

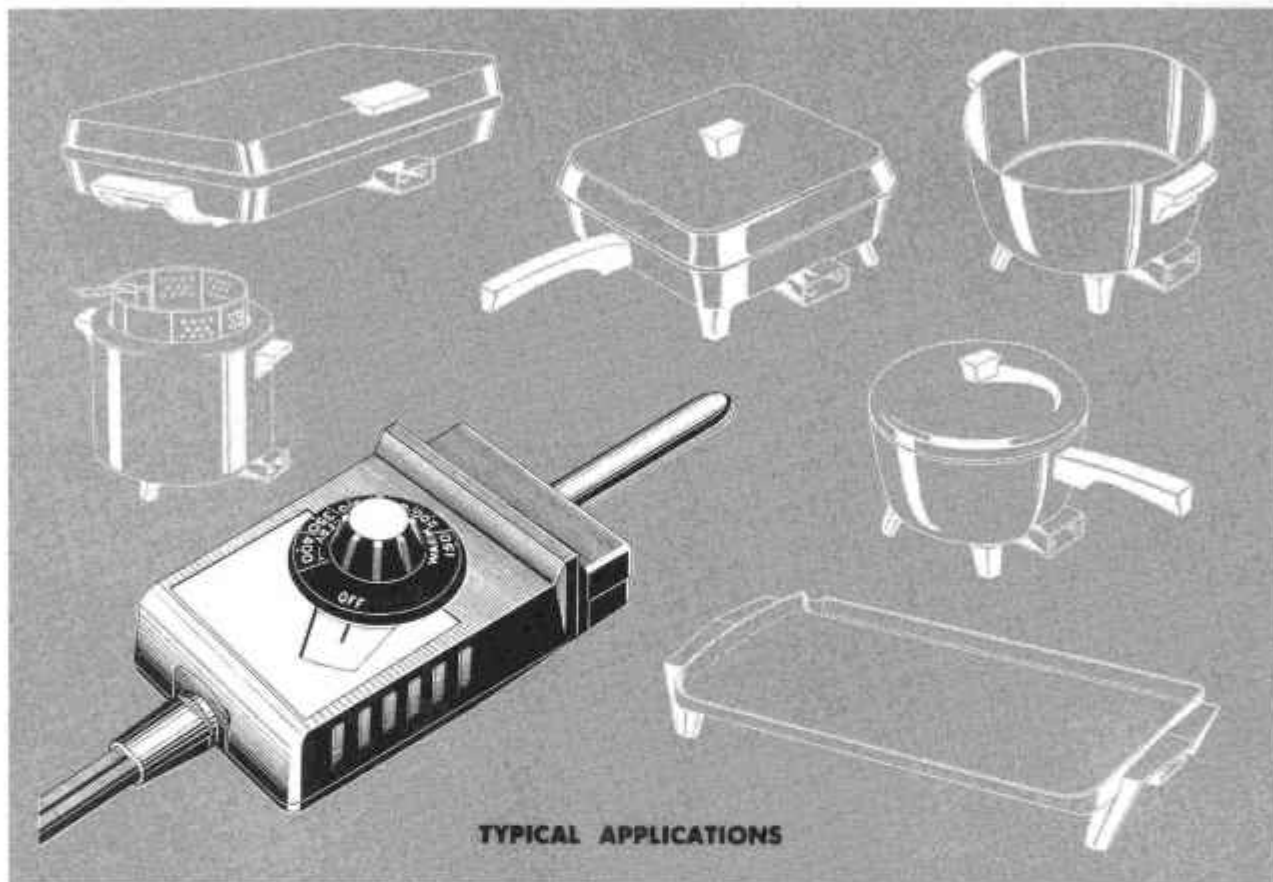


COMMERCIAL THERMOSTATS

9900 SERIES
CONTROL PLUG AND CORD ASSEMBLY

AMTU
ULTIMATE
VIRTUAL MUSEUM

Ampli-TUBE



TYPICAL APPLICATIONS

FEATURES

- Push Pull Action — provides clean switching, assuring reliable, safe operation
- Welded Parts — adds rigidity and long life
- Highly Sensitive to temperature change — (response 5 times mercury thermometer)
- Excellent Contact Life
- Calibrated and Designed to Customer's Requirements

GENERAL

The KLIXON 9900 Control Plug and Cord Assembly is an adjustable, tube type temperature control. Because of its low cost, it is ideal for original equipment manufacturers who are concerned with volume usage suitable for an engineered thermostat application.

