DOWNLOAD AND TROUBLESHOOTING

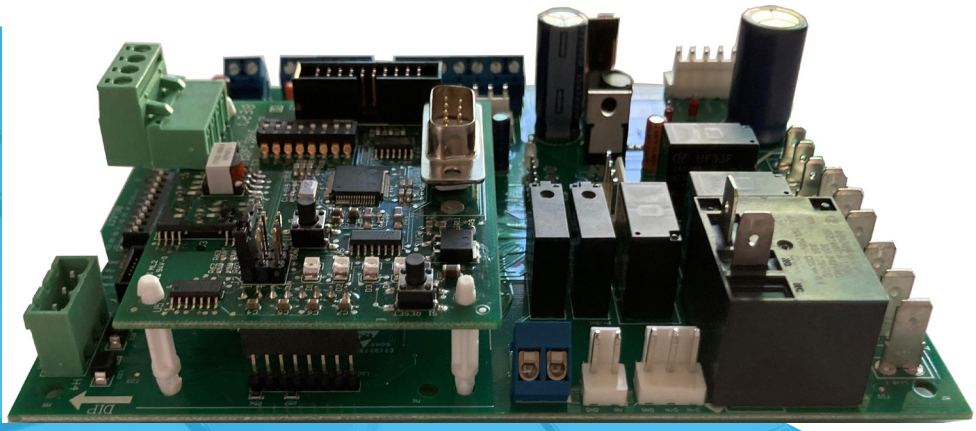
OM 1362-3

MAY 2026

MICROTECH® SMARTSOURCE® WSHP CONTROLLER

MT2300 WSHP SOFTWARE DOWNLOAD AND CONFIGURATION

- WSHP UNIT CONTROLLER
- I/O EXPANSION MODULE
- BACNET® COMMUNICATION MODULE



- SMARTSOURCE® HORIZONTAL UNITS
- MODELS: SCH/SDH, SMH/SNH, SSH/STH, SCV/SDV, SMV/SNV, SSV/STV, SLH, SLV, SVC, SRC
- R32 REFRIGERANT

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General Information

Description

This manual describes how to download and configure the MicroTech® SmartSource® WSHP (MT2300) unit controller baseboard, I/O expansion module, and BACnet communication module. The software download process covered in this manual applies to SmartSource Single/Two Stage and Dual Compressor WSHP R32 models.

The content is intended for support personnel and field service technicians familiar with controls.

It is assumed that hardware has been installed and is functioning properly. Refer to Table 1 for MicroTech MT2300 controls hardware part numbers and Reference Documents for product manuals.

Hazardous Information Messages

DANGER

Danger indicates a hazardous situation, which will result in death or serious injury if not avoided.

⚠ WARNING

Warning indicates a potentially hazardous situations, which can result in property damage, personal injury, or death if not avoided.

⚠ CAUTION

Caution indicates a potentially hazardous situations, which can result in minor injury or equipment damage if not avoided.

NOTICE

Notice indicates practices not related to physical injury.

Reference Documents

Number	Company	Title	Source
ANSI/ ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers	A Data Communication Protocol for Building Automation and Control Networks	www.ashrae.org
ED 19129	Daikin Applied	SmartSource MT2300 WSHP Network Protocol Information Manual	www.DaikinApplied.com
OM 1364		SmartSource MT2300 WSHP Unit Controller Operation Manual	
IM 1363		SmartSource MT2300 WSHP BACnet Communication Module Installation Manual	
IM 956		Temperature Sensors for WSHP Unit Controllers	

Introduction

Getting Started

This section describes the programming tools and instructions for downloading and configuring the MicroTech SmartSource (MT2300) WSHP unit controller baseboard, I/O expansion module, and BACnet communication module.

Refer to Table 1 for MicroTech (MT2300) WSHP hardware and software part numbers and Table 2 for programming tools and specifications.

Terminology

MT2300 Unit Controller

The WSHP baseboard hardware used with SmartSource Horizontal Compact Single/Two Stage or Dual Compressor WSHP R32 unit model applications.

I/O Expansion Module

Optional board that provides additional capability for variable speed fan PWM, compressor high speed or second compressor, electric and hydronic heating, waterside economizer, and dehumidification control inputs/outputs. The I/O expansion module connects to the unit controller baseboard with an interface cable. It is included when any of these options have been selected with the unit.

J-Flash File

The project file type used to specify the Jflash software configuration settings. There is a separate J-Flash file for the baseboard, I/O expansion module, and BACnet module.

Segger Programmer Tools

The Segger Microcontroller J-Link PLUS hardware and J-Flash software tools are used to download firmware to the MT2300 WSHP controller baseboard, I/O expansion module, and BACnet communication module board microcontrollers (MCU).

NOTE: The J-Link PLUS hardware includes the license that enables the use of the J-Flash software.

MCU

The microcontroller unit chip. It uses embedded Flash memory to store and execute the application.

SWD

Serial Wire Debug (SWD) electrical interface is used to program and debug the ARM microcontrollers on the MT2300 unit controller baseboard and MT2310 I/O expansion module.

Table 1: MT2300 WSHP Part Numbers

Part Numbers	Hardware	Software
MicroTech Unit Controller (Baseboard)	910384405	2507441021
I/O Expansion Module	910384386	2507442020
BACnet Communication Module	668105901	2507443020

NOTE: ***With one exception, the MicroTech MT2300 SmartSource WSHP unit controller, IO and BACnet software are not compatible with the previous MicroTech III WSHP hardware. The MT2300 controller baseboard and I/O expansion module hardware cannot be used to replace MicroTech III hardware. The exception is the BACnet communication module. Although the hardware is the same, it does require different software in order to be compatible with newer MicroTech (MT2300) controllers.***

Table 2: MicroTech (MT2300) WSHP Programming Tools - Unit Controller Baseboard and I/O Expansion Module

Programming Files Required for Baseboard (PN 910384405) and I/O Expansion Module (PN 910384386)
Renesas RA2L1 Family – Model R7FA2L1AB ARM Cortex–M23 MCU with 256 KB Flash, 32 KB RAM
The software is an Extended Hex format ".hex" type file along with the associated ".jflash" project files. All files must be saved to the local hard drive. The J-Flash project file name for the baseboard is "MT2300_wshp.jflash" and the I/O expansion module project file name is "MT2310_wshp.jflash"
Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com to request a copy of these files
Segger J-Link Plus Programming Hardware
Programming requires the Segger J-Link Plus hardware version 9 or newer
The J-Link Plus and technical support resources are available from the Segger website: J-Link Plus Programmer
Segger J-Link Plus Serial Wire Debug (SWD) Interface Cable
Programming requires an additional 9-pin Cortex–M Serial Wire Debug (SWD) interface cable (Figure 2) that connects the J-Link programmer JTAG port to the SWD connector on the baseboard and I/O expansion module. The SWD interface cable is not included with the J-Link Plus programmer and must be purchased separately. The cable and supporting documentation is available from the Segger website: J-Link Interface Cable
Segger J-Flash Programming Software
Segger J-Flash software and documentation pack can be downloaded from the Segger website: J-Flash Software
Specifications and Related Notes
Power to unit controller baseboard: 24 VAC
I/O expansion module obtains 5 VDC from the unit controller baseboard
SWD 10-pin port located on baseboard and I/O expansion module are used only for programming
DIAGNOSTIC serial port on baseboard is used only for unit controller diagnostic purposes

