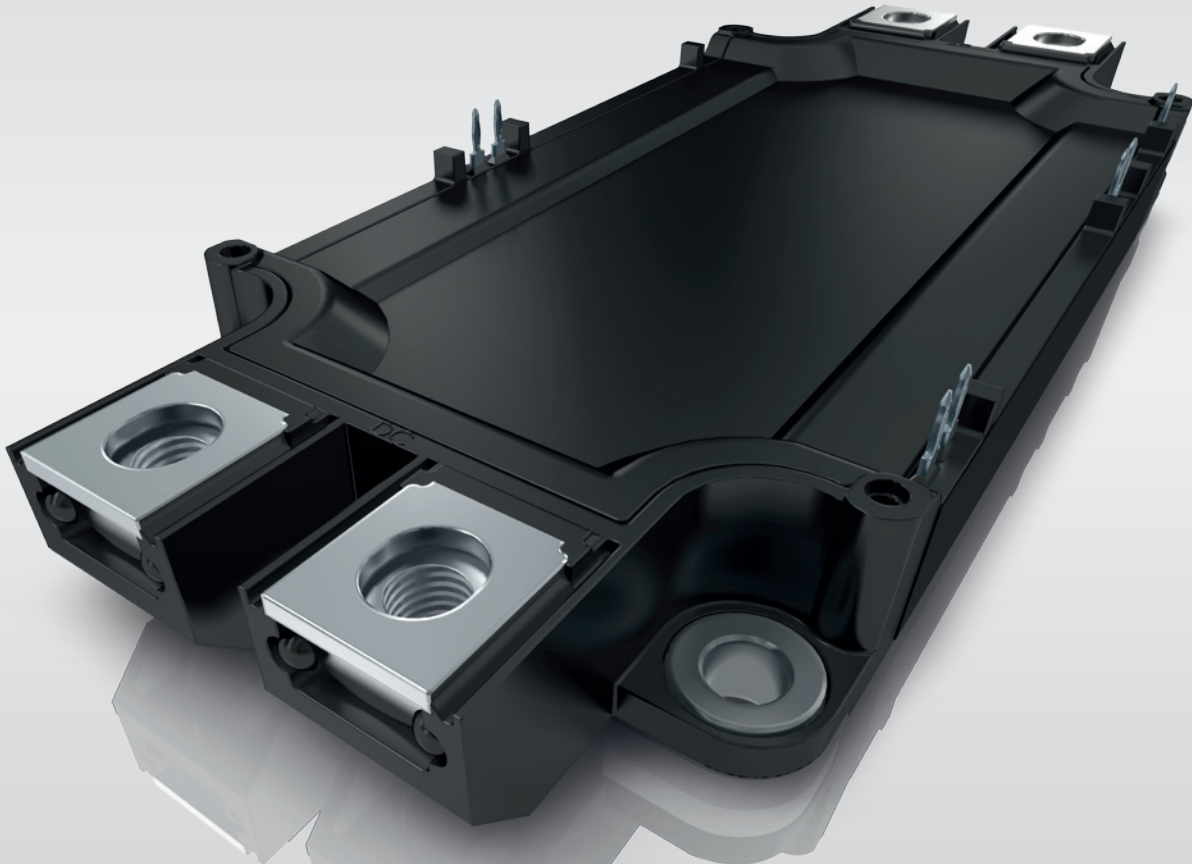


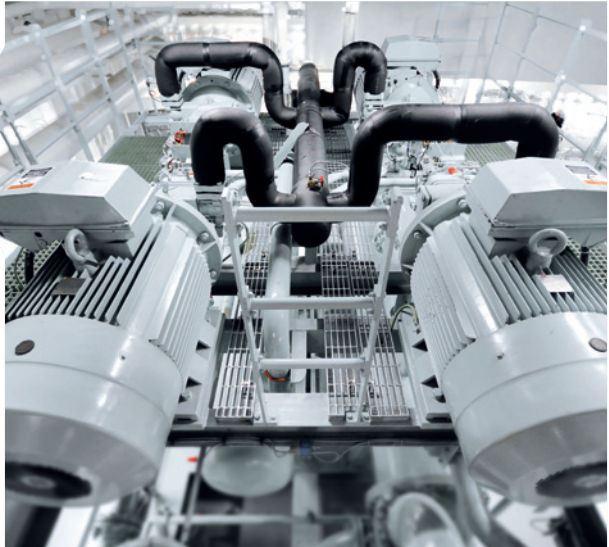
For Solder-Free Mounting with Spring or Press-Fit Contacts



SEMiX[®]

30kW up to 350kW

-  Motor Drives
-  Wind Energy
-  Solar Energy
-  Power Quality
- AC | DC**
Power Supplies
-  Urban Transport Equipment



SEMiX is a modern module platform offering IGBT and rectifier modules in the same housing design. A flat 17mm package in scalable sizes is available with different driver interface options for simple and solder-free mounting. The flexibility of the family concept offers many advantages for inverter design and production.

