

Versatile Inverter Platform from 150 kVA to 3 MVA

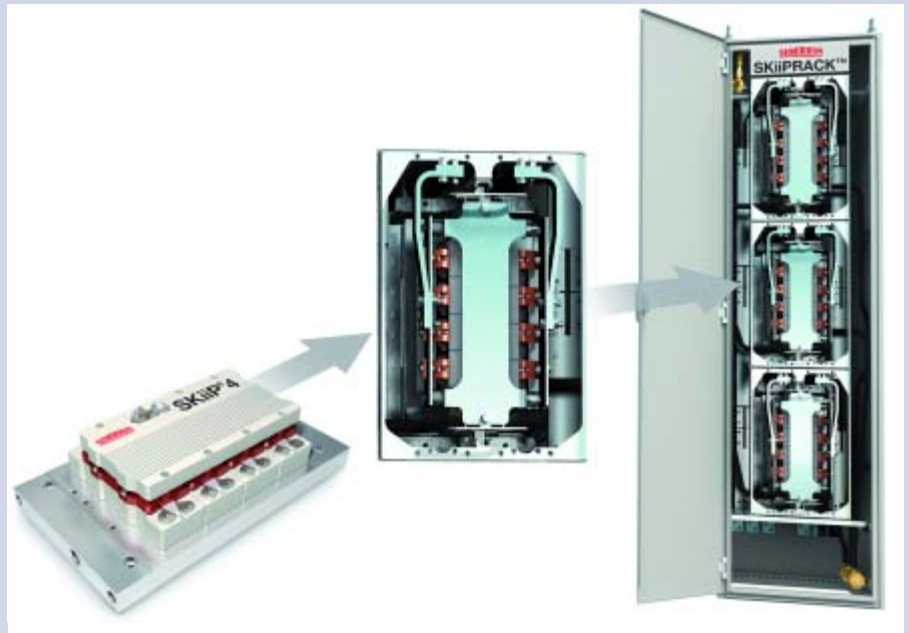
*For AC/DC drives, wind power and general power conversion applications
more than 12 kVA / litre*

The Semikron Solution Centers introduce SKiiPRACK, a high power converter/inverter platform for industrial applications, including AC/DC drives, wind power, industrial power supplies and power conversion applications, configurable for power ratings ranging from 150 kVA up to 3 MVA. With a power density of more than 12 kVA / litre, SKiiPRACK boasts a design which is typically 25 % more compact than competitor products. A single 3 MVA three phase inverter or 1.5 MVA three phase four quadrant converter can be installed into a standard 600 mm x 600 mm x 2000 mm cabinet. Larger configurations such as a 3 MVA four quadrant converter can be realized by mounting the SKiiPRACK side by side in a larger cabinet.

The modular SKiiPRACK phase block assembly is available in different versions which are connected together to configure a complete converter/inverter as per the customer's requirement. Each phase assembly comprises a water-cooled cooling plate, one or two SKiiP IGBT intelligent power modules, snubbers, a capacitor bank and a low-inductance DC bus bar housed in a rigid mechanical frame with a sliding mechanism for ease of servicing in case of field replacement.

The SKiiPRACK platform undergoes a rigorous qualification process. One example of the range of arduous type tests applied to the SKiiPRACK is 100 times thermal cycles of ten hours duration each in accordance with IEC60068-2-14. Other tests including environmental, shock and vibration, additional to the normal electrical and isolation tests ensures the overall ruggedness of the SKiiPRACK.

A variety of phase assembly configurations are available. For example a singular phase assembly can contain four x SKiiP1213GB123 to realize a complete three phase inverter plus brake chopper at 450kVA. Alternatively at the high end of the power scale one phase assembly can con-



tain two x SKiiP2403GB172 connected in parallel to form one phase of a 3 MVA inverter, with three of these phase assemblies mounted in one cabinet forming a complete three phase converter/inverter. Low inductance DC busbars link the phase assemblies together and the AC connections can either be made at the front of each phase assembly or at the bottom rear of the complete assembly facilitated via interconnecting AC busbars.

A choice of either electrolytic capacitors, or polypropylene capacitors for long lifetime, is available. The SKiiPRACK is available as individual phase assemblies that can be mounted into a cabinet, or already mounted into a standard electrical cabinet.

SKiiPRACK capitalizes on the low-inductance and power density of SKiiP which is 20% higher than competitor products. Each SKiiP IPM is fully tested during its own production process. Every SKiiPRACK undergoes a full suite of tests during production including isolation, operational load tests and

short circuit tests. Additionally an optional burn-in is available for customers who require an elevated level of severity. This ensures maximum robustness and reliability during the long service lifetimes necessary for high value high power applications.

More than five decades ago Semikron started to integrate semiconductors, capacitors, cooling management systems and drivers into power assemblies. The high demand for these power platforms results in series production with established processes. The design and application expertise of the solution centers, one located on each continent, have been combined into the Semikron Solution Center Network. Global support for local service provides development and production capabilities as close as possible to the customers' applications.

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