



PRODUCT SPECIFICATIONS

D1-BSX™ SELF-REGULATING HEATING CABLE

for Division 1 Hazardous Areas

APPLICATION

D1-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 D1-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.

D1-BSX cables are specifically approved for use in Division 1 hazardous (classified) areas.

RATINGS

Available watt densities 3, 5, 8, 10 w/ft @ 50°F
(10, 16, 26, 33 w/m @ 10°C)

Supply voltages 110-120 or 208-277 Vac

Max. maintenance temperature 150°F (65°C)

Max. continuous exposure temperature

Power-off 185°F (85°C)

Minimum bend radius

@ 5°F (-15°C) 0.38" (10mm)

@ -76°F (-60°C) 1.25" (32 mm)

Minimum bend radius 1.25" (32 mm)

T-rating ¹

3, 5, 8 w/ft (10, 16, 26 W/m) T6 185°F (85°C)

10 w/ft (33 W/m) T5 212°F (100°C)

Notes

1. T-rating per the National Electrical Code.

2. Thermon heating cables are approved for the listed T-ratings using the stabilized 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 (16 AWG)

2 Radiation cross-linked semiconductive heating matrix

3 Radiation cross-linked dielectric insulation

4 Tinned copper braid

5 Fluoropolymer overjacket

BASIC ACCESSORIES

The D1-ECK kit (pictured at right) is required for power connection and heating cable termination in Division 1 hazardous (classified) areas. D1-ECK-2 kits for in-line splices and D1-ECT kits for T-splices are also available.



If D1-BSX cable terminations and/or splices are located more than 1' (305 mm) outside the Division 1 hazardous area, Division 2 approved termination kits may be used. For additional information on these accessories, refer to Form TEP0010.

THERMON The Heat Tracing Specialists®

ISO 9001
REGISTERED

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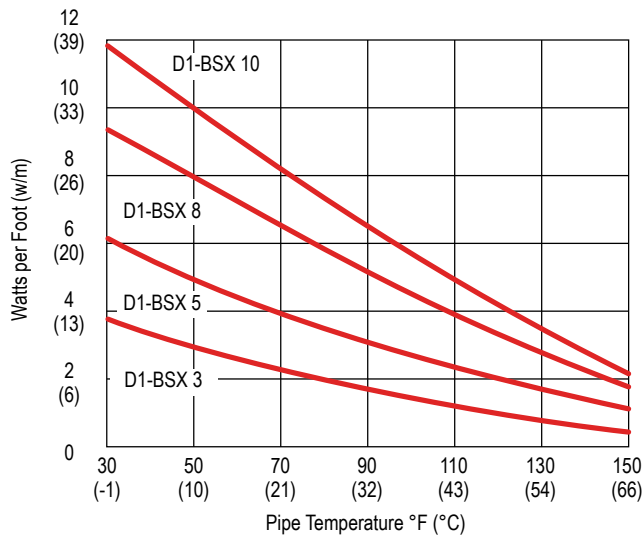
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POWER OUTPUT CURVES ¹

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.

Catalog Number 120 Vac Nominal	Catalog Number 240 Vac Nominal	Power Output at 50°F (10°C) w/ft (m)
D1-BSX 3-1	D1-BSX 3-2	3 (10)
D1-BSX 5-1	D1-BSX 5-2	5 (16)
D1-BSX 8-1	D1-BSX 8-2	8 (26)
D1-BSX 10-1	D1-BSX 10-2	10 (33)



CIRCUIT BREAKER SIZING ²

Maximum circuit lengths for various circuit breaker amperages are shown below. Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The National Electrical Code and Canadian Electrical Code require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

120 Vac Service Voltage		Max. Circuit Length ³ vs. Breaker Size ft (m)		
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A
		D1-BSX 3-1		
	50 (10)	360 (110)	360 (110)	360 (110)
	0 (-18)	325 (99)	360 (110)	360 (110)
	-20 (-29)	285 (87)	360 (110)	360 (110)
	-40 (-40)	260 (79)	360 (110)	360 (110)
D1-BSX 5-1				
	50 (10)	240 (73)	300 (91)	300 (91)
	0 (-18)	205 (62)	300 (91)	300 (91)
	-20 (-29)	185 (56)	275 (84)	295 (90)
	-40 (-40)	165 (50)	250 (76)	265 (81)
D1-BSX 8-1				
	50 (10)	190 (58)	240 (73)	240 (73)
	0 (-18)	150 (46)	225 (69)	240 (73)
	-20 (-29)	135 (41)	200 (61)	240 (73)
	-40 (-40)	120 (37)	180 (55)	215 (66)
D1-BSX 10-1				
	50 (10)	160 (49)	200 (61)	200 (61)
	0 (-18)	110 (34)	170 (52)	200 (61)
	-20 (-29)	100 (30)	150 (46)	200 (61)
	-40 (-40)	90 (27)	135 (41)	180 (55)

CERTIFICATIONS/APPROVALS



FM Approvals
Ordinary Locations
Hazardous (Classified) Locations
Class I, Divisions 1 and 2, Groups B, C and D
Class II, Divisions 1 and 2, Groups E, F and G



Underwriters Laboratories Inc.
Ordinary Locations
Hazardous (Classified) Locations
Class I, Divisions 1 and 2, Groups B, C and D
Class II, Divisions 1 and 2, Groups E, F and G
Class III, Divisions 1 and 2

Approvals require the use of D1-ECK or D1-ECT kits for all connections (power, splice, tee and end terminations) located within Class I, Division 1 hazardous area.

IEEE 515 requires that Thermon review all Division 1 application designs.

Notes

- For more precise power output values as a function of pipe temperature, refer to CompuTrace®.
- Based on the trip current characteristic of Type QOB or Type QO equipment protection devices. For devices with other trip current characteristics, contact Thermon.
- 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.

240 Vac Service Voltage		Max. Circuit Length ³ vs. Breaker Size ft (m)		
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A
		D1-BSX 3-2		
	50 (10)	725 (221)	725 (221)	725 (221)
	0 (-18)	650 (198)	725 (221)	725 (221)
	-20 (-29)	575 (175)	725 (221)	725 (221)
	-40 (-40)	515 (157)	725 (221)	725 (221)
D1-BSX 5-2				
	50 (10)	480 (146)	600 (183)	600 (183)
	0 (-18)	395 (120)	590 (180)	600 (183)
	-20 (-29)	350 (107)	525 (160)	590 (180)
	-40 (-40)	315 (96)	475 (145)	530 (162)
D1-BSX 8-2				
	50 (10)	385 (117)	480 (146)	480 (146)
	0 (-18)	285 (87)	425 (130)	480 (146)
	-20 (-29)	255 (78)	380 (122)	480 (146)
	-40 (-40)	230 (70)	345 (116)	430 (131)
D1-BSX 10-2				
	50 (10)	280 (85)	400 (122)	400 (122)
	0 (-18)	225 (69)	340 (104)	400 (122)
	-20 (-29)	200 (61)	300 (91)	400 (122)
	-40 (-40)	180 (55)	275 (84)	365 (111)