

Instructions for Installing PM-224C

Remote Snow/Ice Sensor

WARNING



Read this Manual BEFORE using this equipment.

Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment.

Keep this Manual for future reference.

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
4. 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.
5. Ensure front cover gasket is properly installed when replacing cover.
6. Do not install the sensor close to the ground, or any other location, that can cause the sensor to be buried in snow.
7. These instructions are intended to provide specific application information for installing the PM-2C snow and ice sensor control with the ProMelt snow melt products. Please refer to the full instruction manual given with the product for further installation, Caution, and operation instruction.

NOTICE Installation Guidelines

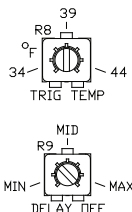
1. The PM-224C must be installed in a location that exposes the moisture grid to a clear view of the sky and any precipitation.
2. Mount the PM-224 outdoors, away from furnace vents, dryer vents, and other sources of heat. The PM-224 can be mounted to a free-standing conduit or by using the mounting holes in each corner of the enclosure. Do not drill holes in the enclosure.
3. The PM-224 control requires the use of a Contactor Pro Relay Panel to deliver power to the ProMelt system. **Refer to the Contactor Pro Relay Panel installation manual for further details.**
4. Use of a shielded, outdoor rated 18-24AWG, 4-conductor cable is required to connect the Contactor Pro Relay Panel to the sensor. The total length of shielded this supply wire cable should not exceed 100 feet (30.5 m) for 22 or 24 AWG and 200 feet (61 m) for 18 or 20 AWG. All connections must be made in an outdoor rated, water-tight electrical enclosure.

Wire the controller in accordance with the diagrams on the following page.

Setting Configuration

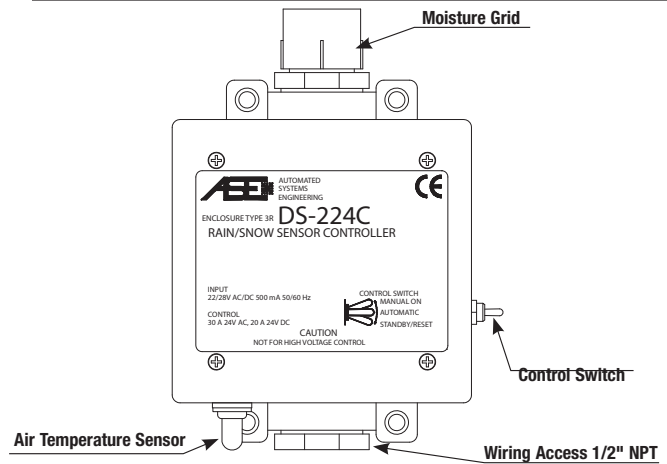
Before turning power on to the PM-224C sensor, it is important to set all control modes and settings.

1. Place the control in Standby/Reset with the switch mounted on the side before making configuration switch changes. Remember to return it to Automatic mode when finished.
2. Set the Trigger Temperature by adjusting the TRIG TEMP control for desired melting conditions. Precipitation below this temperature is assumed to be snow, above this is rain. Control comes with the TRIG TEMP dial set to 39°F (4°C).
3. Set the DELAY OFF time for 30 to 90 minutes (LD Off) or 2 to 6 hours (LD On). The Delay function will allow the snow melt 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.
4. Determine how the sensor operates by setting the toggles located at S1.



NOTICE

The unit should not be mounted directly under eaves, overhangs, or other obstructions that can block precipitation from reaching the moisture grid.



PM-224 provides integrated air and moisture detection within a rainproof and ice-resistant enclosure.

Snow: The control will operate when precipitation is detected below the Temp Adjust setting
Recommended: ON

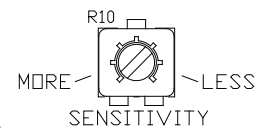
Rain: The control will operate when precipitation is detected above the Temp Adjust setting.
Required: OFF

DEL: 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: The control will operate in Low Temperature Cutoff mode, preventing operation when Ambient Temperatures (AT) fall below 5°F (-15°C).
Recommended: ON (for systems with limited heat output)

LD: This Long Delay switch determines the time span of the Delay Off drying cycle. Either 30-90 minutes (LD Off) or 2-6 hours (LD On).
Recommended: OFF

5. Set the precipitation SENSITIVITY to reduce nuisance triggering. MORE to trigger immediately upon detection. LESS to trigger with up to 120 seconds of detection. Recommended MORE to begin, then adjust as needed.



NOTICE Installation Guidelines

Power must be cycled for switch changes to take effect.

