



Air Process Heaters

Temperature Sensing

Thermocouple fittings are available for standard air heaters with male fittings 5/8" diameter and larger as well as Heavy Duty and Pure Flow types. The fittings are threaded into the exit end of the air heater and accept coupling type probes. They are designed to sense the exit air temperature. See pages 131 through 134 for details on probes and temperature controls.

Fittings – Stainless Steel

Cat.No.	A-NPT	B-NPT	C	D	E	F
TC-5	1/2"	1/2"	1 3/8"	1 1/8"	.562"	3/8"
TC-75	3/4"	3/4"	1 1/2"	1 3/8"	.625"	7/8"
TC-1	1"	1"	1 3/4"	1 5/8"	.687"	3/4"
TC-125	1 1/4"	1 1/4"	2"	2"	.719"	1/4"

Selection Chart

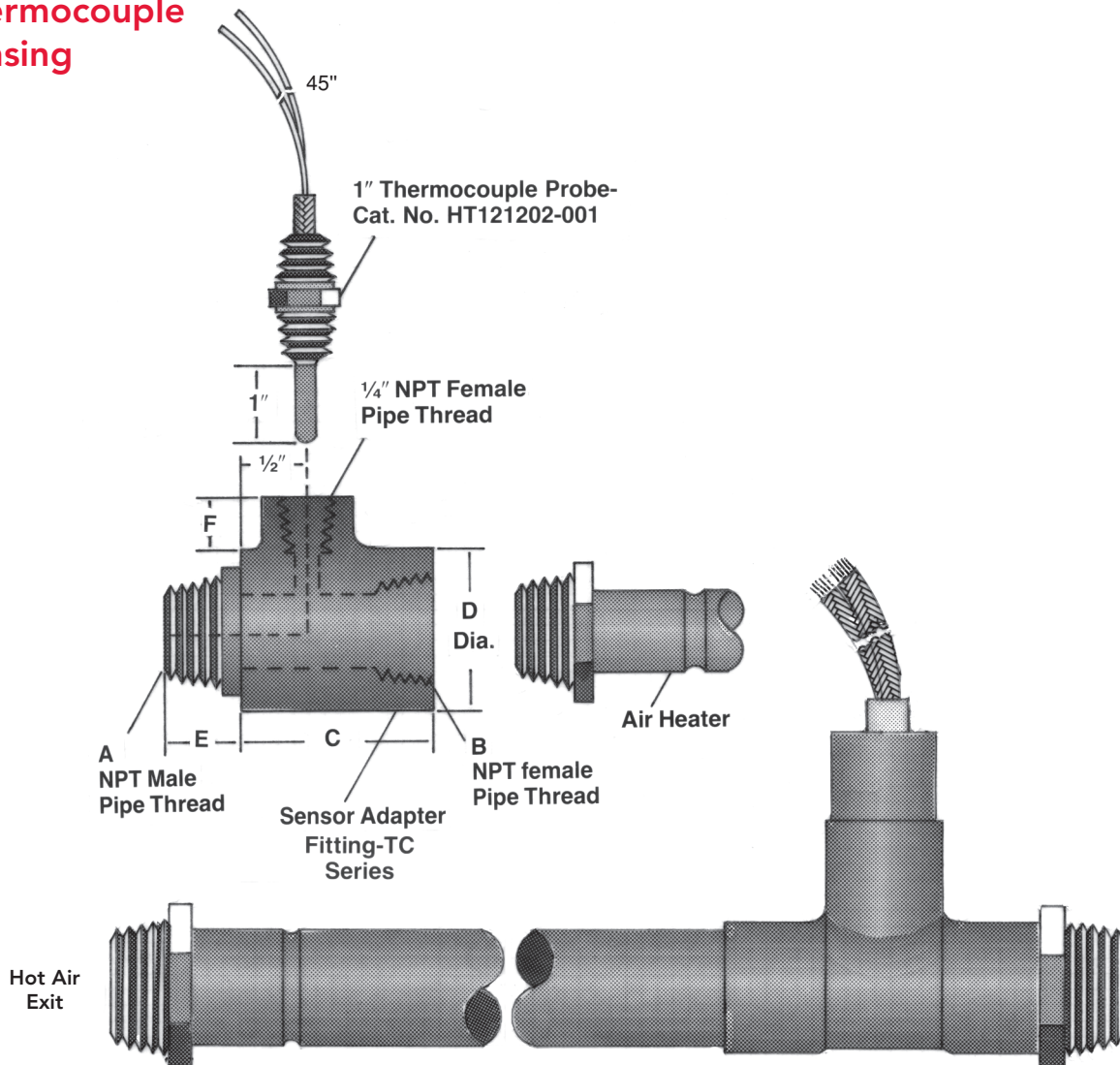
Heater Type	Fitting
5/8" dia.	TC-5
3/4" dia.	TC-75
1 1/4" dia.	TC-125
Heavy Duty	TC-1
Pure Flow	TC-5