Table 3: MT2300 WSHP Programming Tools - BACnet Communication Module

Programming Files Required for BACnet Communication Module (PN 668105901)
Microchip / Atmel – Model AT91SAMS256 ARM Cortex–M23 MCU with 256 KB Flash, 32 KB RAM
Downloadable software is in the Intel Extended Hex format with the ".hex" file extension along with the associated "MT2300_BACnet.jflash" J-Flash project file
Contact the Daikin Applied Technical Response Team at 315-282-6434 to request a copy of the BACnet files
Segger J-Link Plus Programming Hardware
Programming requires the Segger J-Link Plus hardware. The J-Link Plus can be purchased along with the specifications from the Segger website: Segger J-Link Programmer. Incudes 20-pin JTAG interface cable
Segger J-Flash Programming Software
Segger J-Flash software and documentation pack can be downloaded from the Segger website: J-Flash Software
Specifications and Related Notes
VDC power supplied from the baseboard to the BACnet communication module
The 20-pin JTAG port on the BACnet communication module is used only for programming. See Figure 15 (P2)
The 9-pin EIA-232 serial port on the BACnet communication module is available to configure the network communication settings and also for diagnostics. See Figure 15 (J1)

Download and Configuration

Download and Install J-Flash Programming Software

The following describes how to download and install the Segger J-Flash (J-Flash) programming software.

The J-Flash software is needed before downloading firmware to the WSHP unit controller baseboard, I/O expansion module, and/or BACnet communication module.

Getting Started

You will need the following:

- PC with a Windows-compatible operating system
- Segger J-Link PLUS programmer hardware (Table 2). Also see Caution below.

1. Acquire the Segger J-Link PLUS programmer (Figure 1) and 9-pin SWD interface adapter assembly (Figure 2) as described in Table 2. Figure 3 shows the programmer fully assembled for SWD (i.e. baseboard and I/O expansion module) configuration.

Figure 1: Segger J-Link PLUS Debugger/Programmer

Figure 2: Segger -Link PLUS 9-pin Adapter

Figure 3: Segger J-Link PLUS for SWD Configuration (Baseboard and I/O Expansion)

2. Download the latest 32 or 64-bit version of J-Flash software, depending on the PC operating system. Refer to the Segger website provided in Table 2.

⚠ CAUTION

Do not use Segger J-Flash v8.68 or v8.70 software versions. Only qualified personnel should download software to WSHP unit controller baseboard, I/O expansion module, or BACnet module hardware in the field. Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com for additional assistance.

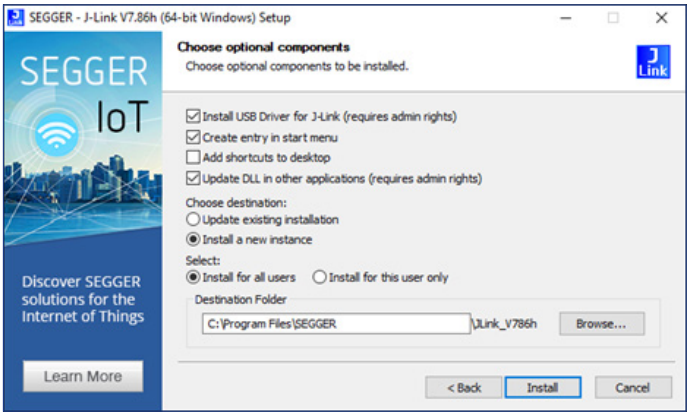
NOTE: The J-Link programmer cable must not be connected to the PC during J-Flash software installation. Verify that this cable is not attached before proceeding.

3. Begin the J-Flash software installation process by right clicking on the downloaded installer .exe file and choosing “Run as Administrator.”
4. Configure the optional components as shown in Figure 5 and click Install.
5. After the software files have be installed, click Finish.
6. Connect the J-Link hardware to the USB port on the PC using the J-Link USB interface cable. This automatically installs the latest J-Flash software drivers.

The J-Flash software installation process is now complete. The WHSP unit controller baseboard, I/O expansion module, and BACnet module software can be downloaded as described in the following sections.

Figure 4: Segger J-Link PLUS for JTAG Configuration (BACnet Module)

Figure 5: J-Link Setup: Optional Component Settings



Download and Configure Unit Controller and I/O Module Firmware

This section describes how to install and configure the MT2300 unit controller (baseboard) or I/O expansion module. There are two options for programming the hardware:

1. MT2300 Series WSHP Firmware Download LabVIEW Application Installer (download file from www.daikinapplied.com).
2. Segger J-Flash Software

Option 1: MT2300 Firmware Download Installer Application (Recommended)

The Daikin MT2300 Firmware Download Application is used to program both the baseboard and the I/O expansion module. The interface does the following:

1. Displays an image of the selected PCB board (i.e.baseboard or I/O expansion module) to be programed. This allows the user to confirm that the correct board is connected prior to programming.
2. Automatically verifies firmware (.hex) file accuracy and integrity by comparing the "Hex File CRC" and "Data CRC" against their expected values.
3. Confirms the MT2300 WSHP files are correct and located in the desired directory.
4. Installs the latest firmware .hex files, LabVIEW user interface application, and J-Flash project files.

Requirements

- WSHP unit controller baseboard
- I/O expansion module (if needed), connected to the unit controller using the interface cable
- BACnet communication module (if needed), installed on the unit controller
- Segger J-Flash software installed
- Segger J-Link PLUS and SWD Interface adapter hardware installed. See Figure 6 for SWD connector port location

Install the MT2300 Series WSHP Firmware Download LabVIEW Application

1. Obtain the latest "MT2300 Firmware Download Installer.zip" file. The zip file includes the "install.exe" and user manual for reference.

NOTE: Contact Daikin Applied Controls Customer Support group at 866-462-7829 or DaikinControls@daikinapplied.com to request the file. The installer can also be downloaded directly from www.daikinapplied.com.

2. Disconnect the Segger J-Link hardware USB cable from the PC port.
3. Save the MT2300 Firmware Download Installer.zip file to the local hard drive.
4. Unzip the MT2300 Firmware Download Installer.zip file to a temporary folder.
5. Double click “install.exe” in the temporary folder to launch the installer. Use the default installation options.
6. Delete the temporary folder when complete.

