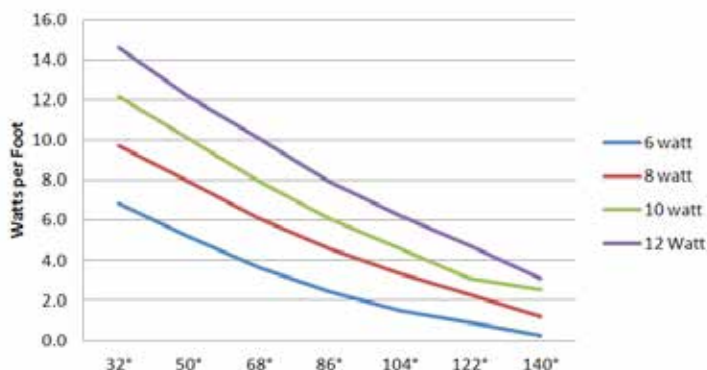


# PLSRR Heat Trace Cable Data Sheet

PLSRR is self-regulating heat cable that can be used for roof / gutter heating and pipe tracing applications. The cable features a flexible, UV-stabilized thermoplastic elastomer overjacket that protects the carbon core for wet applications and exposure to the sun. The parallel heating cable is designed for a variety of industrial applications and environments, including explosion-hazardous and nonhazardous areas, and can be used for plastic or metal pipe freeze protection and temperature maintenance of tanks, pipes and valves. The cable includes a NON-PRORATED 10-year warranty.

Technical Data for PLSRR Heat Cable	
Service voltage	110-120 V, 208-277 V
Maximum maintain or continuous exposure temperature (power on)	+149°F (65°C)
Maximum intermittent exposure temperature 1000 hours (power on/off)	+185°F (85°C)
Minimum installation temperature	-40°F (-40°C)
Protective braid resistance	<.006Ω/ft.
Bus wire gauge	16 AWG
Approvals	cULus; hazardous, CSA, ATEX, IECEx
Warranty	10 years (Not prorated)
Certifications	Class I, Div.2 Groups A, B, C, D Class II, Div.2 Groups E, F, G Class III

## Watts per foot Power Output Curves



Self-reg Cable

## ORDERING INFORMATION

PLSRR-□ - □ - □ For example: PLSRR-8-2-CR

- Outer jacket**  
C=Tinned copper braid (no outer jacket)  
R=Thermoplastic  
T=Fluoropolymer
- Supply Voltage**  
1=110-120VAC; 2=208-277 VAC
- Output Power (at 40°F)**

**Example:** PLSRR-8-2-CR =  
8 watt, 208-277 V, Thermoplastic outer jacket



Cutaway view of ProLine self-regulating heat cable.

## PLSRR Dimensions and Bend Radius

Type	Dimensions	Minimum Bend Radius
PLSRR-C	11.0 x 4.4 mm	1-inch (26 mm)
PLSRR-CR	12.6 x 6.0 mm	1.4 inches (36 mm)
PLSRR-CT	12.0 x 5.4 mm	1.25 inches (32 mm)

## Maximum Length (feet) vs Circuit Breaker Size

Cable	Startup Temp.	120 V				240 V			
		Breaker Size				15A	20A	30A	40A
PLSRR-6-1 and PLSRR-6-2	50°F (+10°C)	225	265	265	265	450	530	530	530
	0°F (-18°C)	140	190	265	265	280	375	530	530
	-20°F (-29°C)	125	165	245	265	245	325	490	530
	-40°F (-40°C)	110	145	215	265	215	290	430	530
PLSRR-8-1 and PLSRR-8-2	50°F (+10°C)	150	200	210	210	300	400	420	420
	0°F (-18°C)	100	130	200	210	200	260	400	420
	-20°F (-29°C)	85	115	175	210	170	230	350	420
	-40°F (-40°C)	75	105	160	180	150	210	320	360
PLSRR-10-1 and PLSRR-10-2	50°F (+10°C)	120	155	180	180	240	310	360	360
	0°F (-18°C)	80	110	160	180	160	215	320	360
	-20°F (-29°C)	70	95	145	180	140	190	285	360
	-40°F (-40°C)	60	85	130	170	120	170	255	340
PLSRR-12-1 and PLSRR-12-2	50°F (+10°C)	90	115	115	120	180	230	230	240
	0°F (-18°C)	65	80	90	105	125	160	180	210
	-20°F (-29°C)	45	65	80	80	90	125	160	160
	-40°F (-40°C)	45	50	60	80	85	100	120	160

