CO_2

CD-W00-00-1

Wall Mount

The CD-W00-00-1 Series Wall Mount CO_2 Sensors feature a Carbon Dioxide (CO_2) transmitter for measuring and transmitting CO_2 levels, ranging from 0 to 2,000 parts per million (ppm), within Heating Ventilating, and Air Conditioning (HVAC) CO_2 applications.

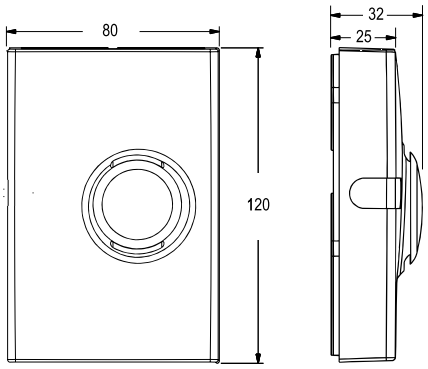
Specific HVAC CO_2 applications include Demand Control Ventilation (DCV), fresh air and indoor Air Quality (IAQ), and rooftop air handling Economizer controls system.

This compact devices produces 0 to10 V (default), 0 to 20 mA and 4 to 20 mA signals.

They are designed to work in stand-alone mode, Connected to Metasys system, as part on any integrated Building Automation System (BAS) and are easy to install and requires no maintenance or field calibration.

Features

- Power supply: 20 to 30 VAC (18 to 30 VDC), Class 2
- Response time (0 to 63%): 1 minute
- Accuracy at 25 °C: ± 50 ppm + 3.0% of reading
- Operating temperature Range: -5 to 45 °C
- Humidity Range: 0 to 85%



Dimensions in mm

Ordering Codes	Description
CD-W00-00-1	Wall Mount CO_2 Transmitter

Accessories

Ordering Codes	Description
ACC-DWCLIP-0	Drywall Spring-Clip Mounting Kit

For further information and additional models see Product Bulletin

Johnson Controls

CO_2

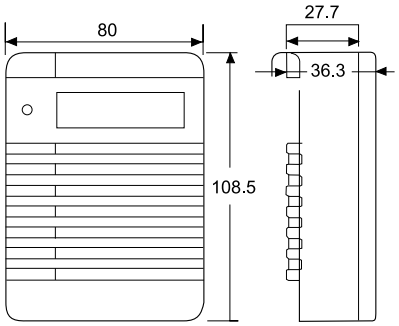
CD-Wxx-00-0

Wall Mount

The CD-Wxx-00-0 Series Wall Mount CO_2 sensors feature a Carbon Dioxide (CO_2) transmitter for measuring and transmitting CO_2 levels, ranging from 0 to 2,000 parts per million (ppm), within Heating Ventilating, and Air Conditioning (HVAC) CO_2 applications. Specific HVAC CO_2 applications include Demand Control Ventilation (DCV), fresh air and indoor Air Quality (IAQ), and rooftop air handling Economizer controls system.

This compact devices produces 0 to10 V (default), 0 to 20 mA and 4 to 20 mA signals.

They are designed to work in stand-alone mode, Connected to Metasys system, as part on any integrated Building Automation System (BAS) and are easy to install and requires no maintenance or field calibration field calibration.



Dimensions in mm

Features

- Power supply: 20 to 30 VAC (18 to 30 VDC), Class 2
- Response time (0 to 63%): 1 minute
- Accuracy at 20 °C: ± 30 ppm + 2.0% of reading
- Operating temperature Range: -5 to 45 °C
- Humidity Range: 0 to 85%
- Analog temperature Output: Linear 0 to 10 VDC for 0 to 50 °C
- Relay Output: Maximum 30 V, 0.5A, Class 2

Ordering Codes	Description
CD-WA0-00-0	Transmitter with Analog Temperature Output
CD-WR0-00-0	Transmitter with Relay
CD-WRD-00-0	Transmitter with Relay and Display

Replacement Parts

Ordering Codes	Description
ACC-CD-A	Analog Temperature Module for CD-WA0-00-0 Only
ACC-DWCLIP-0	Drywall Spring-clip Mounting Kit
ACC-CD-DR	Replacement Relay and Display Module for CD-WRD-00-0 Only
ACC-CD-R	Relay Output Module for CD-WR0-00-0

Accessories

Ordering Codes	Description
ACC-CD-S	Relay Setpoint Software Kit; includes software and interface cable to reset the On and Off relay setpoints for CD-WR0-00-0 or CD-WRD-00-0

For further information and additional models see Product Bulletin

Johnson Controls

CO_2

CD-Pxx-00-0

Duct Mount

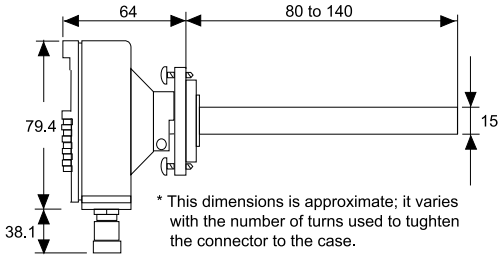
The CD-Pxx-00-0 Series Duct Mount CO_2 sensors feature a Carbon Dioxide (CO2) transmitter for measuring and transmitting CO_2 levels, ranging from 0 to 2,000 parts per million (ppm), within Heating Ventilating, and Air Conditioning (HVAC) CO2 applications.

