CTS Series
Commercial Heat Trace Electronic Thermostat

NEW!

c ⓊL US

- **30 Amp Solid State Relay (SSR) Output**
- **120 to 277 Vac Operation**
- **cULus Ordinary Area and C1D2 Approval**
- **On/Off Control with 100° Deadband Programmable in One Degree Increments**
- **Selectable Soft-Start Feature**
- **LED Indication for Power, Alarm and Load**
- **Large LED Display**
- **Programmable High & Low Temperature Alarms**
- **9V Battery Connector**
- **Solid State Alarm for Remote Indication of Alarm Status –**
  - AC Alarm: CTS
  - DC Alarm: CTS-DC
- **NEMA 4X Enclosure**
- **Integral Pipe Stand or Optional Wall Mount**
- **100 Ohm 3ft Platinum RTD - Included**
- **Enclosure Serves as Heating Cable, A/C Power & Sensor Connection**
- **Works with CPR, CZH and CMi Cable**
- **RoHS Compliant**
- **UL, cUL Listed**

6.30" (160mm)

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11.38" (289mm)

Ø1.12" (28mm)

4.75" (121mm)

1.13" (29mm)
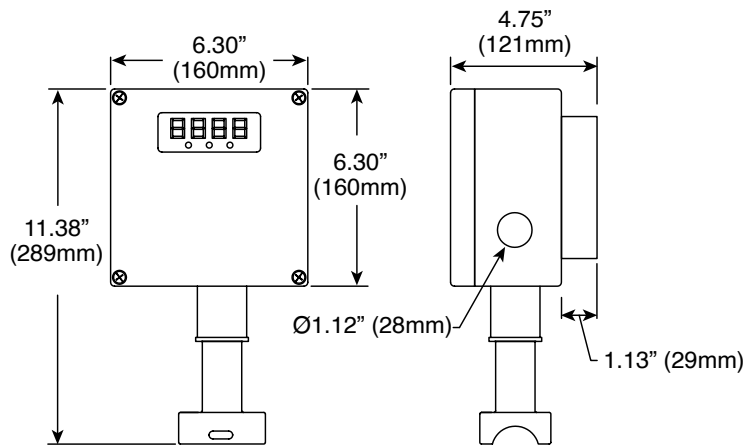
Description

The CTS electronic thermostat is a microprocessor based temperature control and power connection kit. It is used for freeze protection or process temperature maintenance of pipes or tanks protected by heat tracing products. This thermostat can be used with CZH, CMi or CPR heating cables in Ordinary area locations.

This unit is designed to provide local temperature control and monitoring for heat traced pipes or tanks across a variety of industries and applications and will switch 30 amperes of current.

The CTS provides easy programming of the temperature set point, high and low temperature alarms, the deadband, the temperature units, the soft start function and the alarm state through the front panel push buttons. A 9V battery connector is supplied to allow programming the controller before heating cable circuit power is provided. LED lights are provided for indication of power to the unit, heater power on (load)

and alarm status. A Fail Safe solid state alarm is included for wiring to your building management system to indicate alarm status. This alarm may be set to open or close on all alarm conditions including loss of power, high or low temperature alarm and RTD failure. Choose either the DC or the AC customer supplied voltage alarm variation. The minimum operating ambient temperature is -40°F (-40°C). This unit has programmable high and low temperature alarm set points from -80°F (-62°C) to 1150°F (621°C).

The CTS employs a Soft Start feature that uses a proprietary software algorithm which reduces the inherent self-regulating in-rush current, resulting in less nuisance tripping at cold temperatures. For added flexibility, the user may disable the soft start feature.

A 100 Ohm platinum RTD is provided with a 3 foot (1 M) lead resulting in flexible mounting options for the user.

CTS Series
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(cont'd.)

PCN	Model
512049	CTS
512057	CTS-DC

Accessories

PCN	Model
318043	DTS Wall Mount Kit
308144	RTD Extension Wire (50 ft/15m)

Applications

• Freeze Protection of Piping
• Hot Water Temperature Maintenance
• Tank Freeze Protection
• Grease Waste Flow Maintenance

Environments

• Ordinary Areas
• C1, D2

Sensors

• 100 OHM PT RTD
• Probe Length = 4" (10.2 cm)
• Probe Diameter = 1/4" (6.35 mm)
• Leadwire Length = 3ft (1 M)*
* The maximum allowable length of the RTD wire is 50ft (15m) in order to remain UL/cUL compliant.

Current Approvals

• UL, cUL Listed for Ordinary Areas

Features

• User Selectable Soft-Start Program

• Small Enclosure. The 6.25 inch by 6.25 inch enclosure houses the temperature control and monitoring unit along with terminals for connecting instrument power, heating cable and RTD.

• 100 Ohm platinum RTD which can be pipe mounted or can be used to sense ambient air temperature.

• Pipe stand-off mount for direct pipe mounting.

• Integral wiring. The wiring of the heating cable, alarm, AC power line and the RTD sensor are all accomplished within the enclosure. This feature reduces both labor and material costs by eliminating the need for an additional heat trace power connection kit as well as the time for the additional wiring.

Specifications

Operating Voltage	120 to 277 VAC, 50/60 Hz, Single Phase
Operating Temperature - Ordinary Areas	-40°F to 140°F (-40°C to 60°C)
Input	100 Ohm platinum RTD
Output	30 amp solid state relay
Alarms	High temp to 1150°F (621°C) Low temp to -80°F (-62°C) RTD Failure Red LED alarm status indicator on front panel
Solid State Alarm Rating - AC Solid State Alarm Rating - DC	12-277 VAC, 1.8 Amps RMS - Customer Supplied 0-42 VDC, 1.8 Amps RMS- Customer Supplied

Alarm Function:

Mode	Default	Optional
Normal Operation	Closed	Open
Alarm Condition	Open	Closed
Power Off	Open	Open

Deadband	1°F (or °C) to 100°F (or °C), programmable
Set Points	-80°F to 1100°F programmable (-62°C to 593°C)
Units of Temperature	°F or °C, selectable
Control Mode	On/Off control
Soft Start	User selectable integral soft start, patent pending software algorithm, which eliminates nuisance breaker tripping associated with self-regulating cable in-rush