

BRITECH

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SOLUTIONS

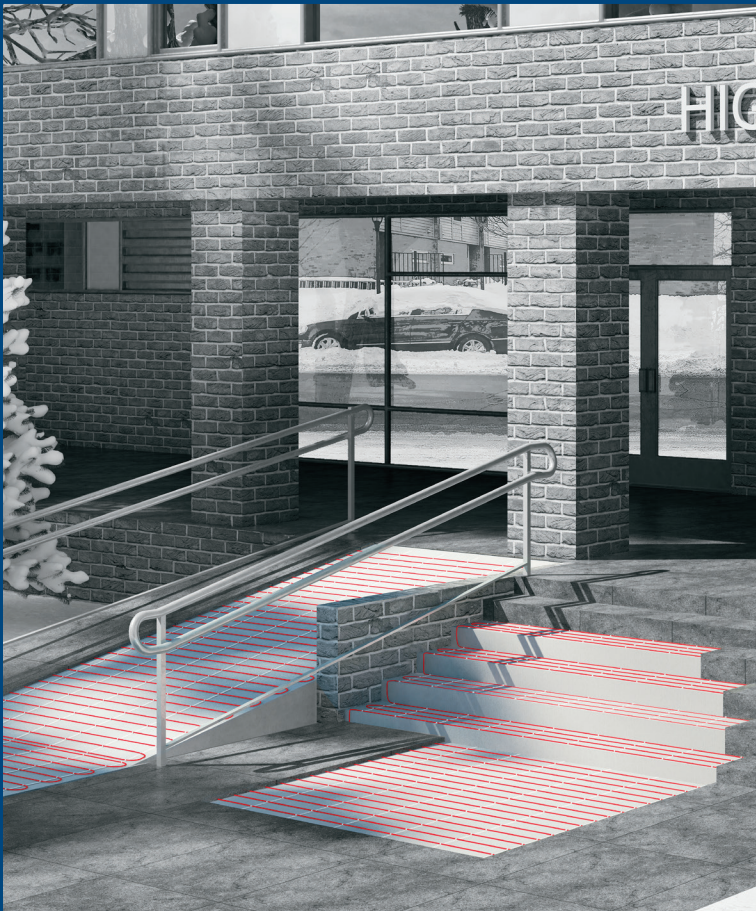








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Prices, specifications and warranties may change without prior notice.

Pictogram Legend



Indoor Floor Warming



Cable for Roof and Gutter De-icing



Cable for Pipe Tracing



Outdoor Snow Melting



Self-Regulating Heating Cable suitable for use in potable water



Cable for Industrial Use



Cable for Pipe Freeze Protection



FHM

TECH-MAT Floor Heating Cable on Mat

Features

Voltage

- 120V, 240/208V, 1-phase.

Cold lead length

- 10' (3 m).

Construction

- Heating cable made of a twin conductor fastened to an adhesive fibreglass mat for a simpler and faster installation with negligible magnetic field.

Watt density

- 12W/sq. ft. (130W/sq. m), 3" (76 mm) spacing.

Dimension

- Mats of 18 in. (0.46 m) in width offered in several lengths.

Control

- Two types of control method possible (see instruction manual for details):
 - Surface heating control with electronic thermostat in floor mode (F) and temperature sensor.
 - Ambient heating control with electronic thermostat in ambient mode with floor limit (A or AF) and temperature sensor.

Note: A ground fault circuit interrupter (GFCI) must be used with this heating device unless exempted by the applicable national and/or local electrical code for the area of installation.

Included materials

- 15' (4.6 m) floor sensor.
- Measurements table label (to be placed in electrical panel).

Installation

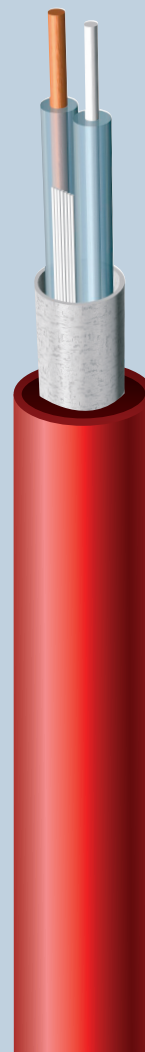
- Never cut or shorten the heating cable.
- For indoor applications only.
- On concrete slab or plywood subfloor.

Warranty

- 25-year warranty on the heating cable.

Application

- Kitchen, bathroom, entrance way, family room, living room.





120V Models

Watts	Product # 120V	Amp.	Resistance Ohms	Covered surface ¹ sq. ft.	Length of mat ft.	Width of mat ft.
60	FHM120-60	0.5	240	5	3.3	1.5
120	FHM120-120	1.0	120	10	6.7	1.5
180	FHM120-180	1.5	80	15	10.0	1.5
240	FHM120-240	2.0	60	20	13.3	1.5
300	FHM120-300	2.5	48	25	16.7	1.5
360	FHM120-360	3.0	40	30	20.0	1.5
420	FHM120-420	3.5	34	35	23.3	1.5
480	FHM120-480	4.0	30	40	26.7	1.5
540	FHM120-540	4.5	27	45	30.0	1.5
600	FHM120-600	5.0	24	50	33.3	1.5
720	FHM120-720	6.0	20	60	40.0	1.5
840	FHM120-840	7.0	17	70	46.7	1.5
960	FHM120-960	8.0	15	80	53.3	1.5

240/208V Models

Watts	Product # 240/208V	Amp.	Resistance Ohms	Covered surface ¹ sq. ft.	Length of mat ft.	Width of mat ft.
120	FHM240-120	0.5	480	10	6.7	1.5
240	FHM240-240	1.0	240	20	13.3	1.5
360	FHM240-360	1.5	160	30	20	1.5
480	FHM240-480	2.0	120	40	26.7	1.5
600	FHM240-600	2.5	96	50	33.3	1.5
720	FHM240-720	3.0	80	60	40	1.5
840	FHM240-840	3.5	69	70	46.7	1.5
960	FHM240-960	4.0	60	80	53.3	1.5
1080	FHM240-1080	4.5	53	90	60	1.5
1200	FHM240-1200	5.0	48	100	66.7	1.5
1440	FHM240-1440	6.0	40	120	80	1.5

¹ Does not represent the surface of the room but rather the surface covered by the floor heating system, excluding the fixtures and other spaces to consider.

208V = 75% of wattage at 240V.

15' (4.6 m) floor sensor and 10' (3 m) cold lead included.

The color of the mesh may be different.

Options

Product # Kit	Description
OTM-CC	CableCheck - Electrical fault indicator
OTM-SA	Adhesive spray to secure the mat on concrete slab, 16.75 oz (474 g)
KIT-SP1	Repair kit
KIT-CBL-SN	15 ft. (4.6 m) floor sensor



FHTC

BRI-THIN Floor Heating Cable for Installation with Strapping

Features

Voltage

- 120V, 240/208V, 1-phase.

Cold lead length

- 10' (3 m).

Construction

- Heating cable made of a twin conductor for a simpler and faster installation, compatible with uncoupling membrane systems.

Watt density

- Up to 12 W/sq. ft. (130W/sq. m), 4" (102 mm) spacing.
- 4W/ft. linear output.

Cable diameter

- 1/8" (3.3 mm).

Control

- Two types of control method possible (see instruction manual for details):

- Surface heating control with electronic thermostat in floor mode (F) and temperature sensor.
- Ambient heating control with electronic thermostat in ambient mode with floor limit (A or AF) and temperature sensor.

Note: A ground fault circuit interrupter (GFCI) must be used with this heating device unless exempted by the applicable national and/or local electrical code for the area of installation.

Included materials

- Plastic strapping.
- Measurements table label (to be placed in electrical panel).

Installation

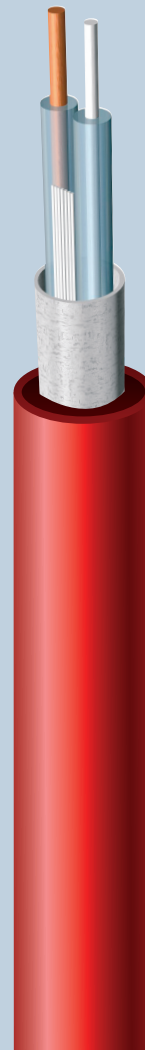
- Never cut or shorten the heating cable.
- For indoor applications only.
- On concrete slab or plywood subfloor or existing sub-floor.

Warranty

- 20-year warranty on the heating cable.

Application

- Kitchen, bathroom, entrance way, family room, living room.





120V Models

Watts	Product # 120V	Amp.	Resistance Ohms	Covered surface ¹ sq. ft.	Cable length ft.
67	FHTC120-67	0.6	214.9	5 to 7	17
120	FHTC120-120	1.0	120.0	8 to 12	30
192	FHTC120-192	1.6	75.0	13 to 20	51
312	FHTC120-312	2.6	46.2	21 to 30	87
396	FHTC120-396	3.3	36.4	31 to 40	107
480	FHTC120-480	4.0	30.0	41 to 50	128
612	FHTC120-612	5.1	23.5	51 to 60	156
756	FHTC120-756	6.3	19.0	61 to 75	194
900	FHTC120-900	7.5	16.0	76 to 90	225
1056	FHTC120-1056	8.8	13.6	91 to 105	287
1192	FHTC120-1192	9.9	12.1	106 to 120	298
1376	FHTC120-1376	11.5	10.5	121 to 140	344
1558	FHTC120-1558	13.0	9.2	141 to 155	390
1620	FHTC120-1620	13.5	8.9	156 to 170	405

240/208V Models

Watts	Product # 240/208V	Amp.	Resistance Ohms	Covered surface ¹ sq. ft.	Cable length ft.
133	FHTC240-133	0.6	433.1	9 to 15	33
240	FHTC240-240	1.0	240.0	16 to 25	60
384	FHTC240-384	1.6	150.0	26 to 40	102
624	FHTC240-624	2.6	92.3	41 to 60	174
792	FHTC240-792	3.3	72.7	61 to 80	213
960	FHTC240-960	4.0	60.0	81 to 95	256
1224	FHTC240-1224	5.1	47.1	96 to 125	312
1512	FHTC240-1512	6.3	38.1	126 to 150	387
1800	FHTC240-1800	7.5	32.0	151 to 180	449
2016	FHTC240-2016	8.4	28.6	181 to 200	515
2400	FHTC240-2400	10.0	24.0	201 to 240	592
2590	FHTC240-2590	10.8	22.2	241 to 260	649
2750	FHTC240-2750	11.5	20.9	261 to 275	688
2990	FHTC240-2990	12.5	19.3	276 to 300	748
3240	FHTC240-3240	13.5	17.8	301 to 325	810

¹ Does not represent the surface of the room but rather the surface covered by the floor heating system, excluding the fixtures and other spaces to consider.
208V = 75% of wattage at 240V.

Options

Product # Kit	Description
OTM-CC	CableCheck - Electrical fault indicator
KIT-SP1	Repair kit
KIT-CBL-SN	15 ft. (4.6 m) floor sensor
KIT-CBL-G25	25 ft. (7.6 m) plastic strapping

BWC-M

Heating Cable for Concrete on Mat

Features

Voltage

- 240/208V, 347V, 1-phase.

Construction

- Twin conductor heating cable attached to a plastic mat with negligible magnetic field.

Watt density

- 11W/sq. ft. (120W/sq. m), factory installed on mat at 6" (15 cm) spacing.

Dimension

- 24" (0.6 m) wide mat available in several lengths.

Cold lead length

- 8' 2" (2.5 m) cold lead included.
- Optional 50' (15 m) cold lead available upon request.

Control

- Two types of control method possible (see instruction manual for details):
 - Surface heating control with electronic thermostat in floor mode (F) and temperature sensor.
 - Ambient heating control with electronic thermostat in ambient mode with floor limit (A or AF) and temperature sensor.

Note: A ground fault circuit interrupter (GFCI) must be used with this heating device unless exempted by the applicable national and/or local electrical code for the area of installation.

Included materials

- 15' (4.6 m) temperature sensor.
- Plastic floor fasteners (KIT-WC-CLP).
- Measurement table label (to be placed in for electrical panel).

Installation

- **Never cut or shorten the heating cable.**
- For indoor applications only, residential or commercial.
- Installs under a 4" to 6" (10 cm to 15 cm) concrete slab or under a 1.5" to 4" concrete topping (4 cm to 10 cm).

Note: It's highly recommended to insulate the concrete slab in order to avoid heat loss from below (see instruction manual for all installation details).

- Compatible with most floor coverings (check with the dealer or manufacturer).
- Installation with or without metallic structure for reinforced concrete.

Warranty

- 20-year warranty on the heating cable.

Application

- Basement, garage, bathroom, kitchen, family room, workshop, pool, shower, entrance way, hospital, hotel, factory, business, restaurant, sunroom, greenhouse, buildings used for housing animals.





