

## Installation and Maintenance

## IM 927-7

Group: Controls

Part Number: 910387319

Date: April 2022

## LONWORKS® Communication Module for MicroTech III® Water Source Heat Pump Unit Controllers

### Models:

GSH/GSV, GTH/GTV, GCV SmartSource® Single and Two Stage Compressor

CCH/CCW, LVC/LVW, MHC/MHW, VFC/VFW, VHC/VHF Enfinity® Single Stage Compressor

CCH/CCW and LVC/LVW Enfinity® Large Two Compressor



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This manual contains the information you need to install and configure the LONWORKS® communication module on the MicroTech® III WSHP unit controller. It is intended for technicians or other qualified personnel who are familiar with standard terminology and concepts. For technical support, contact the Daikin Applied Controls Support Group at (866) 462-7829.

## Revision History

IM 927-7	Apr 2022	Removed references to EWT sensor and replaced with LWT, changed field kit sensor options to match IM 956. Added IM 956 to Reference Documents. See p.8 and Replacement Kits, p.10. Changed part number on front cover.
IM 927-6	Oct 2020	Reformatted branding. Part number corrections and addition of Software Compatibility tables to Service Information section. General usability updates. Changed PN to 910322281.
IM 927-5	January 2017	Added PN 910196131 to front cover
IM 927-4	February 2016	Daikin Applied branding updates. Correction to network connector pin numbers. Added Aftermarket part numbers. General formatting.
IM 927-3	May 2012	Daikin McQuay branding updates. Formatting updates
IM 927-2	March 2011	Added Wink details. Changes unit controller description from Unitary to Applied Terminal Systems.
IM 927-1	July 2009	Added part number to cover and sensors to Parts list.
IM 927	September 2008	Initial release.

## Reference Documents

Number	Company	Title	Source
078-0014-01E	LonMark® Interoperability Association	LonMark® Layers 1-6 Interoperability Guidelines	<a href="http://www.lonmark.org">www.lonmark.org</a>
078-0120-01E		LonMark Application Layer Interoperability Guidelines	
8503_		Space Comfort Control-WSHP Functional Profile	
ED 15103	Daikin Applied	MicroTech III WSHP Unit Controller Protocol Information Manual	<a href="http://www.DaikinApplied.com">www.DaikinApplied.com</a>
IM 956		Temperature Sensors for Units with MicroTech III Unit Controller and LonWorks or BACnet Communication Module	
OM 931		MicroTech III WSHP Unit Controller Operation Manual	
OM 1085		MicroTech III WSHP Unit Controller Download and Configuration	
OM 1254		System Manager Operation and Maintenance Manual	
OM 1149		MicroTech III WSHP SmartSource (Series2) Unit Controller Operation and Maintenance Manual	
OM 1239		MicroTech III WSHP Enfinity Large Two Compressor Unit Controller Operation and Maintenance Manual	

## Hazard Identification Messages

### CAUTION

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

### DANGER

**Improper installation or maintenance can cause equipment damage or personal injury.**

Dangers indicate a hazardous electrical situation which will result in death or serious injury if not avoided.

### WARNING

**Improper grounding may result in injury, death, and property damage if not avoided.**

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

### 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.

## Notice

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The following are trademarks or registered trademarks of their respective companies. Windows from Microsoft Corporation; LONWORKS, LonMark, LonTalk, and Neuron from Echelon Corporation; MicroTech III, and Applied Terminal Systems from Daikin Applied. LonMark and the LonMark logo are managed, granted, and used by LonMark International under a license granted by Echelon Corporation.

## Description

The communication module is a printed circuit board that mounts directly to the WSHP unit controller main board. It is the physical interface between the WSHP unit controller and the LONWORKS network.

## Application

The device software application loaded in the communication module translates Standard Network Variable Types (SNVTs) and Standard Network Configuration Parameter Types (SCPTs) supported by the unit controller into network variables and parameters used by the LONWORKS network.

