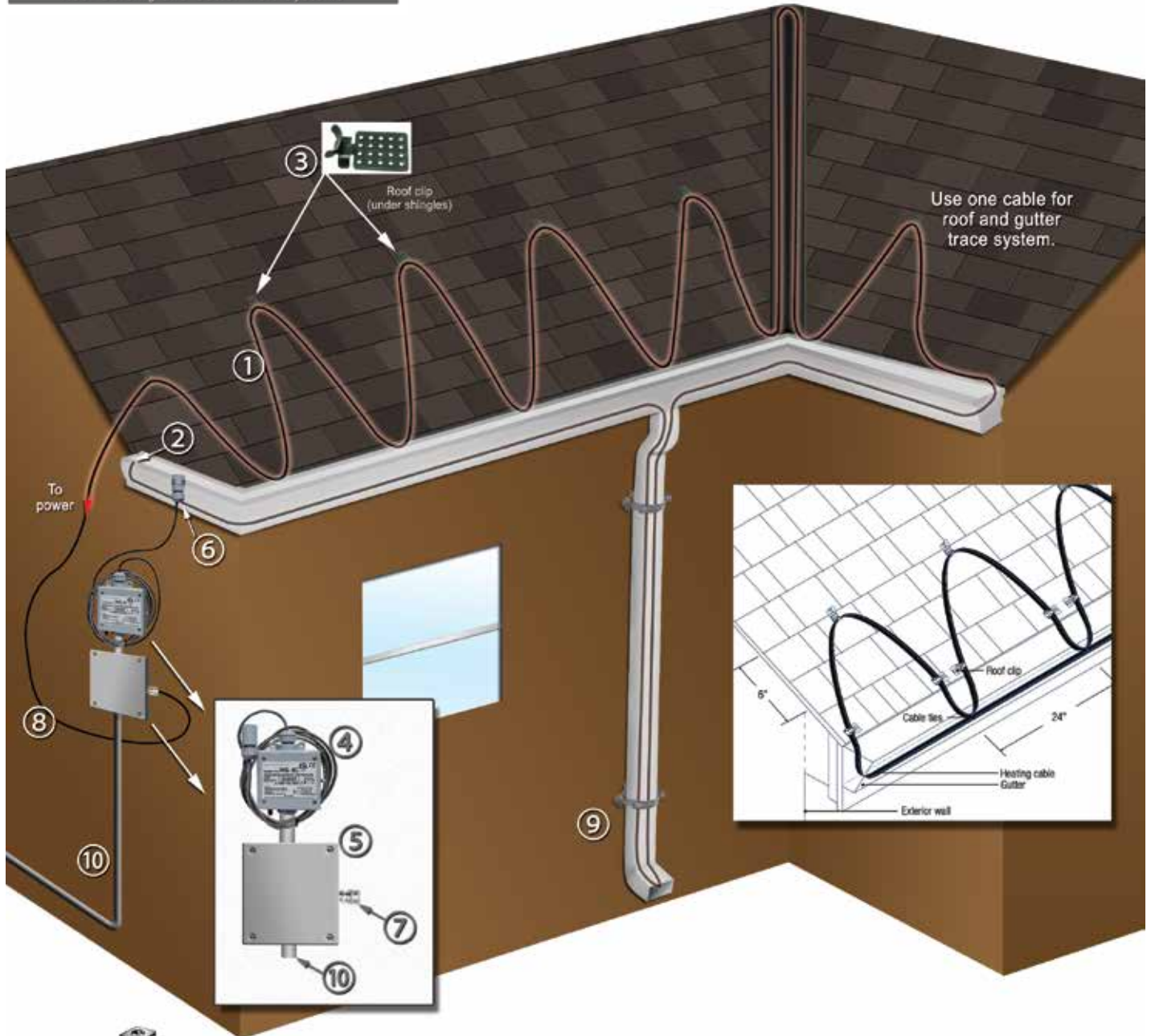


Self-Regulating Heat Cable System Overview



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, manufactured for superior performance (under shingles)
- ④ Snow sensor or thermostat (WS-8 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

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

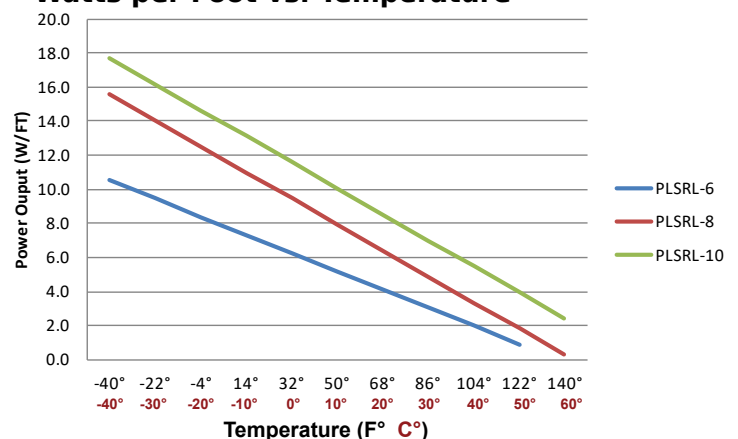


PLSRL Heat Trace Cable Data Sheet

PLSRL self-regulating heat cable is the cable of choice for roof heating and gutter trace applications. The cable features a flexible outer jacket and durable carbon core, providing consistent performance, long lifespan, and easy installation in cold temperatures.