Run the MT2300 Series WSHP Firmware Download LabVIEW Application

1. Power down the unit controller.
2. Connect the Segger J-Link hardware USB cable to the PC.
3. Insert the 20-pin end of the SWD adapter assembly PCB into the J-Link JTAG port (Figure 6).

4. Connect the 10-pin end of the SWD adapter cable to the SWD programming port on the unit controller (Figure 6) or I/O expansion module (Figure 13).
5. Apply power to the unit controller.
6. Use the “MT2300_Series_WSHP_Firmware_Download” Shortcut to run the application.
7. Set the Board Type to either Base Board or IO Board. Confirm that the image shown in the application represents the physical board being programmed.

NOTE: Perform step 8 only if running the application for the first time.

8. Click the folder icon to specify the “JFlash.exe” file location.

NOTE: The JFlash.exe is typically located in C:\Program Files\SEGGER\JLink_V###, where ### indicates the installed J-Flash version number.

9. Click the “PROGRAM” button and confirm proper board connection.
    a. If correct board is indicated, click Yes when pop-up messages appears.
10. Verify the “Target erased, programmed and verified successfully” message appears.
11. Power down the unit controller.
12. Remove the 10-pin end of the SWD adapter cable from the SWD port.
13. (Optional but recommended) Verify the unit controller baseboard, I/O expansion module, and BACnet module (if used) have the correct firmware using the MT2300 WSHP diagnostic cable connected to the unit controller.

Also refer to the Setting Firmware and Configuration Properties to Default Values section if desired.

Option 2: Segger J-Flash Software

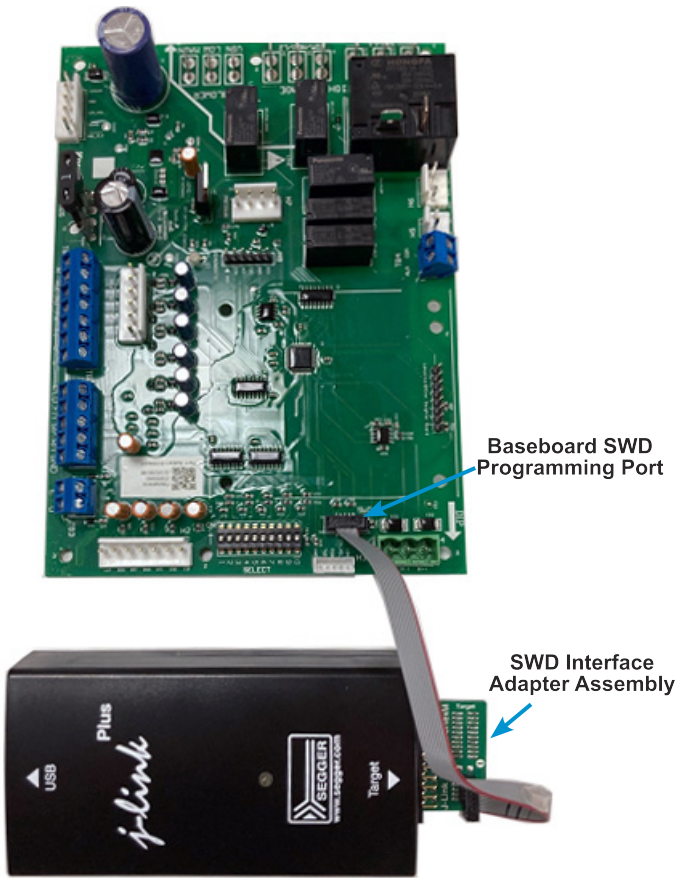
Requirements

- WSHP unit controller baseboard
- I/O expansion module (if required), connected to the unit controller using the interface cable
- The most recent application firmware ".hex” file(s), saved to the hard drive:
    - Unit controller: "MT2300_WSHP 2507441021.hex" (download file from www.daikinapplied.com).
    - I/O expansion module: "MT2310_WSHP 2507442020. hex" (download file from www.daikinapplied.com).
- Segger J-Link PLUS and SWD Interface adapter hardware installed. See Table 2 for SWD connector port location.
- Segger J-Flash programming software installed
- J-Flash Project file(s), saved to the hard drive:
    - Unit controller: "MT2300_wshp.jflash" (download file from www.daikinapplied.com).
    - I/O expansion module: "MT2310_wshp.jflash" (download file from www.daikinapplied.com).

NOTE: Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com to request a copy of firmware files, if needed.

1. Power down the unit controller.
2. Connect the 20-pin end of SWD adapter printed circuit board (PCB) into the J-Link JTAG port (Figure 6).
3. Connect the 10-pin end of the SWD adapter cable to the SWD programming port on the base unit controller (Figure 6) or I/O expansion module (Figure 13) to be programmed.
4. Apply power to the unit controller.

Figure 6: J-Link Attached to Unit Controller SWD Port

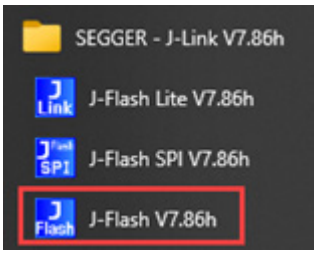


⚠ WARNING

Do not remove power from the unit controller or unplug any interface cables during the programming process to prevent possible equipment damage.

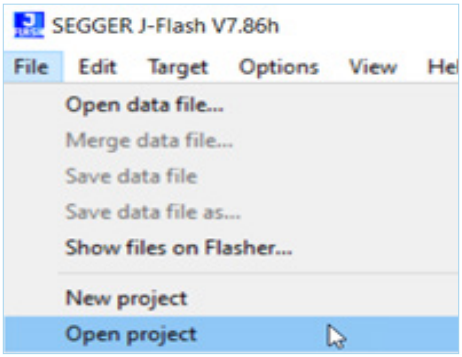
5. Open the Segger J-Flash programming software from the Start menu (Figure 7).

Figure 7: Open J-Flash From Start Menu



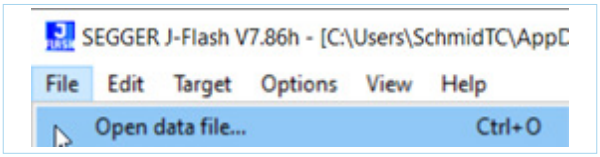
6. Update the firmware in the J-Link hardware if a pop-up message appears.
7. Click on File / Open project from the tool bar and select the appropriate ".jflash" project file that was saved to the hard drive (below.)
   - Unit controller: "MT2300_wshp.jflash"
   - I/O expansion module: "MT2310_wshp.jflash"

