



**REMO-HSE**

**MSR-S Series**  
**30W / 60W / 90W / 120W**

**Datasheet**

**Regulated High Voltage Modules**



**Description:**

- Regulated high voltage modules designed for OEM applications.
- Different maximum voltage ratings up to 30kV with positive or negative polarity
- Maximum 30W, 60W, 90W or 120W output power
- The output voltage is adjustable between 0% and 100% of the rated output.

**Features:**

- 115V AC or 230V AC 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: either double output or, e.g. for electrostatic precipitators, with a second high-voltage output for the collector. In the event of flashovers in the filter, the module automatically regulates the high voltage.
- 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.

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## Technical Specifications

<b>Input and Output</b>				
Input:	N1 = 115VAC or N2 = 230VAC (-10 %, +10%) 50 to 60 Hz			
	30W	60W	90W	120W
	N1 max. 0.6A	max. 1.2A	--	--
	N2 max. 0.35A	max. 0.6A	max. 0.8A	max. 1.2A
Output:	Continuous adjustment from 0% to 100% of the rated voltage and 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:	Typical values at nominal conditions:			
	30W	60W	90W	120W
	80%	84%	86%	88%

<b>Special Features</b>	
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.

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<b>Environmental Data</b>	
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


<b>PLC Controls and Monitors</b>	
<b>Controls</b> (Input Resistance: approx 10kOhm)	
Voltage Demand:	0 to 10V DC demands 0 to 100% of rated output voltage
Current Demand:	0 to 10VDC demands 0 to 100% of rated output current
High Voltage ON/OFF	24VDC (10...30VDC) active high In case of over-voltage, over-current or over-temperature the module shuts down and the high voltage must be turned off before restart
<b>Monitors</b> (Output Current: max 1mA)	
Voltage:	0 to 10V DC for 0 to 100% of rated voltage
Current:	0 to 10V DC for 0 to 100% of rated current

<b>Protection</b>	
<ul style="list-style-type: none"> <li>❖ Over-voltage and over-current limitation</li> <li>❖ High voltage output 100 % short-circuit-proof to ground</li> <li>❖ Spark protection: In case of a spark the module will turn off for approximately one second and will then ramp up automatically.</li> <li>❖ In case of over-voltage, over-current or over-temperature the module shuts down and the high voltage must be turned off before restart.</li> </ul>	

<b>Additional Information</b>	
Recovery Time:	Approximately 15 seconds following a disconnection of mains supply
EMC:	This high voltage module is intended for installation as part of a system. Basic EMC filtering is provided.

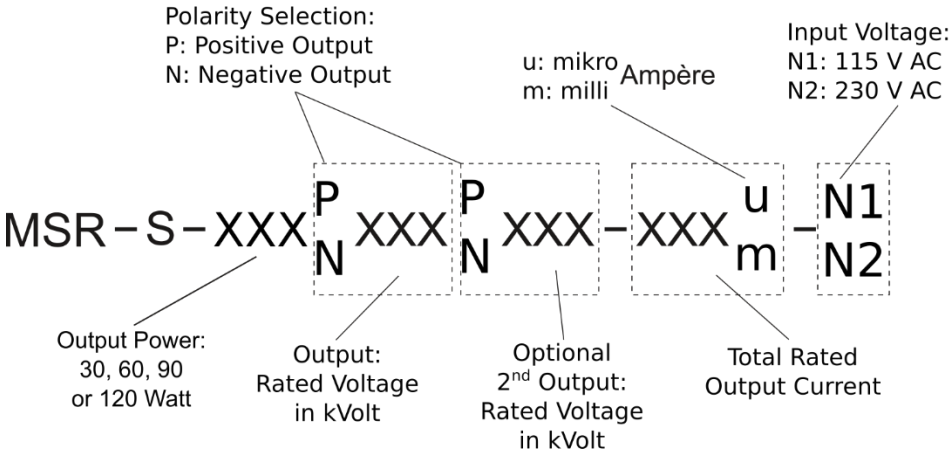
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<b>Mechanical Data</b>	
Housing	Aluminum case
Dimensions:	Up to 15 kV output voltage: 86 mm wide, 60 mm high, 178 mm deep (without fixing points) Above 15 kV output voltage with one output: 86 mm wide, 90 mm high, 178 mm deep (without fixing points) Above 15 kV output voltage with two outputs: 86 mm wide, 109.5 mm high, 178 mm deep (without fixing points)
Weight:	Approx 0.7 to 1.6kg (depending on output voltage)
Classification:	IP 20
Ventilation:	Cooling vents (convection)

<b>Options</b>	
❖	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 mains supply before resetting.

