

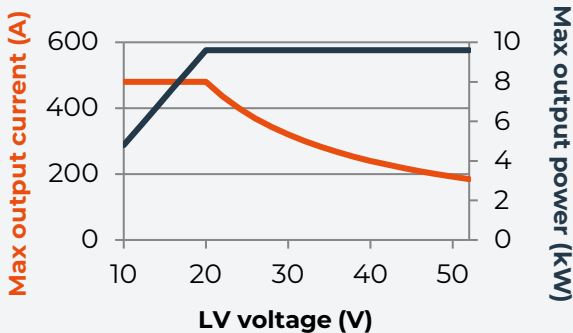
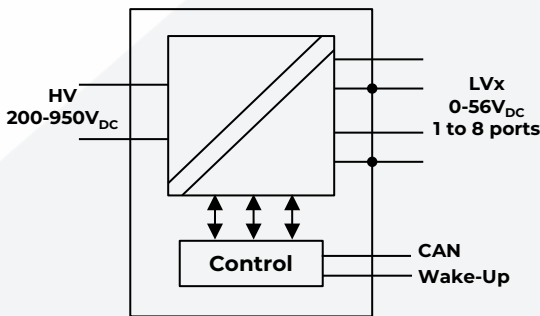
DCDC LP

Bidirectional isolated DCDC converter
Motorsport & extreme vehicle applications
800V battery compliant
Battery charger / LV network supply
Total continuous power 9.6kW/480A



KEY FEATURES

- > **Isolated HV voltage: 200 to 950V_{DC}**
- > **LV side voltage range: 0 to 56V_{DC} (CAN settable)**
- > **Single or Multiple LV ports configuration**
- > **CAN Bootloader & Remote Communication**
- > **Liquid-Cooling (LC) or Forced-Air (FA)**
- > **Harsh environment**
- > **High efficiency: >94%**
- > **Weight: 3500g**



TECHNICAL SPECIFICATION

HV side

Voltage	200V _{DC} to 950V _{DC}
ON/OFF	Internal pull-up. Tie to ground for start-up
HV X capacitance	~200nF (no built-in precharge)
HV parallel resistance	600kΩ
IDLE mode consumption	4.4W

LV side

Voltage setpoint	0V _{DC} to 56V _{DC} (set by CAN)
Overvoltage protection	58V _{DC}
Absolute maximum rating	60V _{DC}
Static precision	1%

Current limit	0 to 480A (set by CAN) 60A per channel
Current limit accuracy	<3% at full scale
Short-circuit protection	Current regulation at setpoint value down to 0V
Continuous power	9600W 1200W per channel
Line + load regulation	15% for 0-100% step load without battery

Efficiency

Global efficiency	> 94%
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Environment

Environmental protection	IP67
Altitude	Up to 4000m
Cooling	Liquid temperature 65°C max
Operating temperature range	From -40°C to 80°C ambient
Storage temperature range	From -40°C to 100°C
Weight	3500g

BrightLoop Converters

221 Boulevard Davout
75020 Paris – France
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www.brightloop.fr

DCDC LP

TECHNICAL SPECIFICATION

CAN Interface

Bus speed	125Kbps to 1Mbps (set by CAN)
Control modes	HV -> LV
	LV -> HV
	LV <-> LV
LV management	HV -> LV @10sec (Discharge mode)
	LV side current limit 0A to 480A, 0.5A resolution
	Voltage LV side setpoint 10V to 56V, 0.015V resolution
Power limitation / Remaining	Power ON/OFF for each LV port
	Minimum between 480A and 9.6kW depending on selected LV voltage
	LV side power configuration
Monitoring	LV ports defined by 8 internal channels of 60A/1200W each
	Configurable from 1 to 8 LV ports
	DC/DC status and errors
Identification	Voltages, currents, temperatures measurements
	Software & Hardware revision
	Bootloader for CAN software update

Safety

HV/LV isolation	3000V _{DC} Reinforced isolation (tested 60 sec.)
Capacitance to chassis	<180nF
	EN 62368-1 compliant

Liquid-Cooling (LC)

