high voltage

iseg Spezialelektronik GmbH

Data Sheet

High voltage supplies

of the device class

EPS 60 W

iseg Spezialelektronik GmbH
Bautzner Landstr. 23
D - 01454 Radeberg/ Rossendorf

Email: sales@iseg-hv.de
http://www.iseg-hv.de

Tel ++ 49 (0)351 / 26 996 - 0
Fax ++ 49 (0)351 / 26 996 - 21

Attention

The unit must not be operated with the cover removed to avoid the possibility of lethal shock to the operator!

There are no user maintainable parts inside the power supply!

Unit may only be operated with protective ground conductor connected.

We decline all responsibility for damages and injuries caused by an improper use of the device. It is strongly recommended to read the manual before operation!

All information in this document is subject to change without notice. We take no responsibility for any error in this document. We reserve the right to make changes in the product design without any notification to the users.

Warning! **notes in the text call attention to hazards in operation of these units that could lead to possible injury or death.**

Caution! **notes in the text indicate procedures to be followed to avoid possible damage to equipment.**

Revision: 2015-02-26_eng

Technical data

Device class

Table 1: Technical data, device class

Device class EPS 60 W													
Output voltage Vnom [kV]	0.5	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	15.0	20.0	30.0
Output current Inom [mA]	120	60	40	30	20	15	12	10	7	6	4	3	2
Ripple and noise [f >10 Hz]	0.25[1)]	0.5[1)]	0.75[1)]	1.0[1)]	1.5[1)]	2.0[1)]	2.5[1)]	3.0[1)]	4.0[1)]	5.0[1)]	120	400	500
Internal capacitor CO [nF]	3000	1200	750	600	28	26	22	20	8	6.5	2.8	1.4	0.95
Discharge resistor RDIS [MΩ]	0.02	0.1	0.1	0.1	1.0	1.0	1.4	3.6	9.0	9.0	13.5	55.0	68.0
Discharge resistor RDIS [MΩ]]	5	55	55	55	55	55	500	500	500	500	330	330	330
HV connector	HV-Cable. 600 mm												
Polarity	x. n → negative or p → positive												
Efficiency	> 80% (P_{nom})												
Longtime Stability	$\Delta v < 0.03\% * V_{nom}$												
Stabilty in Voltage control	$\Delta v < 0.02\% * V_{nom}$ (Δv_{in}. 0≤ I_{OUT} ≤ I_{nom})												
Stabilty in Current control	$\Delta i < 0.01\% * I_{nom}$ (Δv_{in} and short circuit ≤ R_L < no load)												
Accuracy	Voltage: < 1% ∗ V_{nom} for one year Current: < 1% ∗ I_{nom} for one year												
Temperature coefficient	< $2 * 10^{-4}$ /K												
Remote control (AIO)	Analogue signals				Level			0 V – 5 V [2)]					
	Digital signals				Low level High level			0 V – 1 V 3.5 V – 10 V or open					
Ramp speed at switching on/off	0.25 ∗ V_{nom} / second												
Supply	22.8 VDC ≤ V_{in} ≤ 25.2 VDC / I_{in} ≤ 3.2 A												
Cooling	Free convection, consider mounting orientation.												
Monitoring	Low supply voltage, auxiliary voltage, output over voltage, temperature, Interlock (as option)												
Safety	Interlock safety loop (option)												
Maximal number of complete discharges (arcs) per time	1/s												
Dimension (L/W/H)	(185/108/57) mm												
Weight	1.0 kg - 1.25 kg , depending on model												
Working conditions	Temperature: 0℃ to 50 ℃ Humidityt: 20% to 90%, no condensation												
Storage conditions	-25℃ to 80℃												