Technical Data for PLSRL 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 1,000 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	cUL; ATEX, IECEx
Warranty	2 years (Not prorated)

Power Output Curves Watts per Foot vs. Temperature



Maximum Length (feet) vs Circuit Breaker Size

Cable	Startup Temp.	120 V				240 V			
		15A	20A	30A	40A	15A	20A	30A	40A
PLSRL-6-1 and PLSRL-6-2	50°F (+10°C)	230	270	270	270	460	540	540	540
	32°F (0°C)	230	270	270	270	460	540	540	540
	14°F (-10°C)	180	210	270	270	360	420	540	540
	0°F (-18°C)	140	190	270	270	285	380	540	540
	-20°F (-29°C)	125	165	250	270	250	330	500	540
-40°F (-40°C)	110	145	220	270	220	295	440	540	
PLSRL-8-1 and PLSRL-8-2	50°F (+10°C)	150	200	210	210	300	400	420	420
	32°F (0°C)	150	200	210	210	300	400	420	420
	14°F (-10°C)	140	150	205	210	280	300	410	420
	0°F (-18°C)	100	130	200	210	200	265	400	420
	-20°F (-29°C)	85	115	175	210	175	235	350	420
-40°F (-40°C)	80	105	155	210	155	210	315	420	
PLSRL-10-1 and PLSRL-10-2	50°F (+10°C)	120	160	180	180	240	315	360	360
	32°F (0°C)	105	140	170	180	210	280	340	360
	14°F (-10°C)	95	125	165	180	190	250	330	360
	0°F (-18°C)	80	110	160	180	160	215	325	360
	-20°F (-29°C)	70	95	140	180	145	190	285	360
-40°F (-40°C)	60	85	125	170	125	170	255	340	

ORDERING INFORMATION

PLSRL- □ - □ - □ For example: PLSRL-6-2-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: PLSRL-6-2-CR =
6 watt, 208-277 V, Thermoplastic outer jacket



ProLine self-regulating heat cable.

PLSRL Cable Dimensions

Type	Dimensions	Minimum Bend Radius
PLSRL-CR	10.9 x 6.0 mm	1.4 inches (36 mm)

Approvals:

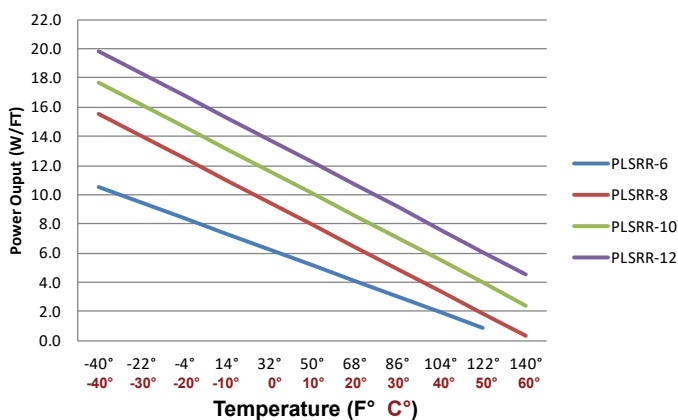


PLSRR Heat Trace Cable Data Sheet

PLSRR is self-regulating heat cable that can be used for roof/gutter 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. (Features 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 1,000 hours (power on/off)	+185°F (85°C)
Minimum installation temp.	-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

Power Output Curves Watts per Foot vs. Temperature



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.

Maximum Length (feet) vs Circuit Breaker Size

Cable	Startup Temp.	120 V				240 V			
		15A	20A	30A	40A	15A	20A	30A	40A
PLSRR-6-1 and PLSRR-6-2	50°F (+10°C)	230	270	270	270	460	540	540	540
	32°F (0°C)	230	270	270	270	460	540	540	540
	14°F (-10°C)	180	210	270	270	360	420	540	540
	0°F (-18°C)	140	190	270	270	285	380	540	540
	-20°F (-29°C)	125	165	250	270	250	330	500	540
PLSRR-8-1 and PLSRR-8-2	50°F (+10°C)	150	200	210	210	300	400	420	420
	32°F (0°C)	150	200	210	210	300	400	420	420
	14°F (-10°C)	140	150	205	210	280	300	410	420
	0°F (-18°C)	100	130	200	210	200	265	400	420
	-20°F (-29°C)	85	115	175	210	175	235	350	420
PLSRR-10-1 and PLSRR-10-2	50°F (+10°C)	120	160	180	180	240	315	360	360
	32°F (0°C)	105	140	170	180	210	280	340	360
	14°F (-10°C)	95	125	165	180	190	250	330	360
	0°F (-18°C)	80	110	160	180	160	215	325	360
	-20°F (-29°C)	70	95	140	180	145	190	285	360
PLSRR-12-1 and PLSRR-12-2	50°F (+10°C)	80	140	150	150	160	270	310	310
	32°F (0°C)	75	130	145	150	150	260	290	310
	14°F (-10°C)	70	115	142	150	140	230	285	310
	0°F (-18°C)	60	80	140	150	120	160	280	310
	-20°F (-29°C)	50	65	110	150	105	140	225	310
-40°F (-40°C)	45	60	90	140	90	125	190	280	

Approvals:



PLSRR Dimensions and Bend Radius

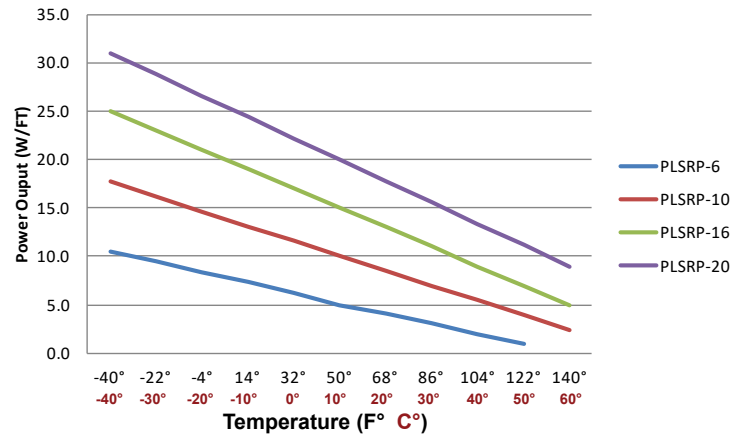
Type	Dimensions	Minimum Bend Radius
PLSRR-C	11.0 x 4.4 mm	1-inch (26 mm)
PLSRR-CR	12.6 x 6.0 mm	1.4 inches (36 mm)
PLSRR-CT	12.0 x 5.4 mm	1.25 inches (32 mm)

PLSRP Medium Temp Heat Trace Cable

PLSRP self-regulating heat cable is an industrial grade self-regulating heat trace cable designed for pipe trace applications. The cable features a flexible outer jacket and durable carbon core, providing consistent performance, long lifespan, and easy installation in cold temperatures.