Models

Watts	Product # 240/208V	Product # 347V	Covered surface ¹		Length		Weight	
			sq. ft.	sq. m	ft. in.	m	lb	kg
150	BWC-M0150	-	14.0	1.3	6' 5"	1.9	3.0	1.4
200	BWC-M0200	-	19.0	1.7	8' 4"	2.5	3.7	1.7
300	BWC-M0300	-	28.0	2.6	12' 6"	3.8	4.0	1.8
400	BWC-M0400	-	38.0	3.5	16' 8"	5.1	4.5	2.0
500	BWC-M0500	-	46.5	4.3	20' 10"	6.4	5.0	2.3
600	BWC-M0600	-	56.0	5.2	25'	7.6	6.0	2.7
700	BWC-M0700	-	65.5	6.1	29' 2"	8.9	7.0	3.1
850	BWC-M0850	-	80.0	7.4	35' 5"	10.8	8.0	3.6
950	BWC-M0950	-	89.0	8.3	39' 7"	12.1	9.0	4.0
1100	BWC-M1100	-	103.0	9.6	45' 10"	14.0	10.0	4.5
1200	BWC-M1200	-	113.0	10.5	50'	15.2	11.0	5.0
1300	BWC-M1300	-	121.5	11.3	54' 2"	16.5	12.0	5.4
1400	BWC-M1400	-	130.5	12.1	58' 4"	17.8	13.0	6.0
1500	BWC-M1500	-	140.5	13.1	62' 6"	19.1	14.0	6.4
1600	BWC-M1600	-	149.5	13.9	66' 8"	20.3	15.0	6.8
1700	BWC-M1700	-	159.0	14.8	70' 10"	21.6	16.0	7.2
1850	BWC-M1850	-	172.5	16.0	77' 1"	23.5	17.0	7.8
2000	BWC-M2000	BWC-M2007	187.5	17.4	83' 4"	25.4	18.0	8.1
2200	BWC-M2200	-	206.0	19.1	91' 6"	27.9	21.0	9.5
2400	BWC-M2400	BWC-M2407	225.0	20.9	100'	30.5	23.0	10.4
2550	BWC-M2550	-	239.0	22.2	106' 6"	32.5	25.0	11.3
2700	BWC-M2700	BWC-M2707	253.0	23.5	112' 6"	34.3	28.0	12.7
2850	BWC-M2850	-	267.0	24.8	119'	36.3	30.0	13.6
3000	BWC-M3000	BWC-M3007	281.0	26.1	125'	38.1	32.0	14.5
3200	BWC-M3200	-	300.0	27.9	133' 6"	40.7	34.0	15.4
3400	BWC-M3400	BWC-M3407	318.5	29.6	141' 8"	43.2	36.0	16.3
3600	BWC-M3600	-	336.0	31.2	150'	45.7	38.0	17.2
3700	-	BWC-M3707	346.5	32.2	154' 2"	47.0	39.0	17.7
4000	-	BWC-M4007	375.0	34.8	166' 8"	50.8	42.0	19.0

¹ Does not represent the room surface but rather the area covered by the cable mat including 3" (7.5 cm) spacing between the mat strips but excluding fixed elements to be bypassed and any other required clearances.
 208V = 75% of wattage at 240V.

Options

Product # Kit	Product # Factory installed*	Description
OTM-CC ¹	-	CableCheck – Electrical indicator
KIT-WC-CLP	-	Bag of 50 plastic floor fasteners for heating cable on mat
KIT-SP2	-	Repair kit
KIT-CBL-SN	-	15 ft. (4.6 m) floor sensor
-	50 ²	Optional 50' (15 m) cold lead

* For factory installed options, add the option number to the product number.
¹ With any BWC order, the accessory OTM-CC can be added free of charge upon customer request.
² Made to order only. Allow additional 9 to 12 weeks lead time.



BWC-R

Heating Cable for Concrete in Reel

Features

Voltage

- 240/208V 1-phase.

Construction

- Twin conductor heating cable with negligible magnetic field.

Watt density

- 11W/sq. ft. (120W/sq. m), recommended installation 6" (15 cm) spacing.

Cold lead length

- 8' 2" (2.5 m) cold lead included.
- Optional 50' (15 m) cold lead available upon request.

Control

- Two types of control method possible (see instruction manual for details):
 - Surface heating control with electronic thermostat in floor mode (F) and temperature sensor.
 - Ambient heating control with electronic thermostat in ambient mode with floor limit (A or AF) and temperature sensor.

Note: A ground fault circuit interrupter (GFCI) must be used with this heating device unless exempted by the applicable national and/or local electrical code for the area of installation.

Included materials

- 15' (4.6 m) temperature sensor.
- Plastic tie-wraps.
- Measurement table label (to be placed in for electrical panel).

Installation

- **Never cut or shorten the heating cable.**
- For indoor applications only, residential or commercial.
- Installs under a 4" to 6" (10 cm to 15 cm) concrete slab or under a 1 1/2" to 4" concrete topping (4 cm to 10 cm).

Note: It's highly recommended to insulate the concrete slab in order to avoid heat loss from below (see instruction manual for all installation details).

- Requires a metallic structure or wire mesh for reinforced concrete with spacing of 6" (15 cm) for the installation.
- Compatible with most floor coverings (check with the dealer or manufacturer).

Warranty

- 20-year warranty on the heating cable.

Application

- Basement, garage, bathroom, kitchen, family room, workshop, pool, shower, entrance way, hospital, hotel, factory, business, restaurant, sunroom, greenhouse, buildings used for housing animals.





Models

Watts	Product # 240/208V	Covered surface ¹ Spacing 6" (15 cm)		Cable length		Weight	
		sq. ft.	sq. m	ft.	m	lb	kg
300	BWC-R0300	28.0	2.6	56	17.07	4.0	1.8
500	BWC-R0500	46.5	4.3	93	28.35	5.0	2.3
700	BWC-R0700	62.5	5.8	125	38.10	7.0	3.1
950	BWC-R0950	88.0	8.2	176	53.64	9.0	4.0
1300	BWC-R1300	125.0	11.6	250	76.20	12.0	5.4
1700	BWC-R1700	156.0	14.5	312	95.10	16.0	7.2
2000	BWC-R2000	187.0	17.4	374	114.00	18.0	8.1
2400	BWC-R2400	218.5	20.3	437	133.20	23.0	10.4
3000	BWC-R3000	279.5	26.0	559	170.38	32.0	14.5
3400	BWC-R3400	312.5	29.03	625	190.50	36.0	16.3
3700	BWC-R3700 ²	341.0	31.7	682	207.87	39.0	17.7
4000	BWC-R4000 ²	372.5	34.6	745	227.08	42.0	19.0

¹ Does not represent the room surface but rather the area covered by the cable while leaving a 6" (15 cm) spacing between cables and excluding fixed elements to be bypassed and any other clearance required.

² Not compatible with a floor heating thermostat rated for 15A and less. Requires relay with low voltage thermostat.

208V = 75% of wattage at 240V.

Options

Product # Kit	Product # Factory installed*	Description
OTM-CC ¹	-	CableCheck – Electrical indicator
KIT-SP2	-	Repair kit
KIT-CBL-SN	-	15 ft. (4.6 m) floor sensor
-	50 ²	Optional 50' (15 m) cold lead

* For factory installed options, add the option number to the product number.

¹ With any BWC order, the accessory OTM-CC can be added free of charge upon customer request.

² Made to order only. Allow additional 9 to 12 weeks lead time.



Heating Cable for Snow Melting in Reel

Features

Voltage

- 208V, 240V and 600V, 1-phase.

Construction

- Series heating cable set, twin conductor type.
- Heating cable held as a mat at regular 3" (76 mm) spacing with flexible strips.
- Fluoropolymer/XLPE resistance wire insulation 0.019" (0.5 mm) thick.
- Copper shielding (0.823 sq. mm) serves as ground.
- Polyolefin (EPR) outer sheath insulation 0.08" (2 mm) thick.

Watt density

- 11W/ft. linear (538W/sq. m) at 208, 240V and 600V

Cold lead

- 16' (5 m) long.
- 12 AWG or 14 AWG (according to maximum allowable load).
- PVC outer sheath insulation 0.03" (0.76 mm) thick.
- 3/8" (9.5 mm) outer diameter.

Included materials

- Measurements table label (to be placed in electrical panel).

Installation

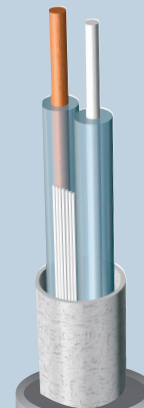
- **Never cut or shorten the heating cable.**
- For outdoor applications only.
- The heating cable must be completely embedded in concrete, asphalt or stone dust under paving.
- Minimum installation temperature -5 °C (23 °F).
- Maximum long-term exposure temperature 105 °C (221 °F).
- Maximum exposure temperature for 10 minutes 220 °C (428 °F).

Warranty

- 20-year warranty on heating cable.

Application

- Residential, commercial driveway, sidewalk, access ramp, underground parking ramp, boarding platforms for animals.





240V Models

Watts	Product # 240V	Amp.	Resistance Ohms	Covered surface ¹		Cable length ft.
				@45W/sq. ft.	@32W/sq. ft.	
970	SMCT-240-970	4.0	59.4	21	to 30	88.6
1440	SMCT-240-1440	6.0	40.0	32	to 45	131.2
1950	SMCT-240-1950	8.1	29.5	43	to 61	177.2
2160	SMCT-240-2160	9.0	26.7	48	to 67	196.9
2890	SMCT-240-2890	12.0	19.9	64	to 90	262.5
3900	SMCT-240-3900	16.3	14.8	87	to 122	354.3
4330	SMCT-240-4330	18.0	13.3	96	to 135	393.6
4870	SMCT-240-4870	20.3	11.8	108	to 152	442.7

208V Models

Watts	Product # 208V	Amp.	Resistance Ohms	Covered surface ¹		Cable length ft.
				@45W/sq. ft.	@32W/sq. ft.	
960	SMCT-208-960	4.6	45.1	21	to 30	88.6
1440	SMCT-208-1440	6.9	30.0	32	to 45	131.2
1920	SMCT-208-1920	9.2	22.5	43	to 61	177.2
2160	SMCT-208-2160	10.4	20.0	48	to 67	196.9
2880	SMCT-208-2880	13.8	15.0	64	to 90	262.5
3900	SMCT-208-3900	18.8	11.1	87	to 122	354.3
4320	SMCT-208-4320	20.8	10.0	96	to 135	393.7
4920	SMCT-208-4920	23.7	8.8	108	to 152	442.9

600V Models

Watts	Product # 600V	Amp.	Resistance Ohms	Covered surface ¹		Cable length ft.
				@45W/sq. ft.	@32W/sq. ft.	
960	SMCT-600-960	1.6	375	21	to 30	88.6
1440	SMCT-600-1440	2.4	250	32	to 45	131.2
1920	SMCT-600-1920	3.2	187.5	43	to 61	177.2
2160	SMCT-600-2160	3.6	166.7	48	to 67	196.9
2880	SMCT-600-2880	4.8	125	64	to 90	262.5
3900	SMCT-600-3900	6.5	92.3	87	to 122	354.3
4320	SMCT-600-4320	7.2	83.3	96	to 135	393.7
4920	SMCT-600-4920	8.2	73.2	108	to 152	442.9
6000	SMCT-600-6000	10	60	133	to 187	548.0

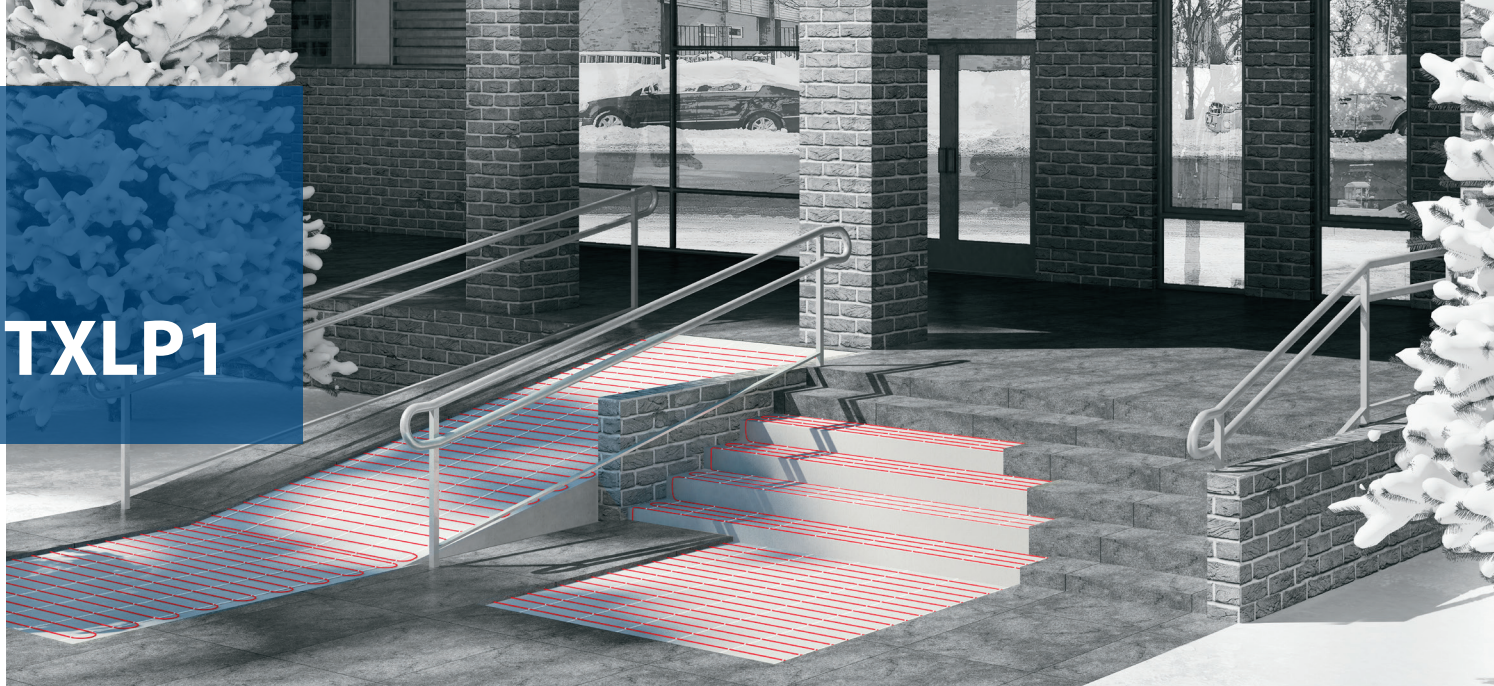
¹ Represents the area covered by the heating system excluding fixed elements to be bypassed and any other clearance required. The covered surface will vary according to the spacing between the cables. Refer to the installation manual to determine the proper spacing.

Options

Product # Kit	Product # Factory installed*	Description
OTM-CC ¹	-	CableCheck – Electrical indicator
BRIPPS-75	-	75 ft. (23 m) galvanized steel cable clip strip for installation
KIT-SP2	-	Repair kit
-	100 ²	Optional 100' (30 m) cold lead

* For factory installed options, add the option number to the product number.
¹ With any SMCT order, the accessory OTM-CC can be added free of charge upon customer request.
² Made to order only. Allow additional 9 to 12 weeks lead time.

TXLP1



Single Conductor Series Resistance Custom Cable Assembly for Snow Melting and De-icing Applications

Features

Voltage

- 120V to 600V (max).

Cold lead

- Standard length 15 ft. (4.57 m).
- Longer lengths available (See Options table).

