

Small Instrumentation Modules

SIM928 — Rechargeable isolated voltage source



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- **± 20 V isolated voltage source**
- **Ultra-low noise output**
- **Two switchable, recharging batteries for continuous operation**
- **Battery lifetime: 1000 charge cycles**
- **Output floats to ± 40 V**
- **Short-circuit protected**

• **SIM928 ... \$1095 (U.S. list)**



SIM928 Isolated Voltage Source

The SIM928 Isolated Voltage Source is ideal for applications where ultra-clean DC voltage is required. Voltage can be set between ± 20 VDC with millivolt resolution, and the source can drive up to ± 10 mA. The output circuit is optically isolated from all earth-referenced charging circuitry, providing maximum flexibility and noise immunity. The system can float to ± 40 V, and the output is short-circuit protected.

At the heart of the SIM928 are two independent nickel-metal-hydride rechargeable batteries, each providing up to 12 hours of operation under full-load conditions. When a battery is nearly depleted, the SIM928 automatically switches in a second battery. The switchover between batteries is virtually glitch-free, giving you uninterrupted power around the clock. The depleted battery is automatically charged to capacity in about 5 hours. The batteries are guaranteed for 1000 charging cycles, and SRS offers replacement battery sets.

In applications that occur over long time intervals, starting with a fully charged battery may be desirable. A battery charge override feature allows you to manually switch in the fully charged battery (assuming it is in “ready” state) at any time.

Banana binding posts are provided for the + terminal, – terminal and chassis ground.

Output

| | |
|------------------------|---------------------------------|
| Output range | ±20 V, 1 mV resolution |
| Max. output current | ±10 mA |
| Floating output | ±40 V (common mode to ground) |
| Noise | 10 μ Vrms (1 kHz bandwidth) |
| Current limit | 15 mA |
| Short-circuit duration | indefinite |

Batteries

| | |
|---------------------|---|
| Number of batteries | 2 (1 operating, 1 charging/standby) |
| Type | Nickel metal hydride |
| Charge time | 5 hrs. |
| Discharge time | 12 hrs. (10 mA load) |
| Lifetime | >1000 charge cycles, 2 yr. shelf life |
| Battery switching | Automatically switches batteries when active battery is fully discharged. |

| | |
|-------------------------|---|
| Switchover glitch | <1 mV for <1 ms |
| Battery charge override | Allows manual switching of batteries. Triggered when front-panel button is held for 5 seconds or more. Only armed when standby battery is in ready state. |

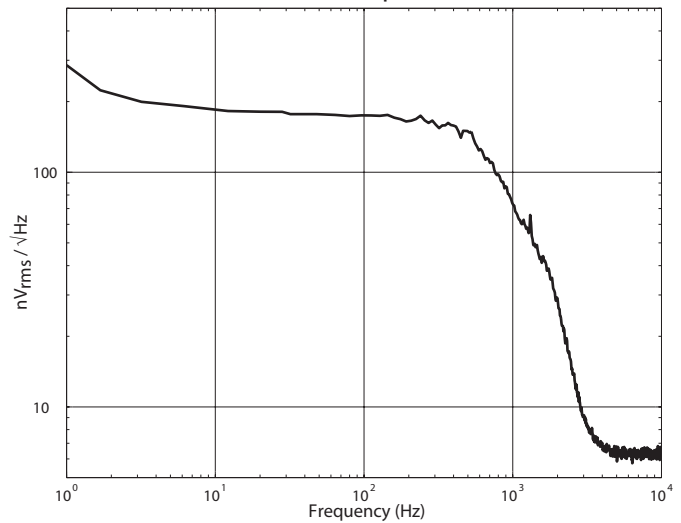
General

| | |
|-----------------------|--|
| Operating temperature | 0 °C to 40 °C, non-condensing |
| Interface | Serial via SIM interface |
| Connectors | Banana binding posts (+ terminal, – terminal, and chassis ground) DB15 (male) SIM interface |
| Power | Powered by SIM900 Mainframe, or by user-provided DC power supply (+24 V, –15 V and +5 V) |
| Dimensions | 1.5" × 3.6" × 7.0" (WHD) |
| Weight | 3 lbs. |
| Warranty | One year parts and labor on defects in materials and workmanship |



SIM928 rear panel

SIM928 Output Noise



Ordering Information

| | | |
|---------|------------------------------|--------|
| SIM928 | Isolated voltage source | \$1095 |
| O928RBA | Replacement battery assembly | \$250 |