Technical Data for PLSRP Heat Cable	
Service voltage	110-120 V, 208-277 V
Maximum maintain or continuous exposure temperature (power on)	+230°F (110°C)
Maximum intermittent exposure temperature 1,000 hours (power on/off)	+275°F (135°C)
Minimum installation temperature	-22°F (-30°C)
Protective braid resistance	<.006Ω/ft.
Bus wire gauge	16 AWG (6 and 10 W/ft.) 14 AWG (16 and 20 W/ft.)
Approvals	Hazardous, IECEx
Warranty	10 years

Power Output Curves Watts per Foot vs. Temperature



ORDERING INFORMATION

PLSRP-□ - □ - □ For example: PLSRP-10-2-CT

Outer jacket
T=Fluoropolymer

Supply Voltage
1=110-120VAC; 2=208-277 VAC

Output Power (at 40°F)

Example: PLSRP-10-2-CT =
10 watt, 208-277 V, Fluoropolymer outer jacket

NOTE: This product is a special order item. Please contact ProLine for more details.



PLSRP Dimensions and Bend Radius

Type	Dimensions	Minimum Bend Radius
PLSRP-CT	12.4 x 4.8 mm	1.10 inches (28 mm)

Maximum Length (feet) vs Circuit Breaker Size

Cable	Startup Temp.	120 V				240 V			
		15A	20A	30A	40A	15A	20A	30A	40A
PLSRP-6-1 and PLSRP-6-2	50°F (+10°C)	195	195	195	195	390	390	390	390
	32°F (0°C)	195	195	195	195	390	390	390	390
	14°F (-10°C)	195	195	195	195	370	390	390	390
	0°F (-18°C)	170	185	195	195	340	370	390	390
	-20°F (-29°C)	160	170	195	195	320	340	390	390
PLSRP-10-1 and PLSRP-10-2	50°F (+10°C)	100	130	195	195	200	265	390	390
	32°F (0°C)	95	120	185	195	190	240	370	390
	14°F (-10°C)	90	110	175	195	180	220	350	390
	0°F (-18°C)	80	105	160	195	160	210	320	390
	-20°F (-29°C)	70	95	145	195	145	195	295	390
PLSRP-16-1 and PLSRP-16-2	50°F (+10°C)	75	100	150	200	160	210	320	340
	32°F (0°C)	70	90	140	190	140	190	280	340
	14°F (-10°C)	65	85	130	170	135	175	260	340
	0°F (-18°C)	60	80	120	160	125	170	255	340
	-20°F (-29°C)	55	70	110	145	115	155	235	315
PLSRP-20-1 and PLSRP-20-2	50°F (+10°C)	60	80	120	160	120	160	240	320
	32°F (0°C)	55	75	110	150	110	150	220	300
	14°F (-10°C)	50	70	100	135	100	140	200	270
	0°F (-18°C)	45	60	95	125	95	125	190	255
	-20°F (-29°C)	40	55	85	115	85	115	175	235
-40°F (-40°C)	40	55	80	110	80	110	165	220	

Approvals:

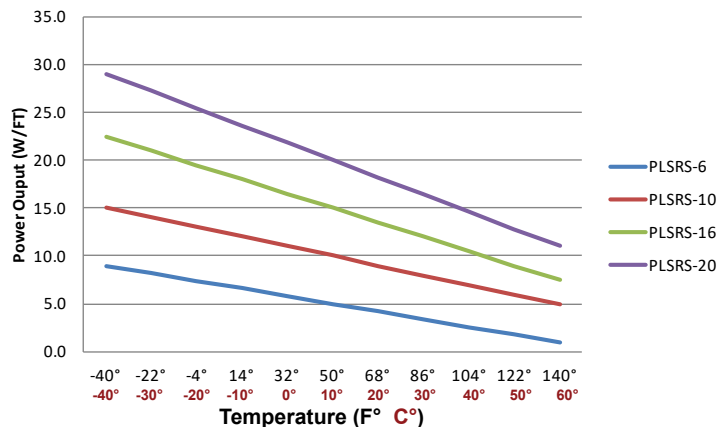


PLSRS High Temp Heat Trace Cable

PLSRS is an industrial grade self-regulating heat cable is designed for pipe trace applications. The cable features a flexible outer jacket and durable carbon core, providing consistent performance, long lifespan, and easy installation in cold temperatures.

Technical Data for PLSRS Heat Cable	
Service voltage	110-120 V, 208-277 V
Maximum maintain or continuous exposure temperature (power on)	+248°F (120°C)
Maximum intermittent exposure temperature 1,000 hours (power on/off)	+392°F (200°C)
Minimum installation temperature	-22°F (-30°C)
Protective braid resistance	<.006Ω/ft.
Bus wire gauge	16 AWG
Approvals	Hazardous, ATEX, IECEx
Warranty	10 years

Power Output Curves Watts per Foot vs. Temperature



PLSRS Dimensions and Bend Radius

Type	Dimensions	Minimum Bend Radius
PLSRS-CT	10.2 x 4.6 mm	1.06 inches (27 mm)

Maximum Length (feet) vs Circuit Breaker Size

Cable	Startup Temp.	120 V				240 V			
		15A	20A	30A	40A	15A	20A	30A	40A
PLSRS-6-1 and PLSRS-6-2	50°F (+10°C)	180	240	360	385	360	480	720	765
	32°F (0°C)	180	240	360	385	360	480	720	765
	14°F (-10°C)	170	220	340	385	340	440	680	765
	0°F (-18°C)	160	210	320	385	315	420	625	765
	-20°F (-29°C)	150	200	305	385	300	395	595	765
PLSRS-10-1 and PLSRS-10-2	50°F (+10°C)	110	145	220	270	220	295	440	540
	32°F (0°C)	110	145	220	270	220	295	440	540
	14°F (-10°C)	100	140	205	265	200	280	410	540
	0°F (-18°C)	95	130	195	260	195	260	385	540
	-20°F (-29°C)	95	125	190	250	195	250	370	540
PLSRS-16-1 and PLSRS-16-2	50°F (+10°C)	75	100	160	160	140	200	315	315
	32°F (0°C)	75	100	160	160	140	200	315	315
	14°F (-10°C)	70	100	160	160	135	200	315	315
	0°F (-18°C)	65	95	150	160	130	175	275	315
	-20°F (-29°C)	60	90	145	160	125	165	260	315
PLSRS-20-1 and PLSRS-20-2	50°F (+10°C)	55	85	130	140	115	155	245	275
	32°F (0°C)	55	85	130	140	115	155	245	275
	14°F (-10°C)	50	80	125	140	100	140	220	275
	0°F (-18°C)	50	80	120	140	100	140	215	275
	-20°F (-29°C)	45	75	115	140	90	130	205	275
-40°F (-40°C)	45	70	110	140	90	125	190	265	

