the retrofit kit.

Figure 68: Typical Maverick II Wire Routing (Generation 1 Gateway shown)

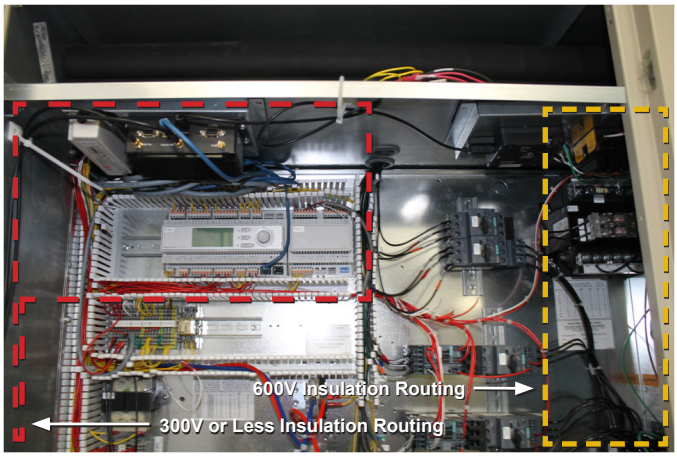


Figure 69: Typical Rebel Wire Routing

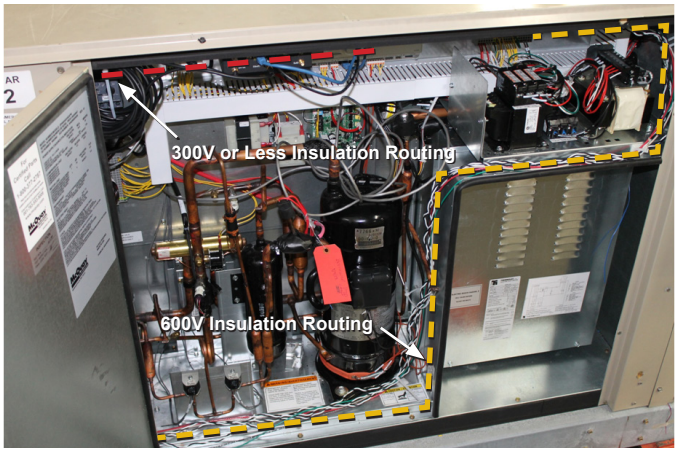


Figure 70: Typical RoofPak Wire Routing – Left-Side of Enclosure (Generation 1 Gateway shown)

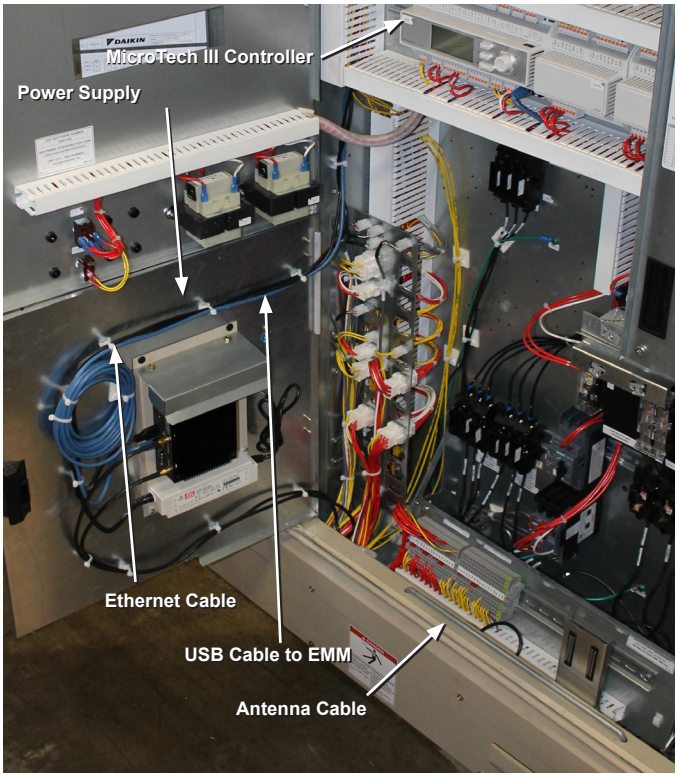
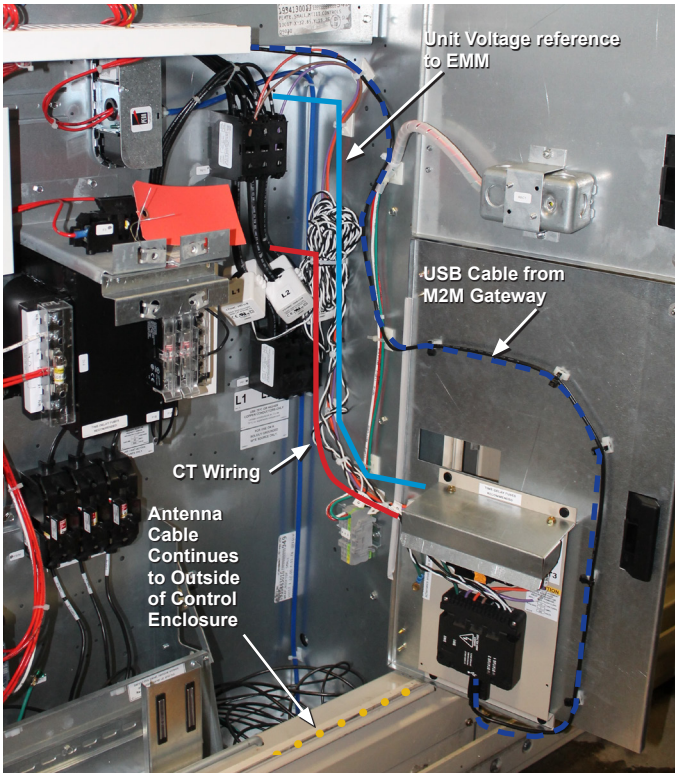


Figure 71: Typical RoofPak Wire Routing - Right-Side of Enclosure



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 72), or out the condenser box section of RoofPak units (Figure 73). For SWP and SWT units, the installer should field-verify an appropriate location for cables to exit the control enclosure. For DPSA (Rebel Applied) installations, the Ethernet cable will be routed into the Low Voltage Panel, directly behind the Gateway mounting location. The power and antenna cables will be routed to the left-side of the Main Control Panel (Figure 74).

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 75). 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 76) 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 77).

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.

Figure 72: Recommended Location for DPS and MPS Control Enclosure Penetration

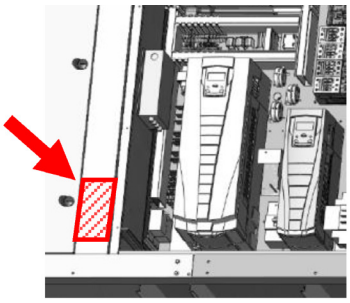


Figure 73: Recommended Location for RoofPak Control Enclosure Penetration

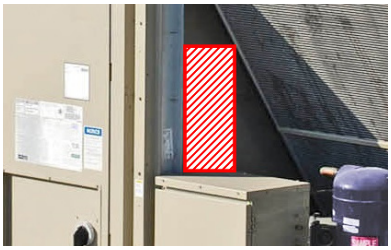


Figure 74: Rebel Applied Cabinet Knockouts

Figure 75: Patch Plate with One Grommet Removed

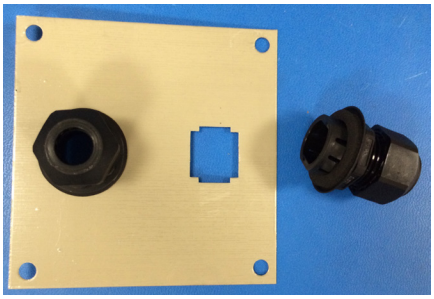


Figure 76: 5/8" Bushing for Installation Inside Control Enclosure

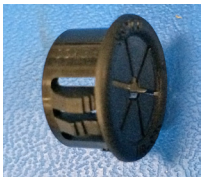
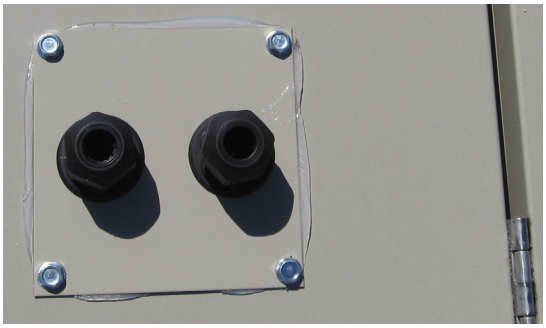


Figure 77: Patch Plate Installed



Wiring Interconnections

⚠ DANGER

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

Prior to installing SiteLine 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 4 Packaged Rooftop, 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 MicroTech III or 4

The Generation 1 M2M Gateway is connected to the MicroTech III or MicroTech 4 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 or MicroTech 4 Unit controller port marked, “TIP” (Figure 78).

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 or MicroTech 4 Unit controller port marked, “TIP” (Figure 79).

Figure 78: ETH and TIP Ports (Generation 1 Gateway)

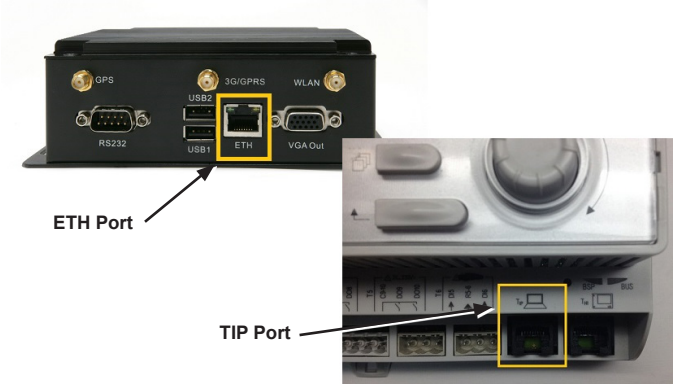
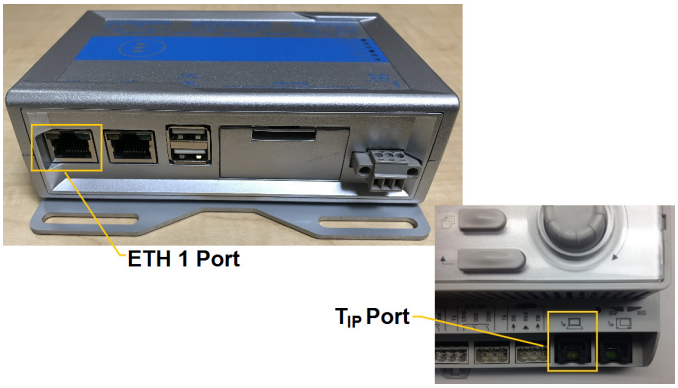


Figure 79: ‘ETH1’ and ‘T_{IP}’ Ports (Generation 2 Gateway)



M2M Gateway Connection to EMM

(Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 80).

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 81).

Figure 80: USB Connections (Generation 1 Gateway)

Figure 81: USB Connections (Generation 2 Gateway)

Figure 83: M2M Gateway Power Input (Generation 2 Gateway)

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 82).

Generation 2 Gateways use a sightly 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 83).

Figure 82: M2M Gateway Power Input (Generation 1 Gateway)

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 or red) conductor to terminal TB1-1 and the Neutral (blue or white) conductor to terminal TB1-3 (Figure 84). 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 or red) conductor to terminal TB1A-1, 2, 3, or 4 and the Neutral (blue or white) conductor to terminal TB1A-5, 6, 7, 8, or 9 (Figure 85).

On a MicroTech III RPS, RPR, RDT, RFS, RDS or RAH unit, connect the Line (brown or red) conductor to terminal TB1A-1, 2, 3, or 4, and the Neutral (blue or white) conductor to terminal TB1A-5, 6, 7, 8, or 9 (Figure 86).

On a MicroTech III SWP or SWT unit, connect the Line (brown or red) conductor to terminal TB1A-1, 2, 3, or 4, and the Neutral (blue or white) conductor to terminal TB1A-5, 6, 7, or 8 (Figure 87).

On a MicroTech 4 DPSA unit, connect the Line (brown or red) conductor to terminal TBHV-120V and the Neutral (blue or white) conductor to terminal TBHV-N120 (Figure 88).