DESCRIPTION

The unit consists essentially of an internal KLIXON C9192 Ampli-TUBE[®] Thermostat, a calibrated temperature setting dial, neon indicating light, and a phenolic plug assembly housing. The unit is detachable, and electrical appliances adapted to it can be completely immersed for

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cleaning when the plug is removed. The plug may also be used with several other appliances.

The external plug assembly is molded from tough, phenolic resin. Very little heat is conducted, maintaining the plug assembly at a cool temperature and never hot to the touch.

Calibration of the thermostat is set to match the group of appliances to which the thermostat is applied. Temperature settings are indicated on the dial.

INDIVIDUAL APPEARANCE

The control plug can be made characteristic of customer's own designs by the application of a decalcomania in the area around the dial knob and illuminated window. Special customer markings, when plated on the bottom half of the plug assembly, individualize the unit and make it a recognized part of customers' product lines.

Other characteristics, such as special knob dials, may be considered when large quantities are involved.

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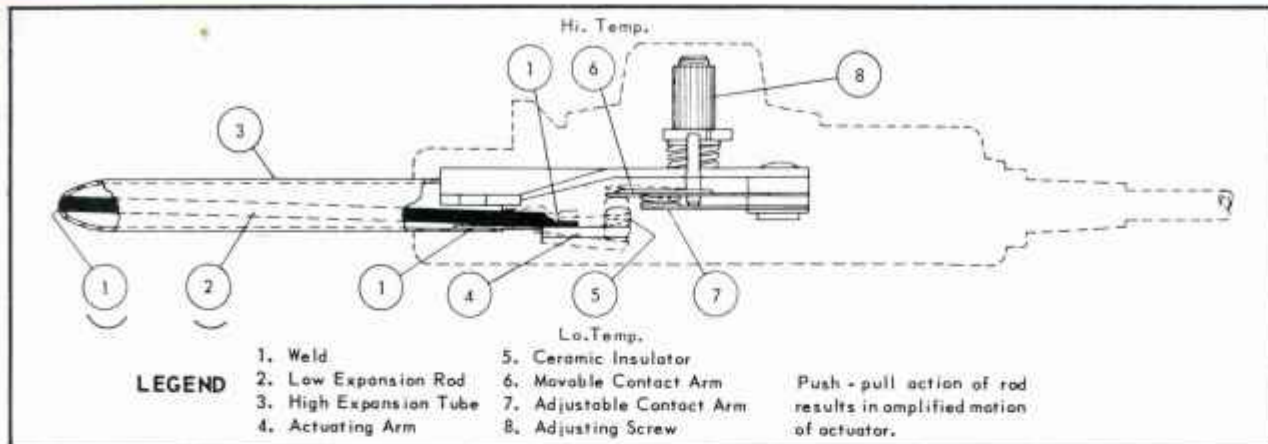
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CROSS-SECTION OF TYPICAL UNIT

The internal thermostat consists of a high expansion tube and a low expansion rod. (see cross-section) At one end the two elements are welded and sealed. At the other end the rod is welded to a movable actuating arm, which amplifies the difference in the expansion rate of the two elements. It is this amplification of the differences in expansion of the tube and rod that gives the thermostat good switching action and close temperature control.

OPERATION

The tube expands on the heating cycle causing the low expansion rod to pull the arm toward the center of the tube. As heating continues, the force causing the contacts to separate increases rapidly. Since the construction of the actuating arm is extremely rigid, the possibility of contacts welding is virtually eliminated. The actuating arm has considerable amplification of movement and power, giving clean switching.

On cooling, the rod pushes the actuating arm back to its original position, providing a push-pull action which results in the arm always returning to its original setting.

Temperature setting changes are achieved by an adjustment in the position of the electrical contacts.

HIGHLY SENSITIVE TO TEMPERATURE CHANGE

Because of its high ratio of surface area to thermal mass and intimate contact of the tube with the controlled medium, the thermostat is highly sensitive to temperature changes. On rapid temperature rise, the tube will heat faster than the rod, causing the contacts to open at a low temperature. This, in effect, results in temperature anticipation giving a *very small first cycle overshoot*.