ORDERING INFORMATION

PLSRS-□-□-□ For example: PLSRS-10-2-CT

Outer jacket
T=Fluoropolymer

Supply Voltage
1=110-120VAC; 2=208-277 VAC

Output Power (at 40°F)

Example: PLSRS-10-2-CT =
10 watt, 208-277 V, Fluoropolymer outer jacket

NOTE: This product is a special order item. Please contact ProLine for more details.



PLSRS self-regulating pipe trace cable.

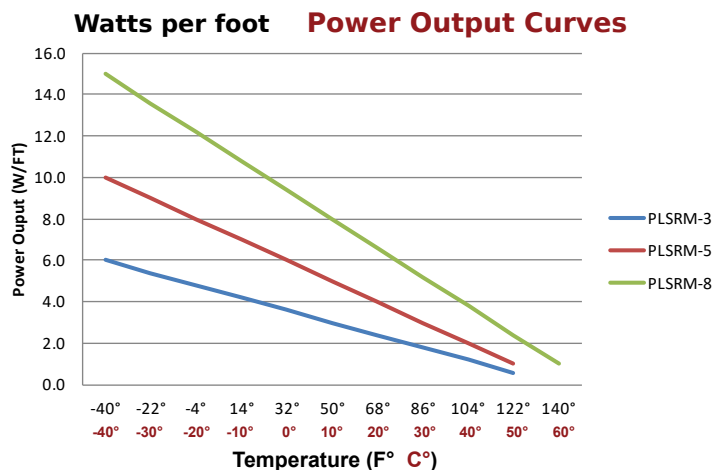
Approvals:



PLSRM Heat Trace Cable Data Sheet

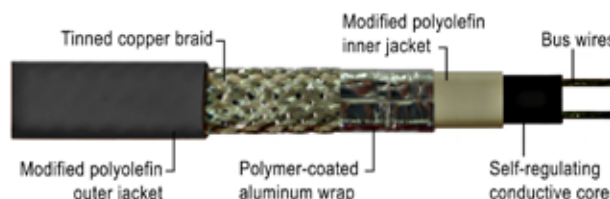
PLSRM self-regulating heat cable is designed for pipe trace applications. The cable provides safe, reliable heat tracing for freeze protection or temperature maintenance of pipes, valves, and flanges, etc. PLSRM heat cable is suitable for use on small diameter plastic or metal pipes and instrument tubing in residential and light commercial applications. The heat cable features a flexible outer jacket and durable carbon core, providing consistent performance, long lifespan, and easy installation in cold temperatures.

Technical Data for PLSRM 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 1,000 hours (power on/off)	+185°F (85°C)
Minimum installation temperature	-40°F (-40°C)
Protective braid resistance	<.006Ω/ft.
Bus wire gauge	22 AWG
Approvals	ETL
Warranty	2 years



PLSRM Dimension and Bend Radius

Type	Dimensions	Minimum Bend Radius
PLSRM-C	6.4 x 4.1 mm	.99-inch (25 mm)
PLSRM-CR	8.3 x 5.7 mm	1.3 inches (34 mm)



Cutaway view of PLSRM self-regulating heat cable.



Maximum Length (feet) vs Circuit Breaker Size

Heat Cable	Startup Temp.	120 V				240 V			
		15A	20A	30A	40A	15A	20A	30A	40A
PLSRM-3-1 and PLSRM-3-2	50°F (+10°C)	160	160	160	160	320	320	320	320
	32°F (0°C)	160	160	160	160	320	320	320	320
	14°F (-10°C)	130	160	160	160	260	320	320	320
	0°F (-18°C)	120	140	160	160	240	280	320	320
	-20°F (-29°C)	107	133	160	160	214	266	320	320
PLSRM-5-1 and PLSRM-5-2	50°F (+10°C)	127	133	133	133	254	266	266	266
	32°F (0°C)	127	133	133	133	254	266	266	266
	14°F (-10°C)	105	120	133	133	210	240	266	266
	0°F (-18°C)	93	113	133	133	186	226	266	266
	-20°F (-29°C)	80	107	120	133	160	214	240	266
PLSRM-8-1 and PLSRM-8-2	50°F (+10°C)	87	113	113	113	174	226	226	226
	32°F (0°C)	87	113	113	113	174	226	226	226
	14°F (-10°C)	80	90	113	113	160	180	226	226
	0°F (-18°C)	69	80	105	113	138	160	210	226
	-20°F (-29°C)	63	73	95	113	126	146	190	226
-40°F (-40°C)	53	67	80	113	106	134	160	226	

ORDERING INFORMATION

PLSRM-□-□-□ For example: PLSRM-5-2-CR

Outer jacket

C=Tinned copper braid (no outer jacket)
R=Thermoplastic

Supply Voltage

1=110-120VAC; 2=208-277 VAC

Output Power (at 40°F)

Example: PLSRM-5-2-CR = 5 watt, 208-277 V, Thermoplastic outer jacket

NOTE: This product is a special order item. Please contact ProLine for more details.

Pre-Assembled Heat Trace Cable

ProLine pre-assembled (pre-terminated) self-regulating heat cable is the premier solution for quick, easy installation for roof and gutter heating and pipe trace applications. The 120 volt pre-assembled plug-and-play kits come with the option of a standard power cord with or without a GFCI power plug. The termination, power connection, splice, tee, and end seal kit reduces installation time and requires no special skills or tools.

PLSRT-1 120 V Pre-Assembled Heat Cable

ProLine PLSRT-120 pre-assembled self-regulating heating cable is designed for commercial metal and plastic pipe protection and roof and gutter deicing applications. The 120-volt heating cables are available in 6, 12, 18, 24, 50, 75, 100, 125 and 150-foot lengths, and each comes assembled with a 6-foot power cord and plug.

