Plating Rectifiers / DC Power Supplies

PULSE-REVERSE-Power Supplies

2015 / 2016
Your benefits with plating electronic

plating electronic – A FAMILY-RUN COMPANY AND A WORLD LEADER FOR DECADES

- Technology leader in DC and Pulse power supplies
- Main concentration on individual customer solutions
- Meets the highest quality demands
- MADE IN GERMANY for global markets

Karl Rieder
General Manager
plating electronic GmbH

SWITCH-MODE TECHNOLOGY

With the use of efficient, high-frequency technology, switch-mode power supplies offer many advantages over conventional rectifiers based on output adjustment by motor control or thyristor technology. Switch-mode technology is a reliable, globally recognized and robust technology and is ideally suited for use in electroplating and industrial applications. The air or water-cooled DC and Pulse power supplies can also be easily integrated into a control system.

DIGITAL CONTROL (DSP CONTROLLED)

We utilize the most up to date technology and employ digital controls in our power supplies. Our devices are characterized by excellent control accuracy and extremely low ripple.

Quick and easy connection to control units or to current BUS interfaces is another advantage of the digital technology.

<table>
<thead>
<tr>
<th>Regulation inaccuracy &lt; 1%</th>
<th>Better quality thanks to enhanced process sequence reproducibility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ripple &lt; 1%</td>
<td>Constant current and voltage regulation.</td>
</tr>
<tr>
<td>Compact design</td>
<td>Qualitative benefits in many plating processes.</td>
</tr>
<tr>
<td>Power factor up to 0.99</td>
<td>Low space requirement and therefore low power losses, because installation is possible directly at the treatment baths.</td>
</tr>
<tr>
<td>Efficiency up to 92%</td>
<td>Energy cost savings thanks to improved grid quality and reduced reactive power component.</td>
</tr>
<tr>
<td>Parallel or series connection</td>
<td>Low energy consumption leading to operating costs savings.</td>
</tr>
</tbody>
</table>

More flexibility thanks to easy multiplication of the performance range, in parallel or series.

¹ For control range from 1%–100% and related to rated DC value.
² Related to rated DC value
### Bench Top Rectifiers - POWER STATION up to 12 kW

**Air cooled**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power (W)</th>
<th>Current (A)</th>
<th>Voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pe1018-2-SNT</td>
<td>up to 200</td>
<td>up to 12</td>
<td>up to 30</td>
</tr>
<tr>
<td>pe1028</td>
<td>up to 750</td>
<td>up to 60</td>
<td>up to 250</td>
</tr>
<tr>
<td>pe4383</td>
<td>up to 6</td>
<td>up to 300</td>
<td>up to 600</td>
</tr>
<tr>
<td>pe1058</td>
<td>up to 12</td>
<td>up to 600</td>
<td>up to 600</td>
</tr>
</tbody>
</table>

### DC Rectifiers - POWER STATION up to 42 kW

**Air cooled**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power (W)</th>
<th>Current (A)</th>
<th>Voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pe3100-1</td>
<td>up to 500</td>
<td>up to 50</td>
<td>up to 30</td>
</tr>
<tr>
<td>pe4606</td>
<td>up to 6</td>
<td>up to 300</td>
<td>up to 600</td>
</tr>
<tr>
<td>pe4606-2</td>
<td>up to 12</td>
<td>up to 600</td>
<td>up to 600</td>
</tr>
<tr>
<td>pe4606-3</td>
<td>up to 24</td>
<td>up to 1200</td>
<td>up to 600</td>
</tr>
<tr>
<td>pe3000 series</td>
<td>up to 42</td>
<td>up to 3000</td>
<td>up to 1000</td>
</tr>
</tbody>
</table>

### DC Rectifiers - POWER STATION up to 40 kW

**Water cooled**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power (W)</th>
<th>Current (A)</th>
<th>Voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pe4606-W</td>
<td>up to 2.5</td>
<td>up to 200</td>
<td>up to 50</td>
</tr>
<tr>
<td>pe4203-W</td>
<td>up to 20</td>
<td>up to 1000</td>
<td>up to 1000</td>
</tr>
<tr>
<td>pe4206-W</td>
<td>up to 40</td>
<td>up to 2000</td>
<td>up to 1000</td>
</tr>
</tbody>
</table>