[1)] other values on request [2)] optional 10 V as option

Electrical wiring of the high voltage output

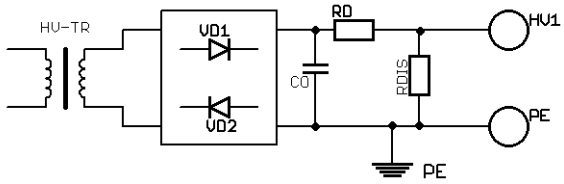

Figure 1: Electrical wiring of the high voltage output

Dimensions

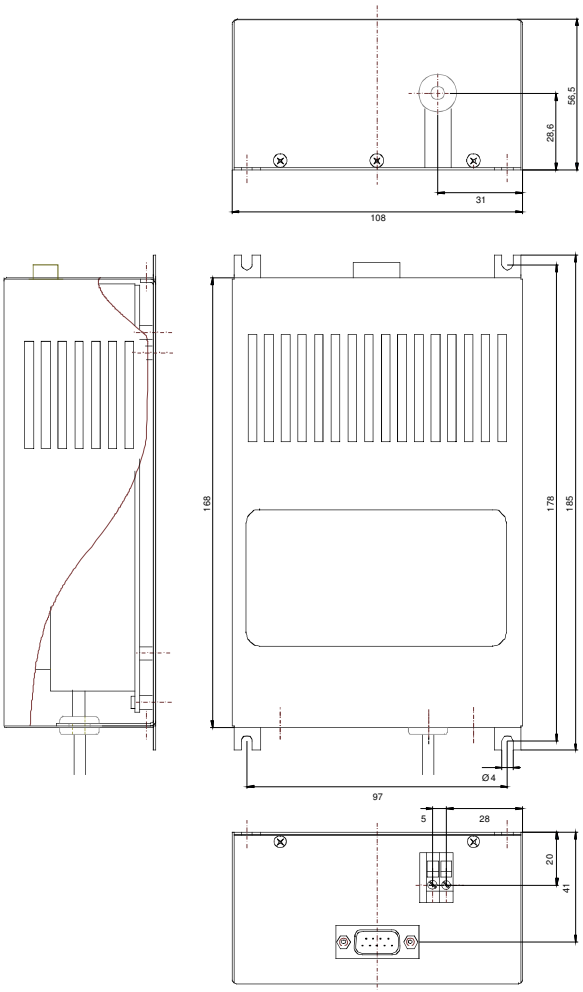

Figure 2: Dimensioned drawing (in mm)

iseg Spezialelektronik GmbH
Bautzner Landstr. 23
D - 01454 Radeberg/ Rossendorf
Email: sales@iseg-hv.de
http://www.iseg-hv.de
Tel ++ 49 (0)351 / 26 996 - 0
Fax ++ 49 (0)351 / 26 996 - 21

Analogue I/O interface (AIO)

Table2: Pin assignment male D Sub 9 connector

Analog interface (AIO), male D-SUB-9 connector			
Pin	Name	Description	
Pin 1	GND	0 V	connected with GND and 0 V supply
Pin 2	IMON	Monitor output current	I_{out} = 0 to I_{nom} ⇒ V_{MON_I} = 0 to 5 V [1)]
Pin 3	INH	HV inhibited / enabled error reset	Level low, activ 0 V – 1 V high, inactiv 3.5 V – 10 V or open
Pin 4	ISET	Set value output current	V_{SET_I} = 0 to 5 V [1)] ⇒ I_{out} = 0 to I_{Nom}
Pin 5	ON	HV on / off	Level low, HV on 0 V – 1 V high, HV off 3.5 V – 10 V or open
Pin 6	GND	Return of pins 2-9	connected with GND and 0 V supply
Pin 7	VMON	Monitor output voltage	V_{out} = 0 to V_{nom} ⇒ V_{MON_V} = 0 to 5 V [1)]
Pin 8	VSET	Set value output voltage	V_{SET_V} = 0 to 5 V [1)] ⇒ V_{out}= 0 to V_{nom}
Pin 9	REF	reference voltage	V_{Ref} = 5.0 V [1)] at 10 kΩ load

[1)] optional 10 V

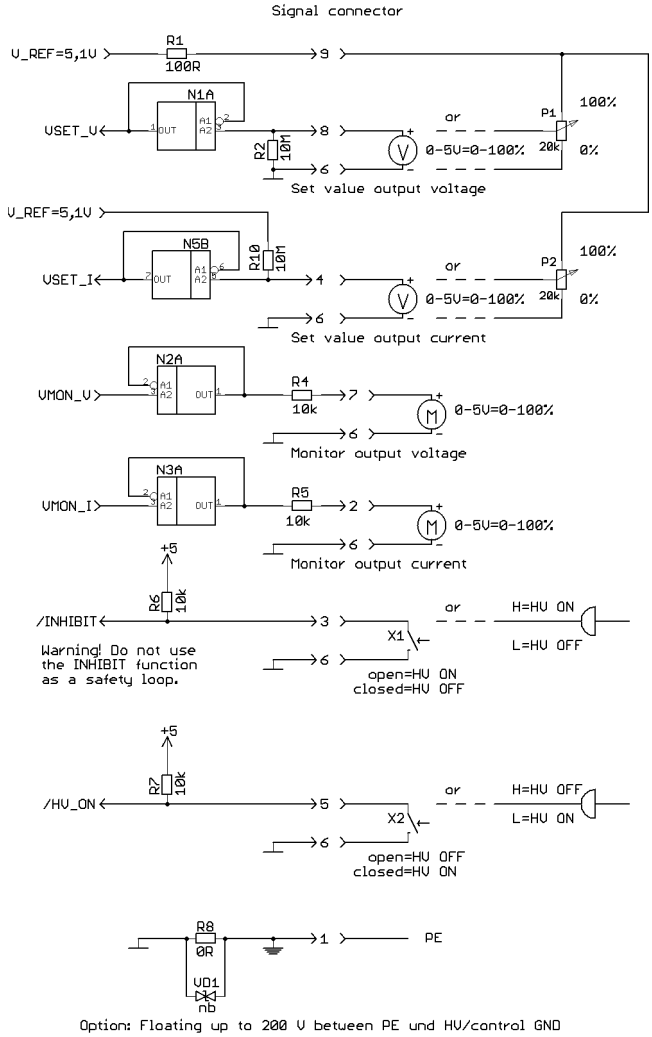

Figure 3: Electrical wiring of the analogue and digital in- and outputs