



REMO-HSE

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

**Regulated High Voltage Modules**

**Datasheet**



**Description:**

- Regulated high voltage modules designed for OEM applications.
- Different maximum voltage ratings up to 30 kV 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
- Potentiometers to adjust output voltage and current

- Potential-free relay contact indicates the "Load" status
- Two LEDs indicate the U/I mode and over-temperature


**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

**Typical Applications:**

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

|                  |   |   |
|------------------|---|---|
| Date:<br>2017-04 | REMO-HSE Hochspannungselektronik GmbH, Straubinger Str. 28, D - 94372 Rattiszell<br>Tel.: +49 (0) 9964 / 6406 - 0 * Fax: +49 (0) 9964 / 6406 - 20 * Email: info@remo-hse.de | mnr-p-30-120w_ds_en_06<br>Page<br>1 / 5 |
|------------------|---|---|

|  |  |                  |
|--|--|------------------|
| <br><b>REMO-HSE</b> | <b>MSR-P Series</b><br><b>30W / 60W / 90W / 120W</b> | <b>Datasheet</b> |
|  | <b>Regulated High Voltage Modules</b>                |                  |


## Technical Specifications

| <b>Input and Output</b> |  |           |           |           |
|-------------------------|--|-----------|-----------|-----------|
| Input:                  | N1 = 115V AC or N2 = 230V AC (-10 %, +10%)<br>50 to 60Hz   |           |           |           |
|                         | 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 or current by potentiometer.<br>Automatic crossover from constant-voltage to constant-current regulation.<br><br>Accuracy better than 2% of the rated voltage.<br><br>Available with either positive or negative polarity with respect to chassis ground. |           |           |           |
| Efficiency:             | At rated values typically:   |           |           |           |
|                         | 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.<br>In case of a spark, the module turns off for approximately one second and then ramps up automatically.   |

|         |   |       |
|---------|---|-------|
| Date:   | REMO-HSE Hochspannungselektronik GmbH, Straubinger Str. 28, D - 94372 Rattiszell        | Page  |
| 2017-04 | Tel.: +49 (0) 9964 / 6406 - 0 * Fax: +49 (0) 9964 / 6406 - 20 * Email: info@remo-hse.de | 2 / 5 |

msr-p-30-120w\_ds\_en\_06

|  |  |                  |
|--|--|------------------|
| <br><b>REMO-HSE</b> | <b>MSR-P Series</b><br><b>30W / 60W / 90W / 120W</b> | <b>Datasheet</b> |
|  | <b>Regulated High Voltage Modules</b>                |                  |

### 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<br>Non-condensing (ref. EN61010-1) |
| Altitude:                    | 0 to 2000m  |

### Status Messages

|   |  |
|---|--|
| Green/yellow LED:                               | Green indicates the normal constant voltage mode and yellow the constant current mode                                    |
| Red LED   | Red LED on signals over-temperature  |
| Potential Free Relay Contact, (250V AC, max 1A) | Signals the crossover from normal constant voltage operation to constant current operation at the preset maximum 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 turns off for approximately one second and then ramps up automatically.
- ❖ In case of over-voltage, over-current or over-temperature the module shuts down and must be disconnected from mains supply before resetting.

### Additional Information

|                |   |
|----------------|---|
| 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. |

|                  |   |   |
|------------------|---|---|
| Date:<br>2017-04 | REMO-HSE Hochspannungselektronik GmbH, Straubinger Str. 28, D - 94372 Rattiszell<br>Tel.: +49 (0) 9964 / 6406 - 0 * Fax: +49 (0) 9964 / 6406 - 20 * Email: info@remo-hse.de | msr-p-30-120w_ds_en_06<br>Page<br>3 / 5 |
|------------------|---|---|



REMO-HSE

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

**Regulated High Voltage Modules**

**Datasheet**

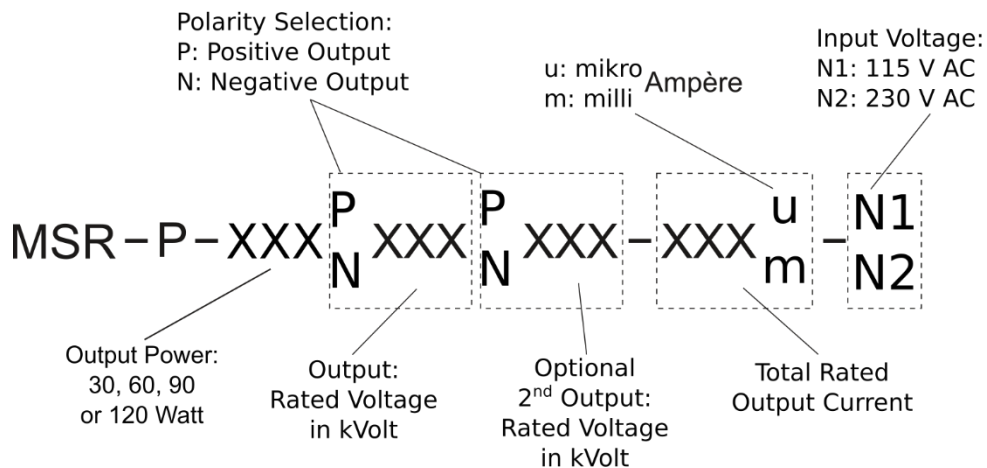
**Mechanical Data**

|                 |  |
|-----------------|--|
| Housing         | Aluminum case  |
| Dimensions:     | Up to 15kV output voltage: 86 mm wide, 60 mm high, 178 mm deep (without fixing points)<br>Above 15kV 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)   |

