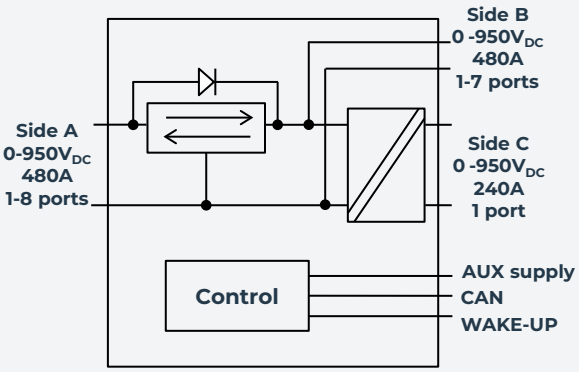
HEAVY DUTY APPLICATIONS

DCHVI MP

HV-HV bidirectional Buck or Boost Converter
Input-output galvanic isolation
Voltage up to $950V_{DC}$, current 480A
Isolated port 240A / 200kW
Multi inputs / outputs capability
Cutting-edge power density

KEY FEATURES

- **Built-in capacitors, inductors and transformer included**
- **Input and output range: 0 to $950V_{DC}$**
- **Non-overlapping topology: $V_{sideA} < V_{SideB}$**
- **Bidirectional current capability**
- **Non-isolated stage: 480A max**
- **Isolated stage: 240A / 200kW max**
- **Ultra-high end-to-end efficiency**
- **CAN remote communication and monitoring**
- **Liquid cooling**
- **Weight: <25kg**
- **Can be paralleled for increased power**
- **Up to 8 ports possible on each side for multiple inputs-outputs configurations**
- **Connectors and Busbars options for electrical interface**



TECHNICAL SPECIFICATION

Power	
Max number of ports	8 side A, 7 side B, 1 side C
Side A, B, and C voltage range	$0V_{DC}$ to $950V_{DC}$
Voltage settings possibilities	$V_A < V_B$ -- $V_B = V_C$ Max boost ratio : $V_B = 20 \times V_A$ max Bypass mode : $V_A = V_B$ possible Short-circuit mode : $V_A = 0V_{DC}$, $V_C = 0V_{DC}$
Voltage accuracy	+/-1% of full scale
Current capability	A <-> B : +/-60A per channel, +/-480A total A <-> C : +/-240A
Current accuracy	<3% of full scale
Short circuit protection	Side A: Current regulation at setpoint value Side C: Short-circuit protected
X Capacitance	Side A: 100µF Side B: 140µF Side C: 40µF No inrush current limitation
Y Capacitance	<10µF
Safety discharge time	<5 sec to reach 60V
Efficiency	97.5% at full load, 1:2 voltage ratio
Control	
Auxiliary supply	$9V_{DC} - 60V_{DC}$ <100µA disable mode current consumption <40W in Power_ON mode
$\overline{\text{Enable}}$ 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

BrightLoop Converters

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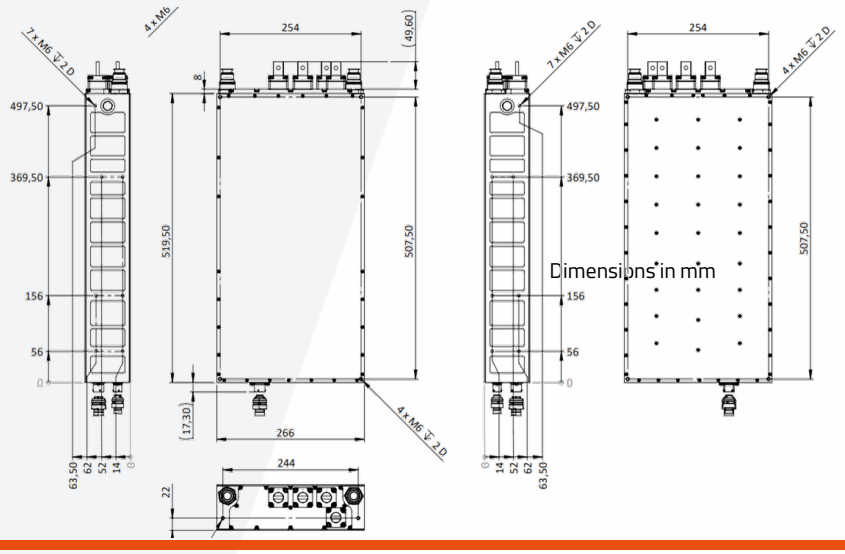
TECHNICAL SPECIFICATION