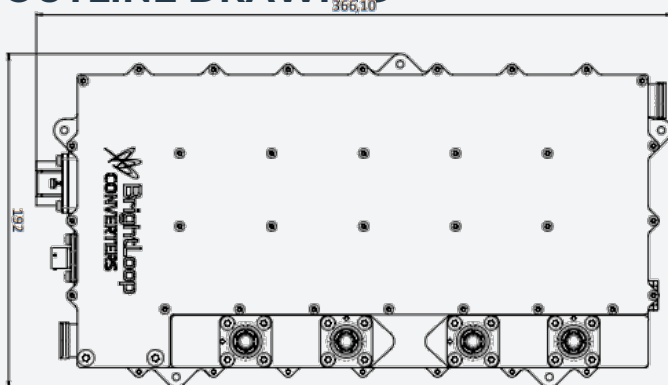
Power loss	600W max at full power
Pressure loss	70 mbar @10L/min
	150 mbar @15L/min
	250 mbar @20L/min
Maximum operating pressure	1.6barg
Maximum testing pressure	3.2barg
Cooling liquid volume	263cm ³
Cooling connectors	Wiggins (W994-10D) size 5/8"

Mechanical

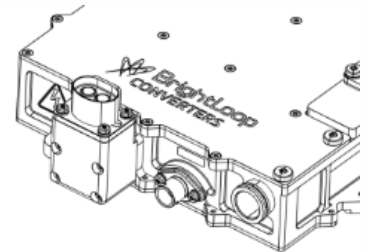
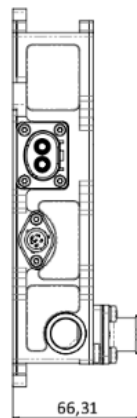
Dimensions	366.10x192x66.31mm
Housing	Aluminum with conductive anti-corrosion treatment
HV connector	IP67 with security loop (Amphenol PL082X-61-2.5)
	Option available to rotate HV connector at 90°
LV connectors	IP67 (Amphenol SurLok Plus 5,7 or 8mm)
Signals connector	IP67 (Souriau 8TA 008 35 SN)

Supplied with electrical mating connectors

OUTLINE DRAWING



Dimensions in mm
(May vary depending on number of outputs)



90° HV connector rotation
(available upon request)

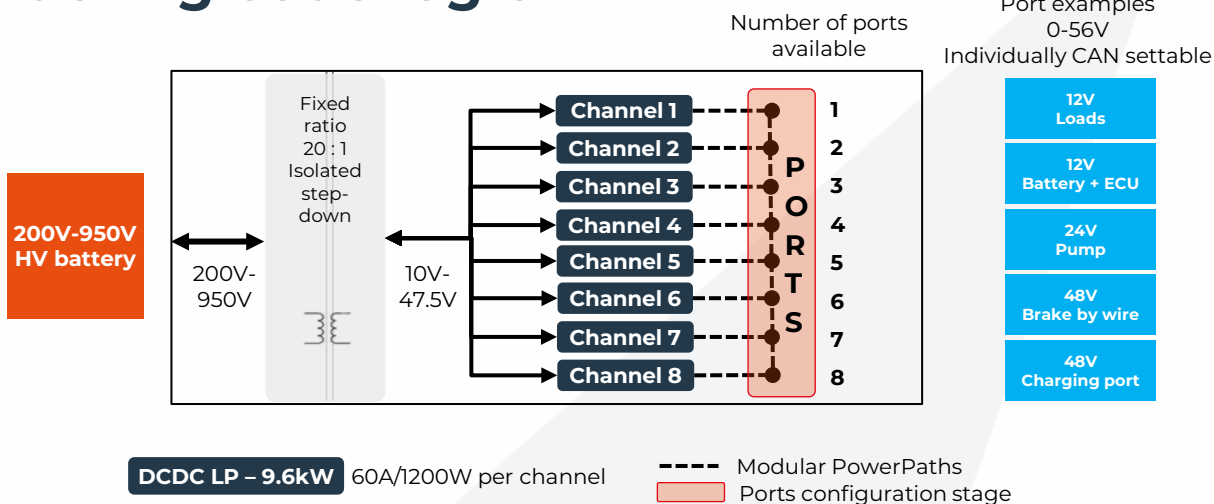
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Ordering code logic



1 – Product family		2 – Package size	
DCDC	Isolated DCDC converter	L	Large
3 – Product line		4 – Number of ports on LV side	
P	Performance	S	Single
		D	Dual
		T	Triple
		Q	Quadruple
		P	Penta
		Sx	Six
		He	Hepta (seven)
		O	Octo (eight)
5 – Number of channels* per PowerPath		6 – Cooling option	
Separated by –		LC	Liquid-Cooling
		FA	Forced-Air (Information on demand)

*Refer to scheme for number of channels available to build PowerPath

V22.04

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