

3M Science.
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3M™ Self-Regulating Heat Tracing Cables

Accessories Guide



Power Connection, Splice, and End-Termination Kits



Metallic Power Connection Kit with Junction Box, ECA-1-SR-SP

Designed for connecting one or two heating cables to power or for splicing two cables together. The ECA-1-SR KIT components include:

- NEMA 7 junction box
- Pipe-mounted expediter
- 2 stainless steel pipe attachment bands
- Heater cable grommet
- 2 power connection boots (TBX-3L)
- RTV adhesive
- Wire fasteners and grounding splice lug



Metallic T-Splice Kit with Junction Box, ECT-2-SR

Designed for connecting two heating cables to power or for splicing three cables together. The ECT-2-SR KIT components include:

- NEMA 7 junction box
- Pipe-mounted expediter
- Third-cable entry assembly
- 2 stainless steel pipe attachment bands
- Heater cable grommets
- 3 power connection boots (TBX-3L)
- RTV adhesive
- Wire fasteners and grounding splice lug



3M™ Non-Metallic Power Connection Kit, PCA-1-SR

Designed for connecting up to three heating cables to power. The PCA-1-SR may also be used as an in-line or T-splice connection kit. The PCA-1-SR kit components include:

- NEMA 4X junction box
- Pipe-mounted expediter
- 2 stainless steel pipe attachment bands
- Heater cable grommet
- 3 power connection boots (TBX-3L)
- RTV adhesive
- Ground wire extension lead with lug
- Wire fasteners



3M™ Non-Metallic T-Splice Kit with Splice Cover, PCS-1-SR

Re-enterable in-line or T-splice kit is designed to fabricate outside-the-insulation splices of TTS™ Self-Regulating Heating Cable Self-Regulating Heat Tracing Cables. The PCS-1-SR kit components include:

- NEMA 4X pipe-mounted expediter with splice cover
- 2 stainless steel pipe attachment bands
- Heater cable grommet
- 3 power connection boots (TBX-3L)
- RTV adhesive
- Wire fasteners and grounding splice lug





Non-metallic power connection kit with junction box, DP-Kit

Designed to fabricate power connections, in-line/T-splice connections or for making end terminations. Electrical connections are made in terminal blocks utilizing nickel-plated copper terminals to ensure corrosion-free electrical integrity. (PETK kit required, order separately)



Power Connection Gland Kit w/o Junction Box, 18-SXG-KIT

Non-hazardous power connection kit includes rubber boot, RTV adhesive, grommet and gland connector. Junction box not included.



End-of-circuit light kit with junction box, DE-B

Designed to provide visual indication of an energized heating circuit. The DE-B utilizes a high-intensity green LED assembly for superior day or night visibility. Type 4X pipe-mounted fitting with locking splice cover, stainless steel pipe attachment band for piping 10" or less. (SCTK termination kit required, order separately)



3M™ End Termination Kit, ET-6C

End termination kits are designed to properly terminate the end (away from power) of an SX heat-tracing circuit. Each kit includes two rubber end caps plus RTV adhesive.



3M™ End Termination Kit, ET-4S

End termination kits are specifically designed for roof and gutter applications. Each kit contains one UV-resistant heat shrink end cap.



Power and End termination kit for DP Kit, PETK-1D

Power and End Termination Kit, PETK-1D, is designed for use with TTS™ Heating Cable. This kit includes one power connection boot, one end cap, RTV Sealant, and one caution label.



Power Connection, Splice, and End-Termination Kits



End boot for DE-B, SCTK-1D

Splice connection/termination kit, includes power boots, wire spring connectors, RTV adhesive.



3M™ T-Splice Kit, HS-TBSK

3M™ Heat Shrink T-Splice kits designed to join three heater cables together. Kit components include one heat shrink tube, one heat shrink tee, two silicone tubes, two parallel connectors, one butt connector, one tie wrap, and one caution label. Used in ordinary non-hazardous locations.



3M™ In-Line Splice Kit, HS-PBSK

Heat shrink inline splice kit designed to join two heater cables together. Kit components include a heat shrink sleeve, two silicone sleeves, two butt connectors, and a caution label. Used in ordinary non-hazardous locations.



KRS™ Power Connection and End Termination Kit w/o Junction Box, KSR-CFK

Circuit fabrication kit is designed to fabricate a KSR™ Self-Regulating Heating Cable circuit with one power connection boot and one end cap. Both power and end terminations must be made in UL listed or CSA Approved junction boxes.



3M™ Cable Splice, KSR™, SK-DB

This cable splice kit is designed to fabricate an in-line splice between two pieces of overjacketed cable. The kit allows for field fabrication of heating cable should the cable become damaged during installation. Easy-to-use kit includes splice lugs, self-vulcanizing tape, and heat shrink tubing.



Controls and Sensors



Snow/Ice Sensor

Snow and Ice Sensor/Controller, STC-DS-8

Gutter snow and ice sensor/controller that can be used in ordinary, non-hazardous locations. This unit includes remote sensor capabilities with a 10-foot lead wire, which allows sensor placement directly in gutters or downspouts. Controller includes an adjustable temperature trigger set point from 1°C to 7°C (34°F to 44°F) with manual on/off, automatic and standby switching functions. The STC-DS-8 operates on a 120 Vac or 208-240 Vac power source, providing a single 30-amp. Normally open load contact set rated to 277 Vac. Contactor may be required. Not included in kit.



