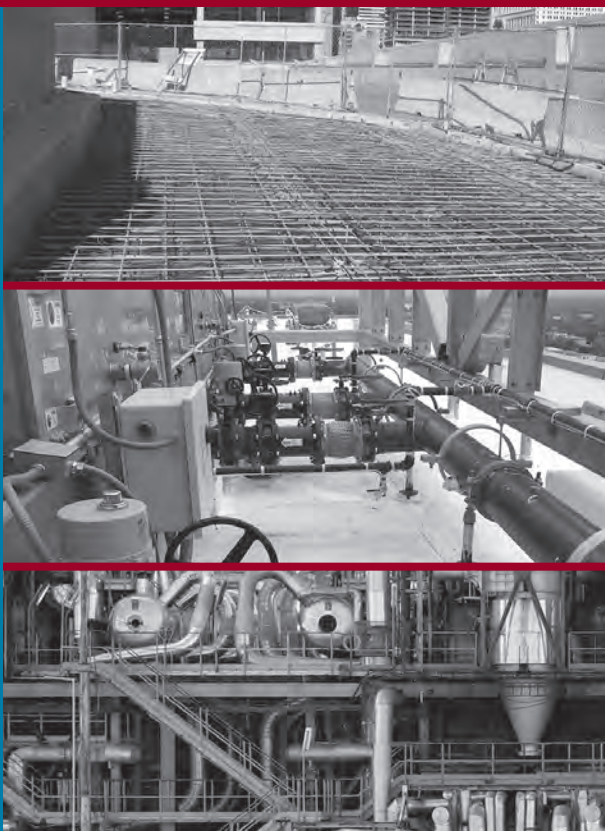









By: **INNOVAIR**  
SOLUTIONS





2023 PRODUCT CATALOG

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# FHM

## 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

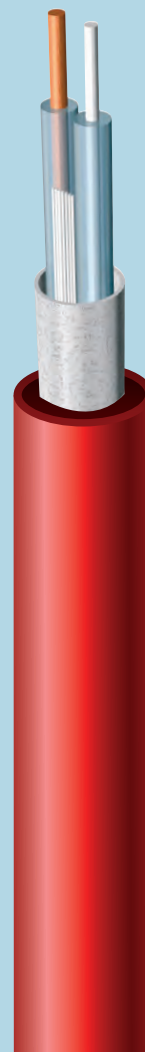
- Never cut or shorten the heating cable.
- For indoor applications only.
- On concrete slab or plywood subfloor.

#### Warranty

- 25-year warranty on the heating cable.

#### Application

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





## Models

Watts	Product #		Cable diameter (mm)	Covered surface <sup>1</sup>		Length		Weight	
	240/208V	120V		sq. ft.	sq. m	ft. in.	m	lb	kg
60	-	FHM120-60	3.2	5	0.5	3' 4"	0.9	2.0	0.9
120	FHM240-120	FHM120-120	3.2	10	0.9	6' 8"	1.8	2.0	0.9
180	-	FHM120-180	3.2	15	1.4	10'	3.0	3.0	1.4
240	FHM240-240	FHM120-240	3.2	20	1.9	13' 4"	4	3.0	1.4
300	-	FHM120-300	3.2	25	2.4	16' 8"	4.9	4.0	1.8
360	FHM240-360	FHM120-360	3.2	30	2.8	20'	6.1	4.0	1.8
420	-	FHM120-420	3.2	35	3.3	23' 4"	7	5.0	2.3
480	FHM240-480	FHM120-480	3.2	40	3.8	26' 8"	7.9	5.0	2.3
540	-	FHM120-540	3.2	45	4.2	30'	9.2	6.0	2.7
600	FHM240-600	FHM120-600	3.2	50	4.7	33' 4"	10.1	7.0	3.2
720	FHM240-720	FHM120-720	3.2	60	5.6	40'	12.2	7.0	3.2
840	FHM240-840	FHM120-840	3.2	70	6.5	46' 8"	14.0	9.0	4.1
960	FHM240-960	FHM120-960	3.2	80	7.4	53' 4"	16.2	10.0	4.5
1080	FHM240-1080	-	3.2	90	8.4	60'	18.3	11.0	5.0
1200	FHM240-1200	-	3.2	100	9.3	66' 8"	20.1	11.0	5.0
1440	FHM240-1440	-	3.2	120	11.2	80'	24.4	13.0	5.9

<sup>1</sup> 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



# DTR

## Floor Heating Cable for Membrane

### 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

- 9W/sq. ft. (97W/sq. m), 4" (102 mm) spacing.
- 10W/sq. ft. (108W/sq. m), 3 5/8" (92 mm) spacing.

#### 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.
- On uncoupling membrane sold in option.
- For heating cable installation on uncoupling membrane systems, consult the membrane manufacturer's instructions to ensure that it is compatible with the use of heating cables.

#### Warranty

- 25-year warranty on the heating cable.

#### Application

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





## Models

Watts	Product # 240/208V	Product # 120V	Cable diameter (mm)	Covered surface depending on spacing <sup>1</sup>				Length		Weight	
				3 1/2" (88 mm) <sup>2</sup>		3 3/4" (95 mm)		ft.	m	lb	kg
85	-	DTR0082	4.3	9.5	0.9	10.0	0.9	32	9.75	2.6	0.9
120	-	DTR0122	4.3	12.0	1.1	12.5	1.2	40	12.19	2.6	0.9
150	-	DTR0152	4.3	16.0	1.5	16.5	1.5	53	16.15	3.1	1.4
170	DTR0170	DTR0172	4.3	18.5	1.7	19.0	1.8	61	18.59	3.1	1.4
240	DTR0240	DTR0242	4.3	24.0	2.2	25.0	2.3	80	24.38	3.8	1.6
300	DTR0300	DTR0302	4.3	30.5	2.8	31.5	2.9	101	30.78	4	1.8
360	DTR0360	DTR0362	4.3	36.5	3.4	37.5	3.5	120	36.58	4.2	1.9
420	DTR0420	DTR0422	4.3	42.5	4.0	44.0	4.1	141	42.98	4.9	2.2
475	DTR0475	DTR0472	4.3	48.5	4.5	50.0	4.6	160	48.77	6	2.7
600	DTR0600	DTR0602	4.3	60.5	5.6	62.5	5.8	200	60.96	6.9	3.1
720	DTR0720	DTR0722	4.3	72.5	6.7	75.0	7.0	240	73.15	7.9	3.6
840	DTR0840	DTR0842	4.3	84.5	7.9	87.5	8.1	280	85.34	8.7	4
960	DTR0960	DTR0962	4.3	96.5	9.0	100.0	9.3	320	97.54	9.3	4.2
1080	DTR1080	-	4.3	109.0	10.1	112.5	10.5	360	109.73	10	4.6
1140	-	DTR1142	4.3	115	10.66	119	11.03	380	115.82	11.6	5.2
1200	DTR1200	-	4.3	121.0	11.2	125.0	11.6	400	121.92	11	5
1320	-	DTR1322	4.3	133	12.35	137.5	12.77	440	134.11	13.7	6.2
1440	DTR1440	-	4.3	145.0	13.5	150.0	13.9	480	146.30	13	5.9
1450	-	DTR1452	4.3	145	13.5	150	13.9	480	146.30	16	7.2
1500	-	DTR1502	4.3	151	14	156.5	14.5	500	152.40	17.4	7.9
1600	DTR1600	-	4.3	169.0	15.7	175.0	16.3	560	170.69	15	6.8
1680	-	DTR1682	4.3	169.5	15.7	175	16.3	560	170.69	20.3	9.1
1920	DTR1920	-	4.3	193.5	18.0	200.0	18.6	640	195.07	18	8.2
2280	DTR2280	-	4.3	229.5	21.3	237.5	22.1	760	231.65	22	10
2640	DTR2640	-	4.3	266.0	24.7	275.0	25.5	880	268.22	26	11.8
2900	DTR2900	-	4.3	292.5	27.2	302.5	28.1	968	295.04	30	13.6
3000	DTR3000	-	4.3	302.0	28.1	312.5	29.0	1000	304.80	31	14
3360	DTR3360	-	4.3	338.5	31.4	350	32.5	1120	341.38	36.9	16.8

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

<sup>2</sup> Spacing with the NADCM membrane when the cable is installed with 3 spacing castellations.

208V = 75% of wattage at 240V.

