

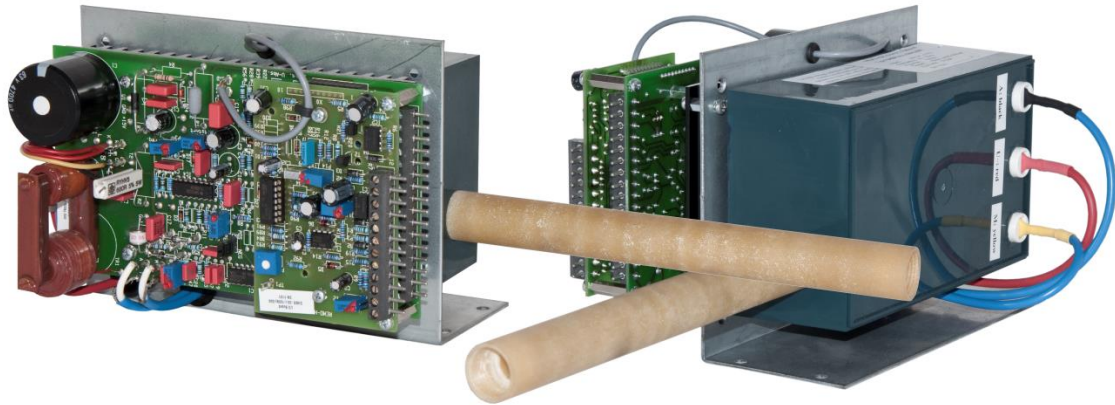


REMO-HSE

SHBR-30-(-100k)-500
SHBR-30-100k-500

Datasheet

Regulated High Voltage Assembly Group



Description:

- Regulated high voltage assembly group for OEM applications
- 100kV maximum rated output voltage with positive (**SHBR-30-100k-500**) or negative (**SHBR-30-(-100k)-500**) polarity
- 50W maximum output power
- The output voltage is adjustable between 0% and 100% of the rated output.

Features:

- Assembly group consisting of high voltage multiplier, control and interface board mounted on a mounting bracket
- 30V AC input
- 20M Ω terminating resistor
- Constant-voltage regulation
- Adjustable current-voltage characteristic

- Spark sensing and shutdown
- Adjustable high voltage ramp-up time
- 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:


- Reduction of the short-circuit current well below maximum current (fold-back mode)

Typische Applikationen:

- Wet paint coating,
- Powder coating
- Flock coating
- Electrostatic charging and discharging
- Etc.

shbr-30-100-500_ds_en_04

Datum: 2019-01	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	Seite 1 / 6
-------------------	---	----------------

 REMO-HSE	SHBR-30-(-100k)-500 SHBR-30-100k-500	Datasheet
	Regulated High Voltage Assembly Group	


Technische Spezifikationen

Input and Output	
Input:	30 VAC (-10 %, +10%) ungrounded 50 to 60 Hz max. 100VA
Output:	0 to 100kV ($\pm 10\%$) adjustable via an externally connectable potentiometer or via the analogue interface. Maximum output current: 500 μ A Constant voltage regulation. Terminating resistance approx. 20M Ω Available with either positive or negative polarity with respect to mounting bracket ground.
Efficiency:	Typically, 50% (at rated conditions: 100kV, 500 μ A).

Special Features	
Adjustable Characteristic:	The slope of the current-voltage characteristic is adjustable.
Adjustable high voltage ramp-up time:	Ramp-up time adjustable between 0.5 and 5 seconds
Spark Sensing and Shutdown	Internal circuitry senses sparks caused by external discharges in the load.
Analogue Interface:	Remote control and monitoring via analogue interface.

