

CONV-DCDC-22KW-BIKS-01-H SMART NON ISOLATED REVERSIBLE DC/DC CONVERTER Liquid cooling

TAME-POWER DC/DC converters allow to transfer up to 1 megawatt on 100V to 950V input and output voltage ranges.

TAME-POWER high voltage DC/DC converters perfectly adapt to applications of the on-road, off-road, stationary, aeronautics and marine markets and easily embed architectures integrating: fuel cells, batteries, super-caps and auxiliary power supplies.

As a specialist in high-reliability power conversion solutions, TAME-POWER brings over 50 years of expertise in electronic systems to the table. Our commitment lies in providing tailored products that blend efficiency, performance, and power density to address diverse mobile and fixed application needs. At TAME-POWER, we understand that every customer comes with unique requirements. Therefore, our philosophy revolves around partnering with clients throughout the product development process to ensure we deliver solutions that precisely match their specifications.

DC/DC HVHV CONVERTER FEATURES



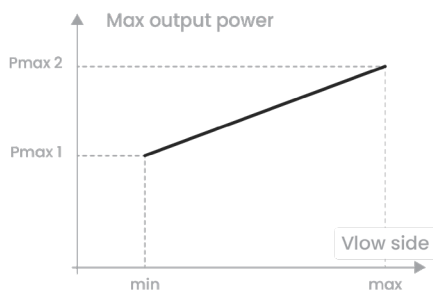
- High efficiency (up to 98 %) using Silicon Carbide (SiC) technology
- Smart DC/DC converter, programmable as current or voltage source
- Control according to voltage, current or power, input or output
- Operations controlled through isolated CAN 2.0B
- Parallelization of DC/DC modules for higher power delivery
- Liquid cooling

GENERAL DATA AND OPERATING CONDITIONS

PARAMETER	CONV-DCDC-22KW-BIKS-01-H	Remark
High side range	550 V – 950 V	-
Low side range	100 V – 450 V	-
Rated output current	150 A	-
Power range (1)	7 kW- 22 kW	-
Efficiency	>98%	-
Pressure drops / loss	900 mBar max	Flow 6 L/min
Cooling	Liquid cooling	Pure-water
Relative humidity	10% to 90%	-
Regulation modes (at both sides)	Current/ Voltage/ Power	* Special regulation for batteries application is available.
Main supply voltage range	10.5 - 32 Vdc	-
Power supply consumption	6W max	-
Power supply current	0.6 A max	-

* For more details, please refer to user manual or send an email to contact@tame-power.com

(1)Permanent maximum output power



The maximum power the DCDC converter can provide is related to Vlow side range according to the chart beside.

- (1) : Pmax1 = 7 kW @ Vlow side min = 100V
Pmax2 = 22 kW @ Vlow side max = 450V

CAN 2.0B

CAN 2.0B		Units
Default speed	500	kbits/s
CAN frames periodicity	100	ms
Frame Id (extend frame identifier)	29	bits

COOLING PARAMETERS

	Value	Units
Flow rate	3 to 6	L/mn
Pressure max	5	Bar
Inlet liquid temperature	-40°C to +65 °C	°C
Over temperature protection	65 to 80	Derating
Fluid Tank capacity	151,7	cm ³

ENVIRONMENT DATA

	Value	Units
Galvanic insulation between power circuit and chassis-control inter-tace	2.5	kV
Insulation resistance	10	MΩ
Operating ambient temperature	-40 to +85	°C
Storage temperature range	-40 to +105	°C
Ingress Protection	IP65	-
Altitude (full performance)	2000	m

APPLICATION EXAMPLES

- Fuel cell power
- Battery systems
- Super capacitors
- Chargers
- Loads
- Motors

STANDARDS

Isolation	CEI 60664-1
EMC	R10
Control circuit supply voltage	ISO 16750-2 mode D
Mechanical loads	ISO 16750-3
Climatic loads	ISO 16750-4 code G
Chemical loads	ISO 16750-5 mounting location A
Electrical vehicle safety	R100
Safety feature	Hazardous Voltage Interlock Loop (HVIL)
Shock and Vibration	ISO 16750-3
Electrical safety	ISO 6469-3

- Currently product maturity: [B sample](#)

