

EasyHeat™ PSR Cable

Pipe Freeze Protection, Self-Regulating, Pre-Terminated. For Residential and Commercial Applications.

Product Overview

- PSR is a parallel resistance, self-regulating cable provided in pre-terminated lengths with factory sealed connections.
- The self-regulating heating cable automatically varies its heat output as the surrounding temperature changes.

Applications

- Commercial and residential metal or plastic water supply and drain pipes subject to freezing.
- Suitable for refrigeration/HVAC condensation lines that are subject to freezing temperatures.

Features

- 120 Vac and 240 Vac models available.
 - 120 Vac models have an integral three-wire plug with a pilot light.
 - 240 Vac models and have a three wire pigtail.
- Cables are rated at 5 Watts per foot (0.30 m) at +50°F (+10°C).
- Pre-terminated lengths from 6 ft – 100 ft (1.83 m – 30.48 m).
- Manufactured with a waterproof TPE outer jacket.
- One year limited warranty.

Heating Cable Control Options and Power Connection

- 120 Vac cables should be plugged into a ground fault protected electrical receptacle.
- 240 Vac cables are designed to be directly connected into an appropriate electrical outlet box supplied by ground fault protected circuit.

Related Products

- It is recommended that a remote thermostat similar to EasyHeat™ model C3RC can be used for 240 Vac cables to reduce energy consumption and extend the life of the cable. See EasyHeat™ Pipe Tracing Controls.

Accessories

- Installation tape and caution labels are available. See EasyHeat™ Pipe Tracing Accessories.



Certifications

- UL Listed to Canadian Safety Standards and CSA Certified for ordinary locations.

Notes

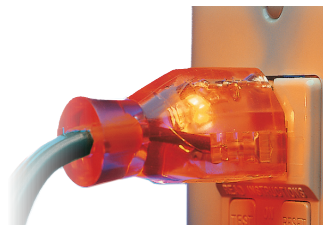
- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFPE) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- Do not use thin 1/8 in (3.18 mm) foil-backed foam insulation.
- Before insulating, ensure that there is no damage to heating cables. Immediately cover the pipe, cables, connections, valves and spigots with 1/2 in (12.7 mm) to 1 in (25.4 mm) thick fiberglass insulation or equivalent.
- Do not alter the length of the heating cable – cable is factory sealed and alteration will result in risk of electrical fire or shock.
- Exposure to temperatures above +150°F (+66°C). will shorten the life of your cable. Before installing on hot water pipes, set the water heater thermostat below +150°F (+66°C).
- If more than one heating cable is used on a single electrical circuit please refer to the maximum heater length per circuit breaker size chart. Check to make sure the total heating cable length does not exceed the length specified in this table.
- Minimum installation temperature for the heating cable set is -22°F (-30°C).

PIPE TRACING

Illustrated Features

Pilot Light

120 Vac models have a pilot light in the PSR plug, confirms connection to a good power source.



Three Wire Pigtail

240 Vac models have a three wire pigtail that should be directly connected into an appropriate electrical box supplied by ground fault protected circuit.



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How To Determine The Length of Cable You Need

Select the appropriate cable length from one of the two charts below. Cable may be up to 2 ft (60.96 cm) shorter than the pipe. Lengths assume lowest ambient temperature is -20°F (-29°C), with a minimum of 1/2 in (12.7 mm) fiberglass insulation or equivalent. For protection to -40°F (-40°C), use 1 in (25.4 mm) fiberglass insulation.