Figure 8: J-Flash: Open Project



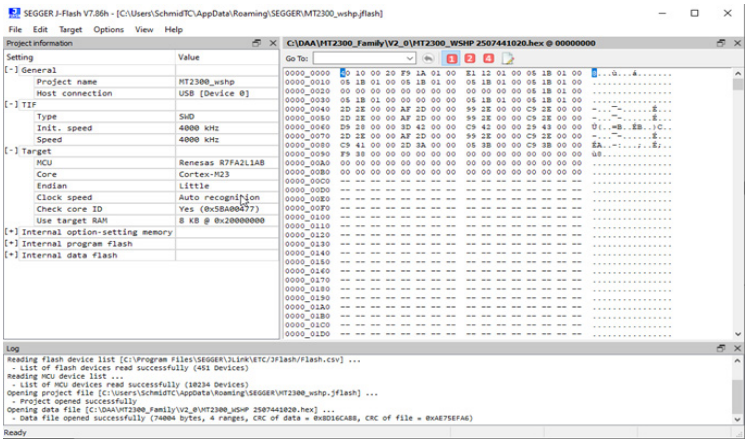
8. Click on File / Open Data File from the tool bar and select the desired firmware ".hex" file that was saved to the hard drive (below.)
   - Unit controller: "MT2300_WSHP 2507441021.hex"
   - I/O expansion module: "MT2310_WSHP 2507442020.hex"

Figure 9: Open Data File



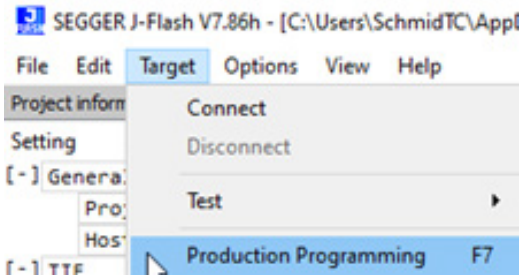
9. Figure 10 shows the J-Flash screen that appears when a single project and data file are properly loaded. Verify that the J-Flash "CRC of data" and "CRC of file" hexadecimal numbers match the values specified in Table 7.

Figure 10: J-Flash: Project File Loaded Correctly



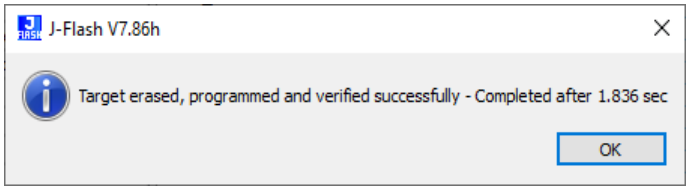
10. Click on Target / Production Programming from the tool bar to start the MCU programming process.

Figure 11: J-Flash: Production Programming



13. Confirm the firmware has been properly downloaded and verified in the Target MCU (Figure 12), then click OK.

Figure 12: J-Flash: Target MCU Download Successful



14. Close the J-Flash program to complete the programming process.
15. Power down the unit controller.
16. Disconnect the J-Link SWD connector on the printed circuit board.
17. Refer to Table 4 (unit controller) and Table 5 (I/O expansion module) to verify that the configuration switches are properly positioned for the WSHP unit model and desired options.

Programming is now complete, and the board is ready to use.

18. If needed, repeat the programming process steps 1-17 for additional boards. Refer to Table 1 for compatible hardware and software part numbers.

Figure 13: J-Link SWD Cable Connected to I/O Expansion Module SWD Port

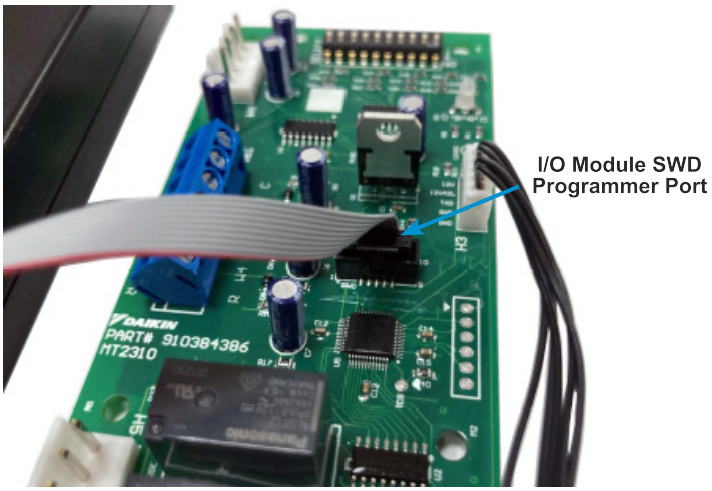
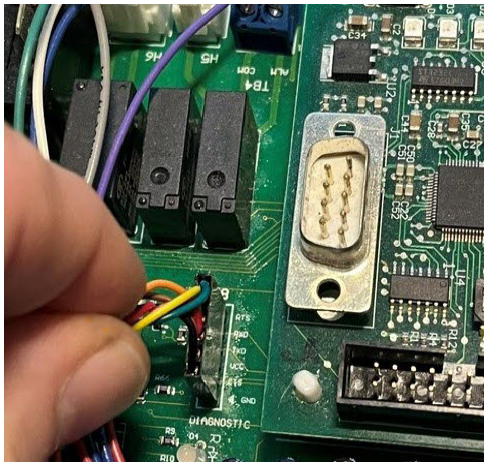


Figure 14: Diagnostic Cable Connection to Unit Controller Baseboard



Verify Firmware and Set Configuration Properties to Default Values

This section describes how to verify firmware and set unit control configuration properties to default values using the "low-level diagnostics" serial port on the unit controller.

Requirements

- FTDI TTL–R232R–5V (1.8m) to USB serial converter cable

Instructions

1. Power down the unit controller.
2. Verify the USB end of the diagnostic cable is disconnected from the PC.
3. Connect the 6-pin diagnostic cable connector to the unit controller baseboard H8 diagnostic port (Figure 14).
4. Apply power to the unit controller.
5. Connect the USB end of the diagnostic cable to the PC.
6. Open the Terminal Emulator program (i.e., PuTTY).
7. Configure Diagnostic Serial Port for these settings:
   - 115200 bps
   - 8-Data
   - 1-Stop
   - No Parity
   - No Flow Control
8. Open the low-level diagnostic serial port.
9. Press the ? key to verify correct firmware is loaded into the unit controller baseboard, I/O expansion module, and/or BACnet module.
10. Press the F key, to reset the Configuration Properties to default values.
11. Verify the "CP Set To Default" message appears.

> **⚠ CAUTION**
>
> Only perform compressor brownout calibration if the 24VAC baseboard voltage is within normal operating parameters; otherwise skip steps 11a & 11b.

    a. Press the # key.
    b. Verify the Comp Brownout Ref Setpoint (AV:9) now has a value other than the 1600 default value. This appears in the diagnostic message as "Brown=1600(L)."
12. Press the W key to immediately write the EEPROM memory. Verify the "EE-Write=Pass" message appears.
13. Close the Terminal Emulator program.
14. Disconnect the USB end of the diagnostic cable from the PC.
15. Power down the unit controller.
16. Disconnect the 6-pin diagnostic cable connector from the baseboard H8 port.

