

Smart DCDC Converter Reversible

CONVY productline - Air cooled version

FEATURES

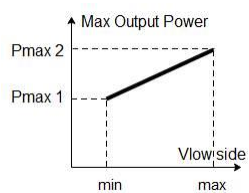
- Programmable DCDC Smart Converter as current or voltage source
- Regulation according to Voltage, Current or Power
- Regulation of the Input or the Output
- Buck / Boost transition controlled by CAN command
- Parallel operations of several modules for higher power delivery (current source or power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

APPLICATIONS

- Fuel cells
- Electrical vehicles range extenders
- Super capacitors
- Battery systems



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 = 3 kW @ Vlow side min = 50V
Pmax2 = 20 kW @ Vlow side max = 220V
For any value of Vhigh side range

| Vlow side range | Vhigh side range | Eff. @Pmax | Size | Reference |
|---|------------------|------------|--------|--|
| | | | | |
| 35 ... 120V 50 ... 220V 50 ... 220V 150 ... 400V 300 ... 400V 100 ... 450V | 3 - 5kW (*) | 98% | SINGLE | xx = 02 for 12 V Service power Supply xx = 03 for 24 V Service power Supply |
| | 3 - 20kW (1) | 98% | SINGLE | |
| | 4 - 11kW | 98% | SINGLE | |
| | 12 - 25kW | 98% | SINGLE | |
| | 28 - 32 kW | 97% | SINGLE | |
| | 5.5 - 17kW | 98% | SINGLE | |

(*) : Boost only

COMMUNICATION AND MONITORING

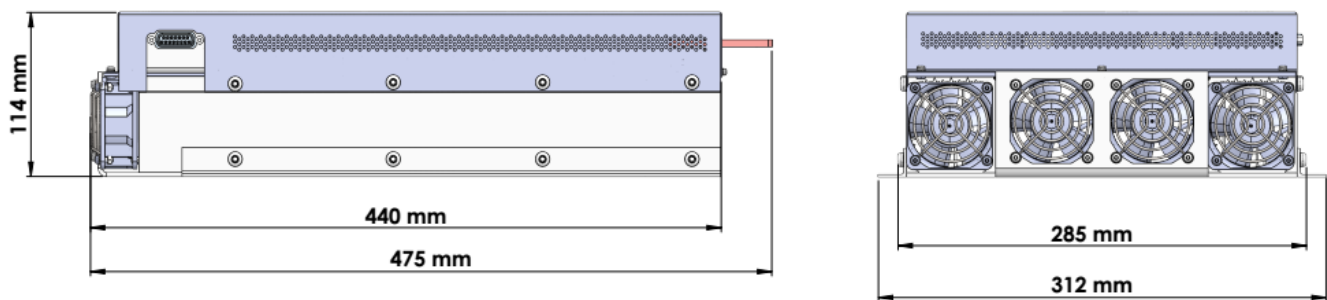
| | MIN | TYP. | MAX | UNITS |
|--|-----|------|------|-----------------|
| CAN 2.0B bus speed | 125 | | 500 | Kb/s |
| CAN periodicity | | 100 | | ms |
| Measured voltages accuracy | | ±0.7 | ±2 | % of full scale |
| Measured Low Side current accuracy | | ±1.9 | ±3 | % of full scale |
| Measured High Side current accuracy | | ±1.7 | ±2.5 | % of full scale |
| Measured internal temperature accuracy | | ±1 | ±3 | °C |
| Service Power Supply - Voltage (12V option) | 9 | 12 | 13.5 | V |
| Service Power Supply - Voltage (24V option) | 18 | 24 | 28 | V |
| Service Power Supply - Power consumption (fans included) | 1 | | 30 | W |

REGULATION MODES

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

MECHANICAL DATA

SINGLE unit (Weight : 11 kg)



CONNECTORS

| | |
|-----------------------|----------------------------------|
| V Low side | Copper Bus bar 5 x 16 mm section |
| V High side | |
| CAN + Service voltage | DB15 |

COOLING PARAMETERS

| | MIN | TYP. | MAX | UNITS |
|---------------------------|-----|------|-----|-------------------|
| Air flow rate (permanent) | | | 268 | m ³ /h |
| Inlet air temperature | | | 55 | °C |

ENVIRONMENT DATA

| | MIN | TYP. | MAX | UNITS |
|---|-----|------|------|-------|
| Galvanic insulation between power circuit and chassis-control interface (1min test) | | | 3.0 | kV |
| Insulation resistance | 2 | | | MΩ |
| Ambient temperature (operating) | -40 | | 55 | °C |
| Ingress Protection | | | IP20 | - |

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 |

MOUNTING CONFIGURATIONS in 19" CABINET



Quadruple unit, 19" rack mounting

Single unit 3U – 19" rack mounting

POWER CHART FOR CONVERTER REFERENCES