PLSRT-1 heating cables may be used on:

- Roofs made from all types of standard roofing materials, including shake, shingle, rubber, tar, wood, metal, and plastic.
- Gutters made from standard materials, including metal and plastic.
- Downspouts made from standard materials, including metal and plastic.



ProLine 120 V pre-terminated self-regulating heat cable.

Self-reg Cable

PLSRT-1 General Specifications (110-120 V)

Nominal cable width	½-inch (12.7 mm)
Nominal cable thickness	.24-inch (6.1 mm)
Bus wire gauge	16 AWG
Circuit breaker size	15 amps
Plug rating	15 amps
Maximum exposure temperature	150°F (65°C)
Minimum installation temperature	-40°F (-40°C)
Voltage rating	110-120 V
Protective braid resistance	< 18.2Ω/km
Cold lead length	6 feet with plug
Electrical classification	Non-hazardous; ordinary areas
Exposure to chemicals	None

PLSRT-2 General Specifications (208-277 V)

Nominal cable width	½-inch (12.7 mm)
Nominal cable thickness	.24-inch (6.1 mm)
Bus wire gauge	18 AWG
Circuit breaker size	15 amps
Cold lead length	6 feet
Maximum exposure temperature	150°F (65°C)
Minimum installation temperature	-40°F (-40°C)
Voltage rating	208-277 V
Electrical classification	Non-hazardous; ordinary areas
Exposure to chemicals	None

PLSRT-2 240 V Pre-Assembled Heat Cable

PLSRT-2 240-volt pre-assembled electric heating cable is intended for installation on metal or plastic water pipes for freeze protection in commercial locations. PLSRT-2 heating cable is available in 6, 12, 18, 24, 50, 75, 100, 125, 150, 175 and 200-foot lengths with a 6-foot power cord.

General Instructions

Install only in accessible locations; do not install behind walls or where the cable would be hidden.

Do not run the heating cable through walls, ceilings, or floors.

Connect only to ground-fault protected outlets that have been installed in accordance with all prevailing national and local codes and standards and are protected from rain and other water.

General Usage Guidelines

- ProLine Radiant pre-terminated heating cables are not intended for use on flexible vinyl tubing (such as garden hoses).
- The heating cables should not be used inside any pipes.
- PLSRT pre-assembled heat cable is not intended for freeze protection of liquids other than water or for use in locations classified as 'hazardous'.
- Use a minimum of ½-inch fire-resistant, waterproof thermal insulation when installing the PLSRT heat cable on pipes.
- Never use the heat cable on pipes that may exceed 150°F (65°C).
- Do not use an extension cord with the heat cable.

Pre-assembled Heat Cable Selection Chart for Pipes

For commercial/industrial heat trace cable selection, contact ProLine at 866.676.9276.

PLSRT-1 Pre-assembled Heat Cable

PLSRT-	1-6	1-12	1-18	1-24	1-50	1-75	1-100	1-125	1-150
Cable length in feet (meters)	6 (1.8)	12 (3.7)	18 (5.5)	24 (7.3)	50 (15.2)	75 (22.9)	100 (30.5)	125 (38.1)	150 (45.7)
Min. power output at 40°F (5°C) (watts)	36	72	108	144	300	450	600	750	900
Nominal power output at 0°F/-18° (-8°C) (watts)	48	96	144	192	400	600	800	1,000	1,200

A	PLSRT-1-6	B	PLSRT-1-12	C	PLSRT-1-18	D	PLSRT-1-24	E	PLSRT-1-50	F	PLSRT-1-75	G	PLSRT-1-100	Metal Pipes	Plastic Pipes
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Pipe Diameter	Pipe Length (in feet)																					
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
½-inch (12.7 mm)	M	A	B	C	D	E	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	G
	P	A	B	C	D	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	G	G
1-inch (25.4 mm)	M	A	B	C	D	E	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	G
	P	B	B	C	D	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	G	-
1½-inch (28.1 mm)	M	A	B	C	D	E	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	G
	P	B	C	D	E	E	E	E	F	F	G	G	G	G	G	-	-	-	-	-	-	-
2-inch (12.7 mm)	M	A	B	C	D	E	E	E	E	E	F	F	F	F	F	F	G	G	G	G	G	-
	P	B	B	E	E	E	F	F	G	G	G	G	-	-	-	-	-	-	-	-	-	-
2½-inch (12.7 mm)	M	A	B	C	D	E	E	E	E	E	F	F	F	F	F	G	G	G	G	G	-	-
	P	B	D	E	E	F	F	F	G	G	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: Add 1 foot to the pipe length for each valve or spigot on your pipe system. If cable selected is longer than the pipe, spiral it evenly along the entire pipe.

PLSRT-2 Pre-assembled Heat Cable

Cable (Item Number)	Cable length in feet (meters)	Min. power output at 40°F (5°C) (watts)	Nominal power output at 0°F (-18°C) (watts)	Max. current draw on a pipe at 40°F (5°C) (amps)	Max. current draw on a pipe at 0°F (-18°C) (amps)
PLSRT-2-6	6 (1.8)	36	48	0.21	0.32
PLSRT-2-12	12 (3.7)	72	96	0.43	0.64
PLSRT-2-18	18 (5.5)	108	144	0.64	0.96
PLSRT-2-24	24 (7.3)	144	192	0.85	1.28
PLSRT-2-50	50 (15.2)	300	400	1.78	2.67
PLSRT-2-75	75 (22.9)	450	600	2.67	4.00
PLSRT-2-100	100 (30.5)	600	800	3.56	5.33
PLSRT-2-125	125 (38.1)	750	1,000	4.45	6.67
PLSRT-2-150	150 (45.7)	900	1,200	5.34	8.00
PLSRT-2-175	175 (53.3)	1,050	1,400	6.23	9.33
PLSRT-2-200	200 (61.0)	1,200	1,600	7.12	10.67

ProLine Radiant 120 V pre-terminated self-regulating heat cable with and without a ground fault circuit interrupter (GFCI).