Figure 84: Typical MicroTech III Rebel A and B 120VAC Wiring

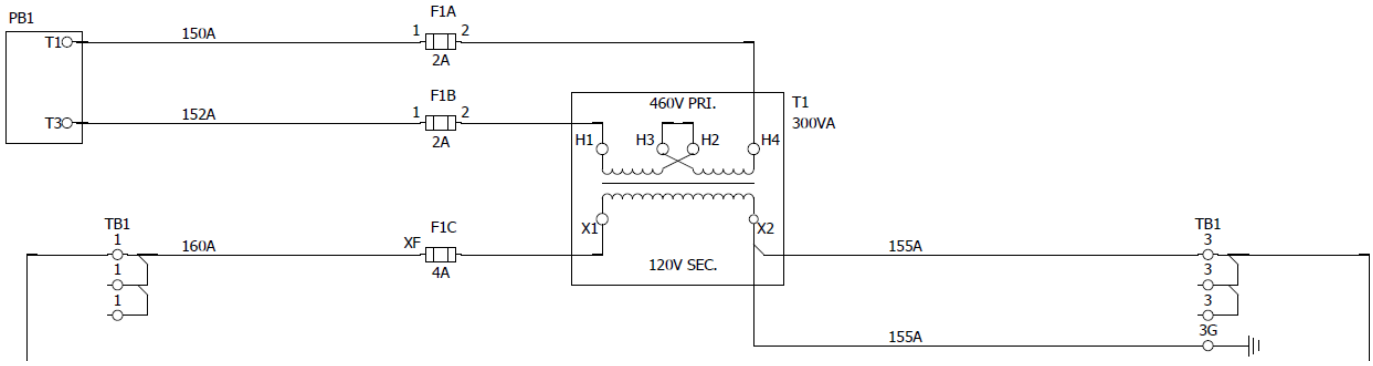


Figure 85: Typical MicroTech III Maverick II 120VAC Wiring

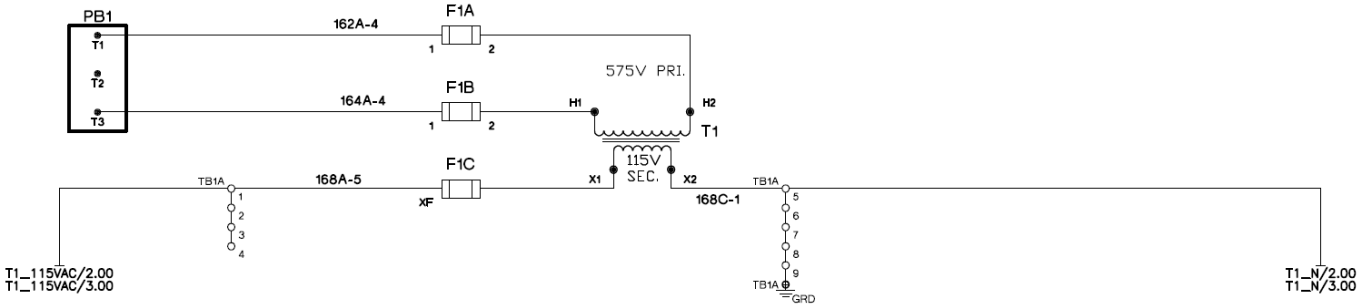


Figure 86: Typical MicroTech III RoofPak Unit 120VAC Wiring

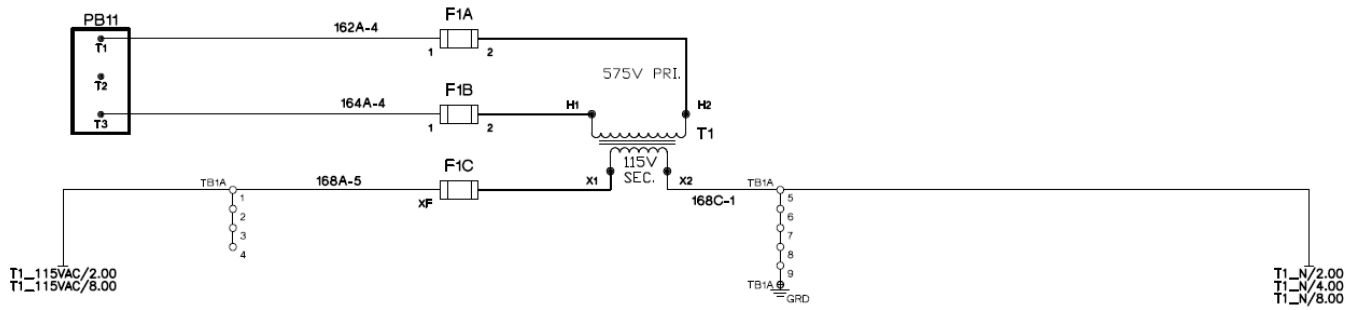


Figure 87: Typical MicroTech III SWP and SWT Unit 120VAC Wiring

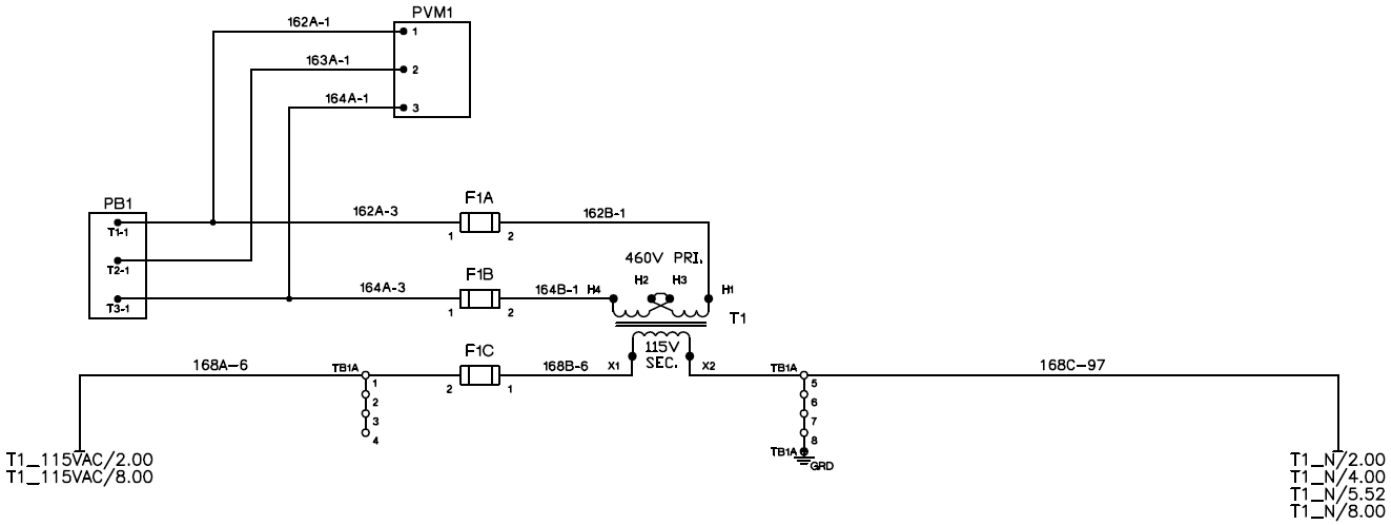
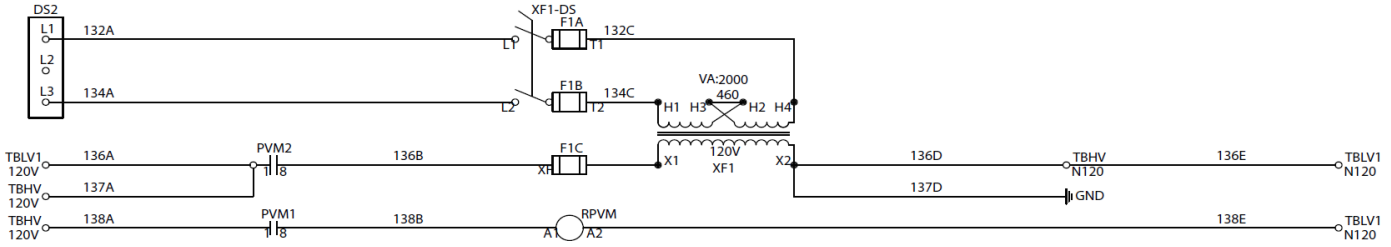


Figure 88: Typical MicroTech 4 Rebel Applied 120VAC Wiring



Connection of EMM to CT's (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 89), 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 90).

Figure 89: Hinged Cover Screw Locations

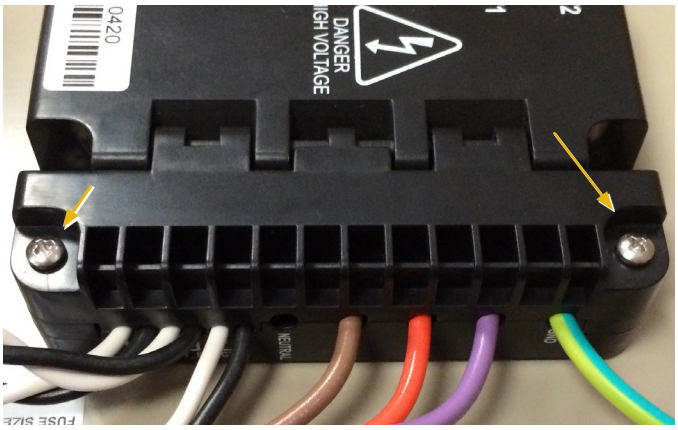
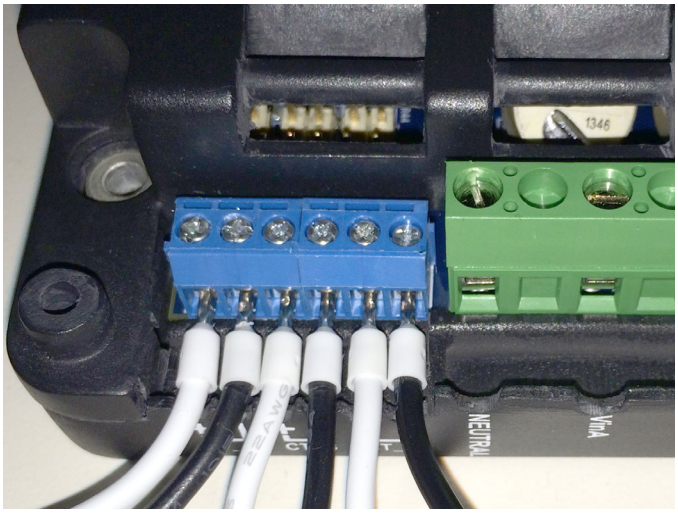


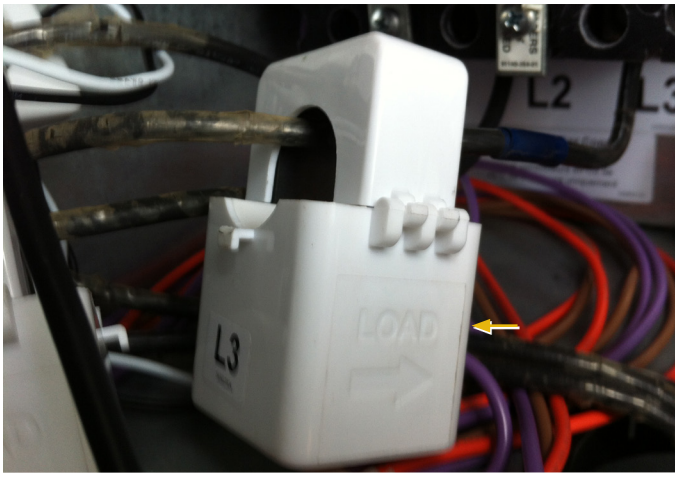
Figure 90: Connection of EMM to CT's



Installing CT's (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 91). Ensure that the "Load" indicator on the CT is oriented correctly.

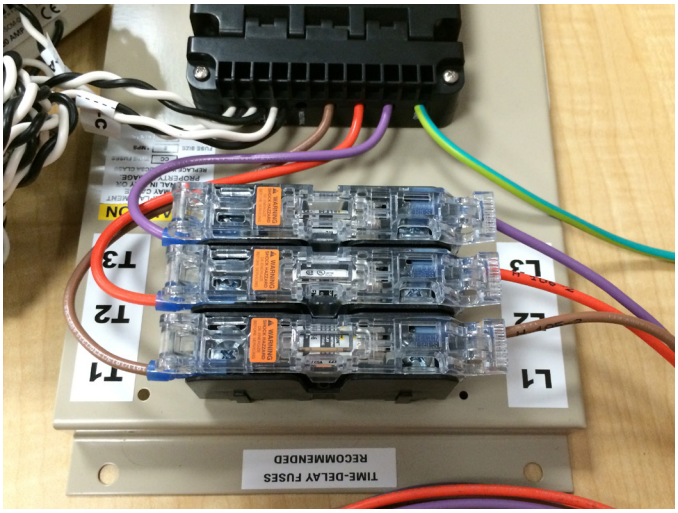
Figure 91: CT Installation



Connection of EMM to Line Voltage (Not on Gateway-on-the-Go, Retrofit kit without EMM, 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 92).

Figure 92: EMM Connection to Fuse Block



For DPS and MPS Units, use the 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 93).

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 94). 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 95 depicts an EMM with all high voltage terminations made and the hinged cover reinstalled.

Figure 93: DPS and MPS Fuse Block Connected to Line Voltage

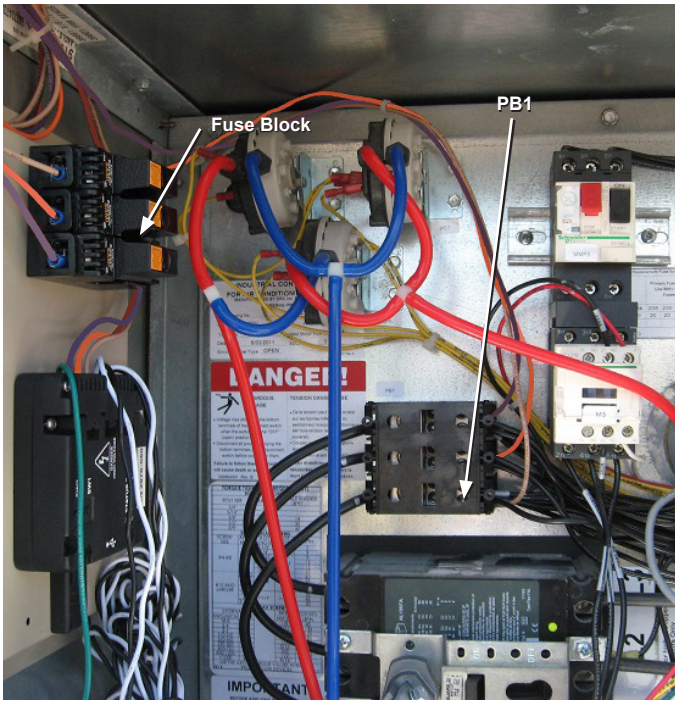


Figure 94: RoofPak Fuse Block Connection to Line Voltage

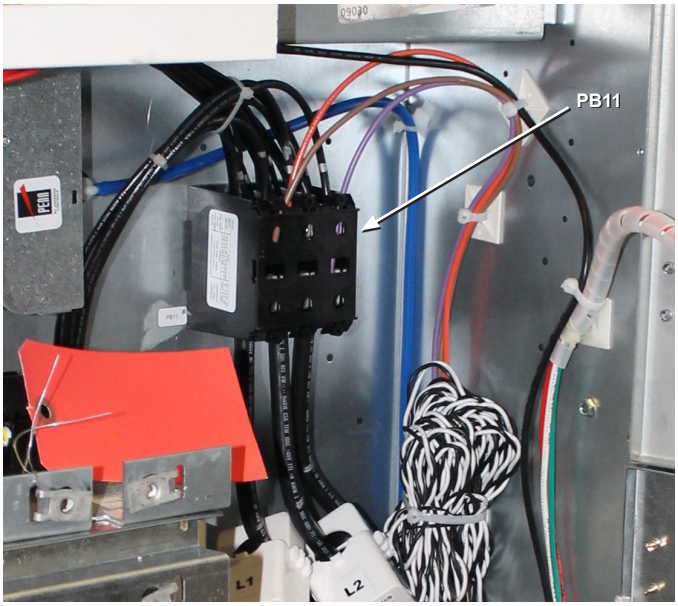
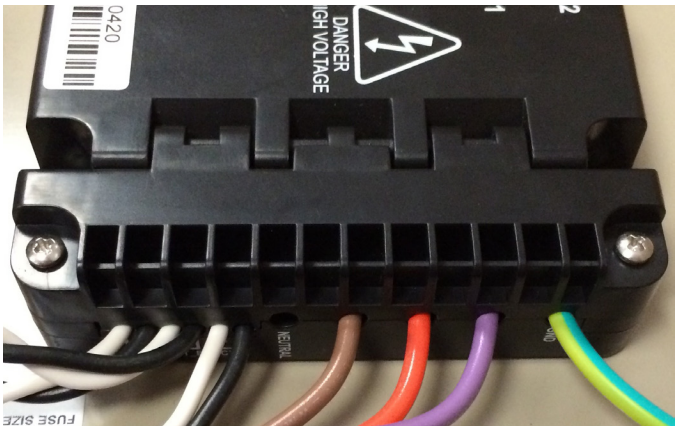


Figure 95: EMM Following Reinstallation of Hinged Cover



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 SiteLine 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 4 Packaged Rooftop, 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 kit (Figure 96) 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 37 and Troubleshooting on page 57 of this document.

