High Voltage Low Power Selector Guide

Proportional

Q 0.5W

- 100V to 10kVDC
- Positive or negative
- Optional dual output/center tap (Up to 900V)
- Input voltage: 0 to 5/12/15/24VDC
- External copper shield option
- Control pin option
- Standard & extended temperature ranges
- Input/output isolation
- UL62368-1 approvals

AG 1W

- 100V to 6kVDC
- Positive or negative
- Input voltage: 0 to 5/12/24VDC
- Low profile: 3.25mm (0.128")
- Control pin standard
- Surface mount
- Input/output isolation
- UL62368-1 approvals

E 2 to 3W

- 200V to 7kV (3W), 8kVDC (2W)
- Positive or negative
- Optional dual output/center tap & mounting holes
- Input voltage: 0 to 12/15VDC
- Low ripple, EMI/RFI
- External mounting box/shield (AB Option)
- Alternate pin patterns available
- Input/output isolation
- Low leakage current

A 1W

- 100V to 6kVDC
- Positive or negative
- Input voltage: 0 to 5/12/24VDC
- Low profile: 6.35mm (0.25")
- Control pin standard
- Standard & extended temperature ranges
- Input/output isolation
- UL62368-1 approvals

GP 1W

- 100V to 6kVDC
- Positive or negative
- Input voltage: 0 to 12VDC
- External mounting box/shield (AB option)
- User-selectable output polarity
- Low power consumption
- Input/output isolation
- Short circuit protection
- Low EMI/RFI

F 10W

- 200V to 8kVDC
- Positive or negative
- Optional dual output/center tap & mounting holes
- Input voltage: 0 to 12/15VDC
- Low ripple, EMI/RFI
- Input/output filtering
- 5-sided metal enclosure
- Input/output isolation
- Short circuit protection

AH 1.5W

- 100V to 6kVDC
- Positive or negative
- Input voltage: 0 to 5/12/24VDC
- Low profile: 6.35mm (0.25")
- Control pin standard
- Standard & extended temperature ranges
- Input/output isolation
- UL62368-1 approvals

G 1.5W

- 100V to 6kVDC
- Positive or negative
- Optional dual output/center tap
- Input voltage: 0 to 12VDC
- External mounting box/shield (AB option)
- Input/output isolation
- Short circuit protection
- Low EMI/RFI
- UL62368-1 approvals

FS 10W

- 200V to 6kVDC
- Positive or negative
- Optional dual output/center tap
- Input voltage: 0 to 12/15/24/28VDC
- Standard & extended temperature ranges
- Input/output isolation
- Mounting holes for chassis mount or heat sink
- Arc, short circuit protection, disable pin, alarm signal
- Low EMI/RFI

Regulated

C 1W

- 100V to 8kVDC
- Positive or negative
- Input voltage: 12V (11.5 to 16VDC)
- Very low ripple, EMI/RFI
- Low noise, quasi-sinewave oscillator
- Shield case with isolated case ground
- Analog voltage programming: 0 to 5V
- External gain adjust for calibration
- UL62368-1 approvals

CA-T 1W

- 200V to 2kVDC
- Positive or negative
- Input voltage: 5V (4.75 to 5.25)/12V (11.5 to 15.5VDC)
- Precision regulated
- Very low ripple, EMI/RFI
- Voltage monitor output
- Analog voltage programming
- Extended temperature range
- Short circuit protection

HRC05 5W

- 600V to 6kVDC
- Positive or negative
- Input voltage 24VDC nominal (22 to 30VDC)
- Voltage control & remote on/off
- Voltage & current monitor, on board 5V Supply
- Line & load regulation <0.01%; Low ripple <0.01%
- Arc, short circuit & thermal overload protection
- UL61010-1, UL62368-1 approvals; CE & RoHS

CA 1W

- 200V to 2kVDC
- Positive or negative
- Input voltage: 5V (4.75 to 5.25)/12V (11.5 to 15.5VDC)
- Precision regulated
- Very low ripple, EMI/RFI
- Voltage monitor output
- Analog voltage programming
- Short circuit protection
- UL62368-1 approvals

