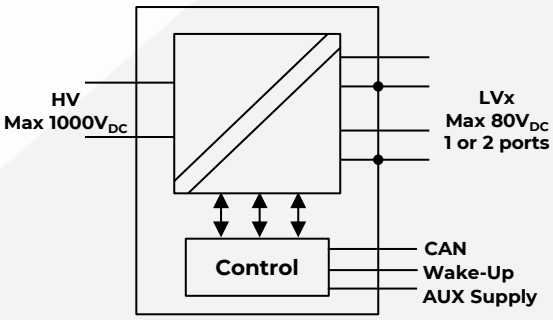
OPTIMUM PRODUCT LINE

DCDC LO

Bidirectional isolated DCDC converter
Design for series production
800V battery compliant
Battery charger / LV network supply
Total continuous power 12kW/600A

KEY FEATURES

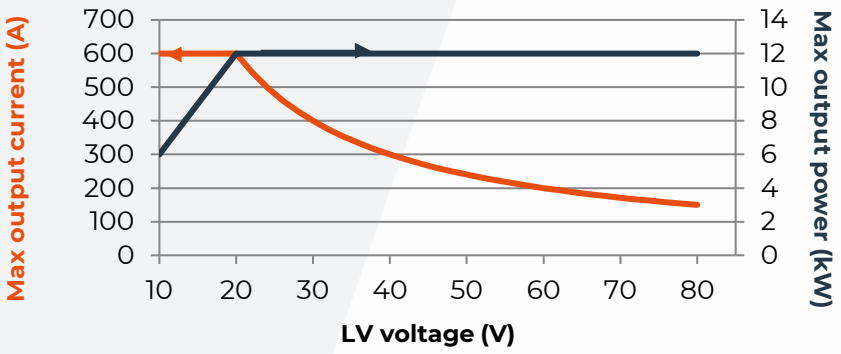
- **Wide HV range: 200 to 1000*V_{DC}**
- **Wide LV range: 0 to 80V_{DC} (CLASS B1 ISO6469-3)**
- **Single or Dual LV ports configuration**
- **CAN Bootloader & Remote Communication**
- **Liquid-Cooling (LC)**
- **HV bus pre-charge**
- **Best-in-class power density**
- **Weight: <5kg**



TECHNICAL SPECIFICATION

HV side	
Voltage	Up to 1000*V_{DC}
LV side	
LV ports configuration	Single or Dual
Voltage setpoint	Up to 80V_{DC} (set by CAN)
Static precision	1%
Current limit	0 to 600A (set by CAN)
Current limit accuracy	<3%
Short circuit protection	Current regulation at setpoint value down to 0V
Continuous power	12000W
Line + load regulation	10% for 0-100% step load (without battery)
Efficiency	
Global efficiency	> 96%
Environment	
Environmental protection	IP68 IP6K9K
Altitude	Up to 4000m (12000ft)
Cooling	Liquid temperature 65°C max
Operating temperature range	From -40°C to 80°C ambient
Storage temperature range	From -40°C to 100°C
Weight	TBC

**For higher voltage, please refer to BrightLoop*



BrightLoop Converters

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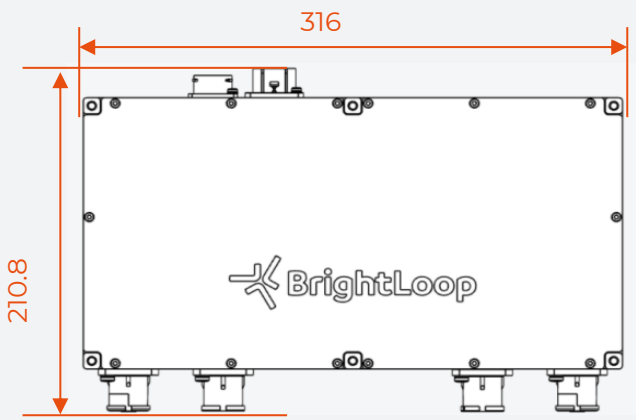
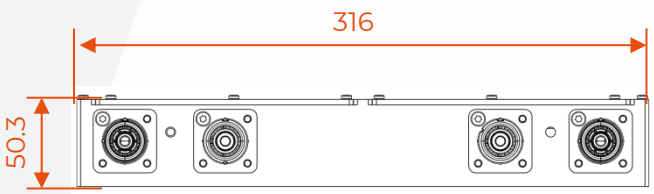
DCDC LO