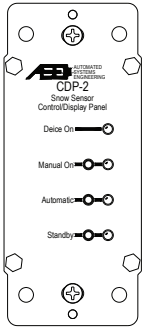
Manual Override Switch

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 snow melt call or delay activity.

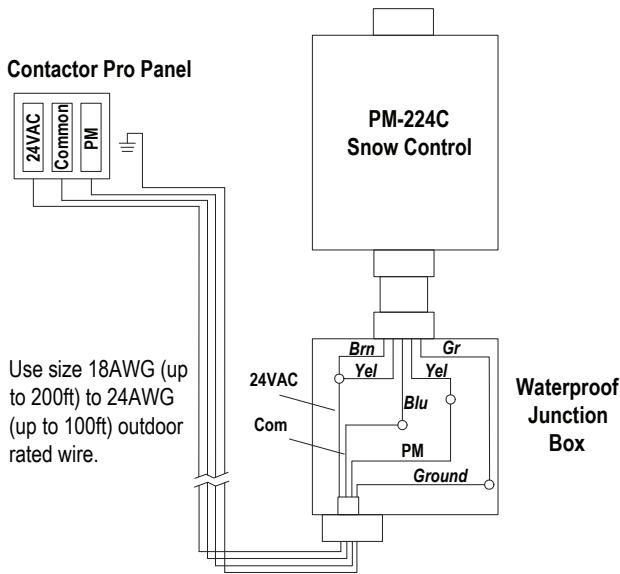
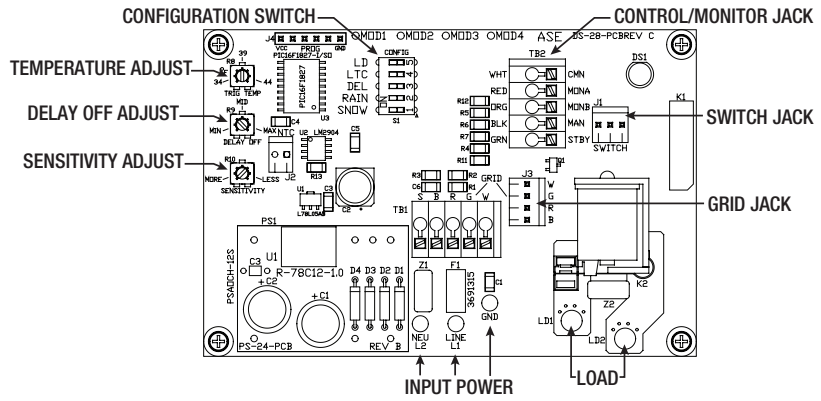
If the Manual Override Switch is moved to Manual On for less than 2 seconds and then back to Automatic the sensor will execute one delay drying cycle. This can be used to clear frost, hail, drifting snow, or other conditions. Stand-by/Reset will clear this setting.

WattsRadiant™
Floor Heating & Snow Melting

PM-224C Sensor



Indoor monitoring and control of the PM 224C is available with the optional PM DP snow melt sensor remote control. For more information see the PM DP submittal or installation instructions.



NOTICE Specifications	
Supply Voltage	22 - 28 VAC
Power	12 VA nominal
Trigger Temperature Range (TT)	34°F to 44°F (1°C to 6.5°C)
Configuration Modes	Snow Only Rain Only Snow or Rain
Delay Settings (post melting)	30 to 90 minutes 2 to 6 hours
Low Temperature Cutoff (LTC)	Prevents system operation when Ambient Temperature (AT) is below 5°F (-15°C)
Operation Modes	Automatic Standby/Reset Manual

NOTICE Recommended Switch Settings							
Function	Trigger	LTC	DEL	RAIN	SNOW	LD Off	LD On
Snow sensor w/o LTC	TT>AT	OFF	OFF	OFF	ON	2 Min	2 Min
Snow sensor w/LTC	TT>AT>15°F (9.5°C)	ON	OFF	OFF	ON	2 Min	2 Min
Snow controller w/o LTC	TT>AT	OFF	ON	OFF	ON	30-90 Min	2-6 Hr
Snow controller w/LTC	TT>AT>15°F (9.5°C)	ON	ON	OFF	ON	30-90 Min	2-6 Hr

CAUTION
Do Not set the Rain switch to "ON". Possible overheating of the snow melt cables may result.

NOTICE Sensor Maintenance
At least once every four months the PM 2C should be powered down and the sensor grid be wiped clean with clear water. Heavy deposits left behind by evaporated water may be removed by gently scrubbing with a non-metallic scouring pad.

WARNING
This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information: www.watts.com/prop65

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