

# BB SP

Bidirectional DCDC Buck Boost converter  
 Maximum output power 1.7kW  
 LV network adaptor  
 Ideal for 48V applications



## KEY FEATURES

- > Overlapping input and output voltage, with seamless buck to boost transition
- > CAN Bootloader & Remote Communication
- > No aluminum capacitor
- > Forced-Air or Liquid-cooled for improved continuous power
- > Harsh environment
- > Weight: <325g

## TECHNICAL SPECIFICATION

### Control

Start-Up Voltage	10V <sub>DC</sub> to 62V <sub>DC</sub>
ON/OFF	Tie to ground for start-up
Inrush current limitation	Not included
IDLE mode consumption	<300mW

### Low current side

Voltage	10V <sub>DC</sub> to 62V <sub>DC</sub> (set by CAN)
Voltage accuracy	±0.3% at full scale
Current or power limitation	60A or 1700W depending on selected output voltage
Current limit accuracy	<3% at full scale
Short circuit	Current regulation at setpoint value down to 0V

### High current side

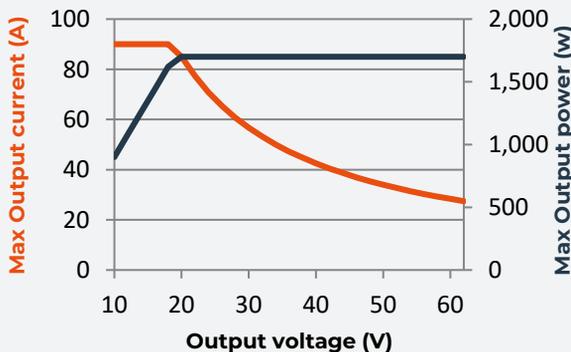
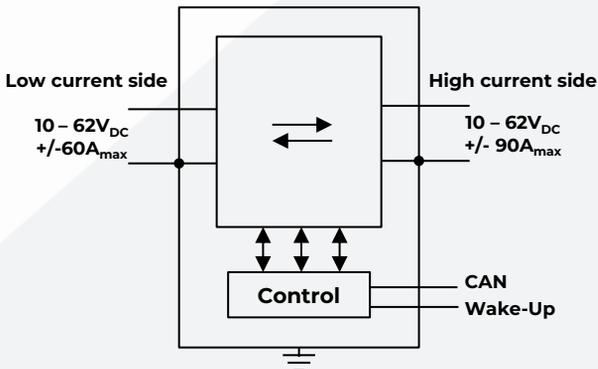
Voltage	10V <sub>DC</sub> to 62V <sub>DC</sub> (set by CAN)
Voltage accuracy	±0.3% at full scale
Current or power limitation	90A or 1700W depending on selected output voltage
Current limit accuracy	<3% at full scale
Short circuit	Current regulation at setpoint value down to 0V

### Efficiency

Global efficiency	> 97%
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### Environment

Environmental protection	IP67
Cooling	Natural or forced convection (fan 80x80mm) Liquid-cooled
Operating temperature range	From -20°C to 40°C (air-cooled version) From -20°C to 80°C (liquid-cooled version)
Over temperature protection	105°C internal threshold
Storage temperature range	From -40°C to 100°C
Weight	325g



## BrightLoop Converters

221 Boulevard Davout  
 75020 Paris – France  
 Tel +33 1 83 62 63 59

[www.brightloop.fr](http://www.brightloop.fr)

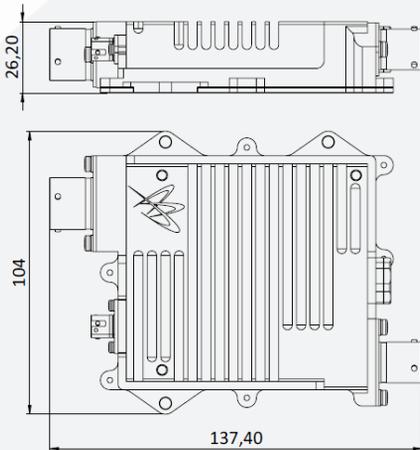
# BB SP

## TECHNICAL SPECIFICATION

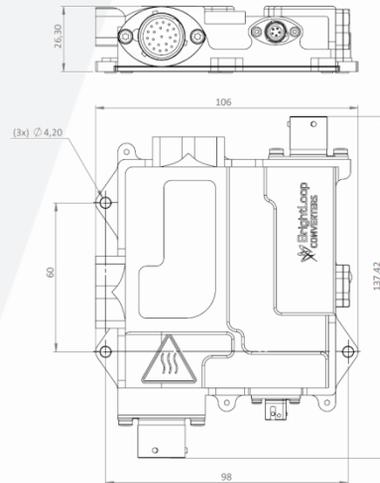
<b>Logic interface</b>	
Bus speed	125Kbps to 1Mbps (set by CAN)
	Current limit -60A to 90A, 1A resolution
Controls	Voltage output setpoint 10V to 62V, 0.015V resolution
	Power ON/OFF
	DC/DC Status
Feedback	Voltage and current
	Internal auxiliary power supplies voltage
	Internal temperatures
	Internal protections
Identification	Software & Hardware revision
	Bootloader for CAN software update
<b>Mechanical</b>	
Dimensions	137,40x104x26.2mm (Forced-Air version)
	137,42x103x26,3mm (Liquid-Cooling version)
Housing	Aluminum with conductive anti-corrosion treatment
Channel 1 Connector	IP67 (Souriau 8STA 01235PN)
Channel 2 Connector	IP67 (Souriau 8STA 01035PN)
Signals Connector	IP67 (Souriau 8STA 00205PN)
Mechanical Fastening	3 holes, diameter 4.2mm
Fan Fastening	3 holes, diameter M4
<b>Supplied with electrical mating connectors</b>	

## OUTLINE and FASTENING DRAWING

BBSP FA



BBSP LC



Dimensions in mm

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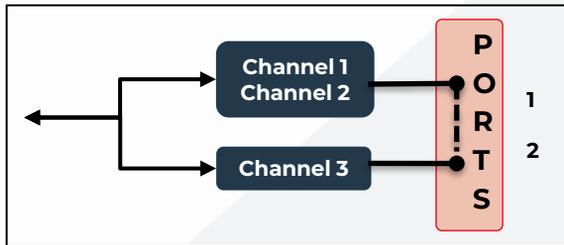
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# Ordering code logic

Port examples  
0-62V  
Individually CAN settable

- 12V Loads
- 12V Battery + ECU
- 24V Pump
- 48V Brake by wire
- 48V Charging port



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**BBSP – 1.7kW**



1 – Product family		2 – Package size	
BB	Buck-Boost	S	Small
3 – Product line		4 – Number of ports on LV side	
P	Performance	S	Single
		D	Dual
5 – Cooling option			
FA	Forced-Air		
LC	Liquid-Cooling		

V26.02

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