Cable diameter

- 6 mm to 6.5 mm (See Models table for details).

Bending radius, minimum

- 5x cable diameter.

Maximum operating temperature

- 65 °C (149 °F).

Construction

- Stranded resistance heating wire with XLPE insulation, tinned copper grounding conductor, aluminum sheath, and PVC outer jacket.

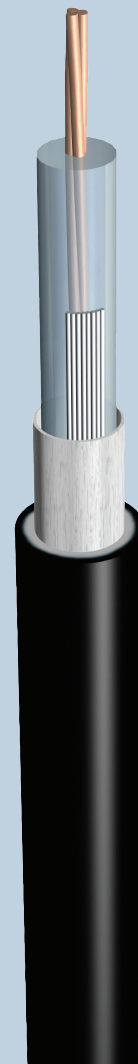
Warranty

- 10-year limited warranty on the resistance cable.

Controls

- The slab temperature must be monitored and controlled.
- Requires a ground fault circuit-interrupter (GFCI).

Made to order product, to obtain a quote please contact factory.



TXLP1

Single Conductor Series Resistance Custom Cable Assembly
for Snow Melting and De-icing Applications



Models

Cable family	Cable reference #	Resistance (Ohms) per metre	Cable outer diameter		Weight per	
			mm	100 m kg	300 ft. lb	
TXLP1	10156651	12.7	6.0	4.6	11.1	
TXLP1	10156650	7.7	6.0	4.6	11.1	
TXLP1	10156649	5.35	6.0	4.6	11.1	
TXLP1	10156648	3.5	6.1	4.9	11.8	
TXLP1	10156647	2.5	6.1	5.1	12.3	
TXLP1	10156646	1.4	6.1	5.0	12.0	
TXLP1	10156645	1.0	6.3	5.2	11.8	
TXLP1	10156644	0.7	6.3	5.1	12.3	
TXLP1	10156613	0.49	6.3	5.3	12.0	
TXLP1	10156612	0.3	6.3	5.3	12.8	
TXLP1	10156611	0.2	6.3	5.3	12.8	
TXLP1	10156610	0.13	6.5	5.6	12.5	
TXLP1	10156609	0.09	6.3	5.3	12.8	
TXLP1	10156608	0.07	6.5	5.6	13.4	
TXLP1	10156607	0.05	6.5	5.7	13.6	
TXLP1	10156606	0.02	6.5	5.8	13.8	

15 ft. (4.57 m) cold lead included. Longer lengths available in option.

Options

Product #	Description
Factory installed only	
25	25 ft. (2.3 m) cold lead
50	50 ft. (15 m) cold lead
75	75 ft. (23 m) cold lead
100	100 ft. (30.48 m) cold lead
Kit	
BRIPPS-75	75 ft. (23 m) galvanized steel cable clip strip for installation
KIT-SP3	Repair kit

Product description code (example)

Product # **TXLP1-6999-240-422-15**

Cable family _____

Total output (Watts) _____

Voltage _____

Heated length ft _____

Cold lead length _____

Standard 15 ft. (4.57 m)

Made to order product, to obtain a quote please contact factory.



BFPC

THERMA-PIPE 120V Preassembled Series Resistance Heating Cable for Pipes

Features

Nominal voltage

- 120V.

Linear density

- 7 Watts per foot.

Cold lead length

- 30 in. (0.76 m).

Outer jacket

- PVC.

Bus wire

- Nickel plated copper.

Minimum bend radius

- 5/16 in. (8 mm).

Rating

- Wet rated, for outdoor use (WS).

Included hardware

- Built-in bi-metal thermostat energizes the cable when temperature falls below 4 °C (40 °F).
- Grounded 3-pronged plug with indicator light to show when the cable is on.

Installation

- **Never cut or shorten the heating cable.**
- Installation under the insulation of the pipe.
- For indoor and outdoor applications.
- Minimum installation temperature: 0 °C (32 °F).

Operating temperature

- Max. continuous operating temperature : 25 °C (77 °F).

Warranty

- 2-year basic warranty on the heating cable.

Application

- Metallic and non-metallic pipes.
- Helps to prevent damage caused by frozen pipes.





Models

	Product #	Amp.	Length		Watts
			ft.	m	
③	BFPC1-1A003	0.18	3	0.9	21
⑥	BFPC1-1A006	0.35	6	1.8	42
⑨	BFPC1-1A009	0.51	9	2.7	63
⑫	BFPC1-1A012	0.70	12	3.7	84
⑮	BFPC1-1A015	0.88	15	4.6	105
⑱	BFPC1-1A018	1.05	18	5.5	126
⑳	BFPC1-1A024	1.40	24	7.3	168
㉓	BFPC1-1A030	1.75	30	9.0	210
㉔	BFPC1-1A040	2.34	40	12.2	280
⑥①	BFPC1-1A060	3.50	60	18.3	420
⑧①	BFPC1-1A080	4.67	80	24.4	560

Pipe length ft.	Pipe diameter				
	1/2"	3/4"	1"	1.25"	1.5"
3	1③	1③	1③	1③	1③
4	1③	1③	1③	2③	2③
5	1③	1③	2③	2③	2③
6	1⑥	1⑥	1⑥	1⑥	1⑥
7	1⑥	1⑥	1⑥	1③+1⑥	1③+1⑥
8	1⑥	1⑥	1⑥	1③+1⑥	1③+1⑥
9	1⑨	1⑨	1⑨	1⑨	1⑨
10	1⑨	1⑨	1⑨	1⑨	2⑥
11	1⑨	1⑨	1⑨	2⑥	2⑥
12	1⑫	1⑫	1⑫	1⑫	1⑫
13	1⑫	1⑫	1⑫	1⑫	1⑥+1⑨
14	1⑫	1⑫	1⑫	1⑥+1⑨	1⑥+1⑨
15	1⑮	1⑮	1⑮	1⑮	1⑮
16	1⑮	1⑮	1⑮	1⑮	2⑨
17	1⑮	1⑮	1⑮	2⑨	2⑨
18	1⑱	1⑱	1⑱	1⑱	1⑱
20	1⑱	1⑱	1⑱	1⑱	1⑨+1⑫
22	2⑫	2⑫	2⑫	2⑫	2⑫
24	1⑳	1⑳	1⑳	1⑳	1⑳
26	1⑳	1⑳	1⑳	1⑫+1⑮	1⑫+1⑮
28	1⑫+1⑮	1⑫+1⑮	1⑫+1⑮	1⑫+1⑮	1⑫+1⑮
30	1㉓	1㉓	1㉓	1㉓	1㉓
35	2⑱	2⑱	2⑱	2⑱	2⑱
40	1㉔	1㉔	1㉔	1㉔	1㉔
45	1⑱+1㉔	1⑱+1㉔	1⑱+1㉔	1⑱+1㉔	1⑱+1㉔
50	2㉔	2㉔	2㉔	2㉔	1⑫+1㉔
55	1㉔+1㉓	1㉔+1㉓	1㉔+1㉓	1㉔+1㉓	1⑱+1㉔
60	1⑥①	1⑥①	1⑥①	1⑥①	1⑥①
65	1⑥+1⑥①	1⑥+1⑥①	1⑥+1⑥①	1⑥+1⑥①	1⑥+1⑥①
70	1㉔+1㉓	1㉔+1㉓	1㉔+1㉓	1㉔+1㉓	1⑫+1⑥①
75	1⑮+1⑥①	1⑮+1⑥①	1⑮+1⑥①	1⑮+1⑥①	1⑮+1⑥①
80	1⑧①	1⑧①	1⑧①	1⑧①	1⑧①
85	1㉔+1⑥①	1㉔+1⑥①	1㉔+1⑥①	1㉔+1⑥①	1⑥+1⑧①
90	1㉓+1⑥①	1㉓+1⑥①	1㉓+1⑥①	1㉓+1⑥①	1㉓+1⑥①
95	1⑱+1⑧①	1⑱+1⑧①	1⑱+1⑧①	1⑱+1⑧①	1⑱+1⑧①
100	1㉔+1⑥①	1㉔+1⑥①	1㉔+1⑥①	1㉔+1⑥①	1㉔+1⑥①

Pipe insulation

The pipe length chart is calculated based on 1/2" fiberglass insulation. Closed-cell flexible foam insulation may also be used.

Temperature maintenance

The pipe length chart is based on the generally accepted maintenance temperature 4 °C (40 °F) for freeze protection.

Pipe sizes

For pipe sizes not listed on the pipe length chart or for more information and assistance with cable selection contact Britech.

Ordering information

Product selection is based on length of pipe. Use the pipe length chart to select the proper cables by determining the pipe length and diameter.

Examples:

1⑥① = One BFPC1-1A060 heating cable.

2③ = Two BFPC1-1A003 heating cable.

1⑫+1⑮ = One BFPC1-1A012 + One BFPC1-1A015 heating cables.



BGDC

THERMA-ROOF 120V Preassembled Series Resistance Heating Cable for Roof and Gutter De-icing

Features

Nominal voltage

- 120V.

Linear density

- 5 Watts per foot.

Cold lead length

- 30 in. (0.76 m).

Outer jacket

- PVC.

Bus wire

- Nickel plated copper.

Minimum bend radius

- 1/2 in. (12 mm).

Rating

- Wet rated, for outdoor use (WS).

Included hardware

- Roof clips for cable and spacers.
- Grounded 3-pronged plug with indicator light to show when the cable is on.

Installation

- Never cut or shorten the heating cable.
- For outdoor applications only.
- Minimum installation temperature: -18 °C (0 °F).

Operating temperature

- Max. continuous operating temperature: 25 °C (77 °F).

Warranty

- 2-year basic warranty on the heating cable.

Application

- Roof and gutter de-icing.



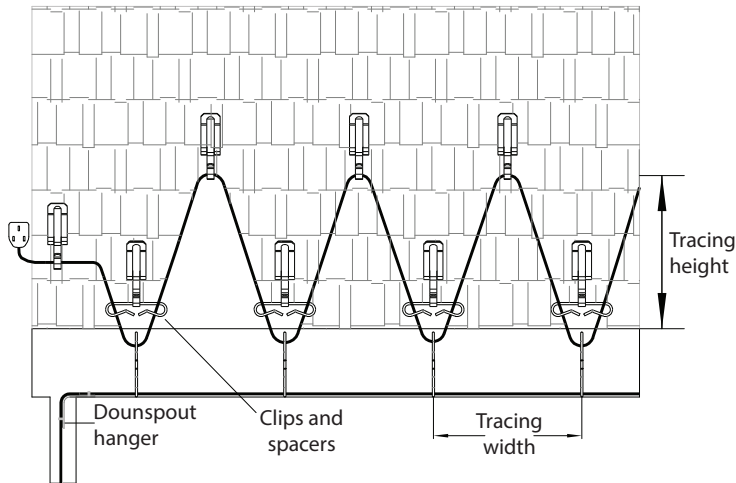


Models

Product #	Amp.	Length		Watts
		ft.	m	
BGDC1-1A020	0.8	20	6.1	100
BGDC1-1A030	1.3	30	9.1	150
BGDC1-1A060	2.5	60	18.3	300
BGDC1-1A080	3.3	80	24.4	400
BGDC1-1A100	4.2	100	30.5	500
BGDC1-1A120	5.0	120	36.6	600
BGDC1-1A140	5.8	140	42.7	700
BGDC1-1A160	6.7	160	48.8	800
BGDC1-1A180	7.5	180	54.9	900
BGDC1-1A200	8.3	200	61.0	1000
BGDC1-1A240	10.0	240	73.2	1200

Options

Product #	Description
KIT-RF-CLIP	Roof clips (25) and spacers (15) for series resistance heating cable
RCR-U	Roof and gutter sentry for automatic de-icing control with humidity probe



An accurate estimate of the cable length you need is very important because you cannot change the cable length by cutting, splicing or altering it in any way. When calculating cable length, there should be a minimum of 2 inches between the bottom of the drop loop and the bottom of the gutter.

The cable must extend above the overhang into the section of the roof above the heated section of the house. In addition, in order to make a continuous path for the melted water, extend the heating cable all the way down to the gutter.

Cable length required for roofline area:

- Determine total length of roof edge (B).
- Multiply (A) and (B) to determine the length of heating cable required for roofing.

Overhang distance		Tracing width		Tracing height		With gutter multiplier	Without gutter multiplier
in.	cm	in.	cm	in.	cm	A	A
No overhang		15	38	22	56	3.9	3.0
12	30	15	38	22	56	3.9	3.0
24	61	15	38	33	84	5.3	4.5
36	91	15	38	44	112	6.8	6.0
48	122	15	38	55	140	8.2	7.4
60	152	15	38	66	168	9.7	8.9
72	183	15	38	77	196	11.1	10.3

SR-MA-BF



Micro Self-Regulating Heating Cable SR-MA-BF suitable for use in potable water

Features

Outer jacket

- Fluoropolymer (BF).

Bus wire

- Nickel plated copper, 18 AWG.

Minimum start-up temperature

- -30 °C (-22 °F).

Maximum operating temperature (power on)

- 60 °C (140 °F).

Maximum continuous exposure temperature (power off)

- 60 °C (140 °F).

Nominal voltage

- 120V, 240/208V.

Bending radius, minimum

- 25 mm (1 in.).

Installation temperature, minimum

- -25 °C (-13 °F).

Standard

- IEEE 515, CSA 22.2 130.03

Certification

- FM CUS 3050047

Rating

- Wet rated, for outdoor use (WS).
- PS (2000 kPa/290 psi) (BF).

Warranty

- 1-year basic warranty on the heating cable.

Application

- Heat tracing of metallic and non-metallic pipes, pumps, vessels and valves,
- Potable water line.





