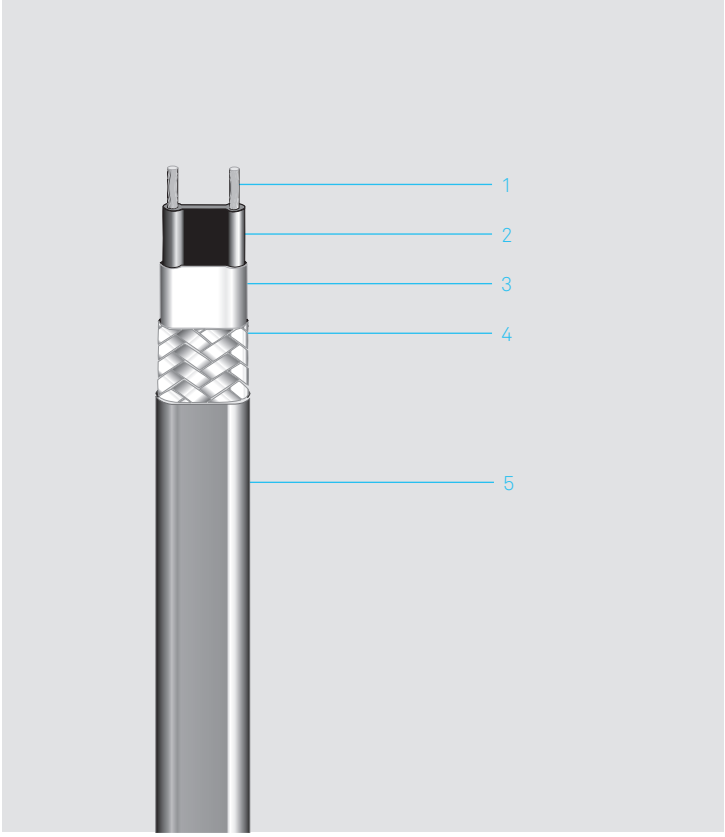
Self-regulating heating cable PSB



1	Conductors: stranded copper wire AWG 16 (1.2mm²), nickel plated
2	Self-regulating polymer heat element
3	Insulation jacket, polyolefin
4	Tinned copper braid
5	Polyolefin or fluoropolymer protective overjacket

- Can be cut-to-length due to its parallel bus wire construction
- Tinned copper braid provides mechanical protection and permits a ground to bond to comply with national electrical code requirements
- Ease of installation due to flexible materials of construction and favourable cable dimensions

A temperature-dependant resistive element between two parallel copper conductors regulates and limits the heat output of the heating cable according to the ambient temperature.

If the ambient temperature rises, the power output of the heating cable is reduced. This self-regulating property prevents overheating even when the cables are crossed. Thanks to the parallel design the heating cable can be cut and installed to any required length. The self-limiting heating cable is available with different power outputs and protective jackets. The protective outer jacket of either fluoropolymer or polyolefin protects the copper braiding from corrosion and chemical impact. The heating system must be designed to ensure that the maximum exposure temperature of +150°F (+65°C) will not be exceeded when it is energized.

Areas of application

The PSB heating cable is suitable for electric trace heating for frost protection of pipelines and vessels. While the polyolefin protective jacket is used where there are aqueous, inorganic chemicals, the fluoropolymer protective jacket is suitable for organic chemicals. For questions regarding the chemical resistance please contact your BARTEC sales representative.

Explosion protection

Marking	CSA Class I, Div. 2, Groups A, B, C, D CSA Class II, Div. 2, Groups E, F, G CSA Class III Ex 60079-30-1 IIC T5, T6 Gb Ex 60079-30-1 IIIC T95 °C, T 80 °C Db
Certification	CSA 1862457 IECEx DEK 17.0004U
	Other approvals and certificates, see bartec.com