How To Order

Example: TC-5/HT-121202-001

AIR

Thermocouple Sensing





Controls

Temperature Controlling Devices

▼ IN STOCK ITEMS ▼

Series 100, Sub-Panel-Thermocouple Temperature Controller



Specifications

- **Power Input:** 115/230VAC \pm 10%, 50/60Hz (field selectable); 24VAC \pm 10% optional.
- **Sensor:** Thermocouple, type J.
- **Setpoint Range:** 0°F to 1000°F.
- **Control Modes:** Proportioning with adjustable Bandwidth (1°C to 10°C) and cycle rate of 2 sec for Triac or 10 sec for relay outputs.
- **Setpoint Adjustment:** Local Potentiometer.
- **Control Accuracy:** Typically better than 0.5% of range.
- **Control Stability:** Typically better than \pm 1°C with \pm 10°C change in ambient temperature or \pm 10% change in line voltage.
- **Sensor Fault Protection:** Open sensor causes output to de-energize (Thermocouple).
- **Operating Ambient temperature:** 0°C to 55°C (32°F to 130°F).

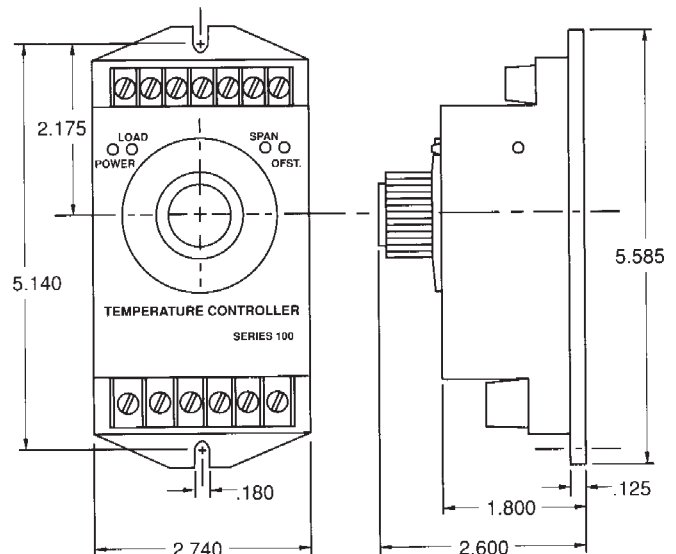
CONTROL

Description

The Series 100 controller was designed for general purpose commercial and industrial temperature regulating applications. The latest solid state technology and an innovative modular packaging concept has produced a uniquely flexible family of controllers. Low cost, a choice of many standard features and fast delivery make this series of controllers equally to both the OEM and the end users.

Features

- 120/240 VAC power input.
- Power and load lamps.
- Adjustable span and offset.
- Adjustable bandwidth or hysteresis.
- Process and set point display capability.
- Triac output.
- Proportioning
- 24 V to drive solid state relay.
- Designed to UL and CSA standards.



How To Order

Specify catalog numbers as follows:

- 10 Amp Triac Cat. No. **AC100-2A040-JT03**
- 28 VDC output to drive SSR Cat. No. **AC100-2A090-JT03**



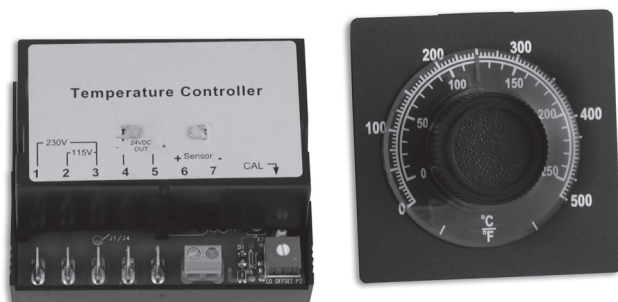
Controls

Temperature Controlling Devices

▼ IN STOCK ITEMS ▼

Series 120R, Panel Mounting, Solid State Temperature Controller

CONTROL



Specifications

- **Power Input:** 115/230VAC \pm 15%, 50/60Hz (field selection).
- **Control Mode:** On-off with 2°F hysteresis typical.
- **Setpoint Range:** 0° - 500°F
- **Setpoint Accuracy:** Typically better than 1% of span.
- **Setpoint Stability:** Typically better than \pm 1°F over allowable operating ambient temperature or with \pm 10% line voltage variation.
- **Sensor:** Type J thermocouple
- **Sensor Fault Protection:** Open or shorted sensor causes output to de-energize.
- **Operating Ambient Temperature:** 0°C to 70°C (32° to 158°F).

