

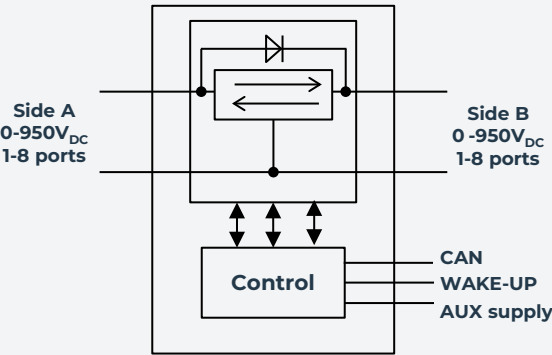
DCHV MP



HV-HV bidirectional Buck or Boost Converter
Voltage up to 950V_{DC}, current 480A
Power 250kW at 500V_{DC} Side A
Multi inputs / outputs capability
Cutting-edge power density

KEY FEATURES

- > Built-in capacitors & inductors
- > Input and output range: 0 to 950V_{DC}
- > Non-overlapping topology: $V_{SideB} > V_{sideA}$
- > Bidirectional current capability
- > Max current: 480A
- > Current and voltage control
- > CAN remote communication and monitoring
- > Weight: <12kg
- > Can be paralleled for increased power
- > Buck-boost option available for overlapping input-output voltage
- > Up to 8 ports possible for multiple inputs-outputs configurations
- > Connectors and Busbars options for electrical interface



TECHNICAL SPECIFICATION

Power	
Max number of ports	8 side A, 8 side B
Side A and side B voltage range	0V _{DC} to 950V _{DC}
Voltage settings possibilities	Max boost ratio: $V_B = 20 \times V_A$ max Bypass mode: $V_A = V_B$ possible Short-circuit mode: $V_A = 0V_{DC}$
Voltage accuracy	+/-1% of full scale
Current capability	+/-60A per channel, +/-480A 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 set point value down to 0V _{DC} (in case the side A is regulated in voltage mode)
X Capacitance	100µF per side A & B
Y Capacitance	No inrush current limitation 1µF
Safety discharge time	<5 sec to reach 60V
Control	
Auxiliary supply	9V _{DC} – 60V _{DC} <100µA disable mode current consumption <40W in Power_ON mode
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	1950V _{DC} Basic isolation
HV - LV isolation	2500V _{DC} Reinforced isolation

BrightLoop Converters

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www.brightloop.fr

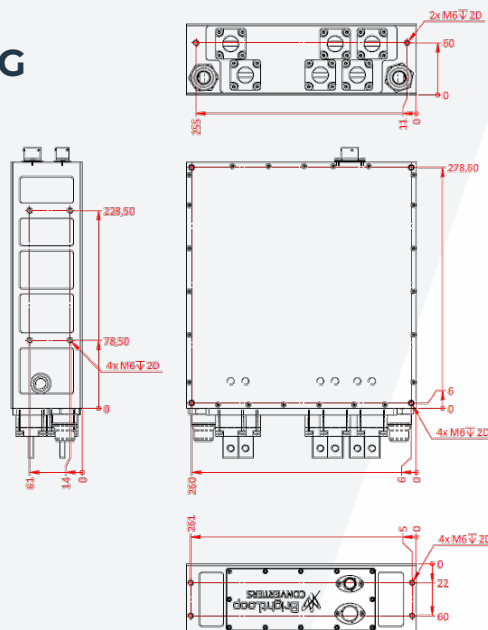
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TECHNICAL SPECIFICATION

CAN interface	
Bus speed	125Kbps to 1Mbps (set by CAN)
Controls	Side A Current limit +/-480A , 2A resolution
	Side A Voltage set point 0V to 950V, 1V resolution
	Side B Current limit +/-480A, 2A resolution
	Side B Voltage set point 0V to 950V, 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	<200mBar
Maximum operating pressure*	3 barg
Maximum testing pressure	6 barg
Hydraulic connector	NORMAQUICK PS3 VDA (Mounted on NORMAQUICK PS3 NW 16-xx)
Mechanical	
Dimensions	260 x 280 x 80mm + connectors
Weight	<12kg
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Amphenol PL500 with HVIL
	Amphenol PL300 with HVIL
	Amphenol PL084 & PL082 with HVIL
	Bus bar connection
Signals connector	8STA family (SOURIAU)

*: for higher pressure application, please contact us

OUTLINE DRAWING



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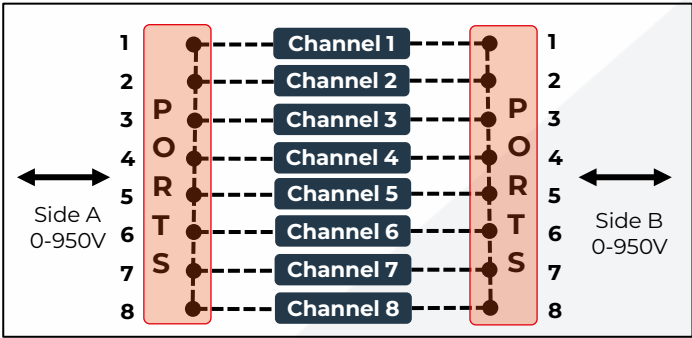
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Ordering code logic

Port examples
Individually CAN settable

- Fuel Cell #1
- Fuel Cell #2
- Compressor inverter
- 400V_{DC} auxiliaries



Port examples
Individually CAN settable

- HV battery
- Ultracapacitors
- Trolley

DCHV MP - 480A

60A per channel

--- Bidirectional PowerPaths
Ports configuration stage

Part number example:

DC HV M P D S LC
1 2 3 4 5 6 7

1 – Product family		2 – Voltage	
DC	HV-HV non-isolated DCDC converter	HV	950V _{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
T	Triple	T	Triple
Q	Quadruple	Q	Quadruple
P	Penta	P	Penta
Sx	Six	Sx	Six
H	Hepta (seven)	H	Hepta (seven)
O	Octo (eight)	O	Octo (eight)
7 – Cooling			
LC	Liquid cooling		

V22.05

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