ProLine
Radiant Heat Solutions

Snow Melting

RADIANT SNOWMELT SYSTEMS

ProLine

RADIANT HEAT SOLUTIONS

Heated Driveways and Snow Melting Systems

Fully automated, maintenance-free ProLine snow melting systems have proven to be the optimum solution for heating commercial parking ramps, driveways, sidewalks, loading docks and more. Versatile and durable, ProLine heat cable is designed to withstand the stress of heavy concrete pours and brick and stone paver applications, as well as the extreme temperatures of hot asphalt installations. Snow melting cable is available as free standing cable as well as cable pre-spaced in mats for easy “roll-out” installation. The performance and reliability of electric snowmelt systems have made ProLine Radiant a favorite among wholesalers and professional builders alike.

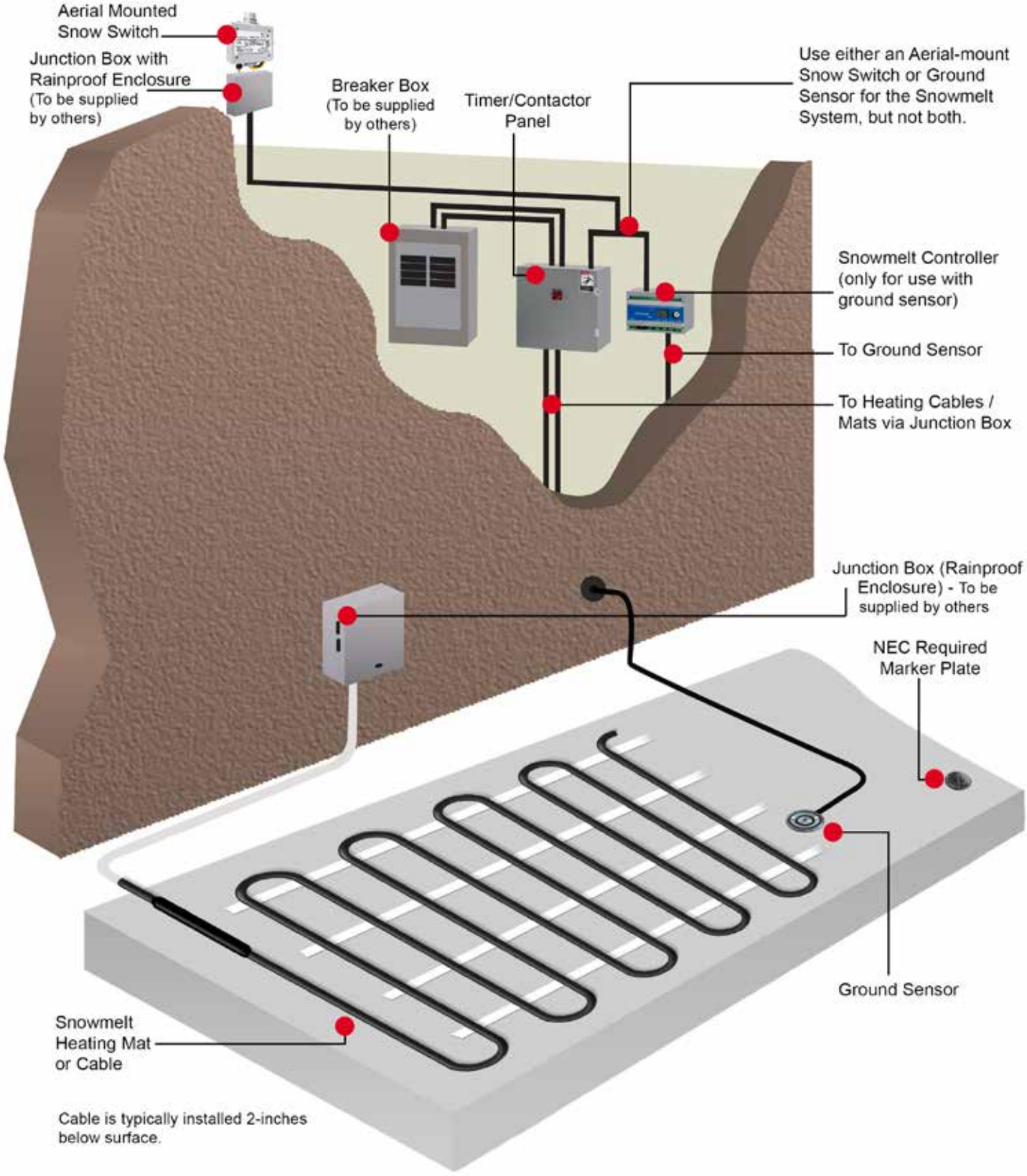
Features Include:

- Available on the spool or pre-spaced in mats
- Single-point connection simplifies installation
- Twin-conductor cable
- Flexible installation; easy to customize
- Durable and versatile - Designed for use in concrete, under pavers, and hot asphalt applications
- Silent, efficient and safe
- Maintenance-free operation
- All mats heat an area 2-feet wide. Power leads are 16.4 feet in length.
- 10-year limited warranty against manufacturing defects

ProLine Mats and Cables Specifications

Cable construction	Twin conductor
Rated voltage	208-600 V (For 277, 600 V, please call.)
Output (mats)	37W/ft.^{2} and 50W/ft.^{2}
Output (cables)	12W/ft. (40W/m) with cable, 24-70W/ft.^{2}
Cold lead	16.4 feet (5.0 m) Longer cold leads available on request.
Bending radius	Minimum 2 inches, (51 mm)
Cable diameter	¼-inch (7 mm)
Conductor insulation	Fluoropolymer
Metal sheath	Copper
Outer sheath	Polyolefin
Max. external jacket asphalt temperature *	220°F (105°C) *[460°F (240°C) for up to 10 minutes]
Max. external jacket temp.	158°F (70°C)
Max. conductor insulation temperature	302°F (150°C) Concrete and pavers
Min. installation temp.	5°F (-15°C)

ProLine Snow Melting System Overview



ProLine
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Exterior Radiant Heat Controls

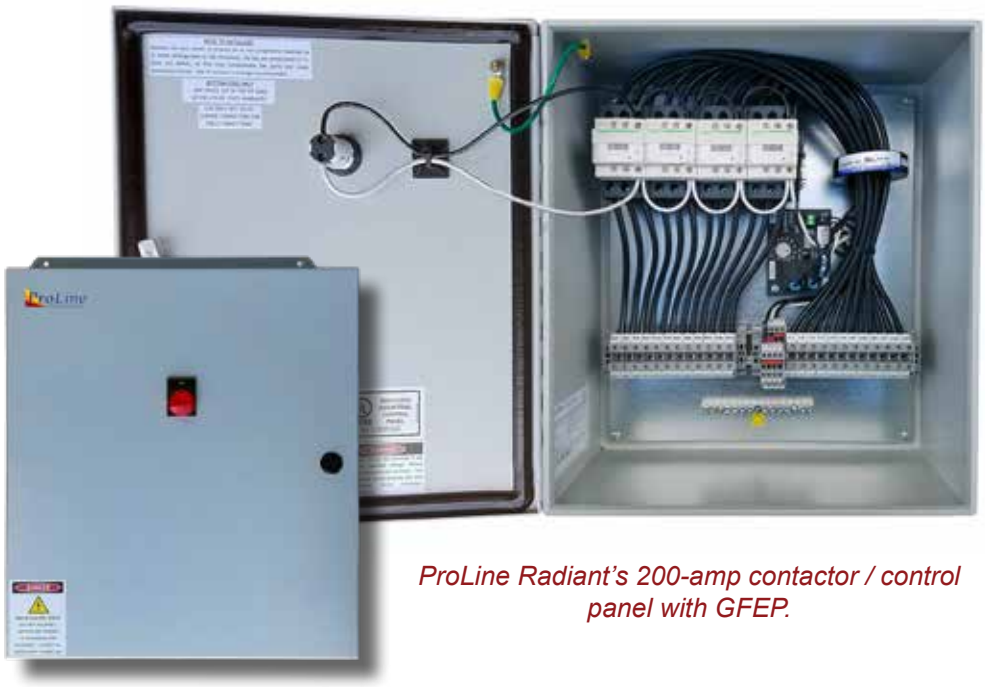
ProLine Offers Contactor Panels with and without GFEP

In keeping with its commitment to provide professional builders with the best products, service and convenience, ProLine Radiant offers GFEP (ground fault equipment protection) breaker panels with its snow melting systems, which can save installers time and money.

