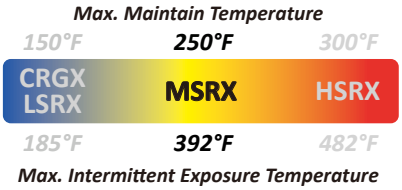
INDEECO

# MSRX Self-Regulating Heating Cable

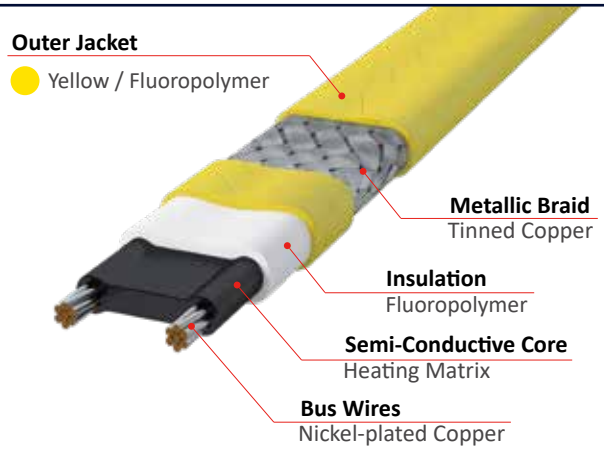



## Product Description

The MSRX Self-Regulating Heating Cable is designed for freeze protection and process temperature maintenance of metal pipes, vessels, and equipment. MSRX is suitable for Hot Water Temperature Maintenance, Grease Waste Temperature Maintenance and Heat Loss Replacement applications.

The unique PTC feature of MSRX 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 MSRX cables overlap. Another benefit of the cable is the ability to cut to length in the field, completed with Indeeco system connection kits for quick and convenient installations.

MSRX heating cable system is certified for ordinary and hazardous areas with maximum maintain temperature of 250°F (120°C) and intermittent exposure temperature of 392°F (200°C). Use of Indeeco connection kits for MSRX installation is required to comply with system approval, ensuring safe operation and reliable thermal performance.




## Specification

| | |
|---|---|
| Max. Intermittent Exposure Temp. | 392°F (200°C) |
| Max. Maintain or Continuous Exposure Temp. | 250°F (120°C) |
| Supply Voltage | 120V or 208 – 277V |
| Output Wattage | 5, 10, 15, 20W/ft @50°F (16, 33, 49, 66W/m @10°C) |
| Bus wire | 16 AWG |
| Min. Bending Radius | 0.8" @70°F (20mm @20°C), 1.8" @-76°F (45mm @-60°C) |
| Min. Installation Temperature | -76°F (-60°C) |
| Min. Start-up Temperature | -40°F (-40°C) |
| Max. Circuit Breaker Size | 50A |
| Outer Jacket Color | Yellow |
| Heating Cable Dimensions (Nominal) | 0.43" x 0.20" (11.0mm x 5.0mm) |
| Heating Cable Weight | 0.0753lb/ft (0.112kg/m) |

## Ordering Information

**MSRX*a*-*b*CT**

| | |
|---|---|
| MSRX = | Model Name |
| a = | Output Wattage: 05, 10, 15, 20 W/ft at 50 deg F |
| b = | Voltage: 1 = 120V , 2 = 208-277V |
| CT = | Outer Jacket: Fluoropolymer |

## Connection Kits

Indeeco 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 Indeeco for more information on system components.

## Certification / Approvals

FM C US APPROVED

**FM25US0350X, FM25CA0121X**
Hazardous (classified) locations, indoors and outdoors
Class I, Division 2, Groups A, B, C, and D T3
Class II/III, Division 2, Groups F and G T3
Class I, Zone 1, AEx/Ex 60079-30-1 IIC T3 Gb
Zone 21, AEx/Ex 60079-30-1 IIIC T200°C Db
Type 4X, IP66



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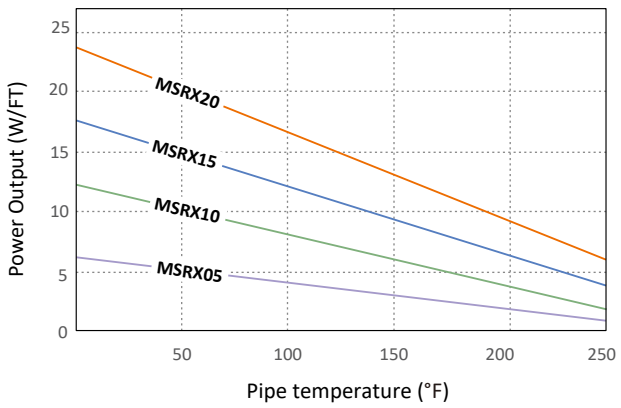
## Nominal Power Output Ratings on Insulated Metal Pipes at 120/240 V

