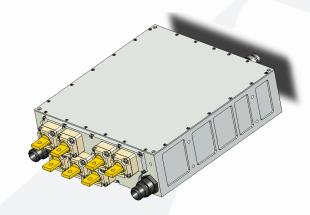
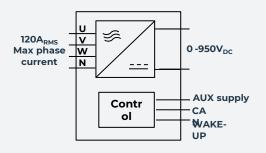
# **ACHV MP**

Ultra-versatile reversible 3Ph + N inverter Built-in input-output galvanic isolation  $120A_{RMS}$  / phase, max power  $80kW@400V_{AC}$  Perfect for grid and island configurations, or High Power On-board Charger



## **KEY FEATURES**

- > Built-in magnetics, inductors and transformers included
- > DC range  $0-950V_{DC}$ , AC range  $0-400V_{AC}$
- > Non-overlapping topology:  $V_{DC} > \widehat{V}_{ph-ph}$
- > 120A<sub>RMS</sub> max phase current
- Output power of 80kW at 400V<sub>AC</sub>
- > Perfect for high power On-Board Charger application (OBC)
- Seamless transition between grid-tied (CSI) and grid-forming (VSI) inverter and PFC rectifier
- > On-the-fly adjustment of harmonics corrections
- > PLL synchronization on external grid
- > Flexible controls allow inverter operation as independent single-phase, balanced threephase, or unbalanced with neutral connection
- AC compliant load sharing algorithm for easy parallelization
- > Cutting-edge power density, weight < 25kg
- > Connectors and Busbars options for electrical interface



# **TECHNICAL SPECIFICATION**

Power				
AC ports	3 phases + neutral, 400V <sub>AC</sub> / 950V <sub>DC</sub>			
AC ports	max			
DC port	OV to 950V <sub>DC</sub>			
AC Frequency range	0-1000Hz			
Power factor	> 0.95 @ 50Hz			
Harmonic distortion	<1% @ 50Hz			
Phase unbalance	0-100% with neutral connection			
Control modes	Grid forming inverter			
	Grid tied inverter			
	PFC rectifier			
	Active harmonics correction			
Current capability	120A <sub>RMS</sub> per phase			
Current accuracy	<3% of full scale			
Efficiency	>96% at full load			
Control				
Auxiliary supply	$9V_{DC} - 75V_{DC}$			
	<100µA disable mode current			
	consumption			
Enable function	ON/OFF signal. Tie to ground for start-			
	up. Internal pull up			
Parallelization	Active current sharing			
	Internal, between paralleled converters			
Switching synchronization	External, with a synchronization signal			
	CAN-settable phase shift			
Safety discharge	<5sec to reach 60V			
Environment				
Environmental protection	IP67			
Altitude	Up to 4000m			
Max cooling temperature	65°C outlet			
Operating temperature	From -40°C to 70°C ambient			
range				
Storage temperature range	From -40°C to 100°C			

#### **BrightLoop Converters**

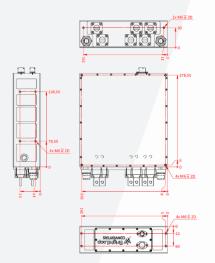
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Dielectric withstand						
HV - case	Basic insulation, tested at 2500 $V_{DC}$					
HVAC - HVDC	Basic insulation, tested at 2500 $V_{DC}$					
HV - LV	Reinforced insulation, tested at 5000 V <sub>DC</sub>					
LV - case	Functionnal insulation, tested at 500 $V_{DC}$					
CAN Interface						
Bus speed	125Kbps to1Mbps (set by CAN)					
	Current limit					
	Voltage setpoint					
Cambuala	Frequency setpoint					
Controls	Mode of operation					
	Power ON/OFF					
	Discharge request					
	Status					
	Voltages, currents, frequency					
Monitoring	Internal auxiliary power supplies voltage					
3	Internal temperatures					
	Internal protections					
Identification	Software & Hardware revision					
Software Update	CAN Bootloader					
Liquid cooling						
Pressure loss	<200mBar TBC					
Operating pressure	1.3barmax recommended					
	NORMAQUICK PS3 VDA (Mounted on					
Hydraulic connector	NORMAQUICK PS3 NW 16-xx)					
Mechanical						
Dimensions	< 280 x 266 x 80mm + connectors					
Weight	< 11kg					
Interface	M8 fixations on each sides					
Housing	Aluminum with conductive anti-corrosion					
	treatment					
	Amphenol PL300 with HVIL					
Power connectors options	Amphenol PL082 with HVIL					
	Busbars					
	22 pins for control					
	13 pins for paralleling and switching					
Signal connector	synchronization					
	8STA family (SOURIAU)					
	,					

# **OUTLINE DRAWING**



Dimensions in mm

# **BrightLoop Converters**

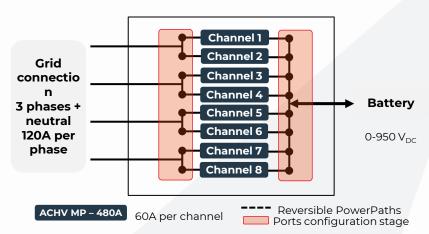
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# Ordering code logic

Port examples Individually CAN Settable Port examples Individually CAN Settable

LC



### Part number example:

A	AC HV Ø M	F	P S	Ø	S
	2 3 4		6	7	8
1 – P	roduct family	2-1	/oltage		
AC	HV-HV isolated ACDC conv. inv.	H V	950V <sub>DC</sub> max		
3 – Is	solated				
ı	Galvanically isolated	_			
4 - P	Package size	5 – F	Product line		
М	Medium	Р	Performance		
6 - N	lumber of ports on side A	7 - 1	Number of ports	on side B	
S	Single	Ø	None		
D	Dual	S	Single		
Т	Triple	D	Dual		
Q	Quadruple	Т	Triple		
Р	Penta	Q	Quadruple		
Н	Six	Р	Penta		
0	Octo (eight)	Н	Six		
8 – N	lumber of ports on side C	9 – 0	Cooling option		
S	Single	LC	Liquid cooling		

### **BrightLoop Converters**

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