Texas Electronics

"Relied on Worldwide in the Most Extreme Conditions"

Power Free Snow Melt Adapter Instruction Manual

Description

Texas Electronics snow melt adapter provides a way to record frozen precipitation such as snowfall without a power source. The antifreeze mixture melts incoming precipitation and feeds the mixture into the tipping assembly. The environmentally friendly mixture is then fed out the bottom of the rain gauge where it can be recaptured.

Installation & Maintenance

The device requires an existing TR525I (6") tipping bucket rain gauge. The gauge can be any calibration.

1. The rain collector pan should be attached in-between the base of the rain gauge and the rain gauge legs with the included screws.

2. The gauge's pole mounting base should be attached to the pole with the included U-bolts.

3. The rain gauge should be affixed to the base. Make sure to keep the rain gauge level using the included leveling screws and springs.

4. The snow melt adapter can now be attached to the gauge. The snow melt adapter replaces a traditional collector. Care should be taken to align the thumb screws on the snow melt adapter with the slots on the rain gauge. After the adapter is lined up the adapter should be attached to the pole with the included hose clamps.

5. The gauge can now be filled with the antifreeze mix and topped with mineral oil.

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Maintenance

The snow melt adapter requires periodic maintenance to function properly. The device is intended for winter use and is should be replaced with a regular collector during summer month. Maintenance schedule will vary for different climates. The specs listed in "temperature specs" are useful to help determine when the antifreeze needs to be replaced.

Antifreeze Specs

The Antifreeze mix used is a 1:1 mix of propelyene glycol and ethanol. This has mix has been shown to not only be environmentally friendly but also to function effectively in similar devices. Texas Electronics does not recommend substitute anti freeze mixture such as those used in cars. The devices relies on the antifreeze mixture having a specific gravity below 1 to effectively melt the snow and ethelyene glycol does not have the correct properties. To prevent evaporation a generous layer (4-6oz) of light mineral oil should be used to cover the top of the antifreeze mixture. Please also note that the antifreeze mixture may have a slight delay in recording precipitation amounts.

Temperature Specs

As rain falls the antifreeze mixture becomes gradually diluted. To start out the mixture has a ratio of 1:0 antifreeze to water. As a total of 5 inches of rain fall the mixture becomes 1:1, As a total of 6.8 inches of rain fall the mixture becomes 1:2. As a total of 7.7 inches of rain fall the mixture becomes 1:3. The solution becomes slushy at approximately -35C for 1:1, approximately -20C for 1:2, and approximately -10C for 1:3. This information along with the environment that the gauges is used in can be used to create a maintenance schedule.

Ordering Information

Model#	Description
Power Free Snow Melt Adapter	

Optional Parts/Accessories

TR-515I	Tipping Bucket Rain Gauge

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