

SiCCab Family

Silicon Carbide Generator for Cable Manufacturing



The SiCCab Family Core Technology

The **SiCCab family** of power supplies corresponds to a range of oriented-application generator focused in cable processing by induction with a maximum total power 400 kW and frequencies up to 100 kHz.

SiCCab generators family is intended for its use in pre-heating, post-heating and degassing when manufacturing energy cables.

SiCCab generators are based on SiCtech core inverter technology that pushes the technological boundaries to the limits offering the most disruptive and advanced technology in the field of induction welders by using the ultimate power electronics technologies as Silicon Carbide (SiC) MOS Transistors, advanced DC link using antiferroelectric capacitors, ultrafast high isolation circuitry and advanced transistor driving circuits and fully digital controller all integrated in a PCB, allowing inverter efficiencies up to 99% @ 50 kHz and consequently very small and compact chillers.



The **SiCCab** family is based on SiCtech MF power modules that include in a PCB, a plug-able FPGA controller as well as the power section and a water cooled heatsink that features all the requirements needed in an induction heating application.

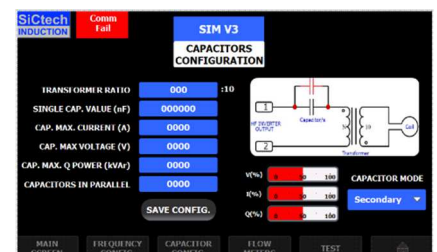
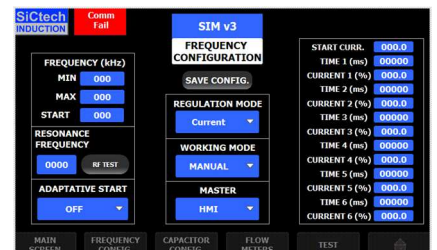


SiCtech 200 kW / 50 kHz MF Power Module

SiCCab generators ranges power from 50 to 400 kW. The supply voltage is 400 / 480 V_{AC} ± 10 % and the system has integrated his own cooling system. As standard, **SiCCab** Family include the Siemens PLC with communication capabilities via the industrial bus Modbus TCP IP. Optional are other industrial busses as Profinet, DeviceNet ... and pyrometric control.



A highly interactive and comprehensible HMI guides the user in any interaction with the generator as the starting up, the temperature cycle programming, the resonant frequency selection by the autotuning function, the matching of the load etc. and provides information on the status and working conditions of the generator at any time.



The SiCCab Family Features

SiCCab generators, with frequencies up to 100 kHz, integrate in the cabinet all the HW necessary for processing wires. The SiCCab generator integrates the power MF conversion HW as well as the resonant capacitor bank, cooling system that can be configured as Air/Water cooling system or water/water cooling system according customer's needs and externally the heating inductors.

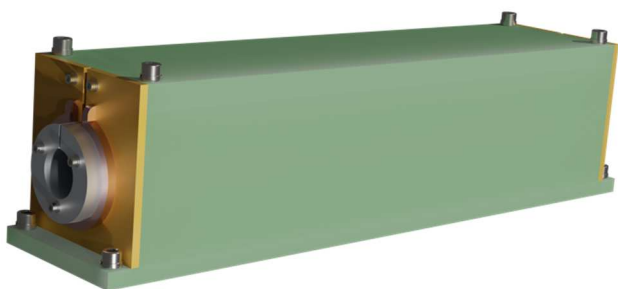
THE MAIN ADVANTAGES OF SiCCab FAMILY

- ⇒ SiC technology
- ⇒ Power up to 400 kW
- ⇒ Wide frequency range up to 100 kHz
- ⇒ Extremely high efficiency inclusive at frequencies as high as 100 kHz.
- ⇒ Extremely low size and weight.
- ⇒ Modular construction
- ⇒ Fully digital controller prepared for its integration in an Industry 4.0 Network
- ⇒ Energy monitor
- ⇒ Communication industrial busses

Engineering & After Sales Services

Also, SiCtech Induction offers consulting and engineering services to support customers in their application including process optimisation in terms of quality, production rate and energy consumption. Design of heating stations including the heating inductor and in-house and on-line training courses on power converter technologies is also offered by SiCtech Induction.

For production safety, SiCtech maintains a secure stock of power modules, controllers and power transformers to provide you an extremely fast response in the case of an urgency or technical assistance needs.



KEY FIGURES

- ⇒ **Power up to 400 kW Continuous Power**
- ⇒ **Frequency 5 - 100 kHz**
- ⇒ Very high robustness due to the use of SiC MOS Transistors.
- ⇒ Adapted to different diameters of wires and cables
- ⇒ Integrates heating inductors with fixed or variable angle
- ⇒ Integrates Cooling system
- ⇒ Ridiculously low water consumption, allowing very small and compact chillers
- ⇒ Up to four heating lines due to the high-power capability of 400 kW

The SiCCab Family Technical Specs

SiCCab Family	50k100	75k100	100k100	150k100	200k100	250k100	300k100	400k100
Maximum Total Power	50 kW	75 kW	100 kW	150 kW	200 kW	250 kW	300 kW	400 kW
HF Output Frequency Range	5-100 kHz							
Inverter Efficiency	98,9 % @ 100 kHz							
Mains Voltage ⁽¹⁾	400/480 V _{AC} ± 10 % (Three-Phase)							
Mains Frequency Range	50 & 60 Hz							
Cos (φ)	> 0,99							
Output Circuits	Series LC							
Inductor Short Circuit Protec.	Yes							
Controller	Fully Digital Controller							
Power Regulation Range ⁽²⁾	2...100 %							
Power Setting Time ⁽³⁾	1 ms							
Dimensions WxDxH (mm)	600 x 1.200 x 1.800					600 x 1.800 x 1.800		
Weight (kg)	360	410	460	580	690	820	870	1.120
Water Max. Temperature	35 °C							
Environmental Temperature	5-50 °C							
Maximum Humidity	90 %							
User Interface	Siemens HMI KTP700							
Standard Fieldbus	ModBus TCP/IP							
Optional Fieldbuses	Profinet, DeviceNet, ...							
Optional External Control Unit	The Unit Comprises: External Star/stop, External Power Control, External Emergency Stop							

NOTE: ⁽¹⁾ For 480 VAC contact with SiCtech
⁽²⁾ At Nominal Load
⁽³⁾ At Adaptive Mode

Subject to changes