Cable Length Selection Chart

Metal Pipe ft (m)										
Pipe Diameter in (mm)	3 (0.91)	4-6 (1.2-1.83)	7 (2.13)	8-12 (2.44-3.66)	13-14 (3.96-4.27)	15-18 (4.57-5.49)	19-25 (5.79-7.62)	26-50 (7.92- 15.24)	51-75 (15.54- 22.86)	76-100 (21.16-30.48)
0.5 (12.7)	—	A	A	B	B	C	C	E	F	G
1.0 (25.4)	A	A	A	B	B	C	C	E	F	G
1.5 (38.1)	A	A	A	B	B	C	D	E	F	G
2.0 (50.8)	A	B	B	C	C	D	E	F	G	H
2.5 (63.5)	A	B	B	C	C	D	E	F	G	H

Plastic Pipe ft (m)										
Pipe Diameter in (mm)	3 (0.91)	4-6 (1.2-1.83)	7 (2.13)	8-12 (2.44-3.66)	13-14 (3.96-4.27)	15-18 (4.57-5.49)	19-25 (5.79-7.62)	26-50 (7.92- 15.24)	51-75 (15.54- 22.86)	76-100 (21.16-30.48)
0.5 (12.7)	—	A	B	B	C	D	D	E	F	G
1.0 (25.4)	A	A	B	C	C	D	E	E	F	G
1.5 (38.1)	A	B	C	D	D	E	E	F	F	H
2.0 (50.8)	A	B	C	E	E	E	E	F	G	H
2.5 (63.5)	A	B	C	E	E	E	F	F	G	H

Maximum Cable Length per Circuit in ft (m)

Breaker Size	120 Vac Cable			240 Vac Cable		
	+20°F (-7°C)	0°F (-20°C)	-20°F (-30°C)	+20°F (-7°C)	0°F (-20°C)	-20°F (-30°C)
15 Amp	125 (38.1)	115 (35.1)	100 (30.5)	250 (76.2)	225 (68.6)	205 (62.5)
20 Amp	170 (51.8)	150 (45.7)	135 (41.1)	335 (102.1)	300 (91.4)	270 (82.3)

Selection Chart Key

	Model #	# of Cables
A	PSR (Ⓞ)006	1 Cable
B	PSR (Ⓞ)012	1 Cable
C	PSR (Ⓞ)018	1 Cable
D	PSR (Ⓞ)024	1 Cable
E	PSR (Ⓞ)050	1 Cable
F	PSR (Ⓞ)075	1 Cable
G	PSR (Ⓞ)100	1 Cable
H	PSR (Ⓞ)100	2 Cable

Replace Ⓞ with voltage code: 1 for 120 Vac; 2 for 240 Vac

Note: Allow an extra 1 ft (30.48 cm) of heating cable for each valve.

PIPE TRACING

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Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
PSR1006	6 ft (1.83 m) length, 30 Watts, 120 Vac	5	4 (1.8)	01362706907
PSR1012	12 ft (3.66 m) length, 60 Watts, 120 Vac	5	7 (3.2)	01362706908
PSR1018	18 ft (5.49 m) length, 90 Watts, 120 Vac	5	8 (3.6)	01362706913
PSR1024	24 ft (7.32 m) length, 120 Watts, 120 Vac	5	10 (4.5)	01362706909
PSR1050	50 ft (15.24 m) length, 250 Watts, 120 Vac	5	17 (7.7)	01362706910
PSR1075	75 ft (22.86 m) length, 375 Watts, 120 Vac	2	10 (4.5)	01362706911
PSR1100	100 ft (30.48 m) length, 500 Watts, 120 Vac	2	13 (5.9)	01362706912
PSR2006	6 ft (1.83 m) length, 30 Watts, 240 Vac	5	4 (1.8)	01362706867
PSR2012	12 ft (3.66 m) length, 60 Watts, 240 Vac	5	7 (3.2)	01362706868
PSR2018	18 ft (5.49 m) length, 90 Watts, 240 Vac	5	9 (4.1)	01362706873
PSR2024	24 ft (7.32 m) length, 120 Watts, 240 Vac	5	10 (4.5)	01362706869
PSR2050	50 ft (15.24 m) length, 250 Watts, 240 Vac	5	16 (7.3)	01362706870
PSR2075	75 ft (22.86 m) length, 375 Watts, 240 Vac	2	9 (4.1)	01362706871
PSR2100	100 ft (30.48 m) length, 500 Watts, 240 Vac	2	13 (5.9)	01362706872

EasyHeat™ SR Trace™ Cable

Pipe Freeze Protection and Temperature Maintenance, Self-Regulating, Cut-to-Length.
For Residential and Commercial Applications.

