Warmup

The world's **best-selling** electric floor heating brand™

# NAMSR SELF-REGULATING CABLE

## FOR ROOFS AND GUTTERS / SPECIFICATION SHEET WSC-0929

## PRODUCT CODES

NAMSR-Wattage-Voltage-Length

## PRODUCT DESCRIPTION

Warmup's Self-regulating Cable solutions provide reliable protection against snow and ice build-up on roof and gutter applications. The Cable adjusts to outdoor conditions thanks to its inner carbon matrix and will allow higher heat outputs when conditions worsen. All Cables are reinforced with durable jacket and are UV resistant. The Warmup Cable presents a very low rush-in current allowing for maximum footage per breaker.

## ADVANTAGES

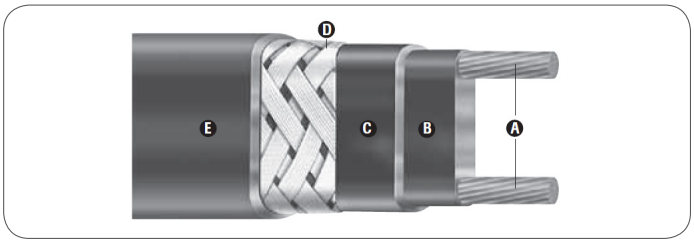
- Self-Regulating, Energy Efficient
- Industrial Grade, 16 AWG Buss Wire
- Suitable for all roof types
- Standard Braid with Overjacket
- Circuit Lengths to 460 Feet
- 5W/ft at 50°F output, 6W at 40°F, 10W at 32°F
- 120, 208-277 Volts Available From Stock

## APPLICATIONS

- Roof lines
- Flat roofs
- Metal structures
- Downspouts and Gutters

## 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 water and certain inorganic chemical solutions.

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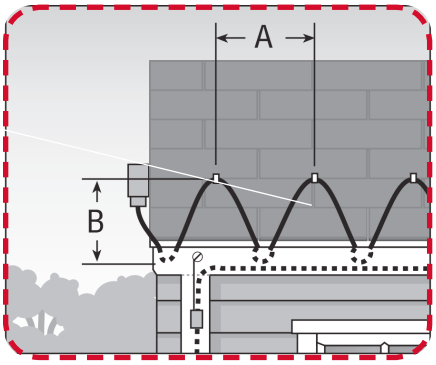
## HEATING CABLE SELECTION GUIDE

1. Determine Application Data
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
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.




**To calculate the total amount of wire needed:**
- Length of gutter/roof
- Length of downspout
- Note size of overhang
- A & B Roof Coverage

**Example:**

| | |
|---|---|
| Gutters | 70ft total |
| Roof | 30ft x 3 |
| Downspout | 16ft x 2 |
| **Total = 192ft** | |

## IMPORTANT NOTES ON CABLE SELECTION

- For any "non-Standard" installations please contact Warmup at (888) 927-6333 (US) or (888) 592-7687 (Canada).
- We assume a minimum ambient temperature of 0°F and a thermal insulation of thick fiberglass wrap or equivalent. For protection to -20°F minimum ambient use 1" thick fiberglass wrap or equivalent.
- Add 1 foot of heating cable for every valve or spigot in the pipeline - make sure to apply this extra cable at each valve/spigot when installing.
- If your selected cable length is longer than your pipe length, spiral the cable evenly along the length of pipe.
- **NAMSRK has 5W/lin ft output at 50°F, 6W/lin ft output at 40°F and 10W/lin ft output at 32°F.**
- For 2" pipes and each 2" in diameter, double the output.
- For plastic pipes, consider 25% more heat required.

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## NOMINAL POWER OUTPUT CHART

| Code | Length in ft | Voltage | Power output on pipe at 40°F (5°C) in W | Power output on pipe at 50°F (10°C) in W | Power output in ice & snow at 32°F (0°C) in W |
|---|---|---|---|---|---|
| NAMSRK-6FT | 6 | 110-120 | 36 | 30 | 60 |
| NAMSRK-12FT | 12 | 110-120 | 72 | 60 | 120 |
| NAMSRK-18FT | 18 | 110-120 | 108 | 90 | 180 |
| NAMSRK-24FT | 24 | 110-120 | 144 | 120 | 240 |
| NAMSRK-50FT | 50 | 110-120 | 300 | 250 | 500 |
| NAMSRK-75FT | 75 | 110-120 | 450 | 375 | 750 |
| NAMSRK-100FT | 100 | 110-120 | 600 | 500 | 1000 |

## 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 |

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## 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 system.

| Code | Description |
|---|---|
| HANGER-KIT | Downspout Hanger for Self-Regulating Cable and Roof/Gutter heaters |
| NAM-POWER-KIT | Power Connection Kit for Self-Regulating Cable. Includes 2 warning labels |
| NAM-SPLICE-KIT | Splice/Tee Kit for Self-Regulating Cable |
| NAM-END-KIT | End Seal Kit for Self-Regulating Cable |
| ROOF-CLIP | Roof Clips. Sold 50/pkg. |
| SB-190 | Adhesive for Warmup Roof Clips |
| CRDS -15-GFI | 6ft lead with GFCI 3-prong molded plug, NEMA 5-15,15 amp, 14/3 |
| SPEEDFIT-BOX | Power connection Box (6x6x3) with Pipe-Mounting Bracket for Self-Reg connections |
| SPEEDFIT-SPLICE | In-line splicing box for fast and weathertight connections in the field |
| SPEEDFIT-TEE | 3-Way T-splice box for fast and weathertight connections in the field |

## PRODUCT SIZE LISTING

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

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## 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 warrantied life.

The NAMSR cable is warrantied for 10 years against manufacturer's defects. See 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**
(888) 927-6333
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## 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