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DTC120-G

Roof And Gutter Deicing Control

DTC120-G SYSTEM COMPONENTS
The system consists of a control panel (DTC) 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.

The ambient thermostat (OTS-F1) is located inside a weather proof and corrosion resistant (NEMA 4X) gray thermoplastic 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 deicing cables. The system will remain activated until conditions at the sensors do not require snow or ice melting.

SYSTEM OPERATION
The roof deicing 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 deicing 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 deicing system deactivates and remains deactivated until the two conditions reoccur.

APPLICATIONS
Roof Deicing

APPROVALS
UL Listed

DELTA-THERM Corporation, P.O. Box 345, Wauconda IL, 60084 (847) 526-2407 Fax (847) 526-4456 **(800) 526-7887**

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 deicing 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 deicing system deactivates if no moisture is present on all GS sensors. Ambient temperature above 40°F (4°C) will also deactivate the roof deicing system.

ECONOMICAL
The roof deicing 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 deicing 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 deicing cable to be activated.

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

UL LISTED
This system is listed by Underwriters Laboratories.

4 SENSORS FOR ROOF AND GUTTER DEICING 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.

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