Models

Nominal output W/ft.	Product # 120V ^{1,3}	Product # 240V ^{1,2,3}	Cable dimension approx. (mm)
3	ELSR-MA-3-1-BF	ELSR-MA-3-2-BF	7.7 x 6.4

¹ BF Protective braid, suitable for use in potable water (certified according to NSF/ANSI 61).
² For operations at 208V, please consult Eltherm® correction factors/multipliers.
³ When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.
 E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

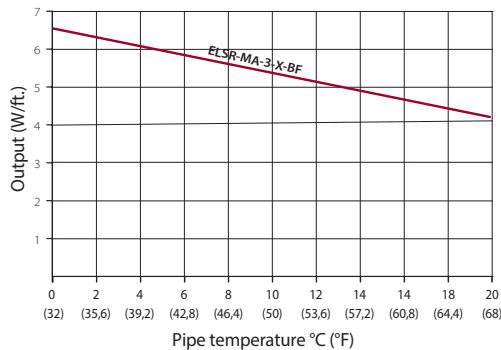
Heating circuit length

Start-up temperature	120V	
	Circuit breaker capacity (A)	Maximum heating circuit (ft.) for ELSR-MA-3-1-BF
10 °C (50 °F)	10	139
	15	167
	20	167
	25	167
0 °C (32 °F)	10	112
	15	153
	25	153

Start-up temperature	240V	
	Circuit breaker capacity (A)	Maximum heating circuit (ft.) for ELSR-MA-3-2-BF
10 °C (50 °F)	10	241
	15	302
	20	302
	25	302
0 °C (32 °F)	10	202
	15	282
	25	282

ELSR-MA-3-X-BF

(in a filled water pipeline)



Maximum heating circuit on the following conditions:

- 120/240 Voltage
- MCB type QO (100% utilization)
- Voltage drop max. 10%
- Single cable fed 1 end

Eltherm® correction factors/multipliers for operation of heating cables in 208V

To calculate the corrected power output for operation in 208V, multiply the published output at 240V (in W/ft.) by the nominal output factor provided for the applicable heating cable type.

To calculate maximum heating circuit lengths for operation in 208V (tables provided in product data sheets), multiply the published max. heating circuit length at 240V provided for the applicable heating cable type.

Heating cable correction factors/ Multipliers	Nominal output 208V vs. 240V	Heating circuit length 208V vs. 240V
ELSR-MA-3-2-BF	0.82	1.00

Accessories

See Accessories section.



SR-PI



120V Preassembled Self-Regulating Heating Cable for Pipe Tracing for Freeze Protection and Roof and Gutter De-icing

eltherm®
innovations in heat tracing 

Features

Outer jacket

- 120V.

Cold lead length

- 36" (0.9 m).

Outer jacket

- Thermoplastic.

Bus wire

- Nickel plated copper.

Maximum operating temperature (power on)

- 60 °C (140 °F).

Maximum continuous exposure temperature (power off)

- 80 °C (176 °F).

Cable section

- 14.1 mm X 5.6 mm.

Bending radius, minimum

- 25 mm (1 in.).

Included hardware

- Grounded 3-pronged plug with indicator light to show when the cable is on.

Minimum installation and start-up temperature

- -25 °C (-13 °F).

Standards

- CSA C22.2.130.03; -WS
- CAN/CSA 60079-7:12, 60079-0-11
- ANSI/IEEE 515, 515

Certification

- CSA C US 2547790

Rating

- Wet rated, for outdoor use (WS).

Warranty

- 1-year basic warranty on the heating cable.

Application

- Freeze protection, roof and gutter, pipes.





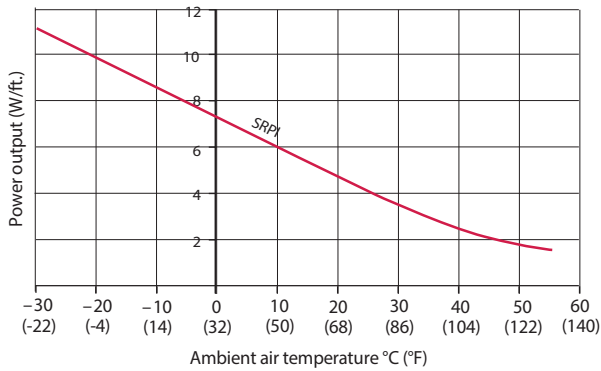
Models

Product # ¹	Length		Nominal power output in air condition at 5 °C (40 °F) ²
	ft.	m	
ECK-7AO-006	6	1.8	42
ECK-7AO-012	12	3.6	84
ECK-7AO-018	18	5.5	126
ECK-7AO-025	25	7.6	175
ECK-7AO-050	50	15.2	350
ECK-7AO-075	75	22.9	525
ECK-7AO-100	100	30.5	700

¹ Must be plugged into a 120V outlet fitted with ground fault protection device (GFCI).

² Because of the cable's self-regulating properties, the power density can reach up to 11 Watts per foot when buried in snow or ice: "wet density". In this situation, use of a 15 Amp. circuit breaker is valid for all models.

Linear power output in air condition according to operating temperature



Cable heat output depending on the environment

In Snow and Ice (120V cable)

- 11W/ft. @ 50 °F (36W/m @ 10 °C)

In Dry Air

- 7W/ft. @ 50 °F (23W/m @ 10 °C)

PSB



All Purpose Self-Regulating Heating Cable PSB

Features

Outer jacket

- Polyolefin (CR) / Fluoropolymer (CT).

Bus wire

- Nickel plated copper, 16 AWG.

Minimum start-up temperature

- -55 °C (-67 °F).

Maximum operating temperature (power on)

- 65 °C (150 °F).

Maximum continuous exposure temperature (power off)

- 85 °C (185 °F).

Nominal voltage

- 120V, 240/208V, 277V.

Bending radius, minimum

- 25 mm (1 in.).

Installation temperature, minimum

- -55 °C (-67 °F).

Classification

- Class I, Division 2, Groups A, B, C, D

- Class II, Division 2, Groups E, F, G

- Class III

Certification

- CAN/CSA-C22.2 No. 130-03

- CSA C US 1862457;

Class: 2878-01, 2878-81

Class: 2872-01, 2872-81

Rating

- Wet rated, for outdoor use (WS).

Warranty

- 1-year basic warranty on the heating cable.

Application

- Freeze protection, heat tracing instrumentation, pipes, vessel and tanks, chemical and petrochemical industries, food processing, automotive, roof and gutter.

Models

Nominal output W/ft.	Product #		Outer jacket/Mechanical shield		Cable dimension approx. (mm)
	120V ^{1,3}	240V ^{1,2,3}	CR	CT	
3	3PSB1-XX	3PSB2-XX	✓	✓	11.6 x 5.8
5	5PSB1-XX	5PSB2-XX	✓	✓	11.6 x 5.8
8	8PSB1-XX	8PSB2-XX	✓	✓	11.6 x 5.8
10	10PSB1-XX	10PSB2-XX	✓	✓	11.6 x 5.8

¹ XX = Outer jacket/Mechanical shield.

CR Protective braid and a polyolefin outer jacket.

CT Protective braid and a fluoropolymer outer jacket.

² For operations at 208V or 277V, please consult Bartec correction factors/multipliers.

³ When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.
E.g.: To order a 500 ft. cable, write 500 for quantity with product code.

BARTEC



CR Model

CT Model





Heating circuit length

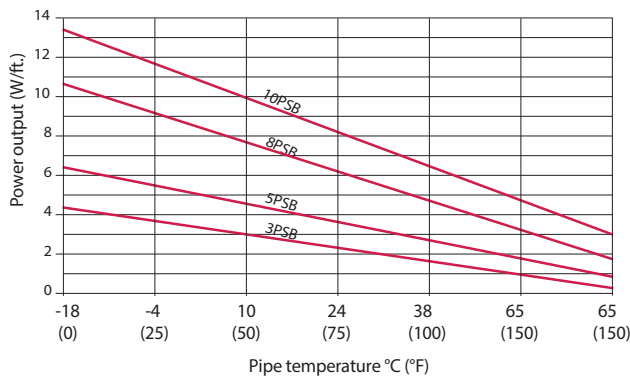
The following table shows the maximum circuit length in ft. for the different PSB trace heater types with standard circuit breaker amperages. Breaker sizes should be based on the National Electrical Code, Canadian Electrical Code or any other local or applicable code. Use only circuit breakers with type C tripping characteristics.

Start-up temperature	Circuit breaker capacity (A)	120V Maximum heating circuit (ft.) for				240V Maximum heating circuit (ft.) for				
		3PSB1	5PSB1	8PSB1	10PSB1	3PSB2	5PSB2	8PSB2	10PSB2	
10 °C (50 °F)	10	246	174	118	95	463	331	197	125	
	15	344	262	177	141	673	499	299	190	
	20	344	282	217	164	673	551	397	253	
	25	344	282	217	164	673	551	430	315	
	30	344	282	217	164	673	551	430	328	
	35	344	282	217	164	673	551	430	328	
0 °C (32 °F)	10	213	151	105	85	407	292	177	112	
	15	322	230	157	128	610	436	266	167	
	20	344	282	210	164	673	551	354	226	
	25	344	282	217	164	673	551	430	282	
	30	344	282	217	164	673	551	430	328	
	35	344	282	217	164	673	551	430	328	
-10 °C (14 °F)	10	190	135	95	75	361	259	157	102	
	15	289	203	141	115	545	390	240	151	
	20	344	272	190	151	673	518	318	203	
	25	344	282	217	164	673	551	397	253	
	30	344	282	217	164	673	551	430	305	
	35	344	282	217	164	673	551	430	328	
-18 °C (0 °F)	10	177	125	85	69	335	240	148	92	
	15	266	187	131	105	502	358	220	141	
	20	344	249	174	141	669	479	295	187	
	25	344	282	217	164	673	551	367	236	
	30	344	282	217	164	673	551	430	282	
	35	344	282	217	164	673	551	430	328	
-29 °C (-20 °F)	10	157	112	79	62	302	213	131	85	
	15	240	167	118	95	453	322	200	128	
	20	318	226	157	128	604	430	266	171	
	25	344	282	200	161	673	538	335	213	
	30	344	282	217	164	673	551	400	256	
	35	344	282	217	164	673	551	430	299	
-40 °C (-40 °F)	10	144	102	72	59	272	194	121	75	
	15	217	154	108	89	410	292	184	115	
	20	289	203	144	118	548	390	243	154	
	25	344	256	180	148	673	489	305	194	
	30	344	282	217	164	673	551	367	233	
	35	344	282	217	164	673	551	430	272	
40	344	282	217	164	673	551	430	312		

¹ Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The NEC and CEC require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

Power output 120V/240V under nominal conditions

(on insulated steel pipes)



Maximum heating circuit on the following conditions:

- 120/240 Voltage
- Voltage drop max. 10%
- Single cable fed 1 end
- MCB 100% utilization

Cable heat output depending on the environment

- In Snow and Ice** - 13W/ft. @ 32 °F (42W/m @ 0 °C)
- In Dry Air** - 8W/ft. @ 32 °F (26W/m @ 0 °C)

Bartec correction factors/multipliers for operation of heating cables in 208V and 277V

To calculate the corrected power output for operation in 208V or 277V, multiply the published output at 240V (in W/ft.) by the nominal output factor provided for the applicable heating cable type.

To calculate maximum heating circuit lengths for operation in 208V or 277V (tables provided in product data sheets), multiply the published max. heating circuit length at 240V provided for the applicable heating cable type.

Due to the cable's self-regulating properties, the power density can reach up to 11W/ft. (120V) and 13W/ft. (240V) when buried in snow or ice: "wet density".

Adjustment factors	Heating cable correction factors/ Multipliers	Nominal output	Heating circuit length
208V	3PSB2	0.90	0.96
	5PSB2	0.93	0.94
	8PSB2	0.95	0.92
	10PSB2	0.97	0.92
277V	3PSB2	1.23	1.09
	5PSB2	1.19	1.10
	8PSB2	1.11	1.14
	10PSB2	1.06	1.16

Accessories

See Accessories section.



MSB

Medium Temperature Self-Regulating Heating Cable MSB

BARTEC

Features

Outer jacket

- Fluoropolymer (CT).

Bus wire

- Nickel plated copper, 16 AWG.

Minimum start-up temperature

- -60 °C (-76 °F).

Maximum operating temperature (power on)

- 110 °C (230 °F).

Maximum continuous exposure temperature (power off)

- 110 °C (230 °F), continuous.
- 130 °C (266 °F), power off for 1000 hr cumulative.

Nominal voltage

- 120V, 240/208V, 277V.

Bending radius, minimum

- 25 mm (1 in.).

Installation temperature, minimum

- -60 °C (-76 °F).

Classification

- Ex 60079-30-1 IICT3, T4 Gb
- Ex 60079-30-1 IIICT170 °C, T130 °C Db
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups E, F, G
- Class III, T4 3MSB, 5MSB
- Class III, T3 10MSB, 15MSB, 20MSB

Standards

- CSA C22.2.130.16; -WS
- Ex CAN/CSA 60079-30 IIC T3, T4b
- 60079-30 IIICT170 °C, T 130 °C Db
- IEEE 515.1-2012, 515-2017

Certification

- IECEX DEK 17.0004U
- CSA C US 1862457

Rating

- Wet rated, for outdoor use (WS).

Warranty

- 1-year basic warranty on the heating cable.

Application

- Freeze protection, heat tracing instrumentation, pipes, vessel and tanks, chemical and petrochemical industries, food processing, automotive.





Models

Nominal output W/ft.	Product #		Cable dimension approx. (mm)
	120V ^{1,3}	240V ^{1,2,3}	
3	3MSB1-CT	3MSB2-CT	10.2 x 4.8
5	5MSB1-CT	5MSB2-CT	10.2 x 4.8
10	10MSB1-CT	10MSB2-CT	10.2 x 4.8
15	15MSB1-CT	15MSB2-CT	10.2 x 4.8
20	20MSB1-CT	20MSB2-CT	10.2 x 4.8

¹ CT Protective braid and a fluoropolymer outer jacket.

² For operations at 208V, please consult Bartec correction factors/multipliers.

³ When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.
E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

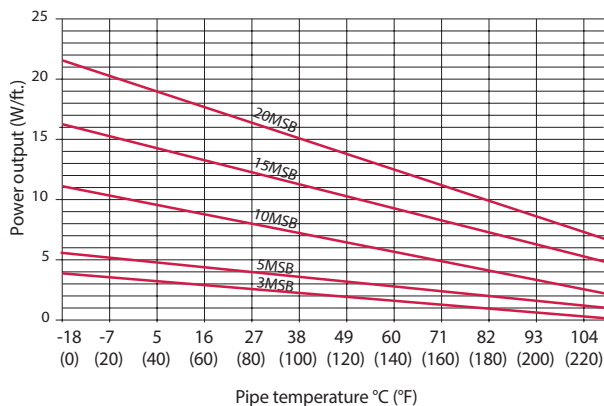
Heating circuit length

The following table shows the maximum circuit length in ft. for the different MSB trace heater types with standard circuit breaker amperages. Breaker sizes should be based on the National Electrical Code, Canadian Electrical Code or any other local or applicable code. Use only circuit breakers with type C tripping characteristics.

