# Instructions for Installing PM-824

## Remote snow/ice sensor

The PM-824 is a 24 volt, self contained snow and ice detector. Each PM-824 can be set to operate within a range of 22-28 V. The integrated snow sensor is heated to allow for snow, ice, or freezing rain to melt, allowing proper detection of environmental conditions.

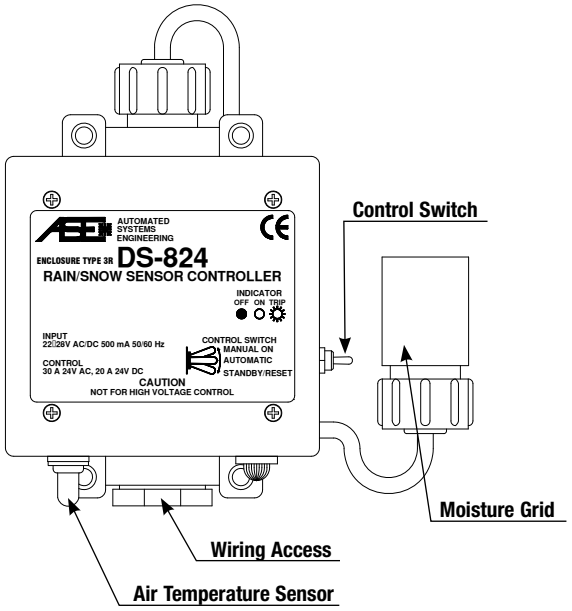
## Installation

The PM-824 control can be mounted in any location as long as the moisture grid sensor is installed in a location that exposes the moisture grid to a clear view of the sky and any precipitation. **Note: the moisture grid should not be mounted directly under eaves, overhangs, or other obstructions that can block precipitation from reaching the moisture grid.**

Do not install the control or sensor close to the ground, or any other location, that can cause the unit to be buried in snow.

Mount the PM-824 moisture grid outdoors, away from furnace vents, dryer vents, and other sources of heat. The PM-824 control can be mounted to a free-standing conduit or by using the mounting holes in each corner of the enclosure. Do not drill holes in the enclosure.

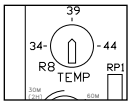
Wire the controller in accordance to the provided schematics.



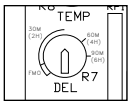

**PM-824 provides integrated air and moisture detection within a rainproof and ice-resistant enclosure. The moisture grid can be locate up to 10 ft away from the main control.**

## Operation

Before installing and wiring the PM-824 sensor, it is important to set all power and control settings prior to wiring or mounting.

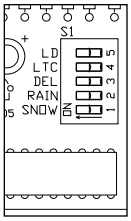



1. Set the Temp Adjust control for desired melting conditions. Precipitation below this temperature is assumed to be snow, above rain. Control comes with the Temp Adjust dial set to 39°F.




2. Set the Delay (DEL) time for 30–90 minutes when the LD (Long Delay - see #3) switch is set to OFF, or 2 – 6 hours when LD is ON.

   The Delay function will allow the snowmelt system to run for the set time frame after moisture is no longer detected (once snowfall has stopped). This is to help prevent "black ice" from forming.




3. Determine how the sensor operates by setting the toggles located at S1.

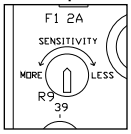
**Snow:** On – the control will operate when precipitation is detected below the Temp Adjust setting. **Recommended: ON**

**Rain:** On – the control will operate when precipitation is detected above the Temp Adjust setting. **Required: OFF**

**DEL:** On – the control will operate with a Delay Off time. If this function is set to Off, the control will operate with a 2 minute delay to prevent short-cycling of external components. **Recommended: ON**

**LTC:** On – the control will operate in Low Temperature Cutoff mode, preventing operation when Ambient Temperatures (AT) fall below 15°F. **Recommended: ON**

**LD:** On - the control will operate with a Delay (DEL) time (see #2 above) of 2 - 6 hours. If this function is Off, the control will operate with a 30 - 90 minute Delay time. **Recommended: OFF**




4. The control monitors the moisture sensor once every second for the presence of moisture. Setting the sensor sensitivity dial to "Less" requires a full four (4) minutes of detection before the unit activates the snowmelt system. Set to "More" requires only three (3) seconds of detection. Adjust this setting to avoid nuisance triggering due to condensation, blowing snow, or high winds, or flurry conditions.