Figure 96: Wireless Antenna on Magnetic Mounting Base

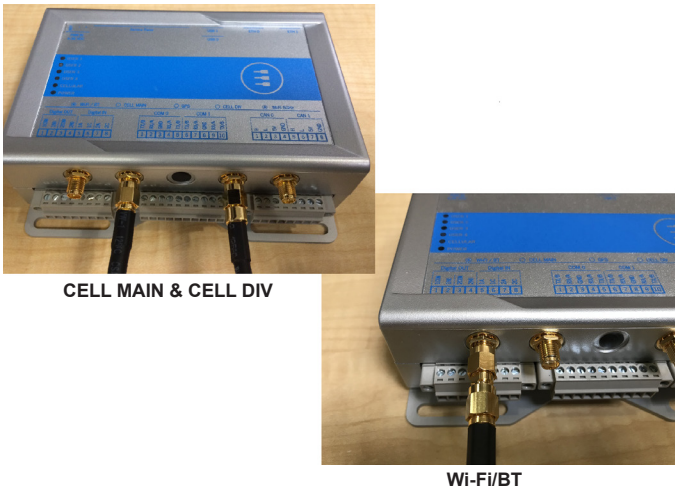
Wiring of Antennas (If Applicable)

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 97).

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 98).

Figure 97: 3G and WLAN Connections (Generation 1 Gateway)

Figure 98: Cellular and Wi-Fi Connections (Generation 2 Gateway)



CELL MAIN & CELL DIV

Wi-Fi/BT

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 99). 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 100).

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

Figure 99: LAN Connection (Generation 1 Gateway)

Figure 100: LAN Connection (Generation 2 Gateway)

Wi-Fi Configuration (Generation 1 Gateway)

The following procedures should be used to configure the SiteLine for Dedicated Equipment 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 or MicroTech 4 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 101 on page 38). 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.
8. Click the **‘Network’** tab
   a. Under wlan0 Configuration (Figure 102), 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 103)
   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 104).
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 or MicroTech 4 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:
  - us.pool.ntp.org
  - 0.pool.ntp.org
  - 1.pool.ntp.org
  - 2.pool.ntp.org
  - 3.pool.ntp.org
- iedata.daikinapplied.com on port 8883
- iedata.daikinapplied.com on port 3199
- 52.176.101.12
- 192.168.1.40
- 192.168.1.42
- 192.168.1.220
- 192.168.1.45
- 192.168.1.132

It can take up to two hours for an initial push of all unit data to the cloud.

Figure 101: M2M Gateway Home Page

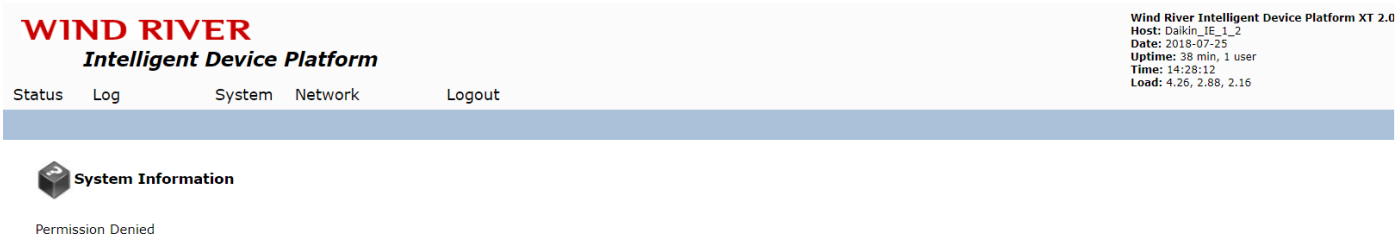


Figure 102: Wireless LAN Configuration

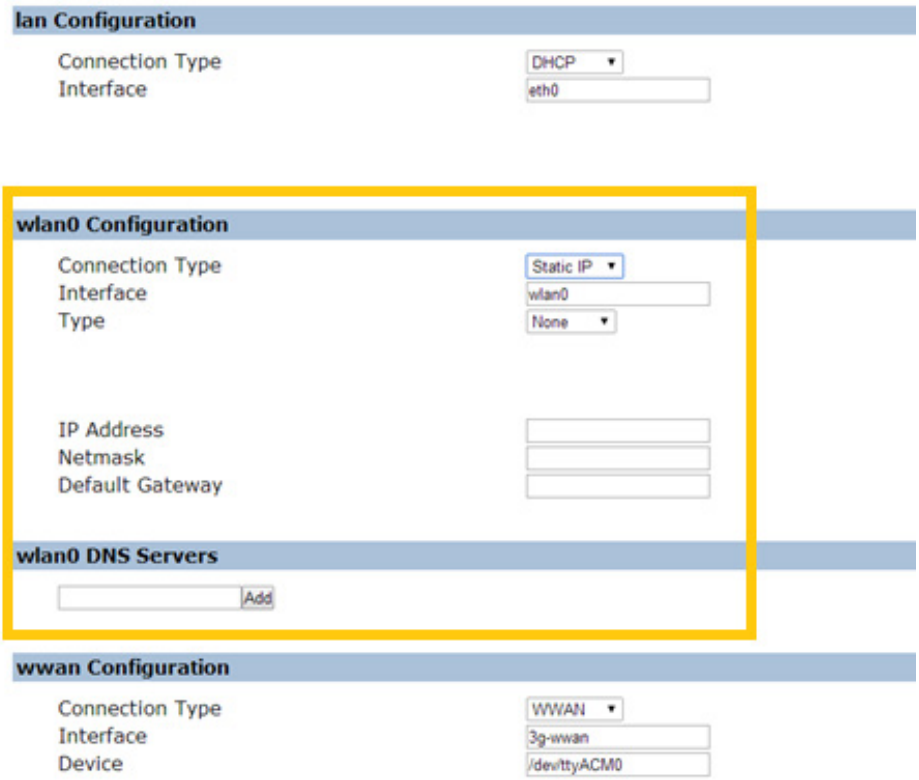


Figure 103: Wireless Configuration Screen

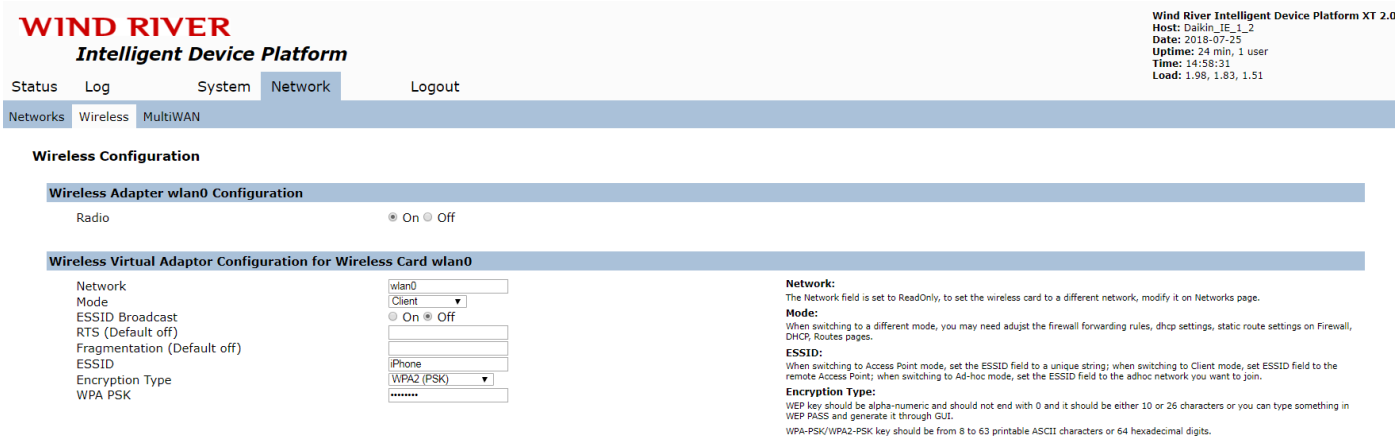
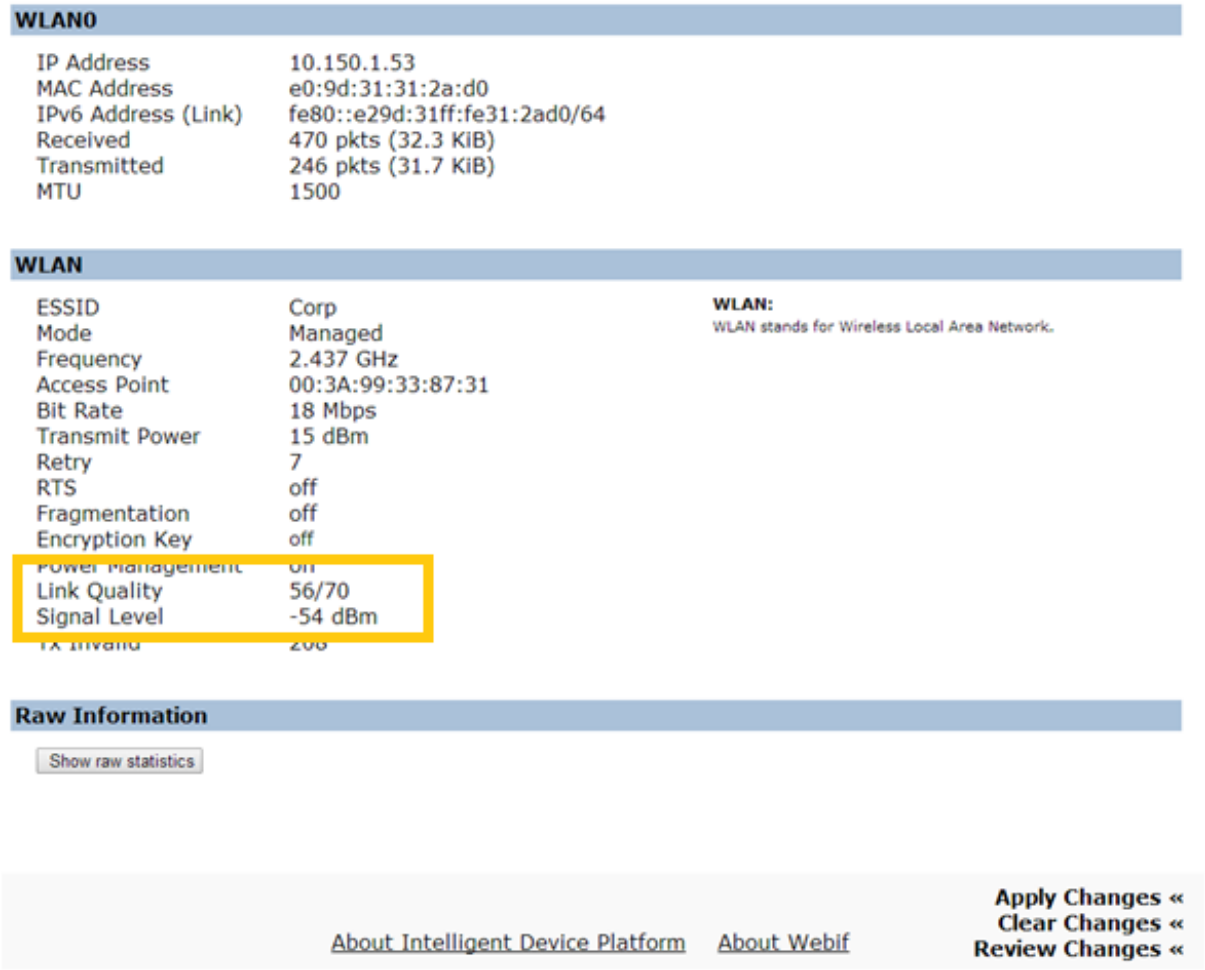


Figure 104: Wireless Signal Strength



Wi-Fi Configuration (Generation 2 Gateway)

The following procedures should be used to configure the SiteLine for Dedicated Equipment 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 the Arrow to sign in (Figure 105).
    a. If either the username or password is incorrect, a message displays to indicate the incorrect value (Figure 106 and Figure 107).
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 108).
9. The Gateway Configuration User Interface has three tabs, ‘Status’, ‘Diagnostics’, and ‘Network’, which provide information about the M2M Gateway (Figure 108).
    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, “Sorry, No Connection Available” (Figure 109).
11. To configure the M2M Gateway Wi-Fi settings, click the ‘**Configuration Settings**’ link in the upper-right corner of the interface (Figure 110).
12. On the Wi-Fi tab of the Configuration screen (Figure 111), 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. This will trigger a prompt to Reboot the Gateway (Figure 112).
14. Click the ‘Reboot’ button in the upper right corner of the screen, then click ‘OK’ in the popup message to confirm the reboot (Figure 113).
15. After the Gateway has finished rebooting, click the ‘Configuration Settings’ link and select the LAN tab (Figure 114).
16. 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. This will trigger a prompt to Reboot the Gateway (Figure 115).
17. Click the ‘Reboot’ button in the upper right corner of the screen, then click ‘OK’ on the popup message to confirm the reboot (Figure 113).

