



INSTALLATION GUIDE

DKN509 Wireless Communicating Thermostat

INTRODUCTION

The DKN509 Wireless Communicating Thermostat is integral to the SiteLine™ for Wireless BAS (building automation system). Combined with the Central Controller and wireless communicating sensors, they provide building managers and occupants easy, wall-mounted comfort control. Built into the Wireless Thermostat are sensors for monitoring indoor air quality (IAQ), light, sound, and occupancy.

PACKAGE CONTENTS

- DKN509 Wireless Communicating Thermostat
- Mounting accessories

SPECIFICATIONS

Power	Power Source: 24V AC/DC input (+/- 15%) Peak consumption (wireless communicating thermostat): 1.4VA Maximum Peak consumption, 1W nominal (1.3W maximum) power consumption
Operating range	Temperature 0 to 122°F (-17 to 50°C) Humidity 20-85% non-condensing.
Communication	900-928 MHz Mesh IEEE 802.15.4-compliant, for communications to CCU Bluetooth: BLE 4.1 for commissioning, triangulation and communication to wireless sensors 3-wire sensor bus for daisy-chained sensor communication and low power 3V dc 4-wire interface for RS 485 communication @ 115200 baud and 5V DC, 100mA power source
Inputs	2 x 10K Type-2 thermistor inputs with 2% accuracy 2 x 0-10V Analog voltage inputs with 2% detection accuracy (2-10V) Touch slider for temperature control along with 3 mechanical buttons



Outputs

6 x Relays rated for 24V DC/1A
3 x 0-10V or 4-20mA Analog outputs
2.8" 240x320 pixel TFT display

Onboard Sensors

CO2 sensor with a range of 0 - 40,000 ppm, accuracy of +/-30ppm (0 - 5000ppm, 25C). Drift +/- 50ppm over 400 -5000ppm range over a lifetime of 15 years

VOC sensor with derived e-CO2; Typical accuracy: 15% of measured value; TVOC: 0 - 60,000 ppb

Occupancy sensor based on passive infrared (PIR) with detection range of 4m with 15-degree angle

Light sensor - Ambient light sensor • <100 LUX resolution • High-accuracy UV index sensor • Matches erythermal curve

Temperature sensor: Typical accuracy of +/- 0.2°C

Humidity sensor: Typical accuracy of +/- 2% RH

Sound sensor with 40-120dB response for 100Hz to 10KHz

PM2.5, PM10 sensor (optional). Detection range of 0-1000µg/m3 and accuracy of +/-10µg/m3 (PM2.5, 0-100µg/m3) or +/-25µg/m3 (PM10, 0-100µg/m3). Maximum long-term mass concentration precision limit drift:

- 0 to 100 µg/m3 ±1.25 µg/m3/year
100 to 1000 µg/m3 ±1.25 % mV/year
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WARNINGS AND DISCLAIMERS

The following compiles a list of warnings and notes associated with the installation and operation of this kit. Make sure to follow these warnings, as well as always having properly trained technicians and electricians, or Daikin-authorized technicians perform work.

CAUTION

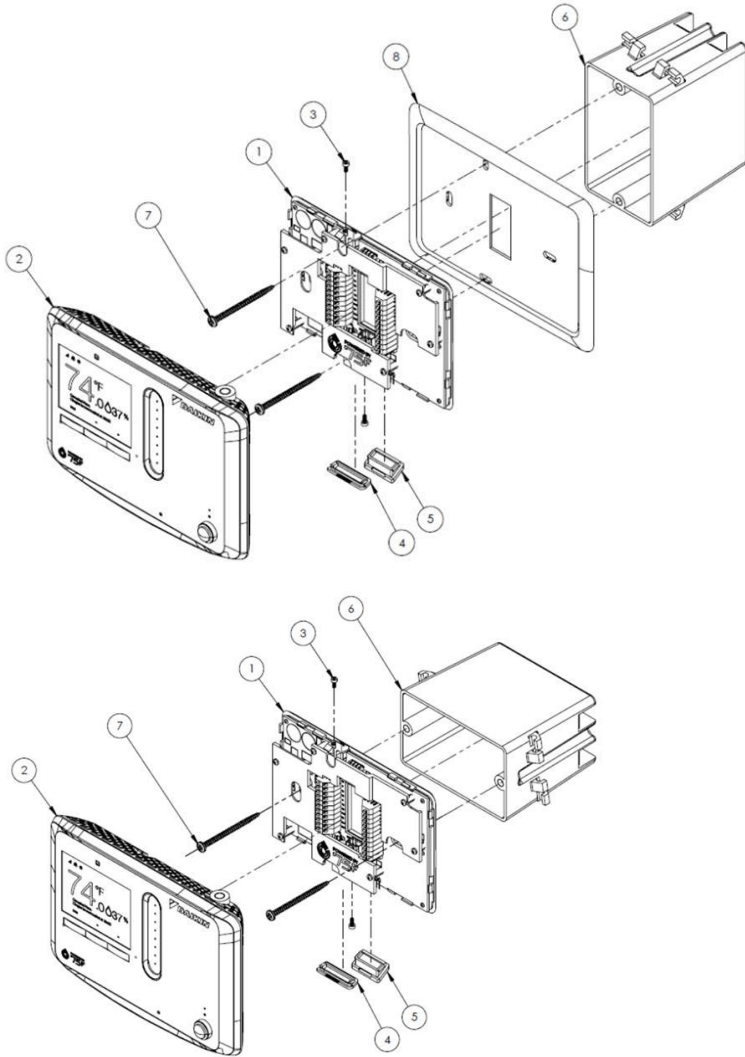
Failure to wire devices for power with the correct polarity when using a shared transformer may result in damage to any device powered by the shared transformer.

Turn off the power before wiring. Never connect or disconnect the wiring with the power turned on. Do NOT allow live wires to touch the circuit boards.

Do not connect the front to the back plate assembly when the power is ON.

Install in accordance with all state and local codes.

MOUNTING



- 1. Controller connection plate
- 2. Wireless communicating thermostat
- 3. Allen head screws
- 4. Rubber cover 1

- 5. Rubber cover 2
- 6. Gang box
- 7. PHP screws
- 8. Back plate



1. Place the controller connection plate and the back plate (only if the gang box is fixed vertically) on the gang box such that back plate covers the gang box and fix these two items to the wall gang box with the PHP screws provided in the box.
2. Now align the wireless communicating thermostat interface to lock onto the controller connection plate.
3. Use the Allen head screws to make this entire setup tamper-proof.
4. Rubber covers 1 and 2 must be fixed to cover the programming pins.

DAIKIN WIRELESS TECHNICAL SUPPORT

Installations carried out by non-certified technicians/engineers would void warranty.

For more information on wiring, commissioning, or usage of Daikin Wireless products, please refer to any documentation provided with the job. If no documentation was provided with the job, please use the Daikin Wireless Help Center (support.wirelesscontrols.daikinapplied.com) where you can find application specific wiring schematics and helpful user guides and videos

If you need more information, please visit support.wirelesscontrols.daikinapplied.com for instructional videos, installation guides, and more. You can also call +1 866 462 7829 (USA) if you need technical support.



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment. **NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help. This equipment complies with the FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and all persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CANADIAN COMPLIANCE STATEMENT

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

NOTE: This equipment complies with RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

REMARQUE: Cet équipement est conforme aux limites d'exposition aux radiations RSS-102 établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

