

BUREAU A PARIS 8<sup>e</sup>  
19, RUE CLÉMENT MAROT  
TÉLÉPHONE BALZAC 19-29



TÉLÉPH. 283 BONNEVILLE  
REGISTRE DU COMMERCE 57 B 3  
CHÈQ. POST. PARIS 1.2431-86

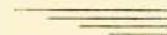
# METAPPA

Société à Responsabilité Limitée - Capital 19.000.000 de Frs

BONNEVILLE  
HAUTE - SAVOIE

BONNEVILLE

( HAUTE - SAVOIE )

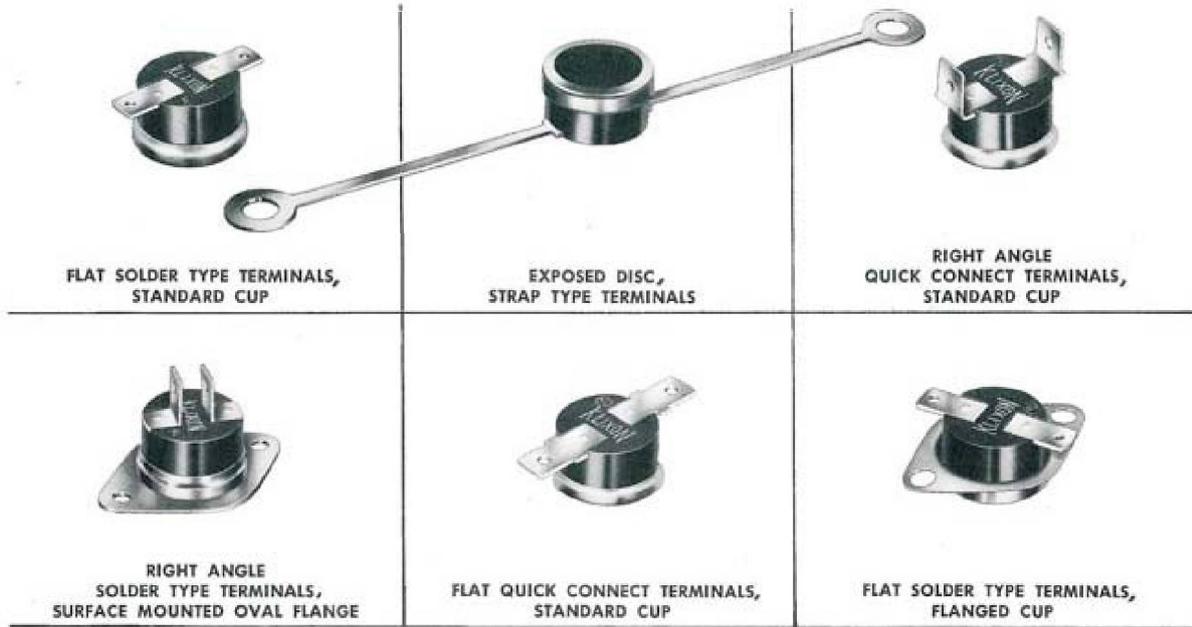


ULTIMHEAT<sup>®</sup>  
UNIVERSITY MUSEUM

# Disc Type Thermostats

**FIXED TEMPERATURE 20100 SERIES  
FOR COMMERCIAL APPLICATIONS**

# KLIXON®



FLAT SOLDER TYPE TERMINALS,  
STANDARD CUP

EXPOSED DISC,  
STRAP TYPE TERMINALS

RIGHT ANGLE  
QUICK CONNECT TERMINALS,  
STANDARD CUP

RIGHT ANGLE  
SOLDER TYPE TERMINALS,  
SURFACE MOUNTED OVAL FLANGE

FLAT QUICK CONNECT TERMINALS,  
STANDARD CUP

FLAT SOLDER TYPE TERMINALS,  
FLANGED CUP

ACTUAL SIZE

### TYPICAL CONSTRUCTION COMBINATIONS

#### GENERAL

KLIXON 201 Series Thermo-Snap Controls are fixed setting, low cost, snap-action temperature controls ideal for original equipment manufacturers concerned with volume usage suitable for an engineered thermostat application.

Applications that are proving successful are:

- coffee percolators
- table appliances
- electrical heating apparatus
- automotive applications

#### DESCRIPTION

The unit is supplied in two basic types — those with the thermal actuating Spencer Disc enclosed and those with the disc exposed. The Enclosed Disc Types have the thermal disc and electrical contacts enclosed in a stainless steel cup which provides complete protection from dirt, lint, dust, etc.