Start-up temperature	Circuit breaker capacity ¹ (A)	120V Maximum heating circuit (ft.) for					240V Maximum heating circuit (ft.) for				
		3MSB1	5MSB1	10MSB1	15MSB1	20MSB1	3MSB2	5MSB2	10MSB2	15MSB2	20MSB2
10 °C (50 °F)	20	394	279	157	115	89	755	538	302	220	171
	30	394	322	226	138	128	761	627	443	276	253
	40	394	322	226	138	128	761	627	443	276	253
-18 °C (0 °F)	20	338	243	135	98	79	20	646	469	259	190
	30	394	322	203	138	118	30	761	627	390	276
	40	394	322	226	138	128	40	761	627	443	276
-29 °C (-20 °F)	20	322	233	128	95	75	20	614	446	246	180
	30	394	322	194	138	112	30	761	627	371	272
	40	394	322	226	138	128	40	761	627	443	276
-40 °C (-40 °F)	20	305	322	121	92	72	20	584	427	236	174
	30	394	322	184	135	105	30	761	627	354	259
	40	394	322	226	138	128	40	761	627	443	276

¹ Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The NEC and CEC require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

Power output 120V/240V under nominal conditions (on insulated steel pipes)



Maximum heating circuit on the following conditions:

- 120/240 Voltage
- Voltage drop max. 10%
- Single cable fed 1 end

Bartec correction factors/multipliers for operation of heating cables in 208V and 277V

To calculate the corrected power output for operation in 208 or 277V, multiply the published output at 240V (in W/ft.) by the nominal output factor provided for the applicable heating cable type.

To calculate maximum heating circuit lengths for operation in 208V or 277V (tables provided in product data sheets), multiply the published max. heating circuit length at 240V provided for the applicable heating cable type.

Adjustment factors	Heating cable correction factors/ Multipliers	Nominal output	Heating circuit length
208V	3MSB2	0.83	0.99
	5MSB2	0.85	0.98
	10MSB2	0.92	0.94
	15MSB2	0.95	0.93
	20MSB2	0.97	0.91
277V	3MSB2	1.37	1.03
	5MSB2	1.31	1.05
	10MSB2	1.19	1.02
	15MSB2	1.15	1.12
	20MSB2	1.09	1.13

Accessories

See Accessories section.



HSB

High Temperature Self-Regulating Heating Cable HSB

Features

Outer jacket

- Fluoropolymer (CT).

Bus wire

- Nickel plated copper, 16 AWG.

Minimum start-up temperature

- -60 °C (-76 °F).

Maximum operating temperature (continuous)

- 120 °C (248 °F).

Maximum continuous exposure temperature (power off)

- 200 °C (392 °F), continuous.
- 190 °C (374 °F), power off for 1000 hr cumulative.

Nominal voltage

- 120V, 240/208V.

Bending radius, minimum

- 25 mm (1 in.).

Installation temperature, minimum

- -60 °C (-76 °F).

Classification

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups E, F, G
- Class III

Certification

- CAN/CSA-C22.2 No. 130-03
- CSA C US 1862457;
Class: 2878-01, 2878-81
Class: 2872-01, 2872-81

Rating

- Wet rated, for outdoor use (WS).

Warranty

- 1-year basic warranty on the heating cable.

Application

- Freeze protection, heat tracing instrumentation, pipes, vessel and tanks, chemical and petrochemical industries, food processing, automotive.

BARTEC





Models

Nominal output W/ft.	Product #		Cable dimension approx. (mm)
	120V ^{1,3}	240V ^{1,2,3}	
5	5HSB1-CT	5HSB2-CT	10.2 x 4.8
10	10HSB1-CT	10HSB2-CT	10.2 x 4.8
15	15HSB1-CT	15HSB2-CT	10.2 x 4.8
20	20HSB1-CT	20HSB2-CT	10.2 x 4.8

¹ CT Protective braid and a fluoropolymer outer jacket.

² For operations at 208V, please consult Bartec correction factors/multipliers.

³ When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.
E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

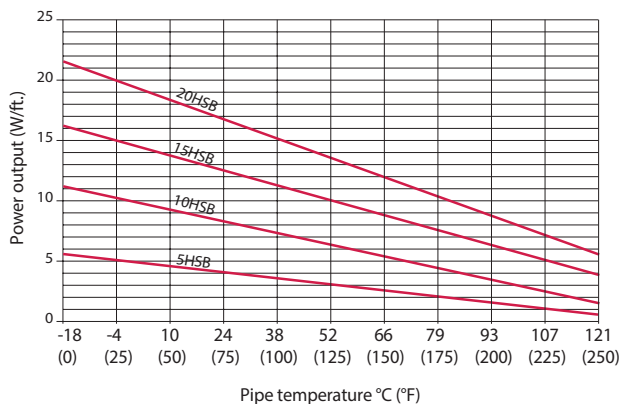
Heating circuit length

The following table shows the maximum circuit length in ft. for the different HSB trace heater types with standard circuit breaker amperages. Breaker sizes should be based on the National Electrical Code, Canadian Electrical Code or any other local or applicable code. Use only circuit breakers with type C tripping characteristics.

Start-up temperature	Circuit breaker capacity ¹ (A)	120V				240V				
		5HSB1	10HSB1	15HSB1	20HSB1	5HSB1	10HSB1	15HSB1	20HSB1	
10 °C (50 °F)	20	279	157	115	89	20	538	302	220	171
	30	322	226	138	128	30	627	443	276	253
	40	322	226	138	128	40	627	443	276	253
-18 °C (0 °F)	20	243	135	98	79	20	469	259	190	148
	30	322	203	138	118	30	627	390	276	223
	40	322	226	138	128	40	627	443	276	253
-29 °C (-20 °F)	20	233	128	95	75	20	446	246	180	141
	30	322	194	138	112	30	627	371	272	210
	40	322	226	138	128	40	627	443	276	253
-40 °C (-40 °F)	20	322	121	92	72	20	427	236	174	135
	30	322	184	135	105	30	627	354	259	200
	40	322	226	138	128	40	627	443	276	253

¹ Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The NEC and CEC require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

Power output 120V/240V under nominal conditions (on insulated steel pipes)



Bartec correction factors/multipliers for operation of heating cables in 208V

To calculate the corrected power output for operation in 208V, multiply the published output at 240V (in W/ft.) by the nominal output factor provided for the applicable heating cable type.

To calculate maximum heating circuit lengths for operation in 208V (tables provided in product data sheets), multiply the published max. heating circuit length at 240V provided for the applicable heating cable type.

Adjustment factors	Heating cable correction factors/ Multipliers	Nominal output	Heating circuit length
	5HSB2-CT	0.85	0.98
	10HSB2-CT	0.92	0.94
	15HSB2-CT	0.95	0.93
	20HSB2-CT	0.97	0.91

Maximum heating circuit on the following conditions:

- 120/240 Voltage
- Voltage drop max. 10%
- Single cable fed 1 end

Accessories

See Accessories section.



BPL

High Temperature Constant Wattage Heating Cable BPL

Features

Outer jacket

- Aluminum.

Bus wire

- Nickel plated copper.

Minimum start-up temperature

- -40 °C (-40 °F).

Maximum exposure temperature

- 350 °C (662 °F), continuous.
- 425 °C (797 °F), intermittent.

Nominal voltage

- 110 to 120V, 208 to 277V.
- For 277V applications please contact factory.

Bending radius, minimum

- 25 mm (1 in.).

Installation temperature, minimum

- -40 °C (-40°F).

Classification

- II 2G Ex e II T* Gb
- II 2D Ex tb IIIC T* Db

Standards

- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups E, F, G
- Class III.
- T1 to T3 (see table maximum pipe/work piece temperature)

Certification

- ATEX, IECEx, EAC*
- CSA 1350782 / 1352981

Warranty

- 2-year basic warranty on the heating cable.

Application

- Installation in non-hazardous and hazardous areas (Class 1, Division 2).

BARTEC





Maximum circuit length

Start-up temperature	Circuit breaker capacity ¹ (A)	120V Maximum heating circuit length (ft.) for			
		5BPL1-AL	10BPL1-AL	15BPL1-AL	20BPL1-AL
10 °C (50 °F)	20	291	178	121	85
	30	291	210	162	97
	40	291	210	162	131
-18 °C (0 °F)	20	275	162	108	78
	30	275	194	152	87
	40	275	194	152	124
-40 °C (-40 °F)	20	259	146	114	72
	30	259	178	145	81
	40	259	178	145	118

Start-up temperature	Circuit breaker capacity ¹ (A)	240V Maximum heating circuit length (ft.) for			
		5BPL2-AL	10BPL2-AL	15BPL2-AL	20BPL2-AL
10 °C (50 °F)	20	567	340	246	170
	30	567	405	344	278
	40	567	405	344	278
-18 °C (0 °F)	20	550	324	229	164
	30	550	388	328	262
	40	550	388	328	262
-40 °C (-40 °F)	20	518	307	213	147
	30	518	372	311	255
	40	518	372	311	255

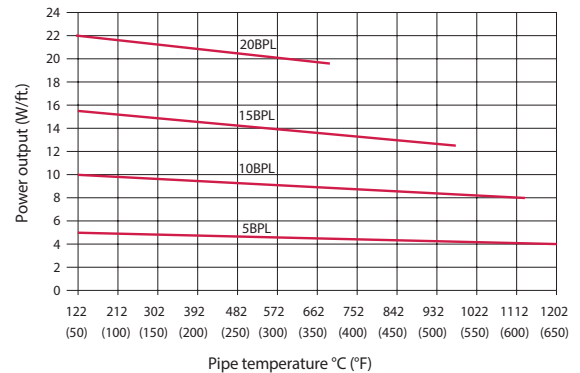
Start-up temperature	Circuit breaker capacity ¹ (A)	208V Maximum heating circuit length (ft.) for			
		5BPL2-AL	10BPL2-AL	15BPL2-AL	20BPL2-AL
10 °C (50 °F)	20	518	324	194	146
	30	518	356	275	227
	40	518	356	275	227
-18 °C (0 °F)	20	502	308	185	136
	30	502	340	266	217
	40	502	340	266	217
-40 °C (-40 °F)	20	470	292	178	130
	30	470	324	259	211
	40	470	324	259	211

Start-up temperature	Circuit breaker capacity ¹ (A)	277V Maximum heating circuit length (ft.) for			
		5BPL2-AL	10BPL2-AL	15BPL2-AL	20BPL2-AL
10 °C (50 °F)	20	639	328	203	147
	30	639	442	321	229
	40	639	442	344	301
-18 °C (0 °F)	20	623	311	193	144
	30	623	426	308	223
	40	623	426	328	288
-40 °C (-40 °F)	20	606	314	190	138
	30	606	410	301	216
	40	606	410	311	282

¹ Breaker sizing should be based on the National Electrical Code, Canadian Electrical Code or any other applicable code. The NEC and CEC require ground-fault protection of equipment for each branch circuit supplying electric heating equipment. Check local codes for ground-fault protection requirements.

Power conversion factors	Power output	Zone length BPL1-AL			Zone length BPL2-AL		
		in.	mm	in.	mm		
110V	0.84	5BPL1-AL	31.5	800	5BPL2-AL	48.0	1220
208V	0.75	10BPL1-AL	27.6	700	10BPL2-AL	35.4	900
277V	1.33	15BPL1-AL	24.6	625	15BPL2-AL	29.9	760
		20BPL1-AL	19.7	500	20BPL2-AL	25.6	650

Power temperature curves 120V and 240V



Max. pipe/work piece temperatures (120V or 240V)¹

Product #	W/m	Area classification hazardous ²						Safe ³	
		T3		T2		T1		°C	°F
		°C	°F	°C	°F	°C	°F		
5BPL-AL	15	160	320	289	552	350	662	350	662
10BPL-AL	30	100	212	246	475	323	613	323	613
15BPL-AL	50	30	86	178	352	276	529	276	529
20BPL-AL	70	-	-	80	176	185	365	185	365

¹ For 277 V applications contact factory representative

² Surface temperature limits in accordance with EN60079

³ Surface temperature limited by materials of construction (maximum exposure temperature, intermittent)

Models

Nominal output W/ft.	Product #		Nominal output W/ft.	Product #		Cable dimension approx. (mm)
	120V	240V		208V	277V	
5	5BPL1-AL	5BPL2-AL	4	5BPL2-AL		10.7 x 7.7
10	10BPL1-AL	10BPL2-AL	7.5	10BPL2-AL		10.7 x 7.7
17	15BPL1-AL	15BPL2-AL	12.5	15BPL2-AL		10.7 x 7.7
22	20BPL1-AL	20BPL2-AL	17.5	20BPL2-AL		10.7 x 7.7

When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.
E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

Accessories

See Accessories section.

ELKM- AG-NA

Fluoropolymer Insulated Series Resistance Heating Cable



Features

Outer jacket

- Fluoropolymer.

Bus wire

- Nickel plated copper.

Maximum operating temperature

- 250 °C (482 °F).

Nominal voltage, maximum

- 0-750V, AC and DC voltages applicable.

Output, max.

- 30 W/m.

Note: The output per unit length of the heating cable and the maximum possible operating temperatures depend on the respective application. Please contact the factory for application specific requirements and calculations.

Bending radius, minimum

- 10 mm (0.4 in.).

Installation temperature, minimum

- -60 °C (-76 °F).

Classification

ELKM-AG-NA (non-hazardous area):

- Industrial and commercial applications, Canada USA

NB Environment (hazardous area):

- Class I Division 2 Group A, B, C, D
- Class II Division 1 Group E, F, G
- Class III Division 1
- Class I Zone 1 AEx de IIC T6...T2 / Ex de IIC
- T6...T2 Gb

NC Environment (hazardous area):

- Class I Division 1 Group A, B, C, D

Standards

- FM16NUS0004
- FM16US0124X
- FM16NC0003
- FM16CA0069X

Certification

- IEC/IEEE 60070-30-1, IEEE 515
- CSA 22.2 130-16

Rating

- Wet rated, for outdoor use (WS).

