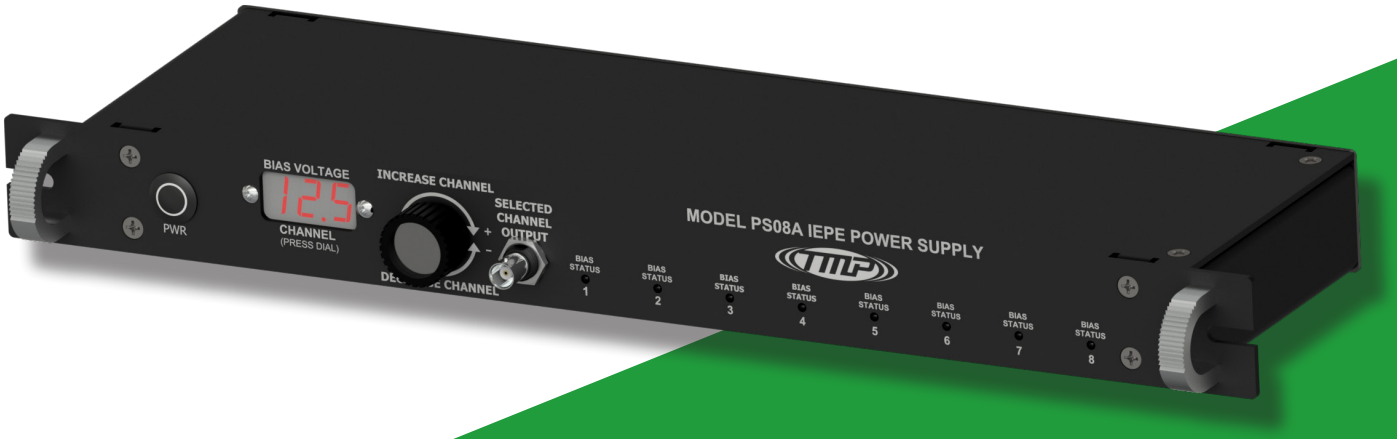
TEST & MEASUREMENT PRODUCTS



PS08A
Product Manual

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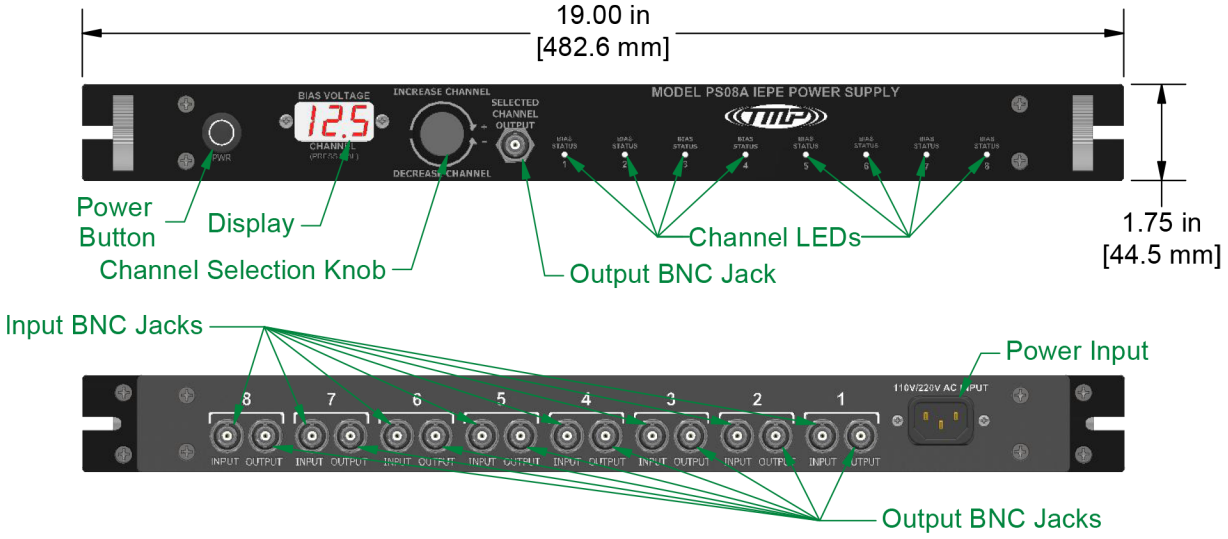
Introduction

The PS08A is a rack-mountable constant current power supply with eight channels. It features eight independent constant current sources, allowing for one unit to power eight IEPE sensors simultaneously. Each channel features an isolated voltage output from the IEPE line, allowing for the measurement of the IEPE sensor with devices such as multimeters or oscilloscopes. The unit features an additional voltage output on the front of the case that is selectable via the turning of a rotary knob, and the selected channel's voltage is displayed on the unit's seven-segment display. Pressing the knob on the unit will display the current channel selected on the display. The durable, powder-coated aluminum case can accomodate standard 19 in. racks.