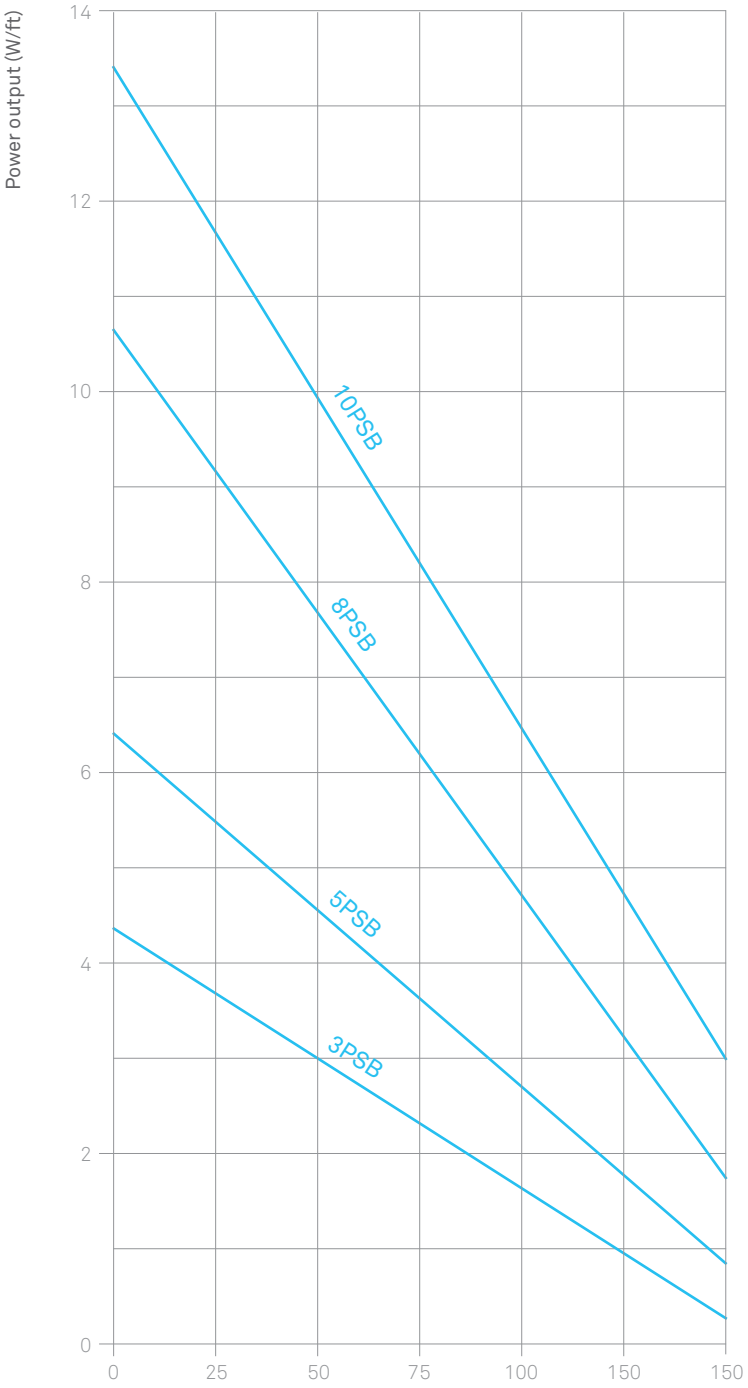
Technical data

Nominal voltage PSB1	120V (110V to 120V)
Nominal voltage PSB2	240 V (208V to 277 V)
Max. continuous operating temperature, energized	+150°F (+65°C)
Max. continuous exposure temperature, de-energized	+185°F (+85°C)
Min. installation temperature	-67°F (-55°C)
Min. start-up temperature	-67°F (-55°C)
Temperature class	T6: 3PSB2, 5PSB2 T5: 8PSB2, 10PSB2
Max. braid resistance	<18,2 Ω/km
Dimensions with braiding and jacket	0.46 in x 0.22 in (11.6 mm x 5.6 mm) with polyolefin protective jacket 0.46 in x 0.23 in (11.8 mm x 5.8 mm) with fluoropolymer protective jacket
Min. bending radius	0.98 in (25 mm)

Power output at +50°F (+10°F)

3PSB	3 W/ft
5PSB	5 W/ft
8PSB	8 W/ft
10PSB	10 W/ft

PSB characteristics



Power output on insulated steel pipes at 120V/240V under nominal conditions.

