INSTALLATION & MAINTENANCE MANUAL

IM 1238-4

OCTOBER 2025

BASIC ROOM SENSOR

FOR UNITS WITH A MICROTECH® CONTROLLER

- USED WITH UNITS WITH MICROTECH III AND MT2300 CONTROLS

LEARN MORE AT **DAIKINAPPLIED.COM**

Safety Information

Hazard Identification

⚠ 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.

NOTE: Indicates important details or clarifying statements for information presented in Figures or Tables.

This manual provides installation and maintenance information for a Daikin Applied BASIC ROOM SENSOR for units with a MicroTech® controller.

Introduction

The basic room sensor (910152149) and the basic room sensor with cool to warm (910171464) are used in conjunction with the MicroTech III or MT2300 equipped units as described in "Applications" on page 2. These sensors have an output for temperature, an LED status indication, and an override reset button. Sensor 910171464 requires a fourth conductor for cool to warm temperature adjustment (Figure 1).

Applications

Sensor Functions

Water Source Heat Pump Model and Fan Coil Unit Model: 910152149 & 910171464

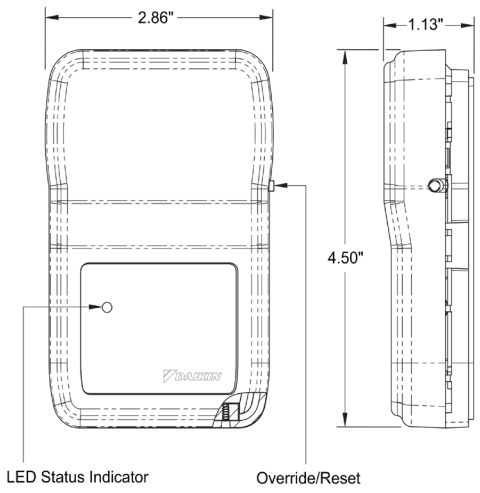
- Basic room sensor for room temperature (910152149).
- Temperature adjustment cool to warm (910171464).

Product Usage

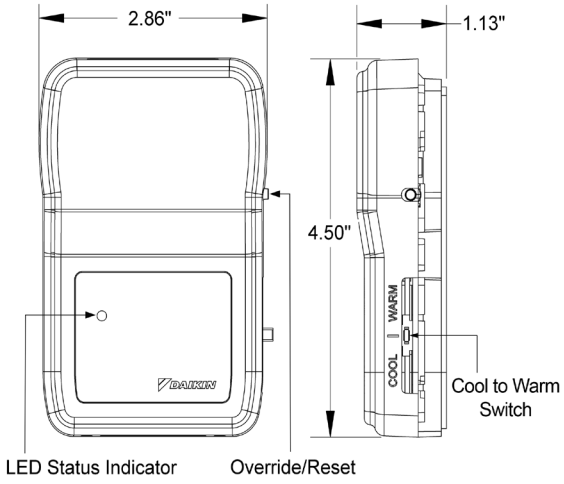
The basic room sensors can be used on the products shown in Table 1. The water source heat pump applications for the basic room sensors are shown in Table 2.

Sensor Buttons and Dimensions

Figure 1: Basic Room Sensors for Water Source Heat Pumps and Fan Coil Units



Sensor 910152149



Sensor 910171464

Table 1: Product Usage Guide

Units	Product		Models	Controls
Water Source Heat Pumps	Enfinity™ (R-410A)	Horizontal	WCCH, WCCW	MicroTech III Unit Controller
		Vertical	WVFC, WVFW, WLVC, WLVW	
		Vertical Stacked	WVHC	
		Console	WMHC, WMHW	
	SmartSource 1-Stage (R-410A)	Horizontal & Vertical	WGCH, WGCV, WGSH, WGSV	MicroTech III Unit Controller
	SmartSource 2-Stage (R-410A)		WGDH, WGTH, WGTV	
	SmartSource (R-32)	Small Capacity Horizontal & Vertical	WSCH, WSDH, WSMH, WSNH, WSSH, WSTH, WSCV, WSDV, WSMV, WSNV, WSSV, WSTV	MT2300 Unit Controller
		Large Capacity Horizontal & Vertical	WSLH, WSLV	
		Vertical Stack	WSVF, WSVC	
		Console	WSRC	
Fan Coils	ThinLine™	Horizontal	FC.H, FH.H	MicroTech III Unit Controller
		Vertical	FC.V, FH.V	

