



**POLYTRON DEVICES**

*Global Power Supply Manufacturer*



# 2018-2019 POWER SUPPLY SHOWCASE

We have your power supply needs covered with our broad range of new and proven **switching power supplies**, **DC-DC converters** and **linear power modules**.

With thousands of off-the-shelf models and custom designs, we produce every power supply to the highest quality and performance standards.

**INDUSTRIAL, MEDICAL AND RAILWAY APPLICATIONS**  
*Standard and Custom Power Solutions for 50 years*

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## OUR PRODUCTS

Polytron Devices designs, manufactures and distributes high-performance power supplies for a wide variety of applications, including:

- Medical
- Military
- Process Control
- Audio
- Scientific Research
- Energy
- Entertainment
- Industrial
- Telecommunications
- Railway and Transportation

All products are manufactured in an ISO 9001:2015-certified facility.

### DC-DC CONVERTERS

Spanning a range of 0.5 to 200 watts, our comprehensive UL-recognized and CE-marked DC-DC converter lineup includes a huge variety of output types and packaging options.

### AC-DC SWITCHING POWER SUPPLIES

Available up to 500 watts, our UL-recognized and CE-marked switching power supplies feature a universal input capability, large range of output options, PC card, DIN rail or chassis mounting and high-performance EMI input filter.

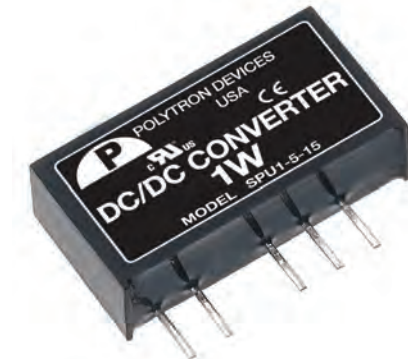
### AC-DC LINEAR ENCAPSULATED POWER MODULES

Our UL- and CUL-recognized and CE-marked AC-DC linear encapsulated power modules are available from 5 to 250 Vdc output and feature a high isolation voltage option, short circuit protection, super low noise and single, dual or triple output voltages. Featuring PC or chassis mounts, they are available in industrial or medical versions.

- Industrial Applications
- 1 Watt Unregulated Output Power
- Miniature Single Inline Package (SIP): 0.77" × 0.24" × 0.40"
- 3000 VDC Input/Output Isolation
- Single and Dual Output
- High Efficiency (Up to 80%)
- Safety Meets: UL60950-1
- CE Marked

## SPU1 SERIES

SINGLE AND DUAL OUTPUT,  
SIP PACKAGE, 1 WATT



Housed in a miniature single inline package (SIP), this single and dual output DC-DC converter boasts 80 percent efficiency, 3,000 VDC input/output isolation and 1-watt unregulated output power.

- Industrial Applications
- 4:1 Wide Input Voltage Range
- 1600 VDC Input to Output Isolation
- Extra Low Noise: 10 mV p-p
- Remote Control
- Low Standby Power
- Over Current Protection
- Short Circuit Protection
- Under and Over Voltage Protection
- Six-Sided Continuous Shield
- Efficiency up to 89%
- Industry Standard DIP Package 1.25" × 0.80" × 0.40"
- Safety Approved UL60950-1, EN60950-1, IEC60950-1
- Built in EN55022 Class B Filter
- CE Marked
- Compliant to RoHS II and Reach

## TLB5 SERIES

4:1 WIDE INPUT RANGE,  
VERY LOW NOISE, 5 WATTS



These 5-watt DC-DC converters integrate a six-sided continuous shield and built-in EN55022 Class B filter. Units are housed in an industry-standard DIP package and meet all relevant UL safety standards.

## SWB9 SERIES

4:1 WIDE INPUT RANGE, EXTRA SMALL PACKAGE, UP TO 9 WATTS



With a 4:1 ultra-wide input range, these DC-DC converters feature continuous short circuit protection, fixed switching frequency and external ON/OFF control. Choose from a plastic or metal case.

