

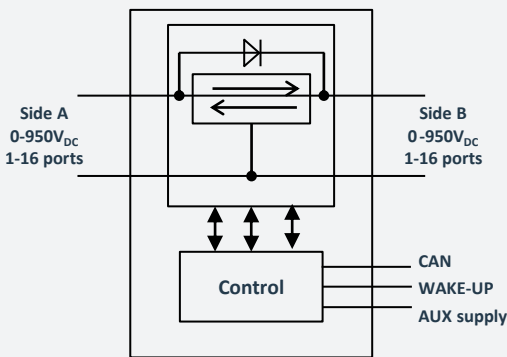
DCHV LP

HV-HV reversible Buck or Boost Converter
 Voltage up to 950V_{DC}, current 960A
 Power 500kW at 500V 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 950V_{DC}
- > Non-overlapping topology : $V_{SideB} > V_{sideA}$
- > Bi-directional current operation possible
- > Max current : 960A
- > Current and voltage control
- > CAN remote communication and monitoring
- > Weight: < 20kg
- > Can be paralleled for increased power
- > Buck-boost option available for overlapping input-output voltage
- > Up to 16 ports possible for multiple inputs-outputs configurations
- > Connectors and Busbars options for electrical interface



TECHNICAL SPECIFICATION

Power	
Max number of ports	16 side A, 16 side B
Side A and side B voltage range	0V 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 : $V_A = 0V$
Voltage accuracy	+/-1% of full scale
Current capability	+/-60A per channel, +/-960A 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 (in case the side A is regulated in voltage mode)
X Capacitance	200µF per side A & B No inrush current limitation
Y Capacitance	2µF
Safety discharge time	<5sec to reach 60V
Control	
Auxiliary supply	9V _{DC} - 60V _{DC} <100µA disable mode current consumption <80W 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	1950 V _{DC} Basic isolation
HV - LV isolation	2500 V _{DC} Reinforced isolation

BrightLoop Converters

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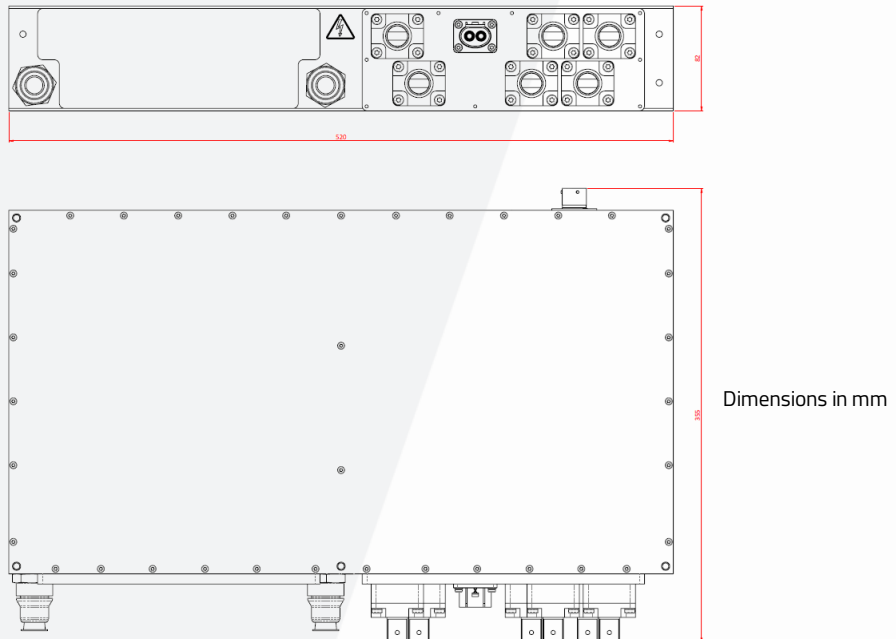


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TECHNICAL SPECIFICATION

CAN Interface	
Bus speed	125Kbps to 1Mbps (set by CAN)
Controls	Side A Current limit +/-960A , 2A resolution
	Side A Voltage set point 0V to 950V 1V resolution
	Side B Current limit +/-960A, 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
Internal protections	
Identification	Software & Hardware revision
Software Update	CAN Bootloader
Liquid cooling	
Pressure loss	<300mBar TBC
Maximum recommended operating pressure	1.3bar TBC
Maximum testing pressure	2.6 bar TBC
Hydraulic connector	NORMAQUICK PS3 VDA (Mounted on NORMAQUICK PS3 NW 16-xx)
Mechanical	
Dimensions	520 x 355 x 82mm + connectors
Weight	<20 Kg
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Amphenol PL300 with HVIL
	Amphenol PL082 with HVIL
Signals connector	Bus bar connection
	8STA family (SOURIAU)

OUTLINE DRAWING



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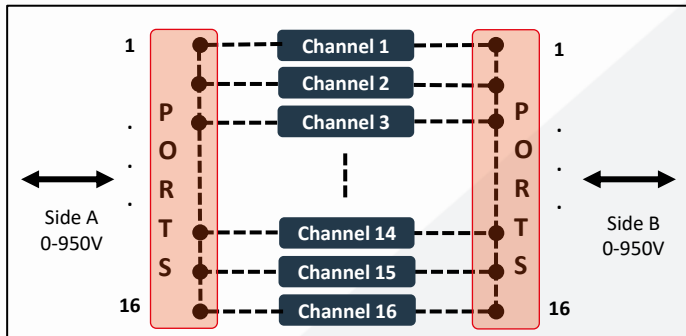
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Ordering code logic

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 LP – 960A 60A per channel

--- Reversible PowerPaths
 Ports configuration stage

Part number example :



1 - Product family		2 - Voltage	
DC	HV-HV non-isolated DCDC converter	HV	950V _{DC} max
3 - Package size		4 - Product line	
L	Large	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	H	Six
H	Hepta (seven)	He	Hepta (seven)
O	Octo (eight)	O	Octo (eight)
7 - Cooling option			
LC	Liquid cooling		
FA	Forced air		

V22.04

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