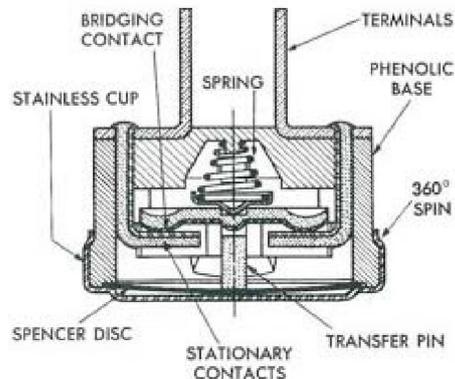
Exposed Disc Types have the contacts enclosed, but the Spencer Disc is exposed to provide faster thermal response where necessary. For added strength and longer life, cups for both types are of corrosion resistant stainless steel. Switch action is single pole, single-throw. The base assembly is black phenolic.

#### SMALL SIZE

This Thermostat is extremely small in size (overall diameter is approximately  $\frac{3}{8}$  inches) and light in weight (4 grams). It is particularly suitable where space and weight accommodations are limited.

#### NON-ADJUSTABLE

Temperature settings are factory pre-set (not adjustable thereafter).



ENLARGED CROSS SECTION OF ENCLOSED DISC TYPE

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## ELECTRICAL RATINGS (U/L approved)

The type 201 Thermostat has been approved by Underwriters Laboratories in accordance with the following electrical ratings.

10 amperes resistive, 120VAC, 6,000 cycles

## ELECTRICAL RATINGS

The following ratings have passed various life tests (see graph below) in our Thermostat Laboratory.

2 amperes resistive, 120VAC, 100,000 cycles

5 amperes resistive, 120VAC, 50,000 cycles

12 amperes resistive, 120VAC, 6,000 cycles

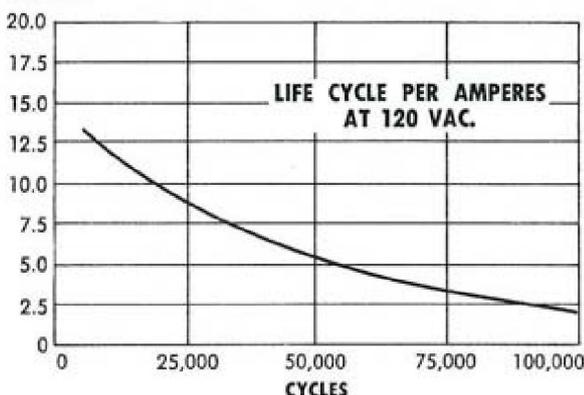
5 amperes resistive, 240VAC, 10,000 cycles

5 amperes resistive, 28 VDC, 100,000 cycles

6 amperes, resistive, 12 VDC, 25,000 cycles

There is a minimum clearance of 1/16" through air and over surface.

## AMPERES



## TERMINALS AND LEADS

The 201 Thermostat is available with solder type and quick connect terminals. Solder terminals may be flat, right angle, or strap type. Quick connect terminals are available to customers' specifications. If terminal configurations other than those shown are wanted (for example, wire leads), write factory for detailed information.

## MOUNTING

The unit can be mounted in any position as required for accurate thermal response of temperature. To facilitate mounting, a flanged cup is available. Also, a surface mounting oval flange is supplied at extra charge.

## TEMPERATURE SETTINGS, TOLERANCES, AND MINIMUM MEAN DIFFERENTIALS

The range of temperature settings, tolerances, and minimum differentials between opening and closing temperatures are available as shown in the tabulation. If settings, tolerances, or differentials other than shown are wanted, send us the details for special consideration.

Range of Temperature Settings	Manufacturers' Tolerances		Minimum Mean Temperature Differential
	Open	Close	
<b>STANDARD</b>			
+ 80°F to +170°F	± 5°F	±10°F	40°F
+175°F to +205°F	± 5°F	±10°F	50°F
+210°F to +240°F	± 6°F	±12°F	60°F
+245°F to +270°F	± 7°F	±15°F	70°F
+275°F to +300°F	± 8°F	±15°F	80°F
<b>SPECIAL</b>			
- 85°F to + 80°F	Refer to factory		
+ 80°F to +200°F	± 5°F	± 8°F	15°F
+ 80°F to +200°F	± 5°F	±10°F	25°F
+200°F to +300°F	± 6°F	±12°F	25°F or 35°F
+300°F to +500°F	Refer to factory		

\*Customers' checking tolerances must be wider to allow for differences in test equipment.