- Industrial Applications
- 4:1 Ultra Wide Input Range
- Output Current up to 2000 mA
- Miniature Single Inline Package (SIP): 0.86" x 0.36" x 0.44"
- Fixed Switching Frequency
- High Efficiency (up to 89%)
- Input/Output Isolation up to 1600 VDC
- Continuous Short Circuit Protection
- External ON/OFF Control
- Safety Meets UL60950-1, EN60950-1 and IEC60950-1
- CE Marked
- RoHS Compliant to EU Directive 2011/65/EU

- Industrial Applications
- Extra Wide Input Voltage Range (4:1)
- Single and Dual Output
- No Minimum Load Required
- Input/Output Isolation (1600 VDC Minimum)
- Six-Sided Continuous Metal Shielding
- Operating Temperature Range: -40° to +85°C
- Low Profile Package: 1.00" x 2.00" x 0.40"
- Safety Approved UL60950-1, EN60950-1, IEC60950-1
- CE Mark meets 2006/95/EC, 2011/95/EC and 2004/108/EC
- RoHS Compliant to EU Directive 2011/65/EU

## LWB60 SERIES

REGULATED, 60 WATT, 4:1 WIDE INPUT RANGE



Available in an extra-wide input voltage range, low-profile package, these 60-watt single and dual output DC-DC converters have no minimum load requirement and meet all relevant UL safety standards.

## LPB30 SERIES

4:1 WIDE INPUT RANGE, EXTRA SMALL PACKAGE, 30 WATTS



Housed in an extra-small package, these 30-watt DC-DC converters boast high efficiency up to 92 percent and have no minimum load requirement. All units are RoHS and Reach compliant.

- Industrial Applications
- 4:1 Ultra Wide Input Voltage Range
- No Minimum Load Required
- High Efficiency Up to 92%
- Extra Small Low Profile Package: 1.0" x 1.0" x 0.39"
- Six-Sided Continuous Shield
- Safety Approvals UL60950-1, EN60950-1 and IEC60950-1
- CE Marked
- Compliant to RoHS and REACH

- Industrial Applications
- Single Output Up to 35 A
- No Minimum Load
- Adjustable Output Voltage
- High Efficiency (Up to 90%)
- Compact 2.28" x 1.45" x 0.50" Quarter Brick Package
- Safety Meets UL60950-1
- CE Marked

## OFQ125 SERIES

REGULATED, 2:1 INPUT RANGE 125 WATT, QUARTER BRICK



With a single output up to 35 A and no minimum load requirement, these 125-watt quarter-brick DC-DC converters feature an adjustable output voltage, as well as UL and CE safety approvals.

## MLA30 SERIES

LOW PROFILE PACKAGE,  
WIDE INPUT RANGE, 30 WATT



These 30 watt DC-DC converters features high efficiency up to 80 percent, as well as short circuit and over-voltage protection in a low profile 3.0 x 2.5 x 0.3" package. Epoxy encapsulated, this series also features ON/OFF control and is RoHS II compliant.

- Industrial Applications
- Wide Input Voltage Range
- Low Profile Package: 3.0 x 2.5 x 0.3"
- Efficiency to 80%
- Short Circuit and Over-Voltage Protection
- Epoxy Encapsulated
- ON/OFF Control
- Compliant to RoHS

- Industrial Applications
- Ripple and Noise: 1.0 mV Typ.
- Very Low Noise
- Regulation Line and Load 0.2% to 0.02%
- PC Card or Chassis Mounting
- High Isolation Voltage Available
- Wide Operating Temperature Range Available
- Short Circuit Protection
- Single, Dual and Triple Outputs
- Finger-Safe Terminal Available
- Package: 2" X 2" and 2.5" X 3.5" (depending on wattage, PC Mount, 115 VAC Input)
- Safety Meets UL and CUL
- CE Marked

## P3, P5 LINEAR SERIES

REGULATED, 5 VDC-250 VDC PC  
CARD OR CHASSIS MOUNTING



Our AC-DC linear encapsulated power modules meet UL, CUL and CE approvals and feature a high isolation voltage option, short circuit protection and super low noise. Multiple pin configurations and packaging options are available as well as various accessories including sockets and bench adapters.

## MWB40/B2A SERIES

ISOLATED, UP TO 40 WATT,  
4:1 WIDE INPUT RANGE



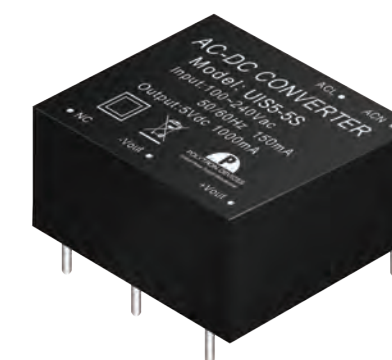
These isolated 40-watt single and dual output DC-DC converters offer high efficiency up to 89 percent, 1,600 VDC isolation and remote ON/OFF control for energy savings. A six-sided continuous shield minimizes noise leakage.