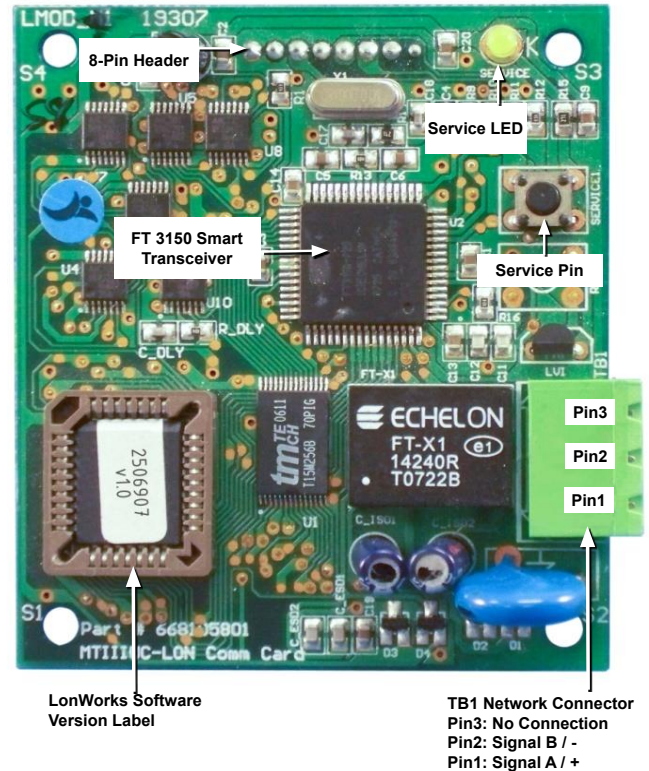
The LONWORKS communication module is LonMark® 3.4 certified with conformance to the LonMark WSHP functional profile. Profiles are interpreted in the firmware.

Refer to the appropriate MicroTech III WSHP Unit Controller Operation and Maintenance manual ([www.DaikinApplied.com](http://www.DaikinApplied.com)).

## Components

The following section describes the key physical components of the communication module and their functions. The communication module is a rectangular printed circuit board that plugs on the top side of the unit controller baseboard. Important features include the service pin and service LED, network connector, transceiver and 8-pin header. [Figure 1](#) shows the major components and their locations.

Figure 1: Communication Module Major Components



## Service Pin

The service pin button generates a service-switch message, which contains the Neuron® ID and the Standard Program Identification code (SPID) of the device, or node. A service-switch message is a network message that is generated by a node and broadcast on the network. It can be used to commission the device on the LONWORKS network. The service pin is activated by pressing down on the small round black button on top of the service switch. See [Figure 1](#) for the location of the service pin button.

## Service Light Emitting Diode (LED)

[Table 1](#) describes the various modes of LED activity as implemented by the communication module. See [Figure 1](#) for location of the Service LED.

**Table 1: Service LED Activity Summary**

LED Activity	Description
LED flashes once at power up, or comes ON when pressing the service pin button	Indicates normal operation for a commissioned communication module
LED is OFF continuously as soon as power is applied	Faulty communication module hardware and/or power supply
LED is ON continuously, even when power is first applied	Faulty communication module hardware and/or power supply
LED flashes at power-up; goes OFF; then comes ON solid	Indicates the device does not have the application image (APB/NXE) file installed Reload application and interface files, which can be found on <a href="http://www.DaikinApplied.com">www.DaikinApplied.com</a> or <a href="http://www.lonmark.org">www.lonmark.org</a> <sup>1</sup>
LED flashes very briefly once every second	Communication module could be experiencing an error with the device application code or possibly the communication module hardware Reload application and interface files, which can be found on <a href="http://www.DaikinApplied.com">www.DaikinApplied.com</a> or <a href="http://www.lonmark.org">www.lonmark.org</a> <sup>1</sup>
LED steadily blinks ON and OFF at ½ Hz Rate (1 Sec = ON; 1 Sec = OFF)	Indicates normal operation for a decommissioned communication module

<sup>1</sup>Contact the Daikin Applied Controls Customer Support Group at 866-462-7829 for additional assistance, if necessary.

## LonWorks Network Connector (TB1)

The TB1 network connector joins the communication module to the LonWorks FTT-10 bus. The communication module is not polarity sensitive. See Table 1 for a description of the TB1 network pins and their function as well as Figure 1 for location of the TB1 connector.

**Table 2: Communication Module Network Connector Pins**

Pin	Designation	Function
1	Signal A / +	FTT-10
2	Signal B / -	FTT-10
3		Not Used

## 8-Pin Header

The 8-pin header connects the WSHP unit controller (via the SPI bus) to the communication module. See Figure 1 for location of the 8-pin header.

