

## Feed-in System SD2R for High Speed Generators

**SIEB & MEYER** 



## Top Technology made in Germany

SIEB & MEYER was founded in 1962 and has been an internationally successful company in the field of industrial electronics since then. With 220 employees we develop and manufacture control and drive technology. Our product range includes controllers for the machine construction and automation technology, servo amplifiers for various drives, frequency converters for high-speed applications and feed-in technology for renewable energy. Concentration on our core competence results in a worldwide leading position for controllers in the field of PCB drilling and routing machines. Close cooperation with our customers from the development up to the troublefree operation of our products is the basis of our quality philosophy. Highly qualified engineering teams and a modern manufacturing process lead to a maximum amount of innovations and flexibility in serving our customers. Worldwide service and customer-oriented trainings are guaranteed with our headquarters in Lueneburg and our subsidiaries.



## SD2R – Feed-in System for High Speed Generators

**Optimal effectivity, high availability and flexibility** are the essential features of SD2R for high speed turbo-engines. Fields of application are ORC systems and expansion turbines to generate electricity from waste heat as well as flywheels and micro gas turbines.

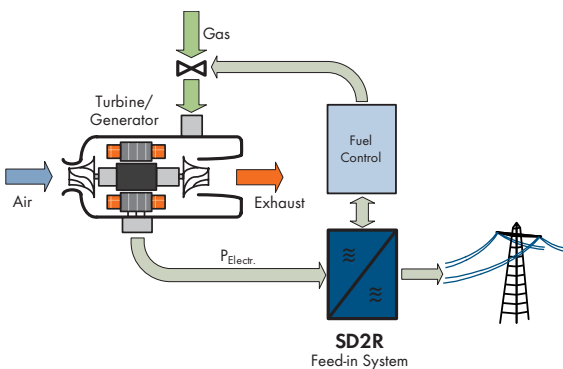
SD2R is based on electronics especially developed for high speed motors and generators with powers up to 150 kW and speeds up to 500,000 rpm. Beside the regenerative operation a motoric operation with good control performance is possible at any time.

SD2R is an integral part of a system for transformation of thermal and mechanical energy into electric energy. The technical requirements of the generator including the specific process features as well as the technical requirements of the grid regarding the valid feed-in directives are hereby accounted for.

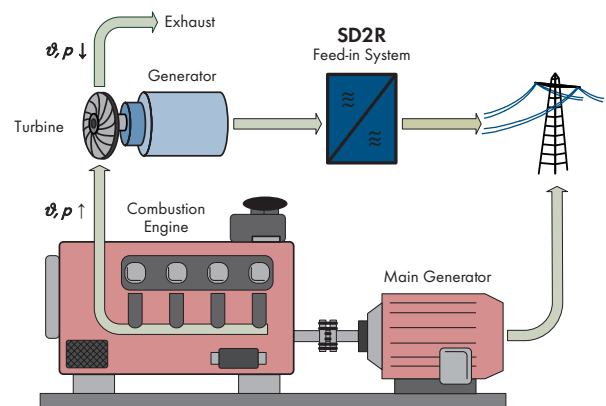
Aside from the specific measurements and cooling concepts there are additional functions available that ensure the emergency supply of important components like magnetic bearings and **safety functions** like mains monitoring or brake resistors.

The **sensorless speed control** reduces costs and increases the availability of the system. A speed sensor can be evaluated additionally – for example for safety reasons – if needed. A connection to the higher ranking control is realized via an analog reference value and 24 V I/Os or CAN bus.