## HOW TO ORDER

### Test Samples

Operating samples can generally be specially made and shipped to customers within approximately 5 days from receipt of an order. Where more time can be allowed approximately 10 days should be specified.

Frequently non-operating thermocouple equipped samples may be more practical than a number of operating samples. Thermocouple equipped samples can be shipped generally within 3 days from receipt of an order.

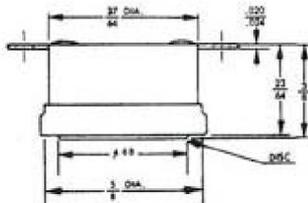
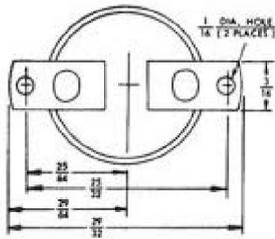
When ordering, specify either iron-constantan or copper-constantan Thermocouples. Samples are usually supplied free of charge.

Attached are two copies of 201 Application Data Sheet. Please fill one out as completely as possible and retain the other for your files. Complete information is needed for the preparation of operating samples for customers' check testing on the actual application.

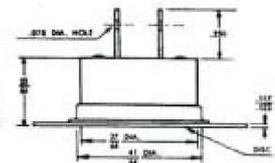
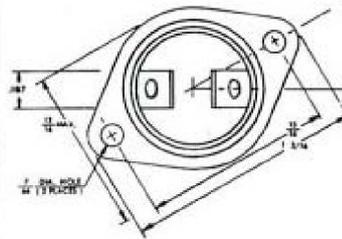
# Disc Type Thermostats **KLIXON**®

## DIMENSIONAL DRAWINGS (in inches)

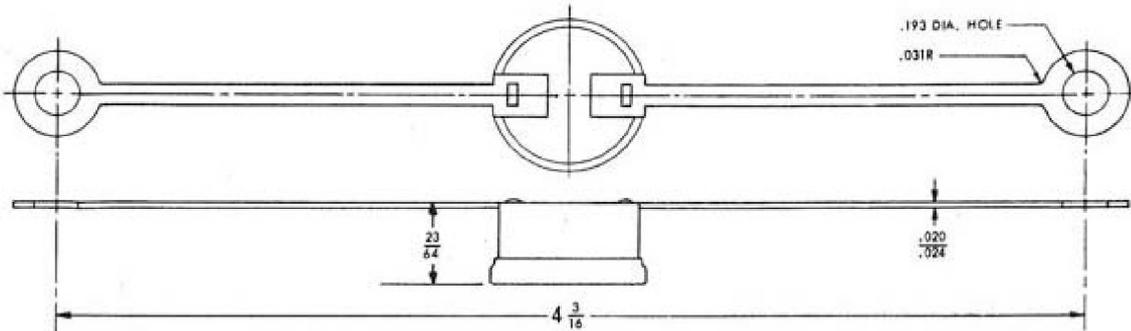
(Tolerance Unless Otherwise Specified  $\pm 0.010''$ )



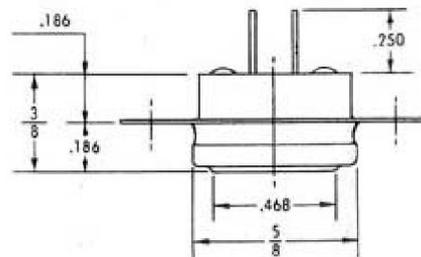
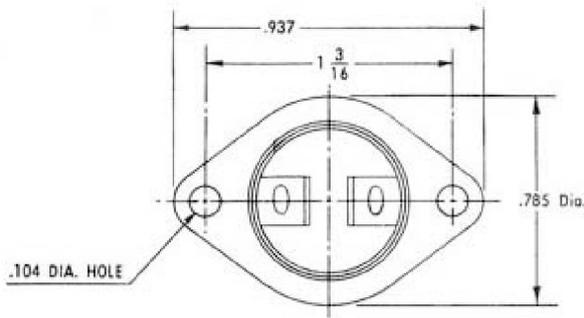
**FLAT SOLDER TYPE TERMINALS  
STANDARD CUP**