- Industrial Applications
- 4:1 Wide Input Range
- Miniature Package: 2" x 2" x 0.4"
- 1600 VDC Isolation Voltage
- Efficiency to 89%
- Six-Sided Shielding
- Remote ON/OFF Control
- Over Current Protection
- Over Temperature Protection
- Over Voltage Protection
- Under Voltage Protection
- Short Circuit Protection
- Safety Meets: IEC/UL/EN60950-1
- RoHS Compliant
- REACH Compliant
- CE Marked

- Industrial Applications
- Extra Small 1" x 1" Package
- Universal Input 90~264 VAC
- High Efficiency Up To 85%
- Protection: Short Circuit/Overload/Over Voltage
- Fully Encapsulated Plastic Case
- ROHS Compliant
- Built to meet UL60950-1, IEC60950-1

## UIS5 SERIES

UNIVERSAL INPUT, 5 WATT,  
EXTRA SMALL PACKAGE



Available in an extra-small 1" x 1" package, these highly-efficient AC-DC converters feature a universal input range of 90 to 264 VAC and include short circuit, overload and over voltage protection.

## UIL10 SERIES

UNIVERSAL INPUT, 10 WATTS  
SINGLE AND DUAL OUTPUT



These 10-watt single and dual output AC-DC power supply modules are CE-certified, come with an encapsulated plastic case and include an internal input filter.

- Industrial Applications
- Universal Input (90-264 VAC)
- High Efficiency Up to 82%
- Protection: Short Circuit/Overload/Over Voltage
- Encapsulated Plastic Case
- Dimensions (2.5" x 1.75" x .75")
- Internal Input Filter
- Safety Meets EN60950-1
- CE Certified
- Compliant to RoHS

- Industrial Applications
- Package Size: 2" x 4" x 1.16"
- 3000 VAC Reinforced Insulation
- Efficiency to 92%
- Adjustable Output Voltage
- Internal EN55022 Class Filter B
- Low Leakage Current
- Low Standby Power
- Protection Class I, Class II
- Operating Altitude: 5000 meter
- Over Current Protection
- Over Voltage Protection
- Short Circuit Protection
- Safety Meets: IEC/UL/EN60950-1
- RoHS Compliant
- REACH Compliant
- CE Marked

## UI150 SERIES

UNIVERSAL INPUT, 150 WATT,  
2" x 4" PACKAGE



For industrial applications, these 150-watt AC-DC converters provide high efficiency up to 92 percent and include low leakage current and standby power for additional energy savings.

## UIM10 SERIES

UNIVERSAL INPUT, 10 WATTS  
EXTRA SMALL PACKAGE



Available in an extra-small package, these 10-watt universal input AC-DC converters feature a universal input of 90 to 264 VAC, are RoHS compliant and meet EN60950-1 and UL60950-1 safety standards.

- Industrial Applications
- Universal Input (90-264 VAC)
- High Efficiency: 78.7% Minimum
- Protection: Over Voltage/Short Circuit/Over Current
- Encapsulated Plastic Case
- Extra Small Package:  
1.61 x 0.61 x 0.72 inches (41 x 15.6 x 18.5 mm)
- Safety Meets EN60950-1, UL60950-1
- Compliant to RoHS

- Industrial Applications
- Open Frame: 5" x 3" x 1.58"  
(127 x 76.2 x 40.1 mm)
- Enclosed: 5.83" x 3.15" x 1.60"  
(148.2 x 80 x 40.6 mm)
- 3000 VAC Reinforced Insulation
- Adjustable Output Voltage
- Internal EN55022 Class B Filter
- Low Leakage Current
- Low Standby Power
- Operating Altitude 5000 meter
- Protection: Class I and Class II
- Remote ON/OFF
- Protection: Over Voltage/Short Circuit/  
Over Current/Over Temperature
- IEC/EN/UL 60950-1
- Compliant to RoHS II and Reach
- CE Marked

## UI450 SERIES

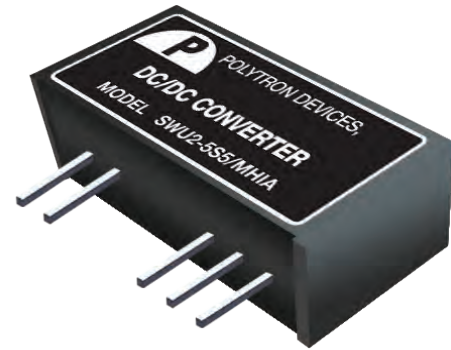
UNIVERSAL INPUT,  
UP TO 450 WATT



Available in a compact open frame or enclosed package, these 450-watt AC-DC industrial power supplies feature a 5,000-meter operating altitude, 3,000 VAC reinforced insulation and adjustable output voltage.

