

INDUCTION POWER SUPPLIES



INDUSTRY 4.0
ready

INDUCTION POWER SUPPLIES

MORE THAN POWER

AN INDUCTION POWER SUPPLY IS MORE THAN A RANGE OF FREQUENCIES AND POWER FOR APPLYING INDUCTION HEATING.

The right selection of a converter makes possible a long-lasting investment performing as the first day, a reliable induction process, flexibility in the application, energy savings, low maintenance and easy operation. A power supply must allow you to focus on your business.

> WHAT ABOUT OUR POWER SUPPLIES?

Versatility

- Different types of power supplies depending on the need.
- Customization of systems and feature development.
- Wide range of usage from for very specialized process to flexible applications.

Reliability

ROBUST DESIGN AND MATERIALS

- **Latest technologies** and recognized brands
- **Protection against short-circuits** at the output of the inverter and the inductor.
- **Dew point detection** and protection against dew. Control of the humidity.

Energy Efficiency

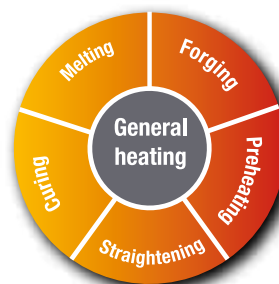
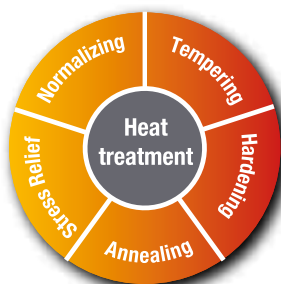
SERIES COMPENSATED POWER SUPPLIES

- **Advanced digital control:**
depending on the frequency the system selects the best control strategy or their combination. Mandatory for heating wide range of parts.
- **Different possibilities:**
FM (Frequency Modulation),
PWM (Pulse-Width Modulation),
PDM (Pulse Density Modulation) and FM-PWM mixed.
- **Efficiency (η) $\geq 90\%$.**
- **Reduced impact in the facility supply network:** load independent power factor (constant $\approx 0,95$).

PARALLEL COMPENSATED POWER SUPPLIES

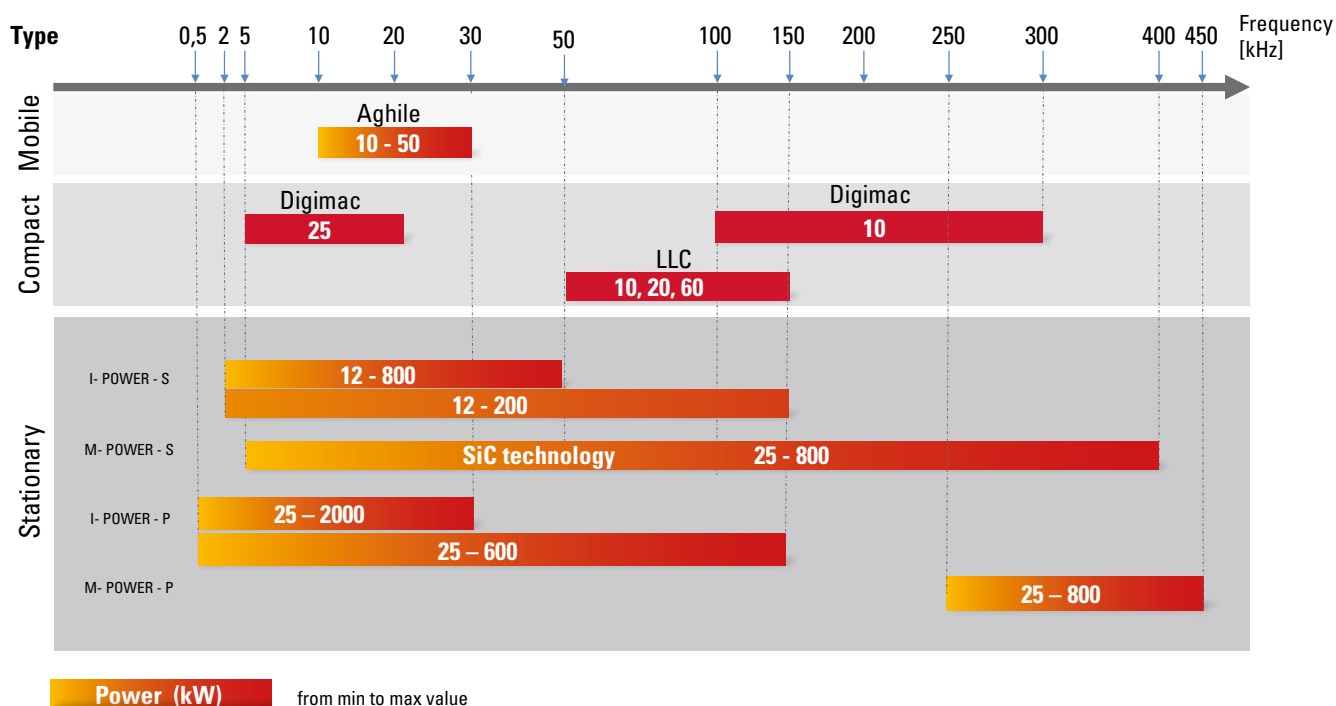
- **Full digital control.** Closed loop PLL to have the inverter work always at the resonant frequency, thus maximizing the efficiency.
- **Easy load adaptation**, mainly in case of low frequency and high current.
- **Efficiency (η) up to 96%**
- **Reduced impact in the facility supply network:** compensated power factor and harmonics reduction according to load variation for precise temperature phases.