Dielectric withstand	
HV - case isolation	1950V_{DC} Basic isolation
HV - LV isolation	2500V_{DC} Reinforced isolation
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
	Side C Current limit +/-240A, 2A resolution
	Side C Voltage set point 0V to 950V, 1V resolution
	Power ON/OFF
	Discharge request
Monitoring	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	<200mBar 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	< 600 x 280 x 80mm + connectors
Weight	<25kg
Interface	M8 fixations on each sides
Housing	Aluminum with conductive anti-corrosion treatment
Power connectors options	Amphenol PL500 & PL300 with HVIL Amphenol PL082 & PL084 with HVIL Bus bar connection
Signals connector	8STA family (SOURIAU)

**: for higher pressure application, please contact us*

OUTLINE DRAWING



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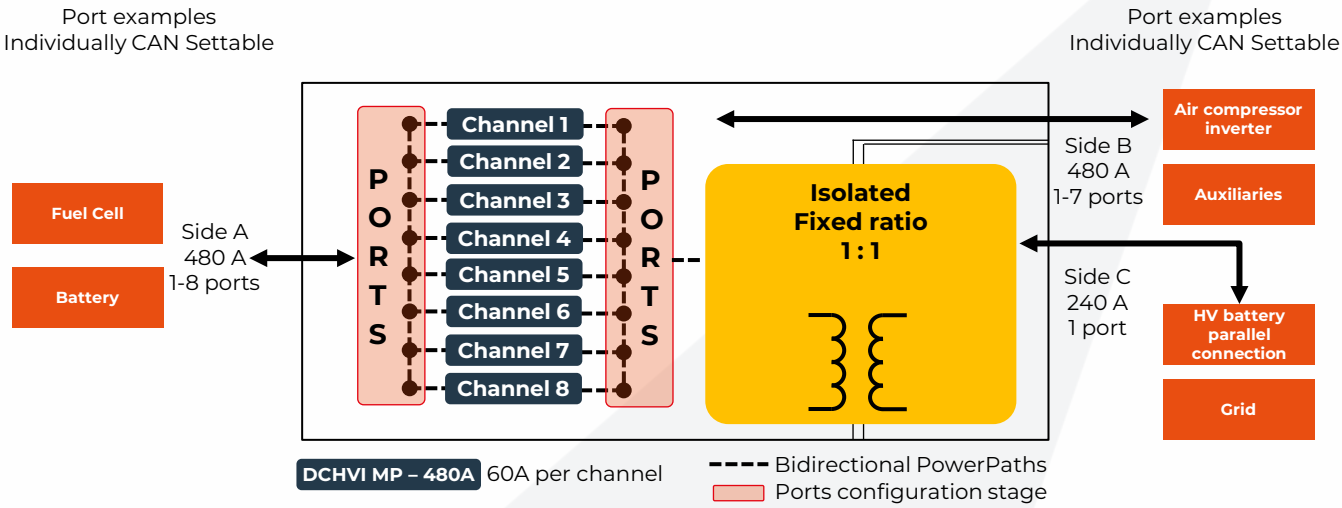
Ordering code logic



Part number example :

DC	HV	I	M	P	S	Ø	S	LC
1	2	3	4	5	6	7	8	9

1 – Product family		**2 – Voltage**	
DC	HV-HV isolated DCDC converter	HV	950V_{DC} max
3 – Galvanic isolation			
I	Isolated		
4 – Package size		**5 – Product line**	
M	Medium	P	Performance
6 – Number of ports on side A		**7 – Number of ports on side B**	
S	Single	Ø	None
D	Dual	S	Single
T	Triple	D	Dual
Q	Quadruple	T	Triple
P	Penta	Q	Quadruple
Sx	Six	P	Penta
H	Hepta (seven)	Sx	Six
O	Octo (eight)	H	Hepta (seven)
8 – Number of ports on side C		**9 – Cooling option**	
S	Single	LC	Liquid cooling

V22.05

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