BERKO®
A Marley Engineered Products Brand

470 Beauty Spot Rd. E
Bennettsville, SC 29512

# SUBMITTAL SHEET
# BK-CRGX CABLE
# HEAT TRACE

BK-CRGX – **SELF-REGULATING HEATING CABLE**



| CAPACITIES |
|---|
| 3, 5, 8, 10, 12 W/ft<br>120 or 208-277 Volts |

JOB NAME: _____

LOCATION: _____

ARCHITECT: _____

ENGINEER: _____

CONTRACTOR: _____

SUBMITTED BY: _____ DATE: _____

| TAG/ITEM | QTY. | CATALOG NUMBER | HEATER | | MAX CIRCUIT LENGTH | CIRCUIT BREAKER SIZE | MAINTAIN TEMP | MINIMUM AMBIENT TEMP |
|---|---|---|---|---|---|---|---|---|
| | | | W/FT | VOLTS | | | | |
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| ACCESSORIES AND CONTROLS | TAG/ITEM | QTY. | CATALOG NUMBER | DESCRIPTION |
|---|---|---|---|---|
| | | | | |
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| SUBMITTED BY: | DATE |
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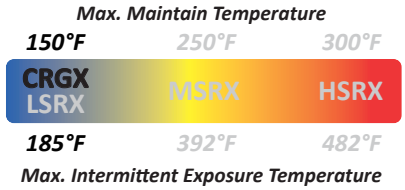
BERKO®

# CRGX Self-Regulating Heating Cable

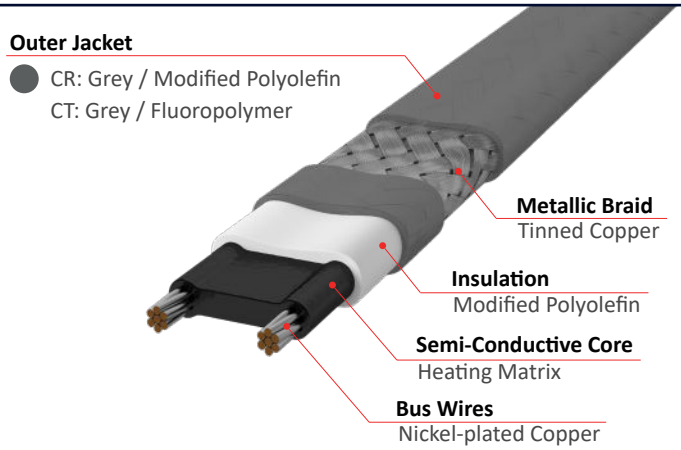



## Product Description

The CRGX Self-Regulating Heating Cable is designed for freeze protection and process temperature maintenance of metal and non-metal pipes, vessels, and equipment.

The unique PTC feature of CRGX self-regulating core elements adjusts its heat output in response to the surrounding temperature along the entire circuit, delivering more heat where and when required. This self-regulating feature also serves to prevent overheating, even in cases where CRGX cables overlap. Another benefit of the cable is the ability to cut to length in the field, completed with Marley Engineered Products system connection kits for quick and convenient installations.

CRGX heating cable system is certified for ordinary areas with maximum maintain temperature of 150°F (65°C) and intermittent exposure temperature of 185°F (85°C). Use of Marley Engineered Products connection kits for CRGX installation is required to comply with system approval, ensuring safe operation and reliable thermal performance.




## Specification

| | |
|---|---|
| Max. Intermittent Exposure Temp. | 185°F (85°C) |
| Max. Maintain or Continuous Exposure Temp. | 150°F (65°C) |
| Supply Voltage | 120V or 208-277V |
| Output Wattage | 3, 5, 8, 10, 12* W/ft @50°F (10, 16, 26, 33, 39W/m @10°C)<br>(* 12W/ft only available in Supply Voltage 200 – 277V) |
| Bus wire | 16 AWG |
| Min. Bending Radius | 0.5" @68°F (13mm @20°C), 1.6" @-58°F (40mm @-50°C) |
| Min. Installation Temperature | -58°F (-50°C) |
| Min. Start-up Temperature | -40°F (-40°C) |
| Max. Circuit Breaker Size | 40A |
| Outer Jacket Color | Grey |
| Heating Cable Dimensions (Nominal) | CR : 0.49" x 0.25" (12.5mm x 6.0mm),<br>CT : 0.46" x 0.21" (11.8mm x 5.0mm) |
| Heating Cable Weight | CR : 0.0741lb/ft(0.110kg/m), CT : 0.0695lb/ft(0.103kg/m) |