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

## Options

Product # Kit	Description
NADCM-M-80	Fleeceback uncoupling membrane in sheet, 2' 6-5/16" X 3' 3", 8.16 sq. ft., sold in box of 10 sheets
NADCM-M-150	Fleeceback uncoupling membrane in roll, 46' 9" x 3' 3", 150 sq. ft.
NADCM-S-80	Self-adhesive uncoupling membrane in sheet, 2' 6-5/16" X 3' 3", 8.16 sq. ft., sold in box of 10 sheets
NADCM-S-150	Self-adhesive uncoupling membrane in roll, 46' 9" x 3' 3", 150 sq. ft.
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

# DWF-R

## 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

- 12W/sq. ft. (130W/sq. m), 3" (76 mm) spacing.
- 9W/sq. ft. (100W/sq. m), 4" (102 mm) spacing

#### 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.
- 15' (4.6 m) floor sensor.

#### 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.





## Models

Watts	Product # 240/208V	Strapping included <sup>1</sup>		Cable diameter (mm)	Covered surface depending on spacing <sup>2</sup>				Length		Strapping length included (ft.)
		Product # 120V			Spacing 3" (76 mm)		Spacing 4" (102 mm)		ft.	m	
85	-	DWF-R0082		4.3	8	0.7	11	1.0	32	9.75	25
120	-	DWF-R0122		4.3	10	0.9	13	1.2	40	12.19	25
150	-	DWF-R0152		4.3	13	1.2	17	1.6	53	16.15	25
170	DWF-R0170	DWF-R0172		4.3	15	1.4	20	1.9	61	18.59	25
240	DWF-R0240	DWF-R0242		4.3	20	1.9	27	2.5	80	24.38	25
300	DWF-R0300	DWF-R0302		4.3	25	2.3	33	3.1	101	30.78	25
360	DWF-R0360	DWF-R0362		4.3	30	2.8	40	3.7	120	36.58	50
420	DWF-R0420	DWF-R0422		4.3	35	3.3	47	4.3	141	42.98	50
475	DWF-R0475	DWF-R0472		4.3	40	3.7	53	5.0	160	48.76	50
600	DWF-R0600	DWF-R0602		4.3	50	4.6	67	6.2	200	60.96	50
720	DWF-R0720	DWF-R0722		4.3	60	5.6	80	7.4	240	73.15	75
840	DWF-R0840	DWF-R0842		4.3	70	6.5	93	8.7	280	85.34	75
960	DWF-R0960	DWF-R0962		4.3	80	7.4	107	9.9	320	97.54	75
1080	DWF-R1080	-		4.3	90	8.4	120	11.2	360	109.73	100
1140	-	DWF-R1142		4.3	95	8.8	127	11.7	380	115.82	100
1200	DWF-R1200	-		4.3	100	9.3	133	12.4	400	121.92	100
1320	-	DWF-R1322		4.3	110	10.2	147	13.6	440	134.11	100
1440	DWF-R1440	-		4.3	120	11.1	160	14.9	480	146.30	100
1450	-	DWF-R1452		4.3	120	11.1	160	14.8	480	146.30	100
1500	-	DWF-R1502		4.3	125	11.6	167	15.5	500	152.40	125
1600	DWF-R1600	-		4.3	140	13.0	187	17.4	560	170.69	125
1680	-	DWF-R1682		4.3	140	13.0	187	17.4	560	170.69	125
1920	DWF-R1920	-		4.3	160	14.9	213	19.8	640	195.07	125
2280	DWF-R2280	-		4.3	190	17.7	253	23.6	760	231.64	150
2640	DWF-R2640	-		4.3	220	20.4	293	27.2	880	268.22	200
2900	DWF-R2900	-		4.3	242	22.5	323	30.0	968	295.04	200
3000	DWF-R3000	-		4.3	250	23.2	333	30.9	1000	304.80	200
3360	DWF-R3360	-		4.3	280	26.0	374	34.7	1120	341.38	200

<sup>1</sup> Strapping included. The length of plastic strapping included is based on a square room with strapping every 24" (610 mm).

<sup>2</sup> Does not represent the surface of the room but rather the surface covered by the floor heating system, excluding fixtures and other spaces to consider.  
15' (4.6 m) floor sensor and 10' (3 m) cold lead included.

## Options

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



# DWC-M

## Heating Cable for Concrete on Mat

### Features

#### Voltage

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

<sup>1</sup> 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 <sup>1</sup>	-	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 <sup>2</sup>	Optional 50' (15 m) cold lead

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

<sup>1</sup> With any DWC order, the accessory OTM-CC can be added free of charge upon customer request.

<sup>2</sup> Made to order only. Allow additional 9 to 12 weeks lead time.



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

<sup>1</sup> 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.

<sup>2</sup> 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 <sup>1</sup>	-	CableCheck – Electrical indicator
KIT-SP2	-	Repair kit
KIT-CBL-SN	-	15 ft. (4.6 m) floor sensor
-	50 <sup>2</sup>	Optional 50' (15 m) cold lead

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

<sup>1</sup> With any DWC order, the accessory OTM-CC can be added free of charge upon customer request.

<sup>2</sup> Made to order only. Allow additional 9 to 12 weeks lead time.



# DWS-T

## Heating Cable for Snow Melting on Mat

### Features

#### Voltage

- 208V and 240V, 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

- 50W/sq. ft. (538W/sq. m) at 208V and 240V, 3" (76 mm) spacing.

#### Dimension

- 24" (610 mm) and 36" (914 mm) wide mats offered in several lengths.

#### Cold lead

- 50' (15 m) long.
- Optional 100' (30 m) cold lead available upon request.
- 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

- 10-year warranty on heating cable.

#### Application

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





## 24 in. (610 mm) Wide Models

Watts	Product #	Product #	Amp.	Covered surface <sup>1</sup>		Mat length		Cable length <sup>2</sup>		Weight	
	208V	240V		sq. ft.	sq. m	ft.	m	ft.	m	lb	kg
500	DWS-T0508-24	DWS-T0500-24	2.08	11.0	1.0	5	1.5	43	13.1	3.0	1.4
1000	DWS-T1008-24	DWS-T1000-24	4.17	22.0	2.0	10	3.0	86	26.2	5.0	2.3
1500	DWS-T1508-24	DWS-T1500-24	6.25	32.5	3.0	15	4.6	128	39.0	7.0	3.2
2000	DWS-T2008-24	DWS-T2000-24	8.33	43.5	4.0	20	6.1	171	52.1	10.0	4.5
2500	DWS-T2508-24	DWS-T2500-24	10.42	54.0	5.0	25	7.6	214	65.2	12.5	5.7
3000	DWS-T3008-24	DWS-T3000-24	12.50	65.0	6.0	30	9.1	257	78.4	15.0	6.8
4000	DWS-T4008-24	DWS-T4000-24	16.67	86.5	8.1	40	12.2	342	104.3	20.0	9.1
5000	DWS-T5008-24	DWS-T5000-24	20.83	108.5	10.1	50	15.2	428	130.5	25.0	11.4
6000	-	DWS-T6000-24	25.00	130.0	12.1	60	18.3	513	156.4	30.0	13.6

## 36 in. (914 mm) Wide Models

Watts	Product #	Product #	Amp.	Covered surface <sup>1</sup>		Mat length		Cable length <sup>2</sup>		Weight	
	208V	240V		sq. ft.	sq. m	ft.	m	ft.	m	lb	kg
450	DWS-T0458-36	DWS-T0450-36	1.88	9.5	0.9	3	0.9	38	11.6	2.5	1.1
750	DWS-T0758-36	DWS-T0750-36	3.13	16.0	1.5	5	1.5	63	19.2	3.5	1.6
1050	DWS-T1058-36	DWS-T1050-36	4.38	22.0	2.0	7	2.1	88	26.8	5.0	2.3
1500	DWS-T1508-36	DWS-T1500-36	6.25	31.5	2.9	10	3.0	126	38.4	8.0	3.6
3000	DWS-T3008-36	DWS-T3000-36	12.50	63.5	5.9	20	6.1	251	76.5	15.0	6.8
4500	DWS-T4508-36	DWS-T4500-36	18.75	95.0	8.8	30	9.1	377	114.9	22.5	10.2
6000	-	DWS-T6000-36	25.00	126.5	11.8	40	12.2	502	153.0	30.0	13.6

<sup>1</sup> Represents the area covered by the mat including 3" (76 mm) spacing between the mat strips but excluding fixed elements to be bypassed and any other required clearances.

<sup>2</sup> Represents the total length of the heating cable if it is detached from the flexible strips.

## Installation Options

Product # Kit	Product # Factory installed*	Description
OTM-CC <sup>1</sup>	-	CableCheck – Electrical indicator
BRIPPS-75	-	75 ft. (23 m) galvanized steel cable clip strip for installation
KIT-SP2	-	Repair kit
SM-PLATE <sup>2</sup>	-	Brass marker for embedded electrical heating system
-	100 <sup>3</sup>	Optional 100' (30 m) cold lead

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

<sup>1</sup> With any DWS-T order, the accessory OTM-CC can be added free of charge upon customer request.

<sup>2</sup> In compliance with the National Electrical Code (NEC) 426.13 Identification.

<sup>3</sup> 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	
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	

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

### Options

Product #	Description
<b>Factory installed only</b>	
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
<b>Kit</b>	
BRIPPS-75	75 ft. (23 m) galvanized steel cable clip strip for installation
KIT-SP3	Repair kit
SM-PLATE <sup>1</sup>	Brass marker for embedded electrical heating system

<sup>1</sup> In compliance with the National Electrical Code (NEC) 426.13 Identification.