Download BACnet Communication Module Firmware

Getting Started

You will need the following:

- WSHP unit controller baseboard, described in Table 1
- BACnet communication module hardware, installed on the unit controller (Figure 25 and Table 1)
- Segger J-Link PLUS and 20-pin JTAG Interface cable with requirements as specified in Table 3
- Installed Segger J-Flash programming software
- BACnet communication module ".hex" and ".jflash" project files saved to the hard drive (download file from www.daikinapplied.com).

⚠ CAUTION

Only qualified personnel are authorized to download software to the BACnet communication module. Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com for additional assistance.

The instructions provided here support the J-Link hardware and J-Flash software supplied by Segger Microcontroller. Figure 15 shows the important programming features of the BACnet communication module for reference during the configuration process.

Installation and Setup

1. Power down the unit controller.
2. Remove (if connected) the jumper from pin 1 and pin 2 on J2 of the BACnet communication module.
3. Connect one end of the 20-pin JTAG interface cable to the J-Link JTAG port (Figure 16).
4. Connect the other end of the JTAG interface cable to the P2 connector on the BACnet module (Figure 16).
5. Apply power to the unit controller
6. Open the Segger J-Flash programming software from the start menu.

⚠ WARNING

Do not remove power from the unit controller or unplug any interface cables during the programming process to prevent possible equipment damage.

7. Update the firmware in the J-Link hardware if a popup message appears.
8. Click on File / Open Project from the tool bar and browse to the hard drive location of the desired "MT2300_ BACnet.jflash" project file (Figure 17).

Figure 15: BACnet Communication Module Features

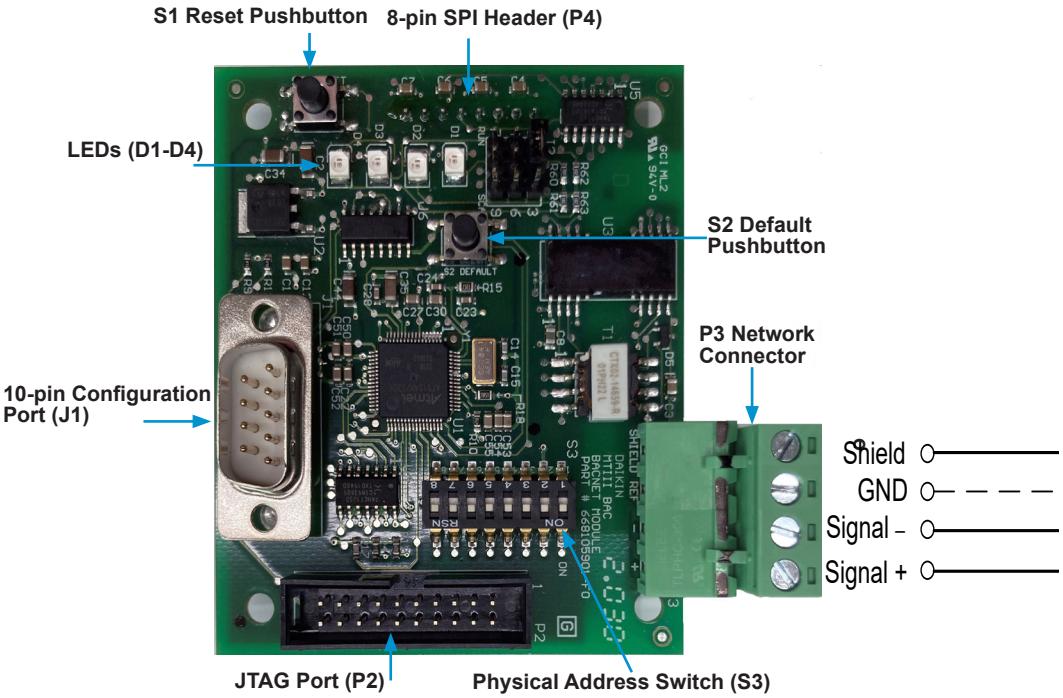
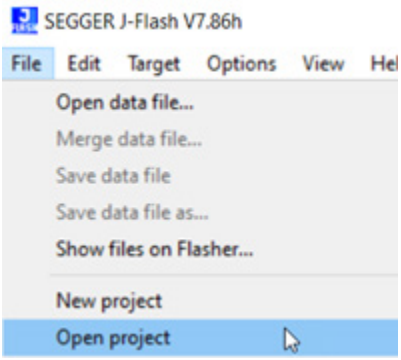


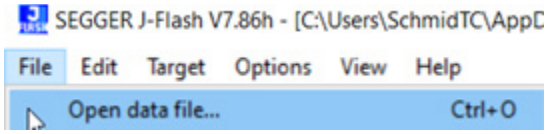
Figure 16: J-Link Programmer Connected to BACnet Module

Figure 17: Open Project



9. Click on File / Open Data File from the tool bar and browse to the hard drive location of the desired ".hex" file (Figure 18).

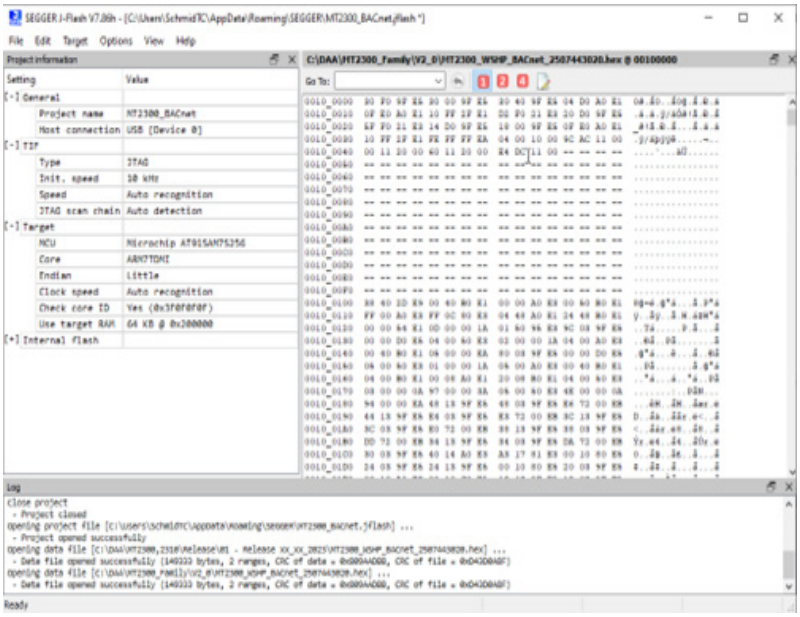
Figure 18: Open Data File



NOTE: The BACnet module software uses the data file MT2300_WSHP_BACnet_2507443020.hex as of this printing. Contact Daikin Applied Technical Support to verify the proper .hex file, if necessary.