Features and Benefits

- NEMA 4, cULus listed panel box
- Low cost
- Easy to install
- Integrated GFEP (optional)
- LED trip indicator (internal)
- LED “heat on” indicator light
- Pre-wired terminal connections
- 120 V on/off remote heat indicator
- 2-year warranty
- Single and 3-phase
- Two or four 50-amp contactors
- Two, four or eight 30-amp contactors

ProLine’s 100-amp contactor panel without GFEP.



ProLine Radiant’s 200-amp contactor / control panel with GFEP.

Contactor panel being installed.

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Exterior Radiant Heat Controls

Snowmelt System Controller

The ProLine Radiant snowmelt control units are NEMA 1, wall-mounted control panels. The approximate size of the control unit is only 6 x 3½ inches. It is even possible to control the unit from an external signal (day/week timer, GSM-module or other signal source). The controller also features manual override capability, allowing you to activate the system to melt snow drifts or ice that has formed due to wind or shade.

ProLine Control Unit

The ProLine Radiant controller is designed for ice and snow melting in gutters and ground areas. Using readings from temperature and moisture sensors, the controller ensures economical control of power consumption when keeping outdoor areas and roofs free of ice and snow.

Despite the compact control unit's advanced technology, superior performance and ease of use, it also represents a breakthrough in that it is significantly more affordable than most other industry controllers. The unit provides maintenance-free, energy-efficient, UL listed snow melting for all types of residential and commercial applications.

ProLine Snowmelt Controller Technical Data

Supply voltage	120/230 V ±10%, 50-60 Hz
Temperature range	32°F to 122°F (0 to 50°C)
Working range	-4°F to 41°F (-20 to 5°C)
Built-in timer for manual snow melting / after run	1-6 hours
Output relay	3 x 16A potential free relay
Two zone application	Output is 2 x 16A potential free relay
Water-based system	Controlling a 3- or 4-way valve, primary pump, secondary pump.
Display	Graphic and with backlight
Ambient temperature	32°F to 122°F (0°-50°C)
Housing (including cover)	IP20
Weight	1.09 lbs. (495 g)
Dimensions (excluding cover)	H: 3.5" W: 6.1" D: 1.7" (90 mm x 156 mm x 45 mm)
Dimensions (including cover)	H: 6.7" W: 6.4" D: 1.7" (170 mm x 162 mm 45 mm)
LEDs indicate the functions: ON/green; ERROR/red	Supply voltage to the thermostat; fault indication

Technical Data for ProLine In-Ground Sensors	
Detecting	Moisture and temperature
Mounting	Any outdoor area
Housing	IP68
Ambient temperature	-4°F to 158°F (-20 to 70°C)
Cable length	33 feet (10 meters)
Dimensions	H: 1¼-2.4 inches (32 mm-60.9 mm)

Ground Sensor for Temperature and Moisture

Designed for embedding into the surface of concrete, asphalt, pavers or other outdoor surfaces, ProLine Radiant's in-ground snow sensor detects ground temperature and moisture for automated snow melting systems. The activation device only signals the controller to activate the system when the outdoor temperature is below the selected setting (usually 39°F) and snow or ice occurs on the sensor head.

The snow sensor is usable for all applications within hydronic as well as electrical radiant heating. Optimal operation is ensured because of the output control, which makes the system both effective and economical.

In-ground snow sensor (and sensor cup) for automated snow melting system.