### Product description code (example)

Product # TXLP1-10156651-4269-240-341-15

Cable family \_\_\_\_\_

Cable reference # \_\_\_\_\_

Total output (Watts) \_\_\_\_\_

Voltage \_\_\_\_\_

Heated length \_\_\_\_\_

Cold lead length \_\_\_\_\_

Standard 15 ft. (4.57 m)

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

# ORF-P

## 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).

#### 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 (34 °F).

#### Warranty

- 1-year basic warranty on the heating cable.

#### Application

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





## Models

Product # <sup>1</sup>	Length		Watts
	ft.	m	
ORF-P003	3	0.9	21
ORF-P006	6	1.8	42
ORF-P009	9	2.7	63
ORF-P012	12	3.7	84
ORF-P015	15	4.6	105
ORF-P018	18	5.5	126
ORF-P024	24	7.3	168
ORF-P030	30	9.0	210
ORF-P040	40	12.2	280
ORF-P060	60	18.3	420
ORF-P080	80	24.4	560

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

# ORF-R

## 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).

#### 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: 0 °C (34 °F).

#### Warranty

- 1-year basic warranty on the heating cable.

#### Application

- Roof and gutter de-icing.





## Models

Product # <sup>1</sup>	Length		Watts
	ft.	m	
ORF-R020	20	6.1	100
ORF-R030	30	9.1	150
ORF-R060	60	18.3	300
ORF-R080	80	24.4	400
ORF-R100	100	30.5	500
ORF-R120	120	36.6	600
ORF-R140	140	42.7	700
ORF-R160	160	48.8	800
ORF-R180	180	54.9	900
ORF-R200	200	61.0	1000
ORF-R240	240	73.2	1200

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

## 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



# SR-MA

## Micro Self-Regulating Heating Cable SR-MA

### Features

#### Outer jacket

- Thermoplastic (AO).

#### Bus wire

- Nickel plated copper.

#### Minimum start-up temperature

- -30 °C (-22 °F).

#### Maximum operating temperature (power on)

- 60 °C (140 °F).

#### Maximum operating temperature (power off)

- 60 °C (140 °F).

#### Nominal voltage

- 120V, 240/208V.

#### Bending radius, minimum

- 25 mm (1 in.).

#### Installation temperature, minimum

- -45 °C (-49 °F).

#### Standard

- IEEE 515, CSA 22.2 130.03

#### Certification

- FM CUS 3050047

#### Rating

- Wet rated, for outdoor use (WS).

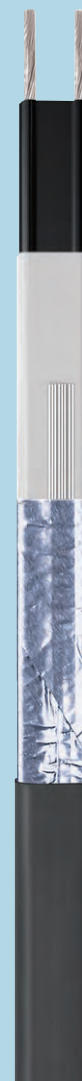
#### Warranty

- 1-year basic warranty on the heating cable.

#### Application

- Heat tracing of metallic and non-metallic pipes, pumps, vessels and valves,
- food processing industry, automotive, refrigeration, sprinkler systems, sewage pipes and intake drain pipes.

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## Model

Nominal output W/ft.	Product # 120V <sup>1,2</sup>	Cable dimension approx. (mm)
5	ELSR-MA-5-1-AO	8.1 x 5.8

<sup>1</sup> AO Aluminum foil and a thermoplastic outer jacket.

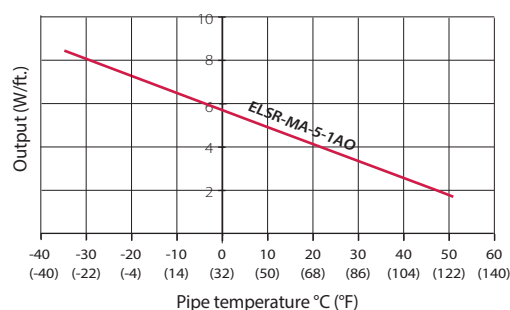
<sup>2</sup> When ordering, the quantity on the purchase order is equal to the length in feet of the cable required.  
E.g.: To order a 500 ft., cable, write 500 for quantity with product code.

## Heating circuit length

Start-up temperature	120V Circuit breaker capacity (A)	Maximum heating circuit (ft.) for ELSR-MA-5-1-AO
10 °C (50 °F)	10	132
	15	190
	20	190
	25	190
0 °C (32 °F)	10	110
	15	174
	20	174
	25	174
-10 °C (14 °F)	10	94
	15	150
	20	161
	25	161
-30 °C (-22 °F)	10	73
	15	117
	20	141
	25	141

## ELSR-MA-5-1-AO output

(on insulated metallic pipes, in accordance  
with IEEE 515/CSA 22.2 130-03)



## Maximum heating circuit on the following conditions:

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

## Accessories

See Accessories section.

# 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.

#### Minimum start-up temperature

- -30 °C (-22 °F).

#### Maximum operating temperature (power on)

- 60 °C (140 °F).

#### Maximum operating 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.

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## SR-MA-BF

### Micro Self-Regulating Heating Cable SR-MA-BF

suitable for use in potable water



## Models

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

- <sup>1</sup> BF Protective braid, suitable for use in potable water (certified according to NSF/ANSI 61).  
<sup>2</sup> For operations at 208V, please consult Eltherm® correction factors/multipliers.  
<sup>3</sup> 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.

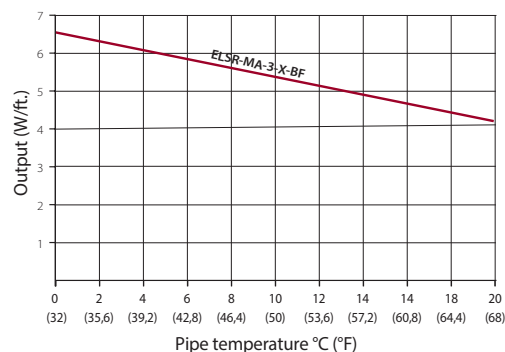
## Heating circuit length

120V		
Start-up temperature	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
	20	153
	25	153

240V		
Start-up temperature	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
	20	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

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### 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 operating 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.



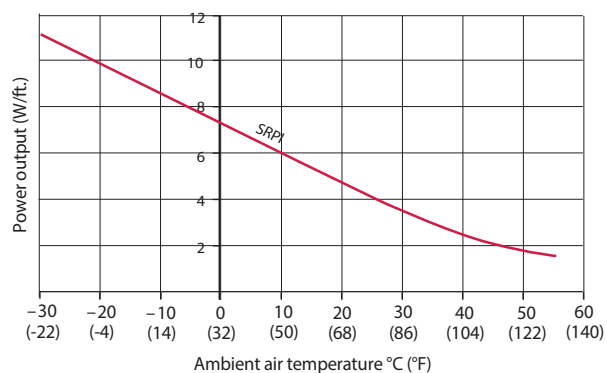
**SR-PI****120V Preassembled Self-Regulating Heating Cable for Pipe Tracing  
for Freeze Protection and Roof and Gutter De-icing****eltherm**  
innovations in heat tracing

## Models

Product # <sup>1</sup>	Length		Nominal power output in air condition at 5 °C (40 °F) <sup>2</sup>
	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

<sup>1</sup> Must be plugged into a 120V outlet fitted with ground fault protection device (GFCI).<sup>2</sup> 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)

## Accessories

See Accessories section.

# SR-NA

## All Purpose Self-Regulating Heating Cable SR-NA

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### Features

#### Outer jacket

- Thermoplastic (AO).

#### Bus wire

- Nickel plated copper.

#### Minimum start-up temperature

- -30 °C (-22 °F).

#### Maximum operating temperature (power on)

- 60 °C (140 °F).

#### Maximum operating temperature (power off)

- 80 °C (176 °F).

#### Nominal voltage

- 120V, 240/208V.

#### Bending radius, minimum

- 25 mm (1 in.).

#### Installation temperature, minimum

- -45 °C (-49 °F).

#### Classification

- II 2G Ex e IIC T6 Gb II 2D Ex tb IIIC
- T 80 °C Db
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups E, F, G
- Class III, T6
- Class I, Zone 1, AEx / Exe II, T6
- Class 1, Division 1, Groups B, C, D (Contact manufacturer)

#### Standards

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

#### Certification

- IECEx EPS 12.0006U
- 12ATEX1431U
- CSA C US 2547790

#### 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, sprinkler systems.



**SR-NA****All Purpose Self-Regulating Heating Cable SR-NA**

## Models

Nominal output W/ft.	Product # 120V <sup>1,3</sup>	Nominal output W/ft.	Product # 240V <sup>1,2,3</sup>	Cable dimension approx. (mm)
5	ELSR-NA-5-1-AO	6	ELSR-NA-6-2-AO	13.8 x 5.6

<sup>1</sup> AO Aluminum foil and a thermoplastic outer jacket.<sup>2</sup> For operations at 208V, please consult Eltherm® correction factors/multipliers.<sup>3</sup> 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.