Specific HVAC CO_2 applications include Demand Control Ventilation (DCV), fresh air and indoor Air Quality (IAQ), and rooftop air handling Economizer controls system.

The device produce 0 to 10 V (default) 0 to 20 mA or 4 to 20 mA signal.

Features

- Power supply: 20 to 30 VAC (18 to 30 VDC), Class 2
- Response time (0 to 63%): 1 minute
- Accuracy at 25 °C: ± 30 ppm + 2.0% of reading
- Operating temperature Range: -5 to 45 °C
- Humidity Range: 0 to 85%



Dimensions in mm

Ordering Codes	Description
CD-P00-00-0	Duct Mount CO_2 Transmitter
CD-PR0-00-0	Duct Mount CO_2 Transmitter with Relay

Replacement Parts

Ordering Codes	Description
ACC-CD-R	Relay Output Module for use in CD-P00-00-0 or CD-PR0-00-0
ACC-CD-CFK1	Conduit Adaptor Kit

Accessories

Ordering Codes	Description
ACC-CD-S	Relay Setpoint Software Kit; includes software and interface cable to reset the On and Off relay setpoints for CD-PR0-00-0

For further information and additional models see Product Bulletin

Johnson Controls

Dew Point

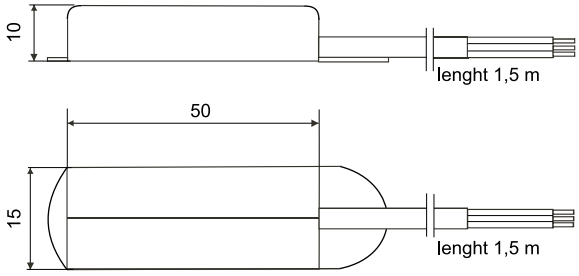
HX-9000

The HX-9100 Dew Sensor is used to prevent condensation on surfaces such as cold water pipes, cool ceilings and windows.

The HX-9100 can be connected to Johnson Controls System controllers to provide override functions when condensation is forming.

Features

- Supply voltage: 15 VDC ± 10%
- Action: ON/OFF or 0...10 VDC
- Hysteresis: 1%
- Output: open collector closed: 0.5 VDC max or ≤ + 0.5 VDC
- Protection class: IP44



Dimensions in mm

Ordering Codes	Action	Output at Condensation	Power Supply
HX-9100-8001	ON/OFF	Open collector closed, 0.5 VDC max	15 VDC ±10%
HX-9100-9001	0...10 VDC	≤ +0.5 VDC	

For further information and additional models see Product Bulletin

Humidity

HT-1000

Wall Mount

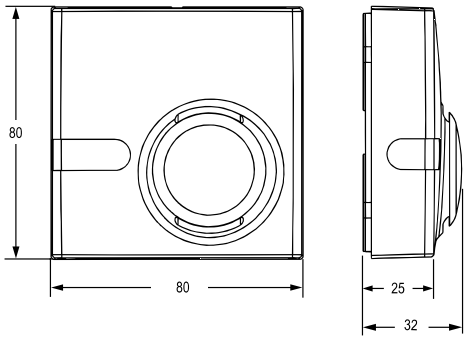
The Johnson Controls HT-1000 series room humidity sensors provide active sensing of relative humidity and, on specific models, also active/passive sensing of temperature in HVAC applications.

It features a polymer capacitance humidity sensing element and provides within either ±2 % or ±4 % accuracy a voltage output signal proportional 0 to 100 % relative humidity.

The HT-1000 series room humidity sensors are designed for use with Johnson Controls System 91 and Facility Explorer controllers or for other systems having compatible input and output voltages.

Features

- Supply voltage: 15 VDC ± 10%
- Action: ON/OFF or 0...10 VDC
- Hysteresis: 1%
- Output: open collector closed: 0.5 VDC max or ≤ + 0.5 VDC
- Protection class: IP44



Dimensions in mm

Ordering Codes	Humidity Range	Humidity Output	Humidity Accuracy	Temperature Range	Temperature Output	Supply Voltage
HT-1201-UR	0...100% RH	0...10 VDC	±2%	0...40°C	0...10 VDC	12 to 30 VDC 24 VAC ±15%
HT-1300-UR			±4%	---	---	
HT-1301-UR				0...40°C	0...10 VDC	
HT-1303-UR					NTC K2	
HT-1306-UR				0...60°C	Pt1000	

For further information and additional models see Product Bulletin

Humidity

HT-9000

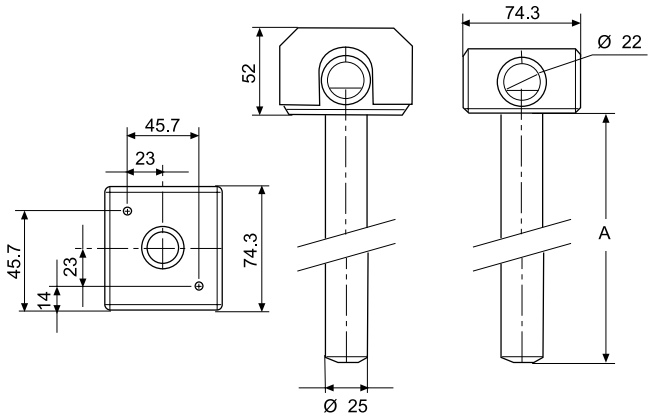
Duct Mount

The HT-9000 Series measures humidity over the entire range of 0 to 100% RH (non condensing) and has a wide operating temperature range. Its fast response, reliable long-term performance makes this transmitter well suited for refrigeration and HVAC installations.