NOTE: With “DHCP” selected in the ‘Configure’ field, all other fields are disabled. Proceed to step 21.

18. 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'.
19. Once all settings are entered, click the '**Apply**' button at the bottom of the LAN tab. This will trigger a prompt to Reboot the Gateway (Figure 112).
20. Click the 'Reboot' button in the upper right corner of the screen, then click 'OK' in the popup message to confirm the reboot (Figure 113).
21. Once the Gateway has finished rebooting, click the '**HOME**' link in the upper-left corner of the screen, then click the Network tab (Figure 115).
    a. Confirm the Wi-Fi icon in the middle of the screen indicates, "Connected" and the Signal Strength is Good or Excellent.
    b. Confirm the 'Status' under 'Wireless Settings' indicates, "OK".
22. If 21a and 21b are true, click the 'Logout' link (Figure 116) 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.
23. If 21a and 21b are not true, repeats steps 5 thru 18. For further assistance, review the 'Troubleshooting' section of this document.

Figure 105: Login

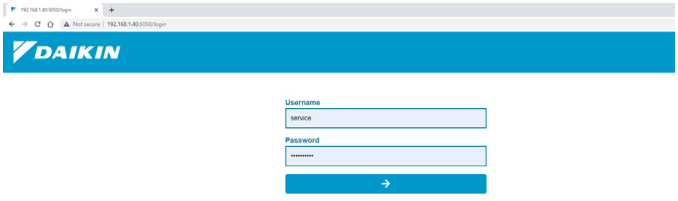
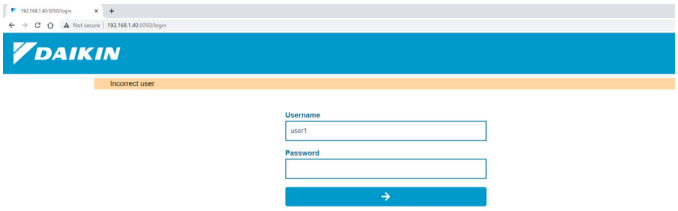


Figure 106: Incorrect User ID



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
— iedata.daikinapplied.com on port 8883
— iedata.daikinapplied.com on port 3199
— 52.176.101.12
— 192.168.1.40
— 192.168.1.42
— 192.168.1.220
— 192.168.1.45
— 192.168.1.132

It can take up to two hours for an initial push of all unit data to the cloud.

Figure 107: Incorrect Password

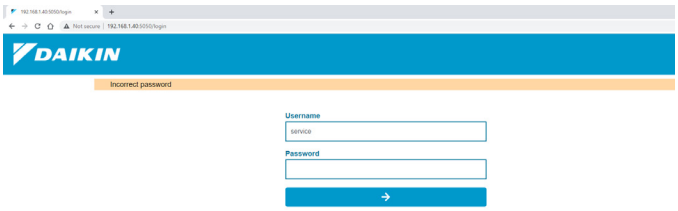


Figure 108: Login Successful

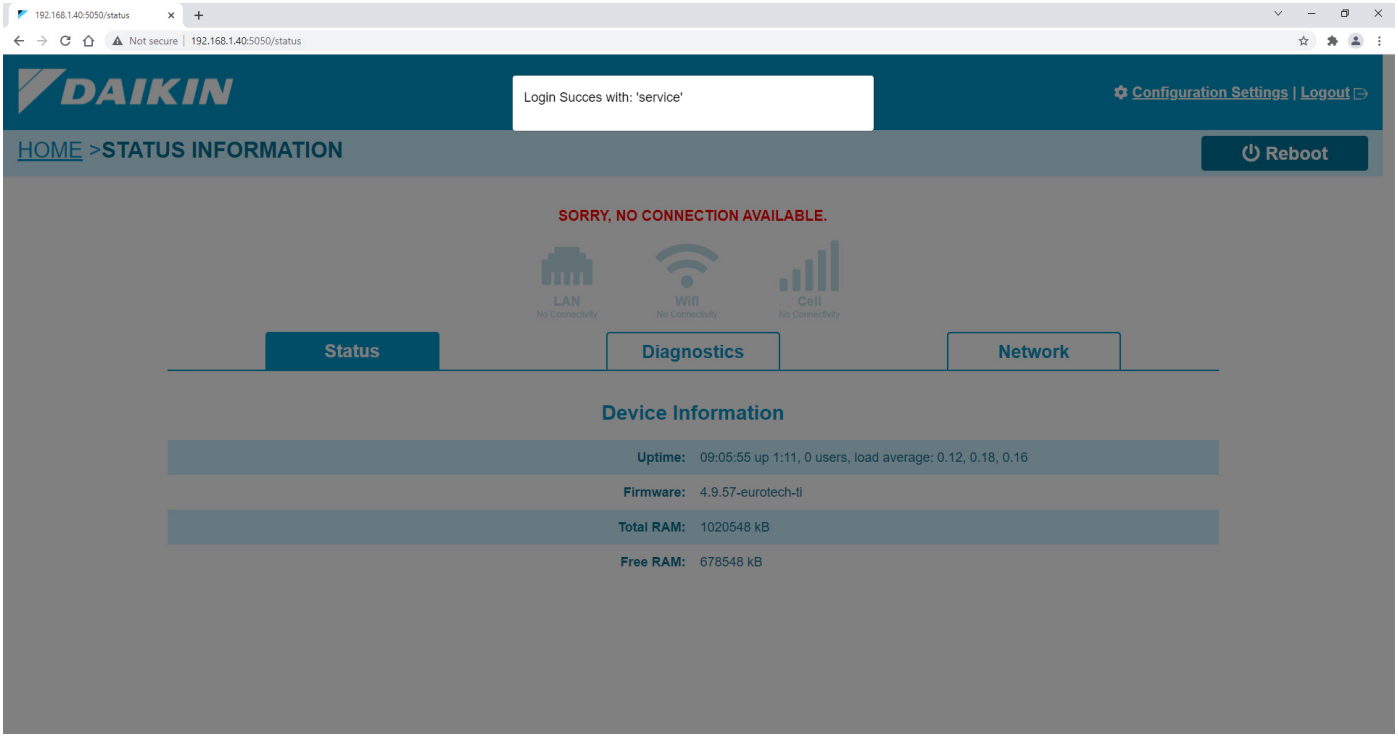


Figure 109: User Interface – No Connection

Figure 110: Configure Settings Icon

Figure 111: Wi-Fi Configuration

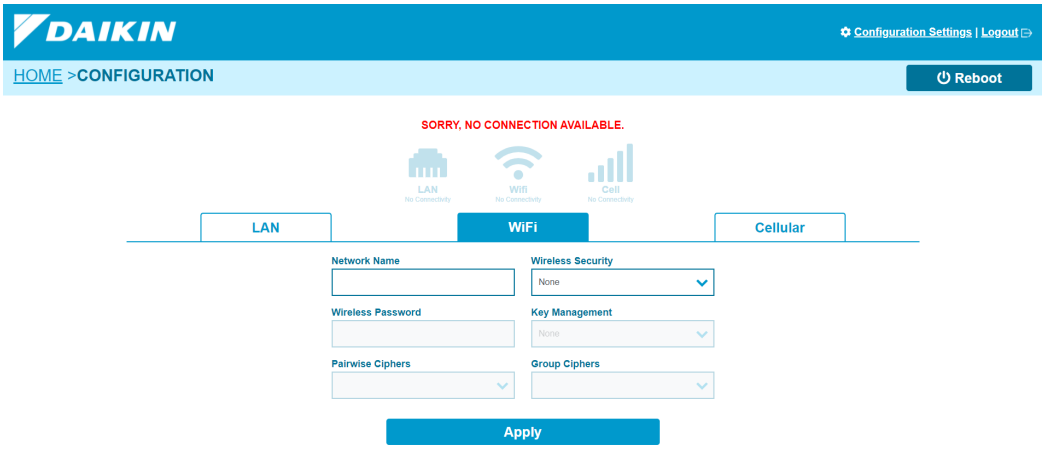


Figure 112: Reboot Request

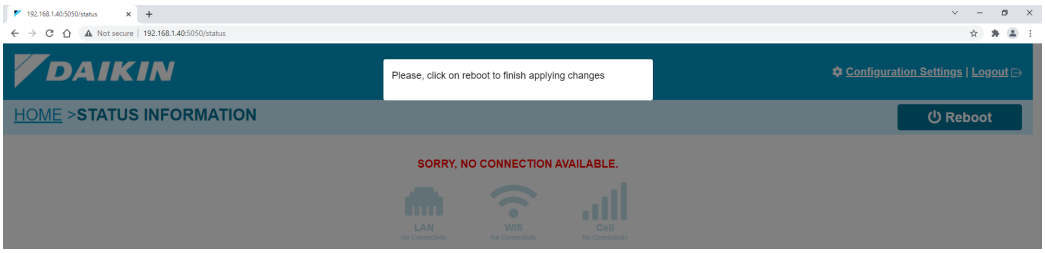


Figure 113: Reboot Confirmation

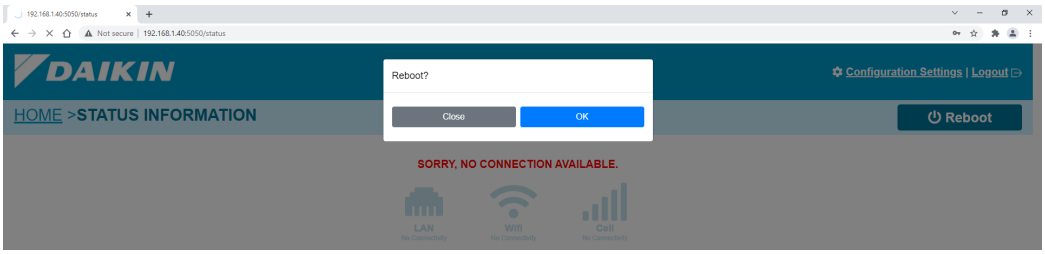


Figure 114: LAN Configuration

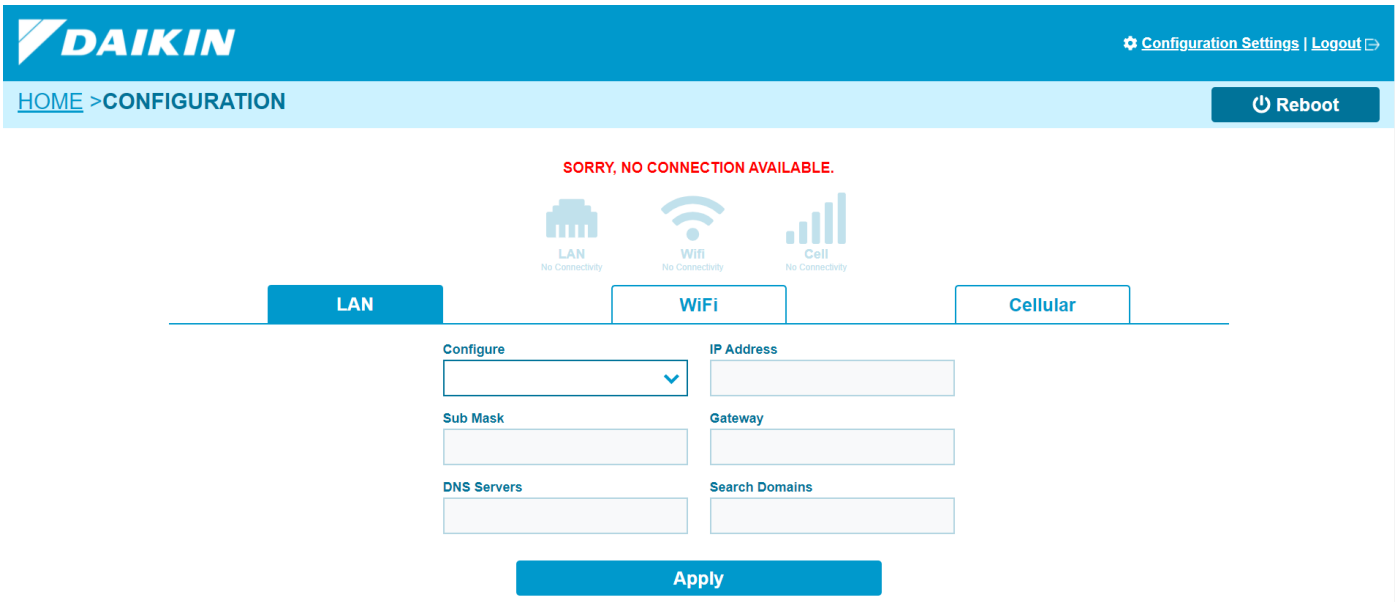


Figure 115: Connection Successful

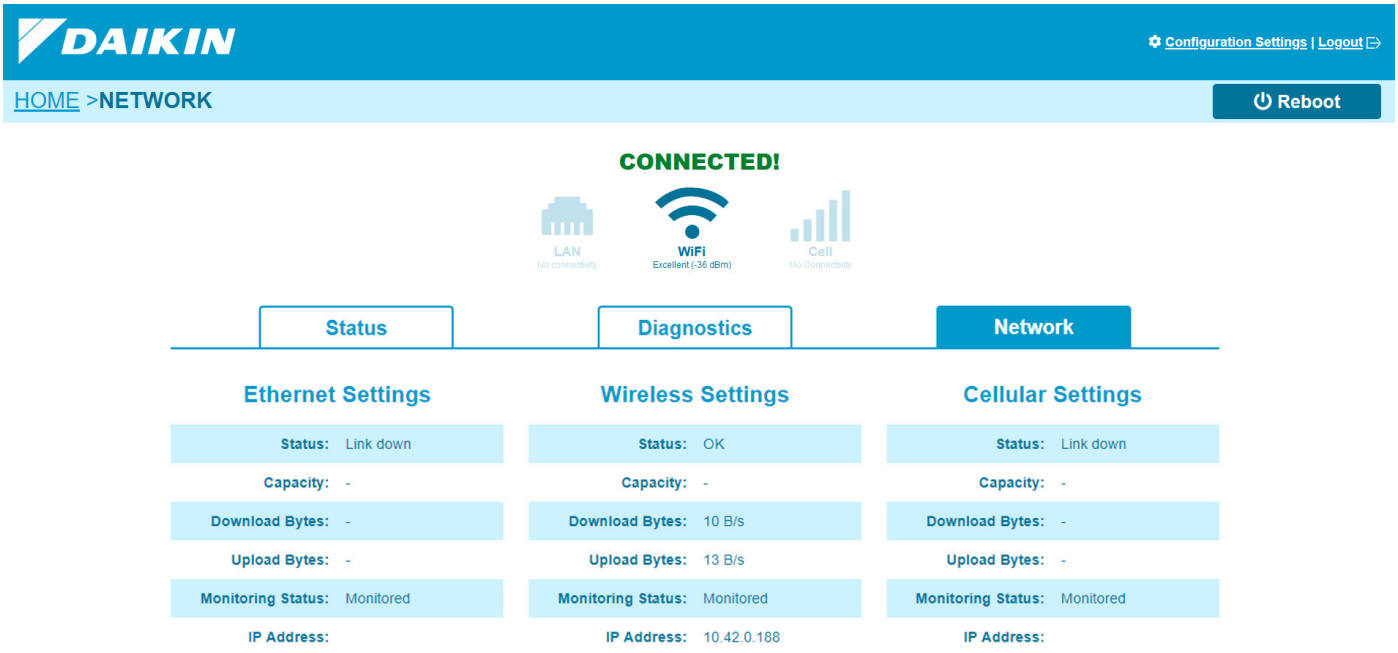


Figure 116: Log Out

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 indentifies 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.