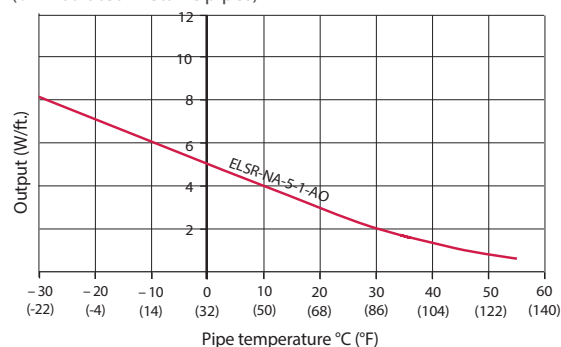
## Heating circuit length

120V		
Start-up temperature	Circuit breaker capacity (A)	Maximum heating circuit (ft.) for ELSR-NA-5-1-AO
10 °C (50 °F)	10	125
	15	187
	20	249
	25	312
	30	374
	35	436
0 °C (32 °F)	40	499
	10	112
	15	168
	20	224
	25	280
	30	336
-10 °C (14 °F)	35	392
	40	448
	10	102
	15	153
	20	204
	25	255
-30 °C (-22 °F)	30	306
	35	357
	40	408
	10	87
	15	130
	20	173
	25	217
	30	260
	35	303
	40	347

240V		
Start-up temperature	Circuit breaker capacity (A)	Maximum heating circuit (ft.) for ELSR-NA-6-2-AO
10 °C (50 °F)	10	170
	15	255
	20	340
	25	425
	30	510
	35	595
0 °C (32 °F)	40	857
	10	154
	15	231
	20	308
	25	385
	30	462
-10 °C (14 °F)	35	539
	40	616
	10	141
	15	211
	20	281
	25	352
-30 °C (-22 °F)	30	422
	35	492
	40	563
	10	120
	15	180
	20	240
	25	300
	30	360
	35	420
	40	480

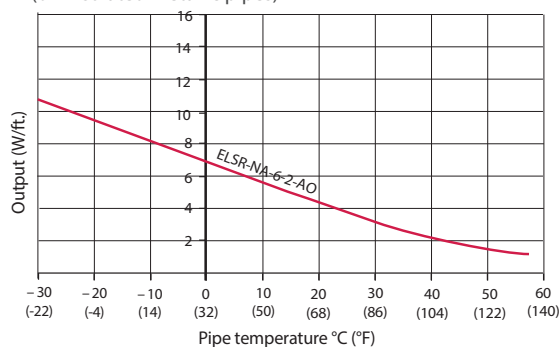
### ELSR-NA-5-1-AO output

(on insulated metallic pipes)



### ELSR-NA-6-2-AO output

(on insulated metallic pipes)



## 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-NA-X-2	0.88	0.93

## Maximum heating circuit on the following conditions:

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

## Accessories

See Accessories section.



PSB

## All Purpose Self-Regulating Heating Cable PSB

### Features

#### Outer jacket

- Polyolefin (CR) / Fluoropolymer (CT).

#### Bus wire

- Nickel plated copper.

#### Minimum start-up temperature

- -55 °C (-67 °F).

#### Maximum operating temperature (power on)

- 65 °C (150 °F).

#### Maximum operating 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.

BARTEC





PSB

All Purpose Self-Regulating Heating Cable PSB



BARTEC

## Models

Nominal output W/ft.	Product #		Outer jacket/Mechanical shield	Cable dimension approx. (mm)
	120V <sup>1,3</sup>	240V <sup>1,2,3</sup>		
3	3PSB1-XX	3PSB2-XX	CR	11.6 x 5.8
5	5PSB1-XX	5PSB2-XX	CT	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

<sup>1</sup> XX = Outer jacket/Mechanical shield.

CR Protective braid and a polyolefin outer jacket.

CT Protective braid and a fluoropolymer outer jacket.

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

<sup>3</sup> 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.

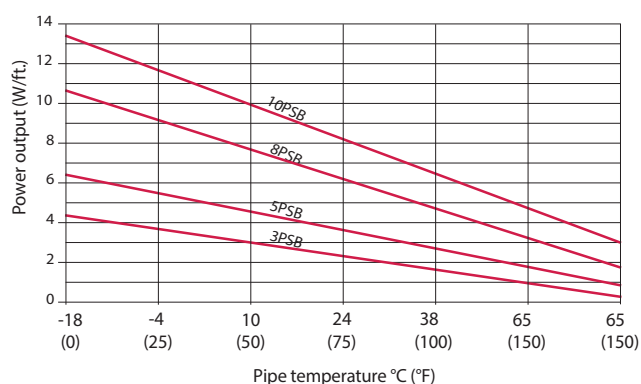
## Heating circuit length

The following table shows the maximum circuit length in ft. for the different 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 <sup>1</sup> (A)	120V Maximum heating circuit (ft.) for				Start-up temperature	Circuit breaker capacity <sup>1</sup> (A)	240V Maximum heating circuit (ft.) for			
		3PSB1	5PSB1	8PSB1	10PSB1			3PSB2	5PSB2	8PSB2	10PSB2
10 °C (50 °F)	20	344	279	190	154	10 °C (50 °F)	20	676	538	315	200
	30	344	282	217	164		30	676	558	433	299
	40	344	282	217	164		40	676	558	433	328
-18 °C (0 °F)	20	285	200	141	115	-18 °C (0 °F)	20	545	387	233	148
	30	344	282	213	164		30	676	558	351	223
	40	344	282	217	164		40	676	558	433	295
-29 °C (-20 °F)	20	256	180	128	105	-29 °C (-20 °F)	20	492	348	213	135
	30	344	272	194	154		30	676	522	318	200
	40	344	282	217	164		40	676	558	423	269
-40 °C (-40 °F)	20	233	164	118	95	-40 °C (-40 °F)	20	446	315	194	121
	30	344	246	177	141		30	676	476	292	184
	40	344	282	217	164		40	676	558	387	246

<sup>1</sup> 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

## 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.

#### Minimum start-up temperature

- -60 °C (-76 °F).

#### Maximum operating temperature (power on)

- 110 °C (230 °F).

#### Maximum operating 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 IIIC T170 °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 IICT3, T4b
- 60079-30 IIIC T170 °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.



**MSB****Medium Temperature Self-Regulating Heating Cable MSB****BARTEC**

## Models

Nominal output W/ft.	Product #		Cable dimension approx. (mm)
	120V <sup>1,3</sup>	240V <sup>1,2,3</sup>	
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

<sup>1</sup> CT Protective braid and a fluoropolymer outer jacket.<sup>2</sup> For operations at 208V, please consult Bartec correction factors/multipliers.<sup>3</sup> 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.

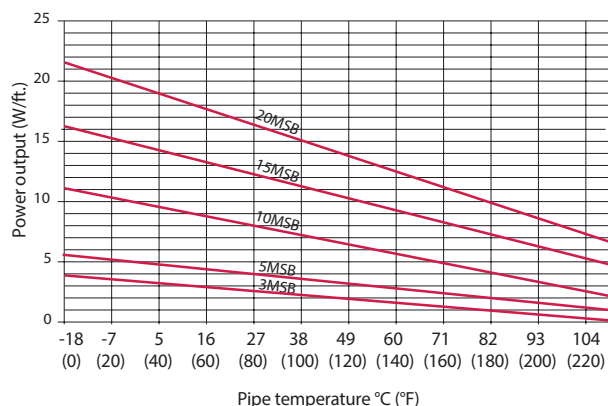
## Heating circuit length

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 <sup>1</sup> (A)	120V Maximum heating circuit (ft.) for					Start-up temperature	Circuit breaker capacity <sup>1</sup> (A)	240V Maximum heating circuit (ft.) for				
		3MSB1	5MSB1	10MSB1	15MSB1	20MSB1			3MSB1	5MSB1	10MSB1	15MSB1	20MSB1
10 °C (50 °F)	20	394	279	157	115	89	10 °C (50 °F)	20	755	538	302	220	171
	30	394	322	226	138	128		30	761	627	443	276	253
	40	394	322	226	138	128		40	761	627	443	276	253
-18 °C (0 °F)	20	338	243	135	98	79	-18 °C (0 °F)	20	646	469	259	190	148
	30	394	322	203	138	118		30	761	627	390	276	223
	40	394	322	226	138	128		40	761	627	443	276	253
-29 °C (-20 °F)	20	322	233	128	95	75	-29 °C (-20 °F)	20	614	446	246	180	141
	30	394	322	194	138	112		30	761	627	371	272	210
	40	394	322	226	138	128		40	761	627	443	276	253
-40 °C (-40 °F)	20	305	322	121	92	72	-40 °C (-40 °F)	20	584	427	236	174	135
	30	394	322	184	135	105		30	761	627	354	259	200
	40	394	322	226	138	128		40	761	627	443	276	253

<sup>1</sup> 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 277 (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.

#### Minimum start-up temperature

- -60 °C (-76 °F).

#### Maximum operating temperature (continuous)

- 120 °C (248 °F).

