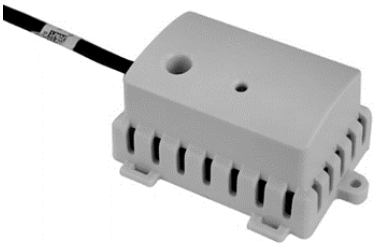
Sontay®
Four Elms Road - Edenbridge
Kent - TN8 6AB - UK

WD-CPS
Condensation Prevention Controllers

Issue Number 7.3
15/08/2023



Features and Benefits

- Strap-on or screw mounting
- VFC or current output
- Low smoke & fume flying lead cable
- Adjustable set point
- LED indication of status
- Prevents “indoor rain” condensation
- Enables optimal efficiency for chilled beam applications

Technical Overview

The WD-CPS condensation prevention sensor 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 either a volt-free contact or current output and is housed in a small enclosure which can be strapped to the surface that requires monitoring.

Product Codes

WD-CPS	Condensation detector, 2m lead
WD-CPS-5M	Condensation detector, 5m lead

Specification

Output:	
Current	dry <5mA, wet >12mA
VFC	24Vac/dc @ 1A resistive SPDT
Supply voltage	24Vdc ±5% or 24Vac ±10%
Supply current	20mA max.
Response time	<5 sec
Measurement Accuracies:	
Temp	±0.2°C
RH	±5% RH
Set point offset range	±2°C
Flying lead	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.

Tel: +44 (0)1732 861200 - E-mail: sales@sontay.com - Web: www.sontay.com

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 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.

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 operates on dew point temperature rather than a fixed value of relative humidity. The dew point is calculated from a temperature compensated RH element and a high accuracy thermistor which are thermally bonded to the metal plate of the WD-CPS. The switching set point is determined as 3°C ± the pot offset above the current dew point. The relay is activated when the dew point temperature is below the offset set point.

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%.

LED Indication

The red LED, visible through the top of the housing, has 4 functions;

1. Short blink once every 15 seconds to show the device is working properly.

2. Rapid continuous blinking to show the dew point switching set point is close.

3. Continuously ON when the output is switched on.

4. One long flash followed by 2 short flashes to show the temperature element is faulty

LED Indication & Switching Point Adjustment

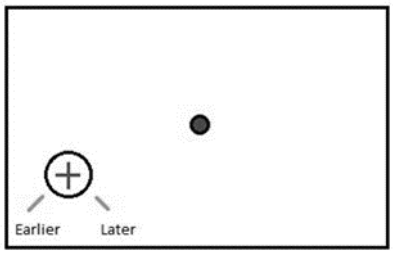
Curent mode

Red	+24Vdc
Blue	4-20mA output

VFC mode

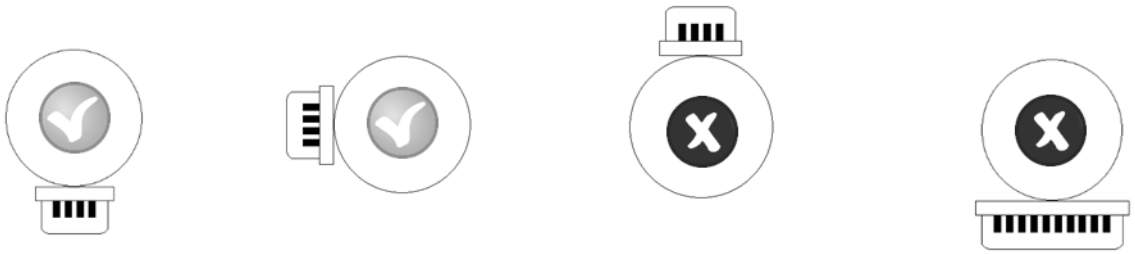
Red	+24Vac/dc
Blue	0V

Green	Common
Yellow	N/C
White	N/O

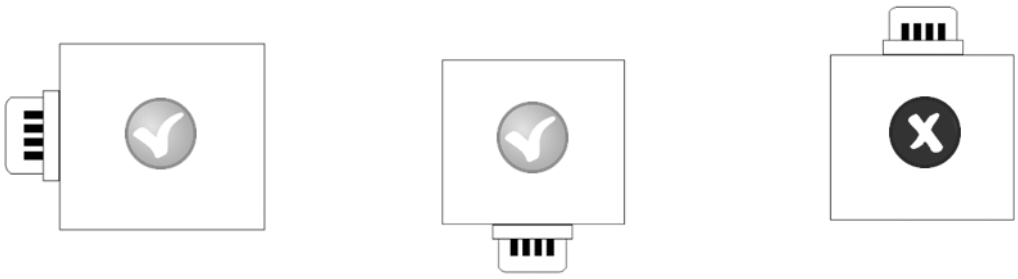


Mounting Position

Round section surface:



Square or rectangular section surface:



Tel: +44 (0)1732 861200 - E-mail: sales@sontay.com - Web: www.sontay.com