

DTC120-G

Roof And Gutter De-Icing Control



DTC120-G SYSTEM COMPONENTS

The system consists of a control panel (DTC), and a NEMA 1 enclosure with a 20A relay output contact, up to four roof and gutter sensors (GS), and one ambient thermostat (OTS-F1).

The roof and gutter sensor (GS) is epoxy encapsulated and housed in a 2" (5cm) PVC ring with 20' of 4 conductor #22 AWG wire factory connected.

The ambient thermostat (OTS-F1) is located inside a weather proof and corrosion resistant (NEMA 4X) gray thermo-plastic noryl enclosure with a 10-foot capillary. The OTS-F1 enclosure may be placed indoors or outdoors. The OTS-F1 bulb must be placed outdoors in an area shielded from direct sunlight.

NOMINAL COMPONENT DIMENSIONS

DTC Control Panel:

W/H/D (cm) 10"/8"/4" (25/20/10)

GS Sensor:

Dia./H (cm) 2.5"/.75" (6/2)

RID:

H/W (cm) 2.75"/4.5" (7/11)

OTS-F1 Thermostat:

W/H/D (cm) 3"/7"/3" (71/168/71)

INPUT POWER REQUIREMENTS

120 VAC

DESCRIPTION

The DTC120-G is designed to detect snow or ice and automatically activate contactors for roof, gutter, and downspout de-icing cables. The system will remain activated until conditions at the sensors do not require snow or ice melting.

SYSTEM OPERATION

The roof de-icing system activates when the following two conditions are met:

1. The ambient temperature is less than the set point of 40°F (4°C).
2. Snow or moisture is present on at least one GS sensor

Once these conditions are met the roof de-icing system activates and the DTC control panel checks at 35 minute intervals for moisture on the GS sensor(s). When no moisture is present on the GS sensor(s) the roof de-icing system deactivates and remains deactivated until the two conditions reoccur.

APPLICATIONS

Roof De-Icing

APPROVALS

UL Listed



DTC120-G COMPONENT LOCATION

Locate the DTC control panel indoors in a dry location. The OTS-F1 enclosure may be placed indoors or outdoors. The OTS-F1 bulb must be placed outdoors in an area shielded from direct sunlight.

Depending upon the time of day, roof size and design, sunlight can cause varying roof temperatures and conditions. In roof and gutter de-icing mode up to four GS sensors can be installed to detect moisture in 4 different gutter locations, any sensor can activate the system.

DTC120-G BASE MODEL

- 1 - DTC
- 1 - GS
- 1 - OTS-F1

MAINTENANCE

The only field maintenance required is surface cleaning of the GS sensors prior to the winter season. Clean with a mild soap solution and bristle brush to remove oil, dirt, or any other foreign substance that may have accumulated.

100% FACTORY TESTED

All controls and sensors are functionally tested and inspected.

AUTOMATIC SHUTOFF

The DTC system checks the GS sensors for moisture on 35-minute intervals. The roof de-icing system deactivates if no moisture is present on all GS sensors. Ambient temperature above 40°F (4°C) will also deactivate the roof de-icing system.

ECONOMICAL

The roof de-icing system activates only when specific atmospheric and surface conditions exist. The system automatically deactivates when it is no longer needed, helping keep utility costs to a minimum.

MEASURES SURFACE CONDITIONS

The DTC system measures ambient temperature and moisture conditions on the roof with up to 4 GS sensors.

NO OPERATOR ADJUSTMENTS

The Delta-Therm system operates automatically.

OPTIONAL

Three additional GS sensors and one RID are optional components that can be added to your system.

OPTIONAL REMOTE INDICATOR AND ACTIVATION TIMER (RID)

The optional remote indicator and activation timer option will allow an operator to remotely activate and monitor the system. This optional remote indicator and activation timer (RID) can be mounted up to 100 Ft. (30m) from the DTC control panel.



Detail 2. RID.

The RID switch can manually activate the roof de-icing or snow melting cable(s) on the RID's internal 75-minute or 5-hour timer. When the RID activates the cable(s); it can also deactivate the cable(s) if the DTC sensor(s) have not called for the roof de-icing cable to be activated.

The bottom indicator light (system on) is lit whenever the roof de-icing cable is operating. The top indicator light (timer on) flashes when the roof de-icing cable is operating on the RID timer.

UL LISTED

This system is listed by Underwriters Laboratories.

4 SENSORS FOR ROOF AND GUTTER DE-ICING MODE

The system uses an ambient thermostat and you can install up to 3 additional 4 GS gutter mounted moisture sensors to increase sensitivity.



Detail 1. GS Sensor.

REPLACEABLE SENSORS

If for any reason a GS sensor becomes inoperable, it is easily replaced. Remove the inoperable GS sensor and rewire the new GS sensor.

SENSOR WIRE EXTENSION CHART

Wire Gauge	Maximum Sensor Cable Length Ft. (m)
16 AWG	1000' (305)
18 AWG	600' (183)
20 AWG	400' (122)
22 AWG	250' (76)

DTC120-G OPTIONS

Part No.	Description
RID	Remote Indicator and Activation Timer
GS	Gutter Mounted Moisture Sensor - (Up To 4 Can Be Installed)
RSW-50	50' 4-Conductor #18 AWG Extension Wire For RID
SW-50	50' Plenum-Rated 4-Conductor #22 AWG Sensor Extension Wire For GS Sensor

DISCLAIMER

Delta-Therm reserves the right to make changes and improvements to the products described and to revise this publication without notice.

LIMITED WARRANTY

Delta-Therm provides a two year limited warranty covering defects in materials and workmanship.

TECHNICAL SUPPORT

A full set of installation instructions is included with order. Please call 1-800-526-7887 with any questions.