Snow Melting System Controls

ProLine WS-02 Controller Data Sheet GENERAL PRODUCT INFORMATION

SNOWMELT GROUND SENSOR CONTROLLER AND THERMOSTATS FOR SNOW MELTING

PROLINE WS-02 SNOWMELT CONTROLLER

INTELLIGENT CONTROL
Maximum comfort with
low energy consumption

GREEN COMFORT

OUTDOOR TEMPERATURE SENSOR

GROUND SENSORS

CONTROLLER ENCLOSURE

ROOF SENSOR

Energy Efficient, Intelligent Control of Ice and Snow Melting

ProLine offers intelligent, all-in-one radiant heat solution for hydronic and electric radiant snow and ice melting systems. Optimal operation is ensured through output control, making the system both effective and economical. This advanced controller offers efficient snow melting – the green way.

- Electronic on/off control up to 11 KW
- Two-zone control, individually controlled
- Economical control (minimal energy consumption)
- Detection of both temperature and moisture
- Display selector knob wheel for easy programming
- Control of electric or hydronic ice and snow melting systems
- Adjustable moisture sensitivity
- Several language options

ProLine provides the industry leading controller for ice and snow melting in gutters and ground areas. Using readings from temperature and moisture sensors, the controller ensures economical control of power while keeping outdoor areas free of ice and snow. The moisture sensor should be installed in the ground surface or in the gutter. When precipitation and temperature conditions warrant, the controller activates the snow melting system. Once the sensor has dried out, the thermostat goes into 'afterrun' mode for a set time to dry the area and prevent ice from forming.

Minimal Energy Consumption

The snow melting system is only energized when the outdoor temperature drops below the selected setting and snow or ice is detected by the sensors.

Control Options for Roof Gutters

Using the PL snowmelt controller, PL gutter sensor and the PL outdoor temperature sensor allows the ClearZone system to sense moisture in gutters and downspouts as well as the outside temperature.

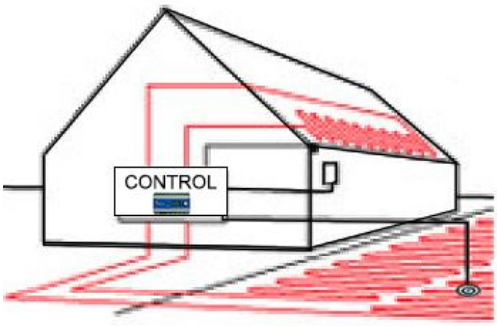
Control Options for Snow Melting Areas

Using the PL snowmelt controller, the PL ground sensor allows the snow melting system to sense moisture and temperature for concrete, asphalt and paver applications. This allows the ClearZone snowmelt system to be more flexible than most control systems.

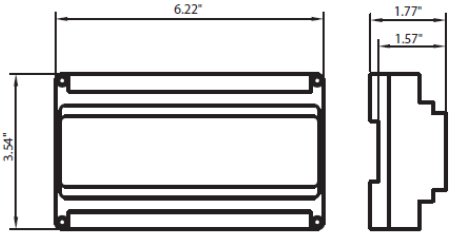
Remote Control

It is possible to control the controller from an external signal (day/week timer, GSM Module or other signal source). The controller can be switched on/off (standby), and the system can be temporarily forced to provide heat during the period of time set in the 'afterrun' menu.

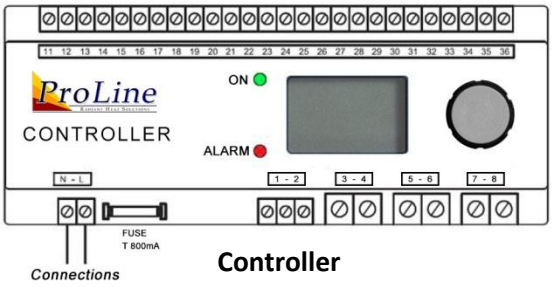
Snow Melting System Controls



Residential Snowmelt and Roof De-icing



Dimensions in inches



Controller

Remote Control

It is possible to control the unit from an external signal (day/week timer, GSM Module or other signal source). The controller can be switched on/off (standby), and the system can be temporarily forced to provide heat during the period of time set in the 'afterrun' menu.

SENSORS

PL GROUND SENSOR (TYPE WS-55):
Designed for use in paver systems and asphalt capping, the sensor measures temperature and moisture. Thirty-three 33 feet of connection wire exits the side of the sensor puck so the depth of the conduit can remain shallow. Up to two sensors can be installed.

PL GROUND SENSOR (TYPE WS-56):
Designed for use in new asphalt and concrete, the sensor features 82 feet of connection wire. It also has a stainless steel tube that is mounted prior to the asphalt or concrete pour, facilitating conduit attachment and installation of the sensor.

