

Features

- High maintain temperature up to 662 °F (350 °C)
- High withstand temperature up to 797 °F (425 °C)
- Can be cut to length thanks to its parallel current supply
- Jacketed in a continuous aluminum extrusion for maximum mechanical strength
- Power Limiting design available in both 120 V and 240 V applications

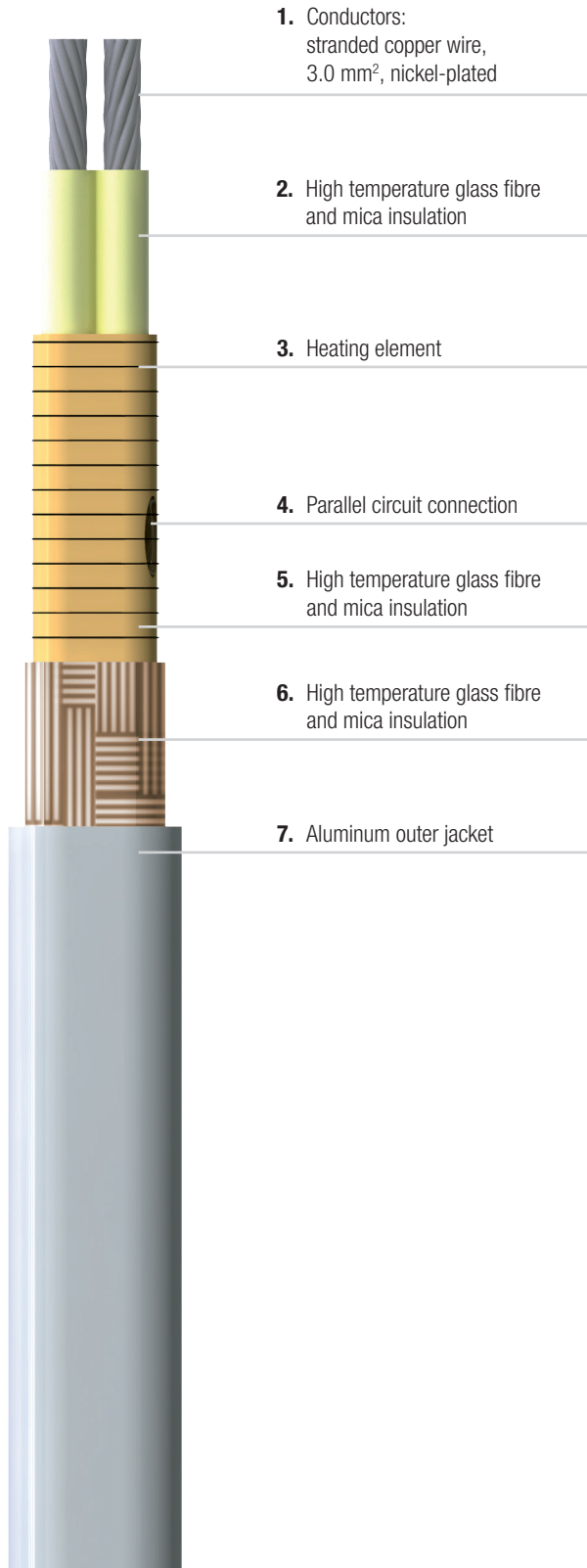
Description

BPL-AL is a power limiting trace heater that can be used for freeze protection or temperature maintenance on instrument tubing, pipework, and vessels requiring high power output or high exposure temperatures of up to 797 °F (425 °C).

It can be cut to length at site and can replace Mineral Insulated cables for applications where the cut to length feature is preferred. This feature considerably simplifies project engineering and installation. The trace heater is cut and terminated directly on the construction site according to the circumstances.

Power limiting heaters are parallel resistance heaters formed by a coiled resistive heating element wrapped around two parallel buss wires. The distance between the contact points forms the heating zone length.

BPL-AL is approved for use in non-hazardous and hazardous locations to worldwide standards.