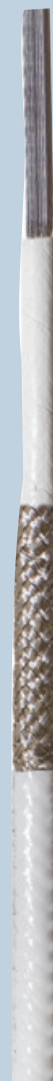
Warranty

- 1-year basic warranty on the heating cable.

Application

- Product line heat tracing (crude oil, natural gas, caustic soda, waste water and product transfer lines), tank and vessel heat tracing, pipe, valve and pump heating, tank container heating, IBC's, storage facility heating, viscosity control and instrumentation heat tracing.

Made to order product, to obtain a quote please contact factory.





Cable Specifications

Nominal resistance (Ω/ft.)	Outer diameter approx.		Weight approx. lb/ft.	Temperature coefficient (x 10 ⁻³ / K)	Nominal resistance (Ω/ft.)	Outer diameter approx.		Weight approx. lb/ft.	Temperature coefficient (x 10 ⁻³ / K)
	in.	mm				in.	mm		
0.0036 (Cu 1.5 mm ²)	0.23	5.9	0.0511	4.30	0.1463	0.22	5.4	0.0412	0.18
0.0152	0.21	5.4	0.0461	1.60	0.1829	0.21	5.3	0.0394	0.18
0.0198	0.22	5.5	0.0429	1.60	0.2438	0.20	5.2	0.0375	0.18
0.0244	0.23	5.9	0.0491	0.90	0.3048	0.21	5.3	0.0394	0.04
0.0305	0.22	5.7	0.0461	0.90	0.4481	0.20	5.2	0.0370	0.04
0.0479	0.22	5.7	0.0459	0.45	0.5334	0.20	5.2	0.0368	0.04
0.0549	0.21	5.4	0.0404	0.90	0.5791	0.22	5.4	0.0402	0.40
0.0610	0.22	5.5	0.0429	0.45	0.8839	0.20	5.2	0.0374	0.40
0.0792	0.21	5.4	0.0408	0.45	1.2192	0.20	5.1	0.0356	0.40
0.0853	0.21	5.3	0.0388	0.38	1.4326	0.20	5.0	0.0349	0.15
0.1036	0.21	5.3	0.0386	0.45	1.8288	0.20	5.0	0.0343	0.20
0.1097	0.20	5.2	0.0382	0.45	2.1336	0.19	5.0	0.0336	0.15
0.1311	0.23	5.5	0.0422	0.18	2.4384	0.19	4.9	0.0332	0.15

Weight tolerances are possible for manufacturing reasons.

Resistance tolerance: +/- 5 %.

For applications with fixed external diameter, please contact the factory.

Cables shall neither intersect nor contact.

Ground fault protection device 30 mA required for each circuit.

Options

Product #	Environment	Description
EL-HAZELECT-AG	NC	Connection kit 1/2" NPT Class I Div 1 and 2 Group ABCD, Class II Div 1 and 2 Groups EFG, Class III, Class I Zone 1 Group IIC
ELVB-AG-NA-NB-NC	NA/NB/NC	Splice kit for ELKM-AG-NA all environments (set of 2)
ELVB-NA-38	NA	Cable gland connection kit for ELKM-AG-NA NEC/CEC 3/8" NPT non-hazardous area
ELVB-NA-M12	NA	Cable gland connection kit for ELKM-AG-NA NEC/CEC M12 x 1.5 non-hazardous area
ELVB-NB-12	NB	Cable gland connection kit for ELKM-AG-NA NEC/CEC 1/2" NPT hazardous area
ELVB-NB-M16	NB	Cable gland connection kit for ELKM-AG-NA NEC/CEC M16 x 1.5 hazardous area

Made to order, please contact factory for design assistance.

ELK-AG-NA may be supplied on spools and field terminated, provided the following conditions are met:

Heating circuit design to be carried out or approved by the factory.

Only Eltherm supplied and certified termination kits may be used.

Heating circuit installation and start-up to be performed by qualified personnel only.

Eltherm product and approval markings to be applied to product.

Product description code (example)

Product # **ELKM-AG-NA-00549**

Product Family _____

ELKM-AG-NA: Normal Environment _____

Nominal resistance _____
(without the dot ".")

Made to order product, to obtain a quote please contact factory.

For hazardous area

ELKM-AG-NA cable is approved for all environments.

For hazardous area applications please refer to the Options table to select the proper termination kit.

NB: Class 1 Division 2

NC: Class 1 Division 1



ELK-MI

Mineral Insulated (M.I.) Alloy 825 Cable Assembly

Features

Outer jacket

- Alloy 825.

Bus wire

- Conductor type might vary depending on model (Nichrome, KP, Constantan, Alloy (30, 60, 90), Copper).

Cold lead length

- 6 ft. (1.8 m) cold lead includes 18 in. (45 cm) flexible cord.

Ambient temperature

- -60 °C to +60 °C (-76 °F to +140 °F).

Maximum operating temperature (power on)

- 700 °C (1292 °F).

Nominal voltage

- Up to 600V.

Bending radius, minimum

- Diameter x 6.

Installation temperature, minimum

- -60 °C (-76 °F).

Classification

- Class I, Division 2, Groups A, B, C, D.
- Class II, Division 1, Groups E, F, G.
- Class III, Division 1.
- Class I, Zone 1, AEx/Ex d e IIC T1...T6.

Standards

- CSA C22.2 130-16.
- UL 60079-30-1.

Certification

- FM 18 US0191X.
- FM 18 CA0089X.

Rating

- Moisture proof, may be immersed in fluids.

Warranty

- 1-year basic warranty on the heating cable.

Application

- Temperature maintenance, silos, vessels, tanks, pipelines, chemical and petrochemical industries, oil and gas industry, industrial processes, mobile processing facilities, vacuum processes, freeze prevention.



Models

Double Conductor 300V					Double Conductor 600V					Single Conductor 600V							
Product #	Dia. in.	Ω/ft.	Dia. mm	Ω/m	Conductor Type	Product #	Dia. in.	Ω/ft.	Dia. mm	Ω/m	Conductor Type	Product #	Dia. in.	Ω/ft.	Dia. mm	Ω/m	Conductor Type
11E0L-2S	0.16	11	4.1	36.089	Nichrome R	11E0H-2S	0.22	11	5.6	36.089	Nichrome R	30E1H-1S	0.17	3	4.3	9.842	Nichrome R
90E1L-2S	0.16	9	4.1	29.527	Nichrome R	90E1H-2S	0.23	9	5.7	29.527	Nichrome R	20E1H-1S	0.17	2	4.3	6.562	Nichrome R
75E1L-2S	0.16	7.5	4.1	24.606	Nichrome R	75E1H-2S	0.24	7.5	6.0	24.606	Nichrome R	19E1H-1S	0.17	1.88	4.3	6.168	Nichrome R
60E1L-2S	0.16	6	4.1	19.685	Nichrome R	60E1H-2S	0.23	6	5.8	19.685	Nichrome R	16E1H-1S	0.17	1.6	4.3	5.249	Nichrome A
50E1L-2S	0.16	5	4.1	16.404	Nichrome R	40E1H-2S	0.24	4	6.1	13.123	Nichrome A	13E1H-1S	0.17	1.3	4.3	4.265	Nichrome A
40E1L-2S	0.16	4	4.1	13.123	Nichrome A	30E1H-2S	0.26	3	6.5	9.842	Nichrome A	12E1H-1S	0.17	1.22	4.3	4.003	Nichrome A
32E1L-2S	0.16	3.2	4.1	10.498	KP	20E1H-2S	0.26	2	6.5	6.562	Nichrome R	10E1H-1S	0.17	1	4.3	3.281	KP
27E1L-2S	0.16	2.7	4.1	8.858	KP	14E1H-2S	0.26	1.4	6.5	4.593	Constantan	85E2H-1S	0.17	0.85	4.3	2.789	KP
25E1L-2S	0.16	2.5	4.1	8.202	Constantan	10E1H-2S	0.26	1	6.5	3.281	KP	70E2H-1S	0.17	0.7	4.3	2.297	Constantan
20E1L-2S	0.16	2	4.1	6.562	Constantan	70E2H-2S	0.27	0.7	6.7	2.297	Constantan	50E2H-1S	0.17	0.5	4.3	1.640	Constantan
17E1L-2S	0.16	1.7	4.1	5.577	Constantan	50E2H-2S	0.28	0.5	7.1	1.640	Constantan	38E2H-1S	0.17	0.38	4.3	1.247	Constantan
14E1L-2S	0.16	1.4	4.1	4.593	Constantan	30E2H-2S	0.3	0.3	7.6	0.984	Constantan	30E2H-1S	0.17	0.3	4.3	0.984	Constantan
10E1L-2S	0.17	1	4.2	3.281	Constantan	23E2H-2S	0.28	0.23	6.9	0.755	Alloy 90	25E2H-1S	0.17	0.25	4.3	0.820	Constantan
70E2L-2S	0.18	0.7	4.3	2.297	Constantan	20E2H-2S	0.26	0.2	6.5	0.656	Alloy 90	20E2H-1S	0.18	0.2	4.4	0.656	Constantan
50E2L-2S	0.19	0.5	4.8	1.640	Alloy 60	15E2H-2S	0.27	0.15	6.7	0.492	Alloy 90	17E2H-1S	0.18	0.17	4.3	0.558	Constantan
30E2L-2S	0.17	0.3	4.3	0.984	Alloy 60	10E2H-2S	0.28	0.1	7.1	0.328	Alloy 60	15E2H-1S	0.17	0.15	4.3	0.492	Alloy 60
25E2L-2S	0.17	0.25	4.3	0.820	Alloy 60	70E3H-2S	0.3	0.07	7.5	0.230	Alloy 60	12E2H-1S	0.17	0.12	4.3	0.394	Alloy 60
20E2L-2S	0.17	0.2	4.3	0.656	Alloy 60	50E3H-2S	0.31	0.05	7.9	0.164	Alloy 60	10E2H-1S	0.17	0.1	4.3	0.328	Alloy 60
15E2L-2S	0.18	0.15	4.4	0.492	Alloy 60	40E3H-2S	0.33	0.04	8.3	0.131	Alloy 60	80E3H-1S	0.17	0.08	4.3	0.262	Alloy 60
10E2L-2S	0.19	0.1	4.8	0.328	Alloy 30	30E3H-2S	0.35	0.03	8.8	0.098	Alloy 60	70E3H-1S	0.17	0.07	4.3	0.230	Alloy 60
70E3L-2S	0.21	0.07	5.2	0.230	Alloy 30	20E3H-2S	0.27	0.02	6.9	0.066	Copper	60E3H-1S	0.17	0.06	4.3	0.197	Alloy 60
50E3L-2S	0.23	0.05	5.7	0.164	Alloy 30	16E3H-2S	0.28	0.016	7.1	0.052	Copper	40E3H-1S	0.18	0.04	4.4	0.131	Alloy 60
-	-	-	-	-	-	13E3H-2S	0.29	0.013	7.4	0.043	Copper	30E3H-1S	0.19	0.03	4.7	0.098	Alloy 60
-	-	-	-	-	-	10E3H-2S	0.3	0.01	7.6	0.033	Copper	20E3H-1S	0.2	0.02	5.1	0.066	Alloy 60
-	-	-	-	-	-	-	-	-	-	-	-	10E3H-1S	0.17	0.01	4.3	0.033	Copper
-	-	-	-	-	-	-	-	-	-	-	-	65E4H-1S	0.18	0.0065	4.3	0.021	Copper
-	-	-	-	-	-	-	-	-	-	-	-	40E4H-1S	0.19	0.0041	4.8	0.013	Copper

Made to order product, standard production lead time of 6 weeks, please contact factory for design and quote.

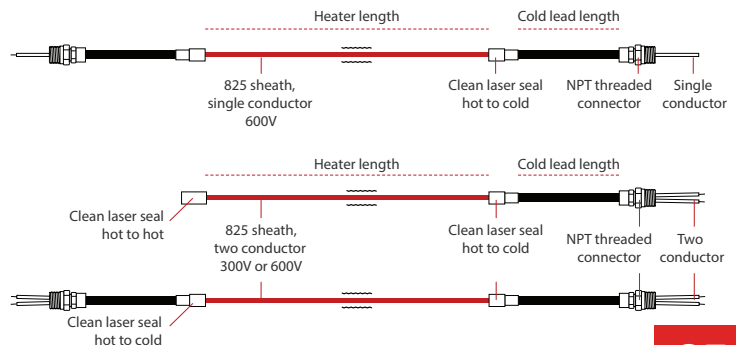
Cold Lead Sizes

Double Conductor					Single Conductor				
Size	Max. Current (A)		Gland Diameter (NPT)		Size	Max. Current (A)		Gland Diameter (NPT)	
AWG	CEC	NEC	CEC	NEC	AWG	CEC	NEC	CEC	NEC
14	15	25			14	20	30		
12	20	30	1/2"	1/2"	12	25	40	1/2"	1/2"
10	30	40	(12.7 mm)	(12.7 mm)	10	40	55	(12.7 mm)	(12.7 mm)
8	50	55			8	70	75		

Configurations




Design B	Single conductor cold lead M.I. Heater with clean laser hot to cold on both ends.
Design D	Two conductor cold lead M.I. Heater with clean laser seal hot to cold on one end. Clean laser seal hot to hot at opposite ends.
Design E	Two conductor cold lead M.I. Heater with clean laser seal hot to cold on both ends.