SOLUTIONS FOR EVERY CASE



TYPE OF FAMILIES

Solutions from 500Hz to 450kHz



CONNECTIVITY - INDUSTRY 4.0

Saet frequency converters are designed to improve system connectivity.

They are compliant with Industry 4.0 trends, with the following features:

- Fieldbus connection makes available the generator parameters and fault messages to PLC, NC and HMI.

- User-friendly web interface shows the generator status in real time, through Ethernet connection.
- Alarm log and basic statistics can be used for predictive maintenance or remote diagnostics.

The system can be installed on new SAET frequency converters or existing ones equipped with GINCO card. Connectivity infrastructure may be PROFINET fieldbus or wired LAN, according to the desired functions.



STATIONARY SYSTEMS

> I & M POWER

- For the most demanding industries.
- The widest frequency range.

Serial and parallel output circuit

- Transistor solutions:
 - I-POWER-P
 - I-POWER-S
 - M-POWER-P
 - M-POWER-S
- Modular design.
- Advanced and Remote maintenance.

Customization

- For specific customer requirements.
- Adaptation to concrete needs.
- Multiple output (up to 6) or dual frequency output.
- Functionality development.

SiC TRANSISTOR:

The most advanced technology

- Extreme power density – Compact layout.
- High efficiency for high frequencies (SH).
- Frequency extension to lower band.
- Robustness.
- Reduced Operating Expenses (OPEX).



MOBILE SYSTEMS

AGHILE FAMILY

Mobile system ALL-IN-ONE-BOX.

- Multipurpose system.
- For non-continuous applications.
- Oscillator and chiller included.
- Single or dual outputs.



COMPACT SYSTEMS

> HYBRID (LLC)

- Medium frequency [50, 150] kHz.
- For specific cases.
- Based on LLC configuration.
- Ideal when the Heating Station must be extremely reduced (p.e. in integration in some machines).



> DIGIMAC

- Portable and manual.
- Medium (SM) and high frequency (SH)
- For discontinuous heating and/or difficult access locations.
- Compact oscillator included.
- Stationary or hand-held inductor.



PROCESS CONTROL

> PROCESS MONITORING?

- **Parameter monitoring:**
Frequency, Current, Voltage, Power and Energy.
- **High accuracy energy monitoring**
(1ms sample time). An alarm is generated when an energy threshold is exceeded at the end of a heating cycle.
- **Heating graphics and tables.**

> PROCESS ACCURACY

- **Repeatability.** True RMS measurement.
- **Short cycle times.** Fast starting ramps.
- **Temperature control.** Power regulation from 0 to 100 % for precise temperature phases.

OPERATION

- **Auto-Scan function** for easy inductor change.
The working frequency is automatically identified without operator interaction.
- **Ready heating programs** for different parts.
- **Local or remote control.**
- **Load adaptation** that allows the same power supply for a wide range of parts.

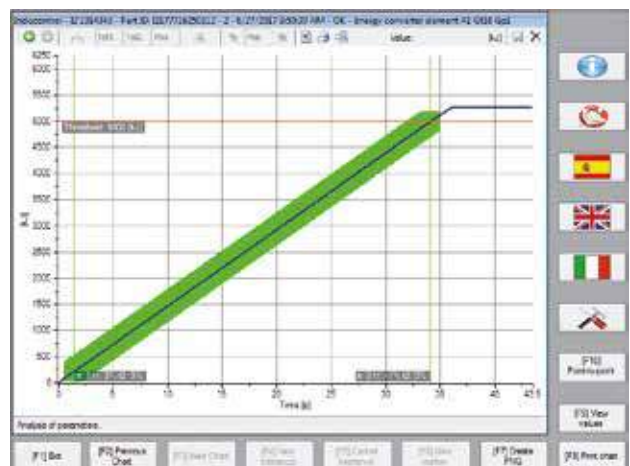
MAINTENANCE

- **Sliding and front power module** for easy access (series).
- **Remote data access** (Industry 4.0).
- **Troubleshooting features.**



INTEGRATION

- **Heating programs** for automatic process control.
- **Fieldbus or wired connections.**
- **F, I, V, P and E measurements** through fieldbus of up to $\pm 1\%$ accuracy under working conditions.
- **Power supply user interface** embedded in machine PLC.
- **Software tool** to customize interface.



Worldwide Service

SAET and EMMEDI customers can benefit from the resources of a global corporation.

We provide worldwide assistance through our network of regional sales and service engineers. Our experienced service team is strategically placed for quick response to customers wherever they are located.

Our commitment to customer support means that SAET and EMMEDI are available to deal with emergencies at any location worldwide.



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