ProLine Snow Melting System Activation Devices

Snow Sensor Technical Data and Specifications

The WS-2C Aerial Snow Sensor - Designed for snow and freezing rain detection, the WS-2C aerial snow sensor sets the standard for automated radiant snowmelt systems. The snow sensor activates the snow melting system when moisture is present and the temperature reaches the set point (usually 39°F), providing fully automated, efficient snow and ice melting.

WS-2C Specifications	
Dimensions	4¾"x7"x2¾" (120 mm x 178 mm x 70 mm)
Weight	2 lbs. (0.9 Kg)
Operating temp	-40° to 185°F (-40° to 85°C)
Enclosure rating	NEMA 3R
Supply power	100-120 VAC / 200-277 VAC Field selectable 15 W maximum
Trigger temperature	34° to 44°F (1.1° to 6.6°C) Adjustable
Delay off (controller)	30-90 Minutes field selectable
Load capacity	30A @ 240 VAC / 100,000
Monitor contact	24 VDC/VAC 400mA 10 W Total

The WS-5C Aerial Snow Sensor - The WS-5C is essentially a WS-2C fitted with a dual 30A @ 240 VAC load control contact set. It is primarily designed for larger satellite antenna/broadcast tower de-icing and pavement snow melting applications. Specifically, any job that a WS-2C can perform, a WS-5C can perform with double the load handling capability.

WS-5C Specifications	
Dimensions	4¾"x7"x2¾" (120 mm x 178 mm x 70 mm)
Weight	2 lbs. (0.9 Kg)
Operating temp	-40° to 185°F (-40° to 85°C)
Enclosure rating	NEMA 3R
Supply power	100-120 VAC / 200-277 VAC Field selectable 15 W maximum
Trigger temperature	34° to 44°F (1.1° to 6.6°C) Adjustable
Delay off (controller)	30-90 Minutes field selectable
Load capacity	2x30A @ 240 VAC / 100,000
Monitor contact	24 VDC/VAC 400mA 10 W Total

The WS-8C Aerial Snow Sensor - The WS-8C is designed for gutter, downspout, and roof ice melting and small satellite antenna de-icing. The sealed, low voltage, remote mount precipitation sensor allows the user to install the small sensor head in a downspout, the bottom of a gutter, or at the end of an antenna boom, up to 10 feet away, while keeping the main controller in a more convenient or protected location.

WS-8C Specifications	
Dimensions	4¾"x7"x2¾" (120 mm x 178 mm x 70 mm)
Weight	2 lbs. (0.9 Kg)
Operating temp	-40° to 185°F (-40° to 85°C)
Enclosure rating	NEMA 3R
Supply power	100-120 VAC / 200-277 VAC Field selectable 15 W maximum
Trigger temp	34° to 44°F (1.1° to 6.6°C) Adjustable
Delay off	30-90 Minutes field selectable
Load capacity	30A @ 240 VAC / 100,000

ProLine Snowmelt System Controls

ProLine snow melting systems come standard with an aerial or ground-mounted snow sensor switch. The advanced device automatically activates the ProLine snow melting system when it detects precipitation and temperatures are below a set point. The temperature is typically set at 39°F, but is adjustable from 34°F (1.1°C) to 44°F (6.6°C). Smart system compatible, the aerial sensors have several other notable features, including adjustable delay off cycle and upgradeable remote activation.

ProLine WS-AUX Snow Sensor Control Display Panel

The WS-AUX control display panel is used in conjunction with a WS snow sensor controller. The sensor is typically mounted on a roof, near a gutter, or in a similarly difficult location to reach.

ProLine's WS-AUX shown with interconnect cable attached.

The control display panel brings control and monitoring of your snowmelt system indoors, providing remote monitoring and controlling of the attached sensor. The user may monitor both the operating mode and the activation state of the sensor. The sensor may also be set to automatically operate or to prohibit automatic operation, or to manually operate one snow melting cycle, then return to automatic operation.

The WS-AUX derives its power from the snow sensor and requires no batteries or AC power. The Control Display Panel is designed for use either indoors or outdoors with proper protection from the elements.

The WS-AUX is compatible with the WS-2C, WS-5C, and WS-8C rain/snow sensor controllers. The 2.5 ounce unit consists of an electronic printed circuit board mounted securely to a steel mounting plate, and fits into a standard single-gang or multi-gang electrical enclosure.