MSRX Power-Temperature Characteristics




Circuit length adjustment factor

| Voltage | MSRX05 | MSRX10 | MSRX15 | MSRX20 |
|---|---|---|---|---|
| 208V | 0.94 | 0.94 | 0.93 | 0.94 |
| 240V | 1.00 | 1.00 | 1.00 | 1.00 |
| 277V | 1.09 | 1.09 | 1.11 | 1.11 |

Power adjustment factor

| Voltage | MSRX05 | MSRX10 | MSRX15 | MSRX20 |
|---|---|---|---|---|
| 208V | 0.88 | 0.89 | 0.90 | 0.91 |
| 240V | 1.00 | 1.00 | 1.00 | 1.00 |
| 277V | 1.06 | 1.07 | 1.07 | 1.06 |

[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 | 50A | 15A | 20A | 30A | 40A | 50A |
| MSRX05 | 50 (10) | 180 (54) | 240 (73) | 358 (109) | 358 (109) | 358 (109) | 360 (109) | 480 (146) | 709 (216) | 709 (216) | 709 (216) |
| | 0 (-18) | 141 (42) | 187 (57) | 281 (85) | 358 (109) | 358 (109) | 281 (85) | 375 (114) | 562 (171) | 709 (216) | 709 (216) |
| | -20 (-29) | 129 (39) | 172 (52) | 258 (78) | 345 (105) | 358 (109) | 258 (78) | 345 (105) | 517 (157) | 689 (210) | 709 (216) |
| | -40 (-40) | 120 (36) | 159 (48) | 239 (72) | 319 (97) | 358 (109) | 239 (72) | 319 (97) | 478 (145) | 638 (194) | 709 (216) |
| MSRX10 | 50 (10) | 107 (32) | 142 (43) | 213 (65) | 253 (77) | 253 (77) | 213 (65) | 284 (86) | 427 (130) | 502 (153) | 502 (153) |
| | 0 (-18) | 87 (26) | 116 (35) | 174 (53) | 232 (70) | 253 (77) | 174 (53) | 232 (70) | 348 (106) | 464 (141) | 502 (153) |
| | -20 (-29) | 81 (24) | 108 (32) | 162 (49) | 216 (65) | 253 (77) | 162 (49) | 216 (65) | 324 (98) | 432 (131) | 502 (153) |
| | -40 (-40) | 76 (23) | 101 (30) | 152 (46) | 202 (61) | 253 (76) | 152 (46) | 202 (61) | 303 (92) | 404 (123) | 502 (153) |
| MSRX15 | 50 (10) | 78 (23) | 104 (31) | 156 (47) | 203 (62) | 203 (62) | 156 (47) | 208 (63) | 312 (95) | 400 (122) | 400 (122) |
| | 0 (-18) | 65 (19) | 87 (26) | 130 (39) | 174 (52) | 203 (62) | 130 (39) | 174 (52) | 261 (79) | 347 (105) | 400 (122) |
| | -20 (-29) | 61 (18) | 82 (24) | 122 (37) | 163 (49) | 203 (62) | 122 (37) | 163 (49) | 245 (74) | 326 (99) | 400 (122) |
| | -40 (-40) | 58 (17) | 77 (23) | 115 (35) | 154 (46) | 192 (58) | 115 (35) | 154 (46) | 230 (70) | 307 (93) | 384 (117) |
| MSRX20 | 50 (10) | 58 (17) | 78 (23) | 117 (35) | 155 (47) | 174 (53) | 117 (35) | 155 (47) | 233 (71) | 311 (94) | 348 (106) |
| | 0 (-18) | 50 (15) | 67 (20) | 100 (30) | 134 (40) | 167 (50) | 100 (30) | 134 (40) | 200 (61) | 267 (81) | 334 (101) |
| | -20 (-29) | 47 (14) | 63 (19) | 95 (28) | 126 (38) | 158 (48) | 95 (28) | 126 (38) | 190 (57) | 253 (77) | 316 (96) |
| | -40 (-40) | 45 (13) | 60 (18) | 90 (27) | 120 (36) | 150 (45) | 90 (27) | 120 (36) | 180 (54) | 240 (73) | 300 (91) |

[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 Indeeco.
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.
6. Standard 50-foot minimum length for all heat trace cables.

*Technical information subject to change without notification.*

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



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