## SWU2/MHIA SERIES

SINGLE AND DUAL OUTPUT,  
UNREGULATED, UP TO 2 WATTS



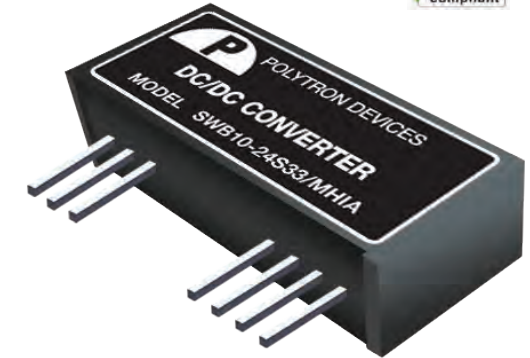
Designed for medical applications, this series of 2-watt single and dual output DC-DC converters has a patient leakage current rating of 2  $\mu$ A and is housed in an industry-standard 7-pin SIP package.

- Medical Applications
- 7-Pin SIP Package: 0.77" x 0.39" x 0.5"
- Industry Standard Pinout
- High Isolation: 4.2K VAC (6K VDC)
- High Efficiency up to 84%
- Reinforced Insulation
- Patient Leakage Current: Max 2  $\mu$ A
- Internal SMD Construction
- Operating Temperature: -40°C to +85°C
- Design Meets EN60601-1, ANSI/AAMI, ES60601-1
- RoHS Compliant

- Medical Applications
- 4:1 Wide Input Voltage Range
- 10W Miniature SIP Package: 1.27" x 0.58" x 0.35"
- 100% Burned In
- High Efficiency
- UL94V-0 Package Material
- Custom Solutions Available
- Design Refers to AAMI/CSA 60601-1, IEC/EN 60601-1 3.1 Edition
- RoHS Compliant
- Applications: Medical/Industrial/ITE

## SWB10/MHIA SERIES

REGULATED, 4:1 INPUT VOLTAGE,  
SIP PACKAGE, UP TO 10 WATTS



These regulated DC-DC converters provide up to 10 watts of power and efficiency up to 83 percent. Units are suitable for medical applications, as well as industrial and ITE equipment.

## TWA3/MHIA SERIES

REGULATED, 2:1 WIDE INPUT  
RANGE, 3 WATTS



Housed in a miniature DIP package, these 3-watt 2:1 wide input DC-DC converters feature a clearance and creepage distance of 8 mm/2 MOPP and built-in Class A filter.

- Medical Applications
- 2:1 Wide Input Voltage Range
- Miniature DIP Package: 1.25" x 0.80" x 0.40"
- High Efficiency: To 89%
- Operating Temperature Range: -40°- +105°C (with derating)
- Clearance and Creepage Distance: 8.0 mm/2 MOPP
- Reinforced Insulation
- 5000 VAC Input to Output 2 MOPP Isolation
- 2 MOPP
- Built-In EMI Class A Filter
- 2  $\mu$ A Patient Leakage Current
- Safety Meets UL, CE and ANSI/AAMI ES60601-1, EN60601-1 and IEC60601-1
- CE Marked
- RoHS Compliant to 2011/65/EU

- Medical Applications
- 4:1 Wide Input Voltage Range
- Miniature DIP Package
- Operating Temperature Range: -40° to +105°C (with derating)
- Miniature DIP Package: 1.25" x 0.80" x 0.40"
- High Efficiency: to 89%
- Reinforced Insulation
- Clearance and Creepage Distance: 8.0 mm
- 2 MOPP
- 5000 VAC Input/Output 2 MOPP Isolation
- Built-In EMI Class A Filter
- 2  $\mu$ A Patient Leakage Current
- Medical Safety Approvals Including: UL, CE and ANSI/AAMI ES60601-1, EN60601-1 and IEC60601-1
- RoHS Compliant to 2011/65/EU

## TWB10/MHIA5 SERIES

4:1 INPUT RANGE, 10 WATTS,  
MINIATURE DIP PACKAGE



Designed for medical safety and housed in a miniature DIP package, these 10-watt single and dual output DC-DC converters have a patient leakage current of 2  $\mu$ A and clearance and creepage distance of 8 mm/2 MOPP.