Description

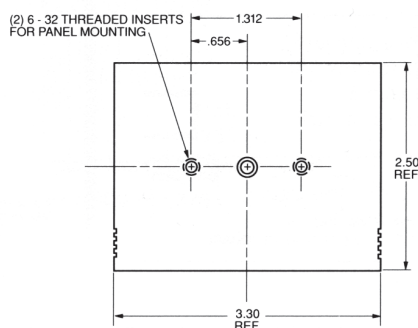
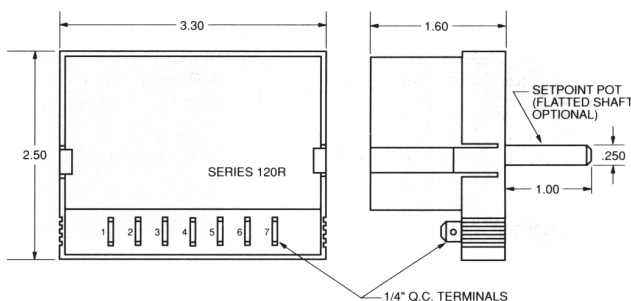
The Series 120R controller is an economical alternative to the fluid filled (bulb and capillary) type thermostat for any application which could benefit from the improved performance and reliability of an electronic temperature control. Its compact, completely enclosed construction with industry standard mounting, integral setpoint pot, high current output capability and wide variety of sensor configuration, make this controller an ideal choice to replace mechanical thermostats in many industrial and commercial applications.

Features

- 115/230 VAC power inputs.
- UL class 2 low voltage sensor circuit.
- Completely enclosed design.
- UL recognized (file no. E105669).
- 24 volts to drive SSR.

Advantages Over Bulb & Cap Thermostat

- Faster response.
- Better accuracy and sensitivity.



How To Order

Specify catalog number as follows:

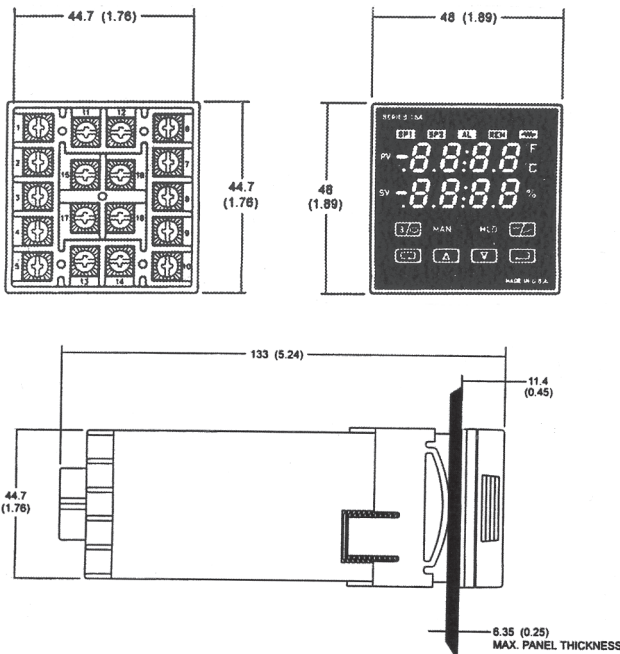
AC120R-D38-JT02



Controls

Digital Indicating Temperature Controller Model 16A 2123, Mini 1/16 DIN Thermocouple Sensing

▼ IN STOCK ITEMS ▼



All Dimensions in MM (Inches)
Panel Cut-Out 45 + 0.6 (1.77 + 0.02) square

Specifications

Selectable Inputs: Thermocouple, RTD, DC voltage, or DC current selectable

Input Impedance: Thermocouple = 3 megohms minimum
Current = 10 ohms
RTD current = 200uA
Voltage = 5000ohms

Sensor Break Protection: User determines control output to protect system after customer set time

Display: Two 4 digit, 7 segment .30" high LEDs

Control Action: Reverse (usually heating)
Direct (usually cooling) selectable

Proportional Band: 1 to 9999°F, °C, or counts

Reset Time: (Integral): Off or .1 to 99.9 minutes

Rate Time: (Derivative): Off or .01 to 99.99 minutes

Cycle Rate: 1 to 80 seconds

On-Off Differential: Adjustable 1°F, 1°C or 1 count to full scale in 1°F, 1°C, or 1 count steps