Codification
B/30E3H-1S/400/1200/120/6/14-1-H/L
 Design _____
 Product # _____
 Total heated length _____
 Total output (Watts) _____
 Voltage _____
 Cold lead length _____
 AWG _____
 Number of conductors _____
 H indicates 600V / L indicates 300V



Accessories

SR-MA-BF Cables




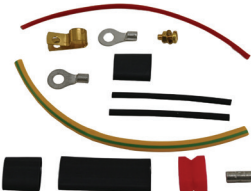
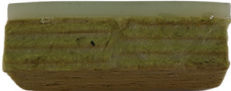

	Product #	Description
	ELVB-SRAM-34-ST	Power connection with steel/zinc cable gland/fitting, 3/4" NPT non-hazardous location
	EL-ECMF	End termination
	KIT-OSR-ELSR-MA-BF	End and power termination kit with warning sticker
	KIT-OSR-ECA-MABF-PH-FIT	Brass gland cable fitting 3/4" NPT
	KIT-OSR-MABF-PH-112-CTSOD	Quick connect plumbing kit for 1 1/2" OD polyethylene CTS pipes
	KIT-OSR-MABF-PH-114-CTSOD	Quick connect plumbing kit for 1 1/4" OD polyethylene CTS pipes
	KIT-OSR-MABF-PH-1-CTSOD	Quick connect plumbing kit for 1" OD polyethylene CTS pipes
	KIT-OSR-MABF-PH-112-ID	Quick connect plumbing kit for 1 1/2" ID polyethylene pipes
	KIT-OSR-MABF-PH-114-ID	Quick connect plumbing kit for 1 1/4" ID polyethylene pipes
	KIT-OSR-MABF-PH-1-ID	Quick connect plumbing kit for 1" ID polyethylene pipes
	KIT-OSR-MABF-PH-34-ID	Quick connect plumbing kit for 3/4" ID polyethylene pipes

Accessories
PSB Cables

	Product #	Description
	TWISTO-N-B-PK	Power connection kit with 5' (1.5 m) power cable and end seal
	TWISTO-N-B-S	Splice kit for connecting two heating cables
	TWISTO-N-B-T	T-junction kit for 3 heating cables
	TWISTO-N-B-PS	Heating cable powered splice kit with 5' (1.5 m) power cable
	TWISTO-N-B-PT	T-junction powered kit for 3 heating cables with 5' (1.5 m) power cable
	TWISTO-N-B-X	Splice kit X-Branch for 4 heating cables
	TWISTO-N-B-P	Heating cable powered connection kit with 5' (1.5 m) power cable without end seal
	MB-1	Twisto-B Off-pipe mounting bracket C/W Nylon ties (6)
	IEB-P	Insulation entry bushing












Accessories

BPL Cables

	Product #	Description
	PBS-220-A	High profile single entry power connection kit with stand and junction box on pipe with 10 AWG terminals
	ELL-220-A	High profile end seal kit on pipe with red light
	CAK-AH-A	Cold applied kit for off pipe M20
	HAK-AH-A	Heat shrink kit for on pipe stand
	BPL-BP	Thermo barrier pad
	BPL-BRACKET	Mounting brackets, qty 220

Accessories

PSB / MSB / HSB Cables

	Product #	Description
	PBS-200-A	High profile single entry power connection kit for PSB/MSB/HSB cable with stand and junction box on pipe with 10 AWG terminals <i>For complete kit contents and approvals please see data sheets available on our website</i>
	PBS-200-A10	High profile single entry power connection kit for PSB/MSB/HSB cable with stand and junction box on pipe with 6 AWG terminals <i>For complete kit contents and approvals please see data sheets available on our website</i>
	PBS-300-A	High profile single entry power connection kit for PSB/MSB/HSB cable with stand and junction box off pipe with 10 AWG terminals <i>For complete kit contents and approvals please see data sheets available on our website</i>
	PBM-200-A	High profile multiple entry power connection kit for PSB/MSB/HSB cable with stand and junction box on pipe with 8 AWG terminals <i>For complete kit contents and approvals please see data sheets available on our website</i>
	PBM-300-A	High profile multiple entry power connection kit for PSB/MSB/HSB cable with stand and junction box off pipe with 10 AWG terminals <i>For complete kit contents and approvals please see data sheets available on our website</i>
	CAK-SRP-PA	Connection kit for ordinary locations NPT 1/2 poly gland for PSB Cable
	CAK-SRP-PA-SP	Power connection kit for ordinary location NPT 1/2 poly gland for PSB Cable
	CAK-SRP-PA-TSP	Power T connection kit for ordinary location NPT 1/2 poly gland for PSB Cable
	CAK-SRM-HA	Connection kit for ordinary locations NPT 1/2 metal gland for MSB/HSB cable
	PBS-SPA	Small pipe adapter for power connection with PBS kits
	PBM-SPA	Small pipe adapter for power connection with PBM kits

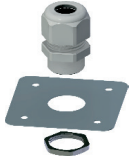




Accessories

PSB / MSB / HSB Cables

	Product #	Description
	ELL-200-A	High profile end seal kit for PSB/MSB/HSB cable on pipe with red light <i>For complete kit contents and approvals please see data sheets available on our website</i>
	ELL-300-A	High profile end seal kit for PSB/MSB/HSB cable off pipe with red light <i>For complete kit contents and approvals please see data sheets available on our website</i>
	ELS-200	High profile end seal kit for PSB/MSB/HSB cable on pipe with weather head <i>For complete kit contents and approvals please see data sheets available on our website</i>
	CAK-E5	Silicone end seal kits for PSB/MSB/HSB cable with 2x RTV (pkg of 5)
	CAK-E10	Silicone end seal kits for PSB/MSB/HSB cable with 3x RTV (pkg of 10)
	CAK-D5-A	Cold applied kit on pipe stand for PSB/MSB/HSB cable <i>For complete kit contents and approvals please see data sheets available on our website</i>
	CAK-PH-A	Cold applied kit off pipe M20 for PSB/MSB/HSB cable










Accessories

PSB / MSB / HSB Cables

	Product #	Description
	IEB-H	Insulation entry bushing for HSB/MSB cable
	IEB-PT	Insulation entry bushing for Pt100 Ex sensor (M25)
	EHT-CKT-TAG	Heat tracing phenolic circuit tags for PSB/MSB/HSB cable
	EHT-TAG	Heat tracing stainless steel circuit tags for PSB/MSB/HSB cable
	TW-05	Stainless steel tie wire 1100' for PSB/MSB/HSB cable


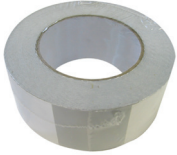



Accessories

Roof / Gutter Cables

	Product #	Description
	ELB-RCLIP	Roof clips for cable, qty 25
	BT-50	Matte black roof clips (10 per pack)
	ELB-20	Stainless steel downspout 90° mounting plat
	ELB-21	Stainless steel gutter mounting plate
	KIT-BSR-DRD	BSR series kit, roof drain de-icing bracket kit
	10068944	Plastic spacers for gutters and drains (10 per pack)
	10191134	Stainless steel suspension hanger for downspout
	BRIPPS-75	75' (23 m) galvanized steel cable clip strip for installation
	HT-2-SIGN	Lamacoid snow melting warning sign English/French























Accessories

Pipe Tracing Cables

	Product #	Description
	CGSTAPE-6558	Glass cloth tape with silicone backing 260 °C 1/2" X 108'
	CGSTAPE-6758	Glass filament tape 130 °C 3/4" X 180'
	FR50F48 FR50F50	Self-adhesive aluminum tape -30 °C to 120 °C 2" X 150'
	GT108-TAPE	Self-adhesive fiber glass tape maximum temperature 200 °C 1/2" x 108'
	HT-1-LABEL	Electric heat tracing warning label English/French
	PC-1	Stainless steel pipe strap, up to 3" diameter
	PC-2	Stainless steel pipe strap, up to 10" diameter

Controls

Floor Warming

	Product #	Description
	TH115-AF-GA/U	Programmable electronic thermostat with built-in GFCI for floor heating system 15 Amp., 120/208/240V, GFCI mA ¹ 
	OTH3600-GA ^{2,3}	Non programmable electronic thermostat for floor heating system 15 Amp., 120/208/240V, Class A, GFCI mA ¹  Compliance with standard CAN/CSA-C828-13
	OTH3600P-GA ^{2,3}	Programmable electronic thermostat for floor heating system 15 Amp., 120/208/240V, Class A, GFCI mA ¹  Compliance with standard CAN/CSA-C828-13
	OTH3600-GA-ZB ^{2,3}	Smart thermostat - Zigbee for floor heating system 15 Amp., 120/208/240V, Class A, GFCI mA ¹   CSA-C828-13 Performance Standard 
	TH1310WF ^{2,3}	Smart thermostat – Wi-Fi for floor heating system 15 Amp., 120/208/240V, Class A, GFCI mA ¹   CSA-C828-13 Performance Standard     
	TR1310-120-240GA ³	Slave unit for floor heating system 15 Amp., 120/208/240V, Class A, GFCI mA ¹
	GT130 ⁴	Smart gateway that provides remote access to the OTH3600-GA-ZB  

¹ GFCI: Ground fault circuit interrupter.

² 15' (4.6 m) floor sensor included.





³ Standard color is white.

⁴ Standard color is black.






Use of the Works with Apple badge means that an accessory has been designed to work specifically with the technology identified in the badge and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. HomeKit is a trademark of Apple Inc. Neviweb® is a registered trademark of Sinopé Technologies Inc. in Canada and the United States. Apple and the Apple logo are trademarks of Apple Inc., registered in the U.S. and other countries. App Store is a service mark of Apple Inc., registered in the U.S. and other countries. Google Play and the Google Play logo are trademarks of Google Inc. The Wi-Fi CERTIFIED™ Logo is a certification mark of Wi-Fi Alliance®.






	Product #	Description
	ETO2	<p>Fully automatic and economical dual-zone electronic controller, suitable for controlling electric heating cables in one or two zones, 1-zone: 3 x 16A, 2-zone: 2 x 16A, 120V to 240V</p> <p>Suitable for use with GFEP panels</p>
	ETO2-BOX	<p>Mounting box dual-zone electronic controller ETO2</p>
	ETOG	<p>Ground sensor to detect humidity and temperature with 33' (10 m) side entry cable</p>
	ETOG-56	<p>Ground sensor to detect humidity and temperature with 80' (25 m) bottom entry cable</p>
	ETOK-1	<p>Mounting tube for ground sensor ETOG-56</p>
	ETOR-55	<p>Gutter sensor to detect humidity with 33' (10 m) cable</p>
	ETF-744-99	<p>24V outdoor sensor for measuring temperature</p>


	Product #	Description
	DS-2C	Aerial mounted controller with sensor to detect humidity and temperature, 30A: 100V to 277V, 20A: 28VDC
	DS-5C	Aerial mounted controller with sensor to detect humidity and temperature, 2X 30A, 100V to 277V
	DS-8C	Aerial mounted controller with sensor to detect temperature and a sensor to detect humidity with 10' (3 m) cable, 30A, 100V to 277V
	DS-9C	Aerial mounted controller with sensor to detect temperature and a sensor to detect humidity with 10' (3 m) cable, 2 X 30A, 100V to 277V
	EX-50	50' (15 m) extension kit, with connection fittings for humidity sensor
	CDP-2	Interior controller and display for DS controllers

	Product #	Description
	APS-3C-120V	Automatic snow and ice melting control system 120V, 24A
	APS-3C-208-240V	Automatic snow and ice melting control system 208-240V, 24A
	APS-4C-208-240V	Automatic snow and ice melting control system 208-240V, 50A c/w built-in adjustable 30 mA GFEP
	APS-4C-600V	Automatic snow and ice melting control system control, 50A @ 600V 3-phase
	EUR-5A	24V controller for snow and ice melting system c/w RCU-3 remote control unit
	GF-PRO	NEMA 4X dual sensor capability controller for snow and ice melting system 100-277V, 30A c/w built-in 30 mA GFEP

	Product #	Description
	LCD-8-100-240V	Configurable aerial mounted snow and ice melting system controller
	PD-PRO	NEMA 3R dual sensor capability controller for snow and ice melting system 100-277V, 30A
	RCU-3	Remote control unit for APS-3C, PD-PRO and EUR-5A
	RCU-4	Remote control unit for APS-4C, SC-40C and GF-PRO
	SC-40C-208-240V	Satellite contactor for modular snow and ice melting control system 208-240V, 50A c/w built-in adjustable 30 mA GFEP
	SC-40C-600V	Satellite contactor for modular snow melting control with GFEP 50A @ 600V 3-phase
	SNOW-OWL	Aerial mounted snow sensor 24V

	Product #	Description
	GIT-1	Gutter and downspout de-icing sensor to detect humidity and temperature compatible with GF-PRO and PD-PRO controllers
	HSC-24	Ground sensor to detect humidity and temperature (requires 23832-HOUSING)
	SIT-6E	Ground sensor to detect humidity and temperature for APS control panel (requires 23832-HOUSING)
	23832-HOUSING	Ground sensor housing for HSC-24 and SIT-6E
	25076-THERMISTOR	High temperature sensor 100k Ohms c/w 20' (6 m) cable (No disc.)

	Product #	Description
	A19QSC-1C	Freeze protection NEMA 4X ambient or line sensing thermostat temperature control 120-277V, 22A, SPST c/w with 10' (3 m) capillary
	A19QSC-2C	NEMA 4X electro-mechanical thermostat with 10' (3 m) capillary 22 Amp., 120/240V
	A19QSC-4C	NEMA 4X electro-mechanical thermostat with 20' (6 m) capillary 22 Amp., 120/240V
	A421ABC-02C	NEMA 1 electronic thermostat in thermoplastic 1P20 housing with 6' (1.8 m) capillary 10 Amp., 120/240V
	A421ABC-06C	NEMA 1 electronic thermostat with 19.5' (6 m) capillary 10 Amp., 120/240V
	A421AEC-02C	NEMA 4X electronic thermostat with 6' (2 m) capillary 10 Amp., 120/240V
	A99BB-600C	Silicone PTC temperature sensor c/w 19.7' (6 m) PVC cable -40 °C to 105 °C for A421 series thermostat
	A99BC-1500C	Silicone PTC temperature sensor c/w 49' (15 m) PVC cable -40 °C to 105 °C for A421 series thermostat

	Product #	Description
	ELTC-14-RTD	Digital temperature control 20A at 90-260V, including 3-wire RTD (Pt-100) sensing element is 5 x 50 mm with 5 m of fluoropolymer lead wires, range 0 °C to 250 °C (32 °F to 482 °F) Suitable for used with GFEP panels

	Product #	Description
	S1-A	NEMA 4X IP67 electronic single point line sensing heat trace controller 100-277V, 30A c/w built-in 30 mA GFEP and 20' (6 m) lead, 10k ohms thermistor, Wi-Fi, Ethernet, Modbus and BACnet ¹ capabilities
	S1-B	NEMA 4X IP67 electronic single point line sensing heat trace controller 100-277V, 30A c/w built-in 30 mA GFEP and 20' (6 m) lead, 10k ohms thermistor, Wi-Fi, Ethernet capabilities
	GATEWAY-PCKG	24VDC BACnet gateway assembly with power supply NEMA 4X enclosure with 24VDC transformer for S1 Series
	GATEWAY	24VDC BACnet gateway stand alone for S1 Series

¹ BACnet IP or MS/TP available via preconfigured SMC gateway, sold separately.

