Quasar switch-mode rectifiers are designed to meet all galvanic surface treatment requirements. Based on high speed IGBT technology, they provide high efficiency and performance. Compact dimensions and reduced weight versus conventional rectifiers without compromising reliability.

From a unit of 50A to 500A... ... to a powerful installation of 32'000A!
Commercial booklet | Sep 2015

- Air Cooled - IP31
- Water Cooled - IP43
- 1 power module / reverse module
- Available in all types:
  - DC - Direct Current
  - DCR - Reverse of polarity
  - PP - Pulsed
  - PPR - Pulsed with Reverse of polarity

- Sizes: 50A / 100-150A / 200-250A / 300A / 400A / 500A
- Available with buzzer and push button for E-coat applications

- Air Cooled - IP21
- Up to 3 power modules / reverse modules
- Available in all types:
  - DC - Direct Current
  - DCR - Reverse of polarity
  - PP - Pulsed
  - PPR - Pulsed with Reverse of polarity

- Sizes: Config 01-1 up to 550A DC / 250A DCR
  Config 02-2 up to 1100A DC / 550A DCR
  Config 03-3 up to 1700A DC / 1100A DCR
- Available in IP52 (NEMA 12)
**SWITCH-MODE RECTIFIERS**

- **Configuration:**
  - **Height:**
    - Base: 629 mm
  - **Weight - air cooled:**
    - 897 mm: 143 kg
    - 1029 mm: 163 kg
    - 1161 mm: 183 kg
    - 1293 mm: 203 kg
    - 1425 mm: 223 kg
    - 1557 mm: 243 kg
    - 1689 mm: 267 kg
  - **Weight - water cooled:**
    - 897 mm: 160 kg
    - 1029 mm: 184 kg
    - 1161 mm: 208 kg
    - 1293 mm: 232 kg
    - 1425 mm: 256 kg
    - 1557 mm: 280 kg
    - 1689 mm: 306 kg

- **Features:**
  - **Air Cooled - IP32**
  - **Water Cooled - IP42**
  - **Up to 9 power modules / reverse modules**
  - **Available in all types:**
    - DC - Direct Current
    - DCR - Reverse of polarity
    - PP - Pulsed
    - PPR - Pulsed with Reverse of polarity
  - **Up to 8000A in one tower.**
  - **Multi-tower expansion for higher requirement**
  - **Available in IP65 (water cooled)**

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**Pulse plating & pulse anodizing**

- **Available in all models Q100/Q300/Q500**
- **Up to 50% energy saving**
- **30% less process time for the same deposit thickness**
- **Increase temperature of anodizing solution due to the reduction of oxidation voltage**
- **Reduced barrier-layer**
- **Pulses help avoid burned parts and improve surface uniformity**
- **Same rectifier can be used for anodizing and coloring**
- **Different programmable waveform for different process applications**

For more information, visit us at: www.crspower.com
## Rectifier options

<table>
<thead>
<tr>
<th>COMMUNICATION ADAPTERS</th>
<th>REMOTE CONTROL</th>
<th>4-LINE DISPLAY</th>
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</thead>
<tbody>
<tr>
<td><img src="image" alt="Communication adapters" /></td>
<td><img src="image" alt="Remote control" /></td>
<td><img src="image" alt="4-line display" /></td>
</tr>
<tr>
<td>- Communication adapters for Profibus-DP, DeviceNet, Profinet, EthernetIP, Modbus/TCP networks</td>
<td>- REM is a remote control unit that communicates with the rectifier</td>
<td>- Simultaneous display of 4 lines of data</td>
</tr>
<tr>
<td><strong>ANALOGUE INTERFACE</strong></td>
<td><strong>INPUT/OUTPUT SCREW INTERFACE</strong></td>
<td><strong>CTRD02</strong></td>
</tr>
<tr>
<td><img src="image" alt="Analog interface" /></td>
<td><img src="image" alt="Input/output screw interface" /></td>
<td><img src="image" alt="CTRD02" /></td>
</tr>
<tr>
<td>- ANL provides 6 digital inputs and 6 outputs and 2 analogue inputs and 2 outputs</td>
<td>- Replaces the junction box</td>
<td>- Recommended for voltage controlled processes</td>
</tr>
<tr>
<td><strong>WATER FLOW SENSOR AND SOLENOID</strong></td>
<td><strong>RECTIFIER SIMULATOR</strong></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Water flow sensor and solenoid" /></td>
<td><img src="image" alt="Rectifier simulator" /></td>
<td></td>
</tr>
<tr>
<td>- Water cooled rectifier optional for low water flow rate alarm</td>
<td>- Test the rectifier behavior without the need of a real rectifier</td>
<td></td>
</tr>
<tr>
<td>- Features:</td>
<td>- Use the panel keyboard, the analog card or every one of the available communication protocols (Modbus, ASCII, Profinet-OPC, DeviceNet, Profinet, EthernetIP, Modbus/TCP)</td>
<td></td>
</tr>
<tr>
<td>- Adjustable Flow Sensor to assure minimum required flow rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Benefits:</td>
<td></td>
<td></td>
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<tr>
<td>- Assures minimum water flow rate</td>
<td>- Lower Current Output Ripple (especially 300 Hz)</td>
<td></td>
</tr>
<tr>
<td>- Solenoid can be used to stop circulation of cold water when rectifier is in stand-by, thus preventing potential condensation</td>
<td>- Reduced Voltage output ripple from 10% to 3% (in voltage mode operation)</td>
<td></td>
</tr>
</tbody>
</table>