This range also includes models with an integrated temperature sensing elements.

Features

- Power Supply 12...30 VDC / 24 VAC
- Humidity Range 0...100% (non condensing)
- Humidity Output 0...10 VDC
- Humidity Accuracy 4% RH from 10 to 90% RH
- Temperature Outputs 0...10 VDC, NTC K2, Pt 100, Pt 1000, A99
- Duct probes lengths 153 mm and 230 mm
- Protection class: IP30



Dimensions in mm

	A
HT-90xx-UD1	153 mm
HT-90xx-UD2	230 mm

Ordering Codes	Humidity Range	Humidity Output	Temperature Range	Temperature Output	Supply Voltage	Probe Lenght (mm)
HT-9000-UD1	0 to 100% RH	0 to 10 VDC	---	---	12 to 30 VDC 24 VAC +15%	153
HT-9001-UD1			0...40 °C	0...10 VDC		
HT-9003-UD1			0...40 °C	NTC K2		
HT-9005-UD1			0...60 °C	Pt100		
HT-9006-UD1			0...60 °C	Pt1000		
HT-9009-UD1			0...60 °C	A99		
HT-9000-UD2			---	---		230
HT-9001-UD2			0...40 °C	0...10 VDC		
HT-9003-UD2			0...40 °C	NTC K2		
HT-9005-UD2			0...60 °C	Pt100		
HT-9006-UD2			0...60 °C	Pt1000		
HT-9009-UD2			0...60 °C	A99		

For further information and additional models see Product Bulletin

Humidity

HT-9000

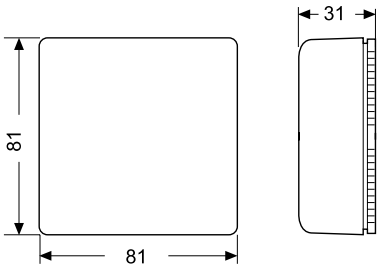
Wall Mount

The HT-9000 Series measures humidity over the entire range of 0 to 100% RH (non condensing) and has a wide operating temperature range. Its fast response, reliable long-term performance makes this transmitter well suited for refrigeration and HVAC installations.

This range also includes models with an integrated temperature sensing element.

Features

- Power Supply 12...30 VDC / 24 VAC
- Humidity Range 0...100% (non condensing)
- Humidity Output 0...10 VDC
- Humidity Accuracy 4% RH from 10 to 90% RH
- Temperature Outputs Pt 100 and A99
- Room enclosure 80 x 80 mm
- Protection Class: IP 30



Dimensions in mm

Ordering Codes	Humidity Range	Humidity Output	Temperature Range	Temperature Output	Supply Voltage
HT-9002-URW	0 to 100% RH	0...10 VDC	0...60 °C	0...10 VDC	12 to 30 VDC 24 VAC ± 15 %
HT-9005-URW				Pt100	
HT-9009-URW				A99	

For further information and additional models see Product Bulletin

Pressure

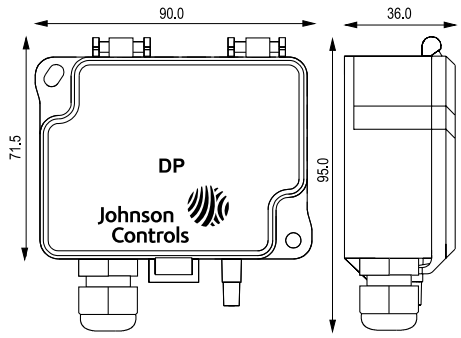
DP2500

Differential Pressure

The DP Low Differential Pressure Transmitter series is an accurate and cost competitive solution for measuring low pressures of air and non-aggressive gases in order to monitor and control pressures in building automation, HVAC and clean room systems.

