

Datasheet CISO Series

ISOLATED BUCK HV/LV DC/DC CONVERTER Liquid cooling

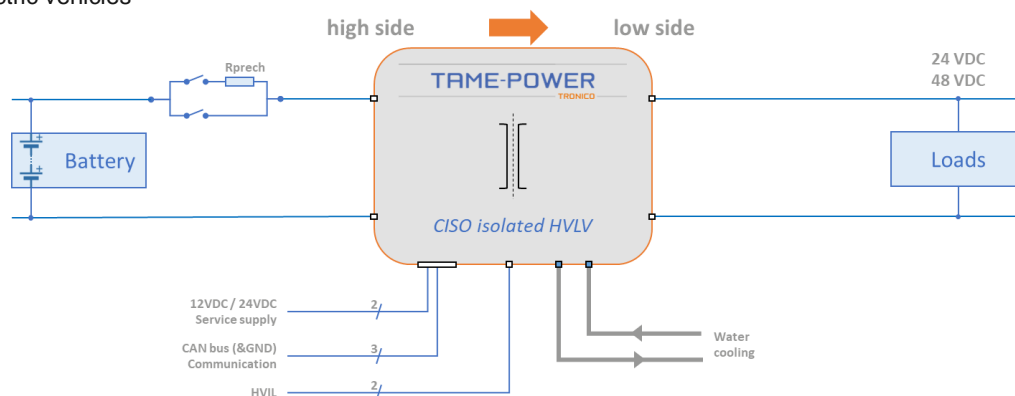
FEATURES

- Smart DC/DC converter, programmable as voltage source
- Buck mode
- EN61010 isolation between HV and LV
- HVIL on input voltage
- Operations controlled through isolated CAN 2.0B
- Full quick connect on liquid cooling connections.
- Liquid cooling



TYPICAL APPLICATIONS

- Battery systems
- Electric vehicles



PRODUCT REFERENCES

	Max Efficiency @P _{max}	Low Side Max Current	V _{low} Min	V _{low} Max	Max Output Power	V _{high} Min	V _{high} Max
CISO-DCDC-900V-48V-12KW-00	94%	250 A	36 V	56 V	12 kW	200 V	900 V
CISO-DCDC-900V-24V-6KW-00			18 V	36 V	6 kW		

COMMUNICATION AND MONITORING

	Min.	Typ.	Max	Units
CAN 2.0B bus speed (CAN FD)			1000	Kb/s
CAN periodicity		50		ms
Measured voltages accuracy		±0.5	±1	% of full scale
Measured low side current accuracy		±1.5	±3	% of full scale
Measured cooling temperature accuracy		±0.5	±1	°C
Auxiliary supply	6,5	24	60	V
Service Power Supply – Power consumption			6	W

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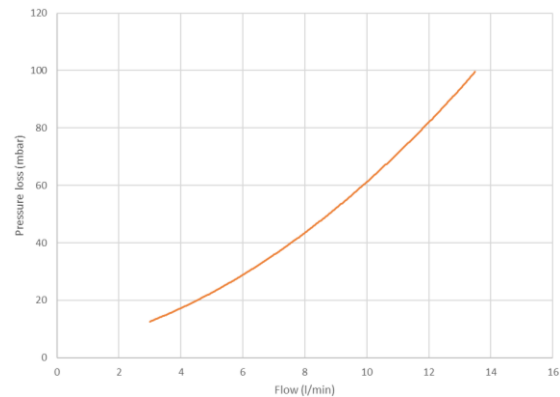
REGULATION MODES

	Current	Voltage
Output regulation		✓
Output limitation	✓	

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

COOLING PARAMETERS

	Min	Typ.	Max	Units
Coolant Flow rate	3	5 - 7	13,8	l/min
Pressure drop (@14l/min, T=25°C)			100	mbar
Coolant Pressure			2	bar
Inlet liquid temperature	-30		65	°C



Relation between the pressure loss and the flow rate @25°C

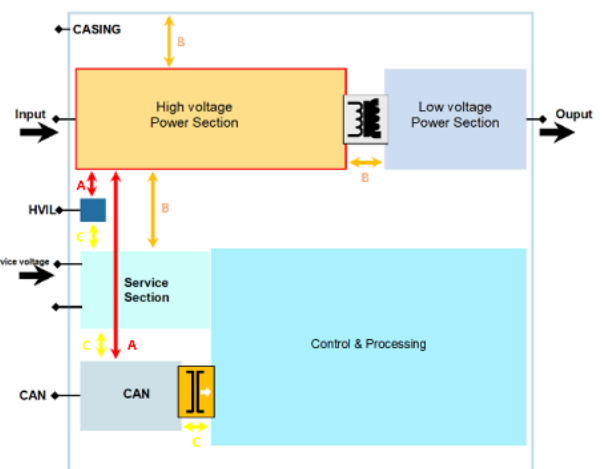
ENVIRONMENT DATA

	Min	Typ.	Max	Units
Ambient temperature (operating)	-40		85	°C
Ingress protection		IP6K9K		-

INTERNAL STRUCTURE AND ISOLATION TABLE (TEST 1MN)

	HS power	LS power	Power service	CAN 1	CAN 2	HVIL	Casing
HS power	-	B	B	A	A	A	B
LS power	-	-	G	C	C	C	G
Service voltage	-	-	-	C	C	C	C
CAN 1	-	-	-	-	C	C	C
CAN 2	-	-	-	-	-	C	C
HVIL	-	-	-	-	-	-	C
Casing	-	-	-	-	-	-	-

A	Reinforced EN61010 Insulation
B	Main EN61010 Insulation
C	Functional Insulation 500V
G	Common GND



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STANDARDS USED FOR DESIGN

EMC	R10
Functional safety	ISO 26262 - ASIL B ready
Control circuit supply voltage	ISO 16750-2
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: [A sample](#)

MECHANICAL DATA*

*: External dimensions may slightly vary

- Weight: 9 kg



Connectors	Supplier	Reference
Input Voltage	APTIV	Shield-Pack HV 280 SI
Output Voltage positive	AMPHENOL	SURLOK +
Output Voltage negative (casing)	STANDARD	SCREW M8
CAN + Service voltage + HVIL	HIROSE	ZE064W
Cooling connectors	NORMAQUICK	PS3 NW12
Casing	--	Threaded stud M8x17



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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.

COMET V2.4 : HVHV non-isolated converter



- Non-isolated reversible DC/DC converter in 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.