**Power must be cycled for switch changes to take effect.**

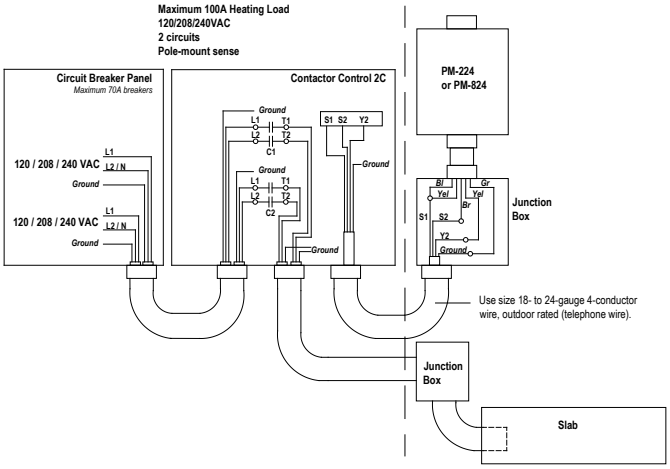
**Manual Override Switch**

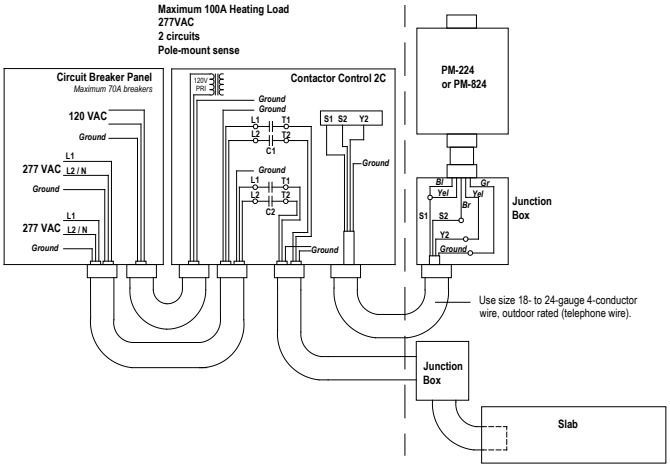
An override switch is mounted on the side for testing and special operational requirements. Placing the switch in the "Automatic" position will allow the sensor to operate normally. "Manual On" will activate the control and will stay activated for a maximum of 40 hours before returning to "Automatic" mode. The "Stand-by/Reset" position will clear any current snowmelt call or delay activity.

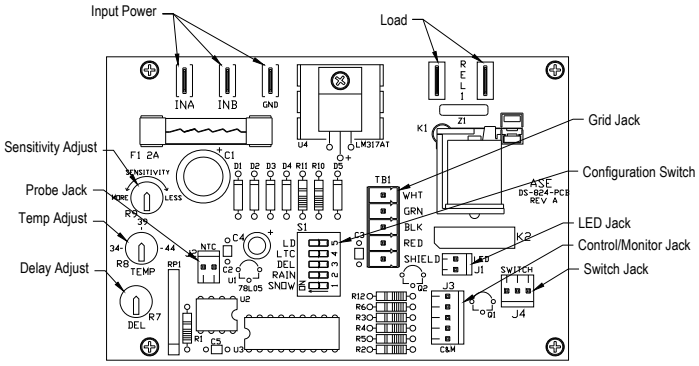
If the Manual Override Switch is moved to Manual On for less than 2 seconds and then back to Automatic the sensor will execute one delay off cycle. This can be used to clear frost, hail, drifting snow, or other conditions. Stand-by/Reset will clear this setting.

**⚠ WARNING: General Safety Instructions**

1. **THIS UNIT SHOULD BE INSTALLED ONLY BY QUALIFIED PERSONNEL!**
2. Disconnect all power from the control, or any associated equipment, before opening the front cover plate.
3. Limit input voltage to 22-28 VAC/VDC
4. To avoid fire hazard, replace fuse **only** with 2 Amp 32 V or 250 V 3AG fast acting fuse.
5. Do not drill holes through the electrical enclosure for mounting. Mount the control to a free-standing conduit or via the pre-determined mounting holes.
6. Ensure front cover gasket is properly installed when replacing cover.

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|---|---|
| **Supply Voltage** | 22 - 28 VAC |
| **Trigger Temperature Range (TT)** | 34°F to 44°F |
| **Configuration Modes** | Snow Only<br>Rain Only<br>Snow or Rain |
| **Delay Settings (post melting)** | 30 to 90 minutes<br>2 to 6 hours |
| **Low Temperature Cutoff (LTC)** | Prevents system operation when Ambient Temperature (AT) is below 15°F |
| **Operation Modes** | Automatic<br>Standby/Reset<br>Manual |

**Recommended Switch Settings**

| Function | Trigger | LD Off | LD on | LTC | DEL | RAIN | SNOW |
|---|---|---|---|---|---|---|---|
| Snow sensor w/o LTC | TT>AT | 2 min | 2 min | OFF | OFF | OFF | ON |
| Snow sensor w/LTC | TT>AT>15°F | 2 min | 2 min | ON | OFF | OFF | ON |
| Snow controller w/o LTC | TT>AT | 30-90 min | 2-6 hr | OFF | ON | OFF | ON |
| Snow controller w/LTC | TT>AT>15°F | 30-90 min | 2-6 hr | ON | ON | OFF | ON |

**Do Not set the Rain switch to "ON". Possible overheating of the snowmelt cables may result.**

**Limited Warranty:** Watts Radiant (the "Company") warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.
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