

MEDICAL BROCHURE

# POWER SUPPLY & EMI FILTER SOLUTIONS

*Standard and customizable power solutions for  
the most critical applications*

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# WHO WE ARE...

Astrodyne TDI manufactures dependable Power and EMI Filter solutions that enhance, protect, and save lives. As a global leader in demanding power conversion applications, where reliability is critical, we are known for delivering high-performance technology to our partners. With over 60 years in the power industry and +800 employees worldwide, we guarantee unmatched **ENGINEERING SUPPORT** to the medical market.



## MEDICAL EXPERTISE

Astrodyne TDI offers a robust power and EMI filter solutions for the most demanding applications in the medical market. With over six decades of experience in powered electronics, our capabilities expand from standard solutions to complex medically certified custom power and EMI filters.

### *Our team of engineers also specializes in:*

- ▶ Class I and Class II AC input products for clinical and home use
- ▶ DC input models for vehicle-powered medical device applications
- ▶ IEC 60601-1 3rd Edition Certifications – MOPP and MOOP
- ▶ Low leakage current models – BF and CF IPX1 and IPX2 rated enclosures for home use medical products
- ▶ Dual ISO UL registered 9001:2008 and 13485:2016 facilities

## POWER SUPPLIES & EMI FILTER SOLUTIONS

### *AC/DC & DC/DC Adapter and Embedded Power Supplies*

Standard adapters and embedded power supplies are available from **5W** to **1kW**, with customizations available upon request.

### *AC/DC & DC/DC UPS and Bulk Power Supplies*

Standard AC/DC rectifier modules range from **1kW** to **16kW** with custom options available upon request. **2kVA online UPS** and **175VA online UPS** for cart applications also guarantee reliable power for the most demanding medical applications.

### *EMI, EMC and RF Filter Solutions*

Low to medium current and voltage EMI Filter options are available in **single-phase, three-phase, IEC inlets/outlets** and **DC** configurations with low leakage options (selectable Y-Capacitors). Select from a broad list of standard products or request a mod-standard or fully custom solution.

# HIGH-QUALITY SOLUTIONS WITH SAFETY CERTIFICATIONS

Engineering and integrating power solutions into medical equipment applications can create many unique challenges, due in no small part to the potentially life-saving nature of medical machinery, instrumentation, and devices. At Astrodyne TDI, our engineers understand specific medical compliance standards required to placate those challenges.



## LOOKING FOR A COMPLEX POWER DESIGN?

At Astrodyne TDI, we design and manufacture custom power distribution units (PDUs). With experience in power supplies, EMI filters, and integration, we provide industry-leading support for customers spanning the medical, industrial, and semi-cap markets.

**Medical power distribution units have numerous essential functions, including:**

- ▶ **Power Conditioning:** Monitor your power supply by measured voltage harmonics transients, and current data.
- ▶ **Power Conversion:** Convert electrical energy from AC to DC and vice versa to help drive electric transformation.
- ▶ **Power Distribution:** Distribute reliable power to meet the energy demands of multiple devices from an uninterrupted power supply (UPS) or utility power source.
- ▶ **House Keeping:** Consolidate a messy room with one power control box, designed to meet specific requirements.

## WHO WE SUPPORT...

- ✓ **Medical Robotics**
- ✓ **Implantable Devices**
- ✓ **Diagnostic Imaging**
- ✓ **Backup Power**
- ✓ **Circulatory Pumps**
- ✓ **Ventilators**
- ✓ **Dialysis Equipment**
- ✓ **Hospital Beds**
- ✓ **Medicine Dispensers**
- ✓ **Computer Carts**
- ✓ **Medical Lighting**
- ✓ **Proton Therapy**
- ✓ **Radiation Therapy**
- ✓ **Medical Lasers**
- ✓ **MRI Rooms**
- ✓ **And More!**



