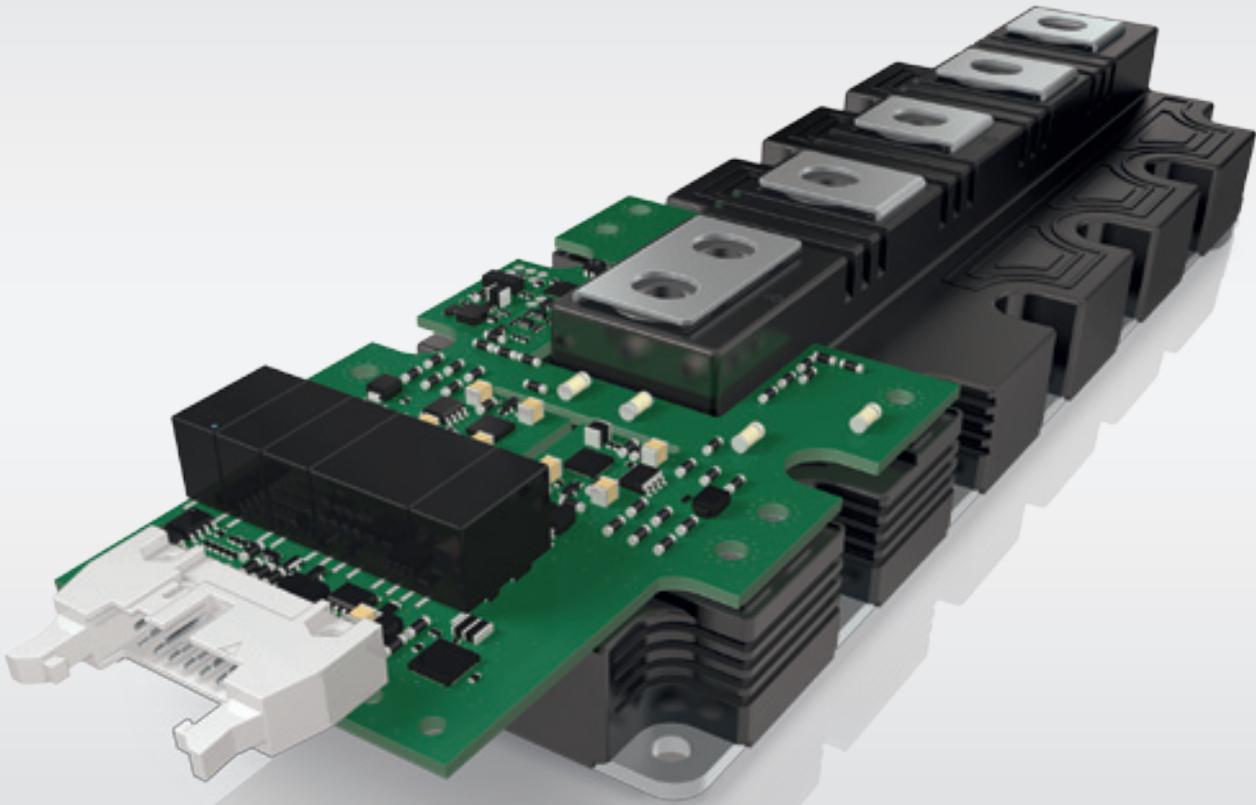


IGBT Driver with Insulated Digitised Sense Signals



SKYPER[®] Prime

Drives up to 1400A and 1700V



Motor Drives



Wind Energy



Solar Energy



Power Quality



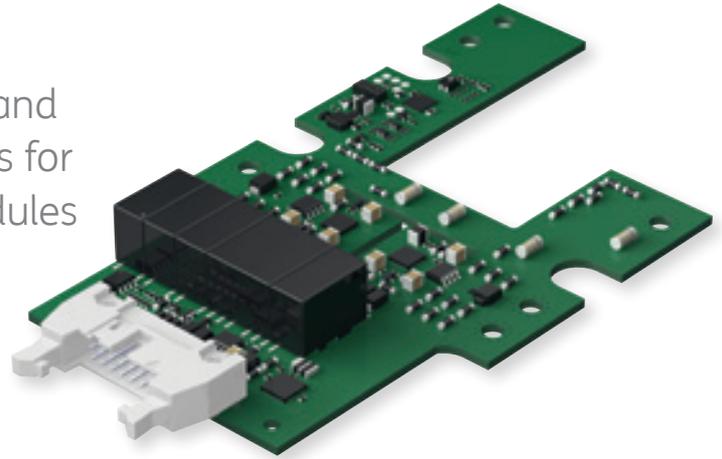
Urban Transport Equipment



SKYPER[®] Prime



Plug & Play driver with integrated and galvanically insulated sense signals for SEMITRANS 10 and Primepack modules



Benefits

Regenerative converters are driven by two main market requirements. Increasing the output power and reduction of cost. SKYPERPrime offers galvanically isolated and very accurate sensor signals. Thus, the customer saves the cost of external power supplies, external sensing circuits and their insulation. The sensor values are available as digital signals which can be directly fed to the customer's controller. A/D conversions or level adjustments, which reduce the accuracy, are omitted. Thanks to this high accuracy, the customer can go to the limits of the IGBT modules.

SKYPERPrime is a fully qualified Plug & Play driver with optimised SOA characteristics. This saves costly qualification and redesign loops and at the same time offers significant performance advantages.

The new SEMIKRON ASIC chipset allows for maximum integration and thus a very high reliability rate: MTBF > 5million hours at full load. To maximise the performance, a new concept has been developed for paralleling the drivers. Very accurate switching behaviour with digital signal processing, parallel fault management and symmetric signal paralleling provide maximum output power.