PL GUTTER SENSOR:
Designed for installation in gutters, downspouts, etc., the unit detects moisture only and should be used in conjunction with a PL outdoor temperature sensor. Up to two gutter sensors can be installed.

PL OUTDOOR TEMPERATURE SENSOR:
The PL outdoor sensor measures temperature and is normally used in combination with PL gutter sensors, but can also be used separately for temperature measurement only. The sensor can also be used in combination with PL ground sensors. The temperature sensor can detect rapid drops in air temperature, thus avoiding icy areas.

INSTALLATION

PL Snowmelt Controller Installation: DIN-rail mounting in electrical cabinet, mounting box or on a wall surface.

PL Ground Sensor Installation: Should be installed where the worst snow and ice problems normally occur. The sensor should be embedded in a concrete base on a hard surface with the top of the sensor flush with the surface. On asphalt surfaces, or where easy installation is desired, installing the PL ground sensor together with the cradle is the obvious choice.

PL Gutter Sensor Installation: Should be installed in the gutter or downspout on the sunny side of the building. The sensor contact point must be aligned in the direction of the melt-water flow. Where necessary, two sensors can be connected in parallel.

ETOG Ground Sensor Installation Should be installed beneath the eaves on the northern side of the building.

PRODUCT PROGRAM

Type	Product
PL Controller	Thermostat Incl. cover for surface mounting
Accessories	
Ground sensor (55)	Ground sensor for measuring temperature and moisture (32' 9.7" cable)
Ground sensor (56) w/cradle	Ground sensor for embedding in outdoor surfaces (82' 2" cable).
Gutter sensor (WS-OR55)	Gutter sensor for measuring moisture (32' 9.7" cable)
WS-F744	Outdoor sensor for measuring temperature
PL-Spacer	Spacer plate for PL Controller
PL Enclosure	The mounting box (enclosure) is required for UL in USA

Snow Melting System Controls

TECHNICAL DATA

Controller / Thermostat for In-Ground Snow Sensors

Supply voltage	120 to 240V +- 10%, 50-60Hz.
Temperature range (control)	-4/+122 °F (-20/+50 °C)
Built in timer for manual snowmelt and afterrun delay (0-18 hours)	
Output relay	3 x 16A potential free relay
Two-zone application	Output is 2 x 16A potential free relay
Water based system (hydronic)	Controlling a 3 or 4-way valve, primary pump, secondary pump
Display	Graphic LCD with backlight
Ambient temperature range	+32/+104 °F (0/+40 °C)
Storage temperature range	-58/+158 °F (-50/+70 °C)
UL listed enclosure	NEMA 1
Weight	17.46 oz (495 g)
Enclosure dimensions. H/W/D	6.25 / 10.25 / 3.75 Inches (159 / 260 / 95 mm)
Dimensions excluding enclosure H/W/D	3.54 / 6.14 / 1.77 Inches (90 / 156 / 45 mm)
LED Functions	
ON / Green	Supply voltage to the thermostat
Alarm / Red	Fault indication

PL Ground Sensor (55) Temp and Moisture

Detecting	Moisture and temperature
Mounting	Outdoor area (e.g., Concrete, asphalt and pavers)
Housing	NEMA 6P
Ambient temperature range	-58/+158 °F (-50/+70 °C)
Dimensions (H / Diam.)	1.26 / 2.36 Inches (32 / 60 mm)

PL Ground Sensor (56)

Detecting	Moisture and temperature
Mounting	Embedded outdoor surface
Housing	NEMA 6P
Ambient temperature range	-58/+158 °F (-50/+70 °C)
Dimensions, sensor(H/Ø)	1.26 / 2.36 Inches (32 / 60 mm)
Dimensions, cradle (H/Ø)	3.07 / 2.50 Inches (78 / 63.5 mm)

PL Roof Gutter Sensor (Moisture)

Detecting	Moisture
Mounting	Gutter and downspout
Housing	NEMA 6P
Ambient temperature range	-58/+158 °F (-50/+70 °C)
Dimensions (H/W/D)	4.13 / 1.18 / 0.51 Inches (105 / 30 / 13 mm)

PL Ground Sensor (Temperature)

Detecting	Temperature
Mounting	Wall surface
Housing	NEMA 3
Ambient temperature range	-58/+158 °F (-50/+70 °C)
Dimensions (H/W/D)	3.39 / 1.77 / 1.38 Inches (86 / 45 / 35 mm)

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TECHNICAL SUPPORT

For technical questions, please contact ProLine at 866.676.WARM (9276)
or via the web - www.prolineradiant.com.

Warranty information

All products: 2-year warranty.