**RIGHT ANGLE SOLDER TYPE TERMINALS  
SURFACE MOUNTED OVAL FLANGE**



**EXPOSED DISC  
STRAP TYPE TERMINALS**



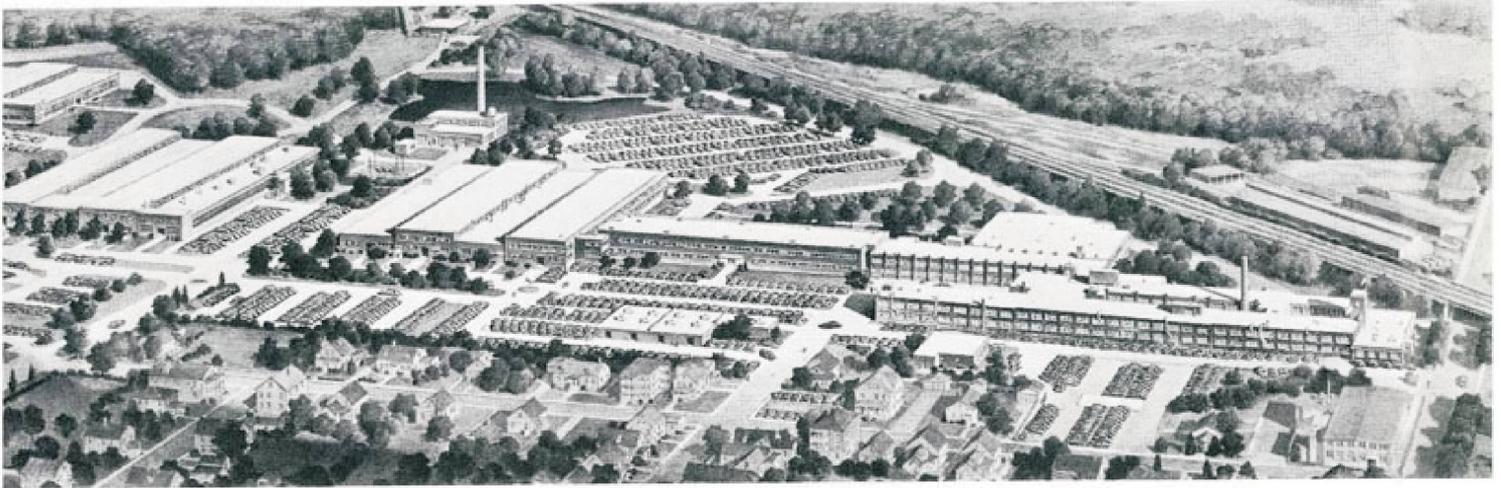
**RIGHT ANGLE QUICK CONNECT TERMINALS  
STANDARD CUP**

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# **KLIXON**® *Disc Type Thermostats*

**FIXED TEMPERATURE 20100 SERIES  
FOR COMMERCIAL APPLICATIONS**



**Metals & Controls Corporation Plant at Attleboro, Massachusetts**

## **PRODUCTS MANUFACTURED BY SPENCER THERMOSTAT DIVISION**

- Inherent Overheat Motor Protectors
- Motor Starting Relays
- Motor Winding Thermostats
- Precision Circuit Breakers
- Commercial Circuit Breakers
- Disc Type Thermostats
- Tube Type Thermostats
- Precision Switches