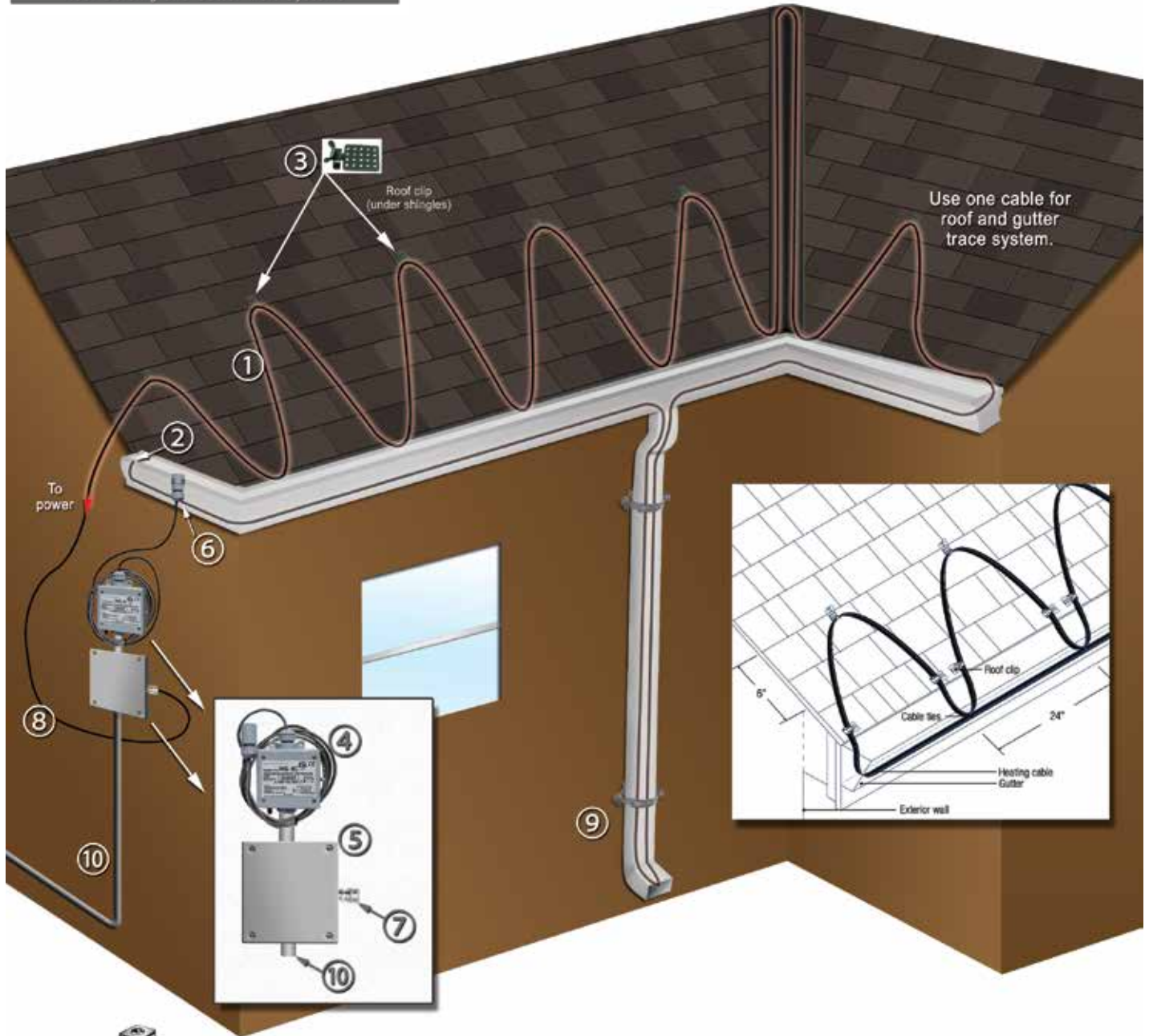
Approvals:



# Self-Regulating Heat Cable System Overview



Several roof heating options are available from ProLine Radiant. The illustration below shows the general layout of a self-regulating heat cable system, heating the roof edges, valley, gutter and downspout. For specific installation information please refer to the installation manual.



