Solvix by AE

3 to 40 kW DC and Pulsed-DC Power Supplies for Metallic and Reactive Sputtering Applications
Advanced Energy®, the world leader in power conversion technology, presents Solvix by AE DC and pulsed-DC power supplies for metallic and reactive sputtering. This series provides precise control and proven reliability—backed by AE’s worldwide support network. Offering a wide range of power and frequency levels, pulsing, and multiple communications options, Solvix by AE power supplies provide a rugged and cost-effective solution for your unique process.

**Benefits**
- Proven reliability, accuracy, and repeatability
- Worldwide support network
- Reduced substrate damage and process contamination
- Adaptability to a wide range of process requirements
- High throughput
- Efficient installation and service

**Proven Reliability, Accuracy, and Repeatability**
The Solvix by AE series features highly developed DC and pulsed-DC technology, as well as a streamlined design that eliminates potential points of failure. Constructed at a world-class manufacturing facility that has received the highest scores from the most discerning OEM auditors, these rugged power supplies deliver reliable, consistent, and precise performance:
- Highly reliable design with > 10 years field experience
- High accuracy: < 0.5%
- High repeatability: < 0.2%

**Worldwide Support Network**
More than 200 professionals are available around the clock—in dozens of locations around the world—to provide highly responsive sales, service, and technical support. Our comprehensive network of AE offices and regional partners provides insight into your product, process, and application, from a location near you.

**Features**
- Best-in-class arc handling
- DC and pulsed-DC units
- Current, power, and voltage regulation modes
- Flexible architecture
- Air and water cooling
- Multiple units configurable for high-power requirements
- High peak-to-peak voltages (high-frequency models)
- Patented tapless wide output load impedance range (medium-frequency models)
- ICE enhanced arc management for TCO materials

**Reduced Substrate Damage and Process Contamination**
The Solvix by AE series reduces arc-caused contamination and damage with a fast reaction time (< 1 µs) and selectable detection modes. Pulsed-DC units reduce arc formation and minimize arc energy by periodically reversing electrode voltage to clear charge buildup. The result is high-quality films, even from highly arc-prone processes.

**ICE Technology: Enhanced Arc Handling for TCO Films**
Superior arc handling comes standard on Solvix by AE products.

For particularly arc-prone materials such as AZO, ZNO, and ITO, AE offers an even higher level of arc protection. ICE technology, optional with 20/40 kW units, minimizes arcing, stabilizes process conditions, and reduces film defects, for high-quality TCO films.

**Applications**
- Solar, FPD, glass, and industrial sputtering of functional, decorative, and hard coatings
- Sputtering of reactive, metallic, and ceramic TCO films (AZO, ZNO, ITO, and more)
Adaptability to a Range of Process Requirements
With a flexible architecture, the Solvix by AE series offers a wide range of power levels from 3 to 40 kW. In addition, multiple communication options are available to meet the needs of your unique manufacturing process.

High Throughput
Pulsed-DC units can be combined and synchronized for higher-power operation.

Efficient Installation and Service
Modular in design, Solvix by AE units are easy to install, and make preventive maintenance easy to perform in the field, reducing maintenance costs.

### Electrical

<table>
<thead>
<tr>
<th>Output Power</th>
<th>Solvix by AE DC Power Supplies</th>
<th>Solvix by AE Medium-Frequency Pulsed-DC Power Supplies</th>
<th>Solvix by AE High-Frequency Pulsed-DC Power Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power</td>
<td>3, 6, 10; 15; 20, and 30 kW</td>
<td>10, 15, and 30 kW</td>
<td>3, 5, 10, and 20 kW</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>–</td>
<td>1 to 30 kHz</td>
<td>5 to 350 kHz</td>
</tr>
<tr>
<td>Voltage Range</td>
<td>20 to 700 VDC</td>
<td>20 to 1000 VDC</td>
<td>20 to 700 VDC</td>
</tr>
<tr>
<td>Regulation Modes</td>
<td>Current, power, and voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Accuracy</td>
<td>&lt; 0.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>&lt; 0.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulse Duty Cycle</td>
<td>–</td>
<td>1 to 99%</td>
<td>50 to 100%</td>
</tr>
</tbody>
</table>

### Input Power

| Voltage                                                   | 400 VAC, 3 Φ, 50/60Hz       |

### Arc Management

| Passive         | ICE       | Voltage reversal serial + parallel switch | Voltage reversal parallel switch |

### Physical

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>3 kW</th>
<th>6 kW</th>
<th>10 kW</th>
<th>15 kW</th>
<th>20 kW</th>
<th>20 kW</th>
<th>Dual 10 kW</th>
<th>Dual 15 kW</th>
<th>30 kW</th>
<th>20/40 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 kW</td>
<td>7” (H) x 19.1” (W) x 26.8” (D)</td>
<td>26.5 cm (H) x 48.4 cm (W) x 68.3 cm (D)</td>
<td>10.5” (H) x 19.1” (W) x 26.9” (D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 kW</td>
<td>7” (H) x 19.1” (W) x 26.8” (D)</td>
<td>26.5 cm (H) x 48.4 cm (W) x 68.3 cm (D)</td>
<td>10.5” (H) x 19.1” (W) x 26.9” (D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 kW</td>
<td>29 to 40 kg (64 to 88 lb)</td>
<td>40 to 76 kg (88 to 168 lb)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Cooling

| Air             | Water      |

### I/O Control

| Analog          | Software customized: 4 digital input, 4 digital output; 2 analog input, 2 analog output |
| Digital         | Standard: Analog, RS-232                      |
|                 | Available: RS-485, Profibus, Ethernet          |
For more information on Solvix by AE power supplies for reactive and metallic sputtering, visit www.advanced-energy.com/en/SolvixbyAESputtering.html

For more information on AE's complete product portfolio, visit www.advanced-energy.com/en/Products.html

Specifications are subject to change without notice.

© 2013 Advanced Energy Industries, Inc. All rights reserved. Advanced Energy® and A Powerful Advantage™ are trademarks of Advanced Energy Industries, Inc.