Wind River configuration parameter	M2M Gateway port	Device Connection
LAN	ETH (which is eth0)	MTIII Unit Controller
wan	USB2 (which is eth1)	Local Network
wlan0	WLAN	WiFi
wwan	3G/GPRS	Cellular

The following procedures should be used to configure the SiteLine 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 or MicroTech 4 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 or MicroTech 4 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 117).

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 118 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 63.
    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 119 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 119). Then, click the ‘Add New Interface’ button.

NOTE: Creating the “wan” interface effectively breaks the cellular connection within the Gateway’s configuration. If the SiteLine installation subsequently decides to switch to cellular for connectivity, then the “wan” interface will need to be deleted within the configuration screen.

13. Under ‘Priority Interface’, set to “wan”
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 20; if not, repeat steps 10-19
    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.
21. Reconnect the Ethernet cable between the M2M Gateway and the MicroTech III or MicroTech 4 controller. Procedure complete.

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
- iedata.daikinapplied.com on port 8883
- iedata.daikinapplied.com on port 3199
- 52.176.101.12
- 192.168.1.40
- 192.168.1.42
- 192.168.1.220
- 192.168.1.45
- 192.168.1.132

It can take up to two hours for an initial push of all unit data to the cloud.

Figure 117: M2M Gateway Home Page

Figure 118: WAN Configuration Settings

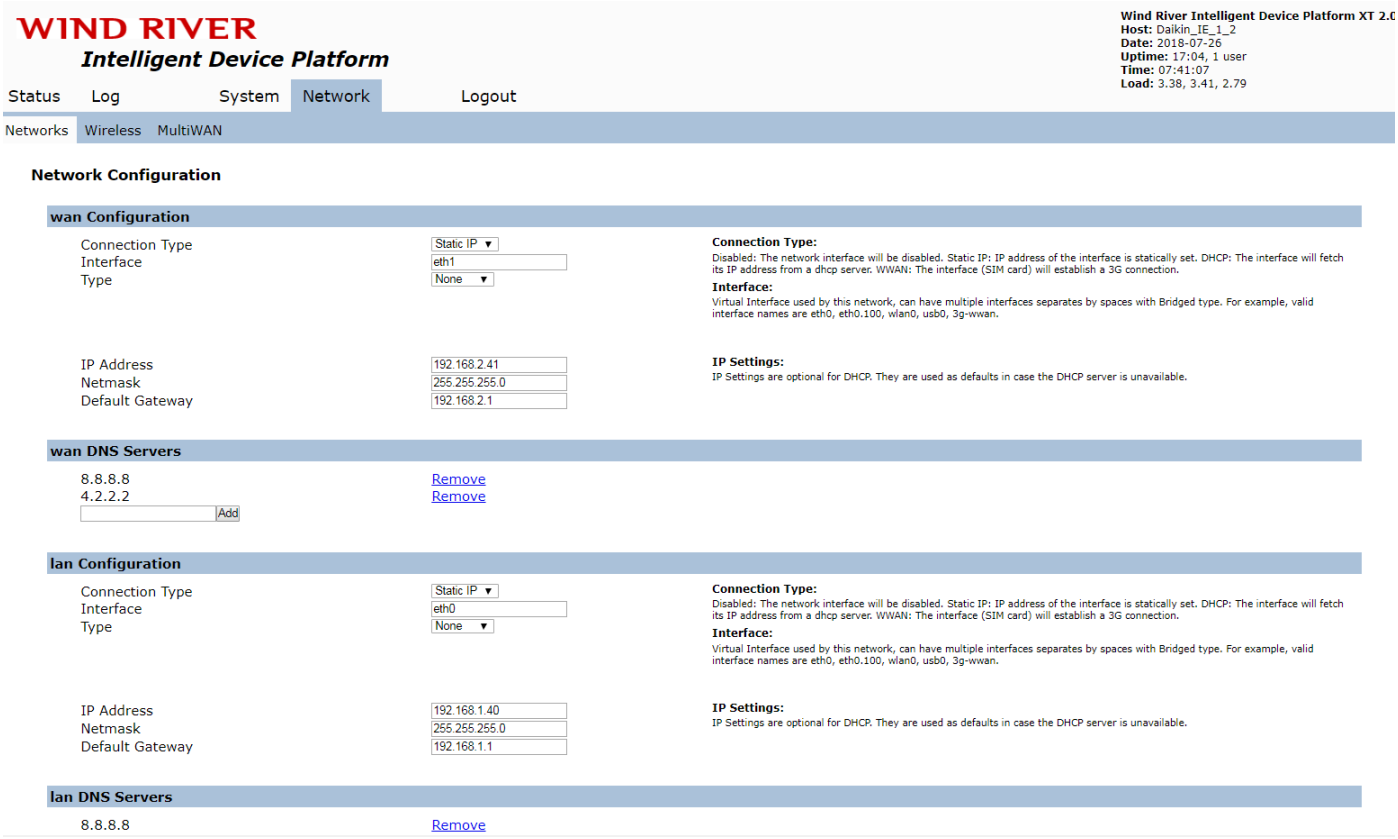
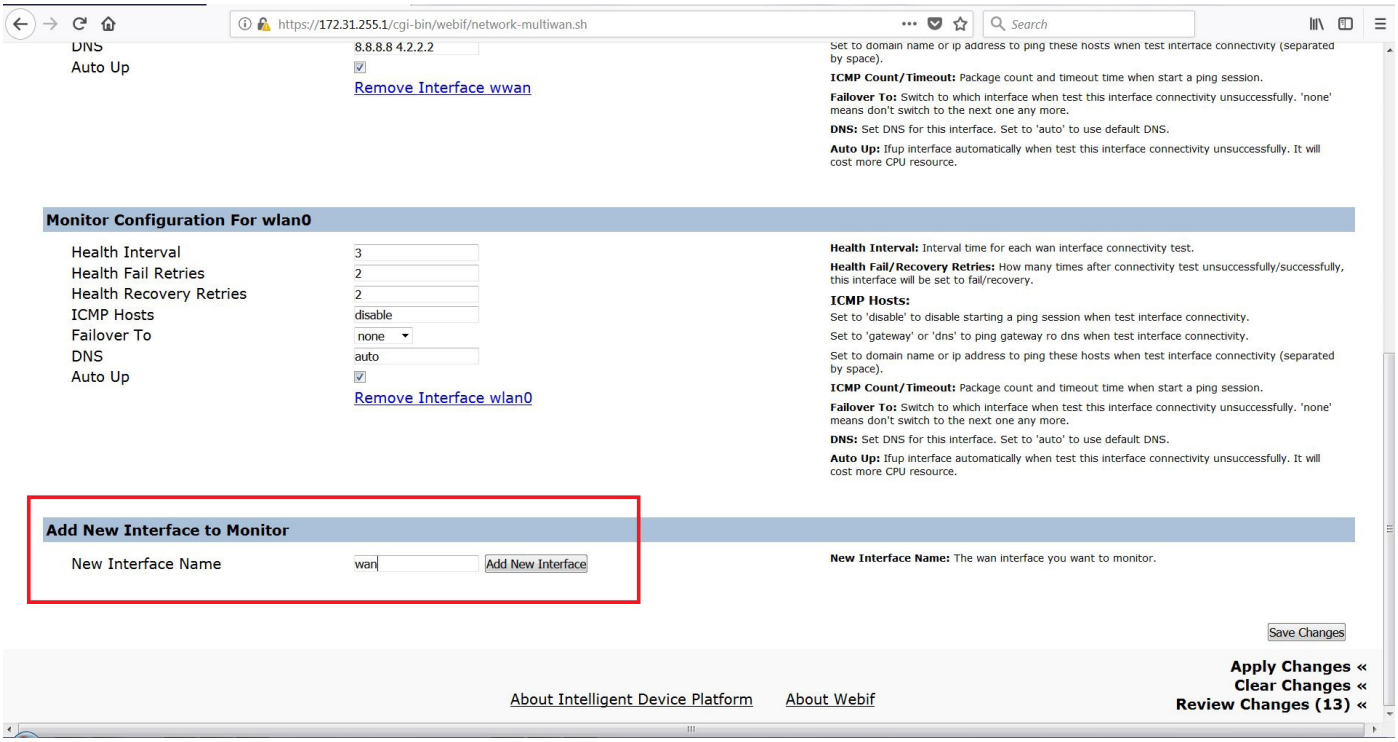


Figure 119: 'Add New Interface' Selection



Ethernet LAN Configuration (Generation 2 Gateway)

The following procedures should be used to configure the SiteLine for Dedicated Equipment 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 the Arrow to sign in (Figure 120).
    a. If either the username or password is incorrect, a message displays to indicate the incorrect value (Figure 121 and Figure 122).
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 123 on page 50).
9. The Gateway Configuration User Interface has three tabs, ‘Status’, ‘Diagnostics’, and ‘Network’, which provide information about the M2M Gateway (Figure 123 on page 50).
    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, “Sorry, No Connection Available” (Figure 124 on page 50).
11. To configure the M2M Gateway Ethernet LAN settings, click the ‘Configuration Settings’ link in the upper-right corner of the interface (Figure 125 on page 51).
12. Click the LAN tab of the Configuration screen (Figure 126 on page 51).
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. This will trigger a prompt to Reboot the Gateway (Figure 127 on page 51).
14. Click the ‘Reboot’ button in the upper right corner of the screen, then click ‘OK’ in the popup message to confirm the reboot (Figure 128 on page 51).

NOTE: With “DHCP” selected in the ‘Configure’ field, all other fields are disabled. Proceed to step 17.

15. 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’.
16. Once all settings are entered, click the ‘**Apply**’ button at the bottom of the LAN tab. This will trigger a prompt to Reboot the Gateway (Figure 127 on page 51).
17. Click the ‘Reboot’ button in the upper right corner of the screen, then click ‘OK’ in the popup message to confirm the reboot (Figure 128 on page 51).
18. Click the ‘HOME’ link in the upper-left corner of the screen, then click the Network tab (Figure 129 on page 52).
    a. Confirm the LAN icon in the middle of the screen indicates, “Connected”.
    b. Confirm the ‘Status’ under ‘Ethernet Settings’ indicates, “OK”.

19. If 18a and 18b are true, click the ‘Logout’ link (Figure 130 on page 52) 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.
20. If 18a and 18b are not true, repeats steps 6 thru 18. For further assistance, review the ‘Troubleshooting’ section of this document.

Figure 120: Login

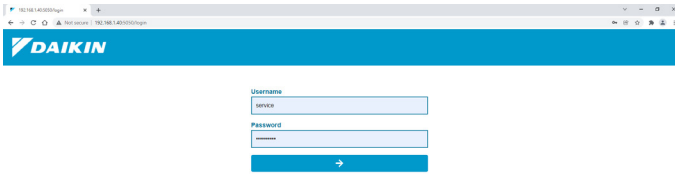
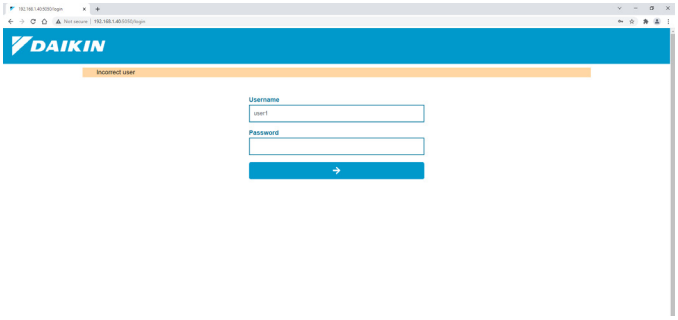


Figure 121: Incorrect User ID



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
— iedata.daikinapplied.com on port 8883
— iedata.daikinapplied.com on port 3199
— 52.176.101.12
— 192.168.1.40
— 192.168.1.42
— 192.168.1.220
— 192.168.1.45
— 192.168.1.132

It can take up to two hours for an initial push of all unit data to the cloud.