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6-58 THSN13E



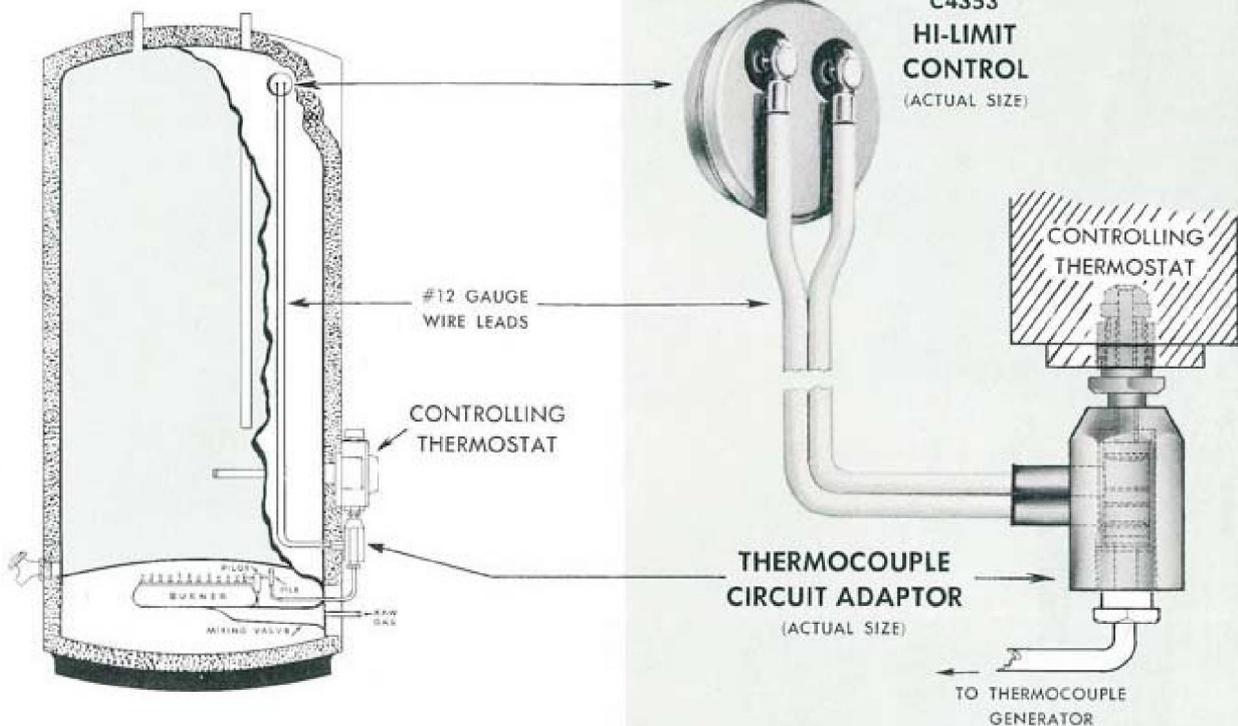
**ULTIMHEAT**®  
UNIVERSITY MUSEUM

# Disc Type Thermostats

THSN-18

HI-LIMIT *Thermo-Snap*® Control  
FOR GAS-FIRED WATER HEATERS — C4353 SERIES

# KLIXON



## GENERAL

The KLIXON C4353 Hi-Limit Control combined with a low resistance thermocouple adaptor provide a complete energy shut-off, hi-limit system for gas-fired thermocouple controlled water heaters. This system places a temperature responsive, hi-limit thermostat in series with the thermocouple circuit of the water heater control thermostat. In the event of excessive water temperature, the hi-limit thermostat opens the thermocouple circuit, automatically shutting off all gas. When the tank cools, even though the high limit recloses automatically, manual resetting of the control thermostat will be required, assuring complete safety.

The system is designed for application and clean cut assembly by the water heater manufacturer to eliminate the need for a temperature relief valve, and to minimize installation costs to the consumer.

## DESCRIPTION

### C4353 Hi-Limit Control

The C4353 Hi-Limit Control is a disc type, snap-action thermostat. It is hermetically sealed with the terminals

brought out through glass seals. The hermetic seal prevents any contamination of the electrical contacts by foreign matter or tarnishing elements in the air. Gold-surfaced contacts are provided to keep contact resistance at a minimum and assure reliable circuit making and holding. The Spencer snap-acting, bimetal disc is located in the bottom of the metal enclosure where it can follow closely the temperature of the heater shell.

### Leads

Two 48" leads of plastic covered #12 wire are soldered to the terminals of the hi-limit thermostat to give permanent, low resistance, trouble-free connection.

### Thermocouple Adaptor

The thermocouple circuit adaptor is easily installed. Leads from the hi-limit control are soldered to the connectors of the adaptor, providing a prefabricated system. The adaptor has standard mating threads for use with all makes of single thermocouples. (See illustration) The system can be made with female quick connect terminals in place of the thermocouple circuit adaptor for use with a thermocouple terminal block.