## Ordering Information

# BK-CRGX*a*-*bc*

| | |
|---|---|
| BK-CRGX = | Model Name |
| a = | Output Wattage: 03, 05, 08, 10, 12* W/ft |
| b = | Voltage: 1 = 120V , 2 = 208-277V |
| c = | Outer Jacket: CR = Polyolefin, CT = Fluoropolymer |

*12W/ft(39W/m) only available for 208 – 277V

## Connection Kits

Marley Engineered Products offers system components for power connections, splice or tee connections and end terminations to ensure proper functioning of the products and comply with warranty and approvals requirements.

For easier installation and safe operation, use of substituted parts are not recommended. Please contact Marley Engineered Products for more information on system components.

## Certification / Approvals

FM C US APPROVED

**FM26US0013X, FM26CA0003X**
Hazardous (classified) locations, indoors and outdoors
Class I, Division 2, Groups A, B, C, and D T6
Class II/III, Division 2, Groups F and G T6
Class I, Zone 1, AEx/Ex 60079-30-1 IIC T6 Gb
Zone 21, AEx/Ex 60079-30-1 IIIC T85°C Db
Type 4X, IP66

c UL us LISTED

**E515829** : Industrial and Commercial Pipe-Heating Cable†
**E552707** : Residential Pipe-Heating Cable†
**E515828** : De-icing and Snow-Melting Equipment†

Approval is valid only if the cable is installed with certified connection kits as a system.
†UL certification excludes 12 W/ft cables as well as fluoropolymer outer jacket cables.



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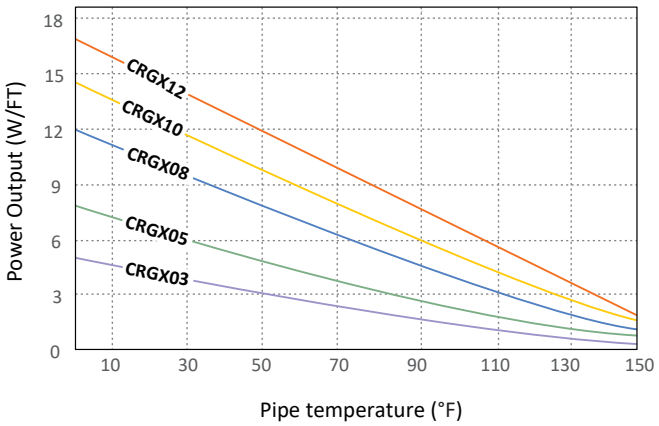
## Nominal Power Output Ratings on Insulated Metal Pipes at 120/240 V

CRGX Power-Temperature Characteristics




Circuit length adjustment factor

| Voltage | CRGX03 | CRGX05 | CRGX08 | CRGX10 | CRGX12 |
|---|---|---|---|---|---|
| 208V | 0.969 | 0.957 | 0.925 | 0.920 | 0.915 |
| 240V | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 277V | 1.054 | 1.065 | 1.088 | 1.120 | 1.130 |

Power adjustment factor

| Voltage | CRGX03 | CRGX05 | CRGX08 | CRGX10 | CRGX12 |
|---|---|---|---|---|---|
| 208V | 0.800 | 0.820 | 0.880 | 0.910 | 0.943 |
| 240V | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 277V | 1.190 | 1.170 | 1.120 | 1.100 | 1.071 |

[Note]
The power output will be derated by 25% on plastic pipes. HTAT-1 aluminum tape is required for installation on plastic pipes.