#### Maximum operating temperature (intermittent)

- 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



**HSB****High Temperature Self-Regulating Heating Cable HSB****BARTEC**

## Models

Nominal output W/ft.	Product #		Cable dimension approx. (mm)
	120V <sup>1,3</sup>	240V <sup>1,2,3</sup>	
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

<sup>1</sup> CT Protective braid and a fluoropolymer outer jacket.<sup>2</sup> For operations at 208V, please consult Bartec correction factors/multipliers.<sup>3</sup> 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

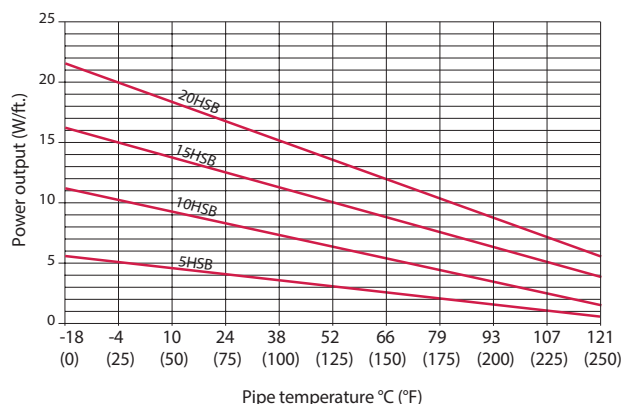
The following table shows the maximum circuit length in ft. for the different HSB trace heater types with standard circuit breaker amperages. Breaker sizes should be based on the National Electrical Code, Canadian Electrical Code or any other local or applicable code. Use only circuit breakers with type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

120V						240V					
Start-up temperature	Circuit breaker capacity <sup>1</sup> (A)					Start-up temperature	Circuit breaker capacity <sup>1</sup> (A)				
		5HSB1	10HSB1	15HSB1	20HSB1			5HSB1	10HSB1	15HSB1	20HSB1
10 °C (50 °F)	20	279	157	115	89	10 °C (50 °F)	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	-18 °C (0 °F)	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	-29 °C (-20 °F)	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	-40 °C (-40 °F)	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

<sup>1</sup> 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

## Accessories

See Accessories section.

## 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



PF

## High Temperature Constant Wattage Heating Cable PF

### Features

#### Outer jacket

- Stainless steel braided (SB).

#### Bus wire

- Tinned copper.

#### Maximum maintenance temperature (continuous)

- 93 °C (200 °F).

#### Maximum exposure temperature (intermittent)

- 204 °C (400 °F).

#### Nominal voltage

- See table Watts/ft. (m) at alternate voltages.

#### Bending radius, minimum

- 25 mm (1 in.).

#### Installation temperature, minimum

- -21 °C (-5 °F).

#### Approvals

- Ordinary locations: FM Approved for pipe tracing
- Hazardous locations: FM Approved for Class I, Division 2, Groups B, C, and D

#### Warranty

- 1-year basic warranty on the heating cable.

#### Application

- Freeze protection and process heating applications.





## Models

Product # <sup>1</sup>	Volts	Nominal output		Amp.		Zone length <sup>2</sup>		Max. circuit length <sup>3</sup>	
		W/ft.	W/m	ft.	m	in.	cm	ft.	m
PF-3-SB	208	2.7	9	.013	.04	48	122	710	216
PF-6-SB	120	6.0	20	.050	.16	24	61	280	85
PF-7-SB	120	8.0	26	.067	.22	24	61	240	73
PF-8-SB	120	1.8	6	.015	.05	24	61	480	146
PF-10-SB	208	8.9	29	.043	.14	24	61	390	119
PF-12-SB	480	12.0	39	.025	.08	48	122	780	238

<sup>1</sup> Standard stainless steel braided.

<sup>2</sup> One complete heating zone is the distance between two successive bus connections.

<sup>3</sup> Maximum circuit length is defined as the length of cable at which the heat output, due to voltage drop, decreases to 90 percent of the heat output at the power connection point.

## Watts/ft. (m) at alternate voltages

Product #	120V	208V	240V	277V	480V
PF-3-SB	-	3 (9)	4 (12)	5 (16)	-
PF-6-SB	6 (20)	-	-	-	-
PF-7-SB	8 (26)	-	-	-	-
PF-8-SB	2 (6)	5 (18)	7 (23)	9 (13)	-
PF-10-SB	3 (10)	9 (29)	12 (39)	-	-
PF-12-SB	-	-	3 (10)	4 (13)	12 (39)

## Zone marker:

Zone Markers for PF series cable may be raised bumps, or depressions on the edge of the cable. (Braid may have to be pulled away to locate.)

## Use of ground fault protective devices and metallic overshield

### NEC CODE 2017, ARTICLE 427-22:

Equipment Protection. Ground-fault protection of equipment shall be provided for electric heat tracing and heating panels. This requirement shall not apply in industrial establishments where there is alarm indication of ground faults and the following conditions apply:

- (1) Conditions of maintenance and supervision ensure that only qualified persons service the installed systems.
- (2) Continued circuit operation is necessary for safe operation of equipment or processes.

### NEC CODE 2017, ARTICLE 427-23:

Grounded Conductive Covering. Electric heating equipment shall be listed and have a grounded conductive covering in accordance with 427.23(A) or (B). The conductive covering shall provide an effective ground path for equipment protection.

(a) Heating Wires or Cables. Heating wires or cables shall have a grounded conductive covering that surrounds the heating element and bus wires, if any, and their electrical insulation.

## Product description code (example)

Product #	PF-3-SB
Product Family	PF
Product Number	3
Stainless Steel Braided (SB)	SB

*The material contained in this document is presented in good faith and believed to be reliable and accurate. However, because testing conditions may vary and material quality or information that may be provided in whole or in part by others may be beyond our control, no warranty, expressed or implied, is given. Delta-Therm can assume no liability for results obtained or damages incurred through the application of the data and tests presented.*

## Accessories

See Accessories section.



PT

## Ultra High Temperature Constant Wattage Heating Cable PT

### Features

#### Outer jacket

- Stainless steel braided (SB).

#### Bus wire

- Nickel plated copper.

#### Maximum maintenance temperature (continuous)

- 204 °C (400 °F).

#### Maximum exposure temperature (intermittent)

- 288 °C (550 °F).

#### Nominal voltage

- See table Watts/ft. (m) at alternate voltages.

#### Bending radius, minimum

- 25 mm (1 in.).

#### Installation temperature, minimum

- -21 °C (-5 °F).

#### Approvals

- Ordinary locations: FM Approved for pipe tracing
- Hazardous locations: FM Approved for Class I, Division 2, Groups B, C, and D

#### Warranty

- 1-year basic warranty on the heating cable.

#### Application

- Freeze protection and process heating applications.





PT

## Ultra High Temperature Constant Wattage Heating Cable PT



## Models

Product # <sup>1</sup>	Volts	Nominal output		Amp.		Zone length <sup>2</sup>		Max. circuit length <sup>3</sup>	
		W/ft.	W/m	ft.	m	in.	cm	ft.	m
PT-3-SB	120	3	10	.025	.08	24	61	390	119
PT-6-SB	120	6	20	.050	.16	24	61	280	85
PT-8-SB	240	8	26	.033	.11	24	61	480	146
PT-10-SB	120	10	33	.083	.27	24	61	210	64

<sup>1</sup> Standard stainless steel braided.<sup>2</sup> One complete heating zone is the distance between two successive bus connections.<sup>3</sup> Maximum circuit length is defined as the length of cable at which the heat output, due to voltage drop, decreases to 90 percent of the heat output at the power connection point.

## Watts/ft. (m) at alternate voltages

Product #	120V	208V	240V	277V
PT-3-SB	3 (10)	9 (30)	12 (39)	-
PT-6-SB	6 (20)	-	-	-
PT-8-SB	2 (7)	6 (20)	8 (26)	11 (35)
PT-10-SB	10 (33)	-	-	-

## Zone marker:

Zone Markers for PF series cable may be raised bumps on the edge of the cable. (Braid may have to be pulled away to locate.)

## Use of ground fault protective devices and metallic overshield

## NEC CODE 2017, ARTICLE 427-22:

Equipment Protection. Ground-fault protection of equipment shall be provided for electric heat tracing and heating panels. This requirement shall not apply in industrial establishments where there is alarm indication of ground faults and the following conditions apply:

- (1) Conditions of maintenance and supervision ensure that only qualified persons service the installed systems.
- (2) Continued circuit operation is necessary for safe operation of equipment or processes.

## NEC CODE 2017, ARTICLE 427-23:

Grounded Conductive Covering. Electric heating equipment shall be listed and have a grounded conductive covering in accordance with 427.23(A) or (B). The conductive covering shall provide an effective ground path for equipment protection.

(a) Heating Wires or Cables. Heating wires or cables shall have a grounded conductive covering that surrounds the heating element and bus wires, if any, and their electrical insulation.