<b>Model Code</b>	
	

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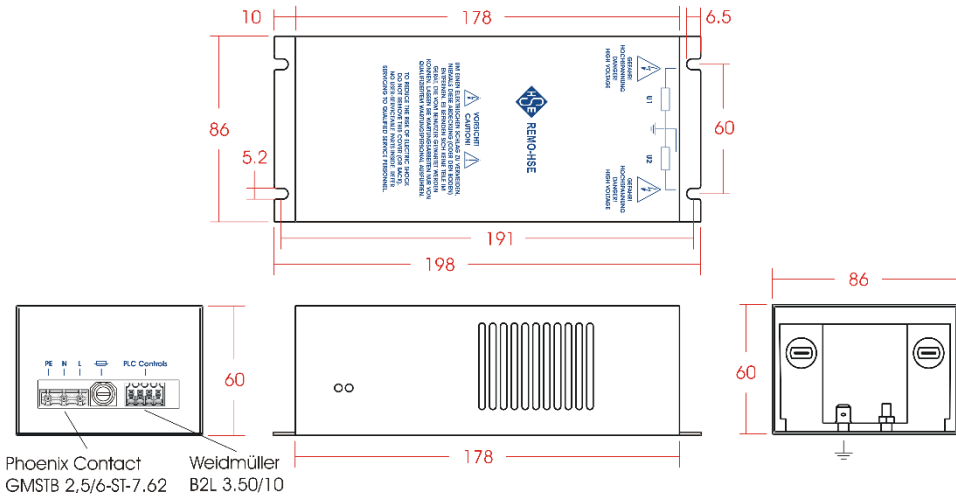
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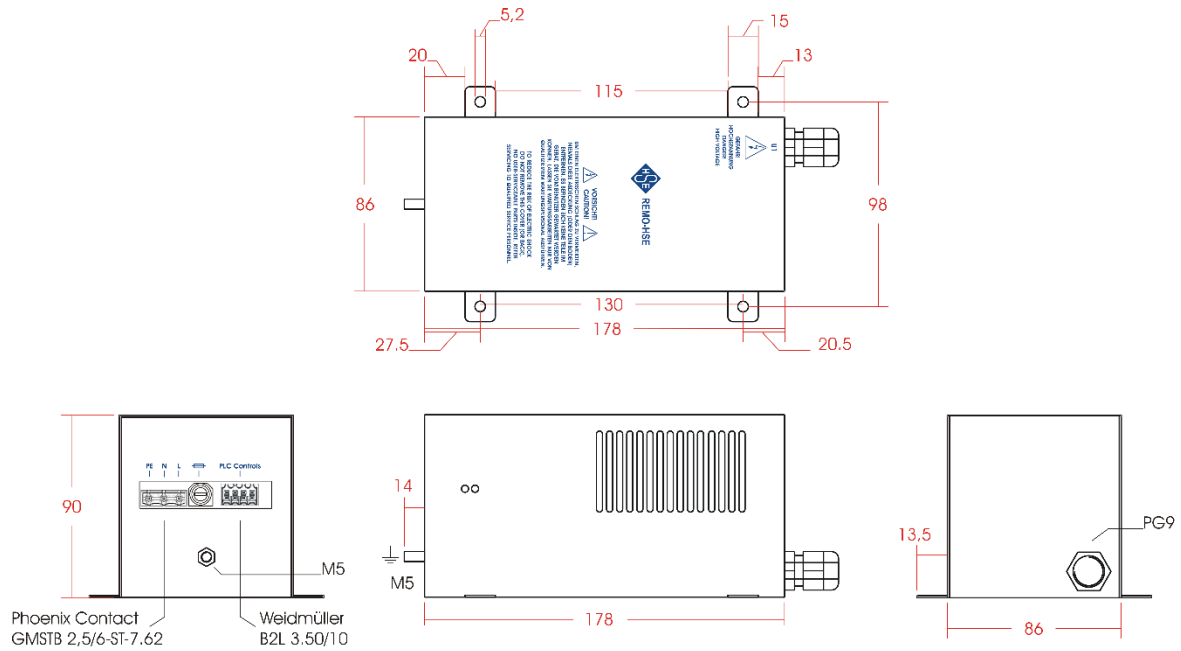
Regulated High Voltage Modules

