KMC Fusion® Selection Guide

Controllers, Sensors, and Accessories







MODELS AND APPLICATIONS

MODEL	APPLICATIONS	INPUTS*	OUTPUTS*	NIAGARA GLOBAL CAPACITY	BACNET INTEGRATION
KMN-5901E	AHU, pumps, lighting, FCU, HPU, RTU, terminal units, unit ventilators, VAV, other HVAC	10 total: • 2 analog (temperature sensor port) • 8 universal inputs (software configurable as analog, binary, or pulse input on terminals)	8 universal: • Software configurable as analog or binary • Override boards allow additional options**	30	
KMN-5901E-EXP	AHU, chillers, boilers, cooling towers, pumps, lighting, FCU, HPU, RTU, unit ventilators, other HVAC	10 total: • 2 analog (temperature sensor port) • 8 universal inputs (software configurable as analog, binary, or pulse input on terminals)	8 universal: • Software configurable as analog or binary • Override boards allow additional options**	100	✓

*Up to four CAN-5900-FSN Series I/O expansion modules can be used with KMN-5901E Series controllers, which provides an additional 64 physical inputs and 32 outputs.

**HPO-6700 series output override board series provide (triac, NC/NO relays, 4–20 mA, adjustable 0–10 VDC) options for devices that cannot be powered from a standard universal output. The boards can also be used with the CAN-5901-FSN.

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KMN-5900E SERIES GENERAL PURPOSE CONTROLLERS

Fusion general purpose controllers are intended for primary and secondary equipment control. Examples include:

- Air handling units
- Boilers
- Chilled beams
- Chillers
- Cooling towers
- Fan coil units
- Heat pump units
- Pumps
- Roof top units
- Unit ventilators
- Other HVAC and building automation system equipment*



*All applications require custom programming in the controller. For more information, see the **KMN-5900E Series** product page. See also **Accessories on page 4**.

CAN-5900-FSN SERIES I/O EXPANSION MODULES

APPLICATIONS	INPUTS	OUTPUTS*	MODEL
Input/Output Expansion	8 universal (software configurable as analog, binary, or accumulator)	8 universal • Software configurable as analog or binary • Override boards give additional options**	CAN-5901-FSN
Input Expansion	16 universal (software configurable as analog, binary, or accumulator)	None	CAN-5902-FSN

*Up to four CAN-5900-FSN Series I/O expansion modules can be used with KMN-5900E Series controllers, which provides an additional 64 physical inputs and up to 32 outputs.

**HPO-6700 series output override board series provide (triac, NC/NO relays, 4–20 mA, adjustable 0–10 VDC) options for devices that cannot be powered from a standard universal output. The boards can also be used with the CAN-5901.

See the **CAN-5900-FSN Series I/O Expansion Modules** product page for more resources.





STE-9000 SERIES NETSENSORS (DIGITAL ROOM SENSORS)

APPLICATIONS: TEMPERATURE CONTROL PLUS...	INTEGRATED SENSORS*					MODEL**
	Temp.	Humidity	Motion	CO_2	Display	
Temperature control only	✓				✓	STE-9001W
Temperature control only						STE-9001W-NDL
Humidity control for dehumidification/humidification		✓			✓	STE-9021W
Humidity control for dehumidification/humidification		✓				STE-9021W-NDL
Enhanced occupancy-based control (lighting/setback/self-learning)			✓		✓	STE-9201W
Humidity and occupancy control		✓	✓		✓	STE-9221W
DCV (Demand-Control Ventilation)				✓	✓	STE-9301W
DCV (Demand-Control Ventilation)				✓		STE-9301W-NDL
Humidity and ventilation control		✓		✓	✓	STE-9321W
Humidity and ventilation control		✓		✓		STE-9321W-NDL
Occupancy and ventilation control			✓	✓	✓	STE-9501W
Humidity, occupancy, and ventilation control		✓	✓	✓	✓	STE-9521W

*All units have a temperature sensor (standard). See above for additional sensor options.

**A W at the end of the model number indicates a white case. To order the sensor with light almond color (for models with a display only) instead of white, drop the W on the end of the model number (e.g., STE-9001W is white and STE-9001 is light almond).

STE-9000 series NetSensors are wall-mounted digital space temperature sensors designed for use with KMC Fusion KMN-5900E Series controllers. Key features include the following:

- Up to four sensors in a single package minimizes labor, wiring, and wall space, while optional humidity, motion, and CO_2 sensors allow expanded energy-efficient control of humidity, temperature setback, lighting, and ventilation.***
- A user-friendly three-button integrated operator interface (on models with a display, i.e. **non**-NDL models****) provides system and IAQ monitoring and adjusting for occupants.
- It installs permanently as a room sensor or (for models with a display) temporarily as a service tool. It also configures communication and application settings, and balances VAV air flow

For more information, see the **STE-9000 Series** product page.

NOTE: STE-6010/6014/6017 analog temperature sensors can be connected to a controller in the place of an STE-9001W after the connected controller is configured. See **Accessories on page 4**.