PS08A Series Overview

The front panel of the PS08A features a power button, a seven-segment display used to indicate the currently selected channel's voltage, a knob to select the current channel, a BNC jack for the isolated voltage output of the currently selected channel, and eight LEDs to provide an estimation of each channel's bias status.

The back panel of the unit features an IEC 320-C14 power entry receptacle and 16 total BNC jacks; eight for the input connection of IEPE sensors and eight for the isolated voltage output of the respective channel.



PS08 Specifications

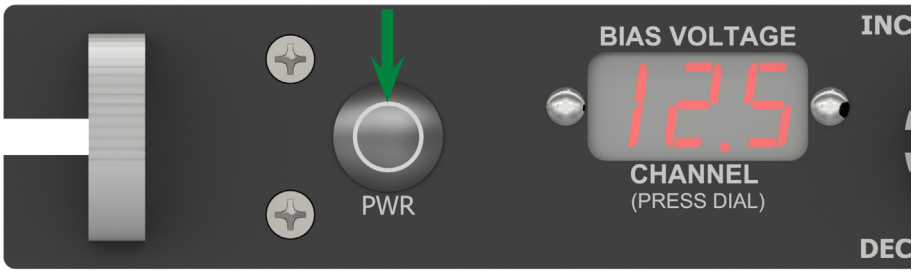
PARAMETER	VALUE
Sensor Supply Current (Factory Set at 5 mA)	2.0 mA – 9.0 mA
Channel Open Voltage	24 V ±0.5 V
Channel Bias Status Indicator Low Threshold	3 V
Channel Bias Status Indicator High Threshold	17 V
Bias Voltage Display Accuracy	±0.5 V
Number of Sensor Channels	8
Sensor Excitation Voltage (Compliance Voltage)	24 V ±0.5 V
Voltage Gain	Unity
Front Panel LED Voltmeter F.S.	24.0 VDC
High Frequency Response	Determined by sensor, cable length and signal level
Sensor Connector - Rear Panel	BNC jack (8)
Output Connector - Rear Panel	BNC jack (8)
Output Connector - Front Panel	BNC jack (1)
Output Load Resistance	>10 kΩ
Power Connector	IEC 320-C13
Line Voltage Required	110 VAC – 220 VAC
Physical Dimensions (HxWxD)	1.7 in. x 19 in. x 6.5 in. (4.4 cm x 48.3 cm x 17.1 cm)
Weight	3.7 lbs (1.7 kg)

Operating Procedure

Powering the Unit

Plug the IEC 320-C13 end of the power cord into the AC input receptacle on the back panel of the unit. Then connect the other end of the power cord to line power. The switch labeled PWR on the front panel will glow red or green when the unit is connected. Red indicates that the system is off, and green indicates that the system is active. Press the power switch to alternate between these modes. If the switch does not glow red or green, there is likely an issue with the input power or the unit has a damaged fuse. See the designated section in Troubleshooting for information on replacing fuses. When powered, the BIAS VOLTAGE 7-segment display will show a reading, the eight status LEDs will light up red or green, and the unit will supply current to each input BNC jack located on the back of the unit. By default this current is 5 mA, though this can be ajusted.

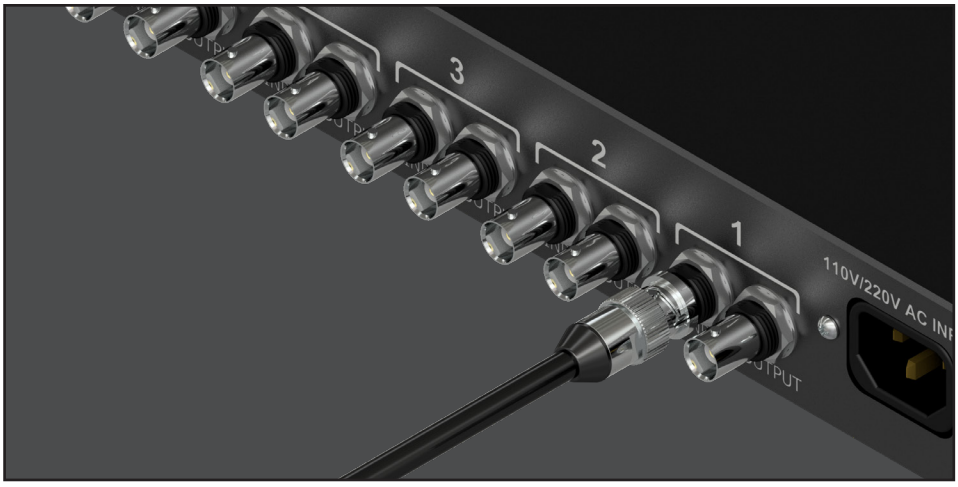
Note: The power switch is a latching switch and will remain in the same state if line power is disconnected or goes down.