The WS-AUX provides three push-button switches; STANDBY, AUTOMATIC, and MANUAL ON. The respective LED indicators for each control reflect the current operating mode of the snow sensor. To save energy, the LED indicators blink periodically rather than remaining steadily illuminated. Pressing STANDBY will set the connected snow sensor to ignore snowfall and prohibit automatic operation of an attached snowmelt system.

This function can be used to save energy if snow melting is not critical (i.e., driveway, sidewalk) and is not required for an extended period of time (vacation home, remote location). Pressing AUTOMATIC will set the connected snow sensor to automatically activate and control an attached snowmelt system when snow is detected.

ProLine snow melting systems are fully automated and maintenance free. The systems feature the industry's most advanced and trusted components.

WS-AUX Specifications	
Dimensions	4.1"x 1.8"x 0.9" (104 mm x 45 mm x 23 mm)
Weight	2.5 ounces
Operating temp	-40° to 185°F (-40° to 85°C)
Enclosure	Fits into a standard single-gang or multi-gang electrical enclosure
Supply power	Derives its power from the snow sensor, requiring no batteries or AC power
Push-button functions	STANDBY, AUTOMATIC, and MANUAL ON

Example of a ProLine aerial-mount snow sensor and junction box.

ProLine WS-AUX Interconnect Cable

To connect the snow sensor and the WS-AUX, an appropriate 5-conductor cable is required. ProLine Radiant provides the recommended interconnect cable, which is shielded, stranded, tinned, with 22 AWG (0.5 mm^2). The individual leads of the interconnect cable are installed into the rear terminal block of the WS-AUX (see image above) and the cable is then connected to the snow sensor. When using ProLine's shielded interconnect cable, the WS-AUX can be installed as much as 500 feet away from the snow sensor. (Available in 50-, 100- and 200-foot lengths.)

PROLINE SNOW MELTING MATS AND CABLE ORDERING INFORMATION *

The ProLine snow melting system includes heating cable or a mat that is pre-spaced and taped into a 3- or 4-inch on-center-mat that allows for simple roll-out installation. All mats heat 2-feet wide. Power leads are 16.4 feet in length. (* *The most commonly ordered snow melting cable sizes are listed below. To order 277, 600 V, and other size mats and cables, please contact your ProLine representative.*)

Snow Melting Mats

208 Volt Mat (50 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SM85052500	10	5	500	2.4	86.5
SM8501121000	20	11	1,000	4.8	43.3
SM8501621500	30	16	1,500	7.2	28.8
SM8502222000	40	22	2,000	9.6	21.6
SM8502722500	50	27	2,500	12.0	17.3
SM8503323000	60	33	3,000	14.4	14.4
SM8503823500	70	38	3,500	16.8	12.4
SM8504424000	80	44	4,000	19.2	10.8
SM8504924500	90	49	4,500	21.6	9.6
SM8505525000	100	55	5,000	24.0	8.7
SM8506025500	110	60	5,500	26.4	7.9
SM8506526000	120	65	6,000	28.8	7.2

240 Volt Mat (50 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SM25052500	10	5	500	2.1	114.3
SM2501121000	20	11	1,000	4.2	57.1
SM2502722500	50	27	2,500	10.4	23.1
SM2504424000	80	44	4,000	16.7	14.4
SM2506025500	110	60	5,500	22.9	10.5

480 Volt Mat (50 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SM45052500	10	5	500	1.0	460.8
SM4501121000	20	11	1,000	2.1	230.4
SM4502722500	50	27	2,500	5.2	92.2
SM4504424000	80	44	4,000	8.3	57.6
SM4506025500	110	60	5,500	11.5	41.9

208 Volt Mat (37 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SM837112750	20	11	750	3.6	57.7
SM2373022000	54	30	2,000	9.6	21.6
SM2375123500	94	51	3,500	16.8	12.4
SM2376524500	120	65	4,500	21.6	9.6
SM2378025500	146	80	5,500	26.4	7.9
SM8378726000	160	87	6,000	28.8	7.2

