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HVPS High Voltage Power Supply Option

Product Sheet

Description

The HVPS series of high voltage power supplies is an upgrade option for all PhotoniQ multichannel PMT data acquisition systems. Fully controllable through the PhotoniQ graphical user interface and USB drivers, the HVPS option gives the user the ability to bias photomultiplier tubes, silicon photomultipliers, and avalanche photodiode arrays without the need for additional external equipment. These power supplies are available in negative 1000 volt versions (HVPS001, HVPS001M) and negative 1500 volt versions (HVPS002, HVPS002M) for PMTs, and negative 100 volt versions (HVPS701, HVPS701M) for silicon photomultipliers and APDs. All come equipped with a 90 cm cable for connection to any one of Vertilon's sensor interface boards. The "non M" versions of the product include an industry standard SHV plug on one end of the cable for direct connection to the front panel of the PhotoniQ. Connection to the sensor interface board is made using a specialized proprietary low-profile connector on the other end. The "M" versions of the product are for OEM applications and are identical to the "non M" versions except that the SHV plug is replaced with a second proprietary connector for direct connection to the PhotoniQ printed circuit board. All 64 channel versions of the PhotoniQ can be upgraded with up to two high voltage power supplies.

Specifications

Description	HVPS001	HVPS001M	HVPS002	HVPS002M	HVPS701	HVPS701M
Maximum Unloaded Voltage ¹	-1000 V	-1000 V	-1500 V	-1500 V	-100 V	-100 V
Maximum Fully Loaded Voltage ²	-925 V	-925 V	-1390 V	-1390 V	-92.5 V	-92.5 V
Minimum Voltage	-50 V	-50 V	-100 V	-100 V	-5.0 V	-5.0 V
Voltage Accuracy	±3%	±3%	±3%	±3%	±3%	±3%
Voltage Adjustment Resolution ³	275 mV	275 mV	410 mV	410 mV	27.5 mV	27.5 mV
Maximum Voltage Ripple at Max Load	0.3% pk-pk	0.3% pk-pk	0.5% pk-pk	0.5% pk-pk	0.2% pk-pk	0.2% pk-pk
Nominal Voltage Ripple Frequency	150 Hz	150 Hz	150 Hz	150 Hz	150 Hz	150 Hz
Maximum Current at Maximum Voltage	370 uA	370 uA	250 uA	250 uA	1 mA	1 mA
Power Consumption at Max Load	0.7 W	0.7 W	0.7 W	0.7 W	0.4 W	0.4 W
Cable Part Number (Included)	HVC090	HVC090P	HVC090	HVC090P	HVC090	HVC090P
Cable Length	90 cm	90 cm	90 cm	90 cm	90 cm	90 cm
PhotoniQ Connector Type ⁴	SHV Plug	Proprietary	SHV Plug	Proprietary	SHV Plug	Proprietary
Sensor Interface Board Connector Type	Proprietary	Proprietary	Proprietary	Proprietary	Proprietary	Proprietary

¹ Voltage limited to Maximum Fully Loaded Voltage in GUI

² Voltage range divided by three at SIB when using SIB216

³ Voltage adjustment resolution is 100mV in GUI

⁴ Proprietary connector is miniature low-profile 2-pin

Cable Handling Notice

The included high voltage power supply cables utilize a specialized two pin miniature connector for connection to the sensor interface board and PhotoniQ printed circuit board (OEM versions only). The connector is designed for low-profile applications such as where a sensor interface board or PhotoniQ printed circuit board is mounted in a confined space. For this reason care should be taken when connecting and disconnecting the cable. Never disconnect the cable by pulling on the wire. Instead, carefully grip the plastic housing and pull evenly with very light force.

General Safety Precautions

Warning: HIGH VOLTAGES – Voltages can exceed 1500V

Operate device within specified range

Do not operate in wet, damp or explosive atmosphere



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