Figure 122: Incorrect Password

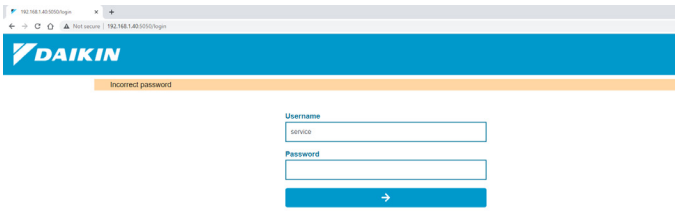


Figure 123: Login Successful

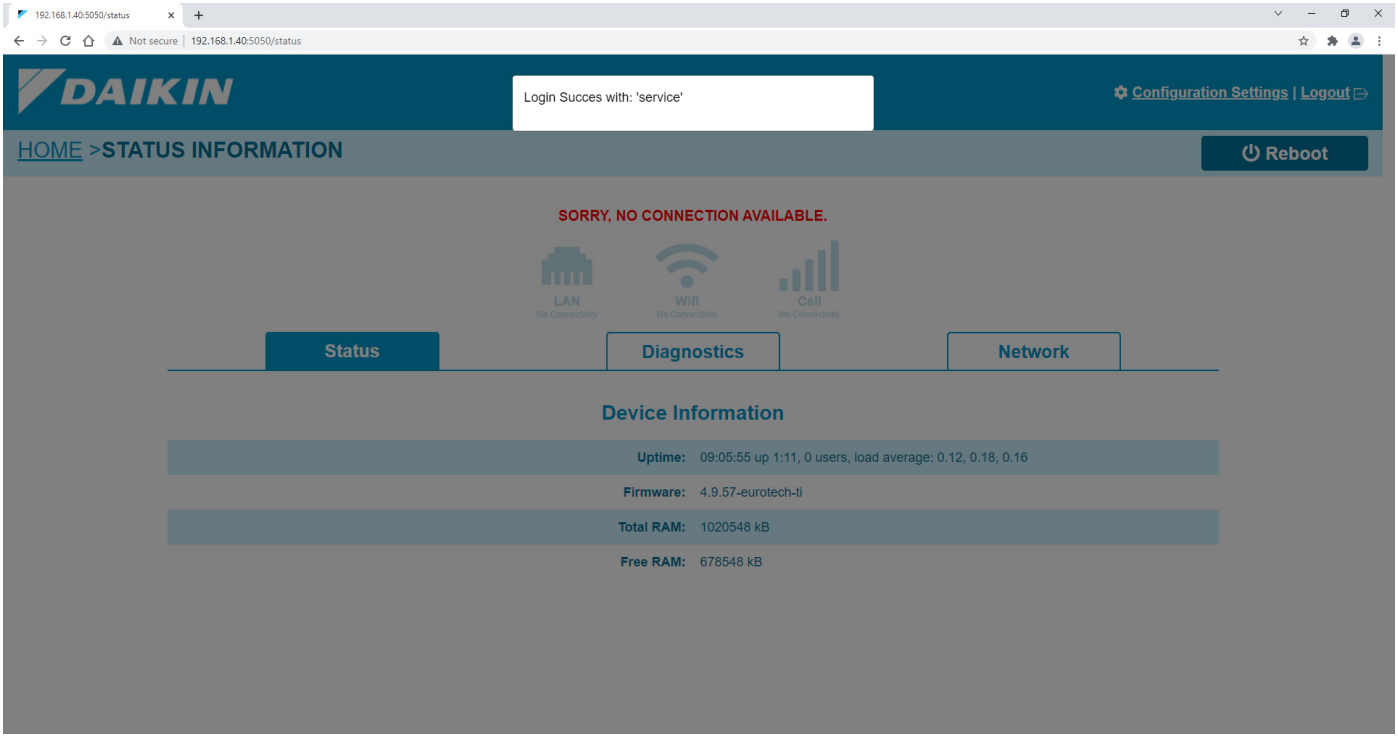


Figure 124: User Interface – Not Connected

Figure 125: Configure Settings Icon

Figure 126: LAN Configuration

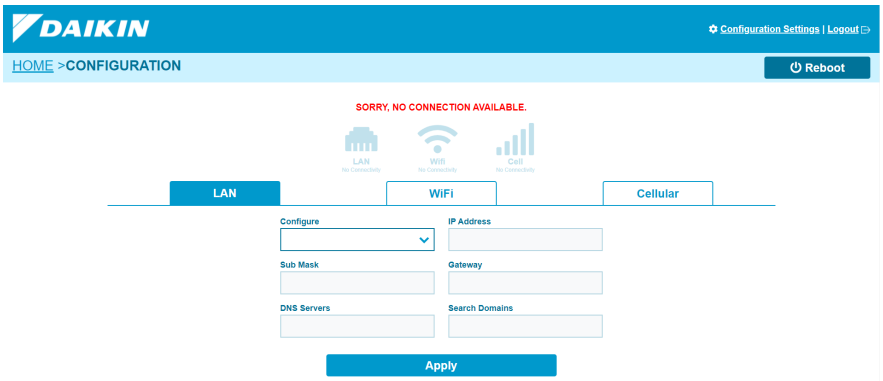


Figure 127: Reboot Request

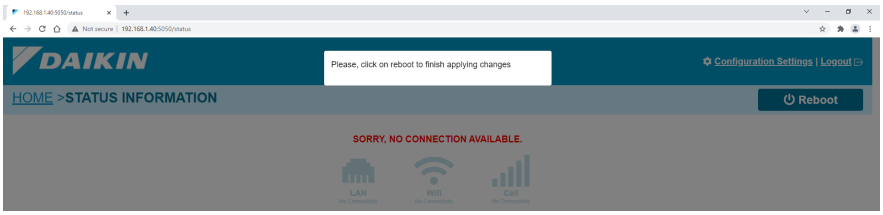


Figure 128: Reboot Confirmation

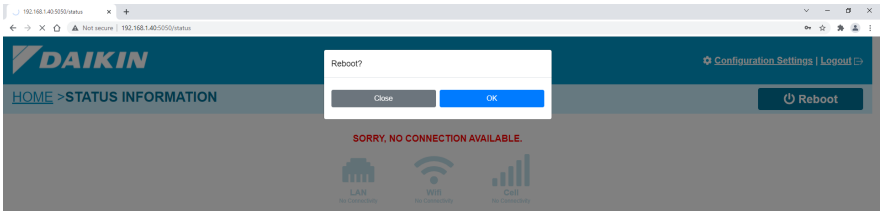


Figure 129: Connection Successful

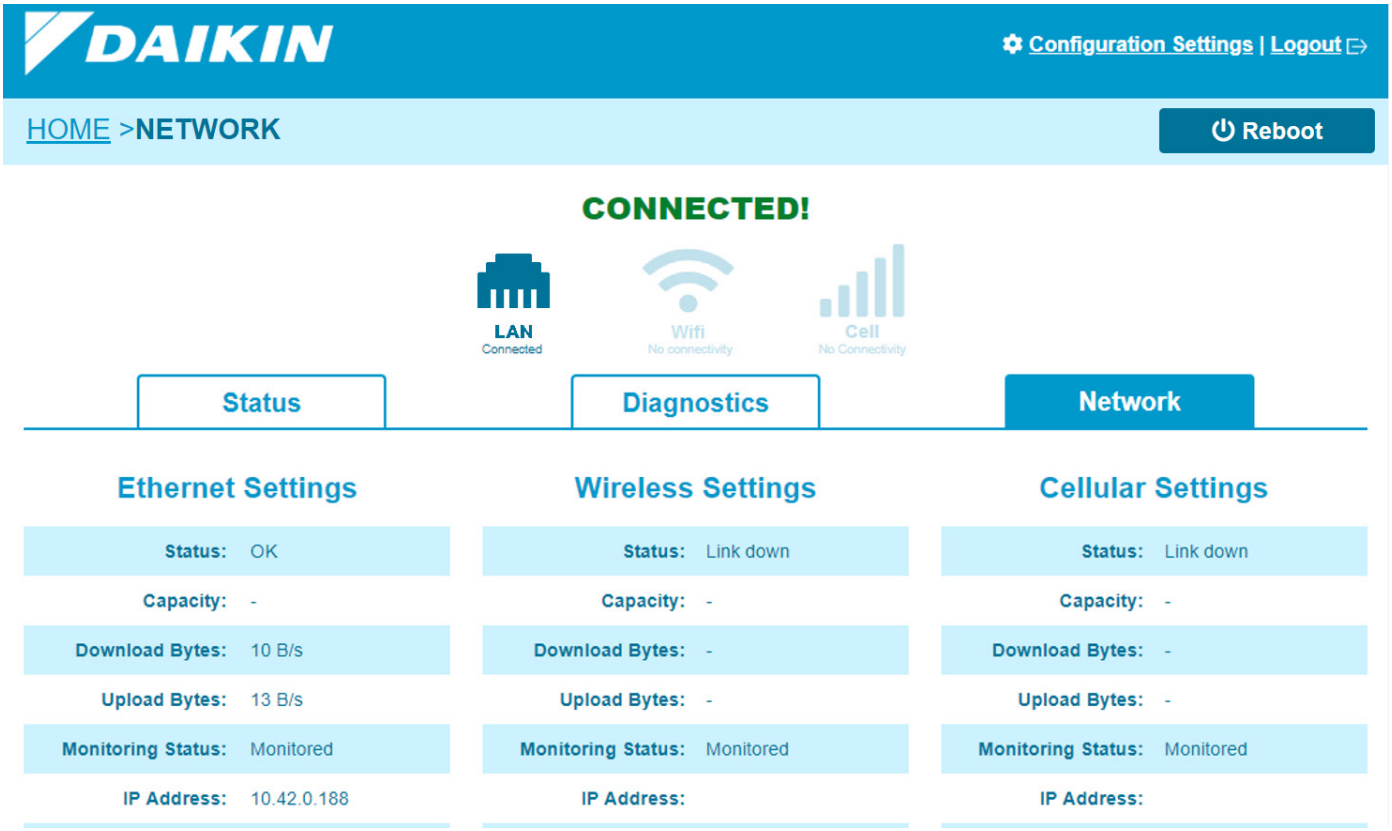


Figure 130: Log Out

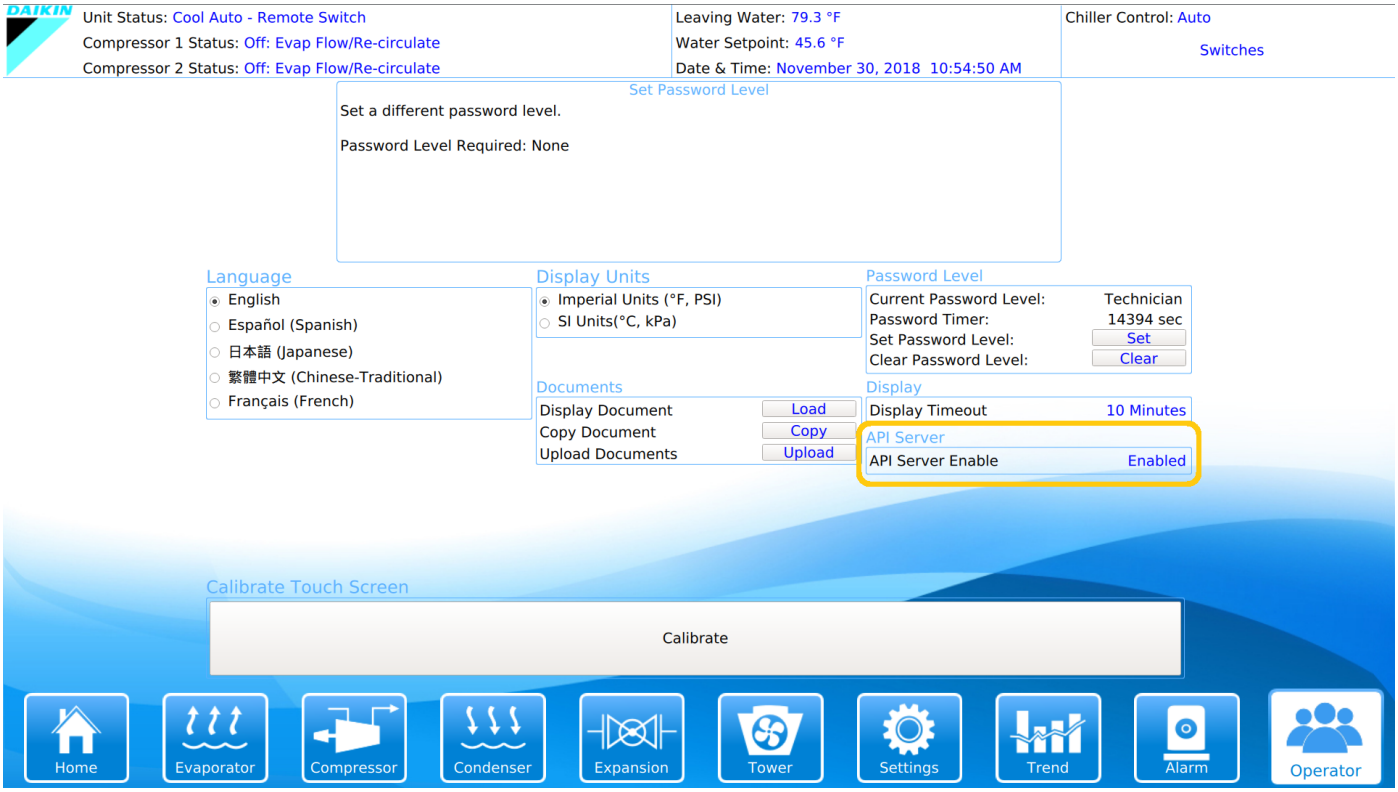
Configuring the WMC HMI for SiteLine Building Controls

In order for 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 (Figure 131) in the lower-right corner of the HMI (Figure 132).
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 132). Procedure complete.

Figure 131: The 'Operator' Icon

Figure 132: The 'API Server Enable' Field on the HMI



Commissioning the Gateway in the Cloud

NOTE: The SiteLine 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 SiteLine. 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 SiteLine user interface at **https://siteline.daikinapplied.com/Account/Login** (Figure 133). 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 134). Under the 'Buildings' list (Figure 135), locate the building with the new unit and click the drop-down arrow (Figure 136). Locate the desired unit from the list and click the unit tag, which opens the Unit Details screen (Figure 137). Click the 'Commissioning Procedure' button. A message will display indicating that the commissioning procedure must be completed within 30 days (Figure 138). Clicking the '**OK**' button opens the 'Commissioning Procedures' screen for the unit (Figure 139). Commissioning of the unit can be completed within SiteLine or outside of the SiteLine application (traditional paper form). Either method commissions the SiteLine application in the cloud. If the unit will be commissioned outside of SiteLine, simply click the checkbox for 'Commission has been performed outside SiteLine Application', then navigate to the bottom of the 'General' tab and click, '**Submit**'. If using SiteLine 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 (Figure 137) and verify that some unit data has begun to appear. If no data is present, contact Daikin Applied for additional support.

