



## PRODUCT SPECIFICATIONS

# D1-HTSX™

## SELF-REGULATING HEATING CABLE

For Division 1 Hazardous Areas

### APPLICATION

D1-HTSX self-regulating heating cables are designed specifically for process temperature maintenance or freeze protection where high temperature exposure capability is required. D1-HTSX withstands the temperature exposures associated with steam purging.

The heat output of D1-HTSX cable varies in response to the surrounding temperature. Variations in the ambient temperature or heat lost through the thermal insulation are compensated for automatically along the entire length of a heat-traced pipe.

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

### RATINGS

Available watt densities .....3, 6, 9, 12, 15, 20 W/ft @ 50°F  
(10, 20, 30, 39, 49, 66 W/m @ 10°C)

Supply voltages .....110-120 or 208-277 Vac

Max. maintenance temperature .....302°F (150°C)

Max. exposure temperature

Intermittent power-on or off .....482°F (250°C)

Continuous power-off .....400°F (204°C)

Minimum installation temperature .....-76°F (-60°C)

Minimum bend radius

@ 5°F (-15°C) ..... 0.38" (10mm)

@ -76°F (-60°C) ..... 1.25" (32 mm)

T-rating <sup>1</sup> .....

3,6,9,12, 15-2 W/ft .....T3 392°F (200°C)

15-1 and 20-1 W/ft ..... T2D 419°F (215°C)

20-2 W/ft ..... T2C 446°F (230°C)

Based on stabilized design <sup>2</sup> ..... T3 to T6

#### 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 Semiconductive heating matrix and fluoropolymer dielectric insulation

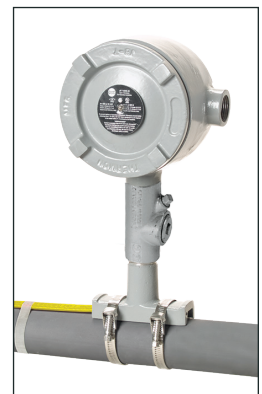
3 Tinned copper braid

4 Fluoropolymer overjacket provides additional protection to cable and braid where exposure to chemicals or corrosives is expected

### BASIC ACCESSORIES

The D1-ECK kit (pictured below) 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-HTSX 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.





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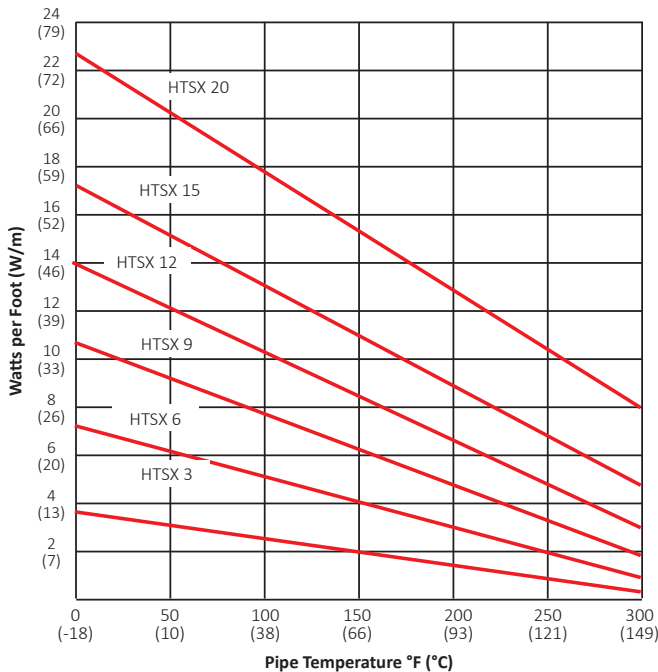
# D1-HTSX™ SELF-REGULATING HEATING CABLE

For Division 1 Hazardous Areas

## POWER OUTPUT CURVES <sup>1</sup>

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-HTSX 6-1	D1-HTSX 6-2	6 (20)
D1-HTSX 9-1	D1-HTSX 9-2	9 (30)
D1-HTSX 12-1	D1-HTSX 12-2	12 (39)
D1-HTSX 15-1	D1-HTSX 15-2	15 (49)
D1-HTSX 20-1	D1-HTSX 20-2	20 (66)



## CIRCUIT BREAKER SIZING <sup>2</sup>

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 <sup>3</sup> vs. Breaker Size ft (m)		
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A
D1-HTSX 6-1	50 (10)	235 (71)	250 (77)	250 (77)
	0 (-18)	235 (71)	250 (77)	250 (77)
	-20 (-29)	235 (71)	250 (77)	250 (77)
	-40 (-40)	235 (71)	250 (77)	250 (77)
D1-HTSX 9-1	50 (10)	170 (52)	205 (62)	205 (62)
	0 (-18)	170 (52)	205 (62)	205 (62)
	-20 (-29)	170 (52)	205 (62)	205 (62)
	-40 (-40)	165 (50)	205 (62)	205 (62)
D1-HTSX 12-1	50 (10)	135 (41)	175 (54)	175 (54)
	0 (-18)	135 (41)	175 (54)	175 (54)
	-20 (-29)	135 (41)	175 (54)	175 (54)
	-40 (-40)	125 (38)	175 (54)	175 (54)
D1-HTSX 15-1	50 (10)	100 (30)	160 (48)	160 (49)
	0 (-18)	95 (29)	150 (46)	160 (49)
	-20 (-29)	90 (27)	145 (44)	160 (49)
	-40 (-40)	85 (26)	135 (41)	160 (49)
D1-HTSX 20-1	50 (10)	85 (26)	130 (40)	140 (42)
	0 (-18)	80 (24)	120 (37)	140 (42)
	-20 (-29)	75 (23)	115 (35)	140 (42)
	-40 (-40)	70 (21)	110 (33)	140 (42)

240 Vac Service Voltage		Max. Circuit Length <sup>3</sup> vs. Breaker Size ft (m)		
Catalog Number	Start-Up Temperature °F (°C)	20A	30A	40A
D1-HTSX 6-2	50 (10)	470 (143)	505 (154)	505 (154)
	0 (-18)	435 (132)	505 (154)	505 (154)
	-20 (-29)	390 (120)	505 (154)	505 (154)
	-40 (-40)	355 (108)	505 (154)	505 (154)
D1-HTSX 9-2	50 (10)	340 (104)	410 (125)	410 (125)
	0 (-18)	310 (95)	410 (125)	410 (125)
	-20 (-29)	290 (88)	410 (125)	410 (125)
	-40 (-40)	265 (81)	410 (125)	410 (125)
D1-HTSX 12-2	50 (10)	270 (82)	355 (109)	355 (109)
	0 (-18)	245 (74)	355 (109)	355 (109)
	-20 (-29)	230 (70)	355 (109)	355 (109)
	-40 (-40)	215 (65)	340 (104)	355 (109)
D1-HTSX 15-2	50 (10)	200 (61)	315 (96)	315 (96)
	0 (-18)	175 (53)	275 (84)	315 (96)
	-20 (-29)	165 (51)	260 (79)	315 (96)
	-40 (-40)	155 (48)	245 (74)	315 (96)
D1-HTSX 20-2	50 (10)	155 (48)	245 (75)	275 (84)
	0 (-18)	140 (42)	215 (65)	275 (84)
	-20 (-29)	130 (40)	205 (62)	275 (84)
	-40 (-40)	125 (38)	190 (59)	265 (80)

## 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

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 review of 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.