

Datasheet

Convy Series V2.4

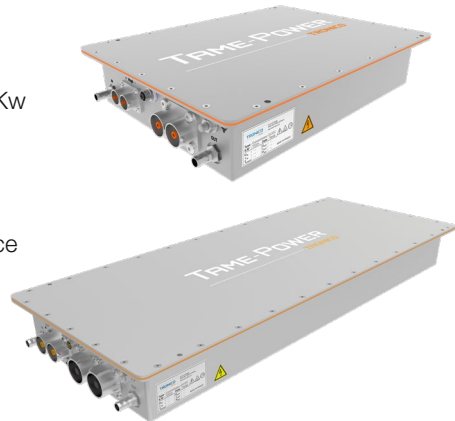
IMPLEMENT FASTLY AND CONVENIENTLY YOUR SMART BRIDGE: CONVY 2.4 – Liquid cooling

NEW VERSION

- Fully compatible with past version
- Increase power density and ensures power optimization up to 136Kw

FEATURES

- Smart DC/DC converter, programmable as current or voltage source
- Optimized max power according to the POWER MAP
- 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

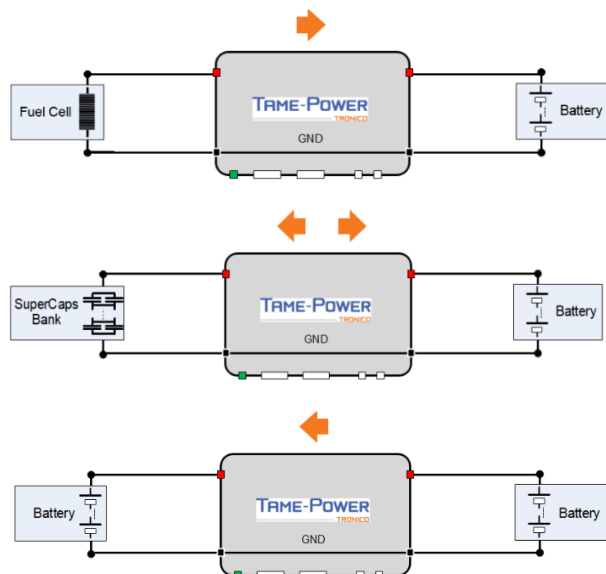


TYPICAL APPLICATIONS

- Fuel cell power
- Battery systems
- Super capacitors
- Chargers
- Solar panel

APPLICATION NOTES

- Example of Boost application - Fuel Cell to Battery
- Example of Buck and Boost application – SuperCaps Bank to Battery
- Example of Buck application – Battery to Battery



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PRODUCT REFERENCES

	Max Efficiency @PMax	Average Efficiency @PMax	Max Power Single Unit	Max Power Double unit	Vlow Min	Vhigh Max
CONVY-DCDC-800V-07-XX-00	99.5%	>96%	54 kW	108 kW	35 V	800 V
CONVY-DCDC-800V-11-XX-00			62 kW	124 kW		
CONVY-DCDC-800V-15-XX-00			68 kW	136 kW		

COMMUNICATION & MONITORING

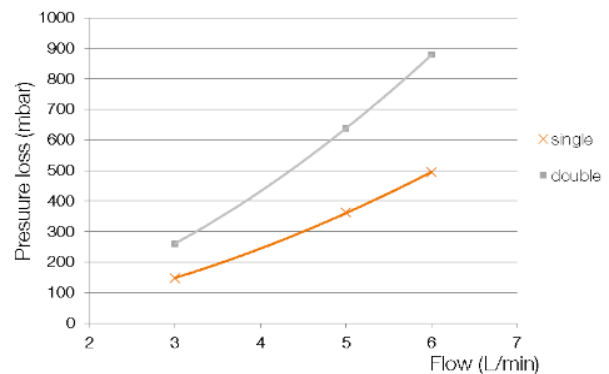
	Typology	Max	Units
CAN 2.0B bus speed		500	Kb/s
CAN periodicity	20		ms
Measured voltages accuracy	±0.7	±2	% of full scale
Measured Low Side current accuracy	±1.9	±3	% of full scale
Measured High Side current accuracy	±1.7	±2.5	% of full scale
Measured internal temperature accuracy	±1	±3	°C
Service Power Supply - Voltage		32	V
Service Power Supply - Power consumption (SINGLE / DOUBLE)		7/15	W

COOLING PARAMETERS

	Min	Typ.	Max	Units
Flow rate	3	5	6	L/mn
Pressure			5	Bar
Inlet liquid temperature	-40		+65	°C

REGULATION MODES

	Current	Voltage	Power
According to Low side	✓	✓	✓
According to High side	✓	✓	✓



Special regulation for batteries application. For more details, please refer to user manual or send an [email](#).

