MICOD HIGH VOLTAGE POWER SUPPLY

Revision: January 2019

FEATURES:
- **High stability**
- **Low cost**
- **Metal case**
- **Simple inclusion and use**
- **Adjustable output**
- **Output voltage ±2500V**

POWER SUPPLU FOR:
- **PMT**
- **Geiger-Muller counter**
- **Photon Counters**
- **^{3}He neutron detectors**
- **HV high resistance loads**

Table 1 - ABSOLUTE MAXIMUM RATINGS

Name	Value
Supply voltage, *Vcc*	+ 13 V
Output voltage (**polarity selectable when ordering!**), |*Vout*|	2500 V
Control voltage, *Vcontr*	+2.5 V

Table 2 - SPECIFICATIONS

Name	Min.	Recommended/ Set-point	Max.
Supply voltage, *Vcc*	+4.5 V		+12 V
Control voltage, *Vcontr* (Vout = Vcontr*1000)	0 V		+2.5 V
Output voltage, |*Vout*|	200 V		2490 V
Output reference voltage, *Vref*	2.495 V	2.500V	2.505 V
Output divider, *Vout 1/1000*	-	~Vout/1000	-
Isleep (Vcc=12 V, Vcontr=0 V)			3 mA
Weight, grams			115

Table 3 - PIN CONFIGURATION

Pin #	Identification	Assignment
1	*GND*	GND
2	*OUT/1000*	Divider output voltage(1)
3	*Vref*	Output reference voltage
4	*Vcontr*	Control voltage(2)
5	*Vcc*	Supply voltage
6	*OutRes*	Current shunt output (high voltage) (3)(4)(5)
7	*OUT*	High voltage output(4) (5)
CASE	*GND*	GND(6) (recommended shielded by PCB layer)

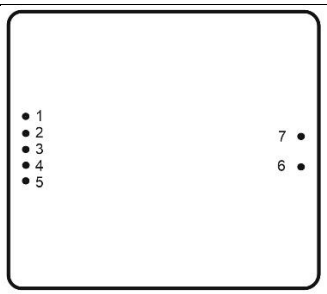

Fig. 1. Pin assignment, bottom view.

(1) Divider output voltage. Divides the output voltage of the unit power supply to 1000. On the version of the power supply with a negative output, the output Out1/1000 also has a negative voltage value. This output it is intended only for indication of the output voltage level and not designed to measure it.

(2) Control power supply voltage. When connected to ground, the output voltage OFF. The output allows to smoothly and quickly adjust output voltage over time. It is forbidden to turn on the power supply if Vcontr pin not connected to the control circuit or has potential greater than 2.5V.

(3) High voltage output from the current shunt. Can be used to measure output current. Shunt resistance 1 kΩ. To control the current measure the voltage drop from the OutRes and OUT pins.

(4) Min clearance between HV outputs and other conductors 5mm. For decreasing noise use optional RC filters.

(5) Careless use or accidental contact pin OutRes or OUT can cause injury or death!

(6) Connect to GND - the mandatory safety requirements and noise reduction!

WARNING

High voltage power supply is extremely dangerous device! Careless use or casual contact with the pins OutRes or OUT can cause injury or death!

Forbidden the operation or adjustment of the power supply to people using pacemaker or other electronic life support devices! When servicing equipment, remove the voltage not only from the output Vcontr, but also shut off the power supply. Random noise to pin Vcontr can turn on output HV outputs, which can lead to injury or power supply failure! Remember that after turning off the power supply, the HV outputs voltage is still some time present! The manufacturer is not responsible for any consequences use of the device, including damage to equipment / fire / injury / disability or death! With a small gap between OutRes / OUT and other conductors, it is possible electric arcing that can cause fire and damage equipment or power supply failure.

PMT HV PS EVM

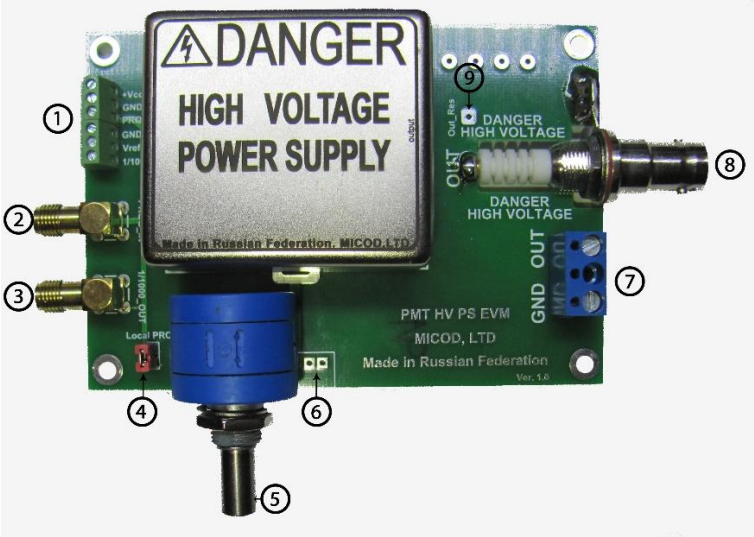

Fig. 2. EVM board.