Table 2: Water Source Heat Pump Application Guide

WSHP Product		Models	Applications										
			Cooling	Heating	Dehumidification					Electric Heat			Waterside Econo-mizer
			Stages		Smart Dehumid-ification	Hot Gas Reheat	Simpli-fied	Humidistat Controlled	Dehu-midifica-tion Only	Boiler-less	Supple-mental	Primary	3-Way Valve Control
Enfinity (R-410A)	Horizontal	WCCH, WCCW	1	1	No	No	No	No	No	No	No	No	No
	Vertical	WVFC, WVFW, WLVC, WLVW	3	2	No	Yes	No	No	No	Yes[1]	No	No	No
	Vertical Stacked	WVHC	1	1	No	No	No	No	No	No	No	No	No
	Console	WMHC, WMHW	1	1	No	No	No	No	No	Yes[1]	No	No	No
Smart-Source 1-Stage (R-410A)	Horizontal & Vertical	WGCH, WGCV, WGSH, WGSV	3	4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Smart-Source 2-Stage (R-410A)	Horizontal & Vertical	WGDH, WGTH, WGTV	3	4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Smart-Source (R-32)	Small Capacity Horizontal & Vertical	WSCH, WSDH, WSMH, WSNH, WSSH, WSTH, WSCV, WSDV, WSMV, WSNV, WSSV, WSTV	3	4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Large Capacity Horizontal & Vertical	WSLH, WSLV	3	2	No	Yes	No	No	No	Yes[1]	No	No	No
	Vertical Stack	WSVF, WSVC	1	1	No	No	No	No	No	No	No	No	No
	Console	WSRC	1	1	No	No	No	No	No	Yes[1]	No	No	No

[1] With optional Boilerless controls

Installation

Mounting Location

Avoid mounting on outside walls or in direct sunlight.

Junction Box, (J-Box)

1. Pull the wire through the wall and out of the junction box, leaving about six inches free.
2. Pull the wire through the hole in the base plate.
3. Secure the back plate to the box using the #6-32 × 1/2 inch mounting screws provided.
4. Screw the plate firmly to the wall so the foam plate backing is compressed about 50%.
5. Terminate the unit according to the guidelines in the Termination section.
6. Attach cover by latching it to the top of the base, rotating it down, and snapping into place.
7. Secure the cover by backing out the lock-down screws using a 1/16″ Allen wrench until it is flush with the bottom of the cover.

Drywall Mounting

1. Place the base plate against the wall where you want to mount the sensor.
2. Mark out the two mounting holes where the unit will be attached to the wall. Drill a 3/16″ hole in the center of each mounting hole, and insert a drywall anchor into the holes.
3. Drill one 1/2″ hole in the middle of the marked wiring through hole area.
4. Pull the wire through the wall and out the 1/2″ hole, leaving about six inches free.
5. Pull the wire through the hole in the base plate.

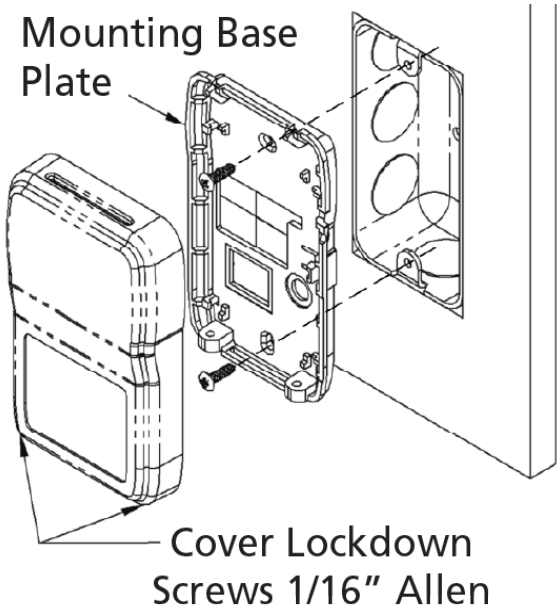
6. Secure the base to the drywall anchors using the #6 × 1″ mounting screws provided.
7. Screw the plate firmly to the wall so the foam plate backing is compressed about 50%.
8. Terminate the unit according to the guidelines in the ”Terminations” section.
9. Attach cover by latching it to the top of the base, rotating it down, and snapping it into place.
10. Secure the cover by backing out the lock-down screws using a 1/16″ Allen wrench until it is flush with the sides of the cover.

