

## FPB Series

compact photomultiplier power base incorporating a SDS high voltage supply and a voltage divider for Ø25mm, Ø28mm, and Ø51mm PMTs



SYSTEMS DEVELOPMENT  
& SOLUTIONS



*made to order product*

Vin : 5Vdc, 12Vdc, 15Vdc or 24Vdc

Vout : 0 to 100V through 0 to 1500V

Pout : 0.1W to 1W

*SDS manufactures complete power bases upon request to match your photomultipliers of tube diameters of 25mm (1 inch), 28mm (1<sup>1/8</sup> inch), and 51mm (2 inch).*



*For an easy use of photomultiplier tubes, SDS designs socket assemblies consisting of a high quality socket, a voltage divider circuit, and a high voltage converter integrated into a compact and lightweight housing. They operate from 5, 12, 15 or 24Vdc inputs, providing single outputs of up to 1500Vdc.*

*The voltage-divider network is designed according to the application measurement or counting. Voltage monitoring is available upon request. These products are fully encapsulated.*

*Below are the general characteristics of our whole line of power base assemblies. Different power base designs are possible according to the types of photomultipliers and their mode of operation.*

- lightweight
- compact design
- good stability
- low noise due to metal shielding
- continuous short circuit and arc protection
- output voltage monitoring as an option
- tight line/load regulation
- output current limit protection
- extremely low ripple ( $\pm 0,005\%$  p. to p.)

Parameters	Specifications
Input voltage Vin	5Vdc, 12Vdc, 15Vdc or 24 Vdc $\pm 1$ Vdc depending on the model
Input current	at no load: 20mA                      at full load: 90mA
HV output Vout	adjustable from 0 to 1500Vdc max. depending on the model
Polarity	fixed positive or negative depending on the model
HV setting	via external voltage source 0/5V, input impedance $> 1M\Omega$ or via external potentiometer, minimum resistance 10k $\Omega$ $\pm 1\%$ accuracy: $\pm 0.1\%$ at full scale
Max. output current Iout	depending on the model
Load voltage regulation	$\pm 0,01\%$ of full output voltage for no load to full load
Line voltage regulation	$\pm 0,01\%$ of full output voltage over specified input voltage range
Residual ripple	$\pm 0,005\%$ peak-to-peak at full load
Temperature coefficient	200ppm/°C for the maximum output voltage after starting and over temperature range 0 to 50°C
Output reference voltage	5V, accuracy: 0.5%, temperature coefficient: 50ppm/°C
HV power ON/OFF	to disable: opened remote interlock or enable: closed remote interlock
Operating temperature	0°C to +50°C
Storage temperature	-20°C to +70°C
Safeguards	arc and short circuit protection
Option	HV monitoring : 1V for 1000V, output impedance 200k $\Omega$

Main Application
▪ Photomultiplier Tubes (PMTs)

Flying Leads	
<i>Standard</i>	
Brown:	supply 0V, GND
Red:	supply Vin
Orange:	HV control input
Yellow:	Vref output
coax RG174:	Vout; anode output
<i>Option</i>	
Green:	high voltage monitor

Package Configuration	
Case material	brass or copper with chemical nickel-plating
Tube dimensions	(inner diameter/external diameter/length), socket non included ▪ for Ø25mm PMTs: 25/26/65 mm    ▪ for Ø28mm PMTs: 28/30/65 mm    ▪ for Ø51mm PMTs: 56/62/65 mm
Weight	110g
Input / Output connections	▪ AWG26 wires                                      ▪ anode output: RG174 coaxial cable
Insulation	internal socket, divider and HVPS entirely potted in a resin

