

INSTALLATION AND OPERATING INSTRUCTIONS

DIGIT-STAT DS-60P DIGITAL TEMPERATURE GAUGE FOR HYDRONIC HEATING SYSTEM

DIGITAL TEMPERATURE GAUGE DS-60P

AZEL Technologies Digital Temperature gauge replaces two mechanical temperature gauges as it can simultaneously displays the accurate temperature of supply and return piping on a hydronic heating system. When 24VAC is supplied, the lithium battery enable the unit to work in case of power failure. DS-60P is also ideal for any application that requires quick and accurate response to temperature change, an easy to read display and a wide temperature range.

FEATURES:

- Dual Large LCD (Liquid Crystal Display) to show supply and return temperature.
- Min/Max memory can be selected for both OUT(Supply) and IN (Return) water temperature since the last time RESET button was pressed
- Celsius or Fahrenheit switch on the front unit.
- Dual power input: 24VAC or Lithium Battery. When both inputs are applied, 24VAC has priority over lithium battery.
- Frequent sample rate dictate any change in temperature instantly
- Easy installation

SPECIFICATIONS:

- Temperature range: 32 to 248°F (0 to 120°C)
- Resolution: 0.1°F(0.1°C)
- Accuracy: ±1°C / ±2°F
- Sample rate: 3 Secs.
- Input: 2 x 10K ohm thermistor probe model: P-01 (designed to strap on a pipe or insert into a temperature well)
- Operating Voltage: 24VAC or Lithium Battery (included, last for over 3 years)
- Size: 3.5" x 2.0" x 0.9" (88.9mm x 50.8mm x 22.86mm)
- Enclosure: Flame-retardant plastic
- Operating Temperature: 32 to 122°F(0 to 50°C)
- Weight: 0.11lbs (50g)

UNIVERSAL SENSOR PROBE (THERMISTOR) Model: P-01

The Azel Sensor Probe is engineered to ensure long life and rapid response. It is designed to strap on a pipe or insert into a temperature well. P-01 is specially designed for use with DS-60 and other controls that require 10K ohm thermistors.

SPECIFICATIONS:

- Sheath: Copper
- Lead: 10' of 20 AWG heat resistance wire
- Dimension: 3/8" OD x 13/16" length (9.5mm OD x 20.6mm)
- Weight: 0.02lb (10g)
- Operating range: -60 to 255°F (-50 to 125°C)
- Sensor: 10K ohm @ 77°F (25°C ± 1%) thermistor

MODEL	DESCRIPTION
DS-60	Digital temperature gauge
P-01	Universal sensor probe
DS-60P	Digital temperature gauge with two universal sensor probes (DS-60 and P-01)

INSTALLATION:

REMOVING THE FRONT COVER

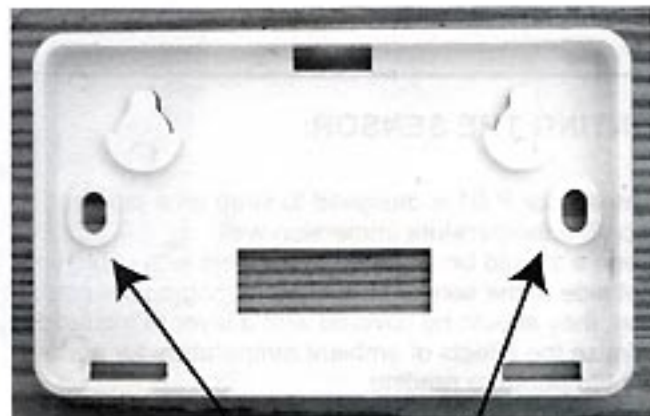
Push down the plastic tab located on top of the enclosure with finger or small screwdriver to release the lock. Swing the front cover away from the base using the bottom edge as the pivot.



Push the tab to open the cover

MOUNTING THE DS-60P ON THE WALL

THE DS-60P can be mounted on the wall (or wooden board) using two #6 screws. Insert the screws through the mounting holes on the base and fasten the screws to the wall.

