

DS-2B Rain/Snow Sensor Controller

- Automatic Activation means Lower Deicing Costs
- Reliable Rain and Snow Detection
- Full 30A @ 240VAC Control
- Field Strap for 100-120/200-240 VAC Operation
- Replaceable Precipitation Sensor
- Easy Installation, Full Access to Electronics
- 8 Different Functions, 1 Part Number
- Adjustable Temperature Trigger Point
- Adjustable Delay Off Cycle
- Selectable Low Temperature Cutoff
- Smart "Manual On" Operates for One Delay Off Cycle
- High Power, Low Price!



The **DS-2B** is the base model of the **DS** series. It is primarily designed for small satellite antenna/broadcast tower deicing, pavement snow melting applications, and use as a sensor for larger control systems. The unit may also be used as a stand-alone rain diversion controller for Ku band satellite applications.

The unit is housed in a two gang PVC enclosure. The overall dimensions of the **DS-2B** are 4³/₄"(120) x 7"(178) x 2³/₄"(70). The unit weighs 2 pounds. The user may access all electronics by removing the four front cover screws.

Wiring is performed by terminating your existing wiring to the pre-installed pigtails (see below.) The **DS-2B** is mounted by either attaching the mounting hub to a rigid 1/2" or 3/4" conduit or by installing screws through the four mounting tabs provided.

The **DS-2B** can be powered from either a 100-120 VAC or 200-240 VAC 50/60Hz source. Peak power consumption is 15 watts. Voltage selection is performed by installing provided jumpers onto the printed circuit board. The unit provides a single 240VAC @ 30A normally open load contact set. This contact set is paralleled with a low power contact set to provide remote activation monitoring. Operational temperature range is -40°C to +85°C.

An environmentally sealed control switch is provided. The "Manual On" function activates the controlled equipment for testing and special operational conditions. The "Automatic" position allows the **DS-2B** to handle all detections and control. The "Standby/Reset" position disables triggering and can also be used to clear the delay off timer (see below) from true or test activation. Remote control and monitor up to 1000 feet away is also available when the optional C/M cable listed is installed. The **DS-2B** is also compatible with the [DP-7B](#), [DP-7EX](#), and [CDP-2](#) remote control/status panels.

A new feature has been added to the DS-2B. If the switch is placed in "Manual On" for less than 2 seconds, then switched back to "Automatic" the controller will execute one delay off cycle. The delay off cycle is determined by the DEL switch setting and the DEL adjustment, i.e., 2 minutes in "sensor" mode, 30-90 minutes in "controller" mode. This can be used to clear surfaces with a frost or hail buildup without the danger of leaving the system in a continuous "Manual On" condition. "Standby/Reset" can still be used to clear this delay off cycle.

The table below outlines the operating modes for the **DS-2B**. Trigger Temperature (**TT**) is adjustable from 34°F-44°F using an on-board control. When ambient air temperature (**AT**) is below this trigger point precipitation is assumed to be snow or freezing rain. When above the trigger point, precipitation is assumed to be rain.

"Delay Off" refers to the internal drying cycle timer of the **DS-2B**. The timer is used to allow the **DS-2B** to dry the heated surface through evaporation once precipitation has stopped. The drying cycle reduces the chance that moisture left behind by the melting process will refreeze into ice. This timer is restarted by each precipitation detection. Therefore, the **DS-2B** will continue to operate as long as precipitation and trigger temperature is detected, then for the "Delay Off" time once rain or snow stops. It is assumed that, when operating as a sensor, the **DS-2B** is supplying an activation signal to an external control system. All "sensor" modes provide a minimum 2 minute closure to reducing cycling of the external controller. When in a "controller" mode the Delay Off time can be adjusted from 30-90 minutes. Proper adjustment assures drying without excessive runtime.

The Low Temperature Cutoff (**LTC**) option is typically used on deicing or snow melting systems with limited output capacity. If selected, the sensor will not trigger if precipitation is detected below 15°F. However, if the deicing system has been activated, precipitation continues, and the ambient temperature drops below 15°F, LTC will be ignored. This assures that water left behind on the surface during the heating cycle will not immediately refreeze into ice as a result of deactivating the deicing system.