

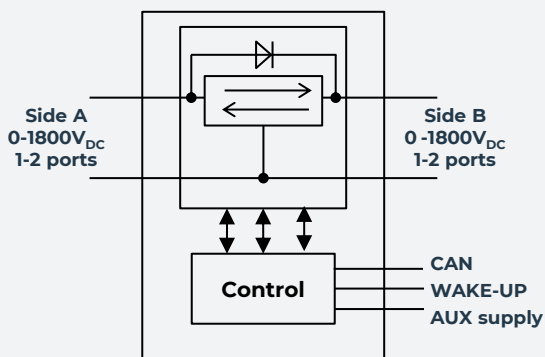
# DCVHV MP

HV-HV bidirectional Buck or Boost Converter  
 Voltage up to 1800V<sub>DC</sub>, current 200A  
 Power 250kW at 1250V<sub>DC</sub> Side A  
 Multi inputs / outputs capability  
 Cutting-edge power density

In development

## KEY FEATURES

- > Built-in capacitors & inductors
- > Input and output range: 0 to 1800V<sub>DC</sub>
- > Non-overlapping topology:  $V_{\text{SideB}} > V_{\text{SideA}}$
- > Bidirectional current capability
- > Max current: 200A
- > Current and voltage control
- > CAN remote communication and monitoring
- > Weight: TBC
- > Can be paralleled for increased power
- > Up to 2 ports possible for multiple inputs-outputs configurations
- > Connectors and Busbars options for electrical interface



## TECHNICAL SPECIFICATION

<b>Power</b>	
Max number of ports	2 side A, 2 side B
Side A and side B voltage range	0V <sub>DC</sub> to 1800V <sub>DC</sub>
Voltage settings possibilities	Max boost ratio: $V_B = 20 \times V_A$ max Short-circuit operation: $V_A = 0V_{DC}$
Voltage accuracy	+/-1% of full scale
Current capability	+/-50A per channel, +/-200A total
Current accuracy	<3% of full scale
Efficiency	98.9% at nominal current with 2:1 voltage conversion ratio
Short circuit protection	Current regulation at setpoint value down to 0V <sub>DC</sub> (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	<5 sec 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	4300V <sub>DC</sub> Basic isolation
HV - LV isolation	5300V <sub>DC</sub> Reinforced isolation

## BrightLoop Converters

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# DCVHV LP

TECHNICAL SPECIFICATION

<b>CAN Interface</b>	
Bus speed	125Kbps to 1Mbps (set by CAN)
Controls	Side A Current limit +/-200A , 2A resolution
	Side A Voltage set point 0V to 1800V, 1V resolution
	Side B Current limit +/-200A, 2A resolution
	Side B Voltage set point 0V to 1800V, 1V resolution
	Power ON/OFF
Monitoring	Discharge request
	DC/DC Status
	Voltages and currents
	Internal auxiliary power supplies voltage
	Internal temperatures
Internal protections	
Identification	Software & Hardware revision
Software Update	CAN Bootloader
<b>Liquid cooling</b>	
Pressure loss	<300mBar (TBC)
Maximum operating pressure*	3 barg
Maximum testing pressure	6 barg
Hydraulic connector	STAUBLI RME/CBI or CEJN UltraFlow
<b>Mechanical</b>	
Dimensions	TBC
Weight	TBC
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Busbar connections or High Voltage connectors
Signals connector	8STA family (SOURIAU)

\*: for higher pressure application, please contact us

## OUTLINE DRAWING

In development

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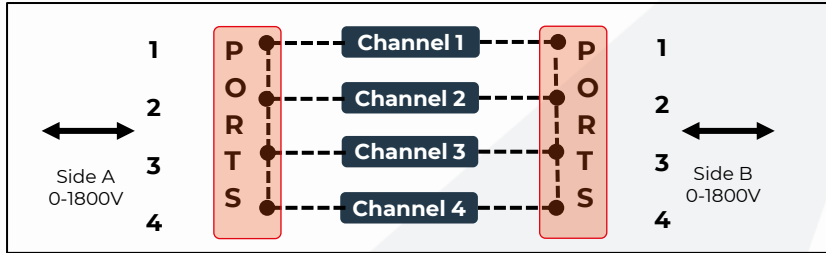
# Ordering code logic

Port examples  
Individually CAN settable

Port examples  
Individually CAN settable

Fuel Cell #1

Fuel Cell #2



HV DCbus

Ultracapacitors

Trolley

**DCVHV MP – 200A** 50A per channel

----- Bidirectional PowerPaths

Port configuration stage

Part number example :



<b>1 – Product family</b>		<b>2 – Voltage</b>	
DC	HV-HV non-isolated DCDC converter	VHV	1800V <sub>DC</sub> max
<b>3 – Package size</b>		<b>4 – Product line</b>	
M	Medium	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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