ENVIRONMENT DATA

	Min	Typology	Max	Units
Galvanic insulation between power circuit and chassis-control interface (1min test)			3.0	kV
Insulation resistance	100			MΩ
Ambient temperature (operating)	-40		85	°C
Ingress Protection		IP65		-

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STANDARDS USED FOR DESIGN

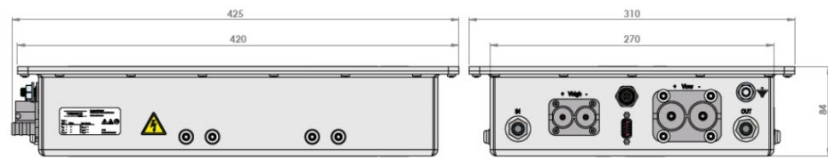
Isolation	CEI 60664-1
EMC	R10
Control circuit supply voltage	ISO 16750-2 mode D
Mechanical loads	ISO 16750-3
Climatic loads	ISO 16750-4 code G
Chemical loads	ISO 16750-5 mounting location A
Electrical vehicle safety	R100

PRODUCT MATURITY

- Currently: [C sample](#)

MECHANICAL DATA

- Single unit - dry weight: 14 kg



- Double unit – dry weight: 22 kg



Connectors	Supplier	Single Unit	Double Unit
V Low side		PL082X-300	PL00X-500 & PL00Y-500
V High side	Amphenol	PL082X-120	PL082X-300
CAN + Service voltage	Phoenix Contact	1441655 - A Coded - 5 positions	
Cooling connectors	Legris	0931 10 13	
Casing grounding	-	M8 x 17 mm Threaded rod	
HVIL	-	DB9 female	

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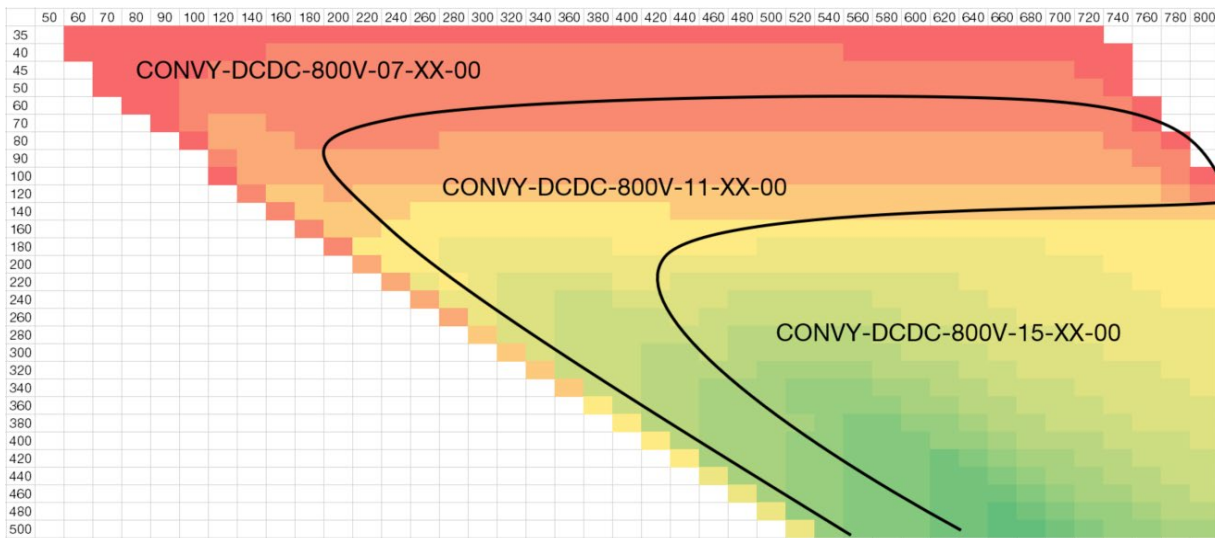
POWER MAP: MAP POWER CAPABILITY ACCORDING TO LOW SIDE AND HIGH SIDE VOLTAGE

- Tame-Power DCDC converters embed a powerful software that permanently calculates the maximum power the device can transfer.
- The calculation is done in real-time, according to the values of low side voltage and high side voltage.
- The Power Maps aim to bring you a clear overview of how the features change according to the operating point.
- This allows you to optimize the overall performance of your whole system by selecting the best voltage ranges to operate.

Max output power (kW) when the DCDC converter operates at Vlow side = 110V, Vhigh side = 180V

Vhigh side Vlow side ↓	100	120	140	160	180	200	220
85	2	4	6	7	7	8	9
90	2	4	6	8	8	8	10
95	1	3	6	8	8	9	11
100		2	5	8	8	10	12
110			4	8	10	12	12
120				8	10	12	14
130				8	10	12	14
140				6	8	12	14
150				6	8	12	16
160					4	10	14

Maximum output power according to Vlow side and Vhigh side



Power Map and optimal power area

- Each product reference has its own Power Map. For any detailed information please contact our sales team: contact@tame-power.com

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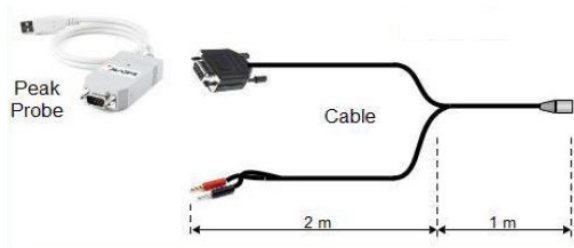
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OTHER PRODUCTS AND SMART ACCESSORIES

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

STARTER KIT

- Smart Starter Kit for liquid cooled DCDC converters allows controlling a DCDC converter unit by direct connection to a power supply and a PC or a laptop.
- The provided HMI software propose a user-friendly access to 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.



COMETI

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



COMETAIR

- Smart 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.