Product Overview

- SR Trace™ cable is a self-regulating heating cable that provides maximum freeze protection and maintains temperatures for supply and drain pipes and vessels.
- The self-regulating heating cable automatically varies its heat output as the surrounding temperature changes.

Applications

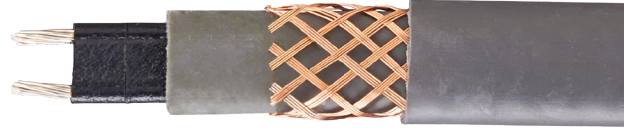
- Commercial metal or plastic water supply and drain pipes subject to freezing.
- Liquids piped during processing that require constant temperatures.
- Freeze protection for main and branch sprinkler systems.
- Suitable for refrigeration/HVAC condensation lines that are subject to freezing temperatures.

Features

- Maximum freeze protection for pipes and vessels in ambient temperatures down to -40°F (-40°C).
- Freeze protection for metal or plastic pipes up to 8 in (30.32 cm) in diameter.
- Available in power densities of 3, 5, and 8 Watts per foot (0.30 m) at +50°F (+10°C) for both 120 and 240 Vac applications.
- 240 Vac can be used for 208 or 277 Vac applications.
- Available in cut-to-order lengths, convenient 250 ft (76.20 m) self dispensing reel boxes and 750 ft (228.6 m) master supply reels.
- Manufactured with a waterproof TPE outer jacket.
- Can be installed in dry or wet environments.
- Can be wrapped over itself (overlapped), if necessary, when installed on pipes, valves or flanges.
- One year limited warranty.

Related Products

- It is recommended that heating cables for freeze protection be controlled by a thermostat to minimize energy consumption. See *EasyHeat™ Pipe Tracing Controls*. Control options available:



- T4XA Thermostat
- C4XC Thermostat
- C3RC Thermostat

Accessories

- We offer specially designed kits that ease installation and connection of SR Trace™ products. See *EasyHeat™ SR Trace™ Cable Connection Kits and Accessories*

Certifications

- UL listed and CSA certified to US and Canadian Safety Standards.

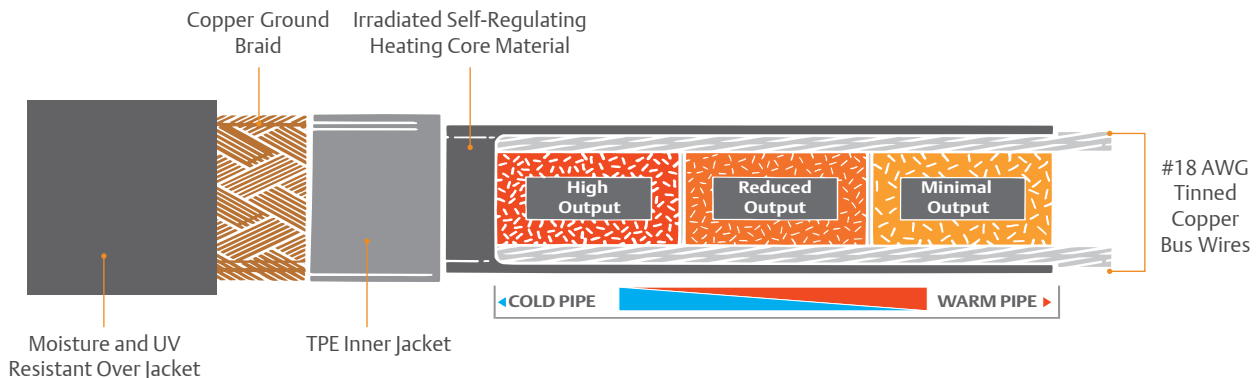
Note:

- Per NEC and CEC requirements ALWAYS use a ground fault protection device (GFPE) to reduce the danger of fire from a damaged or improperly installed heating cable. Electrical fault currents caused by damaged or improperly installed cable MAY NOT BE LARGE ENOUGH to trip a conventional circuit breaker.
- Heating cables must be installed in compliance with all national, state/provincial and local codes. Check with your local electrical inspector for specific details.
- Do not twist the bus wires together at either end of the cable.
- It is recommended that all heat traced pipes have a minimum of 1/2 in (12.7 mm) of fiberglass insulation or equivalent.
- All electrical connections in the system should be sealed against moisture.
- Do not expose heating cables to temperatures above their maximum ratings.