***Because NDL models do not have a display or buttons, they cannot be used for viewing and configuration, but still function as a sensor.

**** Models **without** the NDL suffix have LCD displays.



STE-9221W
Temperature/Humidity/Motion Sensing
with Full Control/Configuration



STE-9xx1W-NDL
(no display) models



STE-6017W10
Temperature Sensing (Only)
with Setpoint Dial and Override Button

ACCESSORIES

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

Misc. Hardware

CAN-590x-FSN	Expansion modules—see **CAN-5900-FSN Series I/O Expansion Modules on page 2**
HCO-1103	Steel control enclosure with integrated DIN rail, 10-1/8 x 2-5/8 x 7-19/32 inches (257 x 67 x 193 mm)
HPO-0063	Replacement output jumper, 2-pin (pack of 5)
HPO-9901	Controller replacement parts kit with terminal blocks (1 gray, 1 black, 2 green 3-terminal, 4 green 4-terminal, 2 green 5-terminal, 2 green 6-terminal) and DIN clips (2 small for router and 1 large for controllers)
SP-001	Screwdriver (KMC branded) with a hex end (for STE-9000 series cover screws) and a flat blade (for controller terminal screws)

Network and Sensor Connections

BAC-5051AE	BACnet IP, dual port Ethernet, and (single port) MS/TP router
HPO-9008	Ethernet to Wi-Fi network adapter kit
HSO-9001	Ethernet cable, 50 feet
HSO-9011	Ethernet cable, 50 feet, plenum rated
HSO-9012	Ethernet cable, 75 feet, plenum rated
XEE-9008	Replacement 24-VAC to 5-VDC power supply for HPO-9008 kit

HPO Output Override Boards (for KMN/CAN-5901(E))

HPO-6701	Triac output w/ zero-cross switching (AC only)
HPO-6702	0–10 VDC analog with adjustable override potentiometer
HPO-6703	Relay, NO contacts (AC/DC)
HPO-6704	4–20 mA DC current loop with adjustable override potentiometer
HPO-6705	Relay, NC contacts (AC/DC)

Sensors, Analog Room (with Modular Jack)

STE-6010W10	Temperature sensor, white
STE-6014W10	Sensor with rotary setpoint dial, white
STE-6017W10	Sensor with rotary setpoint dial and override button, white
HPO-9005	Room sensor adapter allows the use of other sensors and optional setpoint potentiometers (with wire leads or terminal blocks) to be used instead of STE-601x sensor models with modular jacks
HMO-6036W	Wall plate, white (or order **HMO-6036** for light almond), allows STE-6000 series mounting to 2 x 4 inch electrical boxes

NOTE: To order the STE-601x sensor with **light almond color** instead of white, **replace the W on the end of the model number with a hyphen** (e.g., STE-6010W10 is white and STE-6010-10 is light almond).

NOTE: Other STE-6000 series sensors are not fully compatible with the dedicated sensor port. However, various other models can be used with an HPO-9005 adapter or with the controller screw terminals. See the STE-6000 series data sheet for more information.

NOTE: For information about digital sensors (with LCD displays), see the **STE-9000 Series NetSensors (Digital Room Sensors) on page 3**.

Sensors, Differential Air Pressure

SSS-1012	Sensor, 3-5/32 inches (80 mm) length
SSS-1013	Sensor, 5-13/32 in. (137 mm) length
SSS-1014	Sensor, 7-21/32 in. (194 mm) length
SSS-1015	Sensor, 9-29/32 in. (252 mm) length

Sensors, Digital Room (LCD Display)

HMO-10000W	White (or order HMO-10000 for light almond) mounting plate, allows STE-9000 series mounting to horizontal 2 x 4 or 4 x 4 inch electrical boxes
HPO-0044	Replacement cover hex screw
HPO-9002	Foam insulating gasket (mounts between the black backplate and the electrical box) for STE-9xx1 NetSensor and STE-8×01 AppStat
STE-9000 Series*	NetSensor digital room temperature sensors for viewing and configuration** and optional humidity, occupancy, and CO_2 sensing—see **STE-9000 Series NetSensors (Digital Room Sensors) on page 3**

* Models **without** the NDL suffix have LCD displays.

**Because NDL models do not have a display or buttons, they cannot be used for viewing and configuration, but still function as a sensor.

Sensors, Miscellaneous Temperature

STE-1405	DAT sensor with plenum-rated cable
STE-1451	OAT sensor

Transformers, 120 to 24 VAC

XEE-6111-050	50 VA, single-hub
XEE-6112-050	50 VA, dual-hub

CONFIGURATION & PROGRAMMING

KMC Fusion controllers are fully programmable using workbench software compatible with the Niagara framework.

NOTICES

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SUPPORT

Additional resources for installation, configuration, application, operation, programming, upgrading, and much more are available on the web at **www.kmccontrols.com**. Log in to see all available files.