Are you interested in an easy and flexible solution to install our DC rectifiers? Contact us for further details on our VERSA POWER System – the ideal and flexible solution for compact and space optimized installation of your rectifiers.
CABINET RECTIFIERS

Air cooled

Water cooled

pe5110
up to 80 kW
up to 5000 A
up to 1000 V

pe5410-W
up to 110 kW
up to 5000 A
up to 1000 V

pe5710-W
up to 132 kW
up to 7200 A
up to 1000 V

pe5910-W
up to 200 kW
up to 10,000 A
up to 1000 V

Performance can be individually increased by parallel- or serial connection.

CONTROL UNITS

pe280
programmable control unit

pe280
programmable control unit, flush panel mount control unit

pe8750
programmable control unit, 10” colour touch panel, network-capable, storable processes

pe900 series CONTROL SYSTEMS

Fieldbus interfaces
- CANopen
- CC-Link
- ControlNet
- DeviceNet
- Modbus-RTU
- Profinet-DP
- RS485

Ethernet version
- EtherCAT
- EtherNet/IP
- Modbus-TCP
- Profinet IO
- Profinet IRT

Additional accessory, as for example Pole changer, Digital/Analogue Converter, PC Software, Isolation Amplifier complete our manufacturing range. Please contact us for individual data-sheets.
PULSE-REVERSE power supplies

**pe86CB series**
- Output power: max. 540 W
- Effective and DC current: max. 30 A
- Pulse current: max. 90 A
- Effective voltage: max. 60 V

**pe861 series**
- Output power: max. 6.36 kW
- Effective and DC current: max. 318 A (2 x 159 A)
- Pulse current: max. 720 A (2 x 360 A)
- Effective voltage: max. 550 V

**pe80CD series/pe86CWD series**
- Output power: max. 132 kW
- Effective and DC current: max. 3604 A
- Pulse current: max. 8160 A
- Effective voltage: max. 800 V
- Outputs: up to 16

**pe8005**
Programmable control unit

Examples of pulse diagrams, schematic

**Typical parameters**

**Switch mode technology**

**Complex waveforms**
- Regulation inaccuracy < 1% (relative to related DC value)
- Ripple < 1% (relative to related DC value)
- Constant current and voltage regulation
- Fast rise and fall times (steep curve flanks)
- Permanently short-circuit and open-circuit proof
- Operating/programming via pe8005 control unit

**Product characteristics, programmable control unit pe8005**

- Large, illuminated 5.7" graphic display
- Clear and user-friendly guidance leading through structured pull-down menus
- Controls from 1 to 16 outputs
- Easy generation of complex waveforms, consisting of up to 16 steps
- RS485 Bus Interface (optional: PROFBUS, TCP/IP, Modbus)
- Synchronization function
- Ah-totalizer, dosage counter, timer, programmable START ramp, 2 configurable output relays
- Parameters individually adjustable even during operation
- Graphical visualization of set-values and real-time actual value curves (oscilloscope function)
- Resolution: 100 mA, 0.02 mSec

The performance range can be individually multiplied using parallel connection.

The individual outputs can be synchronised as required.
plating electronic – Your specialist for DC and Pulse power supplies

Since 1986 plating electronic has been one of the leading developers and manufacturers of compact and highly specialised DC and Pulse power supplies. Our power supplies and control systems, which are exactly tailored to the specific application profiles, are in use worldwide. Global service and on-site customer support are provided by our international subsidiaries and partners.

As a medium-sized enterprise, our focus is on the fast realisation of projects and maximum customer satisfaction. Whether compact standard unit in bench-top design, plug-in, as cabinet units or specially planned solutions for a specific customer need - every power supply is suitable for the highest day-to-day requirements and continues, of course, to be MADE IN GERMANY.

If you are interested in our range of High-Current Power Supplies or Power Supplies and Controllers for ANODIZING and Aluminium Colouring. Please contact us for detailed brochures about our programmes or visit: www.plating.de.