

ADVANCED THERMAL MANAGEMENT SYSTEMS TO HELP YOU STAY COOL.



— DC/DC-Converter —



Application specific cooling systems

Heat sink incl. mounting plate and fixing material for mounting on DVCHx3 units

- Heat sink lengthwise
- Heat sink crosswise
- For DVCHx3 units

140240 is lengthwise

140241 is crosswise

ColdPlate for DC/DC converters of the DVCHx3 series

Base body made of aluminum and tube bending body made of stainless steel

- 1/4" Connection thread
- Mounting on base plate of the DVCHx3

#140380

TRANSPORTATION



DEUTRONIC



Q & A

with
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What are some challenges faced by off-highway vehicles?

Off-highway vehicles face many challenges in mobile applications, ranging from vibration and shock to thermal stress, water, and dust. Even high-efficiency converters generate heat that must be dissipated to avoid costly malfunctions and shutdowns. Failure to dissipate heat might result in the vehicle needing to be switched off, creating a disruption for the end user.

How can Deutronic help?

Deutronic has innovative solutions for managing thermal stress challenges. High-performing, compact and cost-effective, our DC/DC-converters for off-highway vehicles have an optimized integrated thermal management concept, even when accounting for ambient temperatures. Our converter designs ensure the best possible heat dissipation via the base plate and an optimal connection of the power components. This focus on heat dissipation with the base plate and an optimal connection of the power components are key elements in our designs.

How can customers choose the right cooling system solution?

The solution depends on the installation situation. Mounting the converters on any heat conducting surface is sufficient for standard usage. But sometimes using such mountings isn't an option. Using a heatsink might help. It increases the dissipation by increasing the surface. This allows cooling via airstream in mobile applications or a fan. If even that is not enough, a cold plate is available. That lets you actively control the cooling with your system. In any case, our engineers can help you find the right solution.

When is a contact cooling solution most applicable?

Contact cooling is the cheapest and easiest way to install the DC/DC-Converter. It is a possible solution if the transducer can be attached in an area of approximately 300x300 mm space with a wall thickness of at least 2mm.

Contact Cooling Features:

- Easy installation
- Maintenance-free
- Compact and robust
- Cost-effective

When should a heatsink be considered?

In cases where there is insufficient surface available on the application for contact cooling, a heatsink can be used as long as there is good airflow. For example, vehicles on the move where airflow is favorable can have the converter mounted in a place where the heatsink is cooled by the airstream.

Heatsink Features:

- Space saving due to independent surface mounting
- Improved, passive cooling
- Maintenance-free
- Robust

Where should a cold plate (liquid cooling) be applied?

A cold plate solution with liquid cooling can be applied where there is already a cooling circuit available. There are some higher costs and design efforts around this solution. But the advantage here is that environmental conditions related to heat have hardly any influence, as long as heat limits of the cold plate are observed. In addition, the cold plate allows for more flexibility on the location of the transducer, as long as an active cooling circuit is available.

Cold Plate Features:

- High flexibility
- Integrates into existing controlled cooling system
- Functions in a wide range of ambient environmental conditions

How can Deutronic help find the right solution?

Deutronic's experts in Germany and the U.S. are available for consultation. When customers call, we discuss the design of the vehicle and the installation space available for the converter. With that information, we'll discuss options and offer recommendations for the best solution.

Deutronic Electronic is a global, family owned company that develops and manufactures intelligent power electronics and test systems for leading OEMs. Founded in 1983, the company is based in Landshut, Bavaria (SE Germany) with service offices in the United States (Spartanburg, S.C.), China, and the Czech Republic.