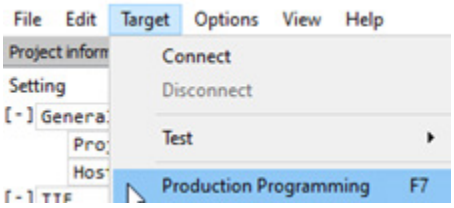
10. Figure 19 shows the J-Flash screen that appears when a single project and data file are properly loaded. Verify that the J-Flash "CRC of data" and "CRC of file" hexadecimal numbers match the values as specified in Table 7.

Figure 19: J-Flash: Project File Loaded Correctly



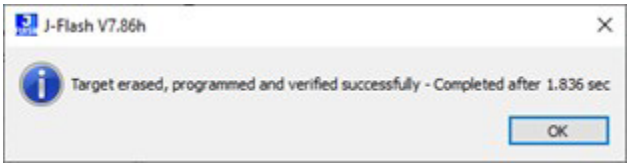
11. Click on Target/Production Programming to start the MCU programming process (Figure 20).

Figure 20: Production Programming



12. Confirm the firmware has been properly downloaded and verified in the Target MCU (Figure 21) and click OK.

Figure 21: Target Programming Successful



13. Close the J-Flash program to complete the programming process.
14. Power down the unit controller.
15. Disconnect the J-Link JTAG connector from the P2 connector on the BACnet communication module.
16. Proceed to the next section to confirm the BACnet communication module parameters are set to default values.

Setting BACnet Communication Module Parameters to Default Values

⚠ CAUTION

The following procedure returns all BACnet parameters to factory default values. It is recommended that existing parameters are saved prior to starting this process. See the Appendix in the MicroTech SmartSource WSHP BACnet Communication Module IM 1362 and related Protocol Document, ED 19129 (www.DaikinApplied.com) for additional information.

1. Press and hold the Default and Reset push buttons on the BACnet communication module as shown in Figure 15.
2. Apply power to the unit controller.
3. Release the Reset push button, continuing to hold the Default push button until all four BACnet communication module LEDs (D1 to D4) are on steady (Figure 15).
4. Verify that application is operating correctly by observing the following LED activity:
    a. LED D1 flashes on and off approximately every half second. Indicates BACnet application is running.
    b. LED D2 flashes in bursts approximately every half second. Indicates communication between the unit controller and the BACnet communication module.
    c. LED D3 flashes for each message transmitted to the MS/TP network.
    d. LED D4 flashes for each message received from the MS/TP network.

All BACnet communication parameters have now been returned to default settings. Configure network values as required.

NOTE: Refer to the following Troubleshooting and FAQ section. If necessary, contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com for technical assistance.

Troubleshooting and FAQ

Service and Support

The unit controller (Table 4) and I/O expansion module (Table 5) configuration switch options described here can be helpful when diagnosing and troubleshooting the unit.

Refer to the WSHP Unit Controller OM (Reference Documents) for complete details about LED activity, faults, and additional troubleshooting topics.

Table 4: Unit Controller Baseboard Configuration Switch Settings

Description	Switch	Setting	Description
Normal / Test Mode	1	Sw1 = OFF (0)	Normal Operation
		Sw1 = ON (1)	Service / Test Mode
Fan Operation	2	Sw2 = OFF (0)	Continuous Fan Operation (ON)
		Sw2 = ON (1)	Cycling Fan Operation (Auto)
Loop Fluid	3	Sw3 = OFF (0)	Water Loop Fluid
		Sw3 = ON (1)	Glycol Loop Fluid
Freeze Fault Detect (FFD)	4	Sw4 = OFF (0)	Disabled FFD
		Sw4 = ON (1)	Enabled FFD (LWT Sensor Required)
Room Sensor Setpoint Adjust Range	5	Sw5 = OFF (0)	Short Range –5 to +5°F (-2.78 to +2.78°C)
		Sw5 = ON (1)	Long Range 55 to 95°F (12.78 to 35.00°C)
Thermostat / Room Sensor Control	6	Sw6 = OFF (0)	Thermostat Control
		Sw6 = ON (1)	Room Sensor Control
Compressor Heating Source (Single Compressor)	7	Sw7 = OFF (0)	Allow Compressor Heating Operation
		Sw7 = ON (1)	Disable Compressor Heating Operation
Expansion Module Required (Single Compressor)	8	Sw8 = OFF (0)	IO Expansion Module Not Required
		Sw8 = ON (1)	IO Expansion Module Required
Compressor Availability (Two Compressor)	7 and 8	Sw7 = OFF (0) Sw8 = ON (1)	Both Compressors Available (Automatic Compressor Fail Replace)
		Sw7 = ON (1) Sw8 = OFF (0)	Lead Compressor Avaiable Lag Compressor is Offline
		Sw7 = OFF (0) Sw8 = ON (1)	No Compressors Available
WSHP Application Select	9	Sw9 = OFF (0)	Single Compressor Applications
		Sw9 = ON (1)	Two Compressor Applications
Discrete / Variable Speed Fan Select	10	Sw10 = OFF (0)	Single or Variable Speed Fan
		Sw10 = ON (1)	Dual Speed Fan

Table 5: I/O Expansion Module Configuration Switch Settings

Description	Switch	Setting	Description
Variable Fan Speed Row Selection	1 – 4	0000 to 1111 Binary	Variable Speed Fan Row Selection (1 to 16). Applies when “nciVsNetCnfgEn” is set to “Disable” the network override.
Secondary Heating Options	5	Sw5 = OFF (0)	None
	6	Sw6 = OFF (0)	
	5	Sw5 = ON (1)	Supplemental Electric Heat
	6	Sw6 = OFF (0)	
	5	Sw5 = OFF (0)	Boilerless Electric Heat
	6	Sw6 = ON (1)	
	5	Sw5 = ON (1)	Hydronic Heating
	6	Sw6 = ON (1)	
Hot Gas Reheat (HGR)	7	Sw7 = OFF (0)	HGR Disabled
		Sw7 = ON (1)	HGR Enabled
Waterside Economizer (WSE)	8	Sw8 = OFF (0)	Waterside Economizer Disabled
		Sw8 = ON (1)	Waterside Economizer Enabled
WSHP IO Expansion Module Application Select	9	Sw9 = OFF (0)	Single Compressor Applications
		Sw9 = ON (1)	Two Compressor Applications
Compressor Dual Speed Option (Single Compressor)	10	Sw10 = OFF (0)	Single Speed Compressor
		Sw10 = ON (1)	Dual Speed Compressor
Lead Compressor Select (Two Compressor)	10	Sw10 = OFF (0)	Compressor 1 is Lead
		Sw10 = ON (1)	Compressor 2 is Lead

Q: Room Sensor LED does not come on, or comes on for a little while, then goes out

A: This could be caused by incorrect voltage to the unit controller, incorrect wiring from the unit controller to the room sensor LED, defective hardware, or the unit is operating in the bypass occupancy mode.