Self-reg Cable



- ① Self-regulating heat cable
- ② End seal (termination) kit
- ③ Roof cable clips (under shingles)
- ④ Snow sensor or thermostat (WS-8C sensor with inline sensor shown)
- ⑤ Mulberry or Bell weatherproof junction box
- ⑥ Remote sensor (secured with Minerallac clamp)
- ⑦ Power connection kit
- ⑧ Drip loop (prevents water from trailing into the junction box)
- ⑨ Double or single downspout hanger
- ⑩ Conduit to home



# Roof and Gutter Trace Controls

## Self-regulating Heat Trace Cable

ProLine Radiant roof deicing systems are custom designed to best serve the needs of each specific installation. In addition to the custom heating cable layout, users also have activation device/controller options for operating the system.

**WS-8C Aerial Mount Sensor** - The WS-8C activation device is designed for gutter, downspout, and roof ice melting and small satellite antenna deicing. The totally sealed, low voltage, remote-mount precipitation sensor allows the user to install the small sensor head in a downspout, the back of a gutter, or at the end of an antenna boom, up to 10 feet away from the unit so that the main controller can be installed in a more convenient outdoor location.

The unit is housed in a two gang PVC enclosure. The overall dimensions of the WS-8C are 4¾" (120 mm) x 7" (178 mm) x 2¾" (70 mm). The unit weighs 2 pounds. The user may access all electronics by removing the four front cover screws.



**WS-115 Outdoor Ambient Sensing Thermostat** - The WS-115 ambient sensing thermostat is designed to sample temperature changes in the air. The WS-115 can be used in a wide range of heating applications and can serve as a high limit backup for "sensitive" applications. The NEMA 4X rain-tight enclosure provides adequate protection in most environments. The WS-115 thermostat has a temperature range of 40°F to 110°F and can handle up to 22 amps at 277 VAC.



### WS-115 Features

- Rugged weather resistant enclosure made of corrosion resistant materials for long life.
- Stainless steel remote bulb provides rapid response to temperature change.
- Low mass, high surface area of stainless steel coiled sensor provides rapid response to temperature change.
- Large, readily visible dial with 0°F - 120°F temperature range and 40°F - 110°F.
- Multi-positional mounting offers flexibility in either new or existing installations.
- One control for both heating and cooling applications.

**WS-115R Outdoor Surface Sensing Thermostat** - The WS-115R surface sensing thermostat samples temperature changes in the surface. The sensor is typically used as a line sensing control for pipes, vessels and other types of electric heat tracing applications. Suitable for use in agricultural, industrial and commercial environments. The NEMA 4X rain-tight enclosure provides adequate protection in most environments.



### WS-115R Features

- Rugged weather resistant enclosure made of corrosion resistant materials for long life.
- Stainless steel remote bulb provides rapid response to temperature change.
- Low mass, high surface area of stainless steel coiled sensor provides rapid response to temperature change.
- Large, readily visible dial with 0°F - 120°F temperature range.
- Multi-positional mounting offers flexibility in either new or existing installations.
- One control for both heating and cooling applications.
- Complies with NEC 547 and NEMA 4X requirements.