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# KLIXON<sup>®</sup> Disc Type Thermostats

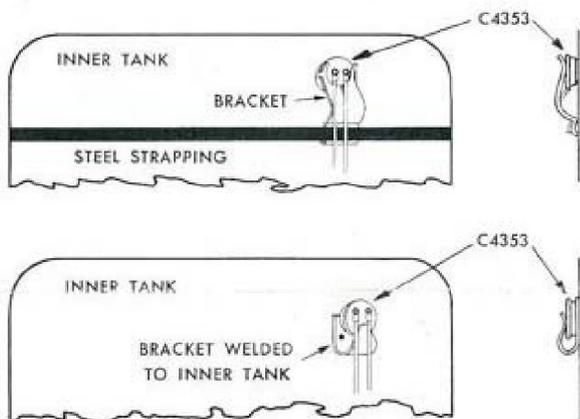
## HI-LIMIT Thermo-Snap<sup>®</sup> Control

### FOR GAS-FIRED WATER HEATERS — C4353 SERIES

#### MOUNTING

The hi-limit control should be mounted on the upper 6 inches of the water heater tank. Care should be taken in mounting the control so that it makes solid contact with the tank and its location on the heater cannot accidentally change during shipment or installation. The illustrations below show two methods of mounting, and are offered as suggestions only; other methods which give a firm mounting are acceptable.

#### TWO METHODS OF MOUNTING HI-LIMIT CONTROL



#### TEMPERATURE SETTINGS

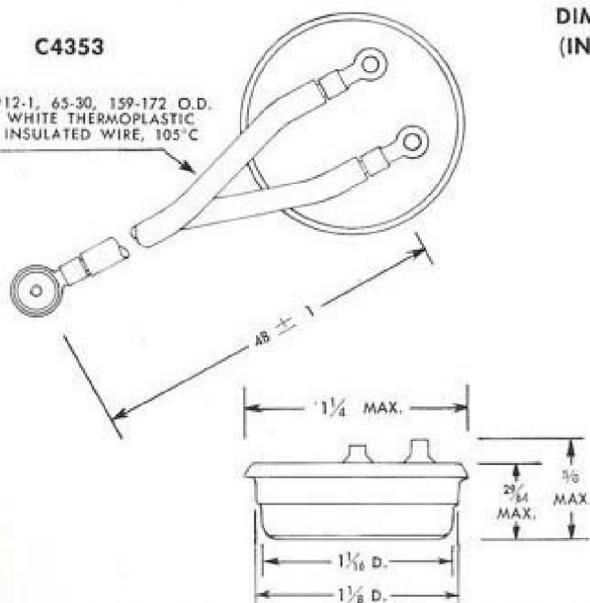
SERIES	TEMPERATURE SETTING	
	Open	Close
C4353-1-1	205°F ±5°	175°F ±10°
C4353-1-2	200°F ±5°	170°F ±10°
C4353-1-3	195°F ±5°	165°F ±10°
C4353-1-4	190°F ±5°	160°F ±10°

#### APPLICATION AND TESTING

Care should be taken to choose a temperature setting for the hi-limit control which will allow a maximum water temperature as specified by A.G.A. Testing should be done to determine thermal relationship, water and control location temperatures, and allowance made for control tolerances in accordance with testing procedures shown on data sheet. Attached are two copies of application data sheets. Please fill out one as completely as possible and retain the other for your files.

#### C4353

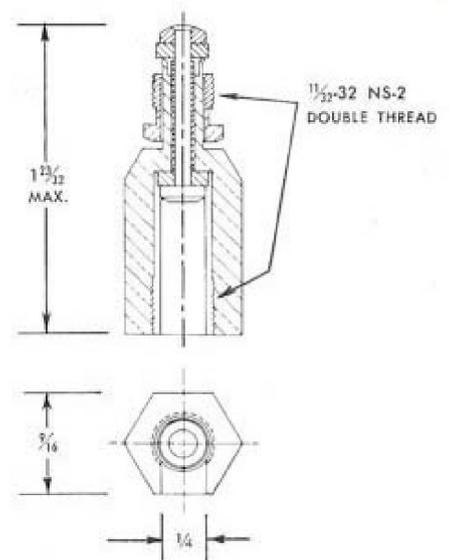
#12-1, 65-30, 159-172 O.D.  
WHITE THERMOPLASTIC  
INSULATED WIRE, 105°C



#### DIMENSIONS (IN INCHES)

#### THERMOCOUPLE CIRCUIT ADAPTOR

COMPLETE ADAPTOR  
TIN PLATED BRASS



METALS & CONTROLS CORPORATION

SPENCER THERMOSTAT DIVISION

ATTLEBORO, MASSACHUSETTS, U.S.A.

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7-54 JHSN-18



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Haute Savoie

R E F E R E N C E S

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- AIRWELL à Chatou ( S. & O. )
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