

CYLON

Room Temperature Sensor WRF04P

The Cylon Room Temperature Sensors are surface mounting room temperature sensors and operating panels, designed for

- temperature measurement
- integrated manual control of HVAC applications (change set point)



Specifications

Sensor Type:	1x 10k3A1
Measuring range	-35°C to +70°C
Accuracy	±0.2°C from 0°C to 70°C
Potentiometer (P)	5kW 3-wire, max load 0,25W
Connection	Terminal screws, max. 1,5mm ²
Housing	for wall mounting, material ASA, colour pure white, similar to RAL9010
Protection	IP20
Cable entry	from behind or side-mounted entry from top/below
Ambient temperature	< 50°C
Ambient humidity	< 85%rF, no condensation

Norms and Standards

CE-Conformity	89/336/EWG Electromagnetic compatibility
Standards	EN 60730-1: 2000



Due to Cylon's policy of continuous improvements these specifications may be upgraded without notice.

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Installation

Mounting Considerations

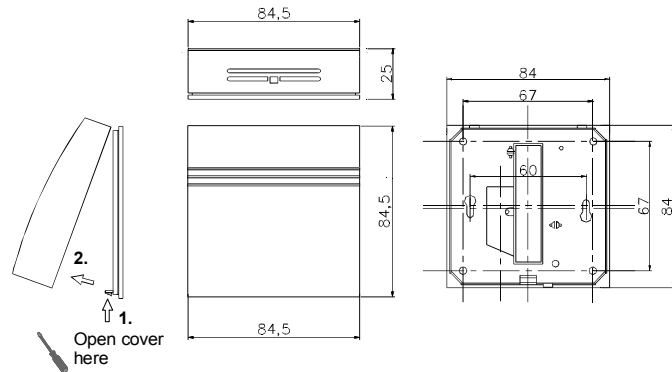
This sensor is attached by means of raw plugs and screws (not supplied) to the smooth wall surface.

For wiring, the snap-on lid must be separated from the base plate.

The Sensor must be installed at a position in the room that is representative of the typical room temperature.

Direct sunlight and draughts should be avoided.

Conduits into the sensor box must be sealed to avoid any draught causing errors in the sensor reading.



Location and accuracy of room sensors

Sensors should be mounted at locations where the air temperature is representative of the air temperature throughout the room.

It is important that the flush mounting socket is completely closed at the wall side, so that the circulation of air may take place only through the gaps in the cover. Otherwise, errors in temperature measurement will occur.

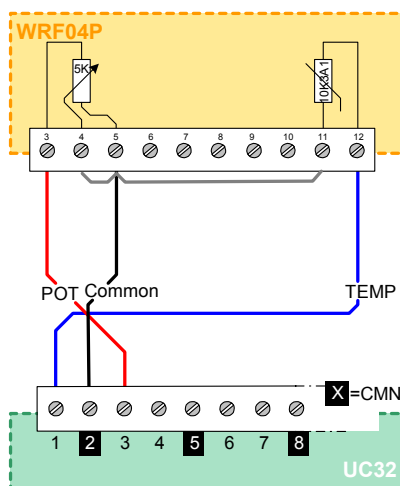
The temperature sensor should not be blocked by furniture etc.

Mounting places next to doors (where draughts may occur) or windows (colder outside wall) should be avoided.

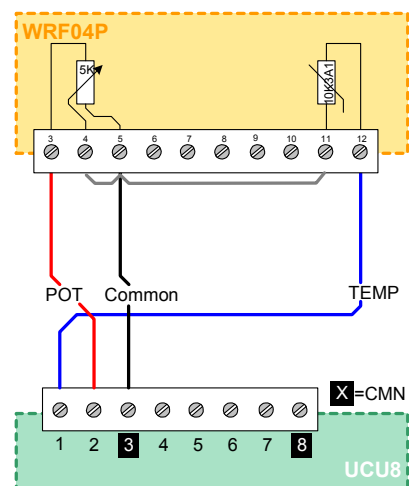
Various wall types (brick, concrete, dividing and hollow brickwork) have different behaviour with regard to thermal variations. A solid concrete wall responds to thermal fluctuations within a room in a much more slowly than a light-weight structure wall. As a result, room temperature sensors installed in flush boxes have a longer response time to variations in air temperature. In extreme cases they may detect the radiant heat of the wall rather than the air temperature in the room. The quicker the thermal response (temperature acceptance) of the wall, or the longer the selected scanning interval of the temperature sensor, the smaller this effect will be.