## P3, P5 MHIA SERIES

LINEAR, 5 VDC-250 VDC,  
EXTRA LOW NOISE, 2 MOPP



These AC-DC Linear Encapsulated Power Supplies provide very low 1.0 RMS output noise for a wide range of medical applications, from surgical devices to imaging equipment. Choose from PC or chassis mount.

- Medical Applications
- Up to 5700 VDC I/O Isolation
- Reinforced Insulation
- 2 MOPP
- 2  $\mu$ A Patient Leakage Current
- Regulation Line and Load 0.02% to 0.2%
- Short Circuit Protection
- Single, Dual and Triple Outputs
- International Input Voltages Available Including Dual/Switchable Input Voltages
- Very Low RMS Output Noise
- Optional Wide Operating Temperature Range
- Built for In-Device Operation
- Packages Available: PC Mount, Chassis Mount with Screw Terminals
- Meets IEC 60601-1 3rd Edition
- CE Marked

- Medical Applications
- Universal Input Range
- Desktop Package: 7.78" x 4.01" x 2.01"
- DC Output Connector with Push Release Safety Tab
- 4000 VAC Input/Output Isolation
- 2 MOPP
- Class I Protection
- Active PFC Function DoE VI Compliance
- RoHS Compliant
- Built-In Protection: Over Voltage/Short Circuit/Over Current/Over Temperature
- High Efficiency: 87.5% Minimum
- LED Indication
- MTBF > 100,000 Hours
- CEC level V1, UL/CUL 60601-1, EN60601-1 and IEC60601-1 3rd Edition, FCC, CE, CB

## MUI310-A SERIES

UNIVERSAL INPUT, DESK TOP,  
230-310 WATTS



These desktop AC-DC power supplies for medical applications feature LED indication, as well as built-in over voltage, over current, over temperature and short circuit protection. Units meet a range of safety approvals and compliances.

## MUI65 SERIES

UNIVERSAL INPUT, 65 WATT  
COMPACT PACKAGE



Available in a variety of mounting options, these 65-watt AC-DC power supplies feature a universal input range, high efficiency up to 92 percent and low leakage current under 75  $\mu$ A.

- Medical Applications
- Universal Input Range
- Operating Temperature Range: -25° to 80°C (with derating)
- Compact Package: 2.00" x 3.00" x 1.16"
- Mounting Options: Screw Terminal, Chassis Mount, Din Rail, Open Type, Enclosed (Standard)
- High Efficiency: Up to 92%
- Active Power Factor Correction
- Low Leakage Current Under 75  $\mu$ A
- Built-in EMI Class A Filter
- 2000 VAC Input to Output 2 MOPP Isolation
- Class I and Class II Protection
- Medical Safety Approvals: UL, CE and ANSI/AAMI, ES60601-1, EN60601-1 and IEC60601-1 3rd Edition
- RoHS Compliant to 2011/65/EU
- 0.11 Watt Low Standby Power Consumption
- Operating Altitude 5000 M

- Medical Applications
- Universal Input Range
- 2 MOPP
- 4000 VAC Reinforced Insulation
- Adjustable Output Voltage
- Internal EN55022 Class B Filter
- Low Leakage Current
- Low Standby Power
- Operating Altitude 5000 meter
- Protection Class I
- Remote ON/OFF
- Protection: Over Voltage/Short Circuit/Over Current/Over Temperature
- Safety Approvals: ANSI/AAMI ES60601-1, EN60601-1 and IEC60601-1 3rd Edition
- CE Marked: IEC60601-1-2 ED4.0
- Compliant to RoHS II and Reach
- Open Frame: 5" x 3" x 1.58" (127 x 76.2 x 40.1 mm)
- Enclosed: 5.83" x 3.15" x 1.60" (148.2 x 80 x 40.6 mm)

## MUI450 SERIES

UNIVERSAL INPUT,  
UP TO 450 WATTS



For medical applications, these 450-watt AC-DC power supplies feature low leakage current and standby power, as well as 4,000 VAC reinforced insulation, 2 MOPP and adjustable output voltage.