PIPE TRACING

Illustrated Features

A special self-regulating core is at the center of the SR Trace™ cable. This core is conductive and adjusts according to the surrounding temperatures. When it is cold, the cable's core has many conductive paths that generate enough heat to keep the water flowing in the pipe. As the surrounding temperature warms, there are fewer conductive paths and less heat is generated.

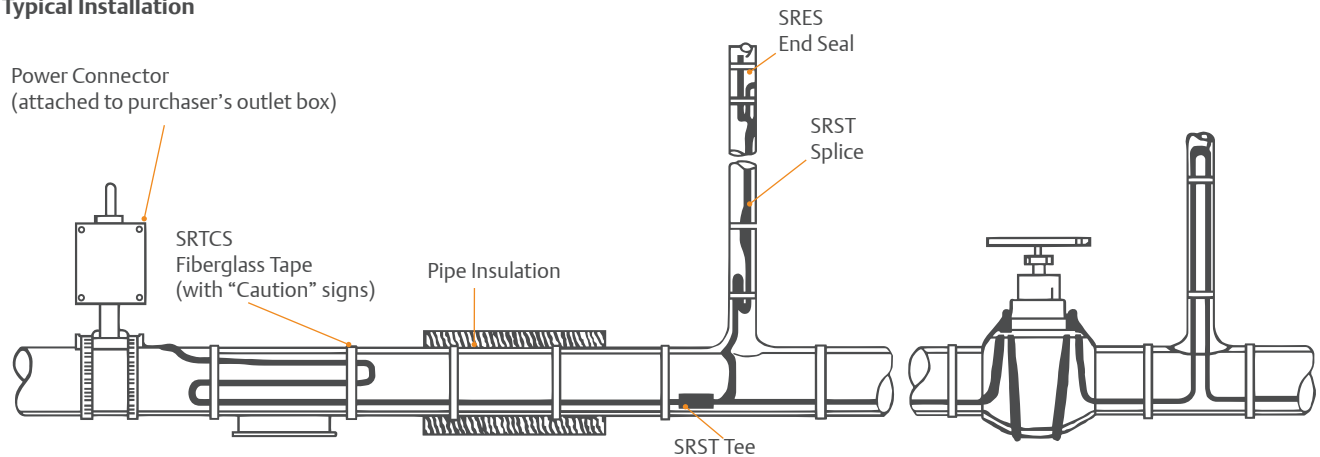


EasyHeat™ SR Trace™ Cable

Pipe Freeze Protection and Temperature Maintenance, Self-Regulating, Cut-to-Length.
For Residential and Commercial Applications.

How To Determine The Length of Cable You Need

Typical Installation



Step 1: Planning

Determine the following information to enable proper selection of heating cable:

- Pipe diameter
- Pipe length
- Pipe material
- Minimum ambient temperature
- Type of insulation
- Thickness of insulation
- Number of flanges, pipe supports, shoes, etc.
- Power supply voltage
- Number of valves

Step 2: Cable Selection

Using the information from Step 1, select the appropriate heating cable type and number required from Table 1: Pipe Freeze Protection.

Step 3: Determine Cable Length

Total Cable Length = [Number of Cables (see Table 1) x Pipe Length]
+ (4 ft x Number of Valves)
+ (2 ft x Number of Flanges/Supports, etc.)