Connecting an IEPE Sensor

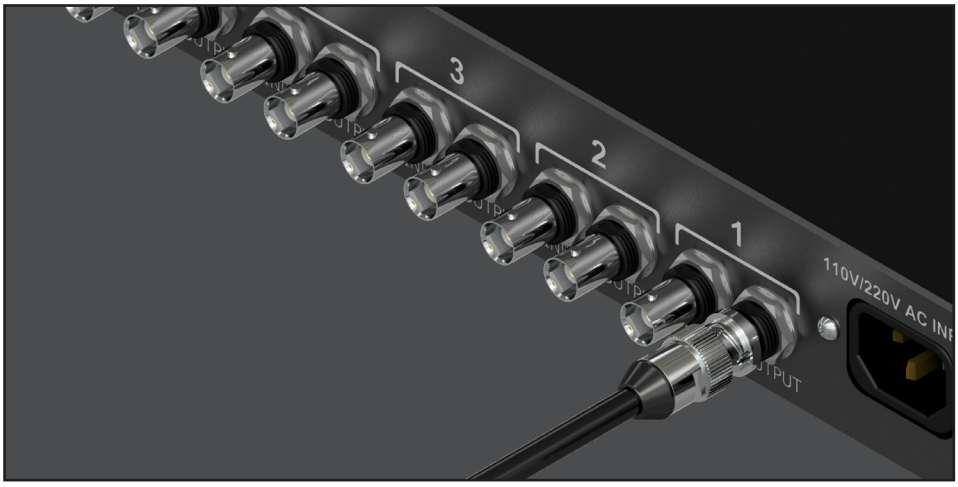
Ensure the IEPE sensor is connected to a cable that terminates in a BNC plug. Locate the BNC jack labeled INPUT for the desired channel on the unit's back panel and connect the plug to it. The PS08A will immediately begin sampling the bias voltage of the IEPE sensor, and will light up the BIAS STATUS LED on the front panel for the associated channel. If the voltage induced is between approximately 10 - 14 V the will glow green, otherwise the LED will glow red.

Note: Do not connect any IEPE sensor to the output jack on the front of the case.



Connecting a Measurement Device

The BNC jacks labeled OUTPUT on the back panel of the device are intented for permantently-mounted monitoring solutions, such as oscilloscopes or monitoring systems. Ensure the measurement device is connected to a cable that terminates in a BNC plug. Connect the plug to the output jack for the desired channel.



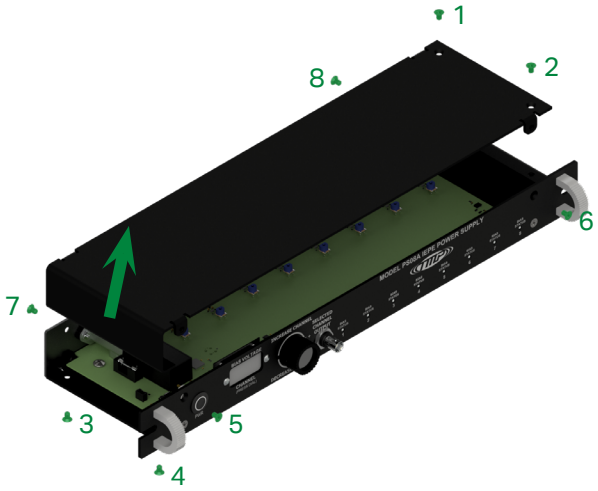
Selected Channel Output Operation

The display on the front panel will show an approximate voltage observed on the currently-selected channel. The channel's detected voltage level will be output on the BNC on the front panel, useful for diagnostics and portable collection. When the unit is powered off, it will always default to channel one the next time it is switched on. To select a different channel, turn the dial on the front panel clockwise to increase the channel count or counter clockwise to decrease it. The display will briefly showcase the current channel selection. This information is also shown when the dial is pressed.