- Verify that the unit controller has 24 VAC
- Verify that the unit is not operating in the bypass occupancy mode
- Verify if the unit runs/communicates when the LED is OFF
- If it runs properly without the LED, check the LED wiring connection
- Download application code to the unit controller
- Replace hardware, if necessary

Q: Unit is experiencing nuisance high pressure trips

A: High pressure trips can be caused by a faulty pressure switch or an improperly designed water system. High pressure switches can come loose, especially when the compressor is running. The connection could be compromised at the unit controller, a Molex connector in the middle of the switch wire, or where the wires land on the switch.

- Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com to discuss any issues that may be related to the design of the water loop itself.
- Verify that the high pressure switch connection to the unit controller is secured tightly to the unit controller.

BACnet Communication Module

Light Emitting Diodes (LEDs)

The BACnet communication module has four LEDs that indicate the status of the module, the connection to the unit controller and/or BACnet network. These LEDs are useful for verifying communication between the unit controller and the network, as well as diagnosing a potential problem. Table 6 provides a description of the LED activity. For more details, see IM 1363, available on www.DaikinApplied.com.

Table 6: BACnet Communication Module - LED Activity

LED	Function	Description
D1	Program Running	Flashes with software application main loop activity
D2	SPI Message Transmit	Flashes with SPI communications with unit controller
D3	MS/TP Transmit	Flashes when transmitting an MS/TP message
D4	MS/TP Receive	Flashes when receiving an MS/TP message

Q: No LEDs are lit

A: The communication module may not be properly installed or may not have the BACnet application software loaded.

- Remove the communication module and then reinstall it, verifying that the connector lands on all of the pins (it is very easy to either miss just one pin or all of the pins even with the standoffs).
- If the communication module is properly installed, try it on a different, functioning unit. If the LEDs still do not function properly, replace the communication module.
- Re-download the BACnet software in the communication module. Contact the Daikin Applied Controls Customer Support group at 866-462-7829 or email DaikinControls@daikinapplied.com before proceeding with this option.

Q: All four LEDs are lit

A: The BACnet application software has not been properly downloaded.

- Re-download the BACnet software in the communication module.
- Replace the BACnet communication module.

Q: Program LED (D1) never blinks

A: The BACnet software is not running correctly in the communication module.

- Re-download the BACnet software in the communication module.
- Replace the BACnet communication module.

Q: SPI Comm LED (D2) never blinks

A: The communication module is not communicating with the unit controller.

- Verify that unit controller is controlling the water source heat pump unit.
- Re-download the unit controller application code.
- Re-download the BACnet software in the communication module.
- Install the communication module on a different, functioning unit to determine if the problem is associated with the unit controller or the communication module.

Q: RX LED (D4) never blinks

A: The communication module is not communicating with the network.

- Verify the BACnet MS/TP settings through the serial port on the communication module (check baud rate and any potential addressing conflicts).
- Verify proper network wiring.
- Re-download the BACnet software in the communication module.
- If the network settings are correct and the application software is functioning properly, this could indicate a hardware defect. Replace the communication module, if necessary.

Q: CRC errors

A: The BAS indicates “CRC errors” at the workstation.

- Upgrade the communication module to the newest version of BACnet software. It is not necessary to upgrade the unit controller or I/O expansion module software. Also see Table 7.

Q: Communication module cannot be configured through serial port

A: This could be caused by an incorrect or defective cable used to configure the communication module, software installation error, a previous change in the serial port settings, or potentially defective hardware.

- Verify that the communication module is connected with a DB9 female-female (modem-modem) serial cross-over cable. Refer to the MicroTech SmartSource WSHP Network Protocol Document ED 19129.
- Confirm that the serial terminal device application settings are correct. Refer to the MicroTech SmartSource WSHP Unit Controller Protocol Document ED 19129.
- Verify that the LED activity is normal. See Table 6.
- Try resetting the communication module back to original default settings.
- Re-download the BACnet software in the communication module.
- Replace the communication module, if necessary.

Q: Cannot write to network setpoint or network space temp input and space temp reads 621.806 (Analog Null)

A: The unit has been set up for thermostat control.

- Place the unit controller configuration switch #6 in the ON position to enable room sensor control.

Q: Cannot write to network setpoint input but space temp reads valid value

A: The room sensor setpoint adjustment has been enabled. Set BACnet MSV:14 to “1” to disable.

Q: J-Link "No emulators connected via USB” error message appears (Figure 22)

A: Follow these steps to correct the J-Link connection issue:

- Click the No button to close the error message.
- Click the OK button to close the J-Link connection failure message (Figure 23).
- Close the J-Flash software.
- Verify the J-Link USB cable is properly connected to the PC and the J-Link device.
- Repeat the downloading process.

Figure 22: No Emulators Connected via USB

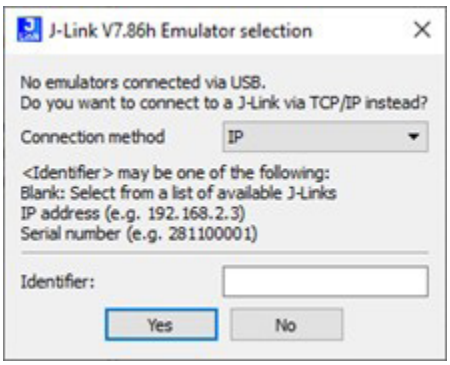


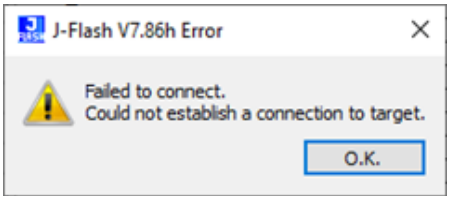
Figure 23: Connection to J-Link Failed

Q: Target “Failed to connect” error message appears (Figure 24)

A: Follow these steps to correct the target connection failure:

- Click the OK button to close the error message.
- Close the J-Flash software.
- Power down the unit controller.
- Verify the J-Link is properly connected to the SWD or JTAG connector on the board being programmed.
- Verify connections between boards are correct.
- Apply power to the unit controller.
- Verify 24VAC power to the unit controller baseboard.
- Repeat the downloading process.

Figure 24: Connection to Target Failed



NOTE: Replace the unit controller boards if problem persists after repeating the programming process.

