

PS3000 photomultiplier power supply for equipment manufacturers



1 description

The PS3000P and N have been designed with the particular needs of the instrument manufacturer in mind. The modular power supply has a fully adjustable output from 0V to 3000V, via an analogue remote control or a user accessible multiturn potentiometer. A special feature is the precision 1000:1 output voltage monitor point.

2 features

- variable output voltage to 3.0 kV
- low output ripple
- precision output monitor point
- recommended for electron multipliers
- precision reference output

3 specification

electrical

input voltage range	+22V to +27V dc
input current at full load	350mA at 24V DC
output voltage	100 to 3000V dc
output current	0 to 1.3mA
polarity	positive or negative, factory set
load regulation	50 ppm no load to full load
line regulation	20 ppm/V
HF ripple	1.5mV p-p typical
LF noise	5mV p-p typical
temperature coefficient	50 ppm °C ⁻¹
oscillator frequency	45kHz ± 10%

stability

short term	<15 ppm
in any 15 minute period	
long term	<50 ppm

temperature

operating range	-10 to +50 °C
storage range	-10 to +70 °C

protection

the unit is protected against

- input polarity reversal
- output overload
- output flashover
- output short circuit

reference

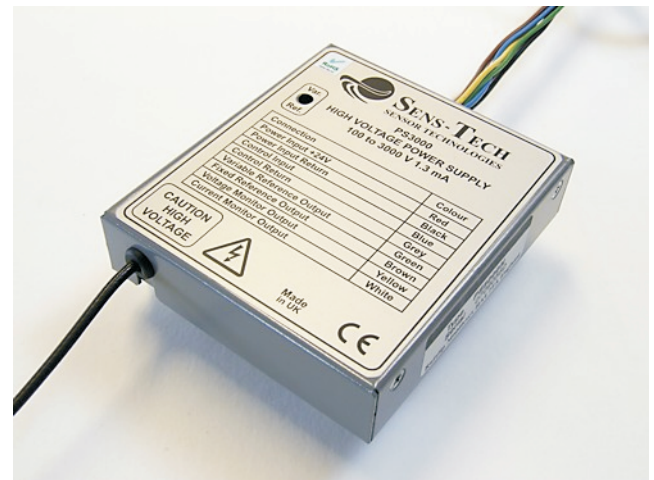
temperature coefficient	50 ppm/°C
fixed	+10V ± 0.05%, 3mA max.
adjustable	0 to +10V, multiturn potentiometer

voltage and current monitor

voltage monitor	1000 : 1
current monitor	10V for 100%
accuracy ±1%, source impedance 10k	

voltage control

input impedance	1M
output slew rate	60V/ms typical



4 connections

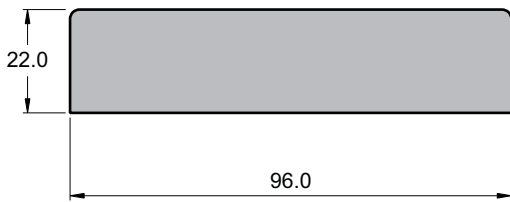
flying leads

input	red	power input +ve
	black	power input return
	grey	signal 0V
	brown	fixed reference
	green	adjustable reference
	pink	voltage monitor
	white	current monitor
	blue	control input

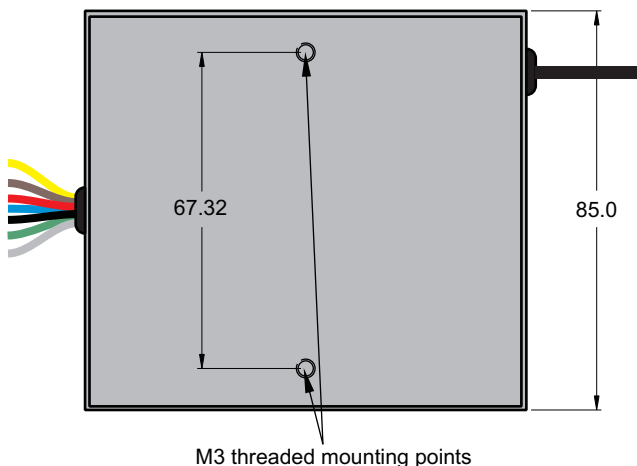
HV output

unterminated coaxial cable RG174 (0.5 metres long)

5 outline drawing (mm)



Cables not shown in this view



M3 threaded mounting points

View of underside

weight

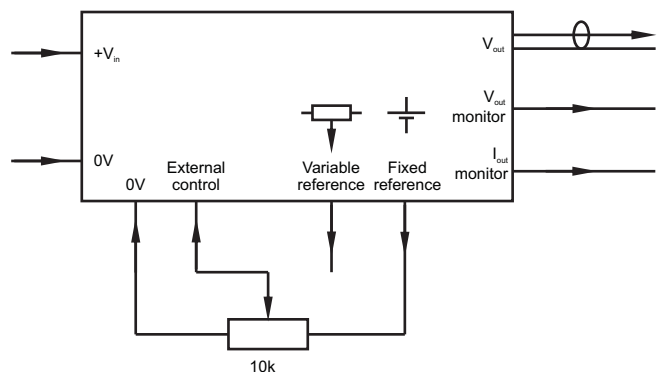
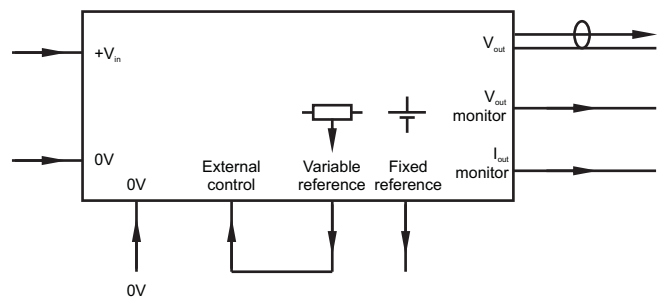
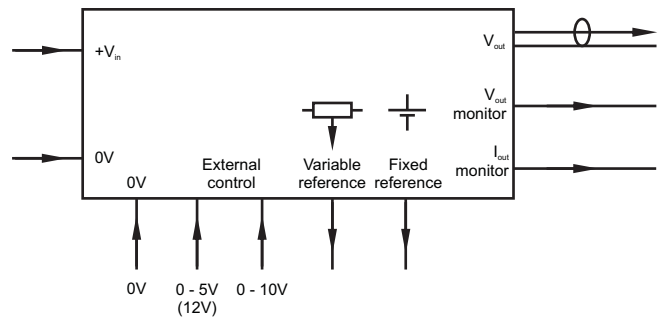
200g

6 ordering information

Item	Order code
PS3000, positive output	PS3000P
PS3000, negative output	PS3000N

7 application note

The output voltage is controlled by the application of an external voltage using one of the following three methods.



It is important to connect any voltage monitoring instrumentation between the pink and grey leads. The use of any other return can result in error.

8 warning

High voltages generated by these products present an electrical shock hazard and appropriate precautions must be taken. They must be installed by qualified personnel and operated within the specified ratings.

Do not operate outside the ratings limit. This may result in loss of performance or permanent damage to the PS3000.