Features

- Power Supply 24 VAC/VDC
- Pressure Range: 8 different ranges in one device (see the table)
- Output Signal: 0...10 VDC or 4...20 mA
- Automatically Autozero point adjusting
- Response time selectable
- 4 digits display
- Protection Class: IP54



Dimensions in mm

Ordering Codes	Operating Range (Pa)	Auto Zero	Display	Output Signal	Enclosure	Supply Voltage
DP2500-R8 * **DP2500-R8-01 ****	-100...+100 0...100 0...250 0...500 0...1000 0...1500 0...2000 0...2500	---	---	0...10 VDC or 4...20 mA	IP54	24 VAC / VDC
DP2500-R8-AZ * **DP2500-R8-AZ-01 ****		•				
DP2500-R8-D *		---	•			
DP2500-R8-AZ-D *		•				
DP0250-AZ *	0...100 0...250	•	---			
DP0250-AZ-D *			•			
DP0100-AZ * **DP0100-AZ-01 ****	-50...+50 -100...+100		---			
DP0100-AZ-D *			•			

Note:
* Single Package
** Bulk Package

For further information and additional models see Product Bulletin

Pressure

PT-5217

Pressure Transmitter

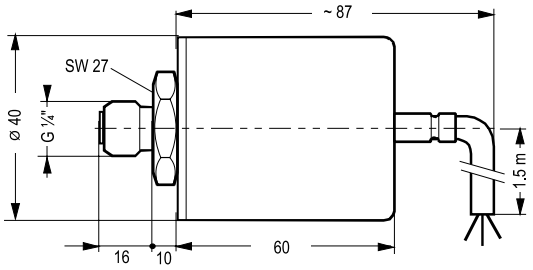
The PT-5217 Pressure Transmitter accurately measures pressure and converts the measurement into a 0...10 V signal.

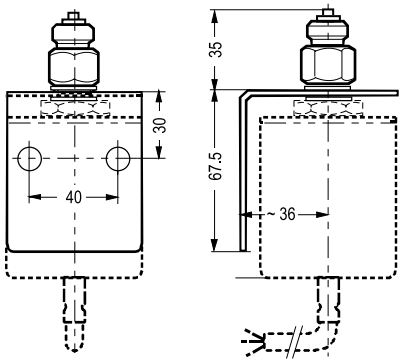
The PT-5215 is especially adapted to measure air, water and inert gases pressure.

The PT-5217 can also be used in pneumatic control systems to convert pneumatic into electric standard signals.

Features

- Low zero drift/time
- Low sensibility to ambient temperature change
- Low hysteresis
- High accuracy
- Direct mounting, 1,5 m cable included
- Splash proof enclosure





Dimensions in mm

Ordering Codes	Operating Range	Maximum Overload Pressure	Enclosure	Supply Voltage
PT-5217-7011	0...100 kPa	200 kPa	IP65	24 VAC ±15% / -10%, 50/60Hz or 13,5...33 VDC, max. 5 mA
PT-5217-7101	0...1000 kPa	2000 kPa		

Accessories (order separately)

Ordering Codes	Description
EQ-6056-7000	Mounting kit for plastic hose 4 x 6 mm
EQ-0100-7001	Mounting kit for DIN rail

For further information and additional models see Product Bulletin

Temperature

TE-7000

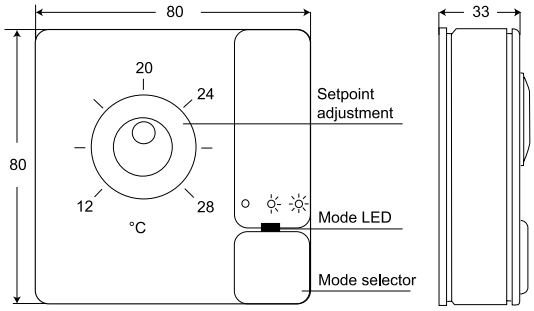
Room Command Module

The TE-7000 Room Command Module is designed for use with the VMA1400 series VAV Modular Assembly.

The module has an NTC temperature sensor, a dial for setpoint adjustment within the range of 12 to 28°C or -3 to +3K, and an occupancy button with an LED indicator.

If the VAV controller is not already in occupied mode, as shown by the LED indicator, the occupant may press the occupancy button to obtain comfort control for a set period of time, normally defaulted to one hour.

The module also has a built-in connector for a PC with the software to test and commission the VMA1400 series VAV Modular Assembly and the air supply system.



Dimensions in mm

Features

- Power supply: Power from VMA1400
- Temperature sensor: NTC K2
- Occupancy Override button
- Protection Class: IP30
- Remote setpoint adjustment

Ordering Codes	Color	Setpoint Dial Range
TE-7000-8002	Off-White / Gray Base	12 to 28 °C
TE-7000-8002-W	White / White Base	
TE-7000-8003	Off-White / Gray Base	-3 to +3 K
TE-7000-8003-W	White / White Base	

Note
Add **"-K"** to code for setpoint dial with serrated edge,
e.g. TE-7000-8002-K, TE-7000-8002-WK

Accessories (order separately)

Ordering Codes	Description
TE-7000-8900	Service tool connector cable (1.5 m) (for use with IU-9100 converter)
TM-9100-8900	Special tool (to open module)
TM-9100-8901	Dial-Stop screws kit (bag og 100 self-tapping screws)
TM-9100-8902	Serrated knob kit (bag of 10 knobs) - Off-white
TM-9100-8902-W	Serrated knob kit (bag of 10 knobs) - white

For further information and additional models see Product Bulletin

Temperature

RS-1100

Room Command Module

The RS-1100 Room Command Modules are designed for use with Facility Explorer Series or System 91 controllers from Johnson Controls and provides a 0...10 V signal directly proportional to the sensed temperature.