## Product description code (example)

Product #	PT-3-SB
Product Family	PT
Product Number	3
Stainless Steel Braided (SB)	SB

The material contained in this document is presented in good faith and believed to be reliable and accurate. However, because testing conditions may vary and material quality or information that may be provided in whole or in part by others may be beyond our control, no warranty, expressed or implied, is given. Delta-Therm can assume no liability for results obtained or damages incurred through the application of the data and tests presented.

## Accessories

See Accessories section.



**BPL**

## High Temperature Constant Wattage Heating Cable BPL

**BARTEC**

### 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).



**BPL****High Temperature Constant Wattage Heating Cable BPL****BARTEC**

## Maximum circuit length

Start-up temperature	Circuit breaker capacity <sup>1</sup> (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 <sup>1</sup> (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

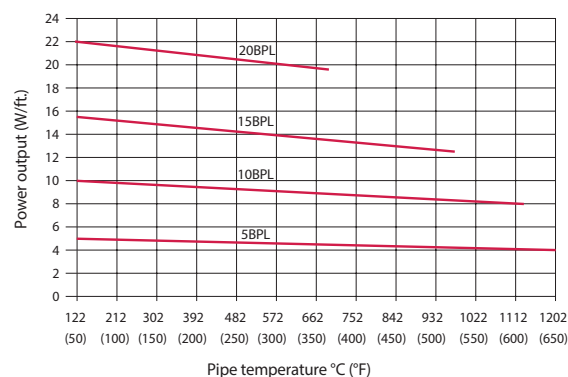
Start-up temperature	Circuit breaker capacity <sup>1</sup> (A)	240V Maximum heating circuit length (ft.) for			
		5BPL2-AL	10BPL2-AL	15BPL2-AL	20BPL2-AL
10 °C (50 °F)	20	567	340	246	170
	30	567	405	344	278
	40	567	405	344	278
-18 °C (0 °F)	20	550	324	229	164
	30	550	388	328	262
	40	550	388	328	262
-40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

Start-up temperature	Circuit breaker capacity <sup>1</sup> (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

<sup>1</sup> 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	in.	mm	Zone length BPL2-AL	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)<sup>1</sup>

Product #	W/m	Area classification hazardous <sup>2</sup>						Safe <sup>3</sup>	
		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

<sup>1</sup> For 277 V applications contact factory representative

<sup>2</sup> Surface temperature limits in accordance with EN60079

<sup>3</sup> 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		
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.**



**ELKM-AG-NA****Fluoropolymer Insulated Series Resistance Heating Cable****eltherm®**  
innovations in heat tracing

## Cable Specifications

Nominal resistance (Ω/ft.)	Outer diameter approx.		Weight approx. lb/ft.	Temperature coefficient (x 10 <sup>-3</sup> / K)	Nominal resistance (Ω/ft.)	Outer diameter approx.		Weight approx. lb/ft.	Temperature coefficient (x 10 <sup>-3</sup> / K)
	in.	mm				in.	mm		
0.0036 (Cu 1.5 mm <sup>2</sup> )	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



# MI

## Mineral Insulated (M.I.) Cable Assembly - One and Two Conductor

### Features

#### Available sheath

- C: Bare copper.
- R: LSZH<sup>1</sup> Jacketed copper.
- SS: 825 Alloy seamless sheath.

#### Nominal voltages

- 120 to 480V

#### Temperature ratings

- See table.

#### Fire resistant

- M.I. heating cable is made of inorganic materials.
- It will not burn or support combustion.

#### Corrosion resistant

- LSZH Jacketed cables and 825 Alloy cables are corrosion resistant.
- Flexible, no degradation and low installation cost.

#### Standard cold lead lengths

- 20' (6 m) 19-strand THWN cold leads are standard on all M.I. heating cable assemblies.
- If longer cold leads are needed, specify at time of order. Cold lead can be of any length up to 200' (61 m).

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

<sup>1</sup> LSZH Low Smoke Zero Halogen that is made of non-halogenic thermoplastic compounds that inhibit smoke and toxic fumes when exposed to flames or other sources of extreme heat. Not available with stainless steel Alloy 825.



### M.I. heating cable assembly base kit (supplied w/each M.I. heating cable assembly)

- Thermal Gradient (TG) section.
- THWN 19-strand cold leads.
- Pressure connectors.
- "A", "T", or "C" conduit body with gasket and cover.
- Delta dry (water repellent powder).
- Duct seal.
- Installation instructions.
- Factory assembled and tested.

### Cold lead wire size (Chart 1)

Amps	AWG	Type	1 Conductor conduit body type	2 Conductor conduit body type
0-16	12	Stranded THWN	T	C
16-24	10		T	C
24-32	8		A	Not available
32-40	6		A	Not available

### M.I. heating cable assembly splice kits

- Are available. Call Delta-Therm.

### Application chart and recommendations (Chart 2)

Primary application	Application type	Prefix	Target watts	Target spacing	Target cable configuration	Standard thermal gradient length	Standard cold leads	Listing / Certification
				in.		ft.	ft.	
Snow melting	Pedestrian	S	27	6	Z1C	2.5	20	UL/CSA
	Vehicular	S	22.5	6	Z1C	2.5	20	UL/CSA
	Hangar door	H	25	6	Z2C	2.5	20	UL/CSA
Roof/Gutter	Metal	M	8	6	2C	5	20	UL/CSA
	Plastic composite	R	6	6	Z2C	5	20	UL/CSA
Pipe/Tank trace	External	P	See design	6	2C	5	20	UL/CSA
	Internal <sup>1</sup>	IP	See design	6	2C	5	20	CSA
Permafrost prevention	In conduit <sup>1</sup>	T	12	48	2C	3	20	CSA
	Direct burial	F	12	48	Z1C	3	20	UL/CSA
Other	Custom	O	Custom	Custom	Open	Custom	20	Not listed

<sup>1</sup> Please contact factory for information.

### Cable configurator (Chart 3)

Cable	# Conductors	Suffix	Designation	Voltage rating	Sheath	Max output air	Max output concrete	Max. temp. limit degrees °F	Max. amp./ Heater
Bare copper	1	C	1C	600	Cooper	22	30	392	40
Bare copper	2	C	2C	300	Cooper	22	30	392	24
Jacketed copper	1	R	Z1C	600	LSZH copper	8	30	194	40
Jacketed copper	2	R	Z2C	300	LSZH copper	8	30	194	24
Alloy 825	1	SS	S1C	600	825	58	58	1100	40
Alloy 825	2	SS	S2C	600	825	58	58	1100	24

NOTE: HDPE has been replaced with LSZH (Low Smoke Zero Halogen) covering.

### Cable assemblies (Chart 4)

1 Conductor CU-LSZH	Ohms/ft.	0.610	0.390	0.300	0.200	0.150	0.105	0.080	0.060	0.040	0.030	0.020	0.010	-	-	-	-	-	-	
	Voltage Rating	600	600	600	600	600	600	600	600	600	600	600	600	-	-	-	-	-	-	
2 Conductor CU-LSZH¹	Ohms/ft.	0.800	0.600	0.400	0.300	0.200	0.125	0.100	0.070	0.044	0.028	-	-	-	-	-	-	-	-	
	Voltage Rating	300	300	300	300	300	300	300	600	600	600	-	-	-	-	-	-	-	-	
1 Conductor Alloy 825	Ohms/ft.	2.0	1.60	1.30	1.00	0.850	0.700	0.500	0.280	0.200	0.150	0.118	0.0732	0.0581	0.0467	0.0366	0.0290	0.0231	0.0183	0.0145
	Voltage Rating	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
2 Conductor Alloy 825	Ohms/ft.	11.00	9.00	6.00	4.14	2.00	1.15	0.700	0.505	0.286	0.200	0.150	0.100	0.0775	0.0561	0.0402	0.0281	0.0200	-	-
	Voltage Rating	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	-	-

<sup>1</sup> Some 2-conductor M.I. heating cable assemblies are limited to 277VAC.