UNDERWRITERS' APPROVAL

The 9900 has been approved by Underwriters Laboratories. See electrical ratings below.

HOW TO ORDER

Operating samples of the KLIXON 9900 Control Plug and Cord Assembly are available upon request.

SPECIFICATIONS

Adjustable Temperature Range	As Specified (normally at or near 300°F)
Calibration Point	"Off", 200° to 420°F
Calibration Tolerance	±10°F
Thermal Activity	18°F ± 1½°F per 15° rotation of adjusting dial
Operation	Open on temperature rise
Electrical Rating (U/L Approved)	1600 watts, resistive, 120 VAC
Electrical Clearance	1/16" thru AIR and over SURFACE
Insulation	Ceramic
Contact Life	100,000 Minimum
Neon Indicating Light	1/25W, 105-125V clear with series resistor or equivalent
Cord	#16-2, 65-34, 3000 cycle, U/L approved, black HPN Cord with plug
Cord Length	6'
Weight	9.7 ozs.

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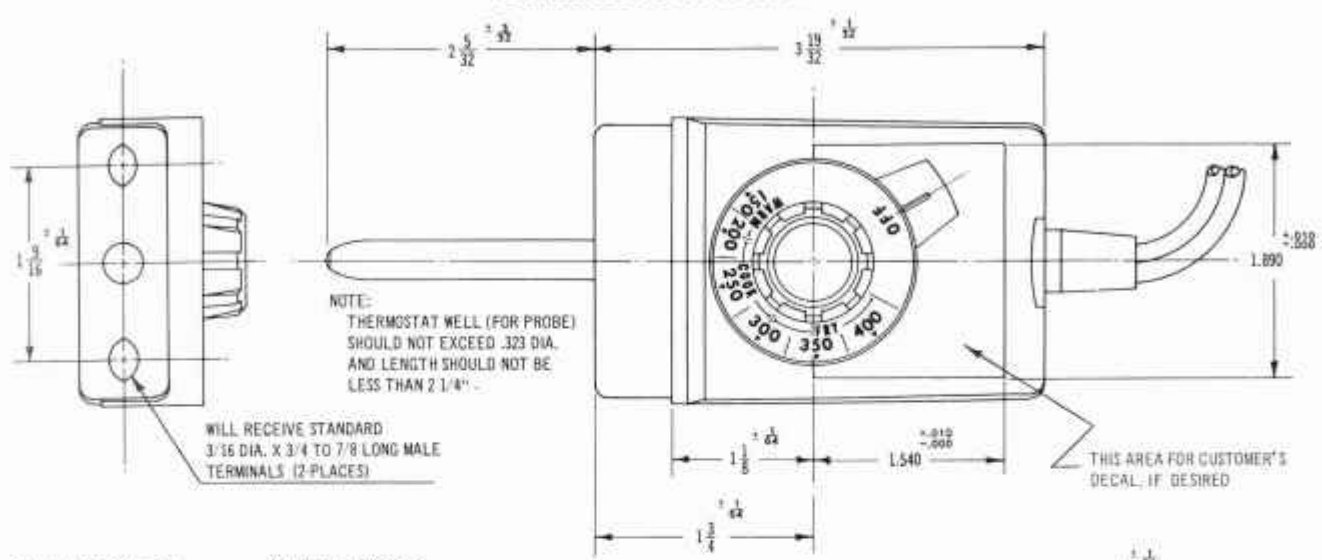
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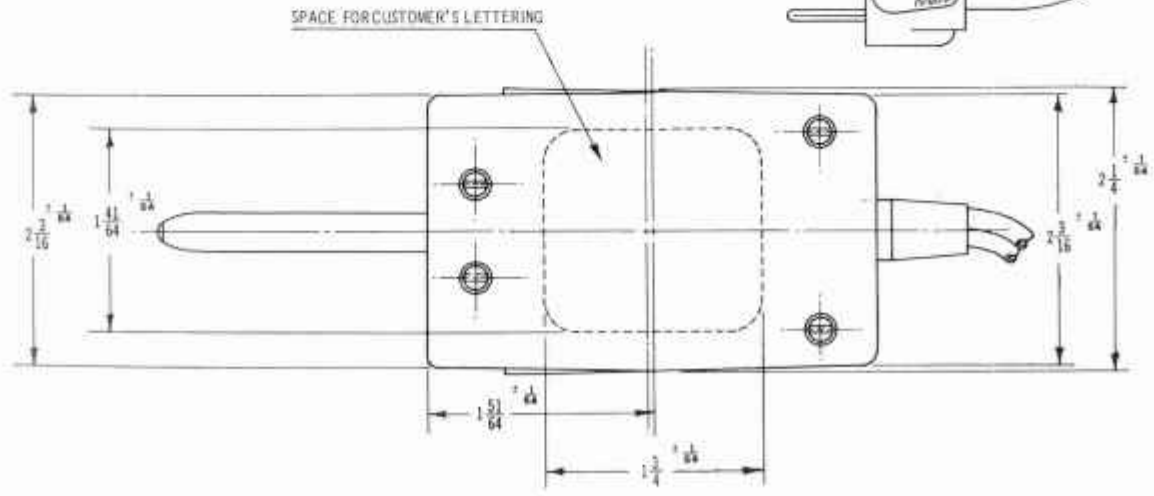
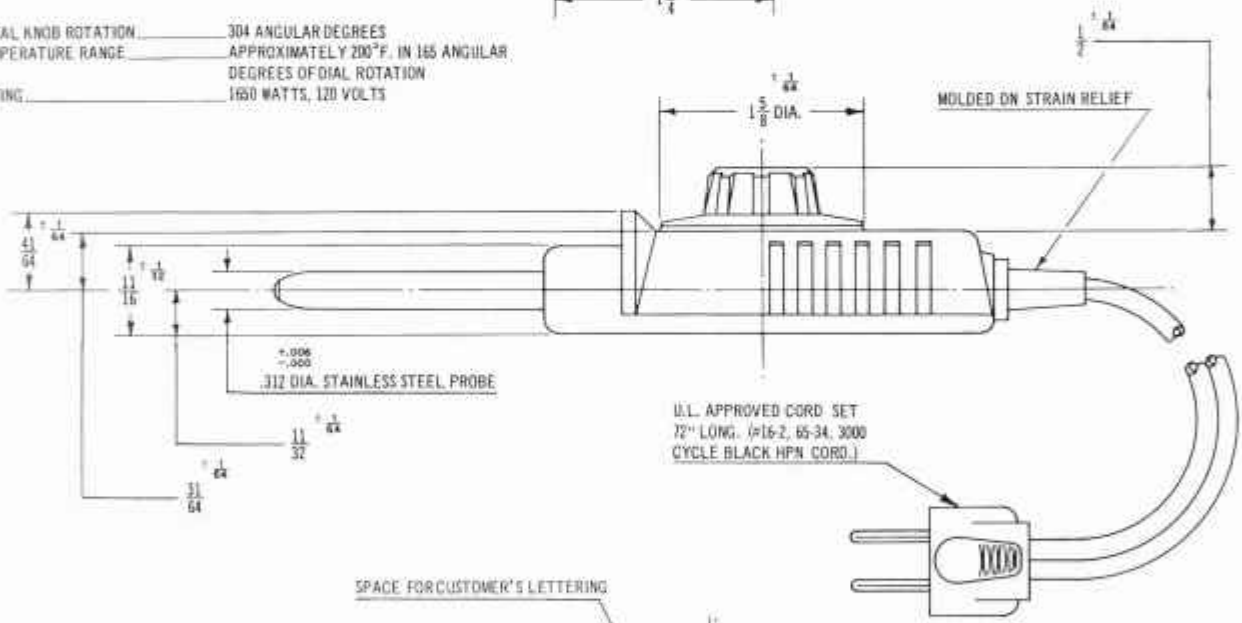
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DIMENSIONS IN INCHES



- TOTAL KNOB ROTATION..... 304 ANGULAR DEGREES
- TEMPERATURE RANGE..... APPROXIMATELY 200°F. IN 165 ANGULAR DEGREES OF DIAL ROTATION
- RATING..... 1650 WATTS, 120 VOLTS



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Air View of Metals & Controls Division Plant at Attleboro, Massachusetts

Products Manufactured By

SPENCER PRODUCTS GROUP

- INHERENT OVERHEAT PROTECTORS
- MOTOR STARTING RELAYS
- MOTOR WINDING THERMOSTATS
- CIRCUIT BREAKERS
- DISC TYPE THERMOSTATS
- TUBE TYPE THERMOSTATS
- PRECISION SWITCHES

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