CB 1W

- 10kVDC adjustable
- Positive or negative
- Input voltage: 12V (11.5 to 16VDC)
- Low noise, quasi-sinewave oscillator
- Very low EMI/RFI
- Programming over-voltage protection
- Voltage & current monitor outputs
- External gain adjust for calibration
- Thermal shutdown

HRF15 15W

- 10kV to 15kVDC
- Positive or negative
- Input voltage: 24VDC nominal (21.6 to 26.4VDC)
- Output voltage & current regulated
- 0 to 100% programmable voltage & current
- Analog & digital (PMBus) V/I control & monitoring
- Intuitive GUI for easy configuration
- Arc, short circuit & overload protection
- Output ripple as low as 0.001%
- IEC/UL/CSA/EN 62368-1 approval, 61010-1

HRL30 30W

- 200V to 6kVDC
- Positive or negative
- Input voltage: 24VDC nominal (22 to 30VDC)
- Output voltage & current regulated
- 0 to 100% programmable voltage & current
- Voltage & current monitor, on board 5V supply
- Short circuit, arc & overload protections
- Arc, short circuit & thermal overload protection
- Low ripple & noise
- UL62368-1 approvals; CE & RoHS

Proportional - Accessories

FS-EB Evaluation Board

- All FS models
- Easy prototyping & evaluation
- Banana jacks for easy connection

FS-VM Series Adapter Board

- All FS models
- Vertical mounting option
- Minimizes X-Y footprint

Regulated - Accessories

C Series Chassis Mounts, CM3 & CM4

- Input voltage 11.5 to 16VDC
- C models ≥2.5kVDC (C25- C80)
- Three programming options
- Reverse polarity protection
- Connectors & mates included
- CM3 has SHV (C25 to C40)

CA & CA-T Series Chassis Mounts, CM1 & CM2

- Input voltage 11.5 to 16VDC
- Three programming options
- Reverse polarity protection
- Mating connectors included
- CM1 has MHV
- CM2 has SHV

Recently introduced

For full specifications visit: **www.xppower.com**

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Mass spectrometry

MS Source 1W

The MS Source series is a range of high voltage DC-DC solutions specifically designed for mass spectrometry ion sources and other mass spectrometry subsystems requiring reverse polarity. It provides an adjustable bipolar output up to ±6kV, with low ripple, high stability, and fast polarity switching down to 5ms.

Optimized for the ionization stage, MS Source delivers tightly regulated, low-noise power to ensure stable and repeatable ion generation in both positive and negative ion modes. The series features programmable output voltage, control and monitoring, and fast switching in a compact chassis-mount design enabling high throughput and high accuracy in mass spectrometry platforms.

Features

- Input: +24VDC
- Output: 0 to ±6kV reversible (bias)
- Other output voltages available on request
- Switching speeds of 25ms; optional 5ms
- Output voltage and current regulated
- 10 to 100% programmable output voltage
- Voltage and current monitor outputs
- Short circuit, arc, and overload protection
- Low ripple, high stability
- Designed to meet UL 61010
- Operating temperature: +5°C to +45°C
- 3 year warranty

Applications

- Mass spectrometry
- Electrophoresis
- High voltage biasing

Dimensions

254 x 100.33 x 50.8mm (10.00" x 3.95" x 2.00")

Dimensions can be tailored to exact customer requirements.

MS Detector 1W

The MS Detector series is a detector-optimized, dual-output high voltage DC-DC converter platform developed for the detector stage of mass spectrometry instruments, integrating a fast-reversible ±12kV main output with a secondary adjustable -4.5 kV output in a single compact module.

Designed to simplify system architecture and improve analytical performance, the MS Detector delivers low ripple, high voltage stability, and polarity switching as fast as 5ms to support high-speed positive/negative ion detection. With precise voltage and current regulation, control and monitoring interfaces, and comprehensive arc and overload protection, the MS Detector platform enables faster analysis times and easy integration into mass spectrometers.

Features

- Input: +24VDC
- Output 1: 0 to ±12kV reversible (bias)
- Output 2: 0 to -4.5kV (multiplier)
- Other output voltages available on request
- Switching speeds of 25ms, optional 5ms
- Output voltage and current regulated
- 10 to 100% programmable output voltage
- Voltage and current monitor outputs
- Short circuit, arc, and overload protection
- Low ripple, high stability
- Designed to meet UL 61010
- Operating temperature: +10°C to +60°C
- 3 year warranty

Applications

- Mass spectrometry
- Electrophoresis

Dimensions

170 x 140 x 54mm (6.69" x 5.51" x 2.12")

Dimensions can be tailored to exact customer requirements.

