



HIGH VOLTAGE POWER SUPPLIES

Innovative High Voltage Power Supplies for Electrostatic Filters

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Electrostatic filters are used in industrial enterprises to clean exhaust air from aerosols, finest dust particles as well as water-logged exit air containing



tar and/or oil. These filters also become increasingly important for reducing the particulate matter content in the exhaust air of wood and woodchip heating systems. With two new series of high voltage supply modules, MSR and MMR, we cover all re-

quirements of both small and large electrostatic filters regarding output voltage, output power and electronic control. Read more on page 2 »



Compact 300 W High Voltage Supply Module with 24 V(DC) Input Voltage for X-Ray Systems

REMO-HSE presents an innovative high voltage power supply module for X-ray systems, providing up to 50 kV at a maximum output current of 6 mA. Despite the comparably high output power of

300 W with a 24V (DC) input, the unit only measures 180mm x 160mm x 350 mm (w, h, d). Features like the heating

current for the filament and a 0 to 10 V interface provide for an easy integration of the new high-voltage supply module into electron beam systems.

Read more on page 3 »



Current Project: New Modular Concept for Configurable High Voltage Supplies up to 2kW

The focus of this development lies on the modular setup of power supplies. It enables us to use mainly standard components for larger as well as smaller quantities and even customized solutions.

The great advantage for our customers is a cost reduction without sacrificing

quality or diversity. All units of the same type can be operated in parallel which leaves you with the option of increasing the output power at any time. A variety of control and monitoring interfaces will be provided.

The availability of these power supplies is expected

in November.

This project is supported in part by the German Federal Ministry of Economics and Technology.



Gefördert durch:



aufgrund eines Beschlusses des Deutschen Bundestages

Very Compact High Voltage Power Supplies: The MSR-Series

High voltage supply modules of the MSR Series are of high quality but still inexpensive and feature all necessary adjustment possibilities. The modules are robust, compact and designed for smaller output power.

The MSR Series comprises four power classes with an output power of 30W, 60W, 90W and 120W; the nominal output voltage, with either positive or negative polarity, can range between 5kV and 30kV.

Both, output voltage and output current can be set to any value between 0% and 100% of the related nominal value, depending on the de-

sign either by a simple potentiometer or via an analogue interface. Optionally,



a potential-free relay contact for the "load" status information and two LEDs for displaying status information (over-temperature, constant voltage / constant current) are provided additionally.

all modules are also available with a second high-voltage output with fixed ratio compared to first high voltage output, e.g. 50%. This option is particularly useful for electrostatic filters with ionizer and collector set.

Additional features include soft-start and spark protection. Depending on the type,

All modules are short-circuit proof against ground, automatically switch off at over-temperature and are protected against over-voltage and over-current by a automatic transition between constant voltage and constant current regulation.



The MMR Series: 500V to 120kV Suitable for Many High Voltage Applications

Compared to the MSR Series, the modules of the MMR Series provide more connection and control features and cover a much wider voltage and power range. Currently available are designs with 60W, 120W, 400W and 750W



60W / 120W Design up to 20kV

output power at a positive or negative output voltage between 500V and 120kV.

Up to 400W output power the MMR Series is equipped with a wide-range input with PFC. All units

provide soft-start as well as spark detection with spark counter. A particular advantage of this series is that the modules can be connected in parallel for higher output power.

Three LEDs as well as two potential-free relay contacts provide status information about the high-voltage, the load and the temperature. In addition to adjusting the output voltage and output current, the modules of the MMR Series also allow for adjusting the current-/voltage characteristics (e.g. soft response).

Depending on the design, the settings are either performed via a potentiometer and/or an analogue input. An optional communication

module provides interfaces to the most common PLC



400W / 750W Design up to 120kV

and industrial bus communication standards.

Of course, all modules of this series are short-circuit proof against ground and protected against over-voltage and over-current by a self-acting transition between constant voltage and constant current regulation. At over-temperature the units automatically switch off.

Compact 300 W High Voltage Supply Module with 24V Input Voltage for X-Ray Systems

The high-voltage supply module MXR-S300N50-6m-DC24-FFD from REMO-HSE is powered from a 24V (DC) supply and provides up to 50kV at a maximum output current of 6mA with an efficiency of around 87%. Additionally, the module provides a DC-supply for heating, floating on the high-voltage potential. This 5V (DC) output provides a maximum of 3.7A and thus a maximum electric heating power of 18.5W. The heating current, regulated by an internal cathode circuit, is either limited by the set cathode current and/or the set heating current.

As options, an AC supply floating on the high-voltage potential can be provided for the filament, as well as (with positive high voltage) AC or DC supply voltages against ground. The internal regulation circuit for the cathode

current allows for presetting the cathode current according to customer demands. Advantage: The heating current is automatically kept at the set value or the regulation of the cathode current is automatically provided by setting the heating current.



