



PRODUCT DATASHEET

BSX™

SELF-REGULATING HEAT TRACING

APPLICATION

BSX self-regulating heating cables are designed to provide freeze protection or process temperature maintenance to metallic and nonmetallic piping, tanks and equipment.

The heat output of BSX cable varies in response to the surrounding conditions along the entire length of a circuit. Whenever the heat loss of the insulated pipe, tank or equipment increases (as ambient temperature drops), the heat output of the cable increases. Conversely, when the heat loss decreases (as the ambient temperature rises or product flows), the cable reacts by reducing its heat output. This self-regulating feature allows BSX to be overlapped without temperature upset damage to the cable.

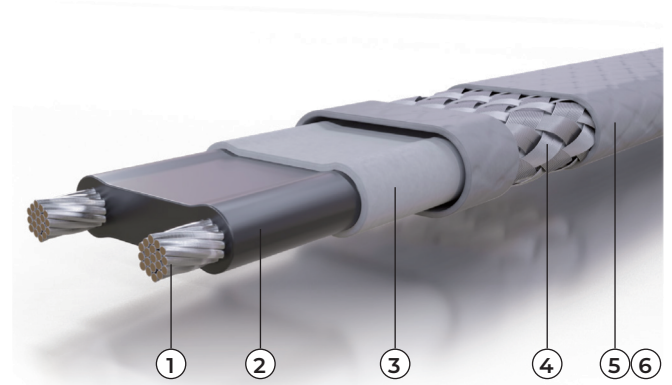
BSX cables are certified for use in ordinary (nonclassified) areas and in potentially explosive atmospheres in accordance with the ATEX Directive and the IECEx Scheme.

RATINGS

Available Watt densities	9, 15, 25, 32 W/m at 10°C
Nominal supply voltage ¹	230 Vac
Maximum maintenance temperature	65°C
Maximum continuous exposure temperature	
Power-off	85°C
Minimum installation temperature	-60°C
Minimum bend radius	
@ -15°C	10 mm
@ -60°C	32 mm
T-rating ²	
9, 15, 25 W/m	T6 85°C
32 W/m	T5 100°C
Based on stabilised design ³	T6 85°C

Notes

1. Cable may be energised at other voltages; contact Thermon for design assistance.
2. T-rating per internationally recognised testing agency guidelines.
3. Thermon heating cables are approved for the listed T-ratings using the stabilised design method. This enables the cable to operate in hazardous areas without limiting thermostats. The T-rating may be determined using CompuTrace® Electric Heat Tracing Design Software or contact Thermon for design assistance.



CONSTRUCTION

1. Nickel-plated copper bus wires (1.3 mm²)
2. Radiation cross-linked semiconductive heating matrix
3. Radiation cross-linked dielectric insulation
4. Tinned copper braid
5. Polyolefin overjacket provides additional protection to cable and braid where exposure to aqueous inorganic chemicals is expected.

OPTIONS

6. FOJ Fluoropolymer overjacket over tinned copper braid provides additional protection to cable and braid where exposure to organic chemicals or corrosives is expected.

BASIC ACCESSORIES

Thermon offers system accessories designed specifically for rapid, trouble-free installation of Thermon heating cables.

All cables require a connection kit to comply with approval requirements. Information on accessories to complete a heater circuit installation can be found in the "Heating Cable Systems Accessories" product specification sheet (Form TEP0010U).

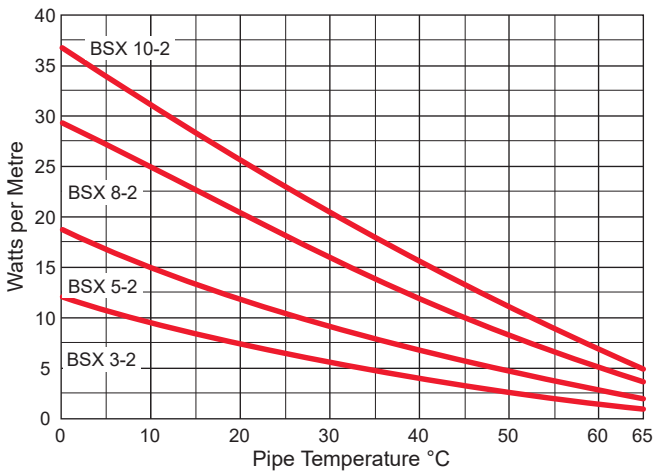


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POWER OUTPUT CURVES

The power outputs shown apply to cable installed on insulated metallic pipe (using the procedures outlined in IEEE Standard 515) at the service voltages stated below. For use on other service voltages, contact Thermon.