Alarm On-Off Differential: 1°F, 1°C, or 1 count

Accuracy: ± .25% of span, ± 1 least significant digit

Supply Voltage: 100 to 240 VAC, nominal., +10-15%, 50 to 400 Hz. single phase; 132 to 240 VDC, nominal., + 10-20%

Power Consumption: 5VA maximum

Operating Temperature: -10 to +55°C (+14 to 131°F)

Storage Temperature: -40 to +80°C (-40 to 176°F)

Control Output Ratings:

Relay: SPDT, 3 A @ 240 VAC resistive; 1.5 A @ 240 VAC inductive;
Pilot duty rating: 250 VA 2 A @ 120 VAC or
1A @ 240 VAC

Alarm Relay: SPST, 3 A @ 240 VAC resistive;
1.5 A @ 240 VAC inductive; Pilot duty rating: 240
VA, 2 A @ 120 VAC or 1A @ 240 VAC

Switched Voltage (isolated): 15 VDC @ 20 mA

Panel Cutout: 45 mm x 45mm (1.775" x 1.775")

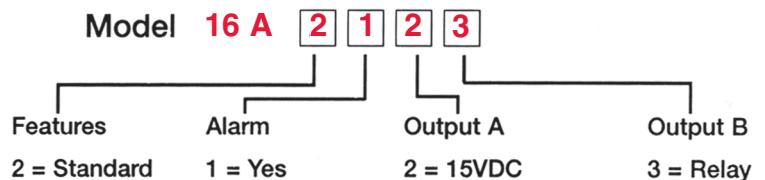
Depth Behind Mounting Surface: 115.3 mm (4.54")

Weight: 227 g (8oz)

Front Panel Rating: Type 4X, (IP65)

How To Order

To order, specify part number





Controls

Temperature Controlling Devices

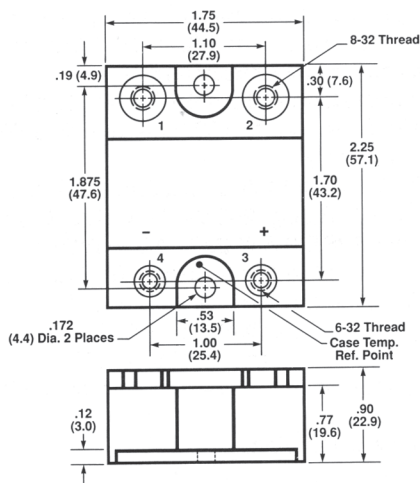
▼ IN STOCK ITEMS ▼

Solid State Relays



Features

- 3-32 VDC Input
- 600 volt blocking voltage
- 4000 volt isolation
- Zero voltage turn-on
- Built-in snubber
- 100% tested at rate current
- High surge capability
- U.L. recognized
- C.S.A. certified



How To Order

Specify Catalog Number per table below

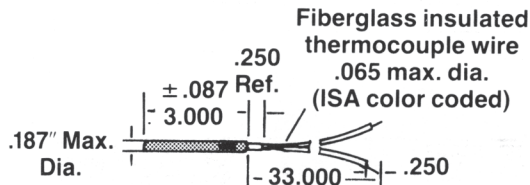
Line Volts	Maximum Load Current	Catalog Number
24-330 VAC	25 Amps	AC-D1225

Thermocouple Probes Features

- Thermocouples are precise temperature-sensing devices manufactured of the highest grade materials to provide maximum performance and reliability.
- Tip Style: Closed end-grounded.
- Probe size and material: .187" dia., 316 stainless steel.
- Lead wire: 20 gage fiberglass insulated. Standard commercial tolerances of 3/4%.
- Thermocouple material and temperature range: Iron/Constantin-type J, 0-1200°F.
- ISA color coded:

Iron — White
Constantin — Red with white tracer

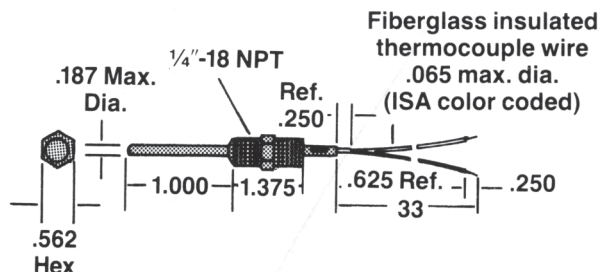
3/16" Diameter Cartridge Type



Temp Range	Catalog Number	ISA Type
0°F to 1200°F	HT-111206-001	J

For compression fittings, consult factory.

Coupling Head Type



Temp Range	Catalog Number	ISA Type
0°F to 1200°F	AC HT-121202-001	J