



REMO-HSE

MSR-S Series 30W / 60W with 24 VDC Input

Datasheet

Regulated High Voltage Modules



Description:

- Regulated high voltage modules designed for OEM applications.
- Different maximum voltage ratings from 5kV to 30kV with positive or negative polarity
- Maximum 30 W or 60W output power
- The output voltage is adjustable between 0% and 100% of the rated output.

Features:

- 24V DC input
- Soft start
- Automatic crossover from constant-voltage to constant-current regulation and vice versa
- Spark protection
- High voltage output 100% short-circuit proof to ground
- PLC controls and monitors; signals are scaled 0-10V DC equals 0-100% of full scale

Options:


- Second high voltage output:
E.g. for use in electrostatic filters various modules are available with a second voltage output for the collector. The module automatically controls the high voltage at flashover in the filter
- Extended interface with ON/OFF-, temperature and spark monitoring
- IDC interface connector for ribbon cable connection

Typical Applications:

- Electrostatic filters
- Electrostatic charging and discharging
- Capacitor Charging Systems
- Ion getter pumps
- Etc.

mnr-s-30-60w-dc24_ds_en_07.docx

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Technical Specifications


Input and Output (Standard rated output values see model selection table)	
Input:	22 bis 28VDC 30W Version: max. 2A oder 60W Version: max. 3.5A
Output:	Continuous adjustment from 0% to 100% of the rated voltage or current by external 0 to 10V signals. Automatic crossover from constant-voltage to constant-current regulation. Accuracy better than 2% of the rated voltage. Available with either positive or negative polarity with respect to chassis ground.
Efficiency:	Better than 75% (30W) or 80% (60W) at rated values.

Special Features	
Soft Start:	At startup, recovery from sparks or short circuit the modules provide controlled ramp up to prevent dangerous voltage overshooting. At full load the output voltage will rise in approximately 150 ms to the rated voltage (other ramp-up times available on request).
Spark Sensing:	Internal circuitry senses sparks caused by external discharges. In case of a spark the module will turn off for approximately one second and will then ramp up automatically.

Environmental Data	
Operating Temperature Range:	0 to +40°C
Storage Temperature Range:	-25 to +70°C
Humidity:	80% maximum relative humidity up to +31°C, reducing linearly to 50% at +40°C Non condensing (ref. EN61010-1)
Altitude:	0 to 2000m

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PLC Controls and Monitors

Controls (Input Resistance: approx 100kOhm)

Voltage Demand:	0 to 10V DC demands 0 to rated output voltage
Current Demand:	0 to 10VDC demands 0 to rated output current
High Voltage ON/OFF	24VDC (10...30VDC) active high In case of over-voltage, over-current or over-temperature in which the module will shut down the high voltage must be turned off before restart

Monitors (Output Current: max 1mA)

Voltage:	0 to 10V DC for 0 to rated voltage
Current:	0 to 10V DC for 0 to rated current

Protection

- ❖ Over-voltage and over-current limitation
- ❖ High voltage output 100 % short-circuit-proof to ground
- ❖ Spark protection: In case of a spark the module will turn off for approximately one second and will then ramp up automatically.
- ❖ In case of over-voltage, over-current or over-temperature the module will shut down and the high voltage must be turned off before restart.

Additional Information


Recovery Time:	Approximately 15 seconds following a disconnection of supply voltage
EMC:	This high voltage module is intended for installation as part of a system. Basic EMC filtering is provided.

Mechanical Data

Housing	Aluminum case
Dimensions:	Up to 15 kV output voltage: 86 mm wide, 60 mm high, 178 mm deep (without fixing points) Above 15 kV output voltage: 86 mm wide, 90 mm high, 178 mm deep (without fixing points)
Weight:	Approx 0.7 to 1.5kg (depending on output voltage)
Classification:	IP 20
Ventilation:	Cooling vents (convection)

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Options
<ul style="list-style-type: none"> ❖ Second high voltage output (fixed ratio compared to first high voltage output e.g. 50%) ❖ Extended interface with ON/OFF-, temperature and spark monitoring ❖ IDC interface connector for ribbon cable connection ❖ Holder for top-hat rail ❖ In case of over-voltage, over-current or over-temperature the module shuts down and must be disconnected from supply voltage before resetting.