Models are available with and without LCD display, room temperature setpoint adjustment dial and temporary occupied override function and fan speed button.

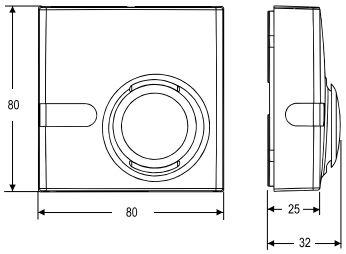
RS-1140

RS-1160 / RS-1190

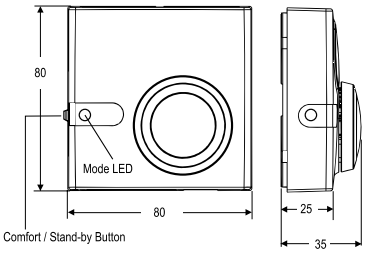
RS-1180

Features

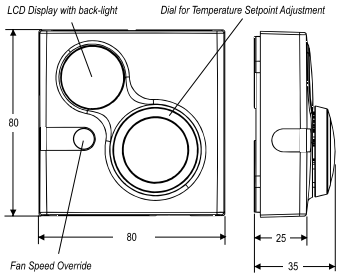
- Power Supply
  15 VDC (all models)
  24 VAC/VDC (only models with display)
- 0...10 VDC temperature output
- Remote temperature setpoint adjustment,
- Occupancy override function, (models with or without display)
- Room enclosures 80 x 80 mm
- Protection Class: IP30
- Fan speed button



RS-1140-0000



RS-1160-0005



RS-1180-0000

Dimensions in mm

Ordering Codes	Temperature Output	LCD Display	Setpoint Dial Scale	Temporary Occupancy Ovveride Function	Fan speed Selection
RS-1140-0000	0...10 VDC	---	---	---	---
RS-1160-0000		---	12...28 °C	Pushbutton	---
RS-1160-0005		---	+/-		---
RS-1180-0000		•	12...28 °C	Integrated	---
RS-1180-0005		•	+/-		---
RS-1190-0000		---	12...28 °C	---	---
RS-1190-0005		---	+/-		---
RS-1180-0002		•	12...28 °C	Integrated	•
RS-1180-0007		•	+/-	Integrated	•

Accessories (order separately)

Ordering Codes	Description
TM-1100-8931	Plastic surface mounting kit
TM-9100-8900	Special tool for opening enclosure

For further information and additional models see Product Bulletin

Temperature

TM-1100

Room Command Module

The TM-1100 Series of Room Command Modules are designed for use with the TC-9102, TC-9109 and TCU series of DDC terminal unit controllers.

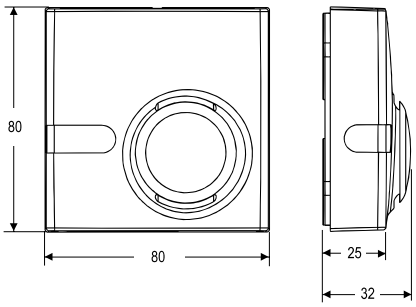
The setpoint dial enables the room occupant to adjust the working set point of the controller within the range of 12...28 °C or -3...+3°, according to the model number.

The occupancy button enables the occupant to switch the mode of operation of the controller between COMFORT and STANDBY or to request a temporary COMFORT mode during NIGHT operation.

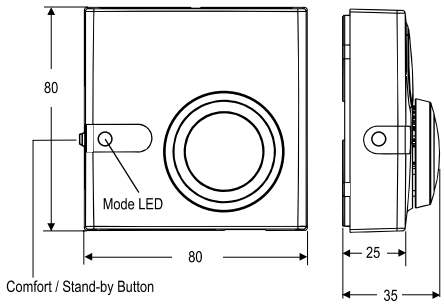
An LED indicator shows the current operating mode.
For TC-9102 and TCU Fan Coil Unit controllers, a Room Command Module with a 3-speed fan override is available. Models without a temperature sensing element are provided for application where the temperature sensor is mounted inside the Fan Coil Unit.

Features

- Passive Sensor
- NTC K2 Temperature Output
- Remote Temperature Setpoint adjustment
- 3-speed fan override
- Occupancy override button
- Room enclosures 80 x 80 mm
- IP 30



TM-1140-0000



TM-1160-0007 and TM-1170-0007

Dimensions in mm

Ordering Codes	Built-in Sensing Element	Temperature Setpoint Dial Scale	Fan Speed Override	Occupancy Button
TM-1140-0000	NTC K2	---	---	---
TM-1150-0000				▪
TM-1160-0000		12-28°C		
TM-1160-0005		+/-		
TM-1160-0002		12-28°C	3-Speed Fan Override	
TM-1160-0007		+/-		
TM-1170-0005	Without		---	
TM-1170-0007			3-Speed Fan Override	
TM-1190-0000	NTC K2	12-28°C	---	---
TM-1190-0005		+/-		

Accessories (order separately)

Ordering Codes	Description
TM-1100-8931	Plastic base for surface mount
TE-9100-8501	Unit Mount NTC K2 Temperature Sensor (1.5 m Cable)
TM-9100-8900	Special Tool for opening enclosure