## Neuron ID

The basis of the LonWorks communication module is an Echelon Neuron integrated circuit (Neuron chip). Every Neuron chip has a unique 48-bit Neuron ID or physical address. The Neuron ID can be used to address the device on the LonWorks network, which is activated by pressing the service pin button. The Neuron ID is generally used only during initial installation or for diagnostic purposes. For normal network operation, a device address is used.

## Transceiver and Transformer

The Echelon Corporation® Free Topology transceiver is used in conjunction with the transformer. Together, they allow the unit to communicate on the LonWorks network with minimal noise. The transceiver supports free network topology (including ring, star, and daisy-chain) using unshielded, twisted pair cable with polarity insensitive connections at each node. Free topology segments require termination for proper transmission performance. Data transmission rate on the network is 78 kbps (baud). See Table 3 for network topology details and Figure 1 for hardware locations.

## Bus Termination

Bus termination resistors are used for properly terminating a network based on twisted pair cabling with attention to impedance.

## Network Specifications

Table 3 below summarizes the network characteristics that apply to the communication module.

**Table 3: Transmission Specifications**

Component	Description
Network Topology	Flexible Free Topology
Device Transceiver	FT3150
Cable Types	Belden 8471, NEMA Level 4, or Echelon-approved equivalent
Maximum Bus Length	1640 feet (500 meters) per segment
Maximum Node Separation	1312 feet (400 meters)
Data Transmission	Two-wire, half duplex
Data Transmission Rate	78 kbps (baud)

## LonMark Functional Profile Software

The communication module software translates the LonMark Standard Network Variable Types (SNVTs) and Standard Network Configuration Parameter Types (SCPTs) in accordance with the LonMark profiles used on the LonWorks network into the variables and parameters used in the unit controller.

The communication module is LonMark 3.4 certified and is configured in accordance with the LonMark SCC - WSHP functional profile. The unit controller, along with the communication module, is ready to operate with the default parameter values in the unit controller. Refer to the protocol document, ED 15103 ([www.DaikinApplied.com](http://www.DaikinApplied.com)).

## Installation and Mounting

The following section describes how to field install a new LONWORKS communication module or replace an existing module on the unit controller.

**CAUTION**

**Electrostatic discharge hazard. Can cause equipment damage.**

This equipment contains sensitive electronic components that may be damaged by electrostatic discharge from your hands. Before you handle a communication module, you need to touch a grounded object, such as the metal enclosure, in order to discharge the electrostatic potential from your body.

**WARNING**

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

This equipment must be properly grounded. Only personnel knowledgeable in the operation of the equipment being controlled must perform connections and service to the unit controller.

The communication module mounts on the WSHP unit controller with connector pins. It is held in place with four plastic locking standoffs. Field wiring connections to the LonWorks network are made at the three-terminal plug (TB1) on the communication module (Figure 1).

### Field Installation Kit

The LONWORKS communication module field-installed kit ships with the following items:

- The LONWORKS communication module
- Four plastic standoffs
- Network connector (attached to the communication module)
- DAT and RAT temperature sensors, LWT water temperature sensor, and one supply air temperature sensor
- Installation Manual, IM 927

Field installation or replacement and network connection requires the following:

- Flat head screwdriver
- Twisted pair network cable

See [Service Information](#) section for replacement kit part numbers.

### Installing a new Communication Module

Follow these procedures to install a new communication module on the WSHP unit controller so that it can be incorporated into a LONWORKS network.

1. Disconnect power from the WSHP unit controller.
2. Remove the unwired cable plug from the communication module TB1 network connector socket (Figure 1).
3. Locate the four standoffs on the communication module.

4. Install the four standoffs on the WSHP unit controller (Figure 2).
5. Locate the 8-pin header on the unit controller.
6. Orient the communication module so that the side with the components faces out and the connector socket can mate with the 8-pin header on the unit controller.
7. Push the communication module onto the connector pins and standoffs until you hear the faint click of the locking standoffs securing the communication module in place.
8. Connect the network wires into the network plug using a flat-head screwdriver.
9. Insert the network cable plug into the communication module TB1 network connector socket.
10. Apply power to the unit controller.