**TWRB10 SERIES**

4:1 WIDE INPUT RANGE,  
DIP PACKAGE, 10 WATTS



Housed in a miniature DIP package, these 10-watt single and dual output DC-DC converters feature 1,500 VDC isolation voltage, 100 percent burn-in for reliability and remote ON/OFF control for energy savings in railway applications.

- Railway Applications
- 4:1 Wide Input Voltage Range
- High Efficiency Up to 83%
- Isolation Voltage: 1500 VDC
- 10W DIP Package: 1.25" x 0.8" x 0.4"
- 100% Burned In
- UL94V-0 Package Material
- Custom Solutions Available
- Remote ON/OFF
- EN50155 Railway Standard
- Compliant to RoHS

- Railway Applications
- 4:1 Ultra Wide Input Voltage Range: 9-36 VDC, 18-75 VDC and 43-160 VDC
- Standard 1.00" x 2.00" x 0.40" Package
- 20 Watts Output Power
- Output Current up to 2.4 A
- High Efficiency (Up to 88%)
- CE Mark Meets 2006/95/EC, 93/68/EEC and 2004/108EC
- UL60950-1, EN60950-1, IEC60950-1 and EN50155 Licensed
- RoHS Compliant to EU Directive 2011/65/EU

**RWB20 SERIES**

REGULATED, 20 WATT,  
4:1 WIDE INPUT RANGE



Designed for railway applications, these 20-watt single and dual output DC-DC converters have an output current up to 2.4 A and meet all relevant railways safety standards.

**RLPB15 SERIES**

REGULATED, UP TO 15 WATTS,  
4:1 WIDE INPUT RANGE



These miniature 15-watt single and dual output DC-DC converters feature high efficiency up to 91 percent, low standby power, high reliability power and remote ON/OFF control for energy savings.

- Railway Applications
- 4:1 Wide Input Voltage Range
- High Efficiency Up to 91%
- Miniature and Low Profile Package: 1.0" x 1.0" x 0.39"
- 3000 VDC Isolation Voltage
- Internal EN55032 Class A Filter
- Low Standby Power
- High Reliability Power
- Remote ON/OFF
- Protection: Over Voltage/Short Circuit/ Over Current/Under Voltage
- Six-Sided Continuous Shield
- EN50155 and EN45545-2 Railway Standard
- Safety Meets UL60950-1, EN60950-1, IEC60950-1, UL62368-1, EN62368-1 and IEC62368-1
- CE Marked
- Compliant to RoHS and Reach

- Railway Applications
- 4:1 Wide Input Range (9-36, 43-160 VDC)
- 3.68" x 2.07" x 0.67" Wall Mount Package
- No Minimum Load Required
- High Efficiency: Up to 89%
- Built In EN55011 and EN55022 Class A Filter
- Optional EMI B Filter Available, Meets EN55032 Class B
- Input to Output Isolation: 2250 VDC
- Adjustable Output Voltage
- Six-Sided Continuous Shield
- UL60950-1, EN60950-1 IEC60950-1 and EN50155 Approved
- CE Marked
- RoHS and Reach Compliant

**FWB150 SERIES**

4:1 WIDE INPUT RANGE,  
150 WATTS, CHASSIS MOUNT



With a chassis mount and built-in Class A filter, this 200-watt DC-DC converter features adjustable output voltage, a six-sided continuous shield and input to output isolation of 2,250 VDC.

## HWB200 SERIES

4:1 WIDE INPUT RANGE UP TO  
200 WATTS, HALF-BRICK



Ideal for railway system applications, these 200-watt half-brick DC-DC converters feature a remote control, 2,250 VDC basic insulation and high efficiency up to 91 percent.

- Railway Applications
- 4:1 Ultra Wide Input Range
- Half Brick Package 2.28" x 2.40" x 0.50"
- No Minimum Load Required
- High Efficiency Up to 91%
- Remote Control
- 2250 VDC Basic Insulation (24 and 48 Vin)
- UL60950-1, EN60950-1, IEC60950-1 Safety Approvals
- Meets: EN50155, EN50121-3 and EN61373
- CE Marked
- Compliant to RoHS and Reach

