

## PRODUCT CODES

NAMSR-Wattage-Voltage-Length // eg: NAMSR-8W-120-250



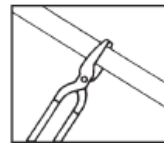
## PRODUCT DESCRIPTION

Warmup NAMSR cable is suited to prevent liquids in metal and plastic pipes and ducts to freeze and clog up. It is regularly used in large residential and commercial construction for sprinkler lines, sewer pipes and A/C drains. Warmup cables are approved for dry and wet locations and suitable for non-hazardous locations.

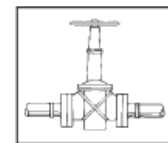
NAMSR Cable is constructed of a self-regulating polymer core that varies its output along its entire length, saving energy and eliminating hot spots along the pipe. Parallel construction makes it easier to install than zone or series types of cable since it can be cut to length at any point on the pipe. It can be single overlapped without overheating the cable.

## ADVANTAGES

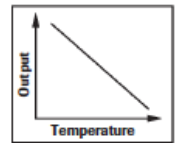
- Self-Regulating, Energy Efficient
- Reliable, varies with ambient conditions
- Industrial Grade, 16 AWG Buss Wire
- Approved for Wet and Dry locations
- Standard Braid with Overjacket
- Circuit Lengths to 460 Feet
- 3, 5 and 8 Watts per Foot
- 120, 208-277 Volts Available From Stock



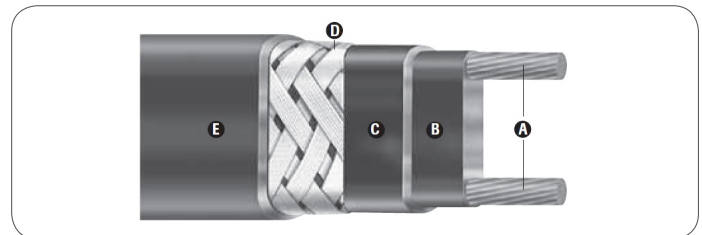
Cut to Any Length in Field



Can be Single Overlapped



Self Regulating



## APPLICATIONS

- Cooling Towers
- Plumbing lines
- Discharge Pipes
- Exposed P-traps
- Sprinkler lines

## Approvals

- UL



## CONSTRUCTION

### A. Buss Wires

Twin 16 AWG copper buss wires provide good current capability.

### B. Matrix

A semiconductive polymer core whose electrical resistance varies with temperature. When process temperature drops, the core's heat output increases; conversely, as process temperature rises, heat output decreases.

### C. Jacket

The flame retardant insulation jacket is a thermoplastic rubber material with excellent water resistance. It resists certain mildly corrosive chemicals.

### D. Tinned Copper Braid

The braid covering the jacket provides an effective ground path and mechanical protection.

### E. Overjacket

The TPR overcoat protects the braid, and provides resistance to

## HEATING CABLE SELECTION GUIDE

### 1. Determine Application Data

Pipe Size/Type - Insulation Thickness - Minimum Ambient Temperature - Operating Voltage

### 2. Select Cable Rating

Using the selection chart on the following pages and application data from Step 1, above, select the correct cable rating and number of runs needed.

### 3. Calculate Heating Cable Quantity

The total amount of heating cable is determined by adding the total footage of pipe to be traced and an allowance for the components such as flanges, valves, pipe supports, then multiplying by the total number of runs determined in Step 2 (above).

### 4. Determine Circuits/Circuit Protection

Circuit protection depends on the breaker size being used and the start-up temperature. The Canadian Electrical Code, Part I in Canada and the National Electric Code (NEC 1999) in the USA require the use of ground fault protection breakers for heating cable. The following chart shows the maximum circuit length for a given breaker rating. To determine the number of circuits required for each pipe, divide the total cable (circuit) length found in Step 3 by the maximum circuit length found in the chart. Round up to the next higher number.

**Maximum Circuit Lengths**

Circuit breaker Cable rating	40° F Start-up			0° F Start-up		
	20 Amp	30 Amp	40 Amp	20 Amp	30 Amp	40 Amp
NAMSR-3W-120V	350	360	N/R	270	360	N/R
NAMSR-3W-240V	660	N/R	N/R	555	660	N/R
NAMSR-5W-120V	230	270	N/R	180	270	N/R
NAMSR-5W-240V	450	540	N/R	360	540	N/R
NAMSR-8W-120V	180	215	N/R	145	215	N/R
NAMSR-8W-240V	330	420	420	265	395	420

N/R = Not Required. Maximum circuit length has been reached in a smaller breaker size.

Chart below applies to metal pipes. Where different, "NAMSR-xx\*\*" shows selection for plastic pipes.