Table 7: CRC CheckSum Values

Board Version	CheckSum Descriptions	
Baseboard v2.1	CRC of Data = 0x8DDC8215	CRC of File = 0x6D418FB1
IO Expansion Module v2.0	CRC of Data = 0x966B9D92	CRC of File =0x98D20F7C
BACnet v2.0	CRC of Data = 0x57D52380	CRC of File = 0x68B35EB4

Figure 25: BACnet Communication Module Attached to Unit Controller

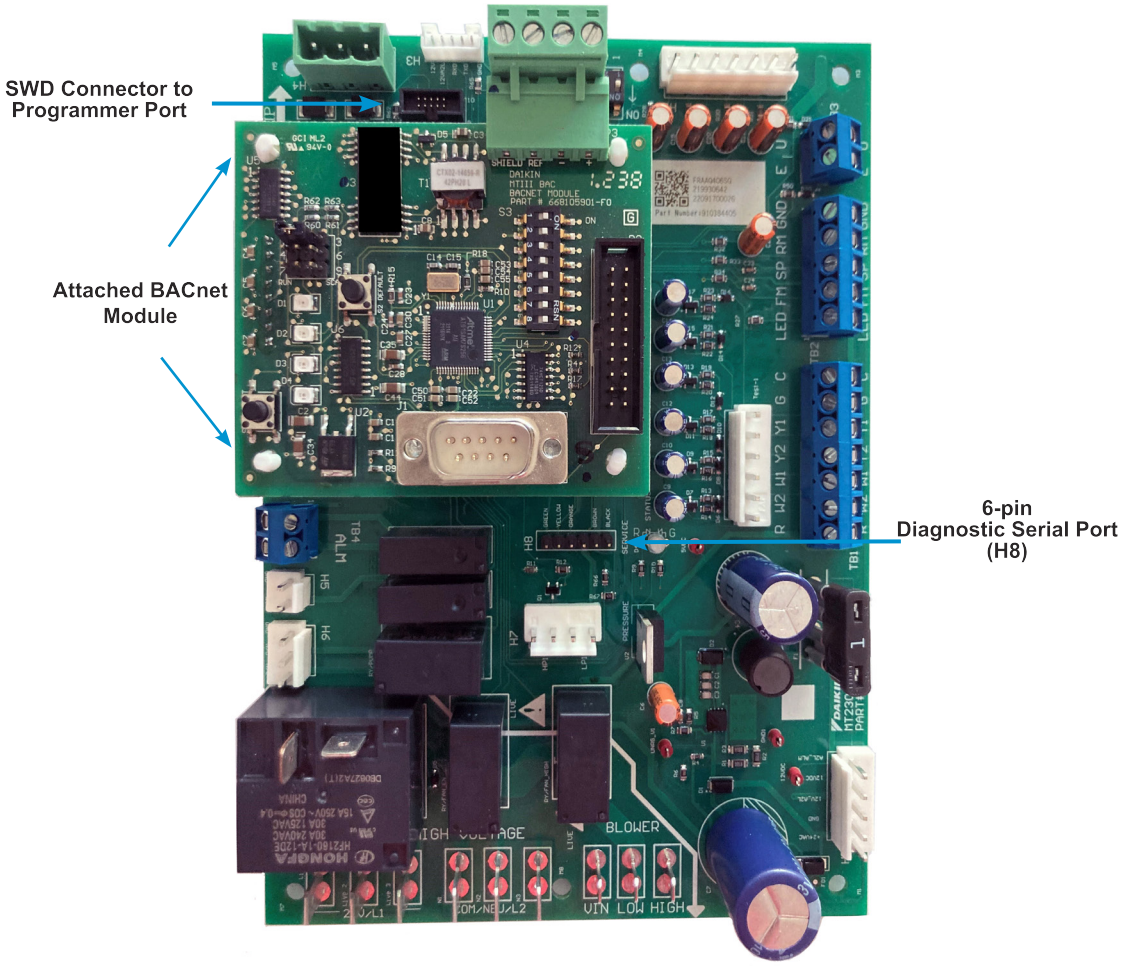
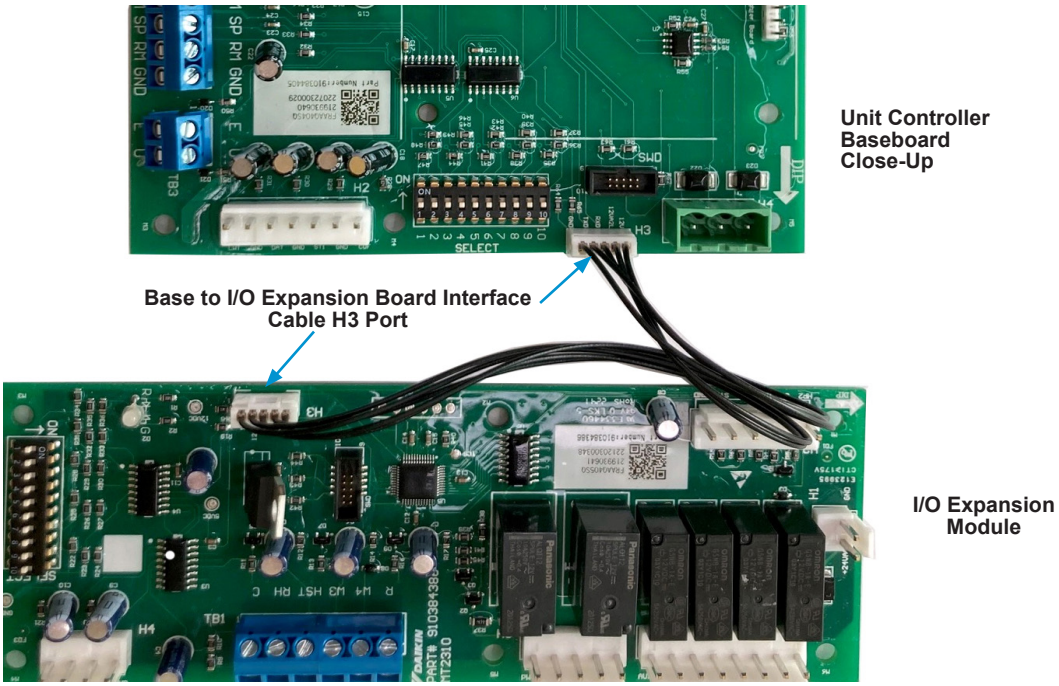


Figure 26: WSHP Unit Controller Baseboard Connected to I/O Expansion Module



Revision History

Revision	Date	Description of Changes
OM 1362	August 2023	Initial release. New hardware and software part numbers.
OM 1362-1	May 2024	• Updated v2.0 app software part number in referenced tables and also CRC checksum data to Table 7. V2.0 software supports single/two stage and dual compressor WSHP R32 models. • Updated cover page for models SCH/SDsaH, SMH/SNH, SSH/STH, SCV/SDV, SMV/SNV, SSV/STV, SLH, SLV, SVC, SRC
OM 1362-2	August 2025	• Updated baseboard part number (p.4), baseboard version number and Checksums (Table 7) to support software v2.1.
OM 1362-3	May 2026	• Updates to support 2507441021 (v2.1) software. Added section for installing and running the Daikin MT2300 Download/Configure Firmware Installer. Also added section - Resetting Unit Controller / IO Module values to default.

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