1. Conductors:
stranded copper wire,
3.0 mm², nickel-plated

2. High temperature glass fibre
and mica insulation

3. Heating element

4. Parallel circuit connection

5. High temperature glass fibre
and mica insulation

6. High temperature glass fibre
and mica insulation

7. Aluminum outer jacket

Selection chart BPL-AL

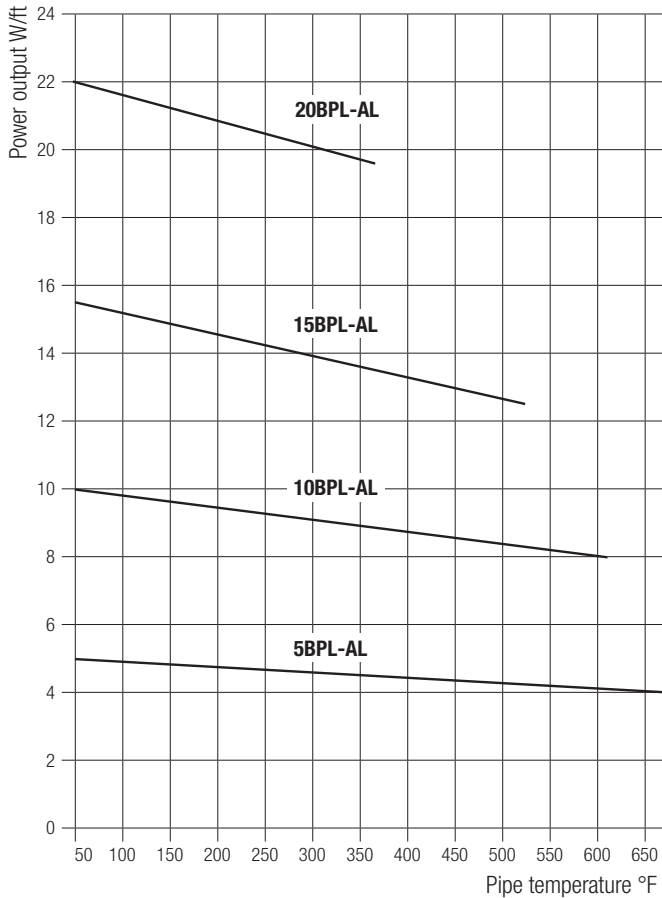
Description	Catalog no.	Order no.
BPL-AL 120 V	5 BPL1-AL	27-5875-10157000
- Power Limiting		
- Cut-to-Length	10 BPL1-AL	27-5875-10307000
- Haz Locations		
- Ord Locations	15 BPL1-AL	27-5875-10507000
	20 BPL1-AL	27-5875-10707000

Selection chart BPL-AL

Description	Catalog no.	Order no.
BPL-AL 240 V	5 BPL2-AL	27-5875-20157000
- Power Limiting		
- Cut-to-Length	10 BPL2-AL	27-5875-20307000
- Haz Locations		
- Ord Locations	15 BPL2-AL	27-5875-20507000
	20 BPL2-AL	27-5875-20707000



BPL-AL characteristics Power Temperature Curves 120 V and 240 V



Explosion protection

Type	Class I, Div 2, Groups A,B,C, D Class II, Div 2, Groups E, F, G Class III T1 to T3 (see table maximum pipe/ work piece temperature)
Certification	CSA
Type	II 2G Ex e II T* Gb II 2D Ex tb IIIC T* Db
Certification	ATEX, IECEX, EAC*

Technical data

Supply voltage	AC 110 to 120 V AC 208 to 277 V
Max. exposure temperature	continuous +662 °F (+350 °C) intermittent +797 °F (+425 °C)
Min. installation temperature	-40 °F (-40 °C)
Min. operating temperature	-40 °F (-40 °C) *-85 °F (-65 °C)
Dimensions	0.42 in x 0.30 in (10,7mm x 7,7mm)
Min. bending radius	0.98 in (25 mm)
Weight	11.0 lbs/100 ft (16.5 kg/100 M)

Power conversion factors	
Voltage	Power output
110 V	0.84
208 V	0.75
277 V	1.33

Zone length BPL1-AL	
5 BPL1-AL	31.5 in (800 mm)
10 BPL1-AL	27.6 in (700 mm)
15 BPL1-AL	24.6 in (625 mm)
20 BPL1-AL	19.7 in (500 mm)

Zone length BPL2-AL	
5 BPL2-AL	48 in (1,220 mm)
10 BPL2-AL	35.4 in (900 mm)
15 BPL2-AL	29.9 in (760 mm)
20 BPL2-AL	25.6 in (650 mm)

