



# HPO-9007 Series

## Wireless Sensor Gateways

### DESCRIPTION

KMC Conquest™ HPO-9007 series gateways provide (EnOcean ISO/IEC 14543-3-10) wireless connectivity with KMC STW/THW wireless temperature sensors with optional humidity sensing and setpoint adjustment. The gateways plug into the Room Sensor ports on KMC Conquest BAC-5900/9000/9300 series controllers.

Key features include the following:

- The HPO-9007NW operates on 902 MHz (for North America), and the HPO-9007DW operates on 868 MHz (for outside North America)
- A gateway easily plugs into the Room Sensor port on a Conquest controller using a standard Ethernet patch cable
- The gateways are easily wall or panel-mounted
- Up to eight gateways can connect to a single controller using an HPO-9001 NetSensor® Distribution Module (or a combination of STE-9xxx NetSensors and gateways)
- One gateway can connect with up to 16 KMC STW/THW sensors and select third-party EnOcean sensors (see [Models on page 1](#) and [Transceiver on page 2](#))
- Configuration of the KMC gateway/sensor objects is done through KMC software—see [Configuration on page 2](#)
- A data port on the bottom of the cover provides quick access to the EIA-485 network on MS/TP model controllers (for use with a BAC-5051E BACnet router and an HPO-5551 technicians kit)



### APPLICATIONS

When installing building automation systems, wireless sensor networks can provide (especially in retrofit applications) lower installation costs and increased flexibility compared to wired sensor systems. These wireless gateways and sensors provide temperature sensing and optional setpoint adjustment to BAC-5900/9000/9300 series controllers for such applications as RTUs, HPUs, FCUs, AHUs, VAVs, and unit ventilators. Optional humidity sensing is for dehumidification and/or humidification sequences. (See also [Sample Installation on page 3](#).)

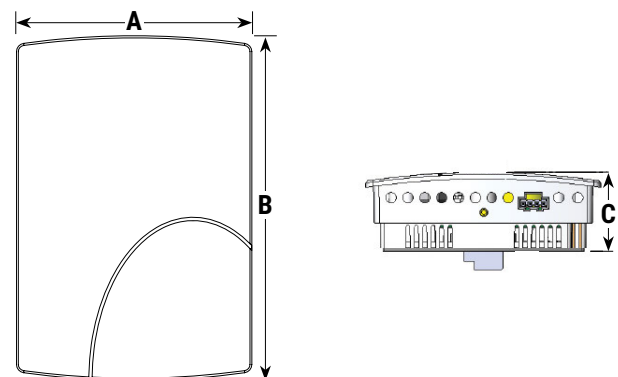
### MODELS

FOR USE...	FREQUENCY	GATEWAY MODEL	COMPATIBLE KMC SENSORS*		
			Temperature (Only)	Setpoint Adjustment (Pot)	Humidity
In North America	902 MHz	HPO-9007NW	STW-6010NW	STW-6014NW	THW-1102NW
Outside of North America	868 MHz	HPO-9007DW	STW-6010DW	STW-6014DW	THW-1102DW

\*All sensors include temperature. See their data sheet for details.

### SPECIFICATIONS

DIMENSIONS		
<b>A</b>	3.500 inches	89 mm
<b>B</b>	5.124 inches	130 mm
<b>C</b>	1.125 inches	29 mm



## Transceiver

Transmission range*	100 feet (30 meters) line of sight maximum (with KMC STW-601x and THW-1102 sensors)
Frequency	868.3 MHz (ASK, Amplitude-Shift Keying) or 902.875 MHz (FSK, Frequency-Shift Keying)
Data rate	125 kbps
Receiver sensitivity	-93 dBm (868 MHz) or -98 dBm (902 MHz) @ 77° F (25° C) typical
Conducted output power	+3 dBm (868 MHz) or +1 dBm (902 MHz) typical
EnOcean compatibility	4BS, 1BS, and RPS

**\*NOTE:** See the application guide [Planning for Wireless Sensor Networks](#) for important information about planning an installation.

## Installation

### Connection (Room Sensor Port)

Connector type	Eight-wire RJ-45 modular jack
Cable type	Standard T568B (Category 5 or better) Ethernet patch cable up to 150 feet (45 meters)
Power	Supplied by connected controller

### Connection (Data Port)\*

Connector type	Four-pin EIA-485
Cable type	Four-conductor cable in HPO-5551 KMC Conquest router technicians kit for BAC-5051E BACnet router

**\*NOTE:** The data port enables quick access to an MS/TP network using a BAC-5051E router and an HPO-5551 kit. The port is active when the gateway is plugged into an MS/TP model controller. The port is **not** active when plugged into an Ethernet model controller.

### Enclosure and Mounting

Weight	3.3 ounces (94 grams)
Case material	White flame-retardant plastic
Mounting	Surface mount directly to any flat surface or to a 2 x 4 inch electrical box

## Environmental Limits

Operating	-13° to 185° F (-25° to 85° C)
Humidity	10 to 90% relative humidity non-condensing

## Warranty, Protocol, and Approvals

### Warranty

KMC Limited Warranty 5 years (from mfg. date code)

### Controller Protocol Compatibility

BACnet KMC BAC-5900/9000/9300 series

### Regulatory Approvals

#### HPO-9007DW (868.3 MHz)

RED	Radio Equipment Directive 2014/53/EU
CE	CE compliant

#### HPO-9007NW (902.875 MHz)

FCC*	FCC CFR-47 15.231(a-c)
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**\*NOTE:** Contains FCC ID SZV-STM300U. 902 MHz devices comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) these devices may not cause harmful interference and (ii.) these devices must accept any interference received, including interference that may cause undesired operation.