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### Mechanical Drawings: MSR-S Series



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



### Output Voltage above 15kV with one output: Dimensions: +/- 0,5mm

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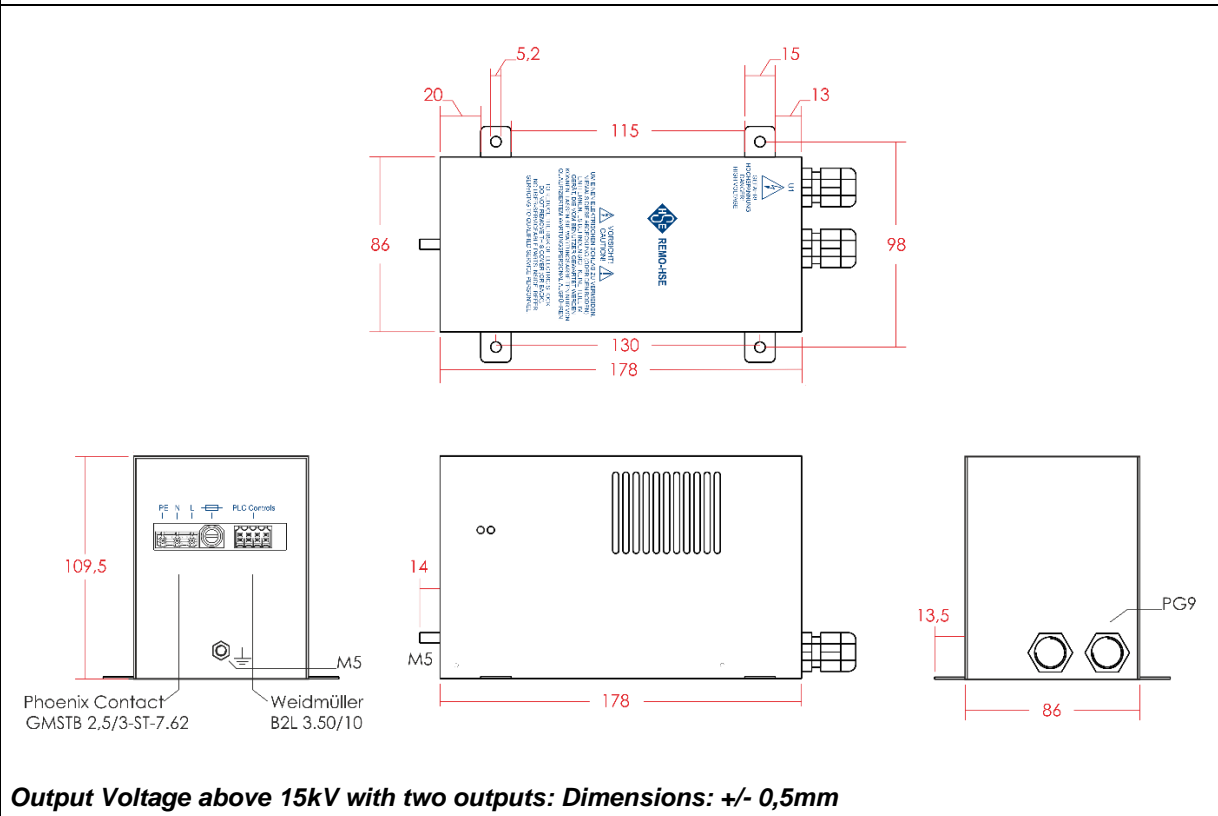
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### Mechanical Drawings: MSR-S Series



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