

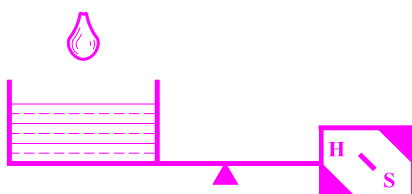
RAINGAUGE HEATER KIT MODEL TBH



- **Power Requirement AC/DC**
- **Fully Automated Operation**
- **Thermostatically Controlled Heating Element**
- **SDI-12 interface**

ISO
9001

QUALITY SYSTEM
CERTIFIED



HYDROLOGICAL SERVICES PTY.LTD.
HYDROLOGICAL INSTRUMENTS & EQUIPMENT
DESIGNED AND MANUFACTURED
BY HYDROLOGISTS

DESCRIPTION

The Hydrological Services Tipping Bucket Heater has been designed for use with the Hydrological Services Tipping Bucket Raingauges. The device is a thermostatically controlled heating element, that raises the temperature of the interior of the rainauge, funnel and catch to avoid the freezing of the gauge in cold climates with subsequent loss of precipitation records. When the ambient temperature drops below a preset value (+ 4°C), the heating elements are turned “ON” to keep the funnel temperature at the preset Setpoint temperature (+ 10°C) and are switched when ambient temperature reaches above (+ 5°C). The system will be de-activated when temperature drops below (-20 °C) or above (+5 °C) nominal. This feature conserves the power supply.



Temperature Sensor

The TB Heater is supplied ready to be installed with no settings required. The TB Heater incorporates an SDI-12 interface that allows the operator to configure, monitor and manually control the TB Heater – depending on the system requirements. (It is not mandatory to use the SDI-12 interface – but only optional if more detailed information or control is required.) The SDI-12 interface is optically isolated from the control electronics, because the control electronics may be operated from AC and therefore have separate earthing. The SDI-12 interface requires a separate 12V DC power source. For information relating to the TB3 Tipping Bucket Rainauge, refer to the TB3-100 Instruction Manual.

OPERATION

When the TB Heater is “not Active” the status LED flashes every 1.5 seconds. When the ambient temperature sensor detects the temperature fall below the “Active On temperature” (+4°C) then the system becomes “Active”.

The heater elements are turned on and the block temperature sensor is monitored. The heaters are controlled so that the temperature inside the funnel reaches the Set Point temperature (+10°C). The lower heating block keeps the tipping bucket and the drain tubes from freezing up. While the heater elements are turned on, the status LED flashes even faster at 8 flashes per second. (For more information about the operation of the TB Heater please refer to the manual).

SPECIFICATIONS

Ambient temperature range

-40°C to +70°C (-40°F to +158°F)

Heater operating parameters

Between -20°C to +5°C (-4°F to 41°F)

Average power generated

35 watts (150 watts during initial minute warm up)

Voltage requirements

Main Power: 10VDC to 30VDC OR
12VAC to 28VAC

SDI-12 Power: 9.6VDC to 16VDC (SDI-12 standard)

SDI-12 Interface

Optically Isolated
1200 baud, 7 bits, even parity.

Power generated and current requirements

- 12 VDC
- 45 watts average (70 watts when heater is on)
- 3.7 amps average (approx 65% duty cycle) (5.8 amps when the heater is on)

Specifications are subject to change at anytime without notice.

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