## Configuration

Configuration of the gateway and connected sensors is done through software:

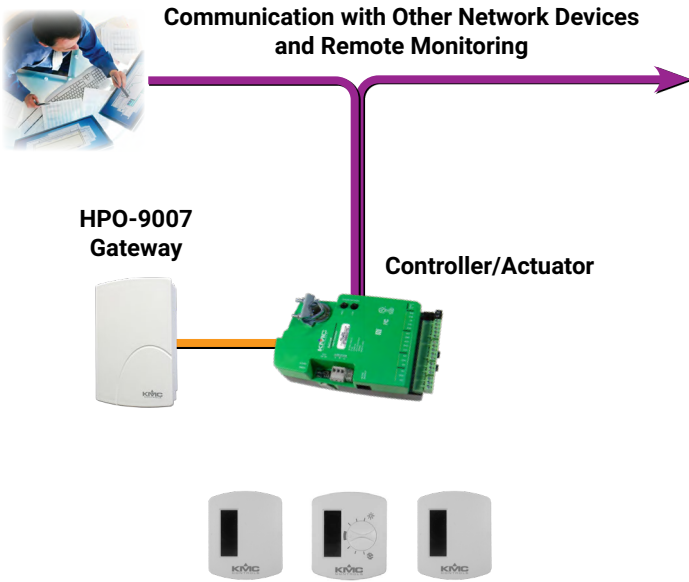
- **KMC Connect™** software (ver. 1.0.13.8 or later)
- **KMC TotalControl™** software (ver. 4.5.0.8 or later)

See the documents or Help systems for the respective KMC tools for more information.

Controllers must have firmware version R1.5.0.4 or later for full functionality.

To use multiple HPO-9007 gateways (and/or STE-9000 series NetSensors) on a single controller, an **HPO-9001 distribution module** is required. The HPO-9001 must have 0.1.0.0 or later firmware.

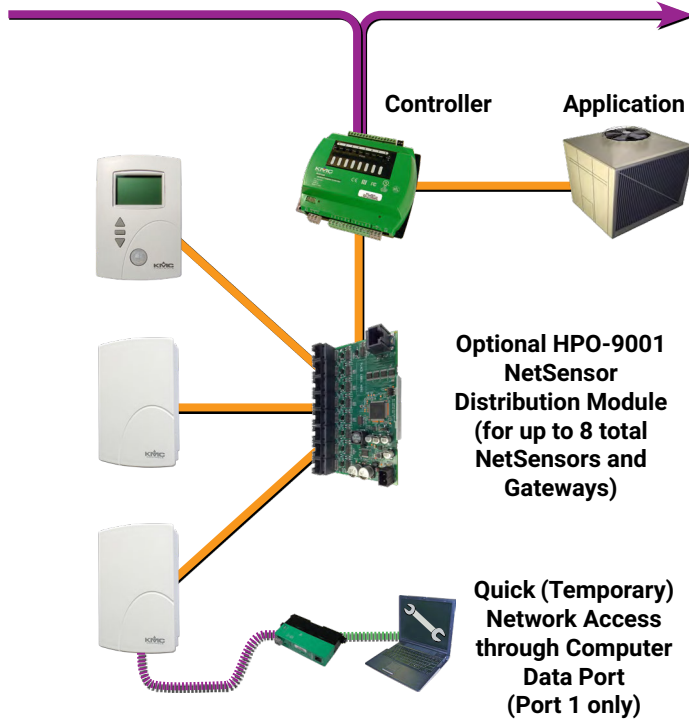
# SAMPLE INSTALLATION



**HPO-9007 Gateway**

**Controller/Actuator**

**STW-6010, STW-6014, or THW-1102 Wireless Sensors (Up to a Total of 16 per Gateway)**



**Controller**

**Application**

**Optional HPO-9001 NetSensor Distribution Module (for up to 8 total NetSensors and Gateways)**

**Quick (Temporary) Network Access through Computer Data Port (Port 1 only)**



# ACCESSORIES

**NOTE:** For accessory details, see the respective product data sheets and installation guides.

- BAC-5051E** BACnet router
- HPO-0044** Replacement cover hex screw
- HPO-5551** Conquest router technicians kit for BAC-5051E BACnet router
- HPO-9001** NetSensor distribution module
- HSO-9001** Ethernet patch cable, 50 feet
- HSO-9011** Ethernet patch cable, 50 feet, plenum rated
- HSO-9012** Ethernet patch cable, 75 feet, plenum rated
- SP-001** Screwdriver with hex end (for gateway cover screw) and flat blade end (for controller terminals)
- STW-6010DW** Wireless room temperature sensor, 868 MHz, white
- STW-6010NW** Wireless room temperature sensor, 902 MHz, white
- STW-6014DW** Wireless room temperature sensor, setpoint adjustment, 868 MHz, white
- STW-6014NW** Wireless room temperature sensor, setpoint adjustment, 902 MHz, white
- THW-1102DW** Wireless room temperature and humidity sensor, 868 MHz, white
- THW-1102NW** Wireless room temperature and humidity sensor, 902 MHz, white

# SUPPORT

Additional resources for installation, configuration, application, operation, programming, upgrading, and much more are available on the web at [www.kmcccontrols.com](http://www.kmcccontrols.com). Log-in to see all available files.