	Product #	Description
	FPT-130	NEMA 4X IP66 mechanical single point line sensing heat trace controller 100-277V, 30A c/w built-in 30 mA GFEP and 20' (6 m) lead, 100k Ohms at 25 °C (77 °F) thermistor Range -40 °C to 110 °C (-40 °F to 230 °F)
	GPT-130	NEMA 4X IP66 electronic single point line sensing heat trace controller 100-277V, 30A c/w built-in 30 mA GFEP and 20' (6 m) lead, 100k Ohms at 25 °C (77 °F) thermistor Range -40 °C to 110 °C (-40 °F to 230 °F)
	GPT-230	NEMA 4X IP66 electronic dual point line sensing heat trace controller 100-277V, 2X 30A c/w built-in 30 mA GFEP and 2X 20' (6 m) lead, 100k Ohms at 25 °C (77 °F) thermistor Range -40 °F to 110 °C (-40 °C to 230 °F)

	Product #	Description												
	E100-13545	Nema 4X epoxy painted die cast aluminum line sensing thermostat 120-480V, 22A, SPDT c/w 10' (3 m) stainless steel capillary Range -3.8 °C to 162.7 °C (25 °F to 325 °F)												
	B100-13546	Nema 4X epoxy painted die cast aluminum ambient sensing thermostat 120-480V, 22A, SPDT c/w stainless steel stem sensor Range -40 °C to 71 °C (-40 °F to 160 °F)												
	E121-13273	Explosion-proof NEMA 4X 7, 9 and IP66 epoxy painted die cast aluminum line sensing thermostat temperature control 120-480V, 22A, SPDT c/w 10' (3 m) stainless steel capillary Range -3.8 °C to 162.7 °C (25 °F to 325 °F) Approvals <table border="1"> <tr> <td>UL</td> <td>CSA / FM</td> </tr> <tr> <td>Class I, Division 1 & 2</td> <td>Class I, Division 1 & 2</td> </tr> <tr> <td>Grps. B, C & D</td> <td>Grps. B, C & D</td> </tr> <tr> <td>Class II, Division 1 & 2</td> <td>Class II, Division 1 & 2</td> </tr> <tr> <td>Grps. #, F & G</td> <td>Grps. E, F & G</td> </tr> <tr> <td></td> <td>Class III, Division 1 & 2</td> </tr> </table>	UL	CSA / FM	Class I, Division 1 & 2	Class I, Division 1 & 2	Grps. B, C & D	Grps. B, C & D	Class II, Division 1 & 2	Class II, Division 1 & 2	Grps. #, F & G	Grps. E, F & G		Class III, Division 1 & 2
UL	CSA / FM													
Class I, Division 1 & 2	Class I, Division 1 & 2													
Grps. B, C & D	Grps. B, C & D													
Class II, Division 1 & 2	Class II, Division 1 & 2													
Grps. #, F & G	Grps. E, F & G													
	Class III, Division 1 & 2													
	B121-13272	Explosion -proof NEMA 4X 7, 9 and IP66 epoxy painted die cast aluminum ambient sensing thermostat temperature control 120-480V, 22A, SPDT c/w stainless steel stem Range -9 °C to -60 °C (15 °F to 140 °F) Approvals <table border="1"> <tr> <td>UL</td> <td>CSA / FM</td> </tr> <tr> <td>Class I, Division 1 & 2</td> <td>Class I, Div. 1 & 2</td> </tr> <tr> <td>Grps. B, C & D</td> <td>Grps. B, C & D</td> </tr> <tr> <td>Class II, Division 1 & 2</td> <td>Class II, Div. 1 & 2</td> </tr> <tr> <td>Grps. #, F & G</td> <td>Grps. E, F & G</td> </tr> <tr> <td></td> <td>Class III, Div. 1 & 2</td> </tr> </table>	UL	CSA / FM	Class I, Division 1 & 2	Class I, Div. 1 & 2	Grps. B, C & D	Grps. B, C & D	Class II, Division 1 & 2	Class II, Div. 1 & 2	Grps. #, F & G	Grps. E, F & G		Class III, Div. 1 & 2
UL	CSA / FM													
Class I, Division 1 & 2	Class I, Div. 1 & 2													
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Class II, Division 1 & 2	Class II, Div. 1 & 2													
Grps. #, F & G	Grps. E, F & G													
	Class III, Div. 1 & 2													
	ECA-E55-R25HT	SPDT, NEMA 4X thermostat in molded aluminum housing, 22A at 120/250/480V, with 10' (3 m) stainless steel bulb and capillary Requires a ground fault circuit interrupter (GFCI) in the electrical panel												



TraceMate™

Advanced NEMA 4X steel, powder coat painted electronic controller. Designed for indoor or outdoor use in non-hazardous and hazardous areas c/w built-in GFEP.

CSA C US
Class I, Division 2, Groups A, B, C, D
Class I, Zone II, Groups IIC

Temperature range -50 °C to 500 °C (-58 °F to 932 °F)
Operating range -40 °C to 50 °C (-40 °F to 122 °F)
LCD Display operating range -20 °C to 50 °C (-4 °F to 122 °F)

Product #	Description
TM-1SIH1-E5-RTD-A1	TraceMate™ I GFCI electronic thermostat for single circuit at 120V, 30A
TM-1DIH2-E5-RTD-A1	TraceMate™ I GFCI electronic thermostat for single circuit at 240/208V, 30A
TM-2SIH1-E5-RTD	TraceMate™ II GFCI electronic thermostat for dual circuit at 120V, 2 x 30A
TM-2DIH2-E5-RTD-208-240	TraceMate™ II GFCI electronic thermostat for dual circuit at 240/208V, 2 x 30A

MasterTrace¹



Advanced NEMA 4X steel, powder coat painted electronic controller. Designed for use in non-hazardous and hazardous areas c/w built-in GFEP, RS485 type with Modbus © RTU protocol, comes with a 9 tactile keys, polyester faceplate and LCD display.

CSA C US
Class I, Division 2, Groups A, B, C, D
Class I, Zone II, Groups IIC
Class II, Division 2, Groups F & G
Class III

Temperature range -50 °C to 500 °C (-58 °F to 932 °F)
Operating range -40 °C to 50 °C (-40 °F to 122 °F)

Product #	Description
MS-2101	MasterTrace single circuit electronic GFCI controller with double pole, 85V to 300V, 30A, with user interface
MS-2101-E3	MasterTrace single circuit electronic GFCI controller with double pole, 85V to 300V, 30A, with user interface, stainless steel housing
MS-2102	MasterTrace double circuit electronic GFCI controller with single pole, 120V or 277V, 2 x 30A, with user interface
MS-2102-E3	MasterTrace double circuit electronic GFCI controller with single pole, 120V or 277V, 2 x 30A, with user interface, stainless steel housing
RTD-7	RTD probe for MasterTrace controller

¹ Multi-circuit custom MasterTrace control panels are available upon request.



Control panels for snow melting / roof de-icing / pipe tracing

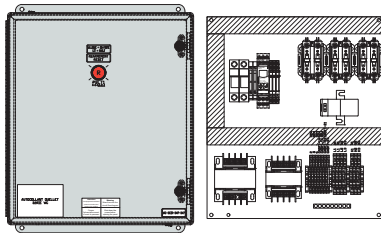
GFEP control panel with contactors

Product #	Description	H x W x D (in.)
BRI-GFI-75	120/600V 75A	16x12x6
BRI-GFI-100	120/600V 100A	16x12x6

Control panels for self-regulating heating cable

GFEP control panel with contactors and 240-120V control transformer

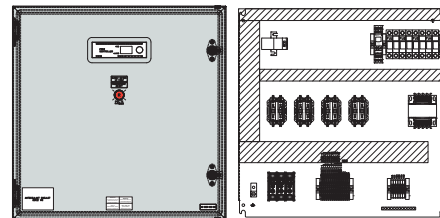
Product #	Description	H x W x D (in.)
SR-4CIR-240	4 circuits 240V 30A	20x16x8
SR-6CIR-240	6 circuits 240V 30A	20x16x8
SR-8CIR-240	8 circuits 240V 30A	24x20x8
SR-12CIR-240	12 circuits 240V 30A	24x24x8



Control panels for concrete heating cable

GFCI control panel with contactors and 24V control transformer

Product #	Description	H x W x D (in.)
WC-2CIR-208	2 circuits 208V 30A	16x14x8
WC-4CIR-208	4 circuits 208V 30A	20x16x8
WC-6CIR-208	6 circuits 208V 30A	20x16x8
WC-8CIR-208	8 circuits 208V 30A	24x24x8
WC-10CIR-208	10 circuits 208V 30A	24x24x8
WC-12CIR-208	12 circuits 208V 30A	24x24x8
WC-2CIR-240	2 circuits 240V 30A	16x14x8
WC-4CIR-240	4 circuits 240V 30A	20x16x8
WC-6CIR-240	6 circuits 240V 30A	24x20x8
WC-8CIR-240	8 circuits 240V 30A	24x20x8
WC-10CIR-240	10 circuits 240V 30A	24x24x8
WC-12CIR-240	12 circuits 240V 30A	24x24x8
WC-3CIR-347-347	3 circuits 347V 30A	16x14x8
WC-6CIR-347-347	6 circuits 347V 30A	20x16x8
WC-9CIR-600-347	9 circuits 600V 30A	30x24x8
WC-12CIR-600-347	12 circuits 600V 30A	30x24x8



Control panels for snow melting heating cable

GFCI control panel with contactors built-in ETO2 and 120+24V control transformers

Product #	Description	H x W x D (in.)
WS-4CIR-208	4 circuits 208V 30A	20x16x8
WS-6CIR-208	6 circuits 208V 30A	24x20x8
WS-8CIR-208	8 circuits 208V 30A	24x24x8
WS-12CIR-208	12 circuits 208V 30A	30x24x8
WS-4CIR-240	4 circuits 240V 30A	20x16x8
WS-6CIR-240	6 circuits 240V 30A	24x20x8
WS-8CIR-240	8 circuits 240V 30A	24x24x8
WS-12CIR-240	12 circuits 240V 30A	30x24x8
WS-3CIR-600-600	3 circuits 600V 30A	24x24x8
WS-6CIR-600-600	6 circuits 600V 30A	30x24x8
WS-9CIR-600-600	9 circuits 600V 30A	30x24x8
WS-12CIR-600-600	12 circuits 600V 30A	30x30x8
WS-15CIR-600-600	15 circuits 600V 30A	36x30x10

WARRANTY

OUR GUARANTEE

All products sold in Canada by Britech Corp. carry the original manufacturers warranties and are guaranteed against all defects for a minimum of one year following the date of purchase or as extended warranties specified below or in writing. Full product warranties can be obtained from the manufacturer online and/or by request. Britech will administer and promptly process all warranties in accordance with the manufacturer's specific warranty policies and procedures. Britech will provide technical assistance to assist the end user or installer in the best method of operation, application and installation.

Britech's policy is to exchange any non-performing product with a similar product or product of equal value during its warranty period as outlined. The company's responsibility is limited to the replacement of defective parts. This warranty shall be limited to the actual equipment involved and does not cover installation or removal costs, travel time, or freight-related expenses. Defects must be reported to Britech to obtain an authorization of repair or replacement. Repairs may be performed at the factory or any authorized repair location. This warranty does not apply to damages, failure, or the results of an accident, alteration, misuse, abuse, incorrect installation, or operation from an incorrect power source.

Note: Custom TXLP1 heating cables carry a (20) twenty year warranty which is provided by Nexans (refer to Nexans full product warranty).

For more information regarding warranty terms or for assistance with your heating cable product contact Britech at 1-877-335-7790

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Seller shall not be responsible for non-performance or delays in performance due to acts of God; acts of Buyer; war; fire; flood; weather; sabotage; strikes or labour disputes; civil disturbances or riots; governmental requests, restrictions, allocations, laws, regulations, orders or actions; unavailability of or delays in transportation; default of suppliers; or unforeseen circumstances or any events or causes beyond Seller's reasonable control. Deliveries or other performance may be suspended for an appropriate period of time or canceled by Seller upon notice to Buyer in the event of any of the foregoing, but the balance of the agreement shall otherwise remain unaffected as a result of the foregoing. If Seller determines that its ability to supply the total demand for the Products, or to obtain material used directly or indirectly in the manufacture of the Products, is hindered, limited or made impracticable due to causes set forth in the preceding paragraph, Seller may allocate its available supply of the Products or such material (without obligation to acquire other supplies of any such Products or material) among itself and its purchasers on such basis as Seller determines to be equitable without liability for any failure of performance which may result therefrom.

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This warranty does not extend to any losses or damages due to misuse, accident, abuse, normal wear and tear, Buyer's negligence, unauthorized modification or alteration, use beyond rated capacity, or improper installation, maintenance or application. To the extent that Buyer or its agents has supplied specifications, information, representation of operating conditions or other data to Seller in the selection or design of the Products and the preparation of Seller's quotation, and in the event that actual operating conditions or other conditions differ from those represented by Buyer, any warranties or other provisions contained herein which are affected by such conditions shall be null and void.

If within thirty (30) days after Buyer's discovery of any warranty defects within the warranty period or within ten (10) days for quantity discrepancies, Buyer notifies Seller thereof in writing, Seller shall, at its option, repair, correct or replace F.O.B. point of manufacture, or refund the purchase price for that portion of the Products found by Seller to be defective or missing. Failure by Buyer to give such written notice within the applicable time period shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects or shortages.

Products repaired or replaced during the warranty period shall be covered by the foregoing warranty for the remainder of the warranty period or ninety (90) days from the date of shipment, whichever is longer. Buyer assumes all other responsibility for any loss, damage, or injury to persons or property arising out of, connected with, or resulting from the use of Products, either alone or in combination with other products/components.

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