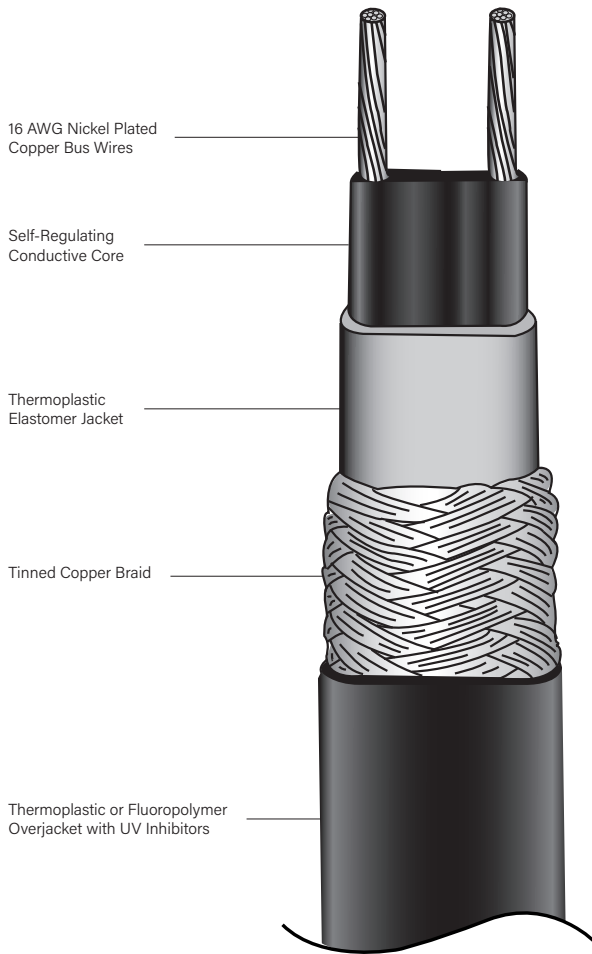


## Industrial(IN)Series Self-Regulating Cable for Roof and Gutter

120 and 240 Volts 3, 5, 8 and 10 Watts/Ft.  
Above Standard Ratings are Heat Output at  
50°F (10°C) for Roof and Gutter



### DESCRIPTION

Delta-Therm self-regulating heating cable increases heat output as temperature decreases, and conversely, decreases heat output as temperature increases. This cable is intended for roof and gutter applications.

Industrial Series cables contain two parallel bus wires electrically connected by a web of PTC (positive temperature coefficient) conductive polymer. A thermoplastic elastomer jacket surrounds the cable to provide mechanical protection and electrical isolation. The tinned copper braid provides additional mechanical protection as well as a ground path for fault currents. The thermoplastic (T) or optional fluoropolymer (F) overjacket has UV inhibitors which protect against damage from the sun. The overjacket also provides mechanical protection.

### APPLICATION

Roof And Gutter Deicing

### APPROVALS

CSA Wet: IN Series CBT or CBF cables are CSA certified for roof and gutter applications (2E Cable Designation) when used with PCK-RG connection kit.



**WARNING:** This cable must be installed by a qualified electrician. Improper installation can result in property damage, serious injury, and/or death due to electric shock and fires.

# IN Series Technical Information

## BREAKER SIZING AND MAXIMUM CIRCUIT LENGTH FT. (M)

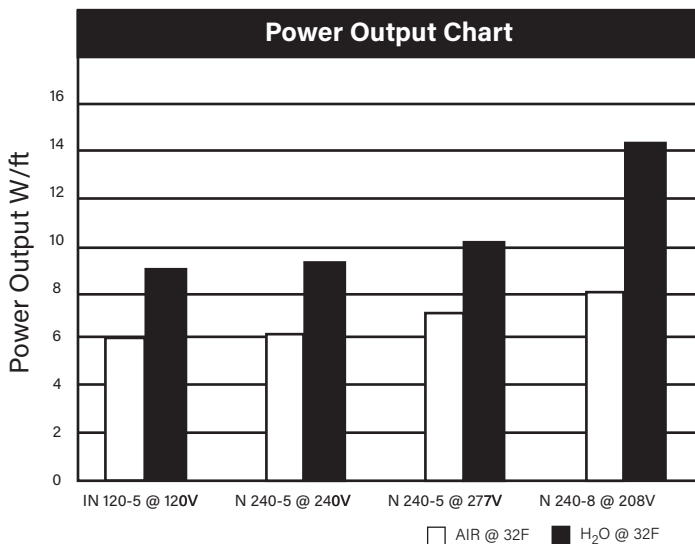
| Protective Device Rating |                | 15A       | 20A       | 30A        |
|--------------------------|----------------|-----------|-----------|------------|
| Volts                    | Catalog Number |           |           |            |
| 120                      | IN 120-5-CBT   | 125' (38) | 150' (46) | 205' (62)  |
| 240                      | IN 240-5-CBT   | 250' (76) | 300' (91) | 335' (102) |
| 277                      | IN 240-5-CBT   | 160' (49) | 210' (64) | 320' (98)  |
| 208                      | IN 240-8-CBT   | 190' (58) | 225' (69) | 260' (79)  |

