DCC2

DC/DC converters

The DCC2 is a family of DC/DC converters for all vehicle types, electric as well as hybrid.

A DCC gives you the freedom to design your vehicles with the features and functions your customers want. All models have selectable output voltages to suit your applications. Connect DCCs in parallel to get even higher output power.

The DCC meets industry standards for cybersecurity, functional and electrical safety to let you focus on your core business without worrying about service issues.

Our PLASMA software platform offers you a highly customizable collection of standard vehicle functions that meet demanding functional safety requirements. With PLASMA, you benefit from many years of experience with different kinds of applications.

Inmotion is a long-term, global supplier of electric motors, motor controllers, inverters and auxiliary equipment for commercial vehicles. Our "In-region, for-region" manufacturing strategy brings our production facilities closer to yours. This gives you higher quality at a lower cost and shorter lead time. We work in close cooperation with you to integrate and configure our products to your specific needs. Realize your vehicles for emission-free transport solutions.

DCC2 is a flexible standard platform

- **High efficiency** (up to 95 %) using Silicon Carbide (SiC) technology
- **Documentation** in accordance with **AIAG PPAP** standard
- **Liquid (WEG) cooling** for compact design
- **Adjustable output voltage** and **current output limitation** for best adaptability to different uses
- **Increase output power** by connecting multiple units in **parallel**

Safety and protection

- **Insulation** between input and output voltage **for personal safety**
- **Extensive** and **powerful event handling** and **data logging** simplify troubleshooting and minimize vehicle downtime

Maximize operating time by minimizing service time

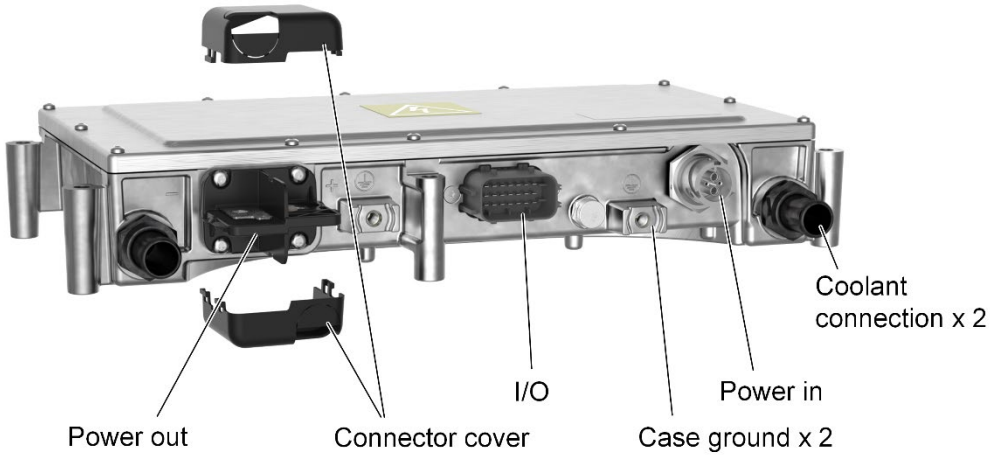
- **Field-proven control software platform** used for both industrial and on-road vehicles
- **Best-in-class quality and reliability**, achieved through superior design, world-class manufacturing processes and field experience
- Rugged **IP6K9K design** suitable for the demanding environment of electric vehicles

GENERAL

Communication	CAN (CANOpen, J1939)
Control mode	Voltage or current
Shock and Vibration	ISO 16750-3
Electrical safety	ISO 6469-3
Logic supply	8-36 V
Restriction of hazardous substances	According to RoHS 3

CONNECTIONS

I/O logic connector	MCP connector (21 pins)
Low side connection (power out)	Screw connections for cable lugs (M8 and M10)
High side connection (power in)	Amphenol C91-665343-AFS



MATING CONNECTOR COMPATIBILITY

Mating connector shape	Power in connection	Power out connection
Straight	✓	✓
Angled	✓	✓