## Max. Circuit Length based on Circuit Breaker Selection

| Catalog Number | Start-Up Temperature °F (°C) | Maximum Circuit Length per Circuit Breaker, feet (meters) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 120V | | | | 240V | | | |
| | | 15A | 20A | 30A | 40A | 15A | 20A | 30A | 40A |
| CRGX03 | 50 (10) | 327 (99) | 377 (115) | 377 (115) | 377 (115) | 654 (199) | 732 (223) | 732 (223) | 732 (223) |
| | 32 (0) | 262 (80) | 350 (106) | 377 (115) | 377 (115) | 525 (160) | 700 (213) | 732 (223) | 732 (223) |
| | 0 (-18) | 200 (60) | 266 (81) | 377 (115) | 377 (115) | 400 (121) | 533 (162) | 732 (223) | 732 (223) |
| | -20 (-29) | 173 (52) | 231 (70) | 346 (105) | 377 (115) | 346 (105) | 461 (140) | 692 (210) | 732 (223) |
| | -40 (-40) | 152 (46) | 203 (61) | 305 (92) | 377 (115) | 305 (92) | 406 (123) | 610 (185) | 732 (223) |
| CRGX05 | 50 (10) | 200 (60) | 267 (81) | 302 (92) | 302 (92) | 400 (121) | 533 (162) | 604 (184) | 604 (184) |
| | 32 (0) | 166 (50) | 222 (67) | 302 (92) | 302 (92) | 333 (101) | 444 (135) | 604 (184) | 604 (184) |
| | 0 (-18) | 126 (38) | 168 (51) | 252 (76) | 302 (92) | 252 (76) | 336 (102) | 504 (153) | 604 (184) |
| | -20 (-29) | 110 (33) | 146 (44) | 220 (66) | 293 (89) | 220 (66) | 293 (89) | 439 (133) | 586 (178) |
| | -40 (-40) | 97 (29) | 130 (39) | 195 (59) | 259 (79) | 195 (59) | 259 (79) | 389 (118) | 519 (158) |
| CRGX08 | 50 (10) | 154 (46) | 205 (62) | 243 (74) | 243 (74) | 307 (93) | 409 (124) | 482 (147) | 482 (147) |
| | 32 (0) | 131 (40) | 175 (53) | 243 (74) | 243 (74) | 262 (80) | 350 (106) | 482 (147) | 482 (147) |
| | 0 (-18) | 104 (31) | 138 (42) | 207 (63) | 243 (74) | 207 (63) | 276 (84) | 415 (126) | 482 (147) |
| | -20 (-29) | 92 (27) | 122 (37) | 184 (55) | 243 (74) | 184 (55) | 245 (74) | 367 (111) | 482 (147) |
| | -40 (-40) | 82 (25) | 110 (33) | 165 (50) | 219 (66) | 165 (50) | 219 (66) | 329 (100) | 439 (133) |
| CRGX10 | 50 (10) | 125 (38) | 167 (50) | 207 (63) | 207 (63) | 250 (76) | 334 (101) | 410 (125) | 410 (125) |
| | 32 (0) | 110 (33) | 146 (44) | 207 (63) | 207 (63) | 220 (66) | 293 (89) | 410 (125) | 410 (125) |
| | 0 (-18) | 90 (27) | 120 (36) | 179 (54) | 207 (63) | 179 (54) | 239 (72) | 359 (109) | 410 (125) |
| | -20 (-29) | 81 (24) | 107 (32) | 161 (49) | 207 (63) | 161 (49) | 215 (65) | 322 (98) | 410 (125) |
| | -40 (-40) | 73 (22) | 97 (29) | 146 (44) | 195 (59) | 146 (44) | 195 (59) | 292 (89) | 390 (118) |
| CRGX12 | 50 (10) | | | | | 222 (67) | 295 (89) | 322 (98) | 322 (98) |
| | 0 (-18) | | | | | 156 (47) | 209 (63) | 313 (95) | 322 (98) |
| | -20 (-29) | | | | | 140 (42) | 187 (56) | 280 (85) | 322 (98) |
| | -40 (-40) | | | | | 127 (38) | 169 (51) | 253 (77) | 322 (98) |

