



URT 142 Technical Data

URT 142/SP

Selectable output type 0-10Vdc or 4-20mA

Select. output range -10 to + 40°C

-10 to +110°C -10 to +160°C 0 to +400°C Custom, in range of -40 to 400°C

Supply Voltage

0-10Vdc	24Vac+/-15%@50Hz or 24Vdc +15%-6%
4-20mA	24Vdc +/-15% -6%
Accuracy	±0,2°C
Sensor type	Pt100
Connectors	Terminals for 0,5-2,5mm2 cable
Ambient range temp.	-10+60°C
Ambient range hum.	0-80%RH, non-condensing
Housing	
Material	ABS (flame retardant)
Dimension Protection Class	85x85x30 IP30

These products meet the demand of CE approval Note

Current versions are $\ensuremath{\text{NOT}}$ loop powered and will require a common 0V connection

4-20mA output:

The red LED is on when the PCB is in 4-20mA mode and working correctly.

For this to be so these conditions must be met:

- 1. The output select jumper(s) must be set to the 4-20mA position.
- 2. The output load must be an impedance of 500ohm or less.
- 3. The PCB is capable of sourcing the correct output current. (The red LED may flash if the PSU is below 22V or the impedance is more than 500ohm).
- 4. If using a current output mode, the sensor must only be used with a 24Vdc supply.
 - The sensor may be damaged if supplied with AC.

0-10Vdc output:

The output select jumper(s) must be connected in the 0-10Vdc position, minimum impedance 2kohm.

Features

- Attractive housing
- Improved airflow over sensing elements

URT

- Combines 4 preset temperature ranges
- Choice of outputs and ranges on one unit
- Temperature range selectable via jumper setting
- Customised output scaling
- Universal Transmitter
- PCB mounted connections
- Precalibrated for ease of commissioning
- An active setpoint adjustment option is available

Application

The room temperature transmitter URT is a room temperature transmitter to sense temperature in HVAC systems and are intended for direct interfacing to any Energy Management System.

Design Features

The URT sensing element is fitted in wellventilated housing.

The circuit board with electronics for 0-10Vdc or 4-20mA signal and connection terminals is mounted in the housing.

Function

The sensing element is a Pt100a.

The element change its resistance proportional to temperature and the electronics convert this resistance change to 0-10Vdc or 4-20mA

Ordering Codes

URT 142	0-10Vdc/4-20mA selectable output, -10/+40°C, -10/+110°C, -10/+160°C, 0/+400°C
URT 142X	0-10Vdc/4-20mA selectable output, (custom temperature scaling)
URT 142/SP	As URT 142 c/w Setpoint Adjustment -10/+40°C, -10/+110°C, -10/+160°C, 0/+400°C
URT 142X/SP	As URT 142 c/w Setpoint Adjustment (custom temperature scaling)

Calibration to customer specification in the range -40...+400°C (dependent on sensor type and application)

Automatikprodukter

Temperature Calibration Service available

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Mounting Notes

- The sensor is suited for a wall mounting on a recessed conduit box.
- It may not be mounted in recesses or shelves, not behind curtains or doors and not near heat sources.
- · Direct solar radiation and draughts must be avoided.
- The permissible ambient climatic conditions must be observed.
- The end of the conduit at the room unit must be sealed to prevent false measurement due to draughts through the conduit.
- The room sensor should be mounted approximately 1,8 m above floor level.
- Undo the tamperproof screw at the bottom of the housing and gently pull the front panel from the base.
- Using the base as a template mark the holes centgres and fix the wall suitable screws.

Alternatively the base plate can be mounted on to a conduit box or a standard recessed back box.

• Feed cable through the 22mm knockout in the base of the housing and terminate the cores at the terminal block as required.

Leaving som slack inside the unit.

- · Replace the housing to the base plate.
- Fit the tamperproof screw (if required) through th lug at the bottom of the base plate.

Connections



Current output

If using a current output, the sensor must only be used with a 24Vdc supply.

The sensor may be damaged if supplied with AC

Note: When using current output mode they are NOT loop powered and will require a common 0V connection

Installation and Connection Details

All connections to DDC controllers, data recorders etc. should be made using screened cable.

Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise.

Low voltage signal and supply cables should be routed separately from high voltage or mains cabling.

Separate conduit or cable trays should be used.

Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth. This will provide better immunity to high frequency noise.

Most modern buildings have a separate earth for this purpose.

Jumper Settings

Output Temperature Range Selection



Note: If the range links are incorrectly set, the output range will default to -10/+40 °C



Note: There is one link for SP and one for T, which can be set independently from each other, allowing (for example) the temperature output as 0-10Vdc and setpoint option output as 4-20mA.

LED Status

Normal:

The green LED indicates the supply condition. If the power supply is normal the green LED is ON continously This shows that the CTT is powered correctly.

Low Supply Voltage:

If power supply falls below about 22V the green LED does double flashes twice a second.

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The PCB tries to maintain the correct output bay be unable to achieve the specified voltage or current level. At very low voltages it will stop working.

High Supply Voltage:

If the power supply is above 40V the green LED flashes 6 times a second:

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The PCB tries to maintain the correct outputs but components on the PCB may overheat causing unreliability and ultimmately failure.

