

Multi-Channel Precision Isolated DC Source



DESCRIPTION

The Model SG16 APS is a multi-channel adjustable precision DC voltage source. It consists of up to 16 independent, isolated, adjustable voltage sources with independent front panel controls and pin jacks to set and monitor each output. An optional 4-1/2 digit panel meter and selector switch allow the user to set and monitor any channel at any time without the use of external meters. The system shown above consists of four independent regulated power supplies. Output is via Amphenol 5-pin circular connectors on the rear panel. 16 rocker switches on the rear panel enable or bypass remote sense operation

Functions

Each SGA16-APS channel provides the following functionality:

- Adjustable output voltage from 0.2 to 15 VDC
- 10 turn counting dial with lock
- One pair of pin jacks for output measurement
- Selectable remote sense with bypass switch for two wire operation
- Front Panel 4-1/2 digit panel meter to measure output voltage
- Rotary switch to select channel being monitored by the panel meter

Each channel is a very stable, isolated, low-noise power supply, adjustable from 0.2 to 15 VDC and regulated for constant voltage. This supply is used to provide excitation power for strain-gages or other devices. Other applications include use as a bench supply for independent plus and minus supplies in the lab. Voltage levels are adjusted by means of a front panel ten-turn precision potentiometer. Remote sensing minimizes errors caused by voltage drops in the leads. Output voltage may be monitored at the front panel via test points as well as the optional switchable front panel digital voltmeter. Remote sense may be bypassed to allow two wire operation.

SPECIFICATIONS

Operating specifications apply after a one-hour warm up and with the ambient temperature for each individual 10-module cabinet assembly within the specified 0°C to 50°C range.

SPECIFICATION	UNITS	SPECIFIED PERFORMANCE
2.1 General		
Operating Voltage	VAC @ Frequency	120 or 240 VAC \pm 10% @ 50/60 Hz
Environmental		
Temperature	°C	0 – 50 °C
Humidity	% non-condensing	< 95%
Physical Dimensions	Inches/MM (H X W X D)	5.25/133.35 X 17/431.8 X 13/330.2
Weight	Pounds/KG	20.2/9.16
2.2 Excitation Specifications		
Constant Voltage Mode		
Range	Volts	0.2 – 15 V
Supply Capability	Milli-amperes	0 – 100 mA
Supply Current Limit	Milli-amperes	100mA (short circuit limit @ 150 mA)
Resolution	% of full scale	\pm 5mV
Noise & Ripple	μ Volts peak-to-peak	500 μ V or .05%
Temperature Stability	% of setting / °C	0.005% or \pm 100 μ V Maximum
Regulation Power Line / Load	% of output for \pm 10% line % of output for 100% load	< 0.01% or 200 μ V < 0.01% or 200 μ V
Remote Sense	% of output / Ω of lead resistance	0.0005%
Excitation Features		
Level Control	10-Turn Potentiometer	
Monitor Jacks	Front Panel + and -	
2.3 Front Panel Meter		
Accuracy		\leq \pm 4Counts/ drift \pm 0.4 counts/°C typical
Resolution		\pm 1 mV