# LET US WORRY ABOUT THE POWER...

## EXTERNAL POWER SOLUTIONS

<p><b>EWS Series   30W</b></p> <ul style="list-style-type: none"> <li>✓ AC-DC Wall Mount Adapter</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> <li>✓ Efficiency Level VI</li> </ul> 	<p><b>EDP Series   65W,125W</b></p> <ul style="list-style-type: none"> <li>✓ AC-DC External Adapters</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> <li>✓ Efficiency Level VI</li> </ul> 	<p><b>DCL Series   45W, 75W</b></p> <ul style="list-style-type: none"> <li>✓ DC-DC Car Adapter</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ CF Leakage, 2 MOPP</li> </ul> 
<p><b>WS Series   10-260W</b></p> <ul style="list-style-type: none"> <li>✓ Multiple Case Sizes &amp; DC Conn</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ CF Leakage, 2 MOPP</li> <li>✓ Class I or II Input versions</li> <li>✓ Class III Medical Device Support</li> </ul> 	<p><b>AMP Series   10-300W</b></p> <ul style="list-style-type: none"> <li>✓ AC/DC Desktop and Wall Mount</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> <li>✓ EMC 4th Edition</li> </ul> 	<p><b>AHP Series   10-300W</b></p> <ul style="list-style-type: none"> <li>✓ AC/DC Desktop and Wall Mount</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> <li>✓ EMC 4th Edition</li> </ul> 

## EMBEDDED POWER SOLUTIONS

<p><b>E Series   5-30W</b></p> <ul style="list-style-type: none"> <li>✓ AC-DC Open Frame and Encapsulated</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> <li>✓ Board and Chassis Mount</li> <li>✓ Single, Dual, Triple Output</li> <li>✓ Enhanced EMC</li> </ul> 	<p><b>ASM Series   10-550W</b></p> <ul style="list-style-type: none"> <li>✓ AC-DC Open Frame and Enclosed</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ Class I or II Input</li> <li>✓ BF &amp; CF Leakage, 2 MOPP</li> <li>✓ 2"x3", 2"x4", 3"x5", 3.7"x7" Footprint</li> </ul> 	<p><b>ADM Series   10W</b></p> <ul style="list-style-type: none"> <li>✓ DC-DC Encapsulated DIP, Board Mount</li> <li>✓ 5,000V Isolation - Medical 60601 Safety</li> <li>✓ Up to 4:1 input voltage range</li> <li>✓ Single and Dual Outputs</li> <li>✓ 0.8" x 1.25" Footprint</li> </ul> 
<p><b>MMK/PMMK Series   40-450W</b></p> <ul style="list-style-type: none"> <li>✓ AC-DC Open Frame, U-Channel, and Enclosed</li> <li>✓ Medical 60601 3rd Edition</li> <li>✓ Single, Dual, and Triple Outputs</li> </ul> 	<p><b>ASX Series   550W/1100W</b></p> <ul style="list-style-type: none"> <li>✓ <b>Multi-Output Power Supplies</b></li> <li>✓ 1U rack mount configuration</li> <li>✓ Medical IEC 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> </ul> 	<p><b>HermesFlex   2.2kW</b></p> <ul style="list-style-type: none"> <li>✓ <b>Programmable Outputs : 0-500V</b></li> <li>✓ AC/DC Enclosed, 1U</li> <li>✓ Medical IEC 60601 3rd Edition</li> <li>✓ BF Leakage, 2 MOPP</li> </ul> 

# SO YOU DON'T HAVE TO.

## UNINTERRUPTED POWER SOLUTIONS

### PowerBridge™ | 2kVA

- ✓ IEC60601-1 3rd Edition
- ✓ BF Leakage, 2 MOPP
- ✓ 2000VA output for 2 min. with <2 Hr rapid recharge
- ✓ Compact 2U rack mount
- ✓ Built-in Leakage Monitor
- ✓ 10 Year Battery Life



### MediPower™ | 175VA

- ✓ Medical IEC60601-1
- ✓ Output 120VAC
- ✓ <2hr runtime at full output power
- ✓ Remote Monitoring Features
- ✓ Visual and Sound Alarm
- ✓ Lithium Iron Phosphate Battery Chemistry



## EMI/EMC SOLUTIONS

### 080M Series | 1-20A

- ✓ Power Entry and Outlet, **Single Stage**
- ✓ Available with QD tabs or Wires
- ✓ Low Leakage Current
- ✓ Compact Design
- ✓ UL, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### 082M Series | 1-10A

- ✓ Power Entry with Fuse & Switch
- ✓ **Single Stage**
- ✓ Available with QD tabs or Wires
- ✓ Compact Design, Low Leakage Current
- ✓ UL, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### 081 Series | 1-10A

