

# DCHVI MP

HV-HV reversible Buck or Boost Converter  
 Input-output galvanic isolation  
 Voltage up to 950V<sub>DC</sub>, current 480A  
 Isolated port 240A / 200kW  
 Multi inputs / outputs capability  
 Cutting-edge power density

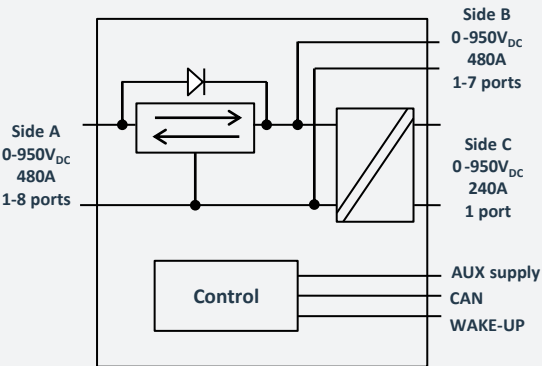


## KEY FEATURES

- > Built-in magnetics, inductors and transformers included
- > Input and output range : 0 to 950V<sub>DC</sub>
- > Non-overlapping topology :  $V_{sideA} < V_{sideB}$
- > Bi-directional current operation possible
- > 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

<b>Power</b>	
Max number of ports	8 side A, 7 side B, 1 side C
Side A, B, and C voltage range	0V to 950V <sub>DC</sub> $V_A < V_B \rightarrow V_B = V_C$
Voltage settings possibilities	Max boost ratio : $V_B = 20 \times V_A$ max Bypass mode : $V_A = V_B$ possible Short-circuit mode : $V_A = 0V, V_C = 0V$
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
Y Capacitance	No inrush current limitation
Safety discharge time	<5sec to reach 60V
Efficiency	97.5% at full load, 1:2 voltage ratio
<b>Control</b>	
Auxiliary supply	9V <sub>DC</sub> - 60V <sub>DC</sub> <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
<b>Environment</b>	
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



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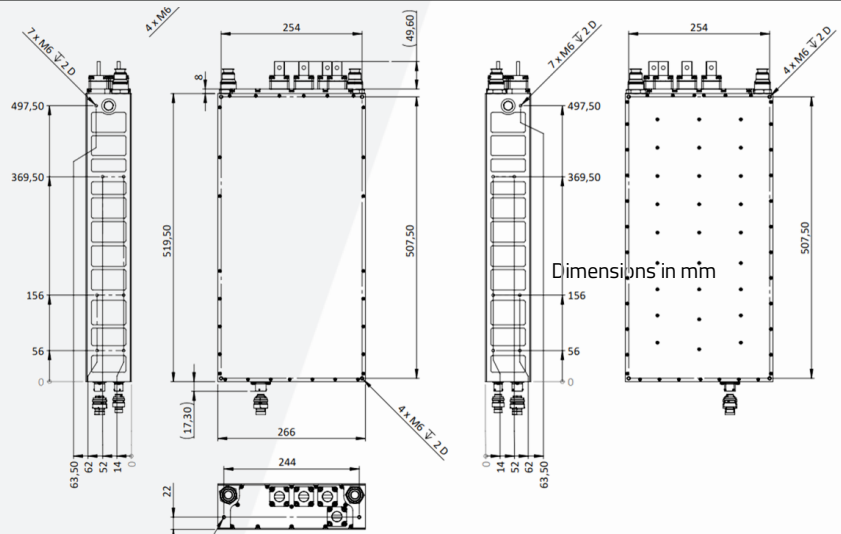
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<b>Dielectric withstand</b>	
HV - case isolation	1950 V <sub>DC</sub> Basic isolation
HV - LV isolation	2500 V <sub>DC</sub> Reinforced isolation
<b>CAN Interface</b>	
Bus speed	125Kbps to 1Mbps (set by CAN)
Controls	Side A Current limit +/-480A , 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 I Current limit +/-240A, 2A resolution
	Side I Voltage set point 0V to 950V, 1V resolution
Monitoring	Power ON/OFF
	Discharge request
	DC/DC Status
	Voltages and currents
	Internal auxiliary power supplies voltage
	Internal temperatures
Identification	Software & Hardware revision
Software Update	CAN Bootloader
<b>Liquid cooling</b>	
Pressure loss	<200mBar TBC
Maximum recommended operating pressure	1.3bar
Maximum testing pressure	2.6 bar
Hydraulic connector	NORMAQUICK PS3 VDA (Mounted on NORMAQUICK PS3 NW 16-xx)
<b>Mechanical</b>	
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 PL300 with HVIL Amphenol PL082 with HVIL Bus bar connection
Signals connector	8STA family (SOURIAU)

## OUTLINE DRAWING



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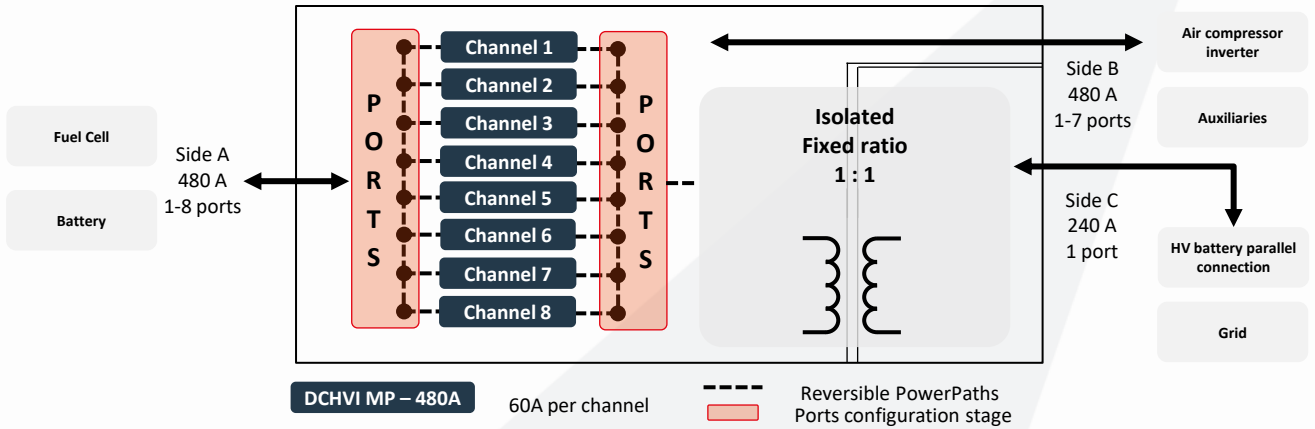
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# Ordering code logic

Port examples  
Individually CAN Settable

Port examples  
Individually CAN Settable



## Part number example :



<b>1 - Product family</b>	<b>2 - Voltage</b>
DC    HV-HV isolated DCDC converter	HV    950V <sub>DC</sub> max
<b>3 - Isolated</b>	
I    Galvanically isolated	
<b>4 - Package size</b>	<b>5 - Product line</b>
M    Medium	P    Performance
<b>6 - Number of ports on side A</b>	<b>7 - Number of ports on side B</b>
S    Single	∅    None
D    Dual	S    Single
T    Triple	D    Dual
Q    Quadruple	T    Triple
P    Penta	Q    Quadruple
H    Six	P    Penta
O    Octo (eight)	H    Six
<b>8 - Number of ports on side C</b>	<b>9 - Cooling option</b>
S    Single	LC    Liquid cooling

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