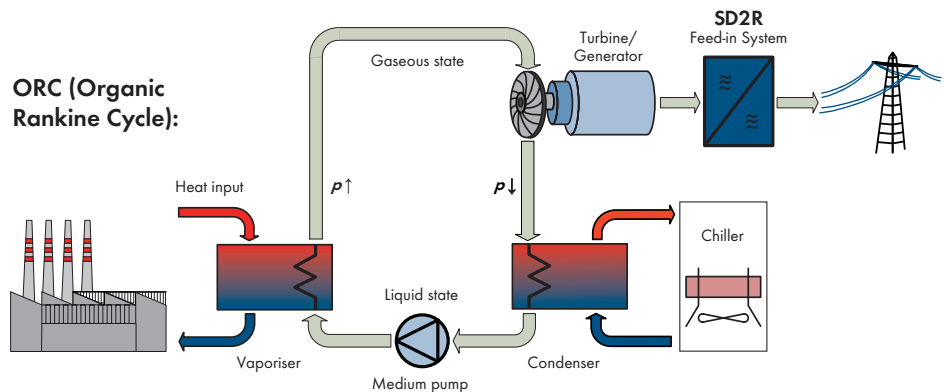
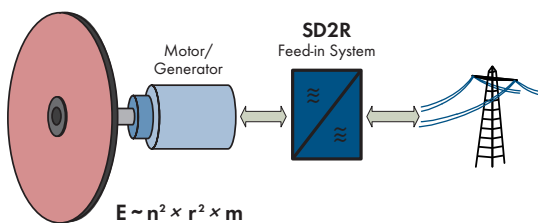
### Micro gas turbine:



### Expansion turbine:



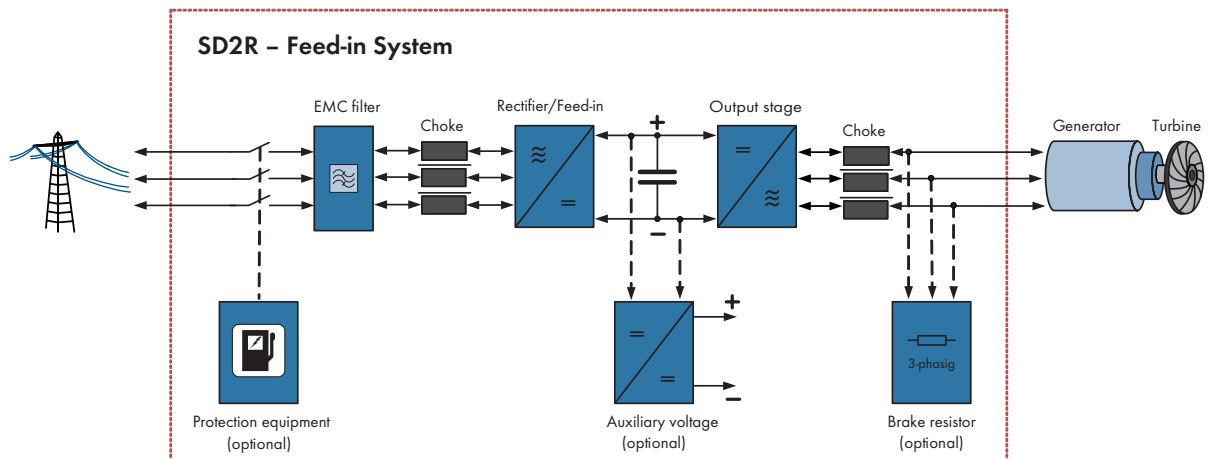
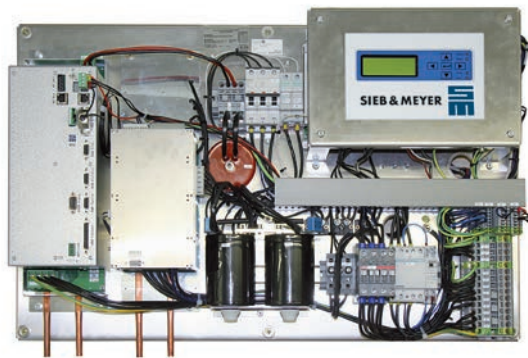
### Flywheel:



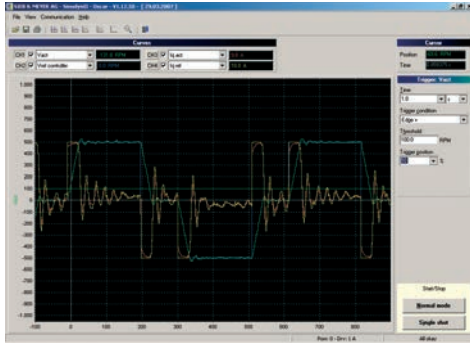
## SD2R with 40 kW and 80 kW in IP22 Switch Cabinet



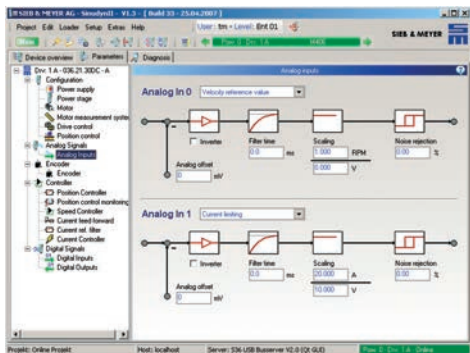
## SD2R as 25 kW Control Panel with LCD Display and Water Cooling



## Software for Initial Operation and Parameterization: *drivemaster2*



The oscilloscope function allows optimization of the axes in the machine via the drive-setup-tool without additional measuring equipment.



The clear design of the software allows intuitive parameterization via graphics and block diagrams. The "parameter wizard" guides the user step-by-step through the system configuration featuring help messages and comments.

**Remote diagnostics via Internet is also available.**

## Your System Partner

We, SIEB & MEYER, consider us as your system partner. Not only do we supply the final solution but from an early development stage we also contribute to the dimensioning of the complete system with our wide application know-how in the field of electrical engineering. Depending on application and quantity we implement special requests of our customers.

25 kW Control Panel	
Rated power	25 kW
Rated voltage	400 V <sub>ac</sub>
Rated current	36 A <sub>ac</sub>
Generator voltage	max. 480 V <sub>ac</sub> *
Generator current	max. 50 A <sub>ac</sub>
Generator frequency	max. 2,000 Hz
Feed-in voltage	380 V (-10%) to 480 V (+5%), 50/60 Hz
Weight	60 kg excl. generator choke*
Dimensions	530x805x250 mm
Cooling of the power electronics	water-based, max. 40° C
Ambient temperature	max. 40° C
IP code	IP00
Efficiency	≥ 95%*

40 kW Switch Cabinet	
Rated power	40 kW
Rated voltage	400 V <sub>ac</sub>
Rated current	58 A <sub>ac</sub>
Generator voltage	max. 480 V <sub>ac</sub> *
Generator current	max. 70 A <sub>ac</sub>
Generator frequency	max. 2,000 Hz
Feed-in voltage	380 V (-10%) to 480 V (+5%), 50/60 Hz
Weight	140 kg incl. generator choke*
Dimensions	1,350x480x460 mm
Cooling of the power electronics	water-based, max. 40° C
Ambient temperature	max. 40° C
IP code	IP22
Efficiency	≥ 95%*

80 kW Switch Cabinet	
Rated power	80 kW
Rated voltage	400 V <sub>ac</sub>
Rated current	116 A <sub>ac</sub>
Generator voltage	max. 480 V <sub>ac</sub> *
Generator current	max. 120 A <sub>ac</sub>
Generator frequency	max. 2,000 Hz
Feed-in voltage	380 V (-10%) to 480 V (+5%), 50/60 Hz
Weight	192 kg excl. generator choke*
Dimensions	1,550x610x530 mm
Cooling of the power electronics	water-based, max. 40° C
Ambient temperature	max. 40° C
IP code	IP22
Efficiency	≥ 95%*

\* Depending on the electric dimensioning of the generator.



- **CNC Controllers**
- **Drive Electronics**
- **Feed-in Technology**

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