- ✓ Power Entry Module with Fuse Holder
- ✓ **Single Stage**
- ✓ Available with QD tabs or Wires
- ✓ Compact Design
- ✓ UL, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP187 Series | 1-20A

- ✓ Power Entry and Outlet, **Dual Stage**
- ✓ Available with QD tabs or Wires
- ✓ High Performance
- ✓ UL1283/60929, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP135 Series | 1-200A

- ✓ **Single Stage** Power Line
- ✓ Available with QD tabs or Wires
- ✓ High Performance Design
- ✓ UL1283/60929, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP225 Series | 3-20A

- ✓ Single-Phase, **Dual Stage** Power Line
- ✓ Available with QD tabs, Wires, or Studs
- ✓ High Performance
- ✓ UL1283/60929, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP327 Series | 7-250A

- ✓ 3-Phase Delta, **Dual Stage** Power Line
- ✓ Available with Wires, Studs, or Conn.
- ✓ Bookshelf Design
- ✓ UL1283/60929, EN60963, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP330 Series | 10-250A

- ✓ 3-Phase Delta, **Dual Stage** Power Line
- ✓ Available with Wires, Studs, or Connectors
- ✓ UL1283/60929, EN60948, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



### RP420 Series | 15-300A

- ✓ 3-Phase WYE, **Dual Stage** Power Line
- ✓ Available with Wires, Studs, or Connectors
- ✓ UL1283/60929, EN60939, and CSA C22.2 Certified
- ✓ Adjustable Y-Cap Values



## EMI/EMC FILTERS

Astrodyne TDI offers a wide range of filter types, from small **IEC inlets**, **power entry modules** and **single-phase** options to high current **three-phase filters**. We have full engineering and design expertise for developing custom EMI solutions to help your equipment meet applicable EMI requirements, if necessary.

## MEDICAL-GRADE ADAPTERS

External power adapters feature either a universal IEC-320 style AC input connector or molded power cable, while the wall mount versions feature integral molded power plug connections. All models are available with a variety of output connectors, including coax and multi-pin DIN styles, and are an ideal choice for existing or new product designs.

## POWER DISTRIBUTION UNIT

Astrodyne TDI designs and manufactures Custom Power Distribution Units (PDUs) to support critical applications in the medical markets. Custom PDUs offer effective and efficient implementation of power distribution, safety features, remote communication, output monitoring, and control

## AC-DC POWER SUPPLY

Astrodyne TDI's Liquid-cooled power supplies provides a compact solution for high DC-powered systems in medical applications. Applications that demand high power levels or environmental protection can benefit from liquid-cooled power supplies thanks to greater power density and superior thermal management.

## BACK-UP POWER SUPPLY

Critical applications demand reliable up-time. Whether trying to enhance lives with the latest chip production, save lives performing surgery, or protect a nation, the operation depends upon uninterrupted power. Our uninterruptible power supply (UPS) system provides medical isolation internally, which eliminates the need for an external isolation solution.

## MEDICAL-GRADE ADAPTER

Astrodyne TDI has also expanded its line of desktop supplies to include CEC and Energy Star compliant models for low no-load power consumption. The protection of patients, reliability of equipment and extended lifecycle of components are requirements that distinguish medical devices and medically approved Power Supplies.



# POWER. EVERYTHING DEPENDS ON IT.

For over 60 years Astrodyne TDI has been designing and manufacturing power supply and EMI filter solutions. Our quality-oriented engineers have developed an extensive breadth of products with the most critical safety certifications, including IEC60601, and ISO13485 for exceptional quality. Standard power supplies range from 1W and up, while EMI filter solutions range up to 2500A.

Thanks to our extensive experience as power solution providers, our large team of engineers is able to provide rapid prototypes of mod-standard designs. Our team can even design and manufacture fully custom solutions for demanding applications where packaging, connections, voltages, leakage currents, etc., must be modified, and value-added design services are required.

*Partner up with the Astrodyne TDI team to bring your design to market, in record time, with international safety and EMC compliance certifications.*

**Developing Power Technologies & Products that People Depend Upon, to Enhance, Protect, and Save Lives.**

**Astrodyne****TDI**  
Now you have power.

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