Constant Wattage Heat Trace Cable

PLCW Roof, Gutter and Pipe Heating

The PLCW constant wattage heat trace cable is pre-assembled and ready to install. The cable can be used to prevent pipes from freezing and keep water flowing on roofs and gutters in temperatures as cold as -40°F (-40°C).

Using an energy saving thermostat, PLCW cables operate on 120/240 volts AC and are suitable for use on plastic and metal water pipes.

This quality system features components that are made of the highest quality material and tested during critical points in the manufacturing process.

The PLCW Series system is easy to buy and install in various cable length increments to accommodate many pipe lengths with diameters up to 1.5 inches.

Features

- Each cable consists of tough XLPE inner insulation, AL foil, a continuous ground braid, and a weather resistant PVC (high-low temperature) outer jacket.
- Includes advanced, energy saving thermostat.
- Comes pre-assembled, facilitating quick, easy installation.
- Can keep water flowing in temperatures as cold as -40°F (-40°C).
- Indicator light in plug (PLCW-7-1)
- 3-year limited warranty

The PLCW Series system is easy to install for a variety of pipe lengths with diameters up to 1.5 inches.



Heat Cable

ORDERING INFORMATION

PLCW-5 Item Number	Voltage	Cable Length	Output W/foot	Watts	Amps	Ohms
PLCW-5-1-20	120 V	20	5	100	0.8	144.0
PLCW-5-1-30	120 V	30	5	150	1.3	96.0
PLCW-5-1-60	120 V	60	5	300	2.5	48.0
PLCW-5-1-80	120 V	80	5	400	3.3	36.0
PLCW-5-1-100	120 V	100	5	500	4.2	28.8
PLCW-5-1-120	120 V	120	5	600	5.0	24.0
PLCW-5-1-160	120 V	160	5	800	6.7	18.0
PLCW-5-1-200	120 V	200	5	1,000	8.3	14.4
PLCW-5-1-240	120 V	240	5	1,200	10.0	12.0

PLCW-7 Item Number	Voltage	Cable Length	Output W/foot	Watts	Amps	Ohms
PLCW-7-1-3	120 V	3	7	21	0.2	685.7
PLCW-7-1-6	120 V	6	7	42	0.4	342.9
PLCW-7-1-9	120 V	9	7	63	0.5	228.6
PLCW-7-1-12	120 V	12	7	84	0.7	171.4
PLCW-7-1-15	120 V	15	7	105	0.9	137.1
PLCW-7-1-18	120 V	18	7	126	1.1	114.3
PLCW-7-1-24	120 V	24	7	168	1.4	85.7
PLCW-7-1-30	120 V	30	7	210	1.8	68.6
PLCW-7-1-40	120 V	40	7	280	2.3	51.4
PLCW-7-1-60	120 V	60	7	420	3.5	34.3
PLCW-7-1-80	120 V	80	7	560	4.7	25.7

PLCW General Specifications

	5 Watt	7 Watt
Cable construction	Twin conductor	Twin conductor
Rated voltage	120 VAC	120/240 VAC
Output	5W/ft.	7 W/ft.
Heating element size	20-240 feet	3-80 feet
Bending radius	1 inch	1 inch
Conductor insulation	XLPE	XLPE
Outer insulation	PVC	PVC
Minimum installation temperature	32°F (0°C)	15°F (-10°C)
Cold lead	6 ft. length 18/3 with plug	6 ft. length 18/3 (120 V with plug)

PLCW-7 Item Number	Voltage	Cable Length	Output W/foot	Watts	Amps	Ohms
PLCW-7-2-6	240 V	6	7	42	0.2	1371.4
PLCW-7-2-9	240 V	9	7	63	0.3	914.3
PLCW-7-2-12	240 V	12	7	84	0.4	685.7
PLCW-7-2-15	240 V	15	7	105	0.5	548.6
PLCW-7-2-18	240 V	18	7	126	0.6	457.1
PLCW-7-2-24	240 V	24	7	168	0.7	342.9
PLCW-7-2-30	240 V	30	7	210	0.9	274.3
PLCW-7-2-40	240 V	40	7	280	1.2	205.7
PLCW-7-2-60	240 V	60	7	420	1.8	137.1
PLCW-7-2-80	240 V	80	7	560	2.4	102.9

* This is a special order item. Please contact ProLine for more details.



ProLine Cable Selection Guide

Heat Cable	Voltage	Application	Max. maintain temp	Max. exposure temp	Output at 40°F (watts)	Certification
Self-regulating Heat Cable						
PLSRL	110-120 V 208-277 V	Roof and gutter deicing in commercial and residential applications	149°F (65°C)	185°F (85°C)	6,8,10	Non-hazardous
PLSRR	110-120 V 208-277 V	Pipe heating and roof and gutter deicing in commercial and industrial applications	149°F (65°C)	185°F (85°C)	6,8,10,12	Class I, Div.2* Groups A,B,C,D; Class II, Div.2 Groups E, F, G; Class III, T-coded (T5 or T6) *C1D1 soon
PLSRP	110-120 V 208-277 V	Industrial pipe and tank heating applications	230°F (110°C)	275°F (135°C)	6,10,16,20	Class I, Div.2* Groups A,B,C,D; Class II, Div.2 Groups E, F, G; Class III, T-coded (T5 or T6) *C1D1 soon
PLSRS	110-120 V 208-277 V	Industrial pipe and tank heating applications	248°F (120°C)	392°F (200°C)	6,10,16,20	Class I, Div.2* Groups A,B,C,D; Class II, Div.2 Groups E, F, G; Class III, T-coded (T5 or T6) *C1D1 soon
PLSRM	110-120 V 208-277 V	Residential water pipe heating applications	149°F (65°C)	185°F (85°C)	3,5,8	Non-hazardous
Pre-assembled Self-regulating Heat Cable (Pre-terminated)						
PLSRT	110-120 V 208-277 V	Roof and gutter deicing and metal and plastic pipe protection in commercial and residential applications	149°F (65°C)	149°F (65°C)	6	Non-hazardous
Constant Wattage Heat Cable Kits						
PLCW-5	120 V	Roof and gutter deicing in commercial and residential applications			5	Non-hazardous
PLCW-7	120-240 V	Pipe heating in commercial and residential applications			7	Non-hazardous



Pipe Trace Controls

ProLine offers state-of-the-art, custom engineered control panels designed for your specific requirements. ProLine controllers continuously monitor your heat tracing system and provide you with user-settable alarms for temperature, heater current and ground fault current (all independent of the trip levels) to maintain your heat trace system and warn you of potential problems. This advanced heat trace system offers local, group and central computer interfaces.