Fig. 3. Multichannel installation.

1 Main connector (+Vcc, GND, External PROG, GND, Out Vref, Out 1/1000);
2 External PROG (SMA connector);
3 Out 1/1000 (SMA connector);
4 External or local PROG switch. Local – shorted;
5 Precision resistor Bourns 3590S-2 1 kΩ;
6 Alternative trim resistor Bourns PTD901-2015K-B102;
7 HV OUTPUT connector;
8 HV OUTPUT (SHV connector);
9 HV OUTPUT Shunt internal resistor 1 kΩ.

CONNECTION DIAGRAM

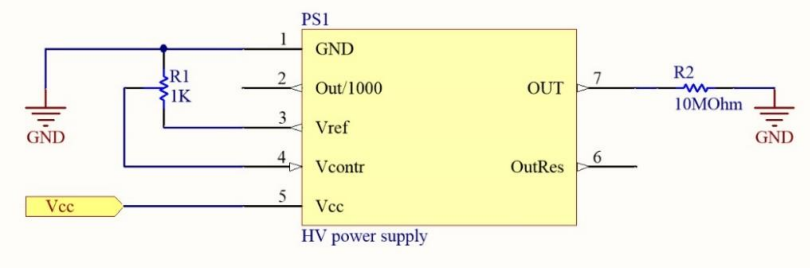

Fig.4. Main connection diagram.

ELECTRIC DEPENDENCE

Fig. 5. The dependence of the maximum output voltage from the load resistance (MΩ).

DIMENSIONS AND DESIGNATIONS

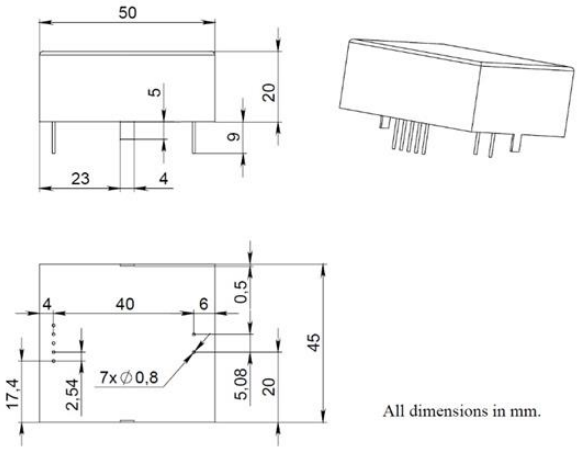

Fig. 6. Power supply case drawing.

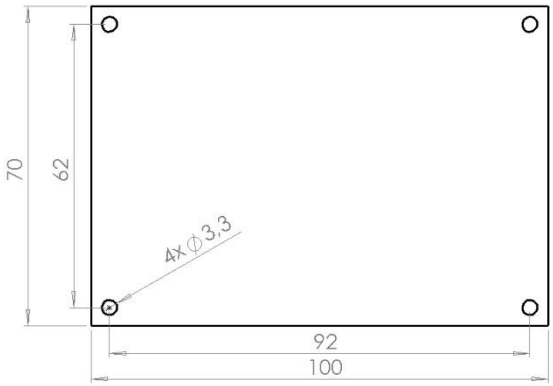

Fig. 7. EVM board dimensions.

Contacts and order: info@scintillators.ru

Web: https://scintillators.ru

OEM PRODUCTS PURCHASE AND USE CONDITIONS

Products of the OEM category are not intended for the end user. Products of this category are designed exclusively for developers and manufacturers of electronic equipment. Manufacturer of this product cannot check the conditions of use and storage, compliance with the requirements of "absolute electrical values" and "parameters" sections, other requirements listed in product documentation, or customer technical expertise. By purchasing this product, you agree that this product is not subjected to return or replacement. The manufacturer ensures the QC of the entire batch of products before shipment to the customer.