Snow/Ice Sensor

Snow and Ice Sensor/Controller Pole Mount, STC-DS-2C

Stand-alone snow and ice sensor/controller that can be used in ordinary, non-hazardous locations. This compact unit provides an adjustable temperature trigger set point from 1°C to 7°C (34°F to 44°F) with manual on/off, automatic and standby switching functions. The STC-DS-2C operates on a 120 Vac or 208-240 Vac power source, providing a single 30-amp. Normally open load contact set rated to 277 Vac. Contactor may be required. Not included in kit.



Indoor

Indoor Thermostat, R1-050-DP

This cost-effective thermostat, designed for use in indoor/protected locations, utilizes a painted steel NEMA 1 enclosure to house the thermostat switch while permitting temperature adjustments without removing any cover.



Indoor/Outdoor

Weatherproof Indoor/Outdoor Thermostat, R3C-0120-DP

A gasketed cast aluminum enclosure provides weatherproof protection to the thermostat switch and internal setpoint dial.



Controls and Sensors

Application: Electric Heat Tracing Control

The R1 and R3, equipped with double-pole switches, are designed for use as adjustable control thermostats for freeze protection and temperature maintenance applications requiring pipewall or tankwall sensing.

The R1 thermostat is approved for indoor/protected use in ordinary (non-classified) locations. The R3 is approved for indoor/outdoor use in ordinary (non-classified) locations.

Voltage rating	240 Vac
Switch rating	25 amps
Switch type	DPST
Electrical connection	
R1 ¹	Screw terminals on switch
R3 ²	12 AWG leads
Adjustable control range	
R1	0°C to 50°C (32°F to 122°F)
R3	0°C to 120°C (32°F to 248°F)
Maximum control differential	
R1	1.8°C (32°F)
R3	4.3°C (7.7°F)
Setpoint repeatability	
R1	±0.4°C (0.7°F)
R3	±1.1°C (2.0°F)
Maximum bulb exposure temperature	
R1	68°C (154°F)
R3	200°C (392°F)
Bulb dimensions	
R1	6 × 300 mm (1/4" x 12")
R3	6 × 140 mm (1/4" x 5-1/2")
Bulb material	Copper
Capillary length	300 cm (10')
Capillary material	Copper

Notes:

1. The R1 includes two ½" or ¾" conduit knockouts with an internal grounding terminal.
2. The R3 includes two ½" NPT conduit hubs with an internal grounding terminal.

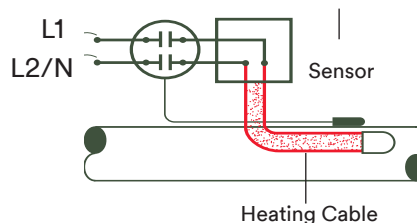


R1-050-DP



R3C-0120-DP

Typical wiring diagram:



Installation Accessories Designed to Compliment 3M Heating Cables



3M™ Aluminum Foil Tape, AL-20L

Aluminum tape for securing cable in the bottom of a gutter or on a non-metallic pipe. This tape is designed to hold cable in place and prevent movement. Allow one foot of tape for each foot of heating cable. Tape is 51 mm (2") wide x 55 m (150') long.



3M™ Fibreglass Cloth Tape, B-Tape

Fibreglass cloth tape for circumferential banding cable to piping every 30 cm (12") or as required by code or specification. Tape is 13 mm (1/2") wide x 55 m (180') long.

- Max. Exposure Temp 150°C (300°F)
- Min. Installation Temp 0°C (32°F)
- Min. Operating Temp -40°C (-40°F)



3M™ Caution Labels, Bilingual Caution Labels

These caution labels are vinyl-based peel and stick with black letters on a yellow background and are intended for direct exposure to harsh environments. In accordance with the CEC (62-316), electrically heated pipelines and vessels are to be "suitably marked."

Caution labels should be placed at 3 m (10') intervals or as required by code or specification (25 labels per pack).



3M™ Expansion Joint Kit, KSR™-EJK

Expansion joint kit is designed to allow KSR™ Self-Regulating Heat Tracing Cables to cross a concrete expansion or construction joint. When installed, the kit will allow normal expansion and contraction of the substrate without straining or damaging the heating circuit. Easy-to-use kit includes reinforced flexible sleeve and RTV sealant.



Installation Accessories Designed to Compliment 3M Heating Cables



Cable Roof Fastener, RG-CRF

(25/bag): Cable roof fastener (left) is designed to hold heating cable in place and is suitable for most types of roof surfaces. The fastener can be secured to the roof with screws (a waterproof cover material is recommended) or adhesive. (Screws, waterproofing and adhesive are not included.)

Cable Mounting Clip, RG-CMC

(100/bag): Cable mounting clip (right) is designed to hold heating cable in place on standing seam roof surfaces. The “P” shaped fastener can be secured to the roof with screws using a waterproof cover material. (Screws and waterproofing are not included.)



Downspout Cable Hanger, RG-DCH

Downspout cable hanger is designed to secure the cable when entering long downspouts to prevent abrasion of the cable by the edge of the gutter/downspout. Hanger is to be secured to the building fascia in a similar manner to the gutters.



3M™ Performance Plus™ Wire Connectors (B/G+, O/B+, R/Y+, T/R+ and T/Y+)

3M™ Performance Plus™ Wire Connectors are used to connect the conductor ends inside metallic or non-metallic junction boxes. They combine a very small shell with an increased wire range. The spring bites wire quickly with less effort, and the small shell fits easily into tight spaces. 3M™ Performance Plus+™ Wire Connectors can withstand temperatures up to 105°C (221°F).

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