MI

Mineral Insulated (M.I.) Cable Assembly  
One and Two Conductor



## Product description code

### To order

Prefix - Chart 2

# Conductors - Chart 3

Ohms / ft. - Chart 4

Length per hot section

(Measurement in feet)

Voltage (120 - 480VAC)

Amperage (Ohms Law V/R)

kW (Ohms Law  $A \times V/1000$ )

Watts per linear foot ( $kW \times 1000/L$ )

Suffix R, C or SS - Chart 3

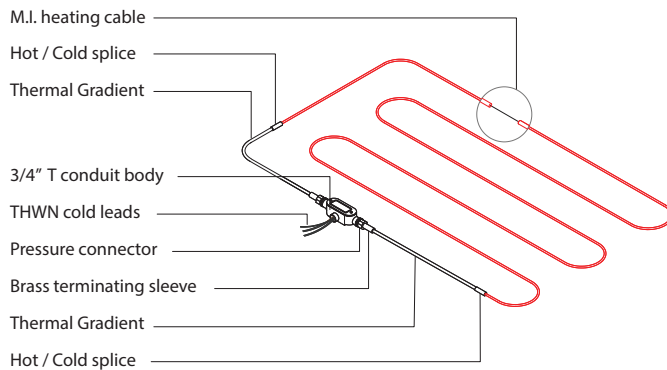
Cold lead size - Chart 1

Cold length

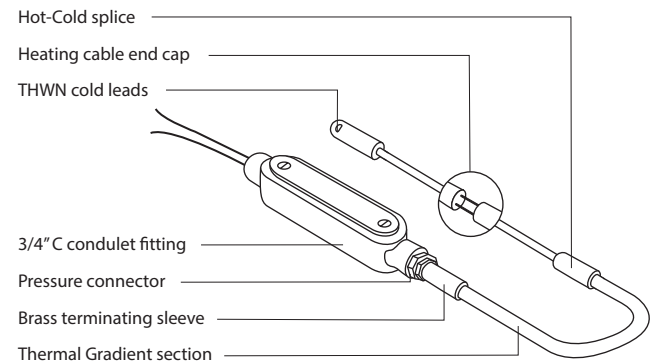
(Length required to reach junction box. NOTE: Voltage drop not to exceed 3%)

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

### Detail 1. One conductor cable assembly



### Detail 2. Two conductor cable assembly



## M.I. Mineral Insulated Alloy 825 Heat trace cable

### One and Two Conductor

Delta-Therm seamless Alloy 825 sheath was developed to meet the demands of corrosive environments and high temperature applications. Delta-Therm uses only seamless Alloy 825 sheathing to avoid the potential problems associated with seam-welded tube.

Alloy 825 is resistant to reducing environments, stress corrosion and oxidizing environments. The relatively high nickel content of alloy 825, plus molybdenum and copper, makes it considerably more resistant to reducing environments (such as sulfuric or phosphoric acids) than most of the common stainless steels. It also effects a high resistance to stress corrosion cracking in chloride or alkaline environments. The chromium content, in combination with the nickel, makes the alloy resistant to a variety of oxidizing environments such as nitric acid solutions, nitrates and oxidizing salts.

Alloy 825 can be used at temperatures up to 1100 °F (800 °C) in normal atmospheres.

## Alloy 825 limiting chemical composition, % by WT:




Nickel	38 - 46
Carbon	0.05 max.
Manganese	1.0 max.
Iron	Balance
Sulfur	0.03 max.
Silicon	0.5 max.
Copper	1.5 - 3.0
Chromium	19.5 - 23.5
Aluminum	0.2 max.
Titanium	0.6 - 1.2
Molybdenum	2.5 - 3.5

## Alloy 825 heat trace cable quick reference guide<sup>1</sup>







Alloy	Description
INCOLOY Alloy 825	Excellent resistance to wide variety of corrosives.
Nickel - Iron - Chromium	Resists pitting and intergranular type corrosion, reducing acids and oxidizing chemicals.

Nominal chemical composition % (major element)				Corrosion resistance											
Nickel (+Cobalt)	Iron	Chromium	Other	G-E = Good to excellent NR = Not recommended					A = Acceptable X = Check for specific data						
				Oxidation	Carburi- zation	Sulfuric Acid	Hydrochloric Acid	Hydro- fluoric	Phosphoric Acid	Nitric Acid	Organic Acid	Alkalis	Salts	Seawater	Chloride Cracking
42	30	21.5	Mo 3.0 Cu 2.2	G-E	G-E	G-E	G-E	G-E	G-E	G-E	G-E	G-E	G-E	G-E	G-E









<sup>1</sup> Excerpt from Huntington Alloys Publication 78-348-2.

	Product #	Description
	ELVB-SRAM-34-ST	Power connection with steel/zinc cable gland/fitting, 3/4" NPT non-hazardous location
	EL-ECM	End termination
	KIT-OSR-ELSR-MA	End and power termination kit with warning sticker






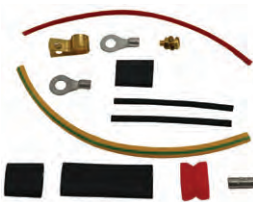
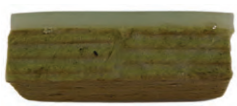

	Product #	Description
	ELVB-SRAM-34-ST	Power connection with steel/zinc cable gland/fitting, 3/4" NPT non-hazardous location
	EL-ECMF	End termination
	KIT-OSR-ELSR-MA-BF	End and power termination kit with warning sticker
	KIT-OSR-ECA-MABF-PH-FIT	Brass gland cable fitting 3/4" NPT
	KIT-OSR-MABF-PH-112-CTSOD	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









	Product #	Description
	ELVB-SRAN	Power connection without cable gland
	ELVB-SRAN-12-PA	Power connection with plastic/PA12 cable gland/fitting, 1/2" NPT non-hazardous location
	ELVB-SRAN-34-PA	Power connection with plastic/PA12 cable gland/fitting, 3/4" NPT non-hazardous location
	ELVB-SRAN-34-ST	Power connection with steel/zinc cable gland/fitting, 3/4" NPT non-hazardous location
	ELVB-SREX-34-HT	Power connection with nickel plated cable gland 3/4" NPT hazardous location
	EL-ECN-EX	End termination
	KIT-OSR-ELSR-NA	End and power termination kit with warning sticker
	EL-SPN-16	Heat shrink splice kit suitable for ELSR-NA and cold lead connections

	Product #	Description
	ECA-JB1-NA	Junction box with power connection and termination for single connection c/w label and fastener
	ECA-JB2-NA	Junction box with power connection and termination for double connection c/w label and fastener
	ELAK-EX-3	Junction box with pipe mounting stand for non-hazardous (ordinary) and hazardous locations
	ELAK-5-7	Junction box wall mount in antistatic polyamide (PA) for connection up to two cables
	EL-CLIC-S	Quick connector for direct connection or cold lead connections of 1 to 3 cables
	EL-CLIC-P	Quick connector with supply lead, for 1 to 3 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
	TWISTO-N-B-SE	Heating cable end seal
	IEB-P	Insulation entry bushing
	M25-GLAND	Junction box M25 sealing gland for power connection with PSB and PBM kits

	Product #	Description
	PBS-220-A	High profile single entry power connection kit with stand and junction box on pipe with 8 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







	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 8 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 8 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 8 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-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





	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-A	Silicone end seal kits for PSB/MSB/HSB cable with 1x RTV (pkg of 5)
	CAK-E10-A	Silicone end seal kits for PSB/MSB/HSB cable with 2x 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




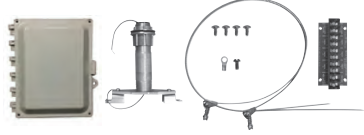

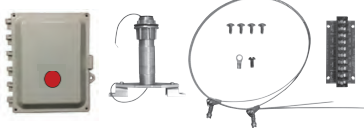


## Accessories

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)
	DS5-10	Red grommet (pkg of 10) for PSB/MSB/HSB cable
	DSB-10	Blank red grommet, no hole (pkg of 10) for PSB/MSB/HSB cable
	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

	Product #	Description
	KIT-PCK-PT/PF	<p>Power and end termination kit for ordinary and hazardous locations Class I, Division II, Group B, C and D <i>(For installation details please refer to instruction manual)</i></p>
	KIT-SPK-PT/PF	<p>Splice connection kits, for under insulation splicing applications with maximum exposure temperature of 200 °F (93 °C). Minimum ambient temperature install is -5 °F (-20 °C) Requires electrical tape not supplied with kit <i>(For installation details please refer to instruction manual)</i></p>
	KIT-ETK-PT/PF	<p>End termination kit Material for one end termination <i>(For installation details please refer to instruction manual)</i></p>
	KIT-PT-T3SL	<p>3-way tee splice kit for splicing in appropriately rated junction box (not supplied with kit) <i>(For installation details please refer to instruction manual)</i></p>

	Product #	Description
	KIT-PC1	Polycarbonate enclosure for on pipe installation compatible with KIT-PCK-PT/PF Suitable for wet locations
	KIT-PC2	Polycarbonate enclosure for on pipe installation compatible with KIT-SPK-PT/PF and KIT-ETK-PT/PF Suitable for wet locations
	KIT-PC3	Polycarbonate 8"x6"x4" lockable NEMA 4X enclosure for 3-way splicing ordinary locations
	KIT-PC3-TB	Polycarbonate 8"x6"x4" lockable NEMA 4X enclosure for power connection, splicing or 3-way splicing ordinary locations c/w terminal block
	KIT-PC3-LED	Polycarbonate 8"x6"x4" lockable NEMA 4X enclosure c/w LED monitor power on indication light, ordinary locations
	KIT-PC3-TB-LED	Polycarbonate 8"x6"x4" lockable NEMA 4X enclosure c/w LED monitor power on indication light and terminal block, ordinary locations