Model Selection Key
<p>Polarity Selection: P: positive Output N: negative Output</p> <p>u: mikro m: milli Ampère</p> <p>Input Voltage:</p> <p>MSR - S - XXX P N XXX P N XXX - XXX u m - DC24</p> <p>Output Power: 30 oder 60 Watt</p> <p>Output: Rated Voltage in kVolt</p> <p>Optional 2nd Output: Rated Voltage in kVolt</p> <p>Tota Rated Output Current</p>

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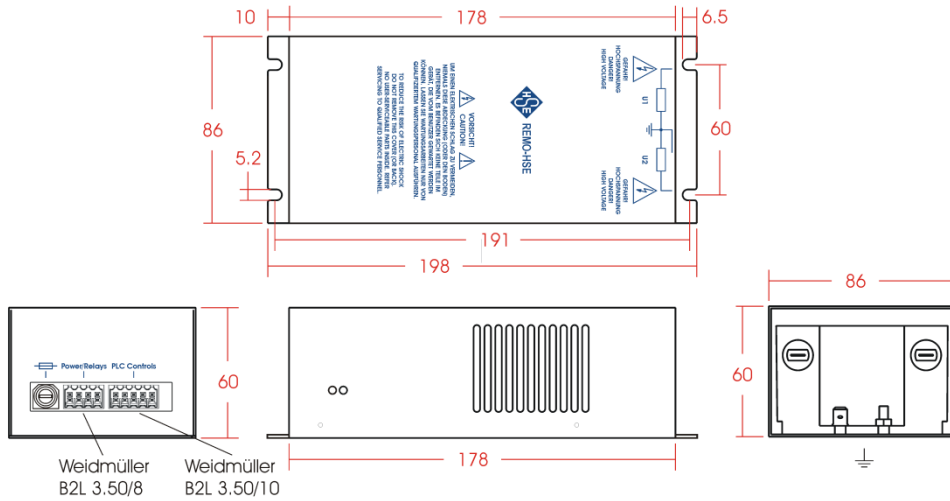
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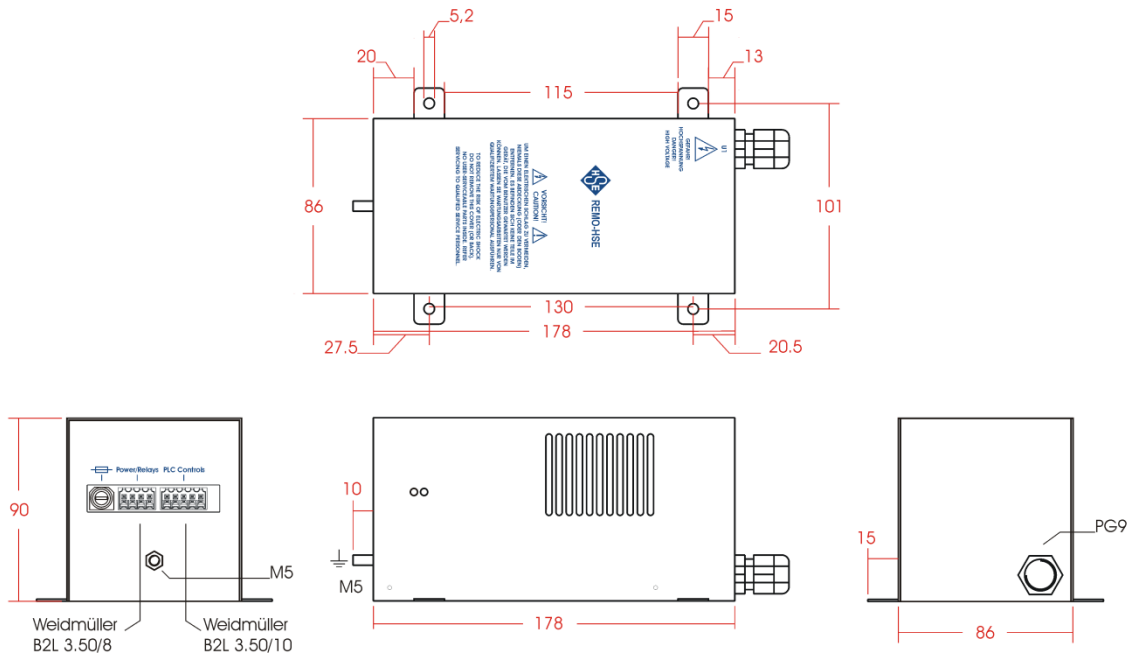
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Mechanical Drawings: MSR-S Series with 24VDC Input



Output Voltage up to 15kV: Dimensions: +/- 0,5mm



Output Voltage above 15kV: Dimensions: +/- 0,5mm