## ALTERNATE 240 VAC VOLTAGES

Delta-Therm 240V self-regulating heating cable is multi-voltage. It can be used in 208V, 240V, and 277V applications. (Please refer to the thermal rating row on the Electric Specifications Table)

## IN SERIES ELECTRICAL SPECIFICATIONS

| Catalog Number  | IN120-5    | IN240-5    | IN240-5    | IN240-8    |
|---|------------|------------|------------|------------|
| <b>Voltage</b>  | 120        | 240        | 277        | 208        |
| <b>Maximum Circuit Length Ft. (m)</b>   | 205' (62)  | 335' (102) | 320' (98)  | 260' (79)  |
| <b>Thermal Rating At 32°F (Watts/Ft.) Air 0°C (Watts/m) Air</b>                         | 6 (20)     | 6 (20)     | 7 (23)     | 8 (26)     |
| <b>Thermal Rating At 32°F (Watts/Ft.) H<sub>2</sub>O - 0°C (Watts/m) H<sub>2</sub>O</b> | 9 (30)     | 9 (30)     | 10 (33)    | 14 (46)    |
| <b>Maximum Exposure Temperature °F (°C)</b>   | 185° (85°) | 185° (85°) | 185° (85°) | 185° (85°) |
| <b>Approvals</b>  | UL/CSA     | UL/CSA     | UL/CSA     | CSA        |



## ACCESSORIES

|                        |  |
|------------------------|--|
| <b>PCK-RG</b>          | Power Connection Kit   |
| <b>IMP</b>             | Ice Melt Panel   |
| <b>DT-AS-50</b>        | Roof Clips For Asphalt Or Metal Roofs (50 count)               |
| <b>RM-25-AL</b>        | Aluminum Clips For Metal Roofs (25 Count)                      |
| <b>Specialty Clips</b> | Specialty Clips for Roof Materials Other Than Metal or Asphalt |
| <b>DSH</b>             | Down Spout Hanger  |

## CONTROLS

|                |                      |
|----------------|----------------------|
| <b>DTC-24R</b> | Roof Deicing Control |
| <b>MPS</b>     | Roof Deicing Control |

## PANELS

|                                     |                            |
|-------------------------------------|----------------------------|
| <b>DT-XXPXXX</b>                    | Enclosed Contactor Panel   |
| <b>GFPE-X-X</b>                     | Power Control Panel w/GFPE |
| <b>LNR-X</b>                        | Low Noise Relay Panel      |
| Custom Control/Monitor/Alarm Panels |                            |

## CIRCUIT BREAKERS

Do not use magnetic-type circuit breakers. Delta-Therm recommends using the following thermal-magnetic circuit breakers (or equivalent) to prevent nuisance tripping caused by inrush currents:

|                       |                            |
|-----------------------|----------------------------|
| <b>Westinghouse:</b>  | Types BA, EB, EHB, FB, HFB |
| <b>Gen. Electric:</b> | Types TEB, THED            |
| <b>Square D:</b>      | Types EH, FA               |

## USE OF GROUND FAULT PROTECTIVE DEVICES AND TINNED COPPER BRAID

### NEC CODE 2017, ARTICLE 426-22

**Equipment Protection.** Ground-fault protection of equipment shall be provided for electric heat tracing and heating panels. This requirement shall not apply in industrial establishments where there is alarm indication of ground faults and the following conditions apply:

- (1) Conditions of maintenance and supervision ensure that only qualified persons service the installed systems.
- (2) Continued circuit operation is necessary for safe operation of equipment or processes.

### NEC CODE 2017, ARTICLE 427-23:

**Grounded Conductive Covering.** Electric heating equipment shall be listed and have a grounded conductive covering in accordance with 427.23(A) or (B). The conductive covering shall provide an effective ground path for equipment protection.

(A) Heating Wires or Cables. Heating wires or cables shall have a grounded conductive covering that surrounds the heating element and bus wires, if any, and their electrical insulation.

The metal covering shall provided an effective ground path.

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