Example:

- Pipe Diameter: 3 inches
- Pipe Length: 105 ft
- Pipe Material: Steel
- Minimum Ambient Temperature: -10°F
- Type of Insulation: Fiberglass
- Thickness of Insulation: 1 inch
- Flanges, Supports, etc.: None
- Power Supply Voltage: 120 Vac
- Number of Valves: 3

SR51J

Cable Length:

$(1 \times 105 \text{ ft}) + (4 \text{ ft} \times 3 \text{ valves}) + (2 \text{ ft} \times 0) = 117 \text{ ft}$

Step 4: Power Supply Requirements

The total length of the heating cable installed on any circuit must not exceed the "Maximum Total Cable Length" associated with the circuit breaker supplying the circuit, see Table 2. If total length of heating cable required does exceed that allowed for the circuit breaker supplying the circuit, either a larger circuit breaker (and associated wiring) must be used, or multiple circuit breakers (and associated wiring) must be installed. From Table 2: Circuit Breaker Selection, determine the number of circuits and circuit breaker size required to supply the heating cables.

Step 5: Cable Routing

From the piping arrangement, determine the length of the longest single run of cable. If this value exceeds the "Maximum Length Single Run" found in Table 3. Performance and Rating Data, then the cable routing, or type of cable selected, must be altered. Also, 240 Vac cables allow longer single runs than 120 Vac cables.

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Pipe Freeze Protection and Temperature Maintenance, Self-Regulating, Cut-to-Length.

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Table 1. Pipe Freeze Protection

Legend: A = SR31J (120V) or SR32J (240 or 277V) | B = SR51J (120V) or SR52J (240 or 277V) | C = SR81J (120V) or SR82J (240 or 277V)

Pipe Diameter in (mm)	Insulation Thickness in (mm)	Minimum Ambient Temperature							
		+14°F (-10°C)		-4°F (-20°C)		-22°F (-30°C)		-40°F (-40°C)	
		Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe	Metal Pipe	Plastic Pipe
1/2 (12.70)	0.5 (12.70)	A	A	A	A	A	B	B	C
3/4 (19.05)		A	A	A	B	B	B	B	C
1 (25.40)		A	A	A	B	B	C	B	C
1-1/4 (31.75)		A	A	A	B	B	C	B	C
1-1/2 (38.10)		A	A	B	C	B	2B	C	2C
2 (50.80)		A	B	B	C	C	2B	C	2C
2-1/2 (63.50)		A	B	B	C	C	2C	2B	2C
3 (76.20)		B	B	B	2B	Ⓢ	2C	2C	Ⓢ
4 (101.60)		B	B	C	2C	Ⓢ	Ⓢ	2C	Ⓢ
6 (152.40)		B	2B	2B	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
1/2 (12.70)	1 (25.40)	A	A	A	A	A	A	A	B
1 (25.40)		A	A	A	A	A	B	A	B
1-1/2 (38.10)		A	A	A	B	A	B	B	C
2 (50.80)		A	A	A	B	B	C	B	C
2-1/2 (63.50)		A	A	A	B	B	C	C	2B
3 (76.20)		A	A	B	C	B	C	C	2B
4 (101.60)		A	B	B	C	C	2B	C	2C
6 (152.40)		B	B	C	2B	C	2C	2C	Ⓢ
8 (203.20)		B	Ⓢ	C	2C	2B	Ⓢ	2C	Ⓢ
1-1/2 (38.10)	1.5 (38.10)	A	A	A	A	A	B	A	B
2 (50.80)		A	A	A	A	A	B	B	C
4 (101.60)		A	A	A	B	B	C	C	2B
6 (152.40)		A	B	B	C	C	2B	C	2C
8 (203.20)		A	Ⓢ	B	2B	C	2C	2B	Ⓢ
2 (50.80)	2 (50.80)	A	A	A	A	A	B	A	B
4 (101.60)		A	A	A	B	B	C	B	C
6 (152.40)		A	A	B	C	B	C	C	2B
8 (203.20)		A	Ⓢ	B	C	C	2B	C	2C
4 (101.60)	3 (76.20)	A	A	A	A	A	B	A	B
6 (152.40)		A	A	A	A	A	B	B	B
8 (203.20)		A	Ⓢ	A	Ⓢ	B	Ⓢ	B	Ⓢ

PIPE TRACING

① For operation at 208 Volts, use the cable recommended for the next colder minimum ambient temperature. For example, to protect a 2-1/2 in (63.50 mm) metal pipe with 1/2 in (12.70 mm) insulation to +14°F (-10°C), use the value found under -4°F (-20°C) column, resulting an SR52J cable.

