

Smart DC/DC Converter Reversible

CONVY productline - Liquid cooled version

FEATURES

- Programmable DC/DC Smart Converter as current or voltage source
- Regulation according to Voltage, Current or Power
- Regulation of the Input or the Output
- Buck / Boost transition controlled by CAN command
- Parallel operations of several modules for higher power delivery (current source or power source modes only)
- Liquid cooled
- Insulated CAN 2.0B connectivity

APPLICATIONS

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

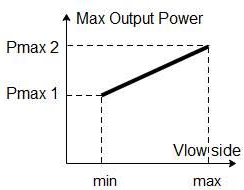


SINGLE unit



DOUBLE unit

PERMANENT MAX OUTPUT POWER



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

See example (1) : Pmax1 = 4 kW @ Vlow side min = 50V
Pmax2 = 25 kW @ Vlow side max = 250V
For any value of Vhigh side range

		Vhigh side range					Eff.	Size	Reference
		200 ... 400V	300 ... 500V	500 ... 700V	600 ... 700V	550 ... 950V			
Vlow side range	35 ... 140V	4 - 7,5kW (*)					98%	SINGLE	CONV-DCDC-7KW5-ACDH-01-H
		8 - 15kW (*)						DOUBLE	CONV-DCDC-15KW-ACDH-01-K
	50 ... 250V		4 - 25kW (1)				98%	SINGLE	CONV-DCDC-25KW-AEFJ-01-H
			8 - 50kW					DOUBLE	CONV-DCDC-50KW-AEFJ-01-K
	50 ... 300V			5 - 25kW			98%	SINGLE	CONV-DCDC-25KW-AFJN-01-H
				10 - 50kW				DOUBLE	CONV-DCDC-50KW-AFJN-01-K
	150 ... 400V			16 - 32 kW			98%	SINGLE	CONV-DCDC-32KW-CHJN-01-H
				32 - 64 kW				DOUBLE	CONV-DCDC-64KW-CHJN-01-K
	300 ... 400V				35 - 40 kW		97%	SINGLE	CONV-DCDC-40KW-FHLN-01-H
					70 - 80 kW			DOUBLE	CONV-DCDC-80KW-FHLN-01-K
	100 ... 450V					7 - 22 kW	98%	SINGLE	CONV-DCDC-22KW-BIKS-01-H
						14 - 44 kW		DOUBLE	CONV-DCDC-44KW-BIKS-01-K

(*) : Boost only

COMMUNICATION AND MONITORING

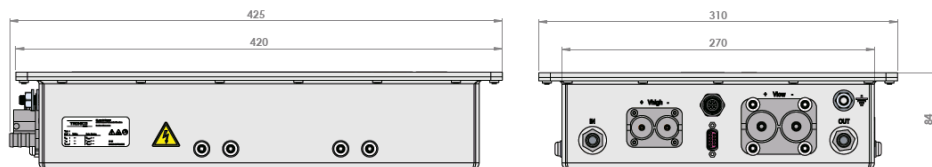
	MIN	TYP.	MAX	UNITS
CAN 2.0B bus speed	125		500	Kb/s
CAN periodicity		100		ms
Measured voltages accuracy		±0.7	±2	% of full scale
Measured Low Side current accuracy		±1.9	±3	% of full scale
Measured High Side current accuracy		±1.7	±2.5	% of full scale
Measured internal temperature accuracy		±1	±3	°C
Service Power Supply - Voltage	10.5		32	V
Service Power Supply - Power consumption (SINGLE / DOUBLE)	2		6 / 12	W

REGULATION MODES

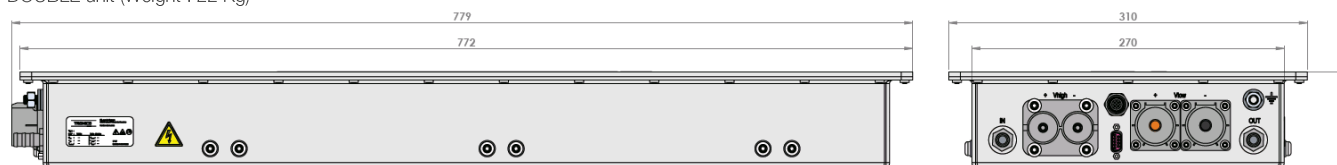
	CURRENT	VOLTAGE	POWER
According to Low side	✓	✓	✓
According to High side	✓	✓	✓

MECHANICAL DATA

SINGLE unit (Weight : 11 kg)



DOUBLE unit (Weight : 22 Kg)

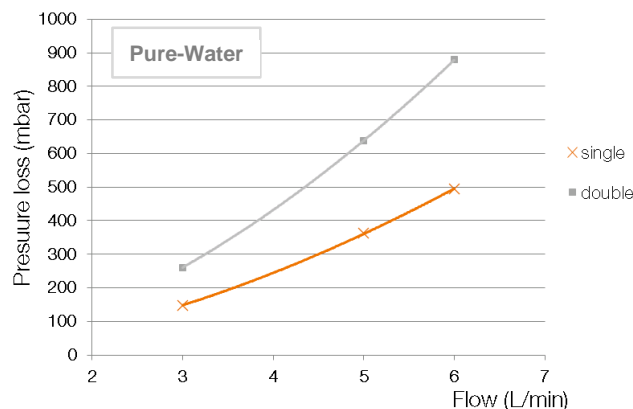


CONNECTORS

	SUPPLIER	SINGLE unit	DOUBLE unit
V Low side	AMPHENOL	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	

COOLING PARAMETERS

	MIN	TYP.	MAX	UNITS
Flow rate	3	5	6	L/mn
Pressure			5	Bar
Inlet liquid temperature	0		+65	°C



ENVIRONMENT DATA

	MIN	TYP.	MAX	UNITS
Galvanic insulation between power circuit and chassis-control interface (1min test)			3.0	kV
Insulation resistance	10			MΩ
Ambient temperature (operating)	-40		85	°C
Ingress Protection		IP65		-

STANDARDS USED FOR DESIGN

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