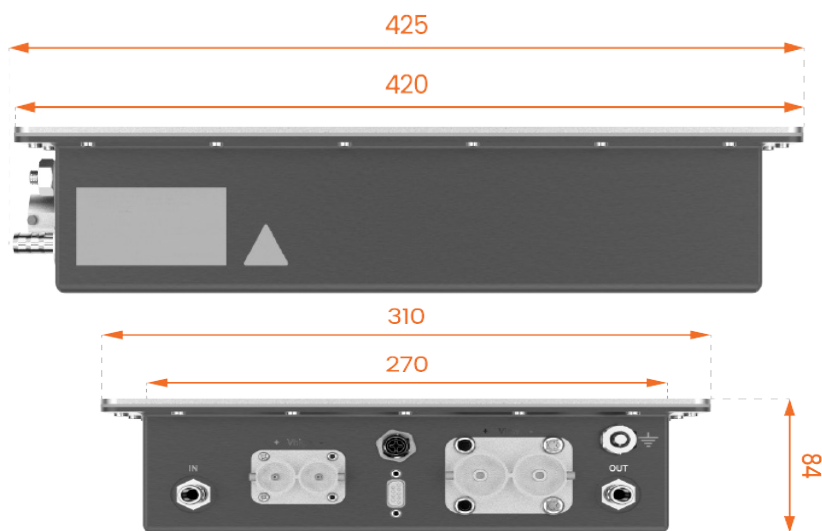
MECHANICAL DATA

Connectors	Supplier	Reference	Match with
V _{LOW} side	Amphenol	PL082X-301	Molded or not Right angle or straight
V _{HIGH} side	Amphenol	PL082X-121	Molded or not Right angle or straight
CAN + Service voltage*	Phoenix Contact	1441655 - A Coded - 5	Phoenix contact - 1663116
Cooling connectors	Legris	0931 10 13	Pipe with 10mm inner of diameter
Casing grounding	-	MS x 1 7 mm Threaded rod	-
HVIL*	-	DB9 female	DB9 male

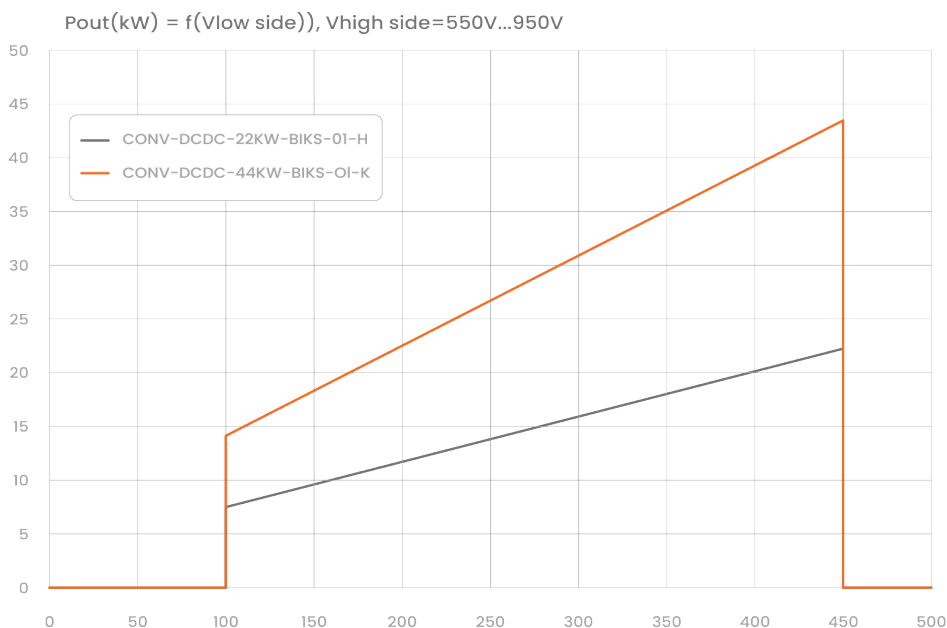
*Match with our TAME-POWER starter kit

WEIGHT AND DIMENSIONS

Weight	11 kg
Housing material	Aluminum
Length	420 mm
Width	310 mm
Height	84 mm



POWER CHARTS FOR CONVERTERS REFERENCES



OTHER PRODUCTS AND ACCESSORIES

Below you can find the other product families created by TAME-POWER. Each product can be fully customized to meet specific requirements.

STARTER KIT

- This kit for liquid or air cooled DCDC converters allows controlling a DCDC converter unit by direct connection to a power supply and a PC or a laptop.
- Include CAN communication probe and service power cables.
- The provided HMI software propose a user-friendly access to the main functions of the converter.



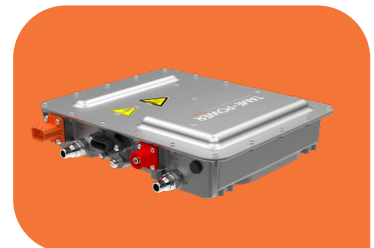
POWER CABLES

- High side and low side power connection cables to transfer energy between the converter and your systems.
- The choice of cables will depend on the type of converter - single or double.
- Cables have open end on one side to allow custom connectors application.



CISO: New HVLV isolated converter

- Isolated Buck DC/DC converter in a liquid cooled version.
- Allow regulation according to input voltage.
- Applicable to battery systems and electric vehicles.



COMET V2.4 : HVHV non-isolated converter

- Non-isolated reversible DC/DC converter in a liquid cooled version.
- Allows regulation according to voltage, current or power, input or output.
- Applicable to fuel cell power, battery systems, super capacitors, chargers, loads and motors.



COMET AIR : HVHV air cooled converter

- Non-isolated reversible DC/DC converter in air cooled version.
- Allows regulation according to voltage, current or power, input or output.
- Applicable to fuel cell power, battery systems, super capacitors, chargers, loads and motors.