## TWB8 SERIES

4:1 WIDE INPUT RANGE,  
8 WATTS



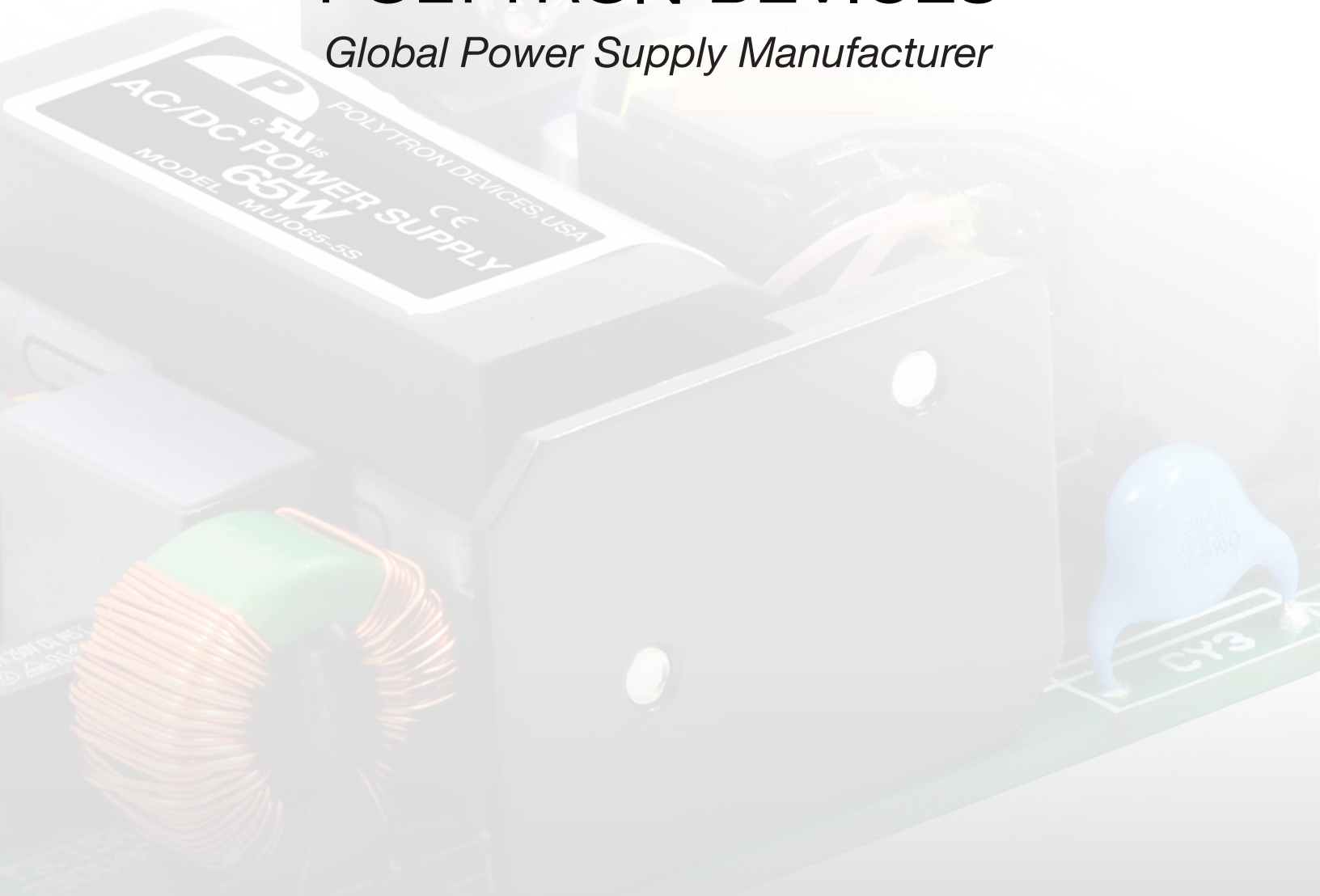
Certified for railway applications, our 8-watt single and dual output DC-DC converter includes a standard 24-PIN DIP package, optional SMD package and output currents up to 2.4 A.

- Railway Applications
- 4:1 Ultra Wide Input Voltage Range: 9-36 Vdc, 18-75 Vdc, and 43-160 Vdc
- Industry Standard 24 PIN DIP Package: 1.25" x 0.80" x 0.4"
- SMD Package Optional (Suffix "S")
- 8 Watts Output Power
- Output Current up to 2.4A
- High Efficiency up to 88%
- Safety meets UL60950-1, EN60950-1, IEC60950-1, and EN50155
- CE Mark meets 2006/95/EC, 2011/95/EC, and 2004/108/EC
- RoHS Compliant to EU Directive 2011/65/EU



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