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

Catalog no.	Area classification hazardous ²			Safe ³
	T3	T2	T1	
5 AHT-AL (15 W/m)	320 °F (160 °C)	552 °F (289 °C)	662 °F (350 °C)	662 °F (350 °C)
10 AHT-AL (30 W/m)	212 °F (100 °C)	475 °F (246 °C)	613 °F (323 °C)	613 °F (323 °C)
15 AHT-AL (50 W/m)	86 °F (30 °C)	352 °F (178 °C)	529 °F (276 °C)	529 °F (276 °C)
20 AHT-AL (70 W/m)	-	176 °F (80 °C)	365 °F (185 °C)	365 °F (185 °C)

¹ For 277 V applications contact factory representative
² Surface temperature limits in accordance with EN60079
³ Surface temperature limited by materials of construction (withstand temperature)



Max. length of heating circuit at AC 120 V - ft (m)

Circuit Breaker size ¹⁾ NEC (IEC)		5 BPL1-AL	10 BPL1-AL	15 BPL1-AL	20 BPL1-AL
20 A (16 A), start-up temperature	+50 °F (+10 °C)	291 (90)	178 (55)	121 (37)	85 (26)
20 A (16 A), start-up temperature	-0 °F (-18 °C)	275 (85)	162 (50)	108 (33)	78 (24)
20 A (16 A), start-up temperature	-40 °F (-40 °C)	259 (80)	146 (45)	114 (35)	72 (22)
30 A (25 A), start-up temperature	+50 °F (+10 °C)	291 (90)	210 (65)	162 (50)	131 (40)
30 A (25 A), start-up temperature	-0 °F (-18 °C)	275 (85)	194 (60)	152 (47)	124 (38)
30 A (25 A), start-up temperature	-40 °F (-40 °C)	259 (80)	178 (55)	145 (45)	118 (36)
40 A (32 A), start-up temperature	+50 °F (+10 °C)	291 (90)	210 (65)	162 (50)	131 (40)
40 A (32 A), start-up temperature	-0 °F (-18 °C)	275 (85)	194 (60)	152 (47)	124 (38)
40 A (32 A), start-up temperature	-40 °F (-40 °C)	259 (80)	178 (55)	145 (45)	118 (36)

Max. length of heating circuit at AC 208 V - ft (m)

Circuit Breaker size ¹⁾ NEC (IEC)		5 BPL2-AL	10 BPL2-AL	15 BPL2-AL	20 BPL2-AL
20 A (16 A), start-up temperature	+50 °F (+10 °C)	518 (160)	324 (100)	194 (60)	146 (45)
20 A (16 A), start-up temperature	-0 °F (-18 °C)	502 (155)	308 (95)	185 (57)	136 (42)
20 A (16 A), start-up temperature	-40 °F (-40 °C)	470 (145)	292 (90)	178 (55)	130 (40)
30 A (25 A), start-up temperature	+50 °F (+10 °C)	518 (160)	356 (110)	275 (85)	227 (70)
30 A (25 A), start-up temperature	-0 °F (-18 °C)	502 (155)	340 (105)	266 (82)	217 (67)
30 A (25 A), start-up temperature	-40 °F (-40 °C)	470 (145)	324 (100)	259 (80)	211 (65)
40 A (32 A), start-up temperature	+50 °F (+10 °C)	518 (160)	356 (110)	275 (85)	227 (70)
40 A (32 A), start-up temperature	-0 °F (-18 °C)	502 (155)	340 (105)	266 (82)	217 (67)
40 A (32 A), start-up temperature	-40 °F (-40 °C)	470 (145)	324 (100)	259 (80)	211 (65)

Max. length of heating circuit at AC 240 V - ft (m)

Circuit Breaker size ¹⁾ NEC (IEC)		5 BPL2-AL	10 BPL2-AL	15 BPL2-AL	20 BPL2-AL
20 A (16 A), start-up temperature	+50 °F (+10 °C)	567 (175)	340 (105)	246 (75)	170 (52)
20 A (16 A), start-up temperature	-0 °F (-18 °C)	550 (170)	324 (100)	229 (70)	164 (50)
20 A (16 A), start-up temperature	-40 °F (-40 °C)	518 (160)	307 (95)	213 (65)	147 (48)
30 A (25 A), start-up temperature	+50 °F (+10 °C)	567 (175)	405 (125)	344 (105)	278 (85)
30 A (25 A), start-up temperature	-0 °F (-18 °C)	550 (170)	388 (120)	328 (100)	262 (80)
30 A (25 A), start-up temperature	-40 °F (-40 °C)	518 (160)	372 (115)	311 (95)	255 (78)
40 A (32 A), start-up temperature	+50 °F (+10 °C)	567 (175)	405 (125)	344 (105)	278 (85)
40 A (32 A), start-up temperature	-0 °F (-18 °C)	550 (170)	388 (120)	328 (100)	262 (80)
40 A (32 A), start-up temperature	-40 °F (-40 °C)	518 (160)	372 (115)	311 (95)	255 (78)

