

# Datasheet

## CISO Series

### ISOLATED BUCK HVLV DC/DC CONVERTER

#### Liquid cooling

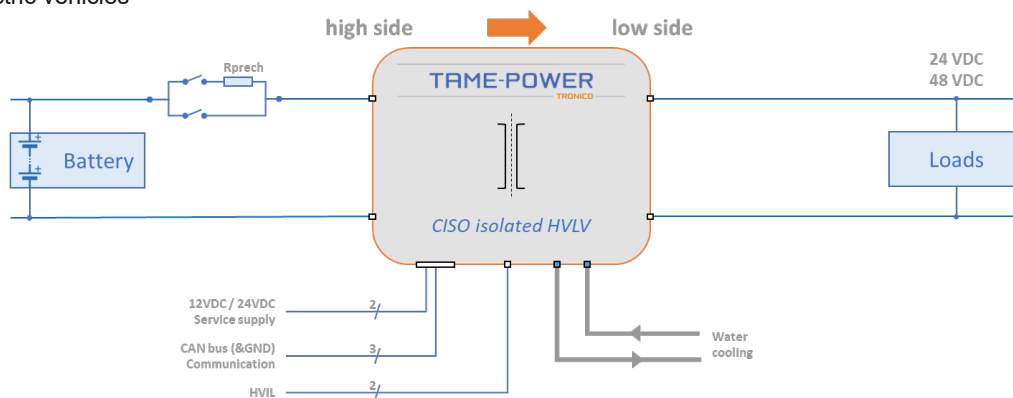
#### FEATURES

- Smart DC/DC converter, programmable as voltage source
- Buck mode
- EN61010 insulation between HV and LV
- HVIL on input voltage
- Operations controlled through isolated CAN 2.0B
- Full quick connect on liquid cooling connection
- Liquid cooling
- ISO 26262 - ASIL B ready



#### TYPICAL APPLICATIONS

- Battery systems
- Electric vehicles



#### PRODUCT REFERENCES

	Max Efficiency @P <sub>max</sub>	Low Side Max Current	V <sub>low</sub> Min	V <sub>low</sub> Max	Max Output Power	V <sub>high</sub> Min	V <sub>high</sub> Max
CISO-DCDC-800V-48V-12KW-00	94%	250 A	36 V	56 V	12 kW	200 V	900 V
CISO-DCDC-800V-24V-6KW-00			18 V	36 V	6 kW		

#### COMMUNICATION AND MONITORING

	Min.	Typ.	Max.	Units
CAN 2.0B bus speed (CAN FD)	-	-	1	Mbits/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

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Service Power Supply – Power consumption	-	-	12	W
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### REGULATION MODES

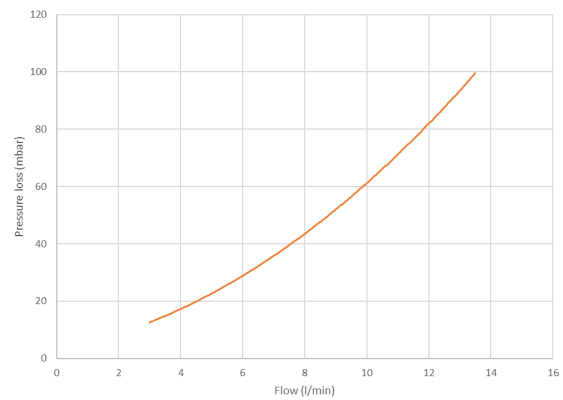
	Current	Voltage
Output regulation		✓
Output limitation	✓	

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

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### COOLING PARAMETERS

	Min.	Max.	Units
Coolant Flow rate	3	15	l/min
Pressure drop (@ 14 l/min, 25 °C)	-	100	mbar
Coolant Pressure	-	2	bar
Inlet liquid temperature	-30	+65	°C



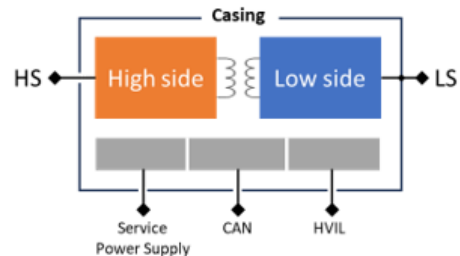
Relation between the pressure loss and the flow rate @25°C

### ENVIRONMENT DATA

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

### INSULATION TABLE

	HS	LS	Service Power Supply	CAN	HVIL	Casing
HS	-	B	B	A	A	B
LS	-	-	G	C	C	G
Service Power Supply	-	-	-	C	C	C
CAN	-	-	-	-	C	C
HVIL	-	-	-	-	-	C
Casing	-	-	-	-	-	-



A	Reinforced insulation 4.7KV
B	Main insulation 3KV
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

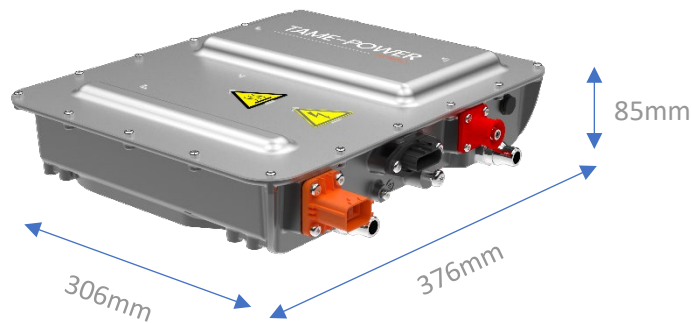
- Currently: [B sample](#)

### MECHANICAL DATA\*

\*: External dimensions may slightly vary

- Weight: 9 Kg
- Dimension: L mm x H 85mm

306 mm x W 376



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 power supply + 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.