② Contact your local EasyHeat™ sales representative for cable selection.

EasyHeat™ SR Trace™ Cable

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Circuit Breaker Selection ①

Voltage	Cable Power Watts/ft (Watts/m)	Minimum Start-up Temperature °F (°C)	Maximum Total Cable Length vs. Circuit Breaker Rating ft (m)		
			15A ③	20A	30A
120	3 (10)	-40 (-40)	170 (51)	226 (69)	340 (103)
		0 (-18)	210 (64)	280 (85)	420 (128)
		+40 (+4)	270 (82)	360 (110)	540 (165)
	5 (16)	-40 (-40)	123 (37)	163 (49)	245 (74)
		0 (-18)	155 (47)	205 (63)	320 (98)
		+40 (+4)	195 (59)	255 (78)	385 (117)
	8 (26)	-40 (-40)	86 (26)	115 (35)	173 (52)
		0 (-18)	105 (32)	140 (43)	210 (64)
		+40 (+4)	135 (41)	180 (55)	270 (82)
240	3 (10)	-40 (-40)	340 (103)	473 (138)	679 (207)
		0 (-18)	420 (128)	555 (169)	835 (255)
		+40 (+4)	540 (165)	720 (220)	1080 (329)
	5 (16)	-40 (-40)	245 (74)	327 (99)	490 (149)
		0 (-18)	310 (95)	415 (127)	620 (189)
		+40 (+4)	385 (117)	515 (157)	770 (235)
	8 (26)	-40 (-40)	173 (52)	231 (70)	346 (105)
		0 (-18)	210 (64)	280 (85)	425 (130)
		+40 (+4)	270 (82)	360 (110)	540 (165)

Performance and Rating Data

Catalog Number	Voltage	Power Rating Watts/ft (Watts/m) @ +50°F (+10°C)	Maximum Length Single Run ft (m)
SR31J	120	3 (10)	310 (94)
SR32J	240	3 (10)	620 (188)
SR51J	120	5 (16)	240 (73)
SR52J	240	5 (16)	480 (146)
SR81J	120	8 (26)	190 (58)
SR82J	240	8 (26)	380 (116)

Maximum maintenance temperature, all cables: +150°F (+66°C).

Maximum intermittent exposure temperature, all cables: +185°F (+85°C).

Voltage Adjustment Table ②

Cable	Power Rating Multiplier		
	208 Vac	240 Vac	277 Vac
SR32J	0.71	1.00	1.34
SR52J	0.80	1.00	1.20
SR82J	0.87	1.00	1.12

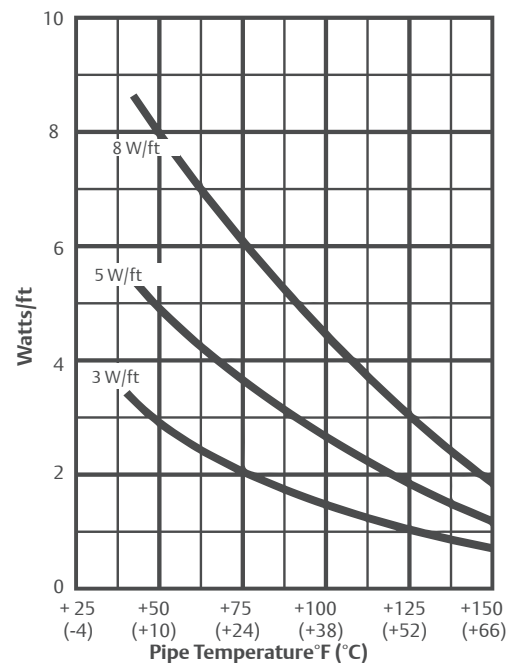
Note:

① Circuit breakers are sized per article 427-4 of NEC and CSA/CEC 62-114.

