

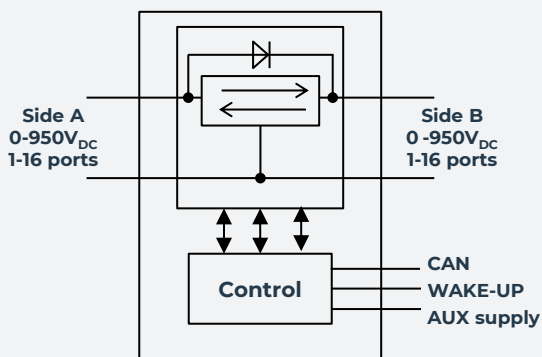
DCHV LP

HV-HV bidirectional Buck or Boost Converter
 Voltage up to $950V_{DC}$, current 960A
 Power 500kW 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: 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	$0V_{DC}$ 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: $V_A = 0V$
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 set point value down to $0V_{DC}$ (in case the side A is regulated in voltage mode)
X Capacitance	200 μ F per side A & B
Y Capacitance	No inrush current limitation
Safety discharge time	2 μ F
Control	
Auxiliary supply	$9V_{DC} - 60V_{DC}$ <100 μ A 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	$1950V_{DC}$ Basic isolation
HV - LV isolation	$2500V_{DC}$ Reinforced isolation

BrightLoop Converters

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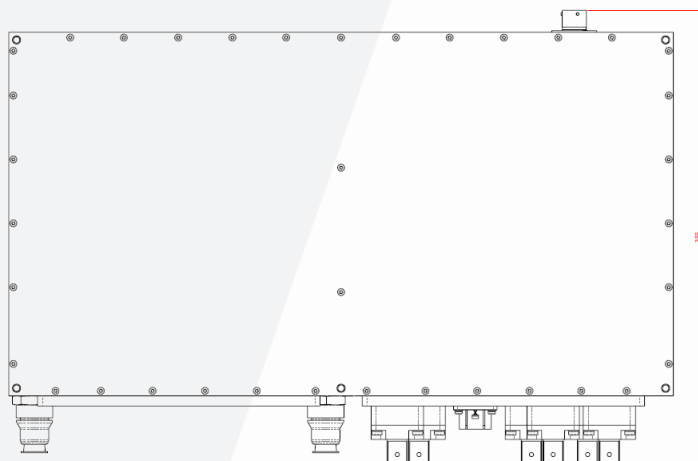
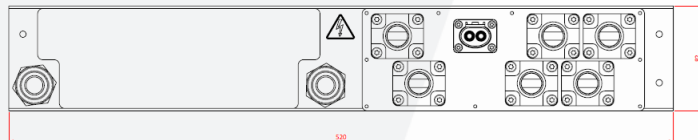
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TECHNICAL SPECIFICATION

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	<400mBar 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	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 PL500 with HVIL
	Amphenol PL300 with HVIL
	Amphenol PL084 & PL082 with HVIL
Signals connector	Bus bar connection 8STA family (SOURIAU)

*: for higher pressure application, please contact us

OUTLINE DRAWING



Dimensions in mm

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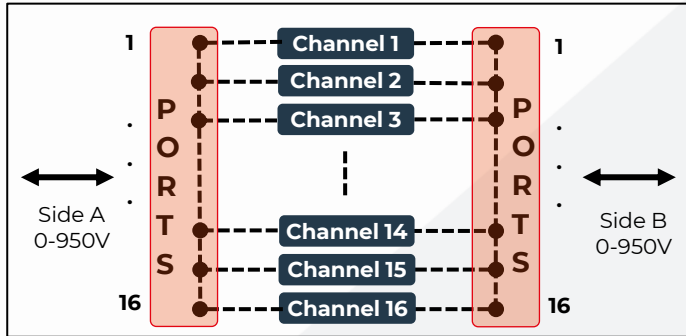
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Ordering code logic

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

--- Bidirectional 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	Sx	Six
H	Hepta (seven)	H	Hepta (seven)
O	Octo (eight)	O	Octo (eight)
7 – Cooling			
LC	Liquid cooling		

V22.04

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