Max. length of heating circuit at 120 V

Circuit breaker[1]	start-up temperature	3PSB1	5PSB1	8PSB1	10PSB1
20 A	+50°F (+10°C)	344 ft	279 ft	190 ft	154 ft
	0°F (-18°C)	285 ft	200 ft	141 ft	115 ft
	-20°F (-29°C)	256 ft	180 ft	128 ft	105 ft
	-40°F (-40°C)	233 ft	164 ft	118 ft	95 ft
30 A	+50°F (+10°C)	344 ft	282 ft	217 ft	164 ft
	0°F (-18°C)	344 ft	282 ft	213 ft	164 ft
	-20°F (-29°C)	344 ft	272 ft	194 ft	154 ft
	-40°F (-40°C)	344 ft	246 ft	177 ft	141 ft
40 A	+50°F (+10°C)	344 ft	282 ft	217 ft	164 ft
	0°F (-18°C)	344 ft	282 ft	217 ft	164 ft
	-20°F (-29°C)	344 ft	282 ft	217 ft	164 ft
	-40°F (-40°C)	344 ft	282 ft	217 ft	164 ft

Max. length of heating circuit at 240 V

Circuit breaker[1]	start-up temperature	3PSB2	5PSB2	8PSB2	10PSB2
20 A	+50°F (+10°C)	676 ft	538 ft	315 ft	200 ft
	0°F (-18°C)	545 ft	387 ft	233 ft	148 ft
	-20°F (-29°C)	492 ft	348 ft	213 ft	135 ft
	-40°F (-40°C)	446 ft	315 ft	194 ft	121 ft
30 A	+50°F (+10°C)	676 ft	558 ft	433 ft	299 ft
	0°F (-18°C)	676 ft	558 ft	351 ft	223 ft
	-20°F (-29°C)	676 ft	522 ft	318 ft	200 ft
	-40°F (-40°C)	676 ft	476 ft	292 ft	184 ft
40 A	+50°F (+10°C)	676 ft	558 ft	433 ft	328 ft
	0°F (-18°C)	676 ft	558 ft	433 ft	295 ft
	-20°F (-29°C)	676 ft	558 ft	423 ft	269 ft
	-40°F (-40°C)	676 ft	558 ft	387 ft	246 ft

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

Adjustment factors at 208V

	Power output	Circuit lenght
3PSB2	0.90	0.96
5PSB2	0.93	0.94
8PSB2	0.95	0.92
10PSB2	0.97	0.92

Adjustment factors at 277V

	Power output	Circuit lenght
3PSB2	1.23	1.09
5PSB2	1.19	1.10
8PSB2	1.11	1.14
10PSB2	1.06	1.16

Ordering information 240 V

Protective jacket fluorpolymer

Type	Heating output	Order no.
3PSB2-CT	3 W/ft	07-5853-710F
5PSB2-CT	5 W/ft	07-5853-715F
8PSB2-CT	8 W/ft	07-5853-725F
10PSB2-CT	10 W/ft	07-5853-733F

Protective jacket polyolefin

Type	Heating output	Order no.
3PSB2-CR	3 W/ft	07-5853-710P
5PSB2-CR	5 W/ft	07-5853-715P
8PSB2-CR	8 W/ft	07-5853-725P
10PSB2-CR	10 W/ft	07-5853-733P

Ordering information 120 V

Protective jacket fluorpolymer

Type	Heating output	Order no.
3PSB1-CT	3 W/ft	07-5853-110F
5PSB1-CT	5 W/ft	07-5853-115F
8PSB1-CT	8 W/ft	07-5853-125F
10PSB1-CT	10 W/ft	07-5853-133F

Protective jacket polyolefin

Type	Heating output	Order no.
3PSB1-CR	3 W/ft	07-5853-110P
5PSB1-CR	5 W/ft	07-5853-115P
8PSB1-CR	8 W/ft	07-5853-125P
10PSB1-CR	10 W/ft	07-5853-133P

BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim, Germany
Tel.: +49 7931 597-0
Mail: info@bartec.com
Web: www.bartec.com

BARTEC US Corporation
650 Century Plaza Drive, Suite D120
USA - Houston, Texas 77073
Tel.: +1(-281)-214-8542
Mail: sales@bartec.com
Web: www.bartec.com