# Roof Heating

## Cable Accessories and Connections

### PLSR14 - Roof clips

- A** Roof clips - 50 per bag



### PLSR14IR - Roof clips

- A** Insulated roof clips - 50 per bag



### PLSR15 - Downspout hanger kit

- A** Hanger bracket
- B** Clamp ties



### PLSR10 - Splice / tee kit

- A** Clamp tie
- B** Mastic strips (1½" long x 1" wide)
- C** Heat-shrinkable tube (8" long x 1" diameter)
- D** Heat-shrinkable tube (1" long x ⅜" diameter)
- E** Heat-shrinkable tube (1" long x ½" diameter)
- F** Uninsulated braid crimp
- G** Cable ties
- H** Insulated bus wire crimps
- I** Black cloth tape (6" long)
- J** Heat-shrinkable cap
- K** Heat-shrinkable tube for ground



### PLSR00 - Power connection kit - with end seal kit (PLSR12)

- A** Black-shrinkable tube (2) (5½" long x ⅜" diameter)
- B** Green-shrinkable tube (6" long x ¼" diameter)
- C** Black heat-shrinkable tube (1" long x ½" diameter)
- D** Seal fitting and black grommet
- E** Mounting bracket for piping
- F** Gasket
- G** Lock nut
- H** Grommet
- I** Wire nuts (3)
- J** Labels (4)



### PLSR Cable Accessories and Controls

Item Number	Description
PLSR00-Roof	Power connection kit
PLSR03-Aluminum	Aluminum application tape
PLSR03-Fiberglass	Fiberglass application tape
PLSR08	Plug-in cord set, 120 V GFCI, 125 ft. maximum run length
PLSR10	Splice / tee kit
PLSR12	End seal kit
PLSR12L	End seal with light (can be used at beginning or end)
PLSR14	Roof clips - 50/bag
PLSR-14IR	Insulated roof clips - 50/bag
PLSR15	Downspout hanger kit
WS-115	Air sensing NEMA 4X outdoor thermostat 120/240 V
WS-115R	Surface sensing NEMA 4X outdoor thermostat
WS-8C	Aerial mounted snow switch with remote moisture sensor (30 amps; 120-277 V)



*ProLine Radiant roof deicing and gutter trace systems can eliminate the build up of snow and ice, and protect homes from water damage due to ice dams. Gutters and downspouts are also protected from the damaging effects of heavy ice.*

# Why ProLine Heat Trace Cable?

ProLine self-regulating heat cable features a more flexible outer jacket and more durable carbon core than other leading brands of self-reg cable. These features provide more consistent performance, longer lifespan, and easier installation in cold temperatures.

## Key Features of ProLine Self-regulating Heat Cable vs. Other Cable Brands

### Outer Jacket Quality

#### Typical Self-regulating Heat Cable

The outer jacket of typical self-reg cable tends to “bubble” or separate from the cable core when the cable is manipulated for turns. These irregularities create stress points on the cable that can result in water reaching the core, leading to erratic heating and eventual cable failure.



#### Other Leading Brands of Self-regulating Cable

The outer jacket of most self-regulating heat cable separates from the core at a typical bend radius of 2 inches.

#### ProLine Self-regulating Heat Cable

ProLine self-regulating heat cable features a higher quality outer jacket that does not “bubble”. This reduces the chances of water seepage and cable failure.



#### ProLine Radiant Self-regulating Heat Cable

ProLine self-regulating heat cable does not “bubble” at an even tighter bend radius of 1½ inches.

### Installation at Low Temperatures

#### Typical Self-regulating Heat Cable

Typical self-regulating cable has a minimum installation temperature of 32-40°F. This is because the carbon in the cable becomes brittle and can easily break when bent or manipulated at low temperatures.

The outer jacket also becomes stiff, making the securing of cable to the pipes difficult during cold weather installations. The outer jacket tends to “pucker” and pull away from the core when making bends, compromising the cable’s integrity and leading to cable failure. Therefore installing most self-regulating heat cable at temperatures below 40°F is not recommended.



*ProLine self-regulating heat cable and plug with GFCI.*

#### ProLine Self-regulating Heat Cable

ProLine self-regulating cable features a higher quality carbon center that is more resilient in low temperatures, thereby allowing the cable to be safely installed at temperatures as low as 0°F.

The higher quality outer jacket also remains flexible at low temperatures, resulting in more reliable performance and easier installation when securing to various pipe trace applications.

*“In all the years I’ve been installing radiant heating systems, I’ve noticed that “bubbles” in the outer jacket of the cable almost always result in a point of failure. The superior outer jacket of ProLine’s self-reg cable helps to eliminate this problem.”*

– Eric W., Licensed Contractor