In accordance with today's strict demands, the module is extremely stable and the output ripple is less than 50V (peak-to-peak). The fluctuation of the output voltage due to a load change from zero to full load remains below 60V (statically) or below 3kV with a response time of less than 200ms (dynamically). When

the load changes from 10% to 100% nominal load, or if the input voltage changes by 1V DC, then the output current fluctuation stays below $\pm 4\mu\text{A}$. After a warming-up time of 30 minutes, the module's temperature drift over the subsequent eight hours is below 0,2 % of its nominal values.

All important parameters, like output voltage, output current, heating voltage and heating current may be set and monitored using the built-in 0...10V analogue interface. Effective, reliable and self-acting safety cut offs protect the module against over-voltage, over-current, short-circuit and over-temperature. Furthermore, the unit provides status information in case of over-voltage, over-current and over-temperature. The aluminium housing complies with protection class IP20.



HV-Voltmeter 210S New Design and More Options

The HV-Voltmeter 210S is a multifunctional high voltage voltmeter for measuring low-energy electrostatic high voltages. It measures DC

voltages up to $\pm 200\text{kV}$, the superimposed ripple and detects sparks.

A high internal resistance ensures that the test current is small

in order to protect the device under test. The meter features a 4 1/2 digit LCD display with automatic polarity indication, spark sensing with LED indicator, a temperature indicator and analogue signal outputs for voltage, ripple and sparks recording.

The meter operates with 115/230VAC or 24VDC.

The high voltage signal output range can be either 0 to $\pm 10\text{V}$, 0 to $\pm 200\text{mV}$ or 4 to 20mA.

A further option is an

extension adapter for the spatial separation of measuring instrument and high voltage probe. This leaves the user with the option to use the unit as a bench top meter or to mount the high voltage probe in an installation in order to continuously record the voltage.



Menu Driven Processor Control for All High Voltage Units of the HE-36 Series

The HV-Control 140C is our new menu driven processor control for all REMO-HSE high voltage units of the HE-36 Series.



The control is equipped with a wide-range input with PFC, 4-line LCD-display and four membrane keys which makes it simple to operate, big 7-segment LED displays for current and volt-

age monitoring (switchable between set value and actual value), eight LEDs signaling the actual status and a key-operated high voltage interlock.

The operating modes can be selected between constant voltage and constant current, 11 parameter settings can be stored in the internal memory and are password protected.

All essential functions can be accessed via the LCD menu or remotely via an external control console.

Remote control and integration into automated systems

are effected by an analogue/digital interface or Profibus and other bus systems (optionally).

Standard protection features are automatic over-voltage, over-current and over-temperature shut-down, dV/dt and dI/dt shut-down in case of current regulation or voltage regulation, respectively, and shut-down in case of wire break.

Further options are an additional integrated 24V power supply for the PLC control interface and an automatic polarity detection of the high voltage unit.

Facelift for our Internet Presence: *We apologize for any inconveniences*

Dear Customer,

Our internet presence has grown old and needs a facelift. Therefore we are working on a new version of our homepage with many new features for our customers.

We hope that we will start soon rolling out the new

version, but until then we must ask all customers to contact us via e-mail to receive further information on our new products presented in the newsletter at hand.

We apologize for any inconveniences that this may cause and thank you for your

understanding.

Customer service is our top priority. We look forward to serving you even better in the years to come.

Sincerely,

Dr. Michael Oleszczuk

Brief Company Profile

Since its formation over 27 years ago, REMO-HSE Hochspannungselektronik GmbH has been actively working in all fields of application for high voltage equipment except power engineering. The company specialises in putting comprehensive projects into a marketable reality – from the first ideas to a product, ready for serial production.

As there are never two iden-

tical high voltage applications, we have been focusing on customer-specific developments ever since. REMO-HSE is based in Rattiszell near the roman-founded city of Straubing on the Danube in Central Bavaria.

The bandwidth of applications of our developments stretches from industrial facilities for electrostatic surface coating, across electrostatic filters for clean

rooms and ionisation of gases for medical purposes to X-ray/particle-beam technologies and delay lines for radar.

However, we do not only supply high-voltage supply units, but also the related instrumentation, components like high-voltage capacitors, resistors, earth switches or cables.



Inquiry

Please send us data sheets of the following products:

MSR Series

Input Voltage:

Output Voltage:

Output current:

Potentiometer Adjustment

Analogue Interface

Please quote

MXR Series

Input Voltage:

Output Voltage:

Output current:

Interface:

Filament Heating

Please quote

MMR Series

Input Voltage:

Output Voltage:

Output current:

Potentiometer Adjustment

Analogue Interface

Please quote

HV-Voltmeter 210S

115/230VAC *24VDC*

Signal output range:

0 to ±10V *4 to 20mA*

0 to ±200mV

Extension adapter

Please quote

Please describe your intended application and feel free to send any questions that you might have about our products:

Name

Company

Address

Phone

Fax

E-mail



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