HX-9100 DEW SENSOR

Introduction

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 91 controllers to provide override functions when condensation is forming.

HX-9100 Dew Sensor

Operation

The principle of the sensor is based on the change in resistance of a conductive polymer in a thin film on a small ceramic substrate. As the sensing polymer becomes wet (98-100% RH), its resistance will increase drastically because the polymer expands and therefore causes a larger distance between the conductive particles.

HX-9100-8001: the sensing element is combined with an open collector output to produce an ON/OFF output used by a digital input of a controller, for example a TC-9109. The output is switched from open to close position when 98-100% RH is sensed.

HX-9100-9001: the sensing element is combined with an electronic circuit to produce an active output, used for example as an input of a DX-9100 or a TC-9100 controller. The output drops from 10 to 0 VDC when 98-100% RH is sensed

Features and Benefits	
❑ **Detects dew condensation forming**	Achieve optimal efficiency for cool ceiling systems. Prevent condensation
❑ **0…10V or open collector output**	Can be used with any System 91 controller

Ordering data

HX-9100- ☐**001**

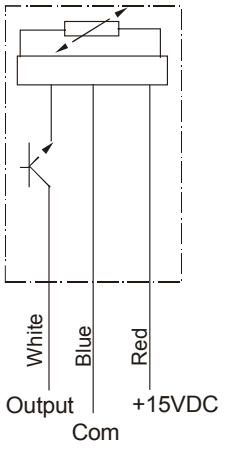
Options

8	Open collector output
9	0/10 VDC output

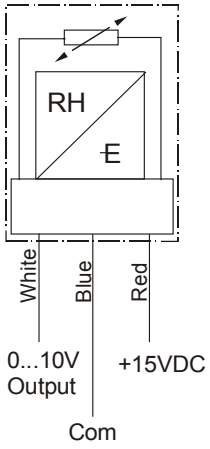
Installation

The HX-9100 can be mounted with an adhesive on a smooth glass or metal surface; or it can be clamped on a metal pipe 15, 18 or 22 mm in diameter.

Wiring diagrams



HX-9100-8001



HX-9100-9001

Specifications

Models:	HX-9100-8001	HX-9100-9001
Action:	On/Off	0V / 10V
Supply voltage:	15VDC ±10%, nominal	
Output at 98%…100% RH:	open collector close 15 VDC max 10 mA max	≤ +0.5 V
Output at ≤ 75% RH:	open collector open 15 VDC max 10 mA max	+10V ± 5%
Current Consumption:	Approximately 5.5 mA at 100% RH and Approximately 1.5 mA at ≤ 75% RH	
Operating Ambient: Temperature Limits:	0…60°C	
Operating Humidity limits:	No permanent moisture condensation; no change of characteristic after 1,000 hours under condensation	
Protection Class:	IP44 (EN 60529)	
Storage Conditions:	-20 to +80°C, non condensing	
Response Time:	Approximately 3 minutes under calm air and RH change from 75% to 100% and reverse	
Electrical Connections:	1.5 m 3-wire cable with terminal sleeves	
CE **Compliance:**	EMC (89/336 EEC) according to the standard EN 50081-1 and EN 50082-1	

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office.
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