② To operate 240 Vac cables at 208 Vac or 277 Vac, the cable power is modified by the "power rating multiplier" in the voltage adjustment table. The maximum total lengths on a circuit breaker (circuit breaker selection table) and the maximum single run lengths (performance and rating data table) do not change.

③ When using two (2) or more heating cables of different wattage ratings in parallel on a single circuit breaker, use the 15A column amperage of 15 amps, divide it by the maximum footage to arrive at an amps/ft figure for each cable. Then calculate circuit breaker size for the combined loads. These amps/ft factors include the sizing factor in (1) above.

Nominal Power Output on Metal Pipe



EasyHeat™ SR Trace™ Cable

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Product Selection

Catalog Number	Description	Carton Quantity	Carton Weight lb (kg)	UPC
SR31J	3 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700302
SR31J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706925
SR32J	3 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700189
SR32J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706923
SR51J	5 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700877
SR51J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706921
SR51J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706926
SR52J	5 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362701021
SR52J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706919
SR52J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706924
SR81J	8 Watts per foot (0.30 m), 120 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700192
SR81J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706917
SR81J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706918
SR82J	8 Watts per foot (0.30 m), 240 Vac, cut-to-order	1	0.057 (0.026) per foot	01362700164
SR82J250	250 ft (76.20 m) self-dispensing reel	1	20 (9.1)	01362706915
SR82J750	750 ft (228.60 m) self-dispensing reel	1	72 (32.7)	01362706916

PIPE TRACING

EasyHeat™ SR Trace™ Cable Connection Kits and Accessories

Pipe Freeze Protection and Temperature Maintenance. For Residential and Commercial Applications.

Product Overview

- SR Trace™ pipe tracing self-regulating heating cables must be installed with appropriate connection kits.

SRP Power/Splice Connection Kit

- Provides heat shrink tubing based power connection for one or two cables within customer supplied junction box.
- Provides heat shrinkable end seals.
- Can be used for heating cable to heating cable splice using a customer supplied junction box.
- One year limited warranty.



SRP Power/Splice Connection Kit

SRST In-line Splice Connection Kit

- Provides heat shrink tubing based in-line splice connection of two or three heating cables.
- Each kit performs two sets of splices and junction box is not required.
- One year limited warranty.



SRST In-line Splice Connection Kit

SRES End Seal Kit

- Provides heat shrink tubing to create a moisture proof end seal of the heating cable circuit.
- Each kit contains 5 end seals.
- One year limited warranty.



SRES End Seal Kit

SRTCS

- 3/4 in x 66 ft (0.019 m x 20.17 m) of fiberglass tape and five “caution” signs for compliance with NEC 427-13.
- One year limited warranty.



SRTCS

SRME End Seal Kit

- Used for terminating the ends of field-fabricated heating cables.
- Constructed of molded silicone material molded silicone material and silicone adhesive.
- Each kit contains materials to make 5 complete terminations.
- One year limited warranty.



SRME End Seal Kit

SRMP Power End Connection Kit

- Used for terminating field-fabricated heating cables inside the power connection box.
- Constructed of molded silicone material molded silicone material and silicone adhesive.
- Each kit contains materials to make 5 complete connections.
- One year limited warranty.



SRMP Power End Connection Kit

GFST1 Line Plug

- Plug in power connection kit with ground fault circuit protection.
- 3 ft (0.91 m) long assembly, rated for 15 Amp circuit breaker at 120 Vac.
- Includes two heat shrinkable end-seals.
- One year limited warranty.



GFST1

PIPE TRACING

① Agency approvals are only valid when appropriate kits are used to install the heating cable for the appropriate heating application.