**NOTE:** Figure 2 shows where the 8-pin SPI header and P4 plug on the back of the communication module connect it to the unit controller.

**NOTE:** The communication module software version requires compatibility with the unit controller software version. Refer to the MicroTech III WSHP Unit Controller Operation and Maintenance manual, OM 1085 ([www.DaikinApplied.com](http://www.DaikinApplied.com)).

### Replacing a Communication Module

Follow these procedures to remove an existing communication module, replace it, and incorporate it into an existing LONWORKS network.

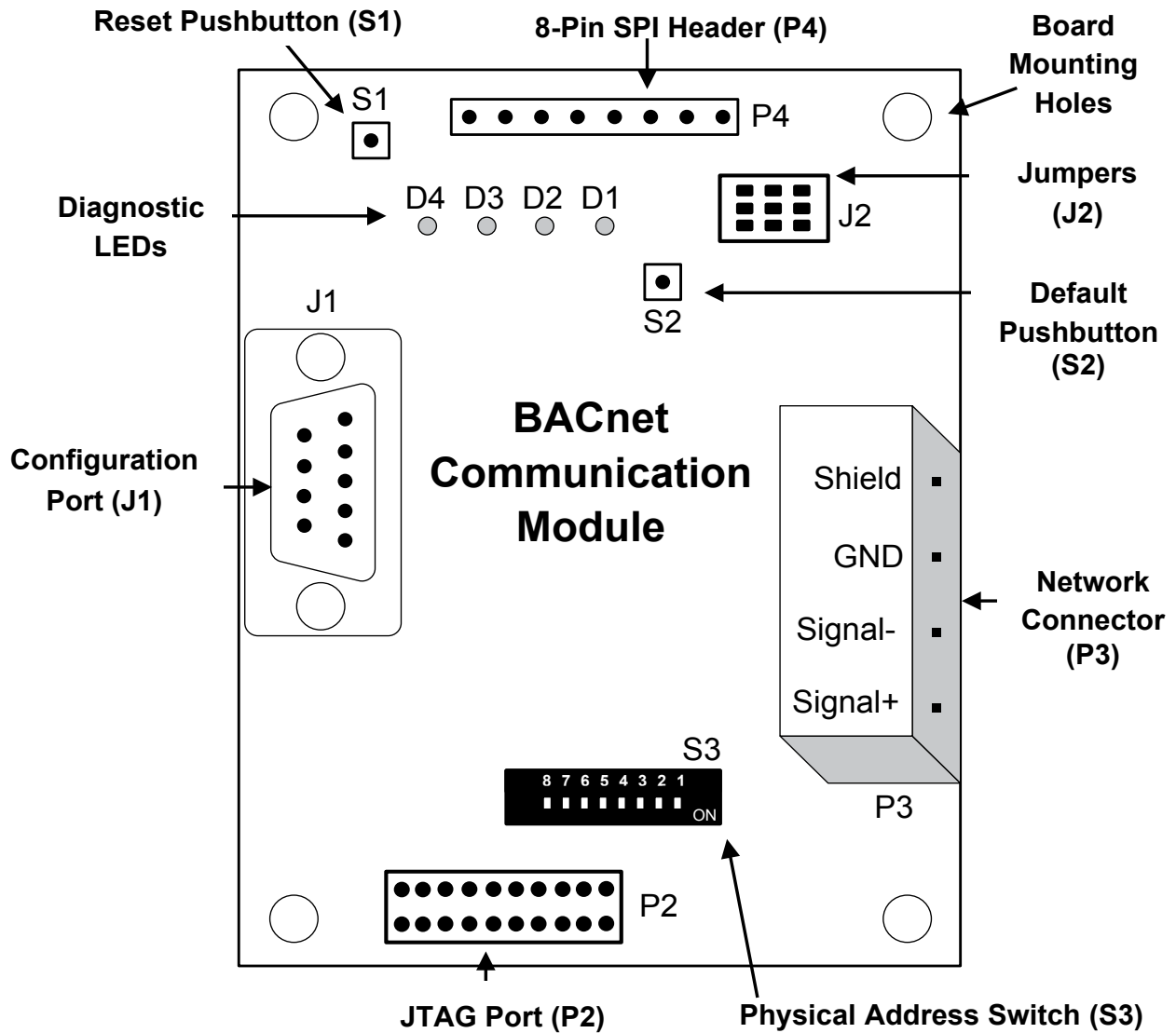
1. Disconnect power from the WSHP unit controller.
2. Remove the wired cable plug from the communication module TB1 network connector socket (Figure 1).
3. Locate the four standoffs for the communication module from the unit controller (Figure 2).
4. Depress the barb on one standoff and gently pull the corner of the communication module over the barb. Do not bend the communication module or misalign the connector pins.
5. Proceed to the other three corners, by carefully removing the communication module from each standoff, and pulling it over the standoffs.
6. Gently lift the communication module from the unit controller.
7. Locate the empty connector pins and four standoffs on the unit controller (Figure 2).
8. Orient the communication module so that the side with the components faces out and the connector socket can mate with the 8-pin header on the unit controller.
9. Push the communication module onto the connector pins and standoffs until you hear the faint click of the locking standoffs securing the communication module in place.