240 Volt Mat (37 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SM237112750	20	11	750	3.1	77.4
SM2373022000	55	30	2,000	8.3	28.9
SM2375123500	95	51	3,500	14.6	16.4
SM2376524500	120	65	4,500	18.8	12.8
SM2378025500	150	80	5,500	22.9	10.5

Snow Melting Mats for Asphalt

240 Volt (37 W per square foot)

Item Number	Heated Area (Sq. ft.)	Mat Length (Feet)	Watts	Amps	Ohms
SMA237112750	20	11	750	3.1	77.4
SMA2373022000	55	30	2,000	8.3	28.9
SMA2375123500	95	51	3,500	14.6	16.5
SMA2376524500	120	65	4,500	18.8	12.8
SMA2378025500	150	80	5,500	22.9	10.5

C SA US

ProLine 10 YEAR WARRANTY

PROLINE SNOW MELTING ORDERING INFORMATION

Snow Melting Cable

240 Volt Cable (37 & 50 W per square foot)

Item Number	Cable Length (Feet)	Approximate Heat Coverage (Square feet)		Watts	Amps	Ohms
		3-inch spacing (50 Watts Sq. ft.)	4-inch spacing (37 Watts Sq. ft.)			
SC262750	62	15	20	750	3.1	77.4
SC2841000	84	20	27	1,000	4.2	57.1
SC21682000	168	40	55	2,000	8.3	28.9
SC22092500	209	50	70	2,500	10.4	23.1
SC22933500	293	70	95	3,500	14.6	16.4
SC23754500	375	90	125	4,500	18.8	12.8
SC24585500	458	110	150	5,500	22.9	10.5

208 Volt Cable (37 & 50 W per square foot)

Item Number	Cable Length (Feet)	Approximate Heat Coverage (Square feet)		Watts (12W/ ft.)	Amps	Ohms
		3-inch spacing (50 Watts Sq. ft.)	4-inch spacing (37 Watts Sq. ft.)			
SC843500	43	10	14	500	2.4	86.5
SC8861000	86	20	29	1,000	4.8	43.3
SC81271500	127	30	42	1,500	7.2	28.8
SC81702000	170	40	57	2,000	9.6	21.6
SC82132500	213	50	71	2,500	12.0	17.3
SC82563000	256	60	85	3,000	14.4	14.4
SC82993500	299	70	100	3,500	16.8	12.4
SC83404000	340	80	113	4,000	19.2	10.8
SC83834500	383	90	128	4,500	21.6	9.6
SC84265000	426	100	142	5,000	24.0	8.7
SC84695500	469	110	156	5,500	26.4	7.9
SC85126000	512	120	171	6,000	28.8	7.2

480 Volt Cable

(37 & 50 W per square foot)

Item Number	Cable Length (Feet)	Approximate Heat Coverage (Square feet)		Watts	Amps	Ohms
		3-inch spacing (50 Watts Sq. ft.)	4-inch spacing (37 Watts Sq. ft.)			
SC443500	43	10	14	500	1.0	460.8
SC41271500	127	30	42	1,500	3.1	153.6
SC41702000	170	40	57	2,000	4.2	115.2
SC42563000	256	60	85	3,000	6.3	76.8
SC43404000	340	80	113	4,000	8.3	57.6
SC44265000	426	100	142	5,000	10.4	46.1
SC44695500	469	110	156	5,500	11.5	41.9

Mesh-Up Support Chairs

Mesh-Up plastic supports are used to keep remesh and heat cable off the ground before and during concrete pouring. The support snaps easily and firmly to remesh where the wires intersect; preventing it from rotating, shifting or becoming displaced. The Mesh-Up “flexes” during concrete pours before gradually restoring to its original shape. This reduces the stress placed on the wire mesh and helps prevent it from bending or being damaged, helping to ensure top-quality concrete work.

Fully Automated Snow Melting Systems

ProLine
Radiant Heat Solutions
by INNOVAIR SOLUTIONS

ProLine Radiant

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