Recently introduced

For full specifications visit: **www.xppower.com**

High Voltage Low Power Selector Guide

High Voltage Power Supplies

We offer a broad range of high voltage DC-DC products with output voltages from 100V to 25kVDC in both proportional and regulated outputs for high voltage applications. These DC-DC converters are highly controllable, high density, encapsulated, PCB mount, low noise power supplies generating a high voltage output that is fully controllable using standard low voltage circuitry.

Our high voltage DC-DC converters are suitable for a wide range of high performance applications. From precision, analytical instruments to mission-critical equipment, whether developing sensitive laboratory instruments, wafer handling electrostatic chuck, detection or scientific equipment, our products can be trusted to fulfill your needs for high performance and reliability.

Proportional

Provides versatile low cost DC to high voltage DC conversion with proven reliability in ultra miniature size. The output voltage is directly proportional to the input voltage and is linear from 0.7V to the maximum input. Dual output options are available from one lower cost module.

Regulated

Precision regulated DC to high voltage DC modules that feature easy external control and design-in, providing a stable high voltage output over the specified input voltage and load range. These products are fully programmable from 0-100% of the nominal output voltage via a linear low voltage control input. These products have voltage and current monitors available as well.

Custom Power Solutions

XP Power can design a custom or modified AC-DC or DC-DC power system that meets your project's individual specifications.
We design high voltage products for a broad spectrum of applications including electrostatic chucks, mass spectrometry and precision scientific instruments and detectors.

Typical Applications

- Avalanche Photodiodes
- Baggage Inspection
- Capacitor Charging
- E-Beam/Ion Beam
- Electro Adhesion
- Electron Multiplier
- Electrophoresis
- Electrostatic Chuck
- Electrostatic Precipitators
- EO Lenses
- Field Generation
- Grid Bias
- Ignitors/Spark Ignition
- Image Intensifiers
- Industrial Printing
- Ion Pumps
- Ionization
- Mass Spectrometry
- Photomultiplier tubes
- Piezo Devices
- Portable Battery Powered Devices
- Solid State Detectors
- Test Instrumentation
- Vacuum Gauges

Applications by Market

Semiconductor Fabrication and Inspection

Miniature high voltage power supplies designed by XP Power meet the most extreme performance criteria. The products are designed to meet the consistency and repeatability of performance coupled with the specification required by this market segment.

- Detectors
- Electrostatic Chucks
- High Voltage Biasing
- Scanning Electron Microscopes

Analytical Instruments

High stability, low ripple, and well-regulated output levels make XP Power's high voltage power supplies perfect for integration into precision measurement devices and other high sensitivity equipment. The development of precision scientific instruments demands power supplies with proven long-term reliability. Through the use of sophisticated filtering and shielding techniques, our power supplies exhibit exceedingly low ripple, noise, and EMI/RFI.

- Cell Separation
- Electrophoresis
- Imaging
- Mass Spectrometers
- Neutrino Telescope
- Spectrometry

Medical

XP Power helps further the advancement of medical high voltage technologies by delivering compact, reliable, economical products that can be produced in high volume with consistent dependability. These and other reliability features make them suitable for use in sensitive equipment.

- Imaging and Diagnostic
- Capacitor Charging
- Detectors (PMTs, APDs)
- High Voltage Bias
- PET and CT Scanners
- X-Ray Detectors

Industrial

Our high voltage DC-DC converters are suited for a wide range of industrial applications.

- Air Filtration
- Air Quality Testing
- Detectors
- Dielectric Testing
- Food and Beverage Testing
- Water Quality Analysis

Security/Defense

A trusted supplier of high voltage power supplies to military and defense programs for over 40 years. XP Power meets the most exacting demands for performance and reliability, in mission critical applications, where there is no room for error.

- Baggage Scanners
- Detectors (PMTs, APDs)
- Radiation Detection
- Threat Detection