Product Type 230 Vac Nominal	Power Output at 10°C W/m
BSX 3-2	9
BSX 5-2	15
BSX 8-2	25
BSX 10-2	32



CIRCUIT BREAKER SIZING AND TYPE 1

Maximum circuit lengths for various circuit breaker amperages are shown below. Circuit breaker sizing and earth-fault protection should be based on applicable local codes. For information on design and performance on other voltages, contact Thermon.

Earth-fault protection of equipment should be provided for each branch circuit supplying electric heating equipment.

Type B Circuit Breakers

230 Vac Service Voltage		Max. Circuit Length ³ vs. Breaker Size Metres (ft)		
Product Type	Start-Up Temperature ² °C (°F)	16 A	25 A	32 A
BSX 3-2	10 (50)	191 (627)	220 (722)	220 (722)
	0 (32)	191 (627)	220 (722)	220 (722)
	-20 (-4)	156 (512)	220 (722)	220 (722)
	-40 (-40)	127 (417)	199 (653)	220 (722)
BSX 5-2	10 (50)	117 (384)	176 (577)	176 (577)
	0 (32)	117 (384)	176 (577)	176 (577)
	-20 (-4)	98 (322)	153 (502)	176 (577)
	-40 (-40)	80 (262)	126 (413)	161 (528)
BSX 8-2	10 (50)	93 (305)	146 (479)	147 (482)
	0 (32)	93 (305)	146 (479)	147 (482)
	-20 (-4)	74 (243)	116 (381)	147 (482)
	-40 (-40)	61 (200)	95 (312)	122 (400)
BSX 10-2	10 (50)	66 (217)	104 (341)	132 (433)
	0 (32)	58 (190)	91 (299)	117 (384)
	-20 (-4)	46 (151)	71 (233)	92 (302)
	-40 (-40)	37 (121)	58 (190)	75 (246)

Type C Circuit Breakers

230 Vac Service Voltage		Max. Circuit Length ³ vs. Breaker Size Metres (ft)		
Product Type	Start-Up Temperature ² °C (°F)	16 A	25 A	32 A
BSX 3-2	10 (50)	191 (627)	220 (722)	220 (722)
	0 (32)	191 (627)	220 (722)	220 (722)
	-20 (-4)	156 (512)	220 (722)	220 (722)
	-40 (-40)	127 (417)	199 (653)	220 (722)
BSX 5-2	10 (50)	117 (384)	176 (577)	176 (577)
	0 (32)	117 (384)	176 (577)	176 (577)
	-20 (-4)	98 (322)	153 (502)	176 (577)
	-40 (-40)	80 (262)	126 (413)	161 (528)
BSX 8-2	10 (50)	93 (305)	146 (479)	147 (482)
	0 (32)	93 (305)	146 (479)	147 (482)
	-20 (-4)	74 (243)	116 (381)	147 (482)
	-40 (-40)	61 (200)	95 (312)	122 (400)
BSX 10-2	10 (50)	77 (253)	120 (394)	132 (433)
	0 (32)	71 (233)	111 (364)	132 (433)
	-20 (-4)	55 (180)	87 (285)	111 (364)
	-40 (-40)	45 (148)	71 (233)	91 (299)

CERTIFICATIONS/APPROVALS

0344 Certificate Sira 19ATEX3074 in accordance with the EU ATEX Directive 2014/34/EU

International Electrotechnical Commission
 IEC Certification Scheme for Explosive Atmospheres
 CSA 19.0009

Factory Mutual Research
 Ordinary and Hazardous (Classified) Locations

Underwriters Laboratories Inc.
 Hazardous (Classified) Locations

BSX has additional hazardous area approvals including:
 DNV · Lloyd's · TIIS · CCE/CSIR · GOST-R
 Contact Thermon for additional approvals and specific information.

Notes

- Maximum circuit lengths shown are based on an instantaneous trip current characteristic per IEC 60898 at the referenced start-up temperature and a 10°C maintenance temperature. For maximum circuit lengths with other trip current characteristics contact Thermon.
- While a heat tracing system is generally designed to keep the contents of a pipe at the desired maintain temperature, the cable may be energized at lower temperatures. For design data with lower start-up temperatures than represented above contact Thermon for design assistance.
- The maximum circuit length is for one continuous length of cable, not the sum of segments of cable. Refer to CompuTrace® design software or contact Thermon for current loading of segments.