10. Insert the network cable plug into the communication module TB1 network connector socket.

11. Apply power to the unit controller.

**NOTE:** The communication module software version requires compatibility with the unit controller software version. Refer to OM 1085 ([www.DaikinApplied.com](http://www.DaikinApplied.com)) for complete details, or the [MicroTech III Software Compatibility](#) section at the end of this manual.

**FIGURE 2: LONWORKS Communication Module Mounted on the WSHP Unit Controller**



## LONWORKS Network Addressing

After the LONWORKS communication module has been installed, the unit controller is ready for integration into a building automation system (BAS). The following section explains how the communication module, together with the unit controller, support LONWORKS network addressing requirements. It then provides instructions for commissioning and configuring the communication module. Integrating the LONWORKS communication module into a BAS involves four steps:

- Commission by connecting the unit to the network
- Addressing and establishing communications with the unit
- Configuring the unit to the BAS
- Verifying the network communication

### Connecting to the Network

After the communication module has been properly installed on the unit controller, it is ready to be physically connected into the LONWORKS network. Follow these steps to commission the module and establish network communication:

1. Verify the communication module is attached properly to the unit controller.
2. Connect the network connector (TB1) pins 2 and 3, located on the communication module, to the LONWORKS network (Figure 1 and Figure 2).

### Commissioning

#### External Interface File (XIF) and Application Image (NXE) Files

The communication module is self-documenting so that any LONWORKS network management tool can obtain all the information needed over the network to connect it into the system and to configure and manage it.

An external interface file (a specially formatted PC text file with the extension .XIF) is required, along with LONWORKS network management tool, so that the device can be designed and configured prior to installation.

The communication module uses XIF/NXE and resource files specific to the Space Comfort Control (SCC) WSHP functional profile. The NXE file contains the application image that is downloaded into the communication module.

#### Resource Files

Resource files contain definitions of functional profiles, network variables types, configuration property types, and enumerations. Resource files are used during the commissioning process and are required for displaying user-specific variables that are not included in the standard device profile. These files must be downloaded to the BAS front end workstation or other commissioning device.

1. Download XIF, NXE, and Resource Files from either [www.DaikinApplied.com](http://www.DaikinApplied.com) or [www.lonmark.org](http://www.lonmark.org).

2. Use a LONWORKS network configuration tool, such as LonMaker® or OpenLNS CT, to map the device Neuron ID to the domain/subnet/node logical addressing scheme when it creates the network image, the network address, and connection information.
3. Confirm that the BAS is ready to receive a network device broadcast message.
4. Press the service pin button to address and establish communication.

**NOTE:** Pressing the service pin generates a service-pin message, which contains the Neuron ID and the Standard Program Identification code (SPID) of the device. A service pin message is a network message that is generated by a node and broadcast on the network.

### Configuration

As a general rule, the communication module does not require configuration unless advised by the network administrator. However, be aware that *Receive Heartbeat*, *Max Send Time*, and *Min Send Time* are typical parameters that may need to be changed for your network. They should be modified on an as-needed basis. Maintain default values if possible.

Refer to MicroTech III WSHP Unit Controller Protocol Information, ED 15103, for a complete description of all LONWORKS network data points supported by the unit controller.