Troubleshooting

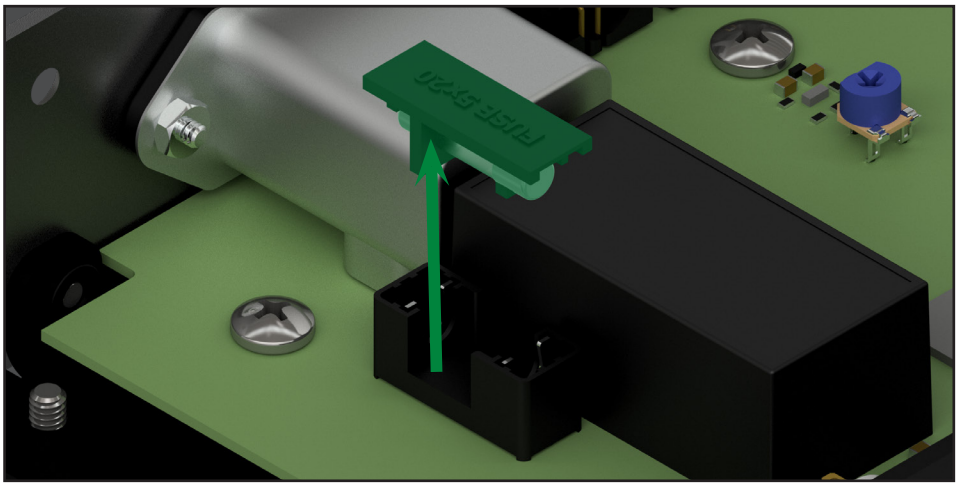
Removing the Top Panel

Ensure the unit is powered off then disconnect the unit from the power line and all BNC connections, removing the unit fully from any rack mounting or other housing. Remove a total of eight screws: two from the top panel, two from the bottom panel, and the uppermost two screws from both the front and rear faceplates. Carefully remove the top panel from the unit by pulling it up away from the rest of the case.



Replacing the Fuse

If the power button does not glow when the unit is connected to the power line, there may be an issue with the internal fuse. To replace the fuse, disconnect the unit and remove the top panel. Then locate and remove the fuse cover labeled F1 5x20 by lifting up and away from the board, detach the old fuse from the lid and insert a new 5 A 250 VAC slow blow 5 mm x 20 mm glass fuse. Reinsert the fuse cover back into the unit. Reconnect line power only to the unit. Verify that the power button lights up when power is connected. Reinstall the top panel before resuming normal use.

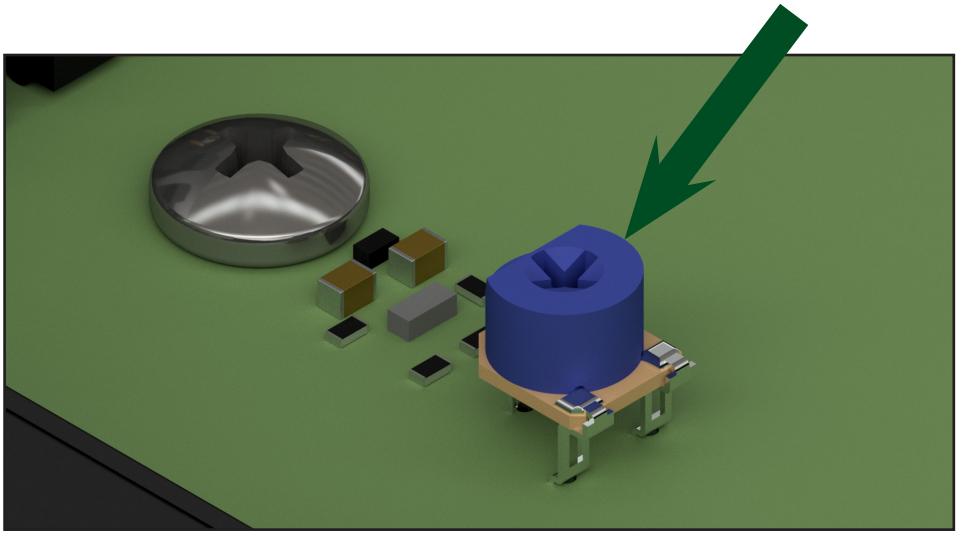


Adjusting the Constant Current Set Values

From the factory, these units will output 5 mA on each channel. Adjusting these values will invalidate the factory calibration provided with the unit. To adjust the output value, ensure the top panel of the unit is removed following the procedure detailed in “Removing the top panel”. Carefully connect the unit to line power and ensure the power button glows red. Turn the unit on by pressing the power button and ensure it glows green. Connect a multimeter rated for at least ¼ W to the OUTPUT BNC on the front of the case, and turn the knob to the desired channel. Ensure that the current sensing device detects a current between 2 mA to 9 mA. Locate the appropriate potentiometer for the desired channel to adjust as detailed by the table below:

Channel number	Potentiometer
1	R103
2	R104
3	R105
4	R106
5	R123
6	R124
7	R125
8	R126

Using a screwdriver, carefully adjust the potentiometer to the desired current output, using the current sensing device as a reference. Turning the potentiometer clockwise will decrease the current and turning the potentiometer counter-clockwise will increase the current.



Maintenance

Once the product has been installed, minimal maintenance will be required. Basic visual checks to ensure integrity should be made periodically.

Warranty & Refund

Please visit www.ctconline.com to view a complete recapitulation of our warranty and refund policies.

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