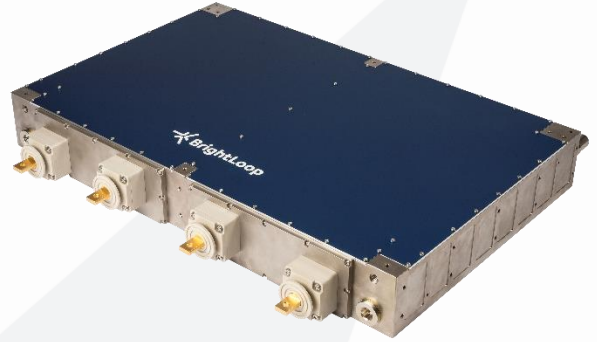


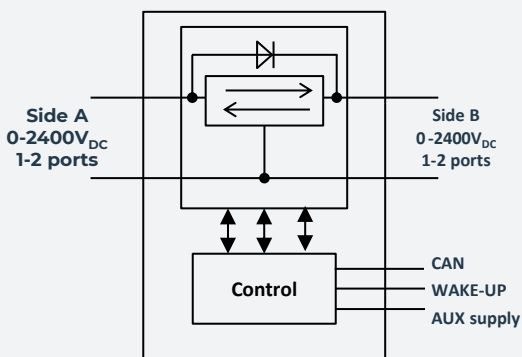
# DCUHV LP

HV-HV reversible Buck or Boost Converter  
 Voltage up to 2400V<sub>DC</sub>, current 400A  
 Power 500kW at 1250V Side A  
 Multi inputs / outputs capability  
 Cutting-edge power density



## KEY FEATURES

- > Built-in magnetics, inductors and transformers included
- > Input and output range : 0 to 2400V<sub>DC</sub>
- > Non-overlapping topology :  $V_{\text{sideB}} > V_{\text{sideA}}$
- > Bi-directional current capability
- > Max current : 400A
- > Current and voltage control
- > CAN remote communication and monitoring
- > Weight: < 35kg
- > Can be paralleled for increased power
- > Up to 4 ports possible for multiple inputs-outputs configurations
- > Connectors and Busbars options for electrical interface



## TECHNICAL SPECIFICATION

<b>Power</b>	
Max number of ports	4 side A, 4 side B
Side A and side B voltage range	0V to 2400V <sub>DC</sub>
Voltage settings possibilities	Max boost ratio : $V_B = 20 \times V_A$ max Short-circuit operation : $V_A = 0V$
Voltage accuracy	+/-1% of full scale
Current capability	+/-50A per channel, +/-400A total
Current accuracy	<3% of full scale
Efficiency	98.9% at nominal current with 2:1voltage conversion ratio
Short circuit protection	Current regulation at setpoint value down to 0V (in case the side A is regulated in voltage mode)
X Capacitance	11μF per side A & B No inrush current limitation
Y Capacitance	<0.2μF
Safety discharge time	<5sec to reach 60V
<b>Control</b>	
Auxiliary supply	9V <sub>DC</sub> - 60V <sub>DC</sub> <100μA disable mode current consumption <100W in Power_ON
Enable function	ON/OFF signal. Tie to ground for start-up. Internal pull up
Inrush current limitation	Not included
<b>Environment</b>	
Environmental protection	IP67
Altitude	Up to 4000m
Max cooling temperature	65°C outlet
Operating temperature range	From -40°C to 70°C ambient
Storage temperature range	From -40°C to 100°C
<b>Dielectric withstand</b>	
HV - case isolation	4300 V <sub>DC</sub> Basic isolation
HV - LV isolation	5300 V <sub>DC</sub> Reinforced isolation