Figure 133: Login

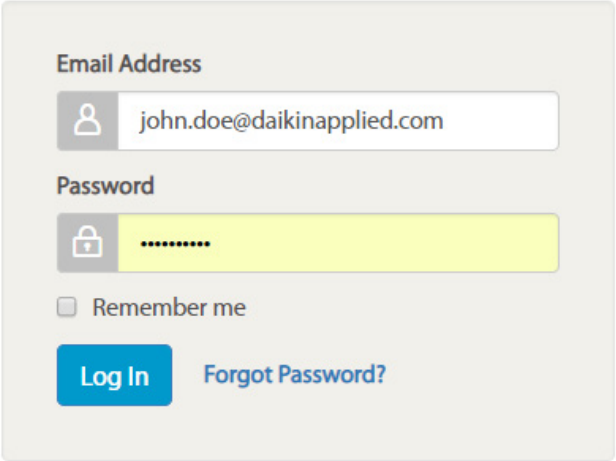


Figure 134: Buildings List and Map View

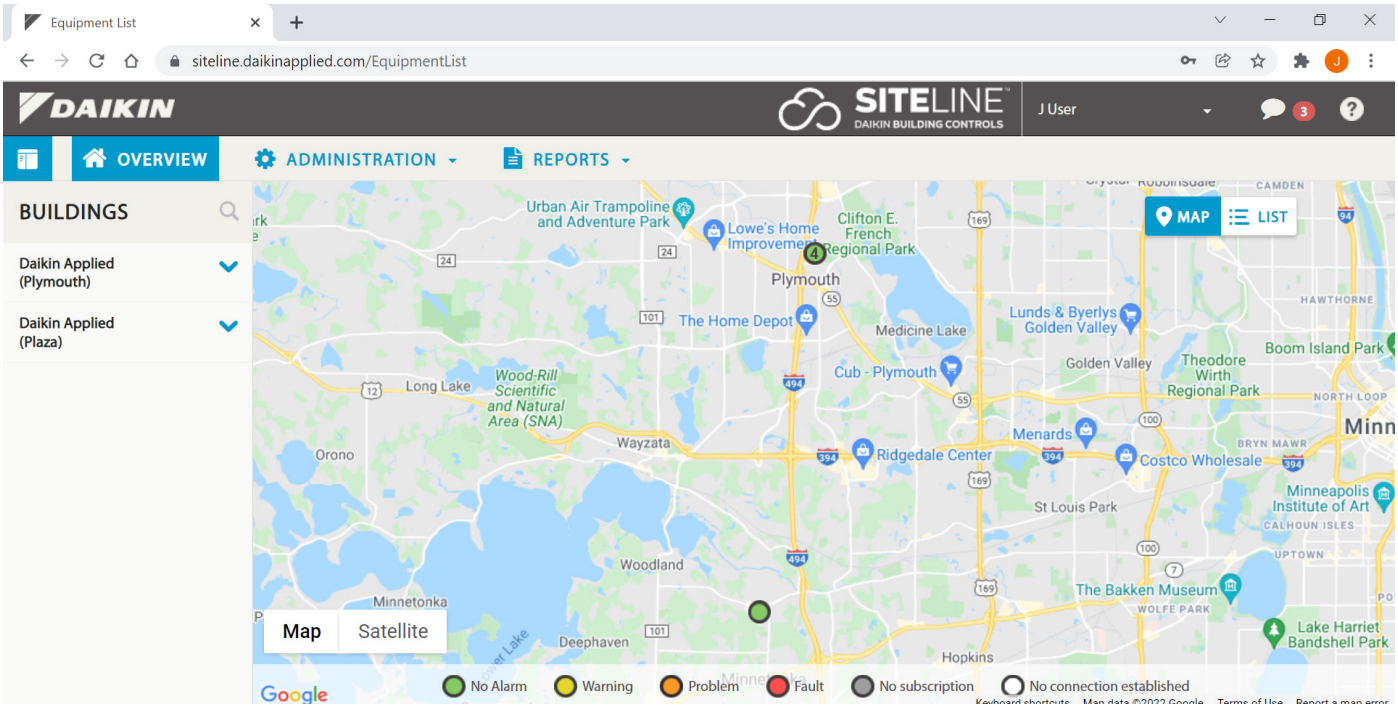


Figure 135: Buildings List

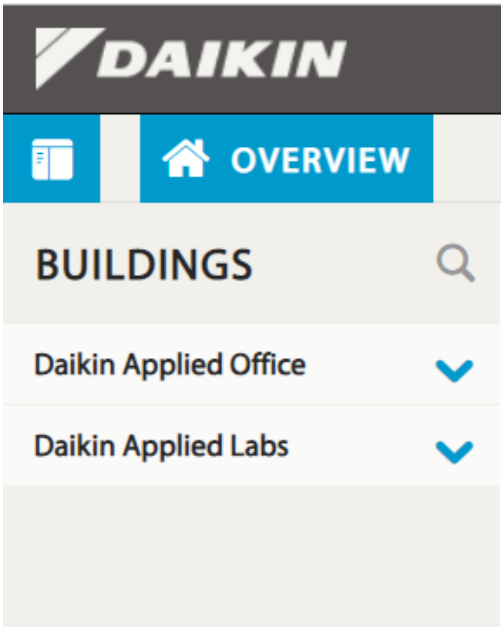


Figure 136: Unit List

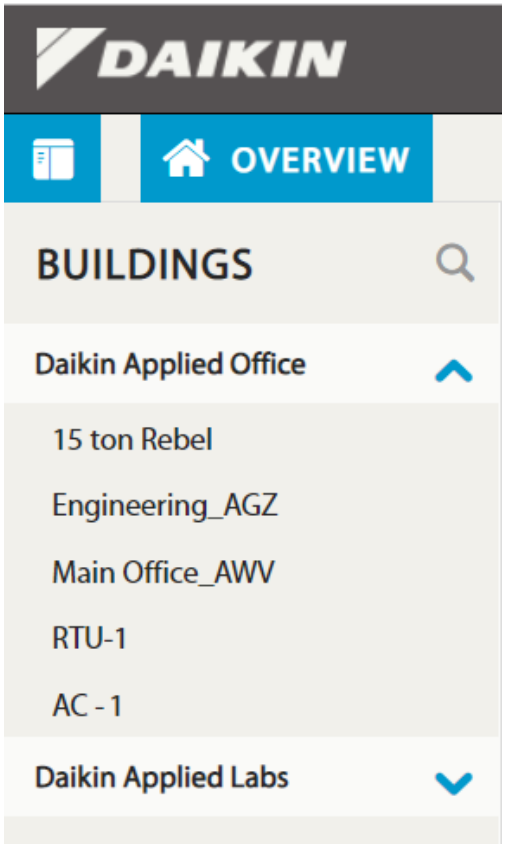


Figure 137: Unit Details

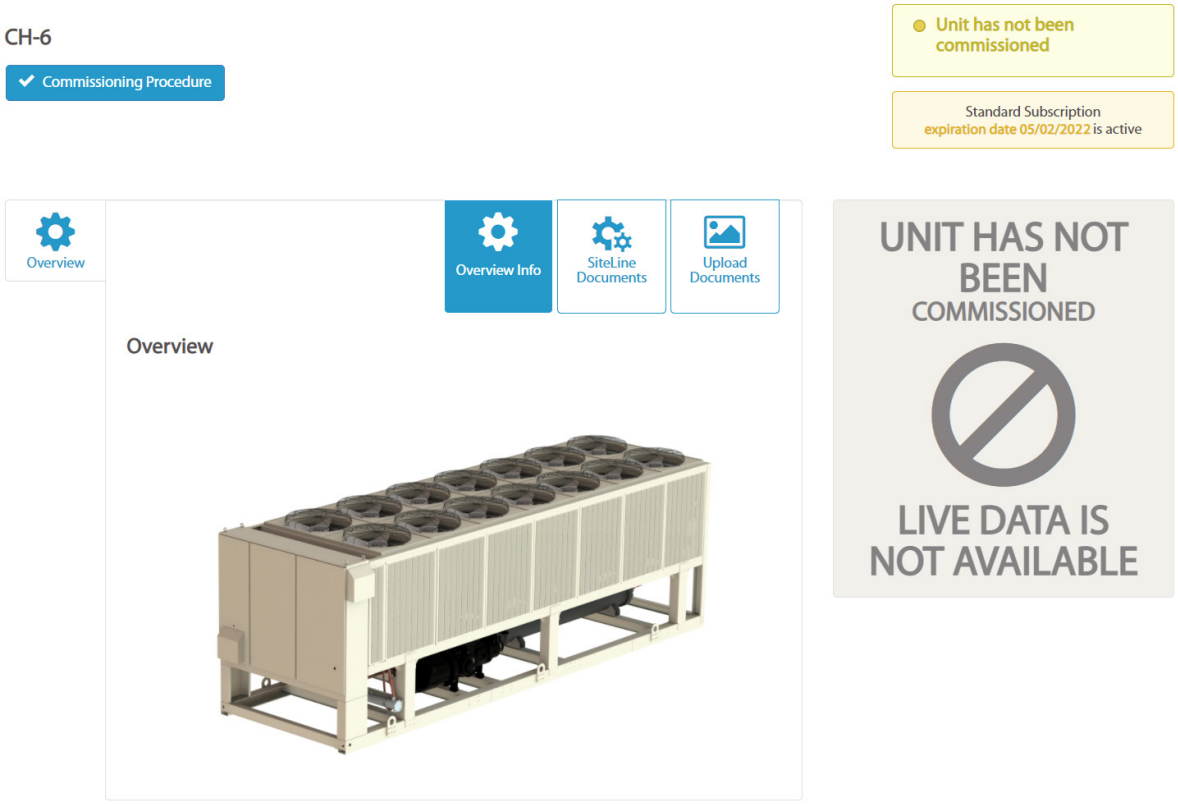


Figure 138: Thirty Day Message

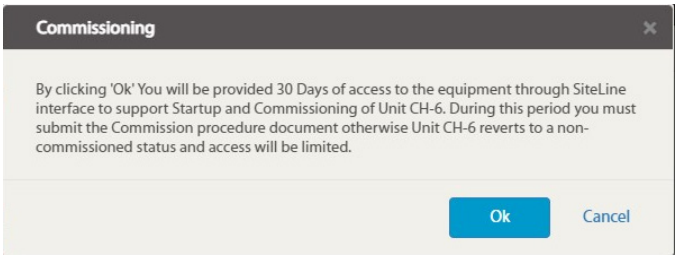
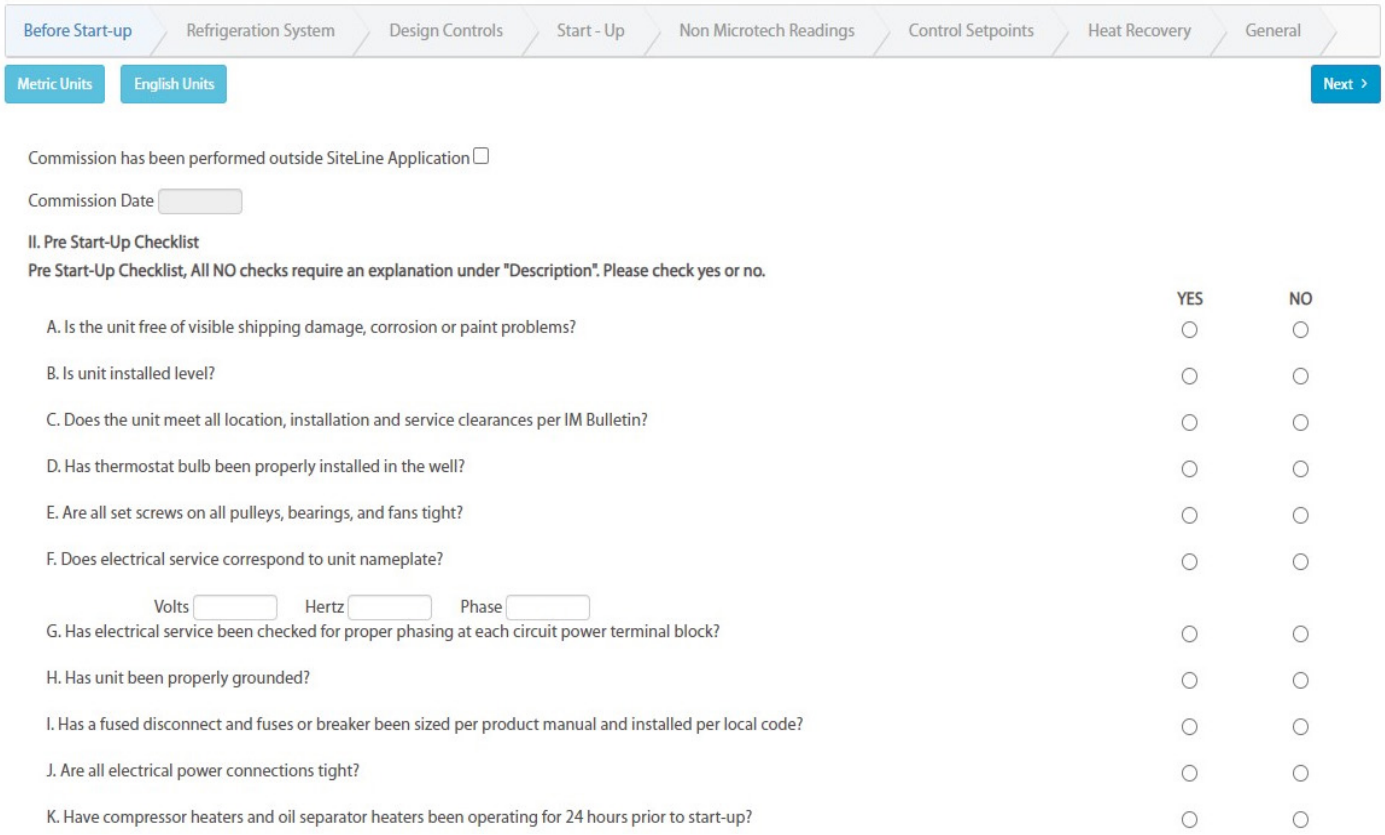


Figure 139: Commissioning Procedures Screen



Cellular Signal Verification (Generation 1 Gateway)

The following procedures should be used to verify the cellular signal strength for the M2M 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 140 on page 58). 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 141 on page 58).
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 140: M2M Gateway Home Page