TEMPERATURE AND COOLING

Required WEG coolant flow	5-18 l/min
Coolant temperature	-40 °C to +65 °C
Pressure drop	< 20 kPa at 65 °C and 6 l/min
Ambient operating temperature (with WEG cooling active according to the product manual)	-40 °C to +85 °C
Maximum operating altitude above sea level	4 000 m
Recommendations for short-term storage/transportation Temperature Relative humidity	 - 40 °C to + 85 °C < 60 % (non-condensing)
Recommendations for long-term storage Temperature Relative humidity	 + 10 °C to + 30 °C < 60 % (non-condensing)

SAFETY AND PROTECTION

Protection class	IP6K9K (increased pressure to 140 bar) IP67 Test ISO 20653 (with mating connectors installed)
Safety feature	Hazardous Voltage Interlock Loop (HVIL)
EMC	UN ECE R10

I/O SUMMARY

I/O type	**Interface [Number]**
UNIT_ENABLE	2
HVIL loop	1
Address pins	3 selectable inputs
CAN	1
Logic supply	1
Battery voltage sensor analog input	1

RATINGS

Model	**Input Voltage range [V]**	**Nominal output voltage [1] [V]**	**Max output current [2] [A]**	**Output power [2] [kW]**
DCC35M24	270-480	14.1	135	1.90
		28.3		3.75
DCC65M24	270-800	14.1	270	3.75
	480-800	28.3		7.50

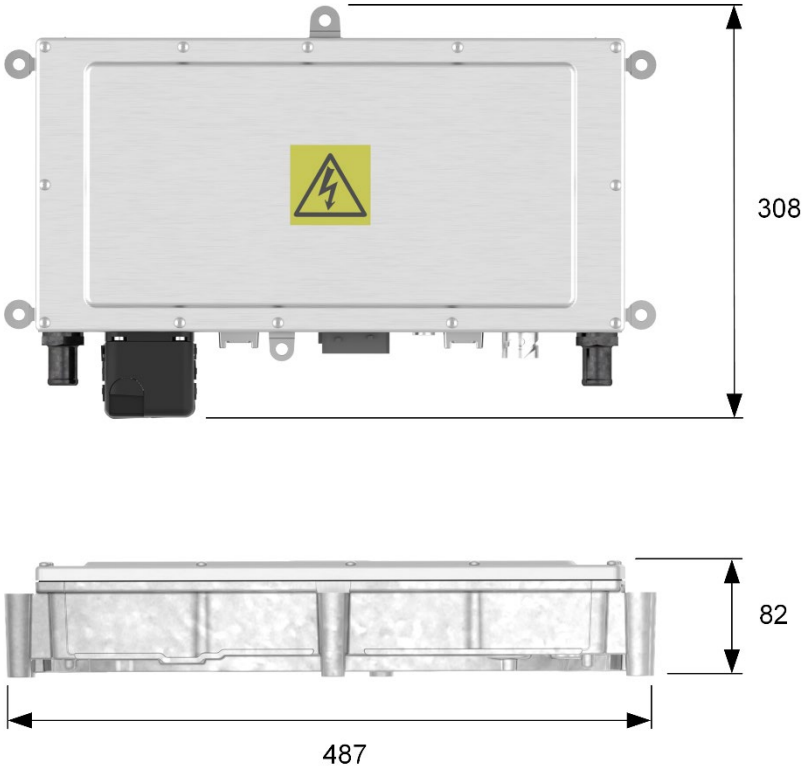
[1] Output voltage is adjustable via CAN or parameter. Typical output voltage for 12/24V battery shown in table

[2] Continuous rating

WEIGHT AND DIMENSIONS

Weight [kg] 9.3

Dimensions [mm]



TOGETHER WE ELECTRIFY THE VEHICLE INDUSTRY –
FOR A SUSTAINABLE FUTURE