## Accessories

### Roof / Gutter Cables

	Product #	Description
	ELB-RCLIP	Roof clips for cable, qty 25
	ELB-20	Stainless steel downspout 90° mounting plate with nylon ties
	ELB-21	Stainless steel gutter mounting plate with nylon ties
	KIT-DSR-DRD	DSR series kit, roof drain de-icing bracket kit
	KIT-DSH-CU	Downspout hanger copper kit with nylon ties
	RM-25-AL¹	Three prong aluminum clips for metal roof
	RM-25-CU²	Three prong copper clips for copper roof
	SB-190³	10 oz tube of everseal adhesive for roof clips
	PAD-VHB	Package of 25, 2" x 3" adhesive pads for RM-25-AL clips

¹ requires PAD-VHB






² Product is soldered to roof





















³ Cannot be used with copper clips or on copper roofing



## Accessories

### Pipe Tracing Cables

	Product #	Description
	T-AL200	2" x 150' aluminium foil adhesive tape
	T-AL400	4" x 150' aluminium foil adhesive tape
	T-F50	1/2" x 180' fiberglass tape, rated 311 °F
	T-F50H	1/2" x 180' fiberglass tape, rated 356 °F
	T-F75	3/4" x 180' fiberglass tape, rated 311 °F
	DT-CL-L	Caution label – Large 9" x 2" yellow
	DT-CL-S	Caution label – Small 4" x 1.5" yellow
	DT-PS1-4	Pipe strap, 1" to 4" pipe stainless steel
	DT-PS3-8	Pipe strap, 3" to 8" pipe stainless steel
	DT-PS8-20	Pipe strap, 8" to 20" pipe stainless steel

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

<sup>1</sup> GFCI: Ground fault circuit interrupter.

<sup>2</sup> 15' (4.6 m) floor sensor included.

<sup>3</sup> Standard color is white.

<sup>4</sup> 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	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  Suitable for use with GFEP panels
	ETO2-BOX	Mounting box dual-zone electronic controller ETO2
	ETOG	Ground sensor to detect humidity and temperature with 33' (10 m) side entry cable
	ETOG-56	Ground sensor to detect humidity and temperature with 80' (25 m) bottom entry cable
	ETOK-1	Mounting tube for ground sensor ETOG-56
	ETOR-55	Gutter sensor to detect humidity with 33' (10 m) cable
	ETF-744-99	24V outdoor sensor for measuring temperature








	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-277V	Automatic snow and ice melting control system 277V, 50A c/w built-in adjustable 30 mA GFEP
	APS-4C-277-480V	Automatic snow and ice melting control system 277-480V 3-phase, 50A c/w built-in adjustable 30 mA GFEP
	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-277V	Satellite contactor for modular snow and ice melting control system 277V, 40A c/w built-in adjustable 30 mA GFEP
	SC-40C-277-480V	Satellite contactor for modular snow and ice melting control system 277-480V 3-phase, 50A c/w built-in adjustable 30 mA GFEP
	SNOW-OWL	Aerial mounted snow sensor 24V

	Product #	Description
	CIT-1	Aerial snow sensor
	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
	ELTC-14-RTD	<p>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)</p> <p>Suitable for used with GFEP panels</p>

	Product #	Description
	A19QSB-1C	<p>Freeze protection NEMA 4X ambient or line sensing thermostat temperature control 120-277V, 22A, SPST c/w with 10' (3 m) capillary</p> <p>Fixed set point at 4 °C (40 °F)</p>
	A421ABC-02C	<p>NEMA 1 adjustable electronic temperature control 120V 15A, 208V 10A or 240V 10A, SPDT c/w A99BB-200C PTC sensor with 6.5' (2 m) lead</p> <p>Range -40 °C to 100 °C ( -40 °F to 212 °F)</p>
	A421AEC-02C	<p>NEMA 4X adjustable electronic temperature control 120V 15A, 208V 10A or 240V 10A, SPDT c/w A99BB-200C PTC sensor with 6.5' (2 m) lead</p> <p>Range -40 °C to 100 °C ( -40 °F to 212 °F)</p>
	A99BC-1500C	49' (15 m) thermistor lead
	A99BB-600C	19.7' (6 m) thermistor lead



	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 ft. (3 m) stainless steel capillary  Range -3.8 °C to 162.7 °C (25 °F to 325 °F)
	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  Class II, Division 1 & 2 Class III, Division 1 & 2 Grps. # F & G Range -9 °C to -60 °C (15 °F to 140 °F)
	ECA-E55-R25HT	SPDT NEMA 4X thermostat in molded polycarbonate housing, 22A at 120/250/480V, with 10 ft. (3 m) stainless steel bulb and capillary  Class II, Division 1 & 2 Class III, Div. 1 & 2 Grps. #, F & G Requires a ground fault circuit interrupter (GFCI) in the electrical panel

#### Approvals

UL CSA / FM

Class I, Division 1 & 2 Class I, Div. 1 & 2  
Class II, Division 1 & 2 Class II, Division 1 & 2  
Grps. # F & G Grps. E, F & G

Class II, Division 1 & 2  
Class III, Division 1 & 2




#### Approvals

UL CSA / FM

Class I, Division 1 & 2 Class I, Div. 1 & 2  
Grps. # F & G Grps. E, F & G

Class II, Division 1 & 2 Class II, Div. 1 & 2  
Grps. #, F & G  
Requires a ground fault circuit interrupter (GFCI) in the electrical panel  
Class III, Div. 1 & 2



	Product #	Description
	FPT-130	<p>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</p> <p>Range -40 °C to 110 °C (-40 °F to 230 °F)</p>
	GPT-130	<p>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</p> <p>Range -40 °C to 110 °C (-40 °F to 230 °F)</p>
	GPT-230	<p>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</p> <p>Range -40 °F to 110 °C (-40 °C to 230 °F)</p>



#### 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-1SIH1-E5-RTD-A1-277	TraceMate™ I GFCI electronic thermostat for single circuit at 277V, 30A
TM-2SIH1-E5-RTD	TraceMate™ II GFCI electronic thermostat for dual circuit at 120V, 2 x 30A
TM-2SIH1-E5-RTD-277	TraceMate™ II GFCI electronic thermostat for dual circuit at 277V, 2 x 30A
TM-2DIH2-E5-RTD-208-240	TraceMate™ II GFCI electronic thermostat for dual circuit at 240/208V, 2 x 30A

#### MasterTrace<sup>1</sup>



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

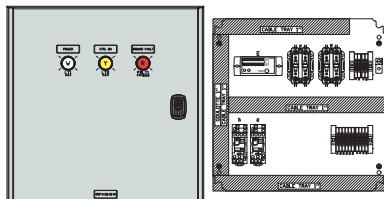
Class III

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

<sup>1</sup> Multi-circuit custom MasterTrace control panels are available upon request.



#### GFEP Panels

NEMA 4X (Painted steel) relay control panels c/w a built-in GFPE that can be used for snow melting, de-icing, or heat tracing applications.

Three light indicators mounted on the panel: Power On (White), Control on (Yellow) and Alarm (Red).

We recommend using for snow melting and de-icing applications the ETO2 controller or for heat tracing the ELTC-14-RTD controller, both are sold separately.

Product #	Description
GFEP-2-120-30-4X	120V Ground fault panel two 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-2-208-30-4X	208V Ground fault panel two 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-2-240-30-4X	240V Ground fault panel two 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-2-277-30-4X	277V Ground fault panel two 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-2-480-30-4X	480V Ground fault panel two 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-4-120-30-4X	120V Ground fault panel four 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-4-208-30-4X	208V Ground fault panel four 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-4-240-30-4X	240V Ground fault panel four 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-4-277-30-4X	277V Ground fault panel four 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-4-480-30-4X	480V Ground fault panel four 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-6-120-30-4X	120V Ground fault panel six 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-6-208-30-4X	208V Ground fault panel six 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-6-240-30-4X	240V Ground fault panel six 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-6-277-30-4X	277V Ground fault panel six 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-6-480-30-4X	480V Ground fault panel six 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-8-120-30-4X	120V Ground fault panel eight 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-8-208-30-4X	208V Ground fault panel eight 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-8-240-30-4X	240V Ground fault panel eight 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-8-277-30-4X	277V Ground fault panel eight 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-8-480-30-4X	480V Ground fault panel eight 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-12-120-30-4X	120V Ground fault panel twelve 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-12-208-30-4X	208V Ground fault panel twelve 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-12-240-30-4X	240V Ground fault panel twelve 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-12-277-30-4X	277V Ground fault panel twelve 30A circuit relay NEMA 4X (Painted steel) controller sold separately
GFEP-12-480-30-4X	480V Ground fault panel twelve 30A circuit relay NEMA 4X (Painted steel) controller sold separately
<b>Option<sup>1</sup></b>	
-SS	Stainless steel panel option available on order, please contact the factory for lead time

<sup>1</sup> Custom panels are available on request, please contact factory.



**PRODUCT TRAINING**



**ENGINEERING SERVICES**



**FIELD SERVICES**





**SYSTEM WIRING INSPECTION  
AND TRAINING VISIT**





**TECHNICAL SUPPORT**



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