**Options**

- ❖ Second high voltage output (fixed ratio compared to first high voltage output e.g. 50%)
- ❖ Holder for top-hat rail

**Model Code**



msr-p-30-120w\_ds\_en\_06

Date:  
2017-04

REMO-HSE Hochspannungselektronik GmbH, Straubinger Str. 28, D - 94372 Rattiszell  
Tel.: +49 (0) 9964 / 6406 - 0 \* Fax: +49 (0) 9964 / 6406 - 20 \* Email: info@remo-hse.de

Page  
4 / 5



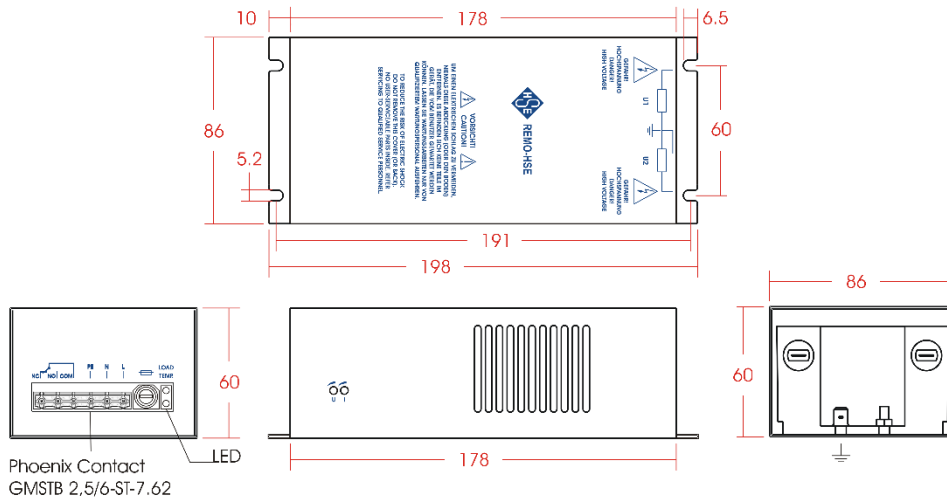
REMO-HSE

# MSR-P Series 30W / 60W / 90W / 120W

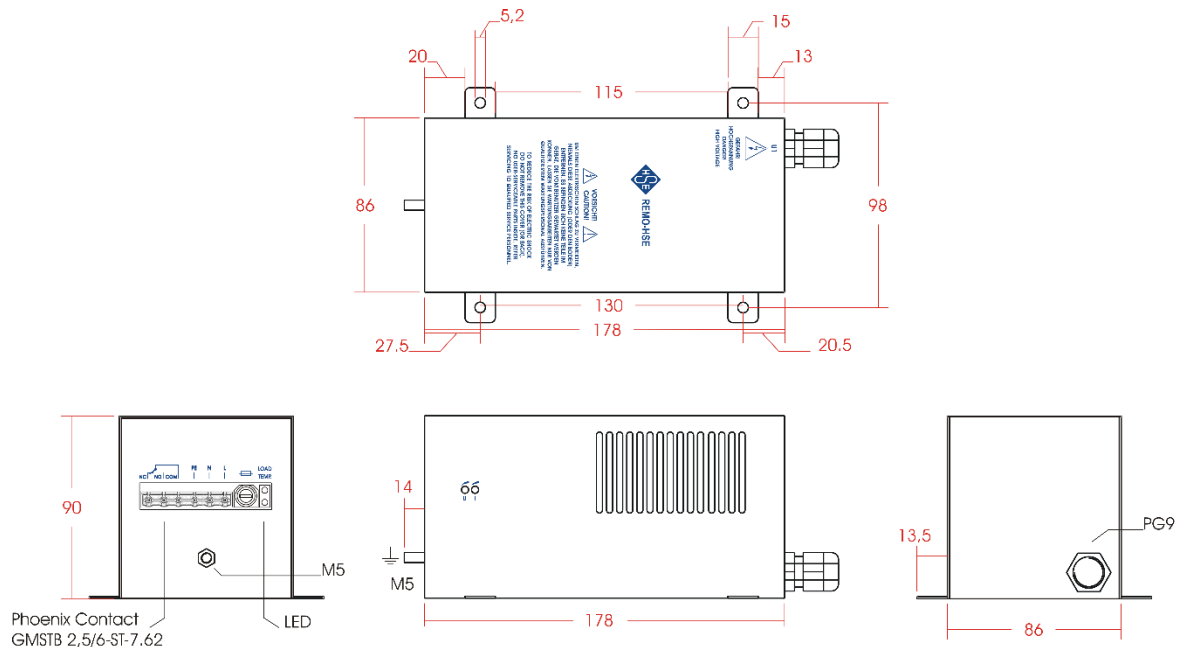
Datasheet

Regulated High Voltage Modules

## Mechanical Drawings: MSR-P Series



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



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

mrs-p-30-120w\_ds\_en\_06

Date:  
2017-04

REMO-HSE Hochspannungselektronik GmbH, Straubinger Str. 28, D - 94372 Rattiszell  
Tel.: +49 (0) 9964 / 6406 - 0 \* Fax: +49 (0) 9964 / 6406 - 20 \* Email: info@remo-hse.de

Page  
5 / 5