Features and Benefits Include:

Alarm Outputs and Early Warning Alarm - Alarm alerts users to problems, even when the circuit is not in use.

Modbus® Protocol - Allows easy interfacing with the master controller software and links to PLC and DCS systems.

Statistics Monitoring - Plant-wide Windows-based monitoring software allows users to save energy by monitoring peak demand times. Provides energy monitoring tools through the measured values of heater utilization, power consumption (MWh), and operating costs.

Staggerstart (Power Limiting) - Limits initial startup power.

Proportional Control - Provides tight process temperature control.

Custom Configured Software Interface - Local, remote, or centralized control and monitoring are available, as well as standalone control and multi-point control panels.

Switching Unit Options - Solid state or mechanical.

Easy to read Display - 2x16-character alphanumeric display (field mounted or remote mounted).

Friendly Interface and Easy to read Display - Local and Remote interface choices are available. The Local Interface communicates with a single controller of up to 10 circuits and up to five feet away. The Remote Interface communicates with multiple controllers (up to 30 controllers or 300 circuits), to a maximum of 4,000 feet without repeaters.

RS 485 Serial Port Connections

Load Shedding - A master override input allows for external control for load-shedding or ambient control.

Advanced Control

The advanced features of this controller allow it to handle single-phase to three-phase heat trace applications with switch ratings up to 100A at 600 VAC. Integral user-settable ground fault trip protects the heat trace without costly ground fault breakers. The user-settable ground fault test function lets you know if ground fault monitoring is functioning properly. The RTD



inputs (dual RTD inputs available) have a user-settable fail-safe strategy.

Master Controller Centralized Monitoring

For plant-wide monitoring, the master controller for windows software package provides programming and monitoring for ProLine heat tracing controllers on your PC. Process setpoints and alarm levels are programmed for each heater through the computer keyboard, reducing data entry on large systems. Setpoint programming and configuration functions are password protected. By connecting individual modules or panels together, heat tracing throughout an entire plant can be programmed and monitored from a single location.



Pipe Trace

Cable Accessories and Connections



Item Code and Description	Components	
PLSR-PTBO - Multiple entry power connection kit and junction box	Multiple entry octagon power connection kit with J-Box; hazardous locations, NEMA 4X	
PLSR-JHE - End seal kit (hazardous locations)	A Seal plate for main box B Main end seal box C Grommets D Label	
PLSR-JHS - Inline splice tee kit; (hazardous locations)	A Main box B Pressure seal end C Grommets D Gaskets for main box E Cover for main box F Label	
PLSR-JHT - Tee splice (hazardous locations)	A Main box B Pressure seal end C Grommets D Gaskets for main box E Cover for main box F Label	
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 ⅛" diameter) E Heat-shrinkable tube (1" long x ½" diameter) F Uninsulated braid crimp G Heat-shrinkable tube for ground H Insulated bus wire crimps I Black cloth tape (6" long) J Heat-shrinkable cap K Cable ties	
PLSR00 - Power connection kit with single end seal	A Black-shrinkable tube (2) (5½" long x ⅛" diameter) B Green-shrinkable tube (6" long x ¼" diameter) C Black-shrinkable tube (1" long x ½" diameter) D Seal fitting and grommet E Mounting bracket for piping F Gasket G Lock nut H Grommet I Wire nuts (3) J Labels (4)	
PLSR03 - Fiberglass or aluminum tape	A Roll of tape B Ten (10) Warning labels	
PLSR12 - End seal kit	A Heat shrinkable tubes (2) B Woven braids (2) B Heat shrink end caps (2)	

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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

PLSR12 - End seal kit

- A** Heat shrinkable tubes (2)
- B** Woven braids (2)
- C** Heat shrink end caps (2)

PLSR14 - Roof clips

- A** 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 single end seal

- 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, 100 ft. maximum run length
PLSR10	Splice / tee kit
PLSR12	End seal kit (2 end seals)
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.

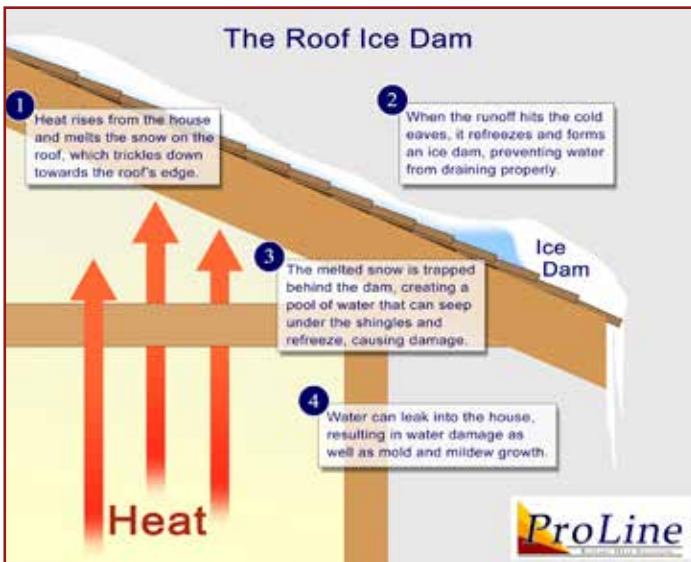


Low-Voltage Roof Deicing Systems



ProLine's Industry Leading Roof Deicing System

ProLine's innovative low-voltage roof deicing systems feature a unique, self-regulating, semi-conductive polymer heating element that is very thin and can be cut on site and discreetly nailed or stapled under shingles for quick, easy installation. The heating element is polypropylene fused during fabrication to provide protection and achieve water proofing.



