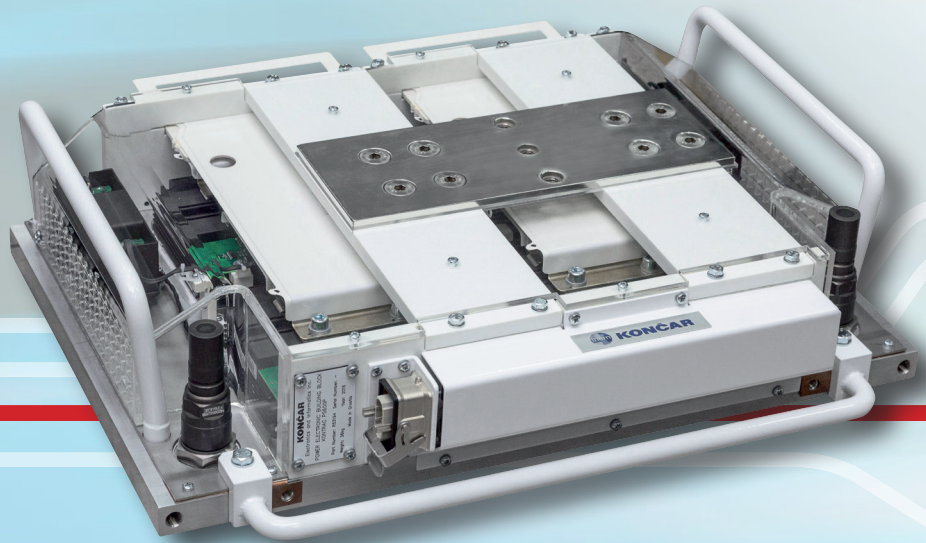


KONTRAC PS800 Power electronic building block

*KONTRAC PS800
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KONTRAC PS800 is a liquid cooled power electronic building block designed for propulsion converters in traction applications. It can be realized in one or two phase leg configuration and can be used as a part of multiple applications such as line converter, motor inverter, step up/down choppers and brake-chopper. The building block concept leads to reduction of size, weight and costs and enables compact and light-weight traction converter design.

Features:

- Latest IGBT technology (same layout for 4.5 and 6.5 kV IGBT modules)
- Single or parallel connected IGBT modules
- Liquid cooled
- Low-inductive bus-bars
- High-voltage insulated DC/DC power supply
- Galvanic isolation via fiber optic
- Slide-in electrical connection to DC link
- Easy maintenance

Consists of:

- IGBT modules
- Liquid cooling plate
- Laminated bus-bars
- Gate drives
- DC/DC power supplies
- Quick coupling liquid connectors
- Temperature sensors

KONTRAC PS800

Control

Gate drives are standalone or they work in master-slave configuration when IGBT modules are connected in parallel. Galvanic insulation is realized with high-voltage insulated DC/DC power supplies. Fiber optic cables are used for transferring control signal from electrical connectors to IGBT drivers. Liquid cooling plate surface temperature measurement is achieved via temperature sensors.

Mechanical design and cooling system

The power electronic building block is designed for installation in traction converters. Modular design of the building block allows an easy maintenance access enabling that each part can be easily replaced. The easy replacement of complete building block itself is achieved by using quick coupling liquid connectors as well as slide-in electrical connection between DC link and the building block.

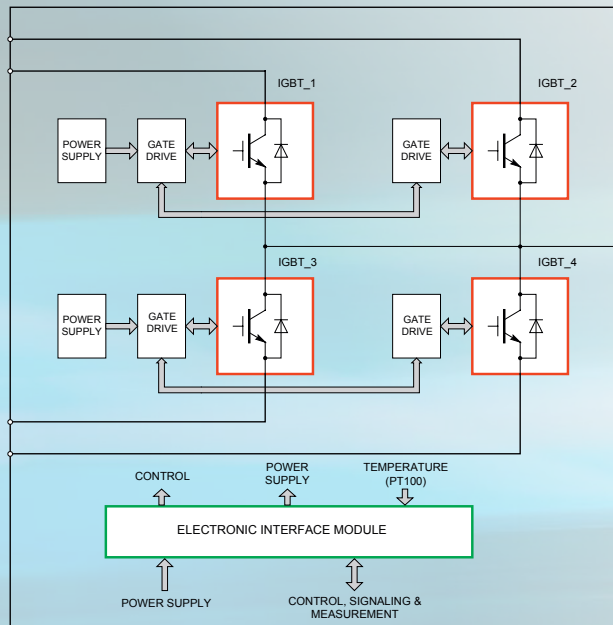
The increased power density of the building block enables compact and light-weight converter design.

Application

Power electronic building blocks KONTRAC PS800, as a part of converter, are intended to be installed in new vehicles or old ones during modernisation. In order to replace existing GTO based converters in locomotives and upgrade existing technology to modern state of the art technology, new IGBT based traction converters are used with building blocks as integral parts. During design stage of building block, compatibility with different types of converters has been considered.

BASIC TECHNICAL DATA

Nominal voltage	2800 VDC (DC link) or 3000 VDC (catenary)
IGBT module voltage class	4500 V or 6500 V
Power	up to 800 kVA
Number of phase leg	1 or 2
Cooling	water/glycol
Size (L x W x H)	596 x 520 x 149 mm
Weight	36 kg
Ambient temperature	-40°C to +70°C
Mounting	horizontally or vertically



Block diagram of power electronic building block KONTRAC PS800

KONČAR

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