NOTICE

In any wall-mount application, the wall temperature and the temperature of the air within the wall cavity can cause erroneous readings.

The mixing of room air and air from within the wall cavity can lead to condensation, erroneous readings, and sensor failure. To prevent these conditions, Daikin Applied recommends sealing the conduit leading to the junction box with fiberglass.

Figure 2: Junction Box Mounting



NOTE: Hardware is provided for both junction box and drywall installation.

Terminations

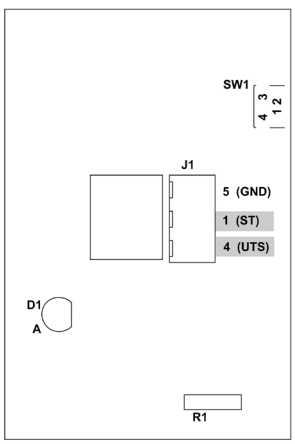
Daikin Applied recommends at minimum 22AWG wires. Larger gauge wire may be required for wire runs greater than 250′.

NOTICE

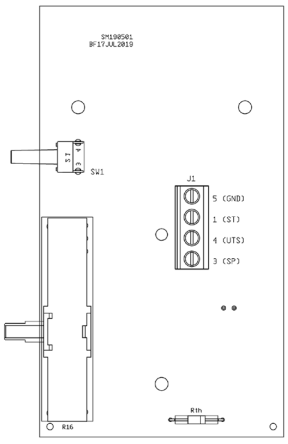
Three conductors are required for the basic sensor 910152149, and four conductors are required for the basic sensor with cool to warm 910171464.

All wiring must comply with the National Electric Code (NEC) and local codes. Do NOT run any of this device’s wiring in the same conduit as other AC power wiring. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your Daikin Applied representative.

Figure 3: Sensor Circuit Board



Sensor 910152149



Sensor 910171464

Terminal Descriptions

Refer to "Figure 3: Sensor Circuit Board" on page 5 for terminal locations. Refer to Table 3 for terminal descriptions.

Table 3: Terminal Description

Terminal Description	
1	Status Indicator Input from the MicroTech III Unit Controller (5VDC).
3	Output Signal, Setpoint Adjust from 55º to 95˚F (default) or ±5º Configurable (0 to 5VDC). See Table 4.
4	Output Signal, Room Temp Thermistor Sensor (10K ATP Z curve, 10K-2).
5	Ground or Neutral; Common reference for all signal terminals.

NOTE: Resistance measurements between Terminals 4 & 5 can be compared to those in Table 5.

NOTICE

Microtech III jumpers and MT2300 configuration switches must be configured per the WSHP IM.

For MicroTech III, Jumper JP6 must be shorted for room sensor control of unit. Jumper JP5 should be open for ±5°F adjustment.

For the MT2300 unit controller, configuration switch SW6 must be ON for room sensor control of unit. Configuration switch SW5 should be OFF for ±5°F adjustment.

Table 4: Setpoint Analog Range Tolerance

Setpoint Analog Tolerance			
55˚ to 95˚F Scale	**-3˚ to +3˚F Scale**	**-5˚ to +5˚F Scale**	**Terminal 3 Analog Output**
@ 55˚F (min.)	@-3˚F (min.)	@ -5˚F (min.)	0.0 to 0.10 VDC
@65˚F	@-1.5˚F	@-2.5˚F	1.3 to 1.42 VDC
@75˚F	@0˚F	@0˚F	2.12 to 2.2 VDC
@85˚F	@+1.5˚F	@+2.5˚F	2.58 to 2.63 VDC
@95˚F (max.)	@+3˚F (max.)	@+5˚F (max.)	3.0 to 4.0 VDC

Table 5: Resistance Measurement Comparison Table - Between Terminals 4 and 5

Resistance					
°F	**°C**	**Ohm**	**°F**	**°C**	**Ohm**
42.8	6	22,431.44	71.6	22	11,297.24
46.4	8	20,518.43	75.2	24	10,412.64
50	10	18,787.38	82.4	28	8,869.27
53.6	12	17,219.35	86	30	8,196.25
57.2	14	15,797.53	89.6	32	7,580.73
60.8	16	14,506.99	93.2	34	7,017.29
64.4	18	13,334.43	96.8	36	6,501.09
68	20	12,268.03	100.4	38	6,027.74