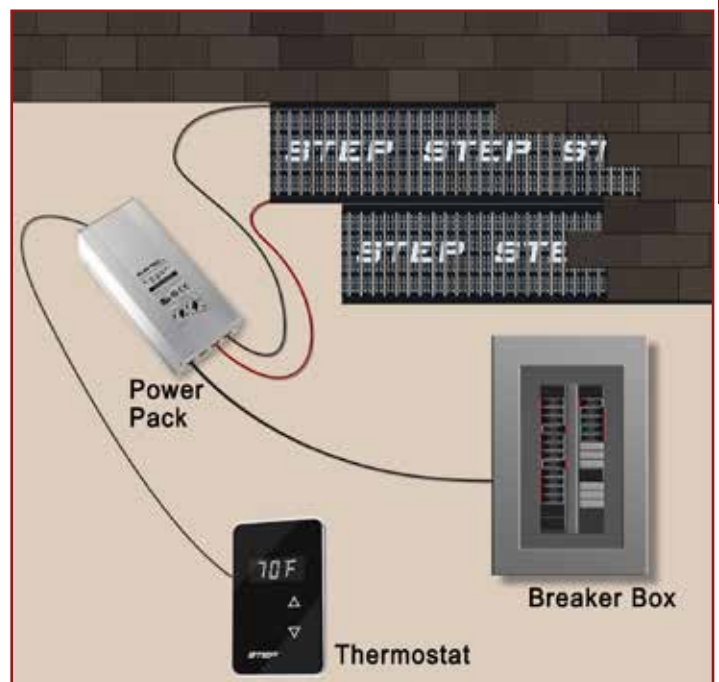
How ice dams form on roof edges.



Heating element being installed under shingles.



ProLine low-voltage roof heating element installed in roof valley.



Overview of ProLine low-voltage roof heating system with element being installed under the shingles.

Roof Deicing

Low-voltage Roof Deicing System

Automated Roof Deicing System

Features and Benefits

- **Extremely Thin Profile** - The flexible heating element is just 3/64-inch, allowing for simple, discreet installation under roofing.
- **Self Regulating** - When the ambient temperature rises, the electrical resistance increases and the consumption of electricity decreases, preventing the element from overheating and ensuring energy-efficient operation.
- **Maintenance Free** - Because the radiant heating system has no moving parts, it is reliable and maintenance free.
- **Easy Installation** - Roll out the flexible heating element and cut to size while on the job site for a perfect fit.

Unlike many other roof heating systems, the low-voltage polymer heating element can be nailed or stapled through, simplifying the installation process.

- **Versatile** - ProLine Radiant's low-voltage system can be safely installed under most roofing materials, including metal.
- **Power Options** - The system operates on 24 volts (AC/DC) and can also be connected to a wind or solar power supply.
- **Protective Polypropylene Fabrication** - The product is polypropylene fused during fabrication to achieve water proofing.
- **Energy Efficient** - The roof heating system requires minimal power consumption. For even greater energy savings when heating metal roofs, use a heat retention mat.

Heating Element Technical Data

Heating technology	Positive temperature coefficient (PTC) semi-conductive polymer
Width	12 inches (305 mm); Also available in widths of 3, 9 inches.
Thickness	3/64 inch (1.2 mm)
Length	Cut to order (maximum per strip: 32 feet (9.75 meters))
Secondary draw per foot	24 volts @ 68°F (20°C): 45 amps 24 volts @ 32°F (0°C): 54 amps
Warranty	10 years
Approvals	ETL listed; hazardous
Certifications	Class I, Div.2 Groups A,B,C,D Class II, Div.2 Groups F,G Class III

Power Supply Technical Data

Low-voltage dry type isolation power supply
Extruded aluminum profile enclosure with heat sink
120, 208, 240 VAC primary and 24 VAC secondary
Primary and secondary circuit protection
RoHS compliant interface board
2-year warranty



PROLINE LOW-VOLTAGE ROOF HEAT ORDERING INFORMATION

Heating Element

Item Code	Description (width)	Output @ 68°F	Output @ 32°F	Voltage
PL-E-30-36W	12-inch wide heating element	11.0 W/ft.	13 W/ft.	120, 208-240
PL-E-30-70W	12-inch wide heating element	21.3 W/ft.	24 W/ft.	120, 208-240
PL-E-23-36W	9-inch wide heating element	11.0 W/ft.	13 W/ft.	120, 208-240
PL-E-23-80W	9-inch wide heating element	24.0 W/ft.	27 W/ft.	120, 208-240
PL-E-7-30W	3-inch wide heating element	9.5 W/ft.	11 W/ft.	120, 208-240

Power Supply

Item Code	Description	Amperage	Voltage
PL-LX-250	Power supply	1 x secondary circuit 25A	120, 240
PL-LX-500	Power supply	1 x secondary circuit 25A	120, 240
PL-LX-R-250	Power supply w/regulator, 250 W	1 x secondary circuit 25A	120, 240
PL-LX-R-500	Power supply w/regulator, 500 W	1 x secondary circuit 25A	120, 208-240
PL-LX-R-1000	Power supply w/regulator, 1000 W	2 x secondary circuit breakers	120, 208-240
PL-LX-R-1500	Power supply w/regulator, 1500 W	2 x secondary circuit breakers	120, 208-240

Controls

Item Code	Description	Voltage
PL-EPI-LX-TC	Thermostat with sensor	120, 208-240

Accessories

Item Code	Description
PL-T-Block	Terminal block 2-bar
PL-TBE-4	Terminal enclosure
PL-TBE-6	Terminal enclosure
C&T-10	Connector and tape kit (10 pieces per pack.)
CON-DB	Connector DB TCU. (Priced per piece.)
TAPE-R	Sealant tape - roll
TCU14-Black/White	Tinned copper wire, 14 AWG. (Priced per foot.)
TCU12-Black/White	Tinned copper wire, 12 AWG. (Priced per foot.)
TCU10-Black/White	Tinned copper wire, 10 AWG. (Priced per foot.)
PL-3-Conductor	Signal wire from power supply. (Priced per foot.)
PL-TOOL	Crimp tool
PL-TAPE-10	Roll of double coated tape - 3 inches x 30 feet
PL-TAPE-5	Roll of double coated tape - 3 inches x 15 feet
PL-HRP	Polyurethane padding. (Priced per square foot.)

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Roof Deicing



Shoveling and cutting down heavy, dangerous ice and icicles from the roof of a commercial facility.



Mountain cabin with low-voltage roof deicing system installed at the roof edges.