TECHNICAL SPECIFICATION

CAN Interface	
Bus speed	125Kbps to 1Mbps (set by CAN)
Conversion modes	HV -> LV
	LV -> HV
	LV <-> LV (in dual LV configuration)
Controls	LV current limit (1A resolution) HV current limit (0.1A resolution)
	LV voltage setpoint (0.015V resolution) HV voltage setpoint (1V resolution)
	Power ON/OFF for each LV port
Monitoring	DC/DC Status and errors
	Voltages, currents, temperatures measurements
Identification	Software & Hardware revision
	Bootloader for CAN software update
Conformity & approval	
HV/LV insulation	4000V_{DC} Reinforced isolation (tested 60 sec.)
Safety	EN 62368-1
	ECE R100
	ISO26262 (ASIL B)
Approvals	ECE R10
	LV124
Mechanical	
Dimensions	316x210.8x50.3mm **(TBC)**
Housing	Aluminum with conductive anti-corrosion treatment
HV connector	Amphenol PL082X-61-2.5 (with security loop)
LV connectors	Amphenol SurLok Plus 10mm
Signals connector	Souriau UTS 6JC 12E 14S
Cooling Connector	12mm nominal diameter (customizable)

OUTLINE DRAWING





Dimensions in mm

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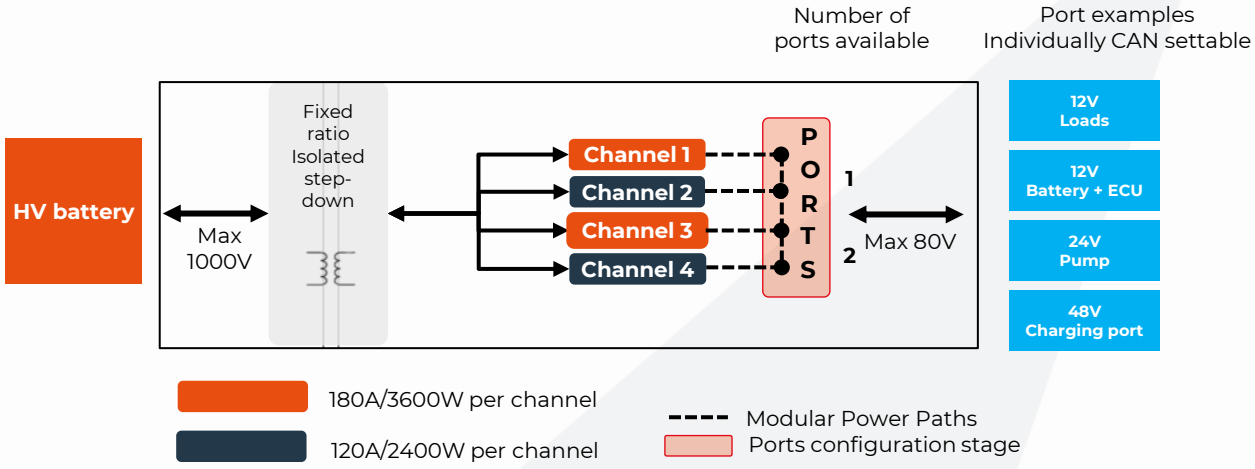
Ordering code logic



1 – Product family		2 – Package size	
DCDC	Isolated DCDC converter	L	Large
3 – Product line		**4 – Number of ports on LV side**	
O	Optimum	S	Single
		D	Dual
5 – Number of channels per PowerPath		**6 – Cooling option**	
See table below		LC	Liquid-Cooling

Configuration name	Number of ports	Channels connected to LV1	Channels connected to LV2	LV1 capacity	LV2 capacity
0	S	1 & 2	3 & 4	300A/6000W	300A/6000W
1	D	1 & 2	3 & 4	300A/6000W	300A/6000W
2	D	1, 2 & 3	4	480A/9600W	120A/2400W
3	D	1	2,3 & 4	180A/3600W	420A/8400W

V22.03

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