Figure 4: SmartSource MicroTech III Board to Basic Temperature Sensor Wiring

SmartSource Board	**MicroTech III Base Board**			
Terminal Block Label	**TB1-1**	**TB1-3***	**TB1-4**	**TB1-5**
Description	Unit Status Output	Room Sensor – Setpoint Adjust	Room Temp Sensor & Tenant Override	DC Signal Common
Terminal Label	**1**	**3**	**4**	**5**
Typical Wiring	↕	↕	↕	↕
Terminal Label	**1 (ST)**	**3 (SP)***	**4 (UTS)**	**5 (GND)**
Description	Unit Status Output	Setpoint Adjustment	Room Temp Sensor & Tenant Override	DC Signal Common
Sensors	**Basic Room Sensor (Part No. 910152149) / Basic Room Sensor with Cool to Warm Adjustment (910171464)***			

*The "3 (SP)" terminal is only used with sensor 910171464.

Figure 5: SmartSource MT2300 Board to Basic Temperature Sensor Wiring

SmartSource Board	**MT2300 Base Board**			
Terminal Block Label	**TB2-1**	**TB2-3***	**TB2-4**	**TB2-5**
Description	Unit Status Output	Room Sensor – Setpoint Adjust	Room Temp Sensor & Tenant Override	DC Signal Common
Terminal Label	**1**	**3**	**4**	**5**
Typical Wiring	↕	↕	↕	↕
Terminal Label	**1 (ST)**	**3 (SP)***	**4 (UTS)**	**5 (GND)**
Description	Unit Status Output	Setpoint Adjustment	Room Temp Sensor & Tenant Override	DC Signal Common
Sensors	**Basic Room Sensor (Part No. 910152149) / Basic Room Sensor with Cool to Warm Adjustment (910171464)***			

*The "3 (SP)" terminal is only used with sensor 910171464.

Operation

Cool to Warm Switch (910171464)

Move the Cool to Warm Switch to the desired setting.

Override/Reset Button (Timed Override & Alarm Reset)

When the “Override/Reset” Button is pressed, the thermistor sensor is shorted. If held for more than 3 seconds but less than 11 seconds, it puts the controller into a timed Occupied Override (the time is set by the controller). If the unit is in alarm, then holding the “Override/Reset” Button for more than 11 seconds will clear all alarms in the controller but only if the cause of the alarm has already returned to its non-alarm condition. Some alarms will not reset from the digital room sensor. In this case, power to the unit must be cycled off for 5 seconds to clear the alarm.

⚠ CAUTION

Continuously resetting alarms from the room sensor could damage the controller. Please call a service technician when repeated alarm resets are required to keep the unit operational.

Diagnostics

Problem & Possible Solution

No Temperature Signal

- Be sure the termination and wiring is correct and the controller is set up properly.
- Replace sensor if all checks are okay.

Maintenance

Wipe the display as needed with a damp water only cotton cloth. Do not use any type of cleaner as it may damage the buttons or scratch the display. Do not paint.

Specifications

Sensor

Temperature .....10K-2 Thermistor, ±0.36ºF (±0.2ºC)

Outputs

Temperature ..... (4), Analog thermistor resistance

Setpoint .....(3), Analog, 0 to 5 VDC

Sensor Controls

Termination..... 10 Terminals, 16 to 22 AWG

Mounting..... Standard 2″ × 4″ J-Box or Drywall

Enclosure Material

ABS Plastic, UL94V-0.

Ambient

32º to 122ºF (0º to 50ºC), 0 to 95%RH, Non-condensing

Agency

Restriction of the use of certain Hazardous Substances (RoHS)

COMPLETE HVAC SYSTEM SOLUTIONS

SELF-CONTAINED | ROOFTOPS | COILS | CONDENSING UNITS
AIR HANDLERS | WATER-COOLED CHILLERS | AIR-COOLED CHILLERS
MODULAR CENTRAL PLANTS | SITELINE BUILDING CONTROLS
UNIT HEATERS | FAN COILS | AIR PURIFIERS | WATER SOURCE HEAT PUMPS
VARIABLE AIR VOLUME UNITS | UNIT VENTILATORS

13600 INDUSTRIAL PARK BLVD. | MINNEAPOLIS, MN 55441
1-800-432-1342 | 763-553-5330

LEARN MORE AT
DAIKINAPPLIED.COM

PART NUMBER: IM1238-4