

Features and Benefits

- Strap-on or screw mounting
- VFC output
- Low smoke & fume flying lead cable
- Prevents "indoor rain" condensation
- Enables optimal efficiency for chilled beam applications

Technical Overview

The WD-CPS-UN condensation prevention switch is designed to meet the requirements for a low cost device to provide early warning of condensing conditions. Applications include chilled beam/ceiling systems where control safeguards are required to avoid 'indoor rain'.

The sensor provides a volt-free contact and is housed in a small enclosure which can be strapped to the surface that requires monitoring.

Product Codes

WD-CPS-UN Condensation prevention switch, 2m lead

Specification

Output	VFC 24Vac/dc @ 1A resistive SPDT
Supply voltage	24Vdc $\pm 5\%$ or 24Vac $\pm 10\%$
Supply current	20mA max.
Response time	<5 sec
Measurement Accuracies:	
Temp	$\pm 0.2^\circ\text{C}$
RH	$\pm 5\%$ RH
Flying lead	2 Meter Low Smoke Zero Halogen (LSZH)
Dimensions	W73 x H48 x D30 mm
Mounting plate	1mm thick stainless steel
Statutory Compliance:	
EMC:	
Emissions	EN61000-6-3
Immunity	EN61000-6-2
Country of origin	China
Conformity	EMC, CE & UKCA Marked

WEEE Directive:



At the end of the products useful life please dispose as per the local regulations. Do not dispose of with normal household waste. Do not burn.



Installation



Antistatic precautions must be observed when handling these sensors. The PCB contains circuitry that can be damaged by static discharge.

1. The WD-CPS-UN should only be installed by a competent, suitably trained technician.
2. Ensure that all power is disconnected before carrying out any work on the WD-CPS-UN.
3. Choose a suitable location and mount the detector. The unit should be mounted as close as possible to the chilled water inlet, or the coldest part of the system to be measured. Ambient air must be allowed to enter and circulate around the detector element.
4. Important! It is essential that no insulating material is placed between the detector and the mounting surface. The detector plate must be kept at the same temperature as the potential condensing surface.
5. The detector can be simply fixed in place on a pipe with the cable-ties or with the 2 self-tapping screws provided.
6. If the detector is to be mounted onto a pipe, it is important the unit is mounted length-wise to ensure maximum thermal transfer efficiency.
7. Terminate the flying lead cores as required and ensure that the supply voltage is within the specified tolerances.

Operation

The WD-CPS-UN operates by measuring the RH at the metal plate of the sensor, to prevent condensation forming on the chilled beam to which the sensor is attached. The RH is measured using a temperature sensor compensated RH element and a high accuracy thermistor which are thermally bonded to the metal plate of the WD-CPS-UN.

The relay output of the sensor operates at approximately 85% RH, with hysteresis about the switching point of approximately $\pm 5\%$ RH.

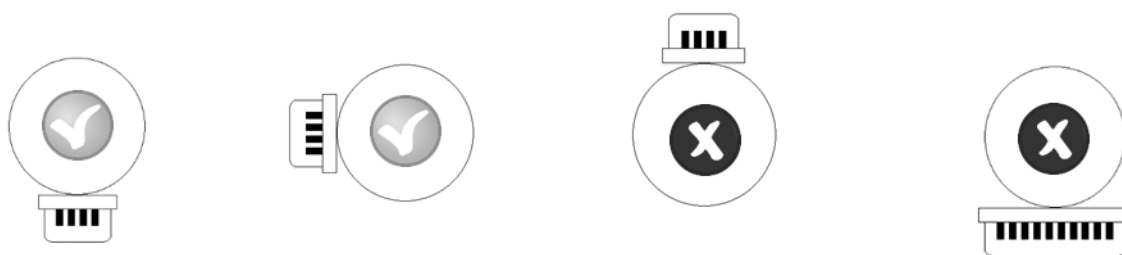
NB To obtain maximum accuracy over a narrow band of RH values, the device will not perform valid calculations on levels of RH below 75%.

Connections

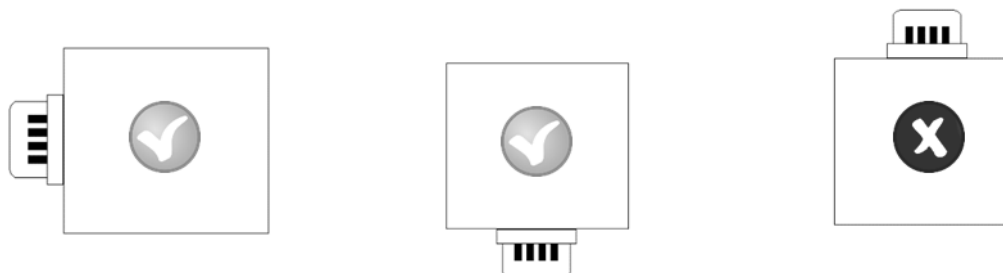
Red	+24Vac/dc	Black	Common
Blue	0V	Yellow	N/O

Mounting Position

Round section surface:



Square or rectangular section surface:



Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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