

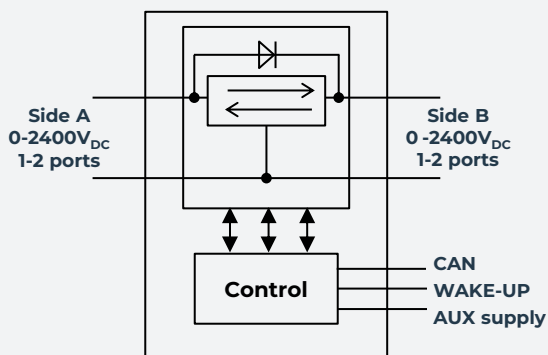
DCUHV MP

HV-HV bidirectional Buck or Boost Converter
 Voltage up to $2400V_{DC}$, current 200A
 Power 250kW at $1250V_{DC}$ Side A
 Multi inputs / outputs capability
 Cutting-edge power density



KEY FEATURES

- > Built-in capacitors & inductors
- > Input and output range: 0 to $2400V_{DC}$
- > Non-overlapping topology: $V_{SideB} > V_{SideA}$
- > Bidirectional current operation possible
- > Max current: 200A
- > Current and voltage control
- > CAN remote communication and monitoring
- > Weight: <18kg
- > 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

Power	
Max number of ports	2 side A, 2 side B
Side A and side B voltage range	$0V_{DC}$ to $2400V_{DC}$
Voltage settings possibilities	Max boost ratio: $V_B = 20 \times V_A$ max Short-circuit mode: $V_A = 0V_{DC}$
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 $0V_{DC}$ (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
Control	
Auxiliary supply	$9V_{DC} - 60V_{DC}$ <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
Environment	
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
Dielectric withstand	
HV - case isolation	$4300V_{DC}$ Basic isolation
HV - LV isolation	$5300V_{DC}$ Reinforced isolation

BrightLoop Converters

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

www.brightloop.fr

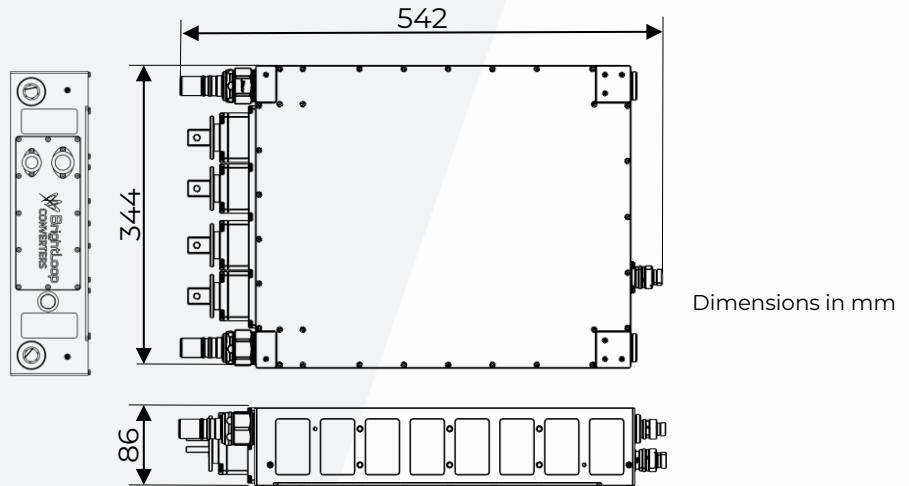
DCUHV MP

TECHNICAL SPECIFICATION

CAN interface	
Bus speed	125Kbps to 1Mbps (set by CAN)
	Side A Current limit +/-200A, 2A resolution
	Side A Voltage set point 0V to 2400V, 1V resolution
Controls	Side B Current limit +/-200A, 2A resolution
	Side B Voltage set point 0V to 2400V, 1V resolution
	Power ON/OFF
Monitoring	Discharge request
	DC/DC Status
	Voltages and currents
	Internal auxiliary power supplies voltage
	Internal temperatures
Identification	Internal protections
	Software & Hardware revision
Software Update	CAN Bootloader
Liquid cooling	
Pressure loss	<300mBar TBC
Maximum operating pressure*	3 barg
Maximum testing pressure	6 barg
Hydraulic connector	NORMAQUICK PS3 VDA (Mounted on NORMAQUICK PS3 NW 16-xx)
Mechanical	
Dimensions	344 x 423 x 86mm + connectors
Weight	<18 Kg
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Bus bar connections
Signals connector	8STA family (SOURIAU)

OUTLINE DRAWING

*: for higher pressure application, please contact us



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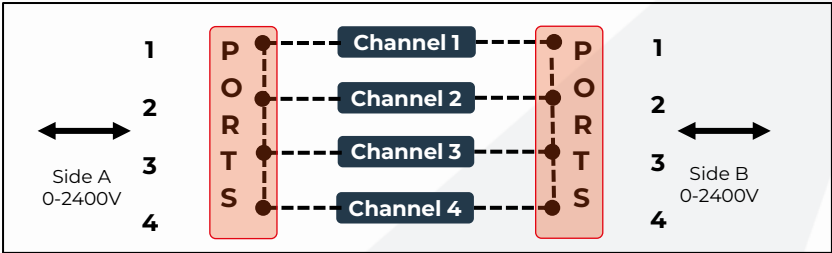
Ordering code logic

Port examples
Individually CAN settable

Port examples
Individually CAN settable

Fuel Cell #1

Fuel Cell #2



HV DCbus

Ultracapacitors

Trolley

DCUHV MP – 200A 50A per channel

----- Bidirectional PowerPaths
Ports configuration stage

Part number example :

DC

UHV

M

P

D

S

LC

1

2

3

4

5

6

7

1 – Product family		2 – Voltage	
DC	HV-HV non-isolated DCDC converter	UHV	2400V _{DC} max
3 – Package size		4 – Product line	
M	Medium	P	Performance
5 – Number of ports on side A		6 – Number of ports on side B	
S	Single	S	Single
D	Dual	D	Dual
7 – Cooling option			
LC		Liquid cooling	

V22.07

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