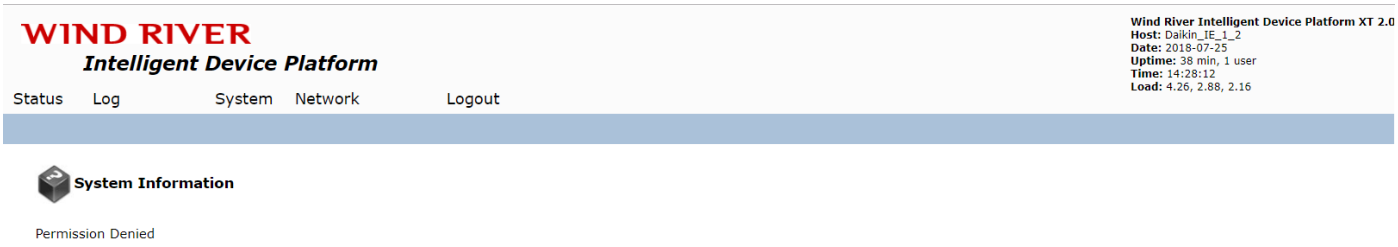
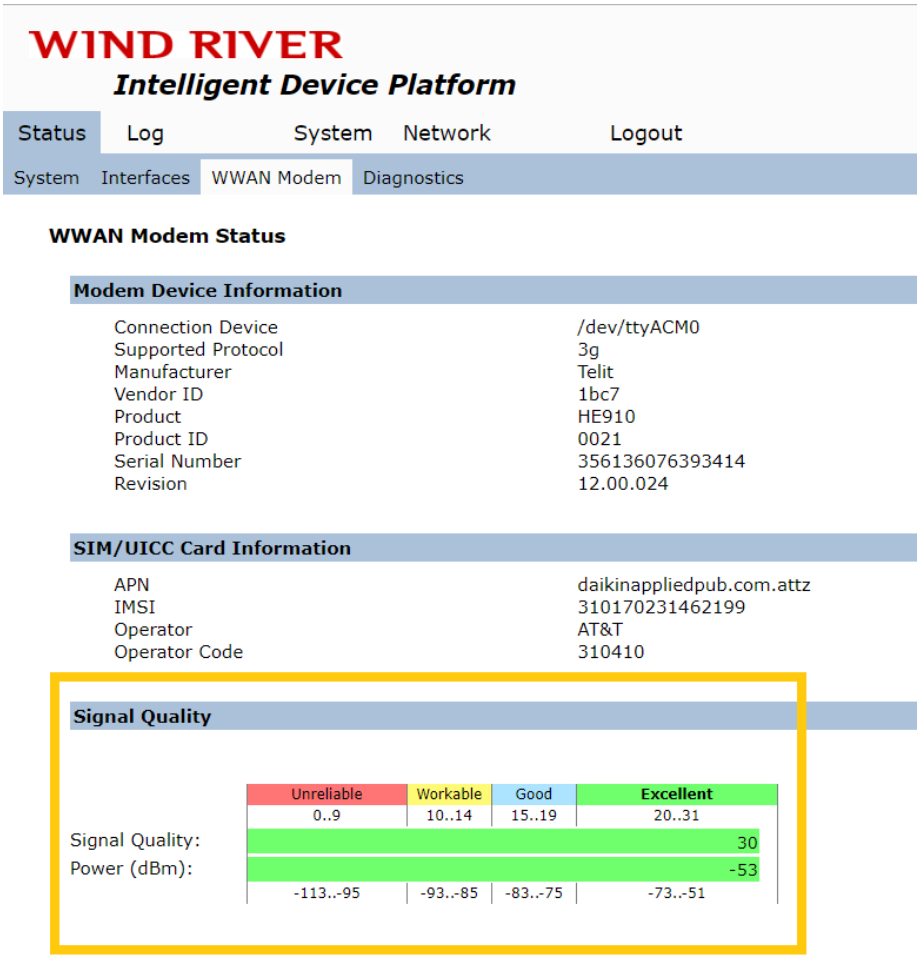


Figure 141: Verify Cellular Signal Strength

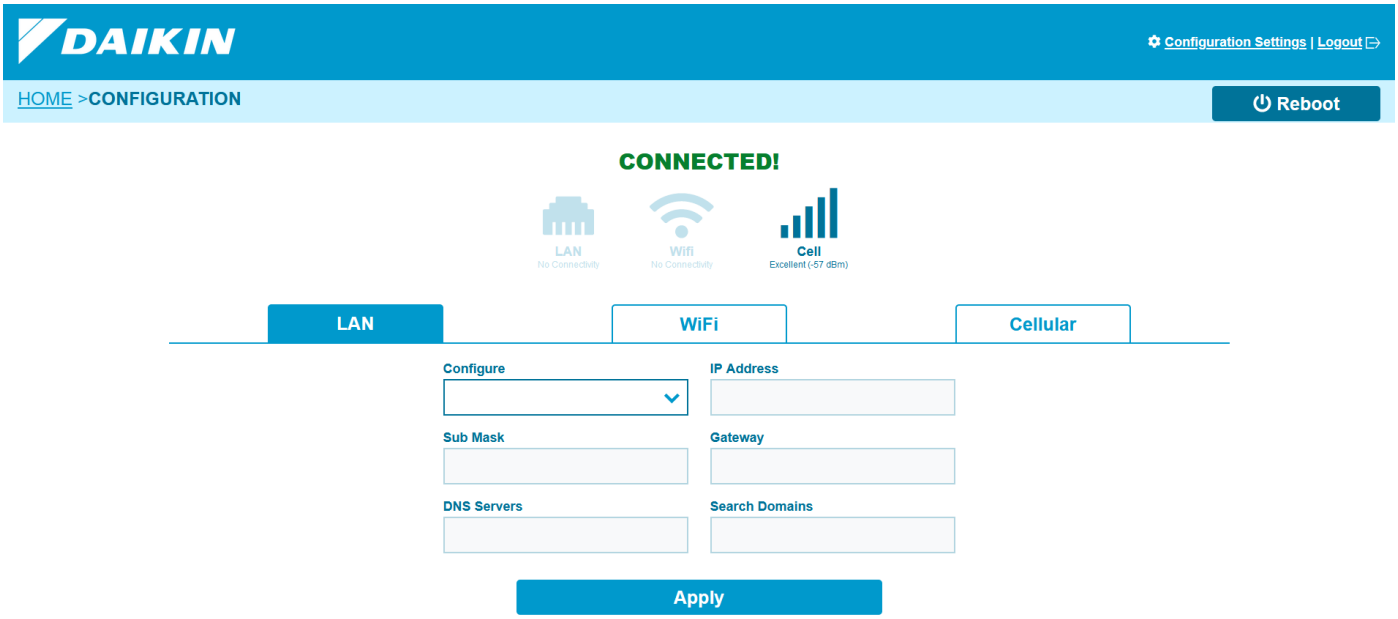


Cellular Signal Verification (Generation 2 Gateway)

The following procedures should be used to verify the cellular signal strength for the SiteLine Gateway.

1. Mount and connect the cellular antenna per the instructions included in document section, 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’.
8. On the Status Tab of the Home Screen, verify the Cell icon indicates “Connected”, and the signal strength is in the Good or Excellent range (Figure 142).

Figure 142: Connected/Signal Strength



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.
4. Open a web browser page 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 Gateway home page.
5. Click the ‘System’ tab (Figure 143 on page 61).
    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 144).
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 145), 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 146) 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 143: System Tab

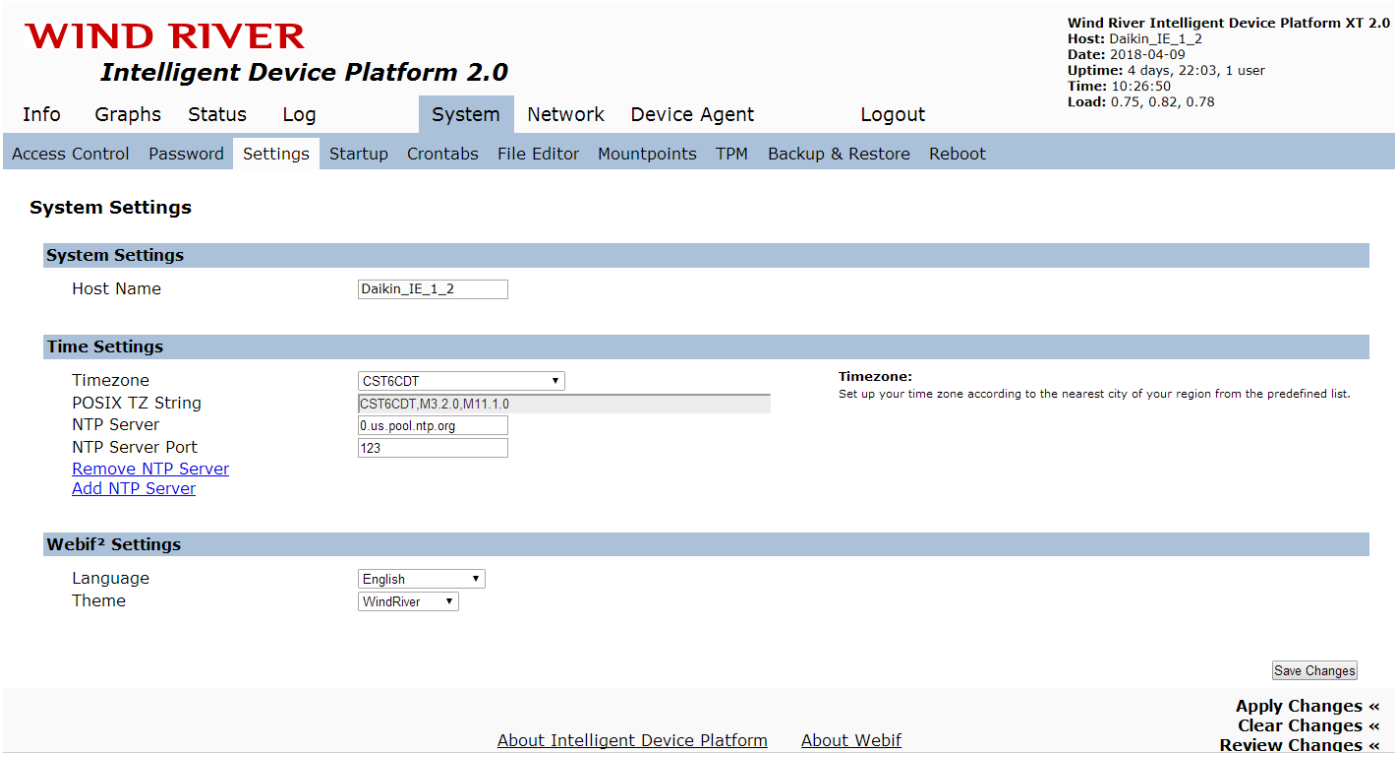


Figure 144: Time Updated to Time Zone

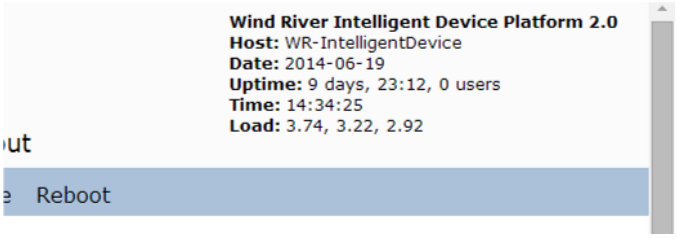


Figure 145: Keypad Controls

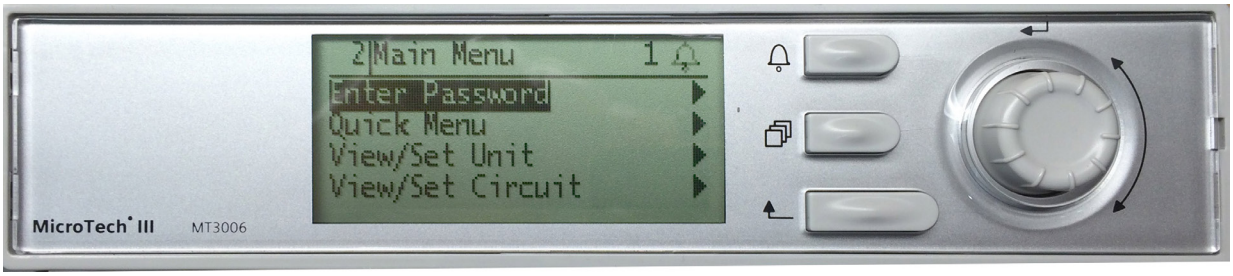
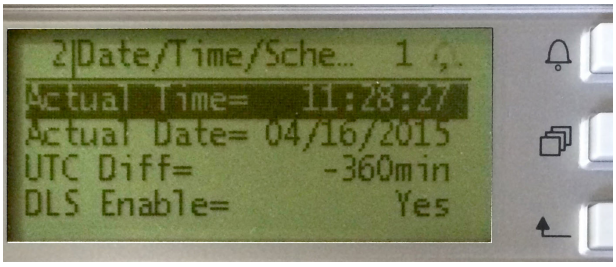


Figure 146: Date/Time/Schedules Menu



Potential issues:

Gateway does not power up (LED does not illuminate)

- Verify the unit terminal board
- 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 147 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 the Gateway configuration interface
- Contact Daikin Applied

Figure 147: **SIM Card Location (Generation 1 Gateway)**

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 the Gateway configuration interface
- 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 or MicroTech 4 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 **or MicroTech 4** 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/lan Configuration section of the Wind River interface (see Figure 103)
- Verify IP address of the MicroTech III **or MicroTech 4** controller is 192.168.1.42
  - Menu Path (Chillers): View/Set Unit -> Ctrlr IP Setup
  - Menu Path (RTU's): Service Menus -> IP Set Up
- Contact Daikin Applied

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 M2M 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 M2M 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
   - iedata.daikinapplied.com on port 8883
   - iedata.daikinapplied.com on port 3199
   - 52.176.101.12
   - 192.168.1.40
   - 192.168.1.42
   - 192.168.1.220
   - 192.168.1.45
   - 192.168.1.132

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:

Wi-Fi network SSID:	
Wi-Fi network password:	
Wi-Fi encryption type:	
Wi-Fi Mode:	
Preferred Wi-Fi channel:	

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.

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