For further information and additional models see Product Bulletin

Temperature

TM-2100

Room Command Module

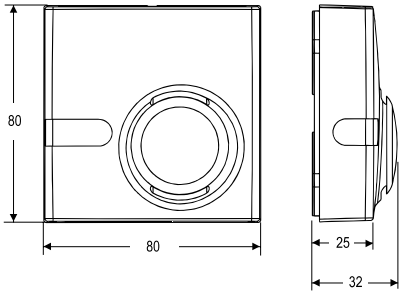
The TM-2100 Series of Room Command Modules are designed for use with the FCC and Facility Explorer Series of DDC terminal unit controllers. The setpoint dial enables the room occupant to adjust the working set point of the controller within the range of 12...28 °C or -3...+3°, according to the model number.

The occupancy button enables the occupant to switch the mode of operation of the controller between COMFORT and STANDBY or to request a temporary COMFORT mode during NIGHT operation.

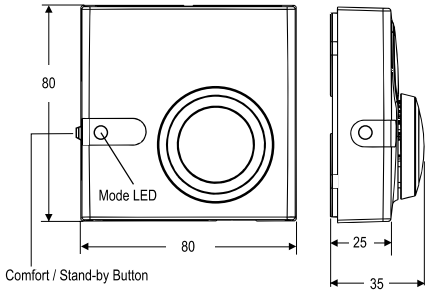
An LED indicator shows the current operating mode.
A Room Command Module with a 3-speed fan override adjuster is available.

Features

- Passive Sensor
- NTC 10K Temperature Output
- Remote Temperature Setpoint adjustment
- 3-speed fan override
- Occupancy override button
- Room enclosures 80 x 80 mm
- IP 30



TM-2140-0000



TM-2160-0007 and TM-2170-0007

Dimensions in mm

Ordering Codes	Built-in Sensing Element	Temperature Setpoint Dial Scale	Fan Speed Override	Occupancy Button
TM-2140-0000	NTC 10K	---	---	---
TM-2150-0000				•
TM-2160-0000		12-28 °C		
TM-2160-0005		+/-		
TM-2160-0002		12-28 °C	3-Speed Fan Override	
TM-2160-0007		+/-		
TM-2190-0000		12-28 °C	---	---
TM-2190-0005		+/-		

Accessories (order separately)

Ordering Codes	Description
TM-1100-8931	Plastic base for surface mount
TE-9100-8502	Unit Mount NTC K10 Temperature Sensor (1.5 m Cable)
TM-9100-8900	Special Tool for opening enclosure

For further information and additional models see Product Bulletin

Temperature

TM-3100

Room Command Module

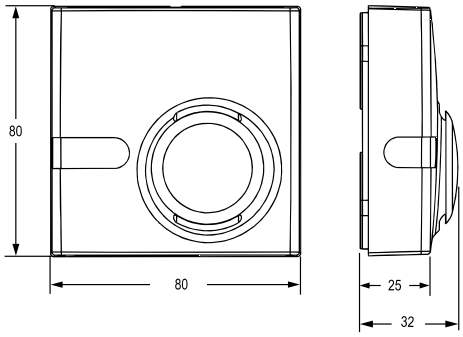
The Johnson Controls TM-3100 Series Room Temperature Sensor provide passive sensing of temperature in HVAC application.

The TM-3100 is equipped with a Pt1000 Class A sensing element and provides an output proportional signal to the measured ambient temperature.

The TM-3100 Series Room Temperature Sensor is designed for use with the Facility Explorer Series and with the Field Equipment Controller Series.

Features

- Modern and attractive cover which snaps onto a plug-in mounting base
- Terminals located on mounting base.
- All models available with or without Occupancy override button



Dimensions in mm

Ordering Codes	Built-in Sensing Element	Temperature Setpoint Dial Scale	Fan Speed Override	Occupancy Button
TM-3140-0000	Pt 1000	---	---	---

Accessories (order separately)

Ordering Codes	Description
TM-1100-8931	Plastic base for surface mount
TM-9100-8900	Special Tool for opening enclosure

For further information and additional models see Product Bulletin

Temperature

TS-9100 TE-9100

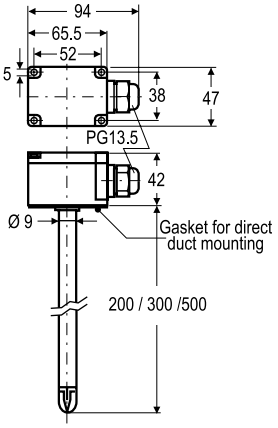
Plant Sensor

The TS-9100/TE-9100 series temperature sensors and transducers provide a passive or active signal that corresponds with the air or water temperature in heating, ventilating and air conditioning applications.

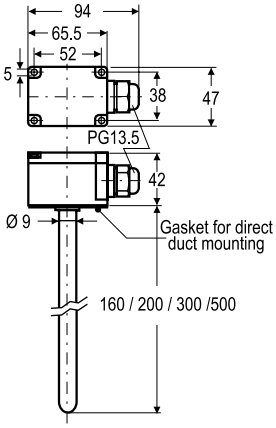
They provide either a 0...10 VDC signal directly proportional to the sensed temperature, or a passive resistive NTC, Pt1000 or Pt100 signal.

