



# Specialists of power conversion and control since 1933



In recent years SanRex has become known as a manufacturer of power semiconductors in Europe, but globally, we have a strong presence in the sphere of power supplies as well. Sansha Electric Manufacturing has its roots in developing a choke coil auto transformer to a movie projector as its first innovation in the power electronics industry.

What makes us experts in our field is the capability of utilising our in-house built power semiconductors in our own power supplies.

We develop a wide range of power supplies from small to large capacities, offer standard models as well as create custom orders according to customers' needs.

## We offer a large variety of power supplies in the following fields:

**Metal surface treatment**  
(Automotive, smartphones, etc.)

**Aluminium foil processing**  
(Cellular base station)

**Uninterruptible power supply**  
(ETC, production facilities, etc.)

**Inverter for power storage system/fuel cell**  
(New energy industries)

**Welding machine**  
(Vehicle, ship, etc.)

**Light source equipment**  
(Movie theater, projection mapping, etc.)

**Electrode manufacturing**  
(Lithium ion battery)

**Built in power supply**  
(ATM, medical equipment, etc.)



Our philosophy is strongly based on the idea of manufacturing products that develop and promote social infrastructure and information technology while also striving to create more sustainable, energy-saving society.

1.

**For bettering the social infrastructure:**

- BCP compatible battery storage systems: efficiently make use of new energies with large fluctuations and capability to operate even during a power failure.
- Uninterruptible power supply equipments: protect variety of equipments (like entities in charge of mobilisation of a train traffic) from momentary power failure.
- Fuel cell systems: fuel cell power conditioners using our own SiC MOSFET (automotive, forklift, railway, hospital, long-term care facilities etc.) Example of application: Hydrogen power as a greener option. (See below)

2.

**For improving the information technology:**

- Essential equipment like data centers (UPS), cellular base stations (power supply for aluminium processing), PCBs and lithium ion batteries (power supply for copper processing) are supported by our latest innovations.

3.

**For making more sustainable, green society:**

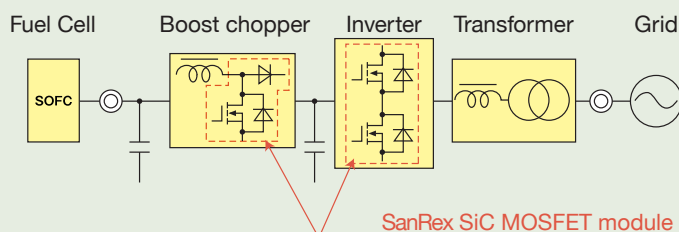
- Plasma power supply for waste melting furnace: Turned out to be an effective way in solving the garbage disposal problem e.g. in Japan and China. In practice, waste incineration ash is heated and melted by a high temperature plasma arc. It also detoxifies heavy metals and waste.
- Seawater electrolysis power supply equipment: Prevents the adhesion of marine organisms such as micro-organisms and shellfish without using any additional chemicals - this is done by direct sea/salt water electrolysis. Installed in various power plants, other industrial machinery at coastal areas and on ships as well.

## Hydrogen power as a greener option

Hydrogen power is one of the most promising renewable energy options that enables a more decarbonised society: by using energy conversion from solar panels, we have been able to create a product for Solid Oxide Fuel Cells.

Top-class conversion efficiency of more than 97.5%!

### SanRex's SiC MOSFET module embedded in our FC power conditioner



### SiC MOSFET Techno Block



- Superior performance with Techno Block
- DioMOS technology
- Our original semiconductor package uses transfer molding technology, solder process on both sides and has excellent heat dissipation capability

#### Specifications

- DC input: 0 to 700V
- Grid state: 3 phase 3-wire 200V 50/60Hz
- AC output: Rated output capacity 20kW
- Conversion efficiency: over 97.5%

#### Other records

- Power supply for 3.5kW FC
- Power supply for 5kW FC
- Power supply for 250kW FC (cogeneration)



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