Benefits

The family concept of SEMiX includes a unification of IGBT and rectifier housings. All have the same height (17mm) and can be connected by one principle DC-link design, due to having the same interface for IGBT and rectifier stage. This saves development time and makes a simple and low-inductance DC-link profile possible.

Spring or press-fit contacts allow for a gate driver mounted directly on top of the module. So there is no risk of noise on wires or loose connectors.

With the flat package and separated AC and DC terminals a state-of-the-art inverter construction is possible, which is very compact. The auxiliary contacts avoid solder joints and offer highly reliable pressure contacts. This leads to increased product reliability and life-time.

The solder-free contacts offer a fast and easy assembly process and especially spring contacts are user friendly with regard to servicing. Production at the customer site can be optimised by uniform direction of assembly. This simplifies logistics and reduces manufacturing costs.

Using the scalability of SEMiX housings, with one basic design a complete inverter line can be built with less effort. In consequence the overall costs can be reduced.

The SEMiX 3 press-fit package introduced lately is now also available with a shunt resistor for current monitoring in the

AC path. Footprint and main connections are identical to the standard module and the shunt is also equipped with press-fit contacts, like the other auxiliary connections. Including the current monitoring into the IGBT module reduces the inverter volume and decreases the system costs, as less material is in use. At the same time the FIT rate is enhanced, by reducing the number of necessary components in the inverter.

Applications

SEMiX is a flexible and application-oriented module. On the basis of a scalable platform concept, modern chip technology is integrated into IGBT and rectifier modules which are used in a wide variety of applications, such as AC motor drives, switching power supplies and current source inverters. Other typical applications include uninterruptible power supplies, photo voltaic systems and the field of wind energy.

Product range

Six different housing sizes are available in 600V, 1200V and 1700V for the IGBT modules. Half-bridge, six-pack and chopper topologies are available with a current range from 75A to 600A. Besides IGBT3 and IGBT4 chips, the 1200V range also includes a series with V-IGBT devices. Controlled, half-controlled and uncontrolled rectifier modules with identical footprint and 17mm height are also available.

Key features

- Available in 600V, 1200V and 1700V and from 75A to 600A
- Half-bridge, 6-pack and chopper topologies
- Multiple IGBT sources
- Family concept with IGBT modules and bridge rectifiers
- Direct driver assembly
- Versatile connection concept
- Solder-free contacts for highest durability
- Flat and compact inverter design
- Integrated current sensing shunt resistor

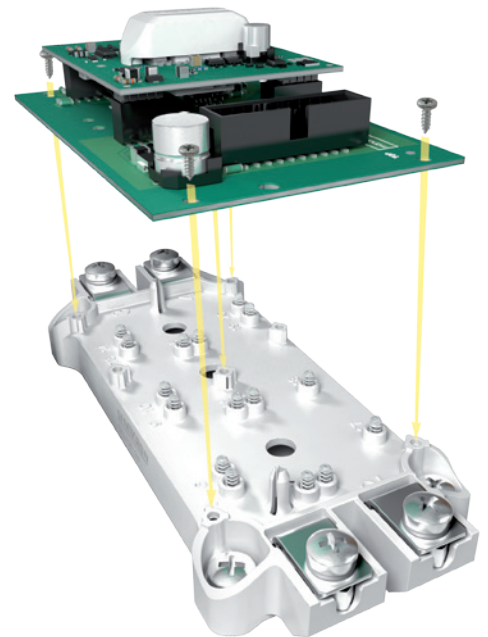
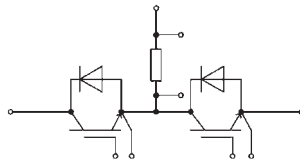
IGBT and Rectifier Module Family for Solder-Free Mounting

Solder-free and fast assembly of control unit

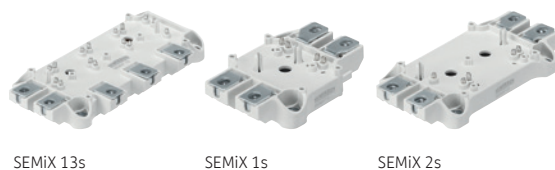
- SPRiNG or PRESS-FIT Technology for auxiliary contacts
- Electrical contact established while mounting the control unit
- Clean, dry and cold mounting process
- Highly reliable contacting in harsh environments
- Easy maintenance in the field (spring contact)

Now with integrated shunt resistor option in size 3 package with press-fit contacts

- No separate connection for current measurement
=> Current monitoring within module
- No second module with shunt necessary
=> More compact inverter
- Less material in use
=> Reduced system costs
- Reduction of component number
=> Enhanced FIT rate



IGBT modules and bridge rectifiers



IGBT modules



IGBT Portfolio		Spring contacts	Press-fit contacts	Shunt integrated
		I_{Cnom}	I_{Cnom}	
600V	IGBT3	100A up to 600A		
1200V	IGBT3	75A up to 600A		
1200V	IGBT4	100A up to 600A	300A up to 600A	450A and 600A
1200V	V-IGBT	100A up to 600A		
1700V	IGBT3	150A up to 600A		
1700V	IGBT4	150A up to 600A	450A	450A



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