## BrightLoop Converters

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

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

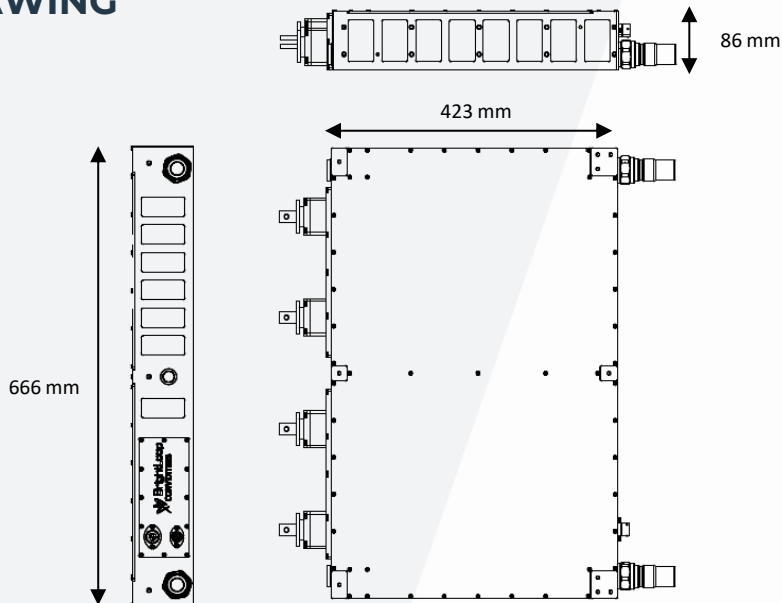


# DCUHV LP

TECHNICAL SPECIFICATION

<b>CAN Interface</b>	
Bus speed	125Kbps to 1Mbps (set by CAN)
Controls	Side A Current limit +/-400A , 2A resolution
	Side A Voltage set point 0V to 2400V 1V resolution
	Side B Current limit +/-400A, 2A resolution
	Side B Voltage set point 0V to 2400V, 1V resolution
Monitoring	Power ON/OFF
	Discharge request
	DC/DC Status
	Voltages and currents
	Internal auxiliary power supplies voltage
Identification	Software & Hardware revision
Software Update	CAN Bootloader
<b>Liquid cooling</b>	
Pressure loss	<300mBar TBC
Maximum recommended operating pressure	1.3bar TBC
Maximum testing pressure	2.6 bar TBC
Hydraulic connector	STAUBLI RME/CBI or CE3N UltraFlow
<b>Mechanical</b>	
Dimensions	666 x 423x 86mm + connectors
Weight	<40 Kg
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Bus bar connections or High Voltage connectors
Signals connector	8STA family (SOURIAU)

## OUTLINE DRAWING



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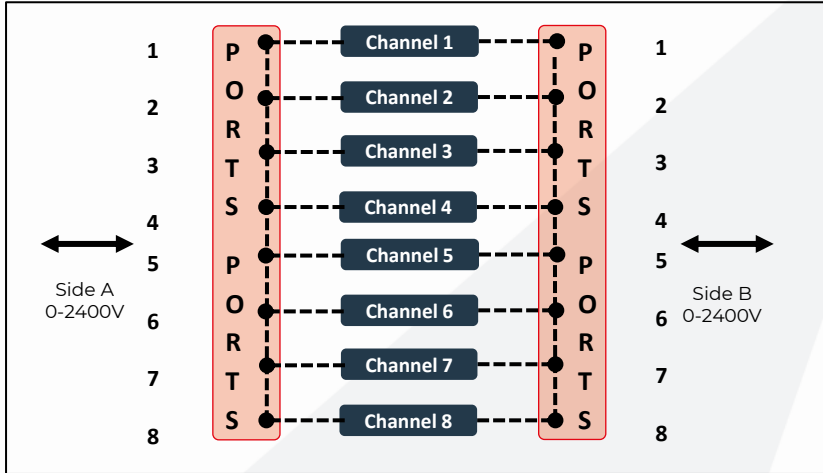


# Ordering code logic

Port examples  
Individually CAN settable

Fuel Cell #1

Fuel Cell #2



Port examples  
Individually CAN settable

HV DCbus

Ultracapacitors

Trolley

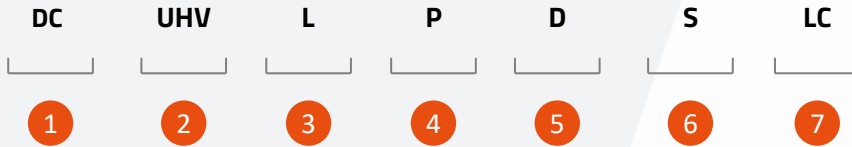
**DCUHV LP - 400A**

50A per channel

--- Reversible PowerPaths

Ports configuration stage

## Part number example :



<b>1 - Product family</b>		<b>2 - Voltage</b>	
DC	HV-HV non-isolated DCDC converter	<b>UHV</b>	2400V <sub>DC</sub> max
<b>3 - Package size</b>		<b>4 - Product line</b>	
L	Large	P	Performance
<b>5 - Number of ports on side A</b>		<b>6 - Number of ports on side B</b>	
S	Single	S	Single
D	Dual	D	Dual
<b>7 - Cooling option</b>			
LC	Liquid cooling		

V22.05

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