

PA15A1

POWER SOURCE INSTRUMENTS

ULTRA LOW NOISE DC POWER SOURCE



General

The PA15A1 is an ultra-low-noise 3-output power source developed for use in measuring the characteristics of electronic circuits and other devices. Since noise contained in output voltage is extremely small, the PA15A1 is capable of identifying the underlying merits of the device being tested. The PA15A1 provides 3 output channels and allows high-resolution output voltage setting of 0.1 mV (1.0 mV for channel 3), Maximum output current for channels 1 and 3 is 1A (100 mA for channel 2), and in channel 2 an external signal can be superimposed on the current output as noise.

Features

- Ultra-low-noise output of less than $0.25 \mu\text{Vrms}$ (ch 2 Bw: 300 Hz to 3 kHz)
- Maximum output voltage of $\pm 6.4 \text{ V}$
- Setting resolution of 0.1 mV (ch 1 and 2)
- Maximum output current is 1A (ch 1 and 3)
- 3 output channels
- External noise signal can be superimposed

Specifications

- Number of outputs
3 (5 pins connector: RM12BPG-5PH made by Hirose Denki)
- External signal superimposition (ch 2)
Input voltage range
0 to 5 Vrms
Frequency range 50 to 500 Hz
Transmission characteristics*
 $10 \mu\text{V/V}, \pm 2 \text{ dB}$ (at 150 Hz)
Frequency response*
 $\pm 6 \text{ dB}$ (50 to 500 Hz, 150 Hz reference)
Note: *These figures apply for load capacity of 0 to $10 \mu\text{F}$.

Specifications

Electrical performance

	Channel 1	Channel 2	Channel 3
Output voltage	0 to $\pm 6.4 \text{ V}$		
Setting resolution	0.1 mV		
Margin of error	$\pm (2 \text{ mV} + 0.05\% \text{ of } V_{\text{out}})$		
Output noise voltage			
300 Hz to 3 kHz	$\leq 0.5 \mu\text{Vrms}$	$\leq 0.25 \mu\text{Vrms}$	—
300 Hz to 3 kHz	$\leq 1.0 \mu\text{Vrms}$	$\leq 0.5 \mu\text{Vrms}$	$\leq 30 \mu\text{Vrms}$
Response time	0.1% 30 ms(TYP.)		
Settling time	10% to 90%		
Start-up time	10 ms(TYP.)		
Output current	0.1 to 1.0 A	10 to 100 mA	0.1 to 1.0 A
Setting resolution	0.1 A	10 mA	0.1 A
Margin of error	0 % to 0.5 %	0 % to 0.5 %	0 % to 0.5 %
Output current monitor	0 to $\pm 1.0 \text{ A}$	—	
Measuring resolution	0.5 mA		
Setting margin of error	$\pm (0.3\% * I_{\text{out}} + 2 \text{ mA} * V_{\text{out}}/V + 0.2 \text{ mA})$		

Ambient temperature $23^\circ\text{C} \pm 5^\circ\text{C}$, 30 min. following warm-up

Control

Manual controls

- Voltage setting Via 10-key pad and up/down switch
- Current restriction setting Via 10-key pad
- Display switching Output voltage, Output current (ch 1 only), Current restriction value
- Output on/off Output voltage, Current restriction value, Output on/off
- Remote/Local switching preset Up to 99 groups stored/recalled

Remote control

- Interface GP-IB
- Control functions Output voltage, Current restriction, Output on/off, Output current reading (ch 1 only), Overload alarm reading, Preset data storage/recall

Specifications

● General specifications

Power supply AC 100 V \pm 10%, 50/60 Hz

Operating temperature range
0°C to 30°C

Relative humidity 15% to 85%RH (non-dewing)

Dimensions 430 (W) x 200 (H) x 460 (D) mm

Accessories Power cord x 1

Connection cable x 3

※Note: Please specify required power supply voltage
when ordering.

