DL

Single Point On/Off Temperature Controls

Ambient Sensing
- 120 - 480 Vac
- 0 - 225°F Temp. Rating
- 9/16" OD x 4" SS Probe
- Ordinary & Hazardous (Div. 2) Areas

Bulb & Capillary
- 120 - 480 Vac
- 0 - 400°F Set Point Range
- 1/4" OD x 7-1/4" SS Bulb, SS Capillary
- Ordinary & Hazardous (Div. 2) Areas

Solid State
- 20A @ 120 - 240 Vac
- Ordinary Areas
- Set Point Ratings:
  0 - 100°F
  50 - 250°F
  200 - 600°F

Description

The DL Series Single Point On/Off Temperature Controls from Ogden represents the state of the art in heat tracing accessories and are available in five models to handle a broad range of applications. Models include two ambient sensing thermostats, two line sensing thermostats and a line sensing solid state controller. These high-quality models combine a variety of functions in a convenient, easy to use and economical package.

Applications

- Freeze Protection
- Hydrocarbon and Chemical Product Piping
- Process Temperature Maintenance
- Fluid Flow and Viscosity Maintenance

Approvals*

UL Listed for use in ordinary areas

CSA Certified for use in ordinary and
Class I, Div. 2, Groups A, B, C, D
Class II, Div. 2, Groups F, G

FM - Factory Mutual Certified for use in ordinary and
Class I, Div. 2, Groups B, C, D
Class II, Div. 2, Groups F, G
Class III, Div. 2 areas

* Depends on specific model

Features

- Integrated controls and power connections reduce installation hardware
- Molded of durable plastic material (Ryton® PPS)
- High service temperature
- Corrosion resistant
- Thermal stability
- Non-flammability
- High strength and rigidity
- Stainless Steel sensor sheaths
- Sealed Switches on EP models permit control in Div. 2 hazardous areas
- Stainless steel hardware to ensure the integrity of the system
- Cable terminations inside enclosure reduce installation time and cost
- Liquid-resistant design prevents moisture from reaching the electrical connections. All models are rated NEMA 4X.
- UL, FM, CSA is carried by most models, consult specific product information.

Ryton® is a registered trade name of Phillips Chemical Company.

OGDEN

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DL — Single Point On/Off Temperature Controls

Available Models

RTAS & RTAS-EP
Ambient Sensing
Model RTAS is an ambient-sensing thermostat which is generally used for freeze protection in ordinary (non-hazardous) areas. The thermostat is mounted through the end of the oblique sided enclosure lid. In fact, because there is so much room in this model, multiple heating cables can be terminated. The stainless steel sheathed, inverted bellows probe provides good sensitivity, resulting in more accurate control.

Model RTAS-EP is a modified version of the Model RTAS which utilizes a sealed switch. Since this switch has no arcing contacts it can be used in Division 2 Hazardous Areas.

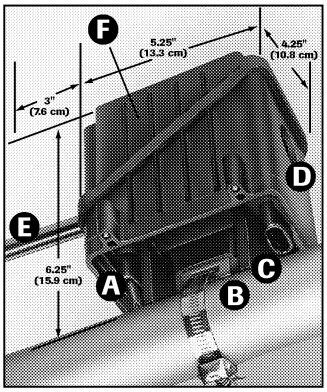
RTBC & RTBC-EP
Bulb & Capillary
Model RTBC is a line-sensing thermostat which is generally used for process temperature maintenance applications in ordinary (non-hazardous) areas. The thermostat is mounted within the enclosure and the capillary is brought out through one of the openings in the bottom of the box. This design provides extra protection for the capillary, especially when the control is mounted on a pipe, for heat tracing applications. The three foot long stainless steel capillary provides good flexibility in mounting locations.

Model RTBC-EP is a modified version of the RTBC which utilizes a sealed switch. Since this switch has no arcing contacts it can be used in Division 2 Hazardous Areas.