Features

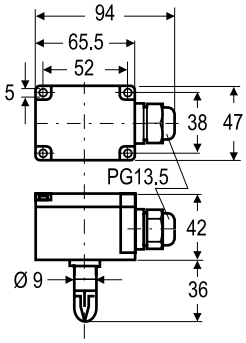
- Wide range of enclosures and signal outputs
- For immersion applications, well can be mounted before rod sensor is mounted
- Various lengths of tubes and wells for duct and immersion applications
- IP 54 enclosure



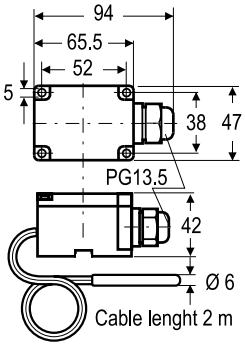
Rod fast response sensor



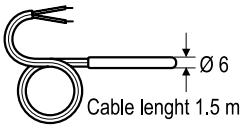
Rod sensor



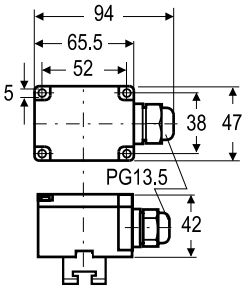
Ceiling sensor
TS-910x-870x



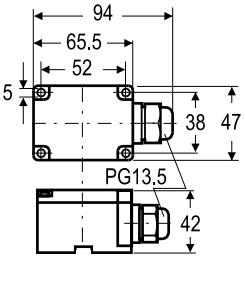
Remote sensor
TS-9101-810x



Cable sensor
TE-910x-850x



Strap-on sensor
TS-910x-860x



Outdoor Sensor
TS-910x-840x

Dimensions in mm

For further information and additional models see Product Bulletin

Johnson Controls

TS-9100 TE-9100
Plant Sensor

Ordering Codes	Output Signal	Sensor Type	Rod Length in mm	Temperature Range
TS-9101-8101	0...10 V	Remote element	---	-40...50 °C
TS-9101-8103				0...40 °C
TS-9101-8104				0...100 °C
TS-9101-8212		Rod *	160	-20...40 °C
TS-9101-8213				0...40 °C
TS-9101-8214				0...100 °C
TS-9101-8222			200	-20...40 °C
TS-9101-8223				0...40 °C
TS-9101-8224				0...100 °C
TS-9101-8225				0...150 °C
TS-9101-8226				20...120 °C
TS-9101-8227				50...150 °C
TS-9101-8232			300	-20...40 °C
TS-9101-8233				0...40 °C
TS-9101-8234				0...100 °C
TS-9101-8235				0...150 °C
TS-9101-8252			500	-20...40 °C
TS-9101-8253				0...40 °C
TS-9101-8254				0...100 °C
TS-9101-8312		Rod fast response	160	-20...40 °C
TS-9101-8313				0...40 °C
TS-9101-8314				0...100 °C
TS-9101-8322			200	-20...40 °C
TS-9101-8323				0...40 °C
TS-9101-8324				0...100 °C
TS-9101-8325				0...150 °C
TS-9101-8326				20...120 °C
TS-9101-8327				50...150 °C
TS-9101-8332			300	-20...40 °C
TS-9101-8333				0...40 °C
TS-9101-8334				0...100 °C
TS-9101-8335				0...150 °C
TS-9101-8352			500	-20...40 °C
TS-9101-8353				0...40 °C
TS-9101-8354				0...100 °C
TS-9101-8401		Outdoor	---	-40...50 °C
TS-9101-8402				-20...40 °C
TS-9101-8602		Strap-on		-20...40 °C
TS-9101-8604				0...100 °C
TS-9101-8703		Ceiling		0...40 C°

For further information and additional models see Product Bulletin

Johnson Controls

TS-9100 TE-9100
Plant Sensor

Ordering Codes	Output Signal	Sensor Type	Rod Length in mm	Temperature Range
TE-9100-8501	NTC K2	**Cable Sensor**		-20...40 °C
TS-9103-8210		Rod *	160	0...40 °C
TS-9103-8220			200	
TS-9103-8230			300	
TS-9103-8250			500	
TS-9103-8310		Rod fast response	160	
TS-9103-8320			200	
TS-9103-8330			300	
TS-9103-8350			500	
TS-9103-8400		Outdoor	---	
TS-9103-8600		Strap-on	---	
TS-9103-8700		Ceiling	---	
TE-9100-8502	NTC K10	**Cable Sensor**		-20...40 °C
TS-9104-8210		Rod *	160	0...120 °C
TS-9104-8220			200	
TS-9104-8230			300	
TS-9104-8250			500	
TS-9104-8310		Rod fast response	160	
TS-9104-8320			200	
TS-9104-8330			300	
TS-9104-8350			500	
TS-9104-8400		Outdoor	---	
TS-9104-8600		Strap-on	---	
TS-9104-8700		Ceiling	---	
TS-9105-8220	Pt100	Rod *	200	-20...150 °C
TS-9105-8230			300	
TS-9105-8250			500	
TS-9105-8400		Outdoor		-40...50 °C
TS-9105-8600		Strap-on		-20...100 °C
TS-9105-8700		Ceiling		0...40 °C
TS-9106-8210	Pt1000	Rod *	160	-20...150 °C
TS-9106-8220			200	
TS-9106-8230			300	
TS-9106-8250			500	
TS-9106-8310		Rod fast response	160	
TS-9106-8320			200	
TS-9106-8330			300	
TS-9106-8350			500	
TS-9106-8400		Outdoor	---	-40...50 °C
TS-9106-8600		Strap-on	---	-20...100 °C
TS-9106-8700		Ceiling	---	0...40 °C