### Minimum ambient temperature

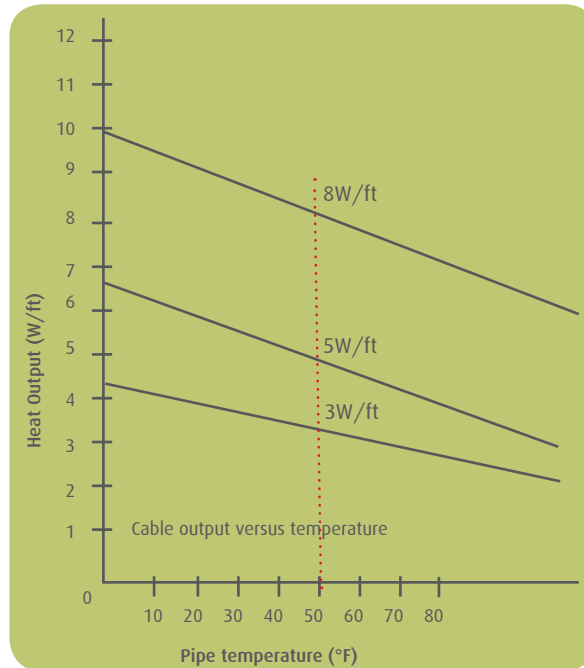
		0°	-10°	-20°	-30°	-40°
<b>1.00" pipe</b>	<b>0.5</b>	NAMSR-3W x 1 <i>NAMSR-5W x 1*</i>	NAMSR-5W x 1	NAMSR-3W x 1	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1
	<b>1.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-5W x 1	NAMSR-5W x 1
	<b>1.5</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1 <i>NAMSR-5W x 1*</i>
	<b>2.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1
	<b>3.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1
<b>2.00" pipe</b>	<b>0.5</b>	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1	NAMSR-8W x 1	NAMSR-8W x 1 <i>NAMSR-5W x 2*</i>	NAMSR-5W x 2 <i>NAMSR-8W x 2*</i>
	<b>1.0</b>	NAMSR-3W x 1 <i>NAMSR-5W x 1</i>	NAMSR-5W x 1	NAMSR-5W x 1	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1
	<b>1.5</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-5W x 1	NAMSR-5W x 1	NAMSR-5W x 1
	<b>2.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-5W x 1	NAMSR-5W x 1
	<b>3.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-3W x 1 <i>NAMSR-5W x 1*</i>
<b>4.00" pipe</b>	<b>0.5</b>	NAMSR-5W x 2	NAMSR-8W x 2	NAMSR-8W x 2	NAMSR-8W x 2	NAMSR-8W x 3
	<b>1.0</b>	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1	NAMSR-8W x 1	NAMSR-8W x 1 <i>NAMSR-5W x 2*</i>	NAMSR-5W x 2 <i>NAMSR-8W x 2*</i>
	<b>1.5</b>	NAMSR-5W x 1	NAMSR-5W x 1	NAMSR-8W x 1	NAMSR-8W x 1	NAMSR-8W x 1
	<b>2.0</b>	NAMSR-3W x 1 <i>NAMSR-5W x 1*</i>	NAMSR-5W x 1	NAMSR-5W x 1	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1
	<b>3.0</b>	NAMSR-3W x 1	NAMSR-3W x 1	NAMSR-5W x 1	NAMSR-5W x 1	NAMSR-5W x 1
<b>10.00" pipe</b>	<b>1.0</b>	NAMSR-8W x 2	NAMSR-8W x 2	NAMSR-8W x 2 <i>NAMSR-8W x 3*</i>	NAMSR-8W x 3	NAMSR-8W x 3
	<b>1.5</b>	NAMSR-8W x 1	NAMSR-5W x 2	NAMSR-8W x 2	NAMSR-8W x 2	NAMSR-8W x 2
	<b>2.0</b>	NAMSR-8W x 1	NAMSR-8W x 1	NAMSR-5W x 2	NAMSR-5W x 2 <i>NAMSR-8W x 2*</i>	NAMSR-8W x 2
	<b>3.0</b>	NAMSR-5W x 1	NAMSR-5W x 1 <i>NAMSR-8W x 1*</i>	NAMSR-8W x 1	NAMSR-8W x 1	NAMSR-8W x 1 <i>NAMSR-5W x 2*</i>

\*for plastic pipes

### CABLE RATINGS

	Systems (500ft)	Output @ 50°F (W/Ft.)	Max. Circuit Length (Ft.)	Weight (lbs.) 1000'
120 Volts	NAMSR-3W-120V	3	360	64
	NAMSR-5W-120V	5	270	64
	NAMSR-8W-120V	8	215	64
208-277 Volts	NAMSR-3W-240V	3	660	64
	NAMSR-5W-240V	5	540	64
	NAMSR-8W-240V	8	420	64

\*See chart on page 2 for maximum circuit lengths by start-up temperature and circuit breaker size.