Environmental Data	
Operating Temperature Range:	0 to +45°C
Storage Temperature Range:	-25 to +70°C
Humidity:	80% maximum relative humidity up to +31°C, reducing linearly to 50% at +45°C. Non-condensing (ref. EN61010-1).
Altitude:	0 to 2000m

Datum: 2019-01	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	shbr-30-100-500_ds_en_04 Seite 2 / 6
-------------------	---	--

 REMO-HSE	SHBR-30-(-100k)-500 SHBR-30-100k-500	Datasheet
	Regulated High Voltage Assembly Group	

Protection

- ❖ Overvoltage and overcurrent warning signal and shutdown; when the fault is removed the warning signal must be cleared by setting a RESET-signal.
- ❖ Spark warning signal and shutdown (dl/dt-shutdown): when the fault is removed the warning signal must be cleared by setting a RESET-signal.
- ❖ Over-temperature shutdown in case of prolonged thermal overload; after approx. 5 minutes the high voltage assembly group is ready for operation again.
- ❖ High voltage output 100% short-circuit proof to ground.

Remote Control and Monitoring via Analogue Interface

Switching ON and OFF High Voltage and Resetting to Initial State

High voltage OFF / ON:	0V / 12 to 24 VDC active high, approx. 10 to 20mA
RESET:	0V / 12 to 24 VDC active high, approx. 10 to 20mA

Continuous voltage adjustment via analogue interface

Voltage adjustment:	0 to 10 VDC for to 0 to 100kV (input resistance: ca. 10kOhm) or 0 to 20 mA for to 0 to 100kV (input resistance: ca. 500Ohm)
---------------------	--

Continuous voltage and current monitoring via analogue interface

(Output resistance: ca. 100Ohm, output resistance: max. 2mA)

Measured voltage value:	0 to 10 VDC for 0 to 100kV
Measured current value:	0 to 10 VDC for 0 to 100kV

Status signals

Operation of outputs:	Via internal +15VDC auxiliary voltage supply or external voltage supply 0 VDC/ +12 to +24 VDC; active high, ca. 10 to 20mA
High voltage OFF/ON:	0 VDC/ +12 to +24 VDC active high, ca. 10 to 20mA
Overvoltage, overcurrent and spark warning signal:	0 VDC, +12 to +24 VDC; active high, ca. 10 to 20mA

shbr-30-100-500_ds_en_04

Datum: 2019-01	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	Seite 3 / 6
-------------------	---	----------------



REMO-HSE

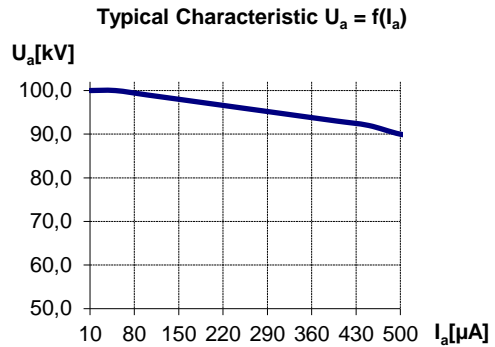
SHBR-30-(-100k)-500
SHBR-30-100k-500

Regulated High Voltage Assembly Group

Datasheet

Possible Pre-Adjustments via Potentiometer on Circuit or I/O-Board

- ❖ Softness of the current voltage characteristic is adjustable (output voltage decreases with increasing output current)



- ❖ The maximum output current is adjustable between 200 and 500µA (this does not affect the over-current shutdown threshold)
- ❖ The maximum output voltage is adjustable between 70 and 100kV.
- ❖ The high voltage ramp-up time is adjustable between 0.5 and 5 seconds (the ramp-up time depends on the load).
- ❖ Spark sensing sensitivity (dl/dt-shutdown) from 100 µA/s to 800 µA/s adjustable; factory setting: 500 µA/s.

Connections for Displays and Signal Indicators

Displays

Voltage: Connection for external kV-display (1mA/ca. 200Ohm)

Current: Connection for external µA-display (1mA/ca. 200Ohm)

Signal Indicators

High Voltage ON: Via relay contact against GND (30VAC, max. 1A)


Overvoltage, Overcurrent or Spark Warning: Via potential-free relay contact (30VAC, max. 1A)

Additional Information

EMC: This high voltage assembly group is intended for installation as part of a system. In order to comply with the EMC regulations, it is recommended to add a power line suppression filter.

shbr-30-100-500_ds_en_04

Datum: 2019-01	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	Seite 4 / 6
-------------------	---	----------------