Max. length of heating circuit at AC 277 V - ft (m)

Circuit Breaker size ¹⁾ NEC (IEC)		5 BPL2-AL	10 BPL2-AL	15 BPL2-AL	20 BPL2-AL
20 A (16 A), start-up temperature	+50 °F (+10 °C)	639 (195)	328 (100)	203 (62)	147 (45)
20 A (16 A), start-up temperature	-0 °F (-18 °C)	623 (190)	321 (98)	193 (59)	144 (44)
20 A (16 A), start-up temperature	-40 °F (-40 °C)	606 (185)	314 (96)	190 (58)	138 (42)
30 A (25 A), start-up temperature	+50 °F (+10 °C)	639 (195)	442 (135)	321 (98)	229 (70)
30 A (25 A), start-up temperature	-0 °F (-18 °C)	623 (190)	426 (130)	308 (94)	223 (68)
30 A (25 A), start-up temperature	-40 °F (-40 °C)	606 (185)	410 (125)	301 (92)	216 (66)
40 A (32 A), start-up temperature	+50 °F (+10 °C)	639 (195)	442 (135)	344 (105)	301 (92)
40 A (32 A), start-up temperature	-0 °F (-18 °C)	623 (190)	426 (130)	328 (100)	288 (88)
40 A (32 A), start-up temperature	-40 °F (-40 °C)	606 (185)	410 (125)	311 (95)	282 (86)

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

Features

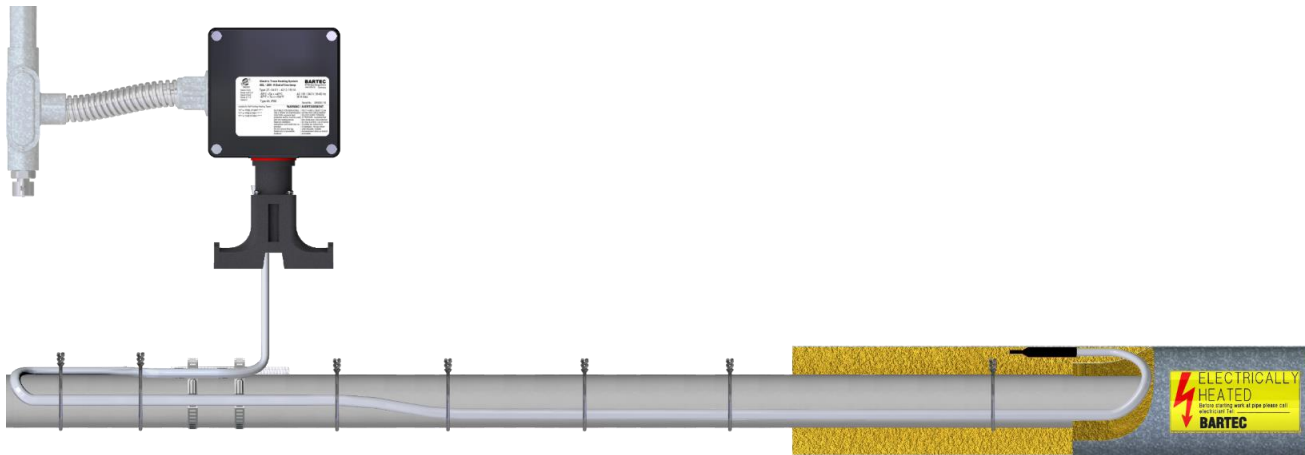
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- Can be cut to length thanks to its parallel current supply
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Description

It can be cut to length at site and can replace Mineral Insulated cables for applications where the cut to length feature is preferred. This feature considerably simplifies project engineering and installation. The trace heater is cut and terminated directly on the construction site according to the circumstances.

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Application Example BPL-AL heating system



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