Performance

Power supply voltage	V_s	15V
Collector emitter voltage	V_{CE}	Up to 1700V
Collector current	I_c	Up to 1400A
Peak output / channel	$I_{outpeak}$	30A
Gate voltage stabilised	V_G	+15V/-8V
Gate charge	Q_G	17 μ C
MTBF (SN29500)	>	5 x 10 ⁶ hours
PWM	V_I	15V
Accuracy DC Link	<	2%
Interface of sense signals		Digital - PWM
Insulation of sense signals		Galvanically insulated

Applications

SKYPERPrime can drive IGBTs up to 1400A and 1700V. Thanks to its built-in sensor signal processing and the paralleling concept the SKYPERPrime provides the optimum IGBT driver solution for high performance applications up to the megawatt range. Applications that are benefiting most from that performance and from the long service life are large power supplies and regenerative inverters.

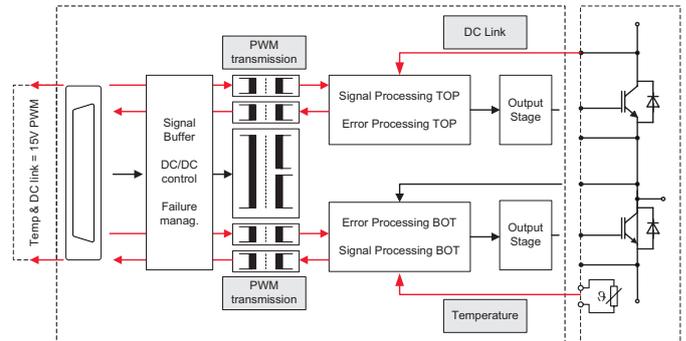
Key features

- Isolated DC link signal
- Isolated temperature signal
- Digital sensor signals for direct μ C connection
- Fast V_{ce} detection
- SoftOff with separated output stage
- UL recognised, safe electrical insulation
- ROHS compliant
- Stabilised positive and negative gate voltages
- Qualified SOA of driver + IGBT module
- Paralleling with accurate switching
- Internal dead time generation
- Double side under-voltage protection
- Short pulse suppression
- EMC optimised layout
- New ASIC chipset for long service life

Maximum Output Power with Highly Accurate Sense and Switching Signals

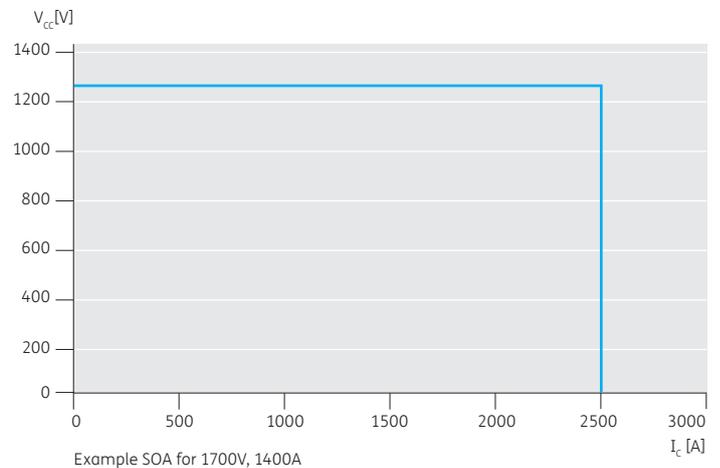
Insulated and digitised sense signals

- Digital sensor signals allow direct μC connection
- No external insulation nor supply, saves costs at system level
- Temperature and DC link signals for maximum protection
- High accuracy <2%
- Fast detection with 2kHz bandwidth



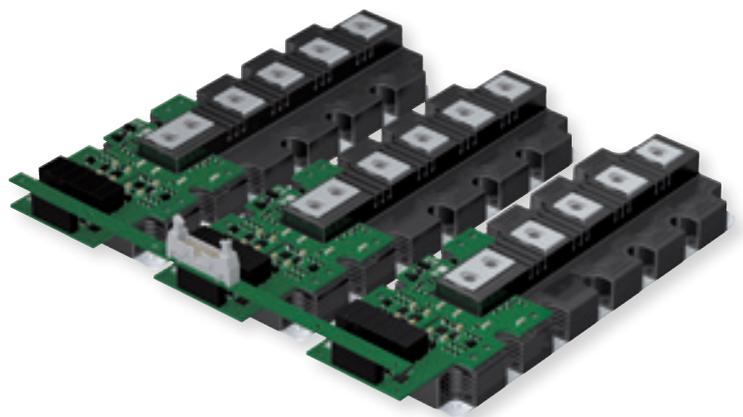
Approved SOA for maximum safety

- Qualified driver module bundle provides a maximum safe operation area (SOA) without limits by clamping
- The module-optimised driver settings reduce switching losses significantly
- Plug & Play principle saves approval and modification processes at customer side
- New markets, new applications can be entered fast and without risk



More output power with symmetric paralleling

- Digital signal processing ensures stable switching and error characteristic over the temperature range
- Stabilised positive and negative gate voltages for symmetric current sharing
- Direct paralleling of error, sense and switching signals
- Symmetric gate control with centralised signal distribution
- Board to board solution saves costly cable and connector assemblies



Portfolio

	Description	Module type	I_c [A]	V_{ce} [V]
L5066801	SKYPER Prime 1000	SKM1000GB17S2 or FF1000R17IE4	1000	1700
L5066802	SKYPER Prime 1400	SKM1400GB17S2 or FF1400R17IP4	1400	1700



We are close to our customers

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