 REMO-HSE	SHBR-30-(-100k)-500 SHBR-30-100k-500	Datasheet
	Regulated High Voltage Assembly Group	

Mechanical Data	
Housing:	Open Frame
Dimensions(approx.):	Without cable bending radii and high voltage connection: ca. 132mm wide, 152mm high, 190mm deep; including cable bending radii and high voltage connection: ca. 132mm wide, 192mm high, 190mm deep + 177mm high voltage connection
Weight:	Approx. 2.9kg

Options
❖ Reduction of the short-circuit current well below maximum current (fold-back mode); factory adjustable.

Datum: 2019-01	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	shbr-30-100-500_ds_en_04 Seite 5 / 6
-------------------	---	--



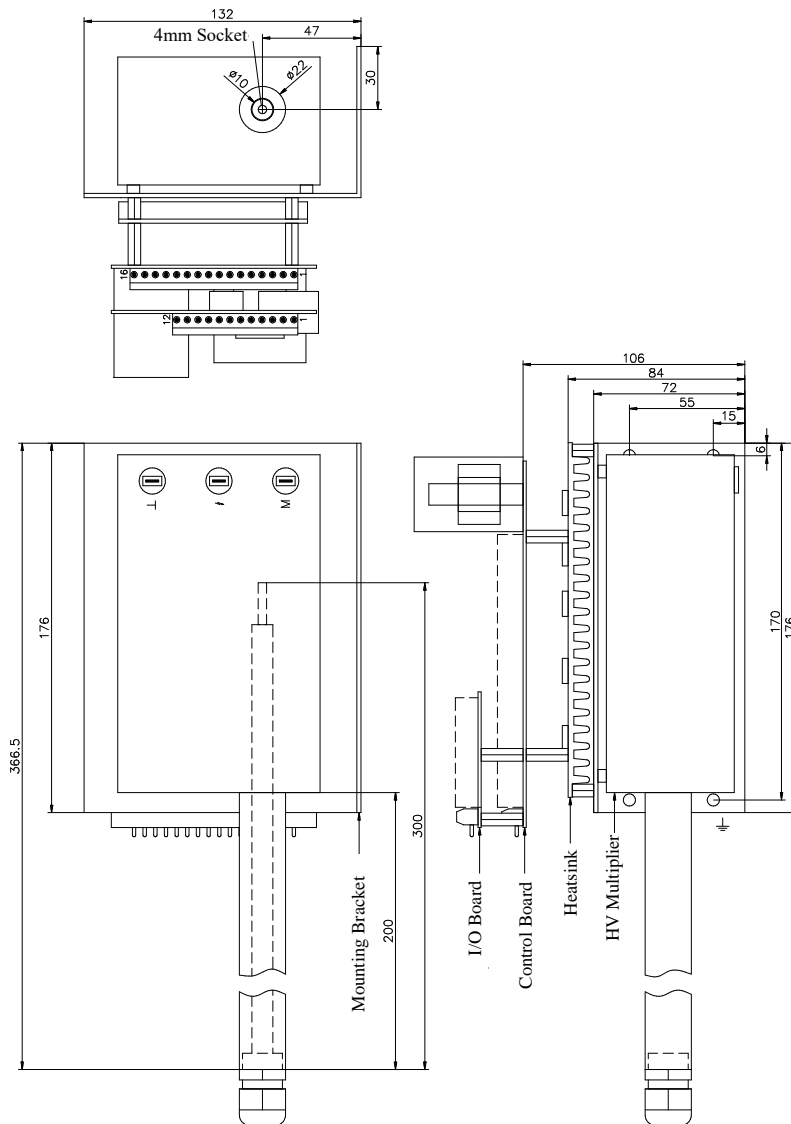
REMO-HSE

SHBR-30-(-100k)-500
SHBR-30-100k-500

Datasheet

Regulated High Voltage Assembly Group

Mechanical Drawing:



Dimensions: +/- 1.0mm

shbr-30-100-500_ds_en_04

Datum: 2019-01	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	Seite 6 / 6
-------------------	---	----------------