### Network Addressing Requirements

Every Neuron Chip has a unique 48-bit Neuron ID or physical address. This address is generally used only at initial installation or for diagnostic purposes. For normal network operation, a device address is used. Device addresses are defined at the time of network configuration. All device addresses have three parts:

1. The Domain ID that designates the domain. Devices must be in the same domain in order to communicate with each other.
2. The Subnet ID that specifies a collection of up to 127 devices that are on a single channel or a set of channels connected by repeaters. There may be up to 255 subnets in a domain.
3. The Node ID that identifies an individual device within the subnet. A group is a logical collection of devices within a domain. Groups are assembled with regard for their physical location in the domain. There may be up to 256 groups in a domain. A group address is the address that identifies all devices of the group. There may be any number of devices in a group when unacknowledged messaging is used. Groups are limited to 64 devices if acknowledged messaging is used. A broadcast address identifies all devices within a subnet or domain.



## Verifying the Network Address

A wink command is initiated by the BAS or through the LONWORKS commissioning software. The “wink” unit identification function allows verification of an individual unit network address without opening the unit access panels. The Wink command can be used during all operating and non-operating (ex. Alarm) modes except for the following conditions:

- Invalid Equipment Configuration Alarm
- Emergency Shutdown Alarm

Upon receiving a wink command from a network management node, the unit controller exhibits the following identification sequence (all occur simultaneously):

- Room Sensor LED: flashes ON 3 seconds, then OFF 3 seconds for 15 total seconds, unless an alarm condition exists.
- Fan: the fan turns OFF for 5 seconds then ON 5 seconds, then OFF again for 5 seconds.

## Troubleshooting

Follow these procedures if you can control the unit from the local room sensor, but is not communicating to the network:

### Network Wiring and Connections

- Check for faulty cable connectors at the LONWORKS communication module and throughout the network.
- Determine if there is a network ground fault.
- For network terminal connections, twist the wires together a minimum of three times.
- Use only approved cable. Do not use different wire types on the same bus.
- Follow the bus length limits for the cable type.
- Confirm that you have the correct transceiver.
- Make sure that the network trunk avoids strong sources of electromagnetic interference (EMI).
- Verify that the network trunk is not located near a DC load switch (relay) unable to communicate with the unit:
- Check addressing. Press the Service Switch on the communication module to send the service message to the network. The service-switch message contains the Neuron ID and the Standard Program Identification code (SPID) of the device, or node.

### Bus terminators

Errors from bus termination can have the following results:

- Signal level too low could indicate the wrong bus terminator or too many terminators.
- Signal level too high could indicate a high-level signal or signal reflections point due to a missing or wrong bus terminator, or that bus terminators are placed incorrectly.
  - Verify that the correct terminators are used based on your network topology.

Free topology should have a single 52.3 Ω bus terminator at busiest point of network.

Line topology should have two (2) 105 Ω bus terminators at both network ends.

### Network Performance

- If network traffic is slow, communication is intermittent, or the trunk is experiencing “noise,” it may be necessary to use a network protocol analyzer or oscilloscope to determine the source of poor performance.
- Confirm power is applied to the unit controller.

## Parts

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

Refer to the next section ([MicroTech III Software Compatibility](#)) for further details when referencing the part numbers shown in [Table 4: Replacement Kits](#).

**Table 4: Replacement Kits**

Description <sup>1</sup>	Part Number
<b>MicroTech III Enfinity WSHP LONWORKS field installation kit</b> Includes communication module, four stand-offs, 3-pin network connector, DAT and RAT temperature sensors, LWT water temperature sensor, and one supply air temperature sensor  For use on units with baseboard controller software PN 2506900xxx. Provide unit serial number or sales order number when ordering	107293070
<b>MicroTech III Enfinity WSHP LONWORKS replacement module</b> Includes: LONWORKS module only  Provide unit serial number or sales order number and request application software PN 2506902031 (v3.1) or newer when ordering	668105801
<b>MicroTech III SmartSource WSHP LONWORKS field installation kit</b> Includes communication module, four stand-offs, 3-pin network connector, DAT and RAT temperature sensors, LWT water temperature sensor, and one supply air temperature sensor  For use on units with baseboard controller software PN 2506900xxx. Provide unit serial number or sales order number when ordering	910128888
<b>MicroTech III WSHP SmartSource LONWORKS replacement module</b> Includes: LONWORKS module only  Provide unit serial number or sales order number and request application software PN 2508063060 (v6.0) or newer when ordering	668105801
<b>MicroTech III Enfinity WSHP Large Two Compressor LONWORKS field installation kit</b> Includes communication module, four stand-offs, 3-pin network connector, DAT and RAT temperature sensors, LWT water temperature sensor, and one supply air temperature sensor  For use on units with baseboard controller software PN 2506900xxx. Provide unit serial number or sales order number when ordering	910182240
<b>MicroTech III Enfinity WSHP Large Two Compressor LONWORKS replacement module</b> Includes: LONWORKS module only  Provide unit serial number or sales order number and request application software PN 2508072011 (v1.1) or newer when ordering	668105801