[Note]
1. The circuit lengths are based on trip current characteristics of Type QO and Type QCB devices. For devices with different trip characteristics please consult Marley Engineered Products.
2. Use local electrical codes to select appropriate branch circuit breakers.
3. The total length of heating cables connected to the circuit breaker is the sum of all cables that have been spliced or interconnected in parallel. Ensure that the total length does not exceed the maximum circuit length as indicated above.
4. Ground fault protection of equipment is required for heat tracing branch circuits with typical trip level of 30mA. Thermal magnetic breakers are recommended to reduce nuisance tripping.
5. It is recommended to start up the circuits at higher temperatures, when possible, to avoid large start-up or in-rush current which may trip the circuit breaker.



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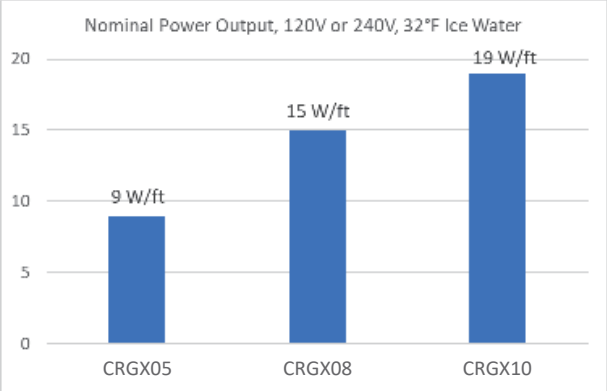
# Self-Regulating Heating Cable for Roof & Gutter Deicing

## Product Description

CRGX is also designed for roof and gutter de-icing applications in ordinary locations. Cut-to length spools with system components allow easy and safe installation on site. Pre-assembled products are also available upon request. Factory-assembled with power splice and end seal, plug-in power cord allows instant operation.

## Nominal Power Output Ratings on Roof and Gutter Applications




Circuit length adjustment factor

| Voltage | CRGX05 | CRGX08 | CRGX10 |
|---|---|---|---|
| 208V | 0.944 | 0.922 | 0.920 |
| 240V | 1.000 | 1.000 | 1.000 |
| 277V | 1.064 | 1.097 | 1.098 |

Power adjustment factor

| Voltage | CRGX05 | CRGX08 | CRGX10 |
|---|---|---|---|
| 208V | 0.820 | 0.880 | 0.910 |
| 240V | 1.000 | 1.000 | 1.000 |
| 277V | 1.170 | 1.120 | 1.100 |

## Max. Circuit Length based on Circuit Breaker Selection

| Catalog Number | Start-Up Temperature °F (°C) | Maximum Circuit Length per Circuit Breaker, feet (meters) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 120V | | | | 240V | | | |
| | | 15A | 20A | 30A | 40A | 15A | 20A | 30A | 40A |
| CRGX05 | 32 (0) ice | 100 (30) | 133 (40) | 200 (60) | 213 (64) | 200 (60) | 266 (81) | 400 (121) | 410 (124) |
| | 0 (-18) ice | 76 (23) | 101 (30) | 152 (46) | 203 (61) | 152 (46) | 203 (61) | 304 (92) | 410 (124) |
| CRGX08 | 32 (0) ice | 73 (22) | 96 (29) | 146 (44) | 167 (50) | 200 (60) | 266 (81) | 400 (121) | 410 (124) |
| | 0 (-18) ice | 53 (16) | 70 (21) | 104 (31) | 140 (42) | 152 (46) | 203 (61) | 304 (92) | 410 (124) |
| CRGX10 | 32 (0) ice | 62 (18) | 83 (25) | 125 (38) | 150 (45) | 125 (38) | 166 (50) | 250 (76) | 301 (91) |
| | 0 (-18) ice | 50 (15) | 67 (20) | 101 (30) | 134 (40) | 101 (30) | 135 (41) | 202 (61) | 269 (81) |

*Technical information subject to change without notification.*

Questions? Reach out to start a conversation at **MarleyMEP.com**

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