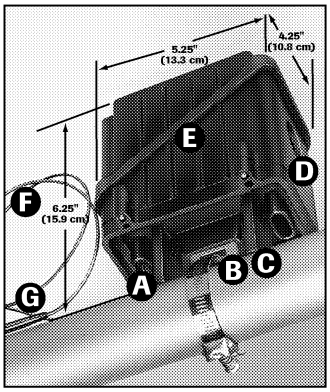
RTSS
Solid State*
Model RTSS is a line-sensing solid state controller which is used for process temperature maintenance applications where more precise temperature control is required. This control is supplied with a specially designed RTD sensor. The sensor has a stainless steel sheath and water resistant insulated TFE lead wires. The controller provides excellent accuracy and high current switching ability in a small enclosure.

*UL, FM, CSA not available.

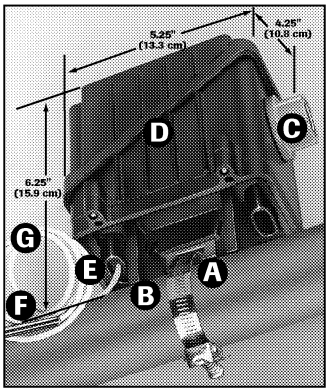
Exterior Construction



- **A** Strategically placed cable entries allow maximum flexibility for insulation (Heating cable cut away for clarity)
- **B** Stainless steel tiedown support provides positive attachment to pipes
- **C** Heavy duty support legs give stable mounting and provide conduit clearance for applications with up to three inches of insulation
- **D** Opening for 3/4-inch (20 mm) conduit hub
- **E** Stainless steel sheath temperature sensor
- **F** Oblique sided box and cover allow easy access for wiring



- **A** Strategically placed cable entries allow maximum flexibility for insulation (Heating cable cut away for clarity)
- **B** Stainless steel tiedown support provides positive attachment to pipes
- **C** Heavy duty support legs give stable mounting and provide conduit clearance for applications with up to three inches of insulation
- **D** Opening for 3/4-inch (20 mm) conduit hub
- **E** Oblique sided box and cover allow easy access for wiring
- **F** Stainless steel capillary (3 feet/ 1 meter long)
- **G** Stainless steel sensing bulb



- **A** Stainless steel tiedown support provides positive attachment to pipes
- **B** Heavy duty support legs give stable mounting and provide conduit clearance for applications with up to three inches of insulation
- **C** Opening for 3/4-inch (20mm) conduit hub (Conduit hub not included)
- **D** Oblique sided box and cover permit easy access for wiring
- **E** Entry brings the RTD leads into the box through a special grommet
- **F** RTD and leadwire
- **G** RTD leads with sealed TFE sheath (3 foot/1 meter long)

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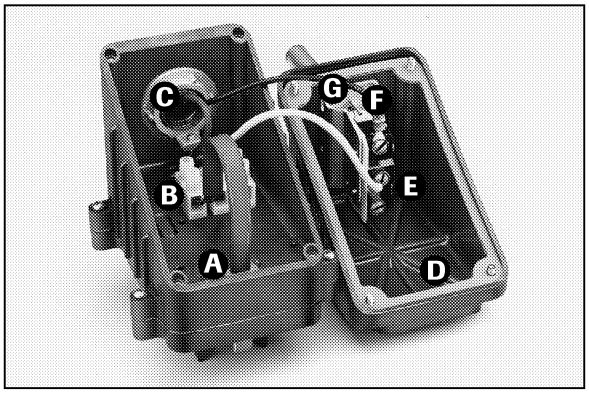
Interior Construction