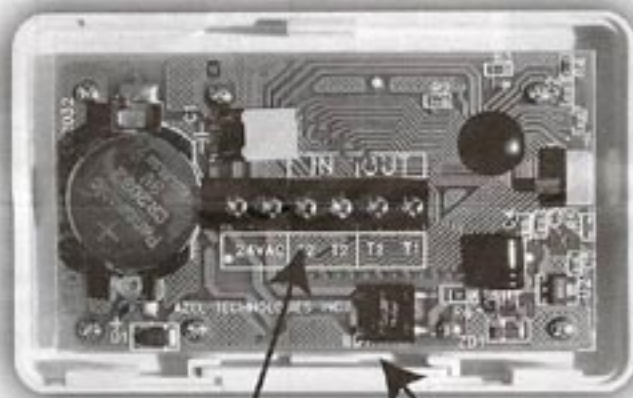


Insert #6 screws into these mounting holes

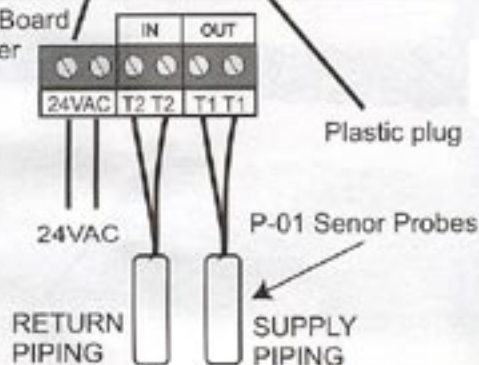
WIRING THE DS-60P

First of all, decide if the wire is going to run through the bottom or back opening. In case of running the wire through the bottom opening, remove the plastic plug by sliding outward. Run a pair of wire (18-20AWG) from each of P-01 sensor to the corresponding terminal blocks: Sensor of Supply Piping to "T1 T1" or "OUT" Sensor of Return Piping to "T2 T2" or "IN"

When 24VAC input is applied, the power consumption from the lithium battery will be disabled. Always pull away the plastic tab from the battery to activate the battery power or as backup power.



Printed Circuit Board behind the cover



INSTALLING THE FRONT COVER

This is the reverse process of removing the front cover. The hinges on the bottom of the front cover can be aligned with the base to provide pivot for the front cover to close. Swing the top part of the front cover all the way until it snaps tightly with the base.

MOUNTING THE SENSOR:

The sensor P-01 is designed to strap on a pipe or insert into a temperature immersion well.

Sensors should be strapped to the pipe with cable tie. The flat side of the sensor should be resting on the pipe. In addition, they should be covered with a layer of insulation to minimize the effects of ambient temperature for a more reliable temperature reading.

The sensor P-01 can also be insert onto a 3/8" (10mm) or 1/2" (12.7mm) ID temperature well.

Note: Do not run sensor wires parallel to other electrical wiring or telephone wires. In case there is strong source of electromagnetic interference, twisted pair 20AWG wire is recommended.

OPERATION OF THE BUTTONS ON THE FRONT COVER:

MAX-MIN

From the normal temperature display mode (no wording such as MAX or MIN on the LCD), press MAX-MIN button once to display the recorded maximum temperature of OUT (supply) and IN (return) piping. MAX appears in the temperature LCD's.

Press MAX-MIN button again to toggle to the recorded minimum temperature of OUT (supply) and IN (return) piping. MIN appears in the temperature LCD's.

Press MAX-MIN button again to return to the normal temperature display mode.

RESET

◆ Press RESET button to reset both the maximum and minimum temperatures in the memory.

°C/°F

◆ Press the °C/°F button to toggle between °C and °F.

OTHER OPERATION ISSUES:

OUT OF RANGE

- ◆ If the temperature is under 32°F (0°C), "LLL" will be displayed
- ◆ If the temperature is over 248°F (120°C), "HHH" will be displayed

LOW BATTERY INDICATOR

- ◆ If the battery is low,  symbol will be flashing.

Change the battery as soon as possible.

WHEN TEMPERATURE OF IN (RETURN) >= OUT (SUPPLY)

- ◆ If temperature of IN (Return) is equal to (within the same degree) or greater than OUT (Supply), "MAX" will be