<sup>1</sup> Note that the network wire is not included in the kit.

## MicroTech III Software Compatibility

Table 5 - Table 7 describe the compatibility among the MicroTech III WSHP unit controllers and LONWORKS communication module hardware/software versions. Use for general troubleshooting or before ordering a replacement module.

**Table 5: LONWORKS Software for MicroTech III Infinity WSHPs**

MicroTech III Infinity WSHP									
LonWorks Module Software: 2506902 Hardware: 668105801	Baseboard Software: 2506900 Hardware: 668105601								Baseboard Software: 2508085 Hardware: 668105611
	v2.5	v2.6	v2.7	v2.8	v2.9	v3.0	v3.1	v3.2	v1.0
v2.5 <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>2</sup>
v2.7 <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>2</sup>
v2.8 <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>2</sup>
v3.0 <sup>1</sup>	Yes	Yes	Yes	Yes	Yes	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>2</sup>
v3.1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

<sup>1</sup> LONWORKS software v3.1 or greater is recommended for optimal network communications performance.

<sup>2</sup> Low Entering Water Temperature (EWT) alarm is not supported by the communication module.

**Table 6: LONWORKS Software for MicroTech III SmartSource WSHPs**

MicroTech III SmartSource WSHP					
LonWorks Module Software: 2508063 Hardware: 668105801	Baseboard Software: 2508060 Hardware: 668105601				Baseboard Software: 2508078 Hardware: 668105611
	v5.0	v6.0	v6.1	v6.2	v1.0
v5.0 <sup>1</sup>	Yes	Yes	Yes	Yes	Yes
v6.0	Yes	Yes	Yes	Yes	Yes

<sup>1</sup> LONWORKS v6.0 or greater is recommended for optimal network communication performance.

**Table 7: LONWORKS Software for MicroTech III Infinity Large Two Compressor (SS2C) WSHPs**

MicroTech III Infinity WSHP Large Two Compressor (SS2C)				
LonWorks Module Software: 2508072 Hardware: 668105801	Baseboard Software: 2508069 Hardware: 668105601			Baseboard Software: 2508088 Hardware: 668105611
	v1.0	v1.1	v1.2	v1.0
v1.0 <sup>1</sup>	Yes	Yes	Yes	Yes
v1.1	Yes	Yes	Yes	Yes

<sup>1</sup> LONWORKS v1.1 or greater is recommended for optimal network communication performance.

## MicroTech III WSHP Unit Model Descriptions

- MicroTech III Infinity WSHP = Single Speed Models MHC/MHW, CCH/CCW (5-Ton or Less), VFC/VFW, LVC/LVW, VHC/VHF
- MicroTech III SmartSource WSHP = Single and Two Speed Compressor Models GSH/GSV, GTH/GTV, GCV
- MicroTech III Infinity WSHP Large Two Compressor (SS2C) = Models CCH/CCW (6-Ton or Greater), LVC/LVW

## Technical Support

Contact the Daikin Applied Controls Customer Support Group at 866-462-7829 for additional assistance, if necessary.

Refer to the appropriate MicroTech III WSHP Unit Controller Operation Manual for additional information about unit parameters and modifying unit setpoints. Also refer to the WSHP Unit Controller Software Downloading Procedures and Troubleshooting Guide, OM 1085, as well as the Unit Controller Integration Guide for all LONWORKS variables and other network communication information.

See [Reference Documents](#) for literature descriptions and locations.



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

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

### ***Warranty***

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

### ***Aftermarket Services***

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

This document contains the most current product information as of this printing. For the most up-to-date product information, please go to [www.DaikinApplied.com](http://www.DaikinApplied.com).

Products manufactured in an ISO Certified Facility.