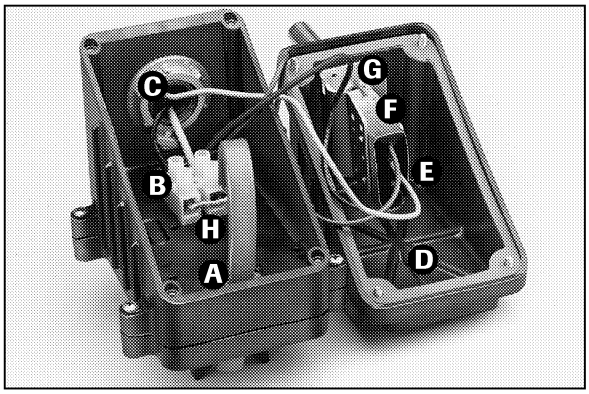
Each model consists of a NEMA 4X corrosion resistant wiring and control enclosure with terminal block, enclosure support, on/off thermostatic control and sensor. The enclosure has a 3/4" opening to accept a conduit hub (CCH-2 or equivalent). A pipe strap (PS Series pipe straps or equivalent) is required to mount the enclosure on a pipe. A mounting plate (MP Series) is required to mount the enclosure to a flat surface.

RTAS



- **A** Cable grommet provides water resistant seal between base and box
- **B** Three position terminal block for easy wiring
- **C** Power wiring entry. Conduit hub not included
- **D** Gasket provides water resistant seal between box and lid. It is affixed to the lid and captures the mounting hardware
- **E** Thermostat switch
- **F** Set point adjustment knob
- **G** Set point indicator

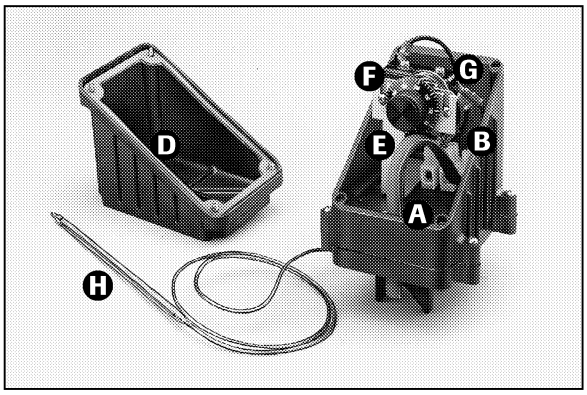
RTAS-EP



- **A** Cable grommet provides water resistant seal between base and box
- **B** Three position terminal block for easy wiring
- **C** Power wiring entry. Conduit hub not included
- **D** Gasket provides water resistant seal between box and lid. It is affixed to the lid and captures the mounting hardware
- **E** Hermetically sealed thermostat switch
- **F** Set point adjustment knob
- **G** Set point indicator
- **H** Ground wire connector