### BREAKER SIZING AT MINIMUM START-UP AMBIENT TEMPERATURE

Min. Start-up Temp.	Breaker	NAMSR-3W				NAMSR-5W				NAMSR-8W			
		120V	208V	240V	277V	120V	208V	240V	277V	120V	208V	240V	277V
50°F (10°C)	15	330	624	650	702	225	423	450	491	150	276	300	333
	20	330	634	660	713	265	498	530	578	200	368	400	444
	30	330	634	660	713	265	498	530	578	210	386	420	466
	40	330	634	660	713	265	498	530	578	210	386	420	466
0°F (-18°C)	15	200	374	390	421	140	263	280	305	100	184	200	222
	20	265	509	530	572	190	353	375	409	130	239	260	289
	30	330	634	660	713	265	498	530	578	200	368	400	444
	40	330	634	660	713	265	498	530	578	210	386	420	466
-20°F (-29°C)	15	175	336	350	378	125	230	245	267	85	156	170	189
	20	230	442	460	497	165	306	325	354	115	212	230	255
	30	330	634	660	713	245	461	490	534	175	322	350	389
	40	330	634	660	713	265	498	530	578	210	386	420	466
-40°F (-40°C)	15	155	298	310	335	110	202	215	234	75	138	150	167
	20	205	394	410	443	145	273	290	316	105	193	210	233
	30	310	595	620	670	215	404	430	469	160	294	320	355
	40	330	634	660	713	265	498	530	578	180	331	360	400

## ACCESSORIES

Warmup has a complete line of accessories specifically designed for use with NAMSR cable. Use only Warmup accessories to ensure the performance of the heat trace system.

Code	Description
TAP-AL	Aluminum Foil Tape for Self-Regulating Cable. Sold in 90ft. roll.
NAM-POWER-KIT	Power Connection Kit for Self-Regulated Cable. Includes 2 warning labels.
NAM-SPLICE-KIT	Splice/Tee Kit for Self-Regulated Cable.
NAM-END-KIT	End Seal Kit for Self-Regulating Cable.

## PRODUCT SIZE LISTING

	Code	Description
120V spools	NAMSR-3W-120-250	Self-Regulated 16GA Cable, 120V, 3W/linear foot. Sold in 250' length spools.
	NAMSR-5W-120-250	Self-Regulated 16GA Cable, 120V, 5W/linear foot. Sold in 250' length spools.
	NAMSR-8W-120-250	Self-Regulated 16GA Cable, 120V, 8W/linear foot. Sold in 250' length spools.
	NAMSR-3W-120-1000	Self-Regulated 16GA Cable, 120V, 3W/linear foot. Sold in 1000' length spools.
	NAMSR-5W-120-1000	Self-Regulated 16GA Cable, 120V, 5W/linear foot. Sold in 1000' length spools.
	NAMSR-8W-120-1000	Self-Regulated 16GA Cable, 120V, 8W/linear foot. Sold in 1000' length spools.
240V spools	NAMSR-3W-240-250	Self-Regulated 16GA Cable, 208-277V, 3W/linear foot. Sold in 250' length spools.
	NAMSR-5W-240-250	Self-Regulated 16GA Cable, 208-277V, 5W/linear foot. Sold in 250' length spools.
	NAMSR-8W-240-250	Self-Regulated 16GA Cable, 208-277V, 8W/linear foot. Sold in 250' length spools.
	NAMSR-3W-240-1000	Self-Regulated 16GA Cable, 208-277V, 3W/linear foot. Sold in 1000' length spools.
	NAMSR-5W-240-1000	Self-Regulated 16GA Cable, 208-277V, 5W/linear foot. Sold in 1000' length spools.
	NAMSR-8W-240-1000	Self-Regulated 16GA Cable, 208-277V, 8W/linear foot. Sold in 25 1000' length spools.
120V Kits	NAMSRK-6FT	SR Cable Kit, 120V, 5W 6 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-12FT	SR Cable Kit, 120V, 5W 12 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-18FT	SR Cable Kit, 120V, 5W 18 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-24FT	SR Cable Kit, 120V, 5W 24 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-50FT	SR Cable Kit, 120V, 5W 50 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-75FT	SR Cable Kit, 120V, 5W 75 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.
	NAMSRK-100FT	SR Cable Kit, 120V, 5W 100 ft. lin. length terminated at one end. Includes 6' lead wire and 3-prong molded plug.

## WARRANTY & MAINTENANCE

When installed according to the installation manual and proper testing has been performed throughout, the system requires no maintenance for the duration of its warranted life.

The NAMSR cable is warranted for 10 years against manufacturer's defects. See [www.warmup.com](http://www.warmup.com) for full warranty details.

## TECHNICAL SUPPORT

Warmup is available 24/7/365 at (888) 927-6333.

For quotes, layouts and specific technical information, contact us at:

### Warmup USA

52 Federal Rd #1F, Danbury, CT 06810

(888) 927-6333

[us@warmup.com](mailto:us@warmup.com)

### Warmup CANADA

374 Wellington St W, Toronto, ON M5V 1E3

(905) 990-2075

[ca@warmup.com](mailto:ca@warmup.com)

## RELATED PRODUCTS

- TRF115-005 - LINE VOLTAGE THERMOSTAT - see WSC-0801
- COMMBOX-600 - see WSC-0927
- RESIBOX-120 - see WSC-0928
- DS series controls (ASE-DS8) - see WSC-0809
- ROOF & GUTTER APPLICATIONS - see WSC-0929