Terminal Connection

Connection to UC32 Field Controllers:



Connection to UCU Field Controllers:



Note: To avoid self-heating, which can affect the accuracy of measurement, the wire current should not exceed 1mA.



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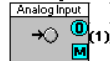
Application:

The following sample strategies show how inputs from these sensors may be processed by UniconUC32 Field Controllers

UC32.xx strategy (Firmware version 6.12 or greater)

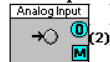
Sensor Type - CCWRF04P (Room temperature sensor with Pot)

Setpoint Adjust Pot



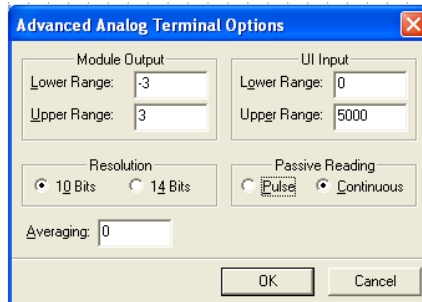
For the Setpoint Adjust Pot -
Set the 'Exp. Filter Constant' to Five seconds.
Set the 'Sensor Type' to 0-10 Kohms

Room Temperature



For the Room Temperature Sensor -
Set the 'Sensor Type' to 10K3A1

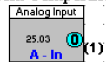
Advanced Terminal options for Setpoint Adjust Pot



UCU strategy

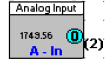
Sensor Type - CCWRF04P (Room Temperature Sensor with Pot)

Room Temperature



For the Room Temperature -
Set controller jumpers to : Volt Free
Set the 'Sensor Type' to 10K3A1

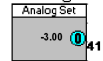
Setpoint Adjust



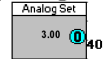
For the Setpoint Adjust -
Set controller jumpers to : Passive
Set the 'Sensor Type' to mVolt
Set the 'Exponential Filter Constant' to 5
Set the number of linear steps to 11
Set the Start and End Range to 0 and 100

Use the following values for the constants:
0, 446, 820, 1136, 1408, 1645, 1852, 2035,
2198, 2344 and 2475.

Lower Range of Pot



Upper Range of Pot



Fn43 Integer Constant	30
A= 0	0.00
B= 446	446.00
C= 820	820.00
D= 1136	1136.00

Fn43 Integer Constant	32
A= 1408	1408.00
B= 1645	1645.00
C= 1852	1852.00
D= 2035	2035.00

Fn43 Integer Constant	33
A= 2198	2198.00
B= 2344	2344.00
C= 2475	2475.00
D= 0	0.00

Fn29 Max. of 8 Inputs	35
A	446.00
B	820.00
C	1136.00
D	1408.00
E	1645.00
F	1852.00
G	2035.00
H	2198.00

Fn19 Rescale From 0-100	34
A	-3.00
B	3.00
C	52.23

Fn29 Max. of 8 Inputs	36
A	2344.00
B	2475.00
C	0.00
D	0.00
E	0.00
F	0.00
G	0.00
H	0.00

ABOUT UNITRONUC32

Cylon sensors are part of the UnitronUC32 range of products, which offers the following benefits:

Unique Flexibility with UniPut™ I/O

The UnitronUC32 range uniquely presents UniPut I/O, a revolutionary answer to flexible point configuration, offering maximized utilisation of controller capacity along with flexibility in strategy changes. Built on a modern, web-based architecture, the UnitronUC32 range has a wide application scope with the flexibility of being stand-alone or network enabled. Easily customisable, the UnitronUC32 range has optional internal or external keypads for a powerful yet user-friendly interface, matched by extensive monitoring and logging capabilities.

Cost Effective, low entry point for building control.

The UnitronUC32 range offers reduced costs in terms of training, implementation, rollout and maintenance. Modular, extendible packages along with low installation costs mean a low entry point for building control. Advanced web based technology provides expanded facilities for maintenance personnel, while day to day access is offered via intuitive web pages. The future proof UnitronUC32 range provides forward & backward compatibility, meaning an effortless upgrade path for existing Unitron Systems.

Highly programmable and extendable through web enabled HVAC technology

The UnitronUC32 range offers an advanced, web based, 32-bit architecture, with advanced programmability through the UnitronUC32 Engineering Centre. Inbuilt diagnostics along with expanded data logging and strategy storage is further enhanced by UniPut I/O, offering up to 8 Universal inputs, up to 8 UniPut connections (AI/DI/AO/DO) and up to 8 UniPut I/O with relays.



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