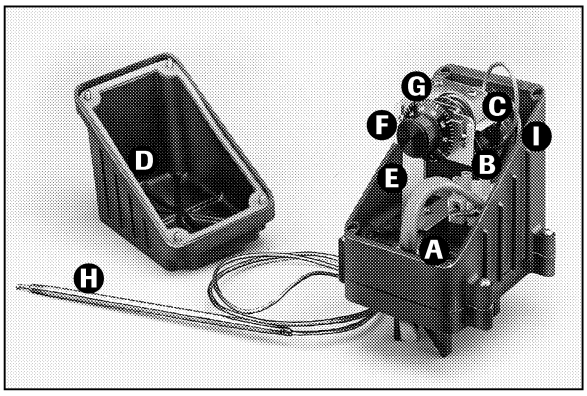
Interior Construction

RTBC



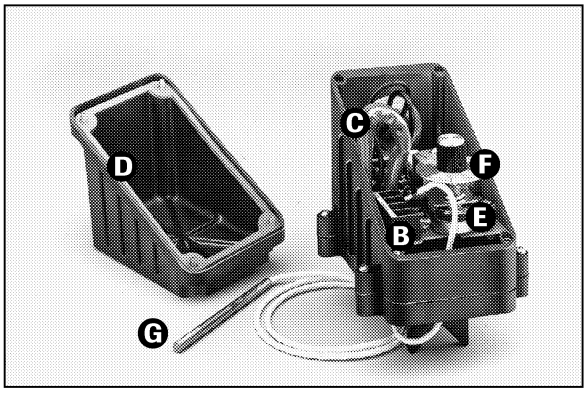
- Ⓐ Cable grommet provides water resistant seal between base and box
- Ⓑ Three position terminal block for easy wiring
- Ⓒ Power wiring entry. Conduit hub not included (Not shown in picture)
- Ⓓ Gasket provides water resistant seal between box and lid. It is affixed to the lid and captures the mounting hardware
- Ⓔ Thermostat mounting bracket
- Ⓕ Set point adjustment knob
- Ⓖ Thermostat switch
- Ⓗ Stainless steel sensing bulb

RTBC-EP



- Ⓐ Cable grommet provides water resistant seal between base and box
- Ⓑ Three position terminal block for easy wiring
- Ⓒ Power wiring entry. Conduit hub not included (Not shown in picture)
- Ⓓ Gasket provides water resistant seal between box and lid. It is affixed to the lid and captures the mounting hardware
- Ⓔ Thermostat mounting bracket
- Ⓕ Set point adjustment knob
- Ⓖ Hermetically sealed thermostat switch
- Ⓗ Stainless steel sensing bulb
- Ⓘ Ground wire connection

RTSS*



- Ⓐ Cable grommet provides water resistant seal between base and box (not visible)
- Ⓑ Built-in terminal blocks for easy wiring
- Ⓒ Power wiring entry. Conduit hub not included
- Ⓓ Gasket provides water resistant seal between box and lid. It is affixed to the lid and captures the mounting hardware
- Ⓔ Solid state controller
- Ⓕ Set point adjustment knob
- Ⓖ RTD sensor with stainless steel sheath

*UL, FM, CSA not available

Enclosure Specifications for RTAS & RTBC

Model Number	PCN	Switch Rating (Volts/Amps)	Max. Continuous Exposure Temperature °F	Max. Continuous Exposure Temperature °C	Max. Intermittent Exposure Temperature °F	Max. Intermittent Exposure Temperature °C	Wt. (Lbs.)
RTBC	384850	22A @ 120 - 480	400	200	500	260	2
RTBC-EP	384841	11A @ 120 - 250	400	200	500	260	2
RTAS	384833	22A @ 120 - 480	400	200	500	260	2
RTAS-EP	384825	11A @ 120 - 250	400	200	500	260	2

The appropriate grommet must be ordered separately to provide a water tight seal to the accessory. Select the appropriate grommet from table and order 1 grommet for every cable which must enter the accessory.

Model Number	Used With	PCN	Stock	Wt. (Lbs.)
GR-1	SRL-C	385027	S	0.2
GR-2	SRL-CR, SRL-CT	385035	S	0.2
GR-3	CWM-C	385043	S	0.2
GR-4	CWM-CT	385051	S	0.2
GR-5	SRL-MC	385060	S	0.2
GR-6	SRL-MCR, SRL-MCT	385078	S	0.2
GR-7	SRM/E-C	385086	S	0.2
GR-8	SRM/E-CT	385094	S	0.2

Thermostat Specifications for All RTAS & RTBC

Temperature Set Point Range ..... 0 to 400°F (-18 to 200°C) for RTBC Only;
0 to 225°F (-18 to 107°C) for RTAS

Microswitch® Rating ..... 22 Amps SPDT for RTAS and RTBC; 11 Amps at 250V for EP models

Scale Division ..... 10°F (5.6°C)

Maximum Sensor Exposure Temp. ..... 450°F (230°C)

Sensor Dimensions ..... 1/4" OD x 7-1/4" L Bulb, 3' Capillary - RTBC
9/16" OD x 4" L Stainless Steel Probe - RTAS

Operating Ambient Temp. Range ..... -40 to 160°F (-40 to 71°C)

Factory Preset and Calibrated ..... 200°F (93°C) for RTBC
40°F for RTAS