Note

***** Rod sensor can either be for: - Duct applications (alone)
- Immersions applications (with well)

For further information and additional models see Product Bulletin

Johnson Controls

TS-9100 TE-9100
Plant Sensor

Accessories (order separately)

Ordering Codes	Description
TS-9100-8950	Duct mounting flange

Ordering Codes	Description	Material	Thread	Lenght (mm)	External Diam. (mm)
TS-9100-8905	Immersion well	Copper	R1/2"	50	9
TS-9100-8901				120	12
TS-9100-8907				150	
TS-9100-8902				200	
TS-9100-8903				260	
TS-9100-8925		Stainless steel		50	9
TS-9100-8921				120	12
TS-9100-8927				150	
TS-9100-8922				200	
TS-9100-8923				260	
TS-9100-8915		Stainless steel	G1/2"	50	9
TS-9100-8911				120	12
TS-9100-8917				150	
TS-9100-8912				200	
TS-9100-8913				260	

For further information and additional models see Product Bulletin

Johnson Controls

Temperature, Wireless

WRS Many-to-One and TE-7800 One-to-One
Wireless Sensors

The WRS Many-to-One and TE-7800 One-to-One Wireless Room Temperature Sensing System are designed to gather temperature and zone data from multiple wireless room temperature sensors, and distribute that data to multiple field controllers on a Metasys® network.

A Many-to-One WRS system consists of multiple WRS-TTx Series Wireless Room Temperature Sensors communicating with one or more WRS-RTN Series Receivers.

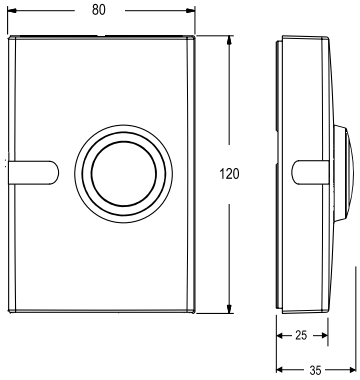
The receivers collect wireless temperature, zone, and battery-condition data messages and route that data over Ethernet to a Network Automation Engine (NAE) or a Network Control Engine (NCE).

The NAE or NCE distributes the temperature and zone data to supported BACnet®, N2, and LonWorks® controllers on Metasys networks

A simple One-to-One wireless sensing system consists of one WRS-TTx Series Wireless Room Temperature Sensor communicating single-zone temperature data to an associated TE-7800 Series Receiver. Up to four sensors can report to a single receiver to provide enhanced zone control.

Features

- Power supply: 24 VAC
- RF band: 2.4 GHZ ISM Bands
- Transmission Range: 114 m Max Indoor Line-of-Sight
  50 m Practical Average Indoor
- Transmissions: every 60 seconds
- Ambient operating Temperature: 0 to 50 °C
- Ambient operating Humidity: 0 to 95% RH



Dimensions in mm

Ordering Codes	Description	Transmission Power
TE-7820-1	Receiver with Zone Bus Interface for One-to-One Wireless Room Temperature Sensing System, Interfaces with VMA1400 Series Controllers (Only). Includes 1.8 m Zone Bus Interface Cable and Omnidirectional Antenna	10 dBm (CE Mark)
TE-7830-1	Receiver with Analog Interface for One-to-One Wireless Room Temperature Sensing System, Interfaces with Specified Analog Digital Controllers (Johnson Controls AS-AHU, AS-UNT, AS-VAV, DX-9100, or FXxx Series Controllers). Includes 1.8 m Analog Interface Cable and Omnidirectional Antenna.	10 dBm (CE Mark)
WRS-RTN0000-1	Receiver for Many-to-One Wireless Room Temperature Sensing System, Includes Omnidirectional Antenna	10 dBm (CE Mark)
WRS-TTP0000-1	Wireless Room Temperature Sensor, Warmer/Cooler (+/-) Set Point Adjustment	10 dBm (CE Mark)
WRS-TTR0000-1	Wireless Room Temperature Sensor, No Set Point Adjustment	10 dBm (CE Mark)
WRS-TTS0000-1	Wireless Room Temperature Sensor, Set Point Adjustment Scale: 13 to 29°C	10 dBm (CE Mark)

For further information and additional models see Product Bulletin

Johnson Controls