

RPS-1 POWER SUPPLY FOR SENSOR EXCITATION

Features

- Self-contained Regulated Voltage Source
- Rechargeable Battery Operation
- Two Programmable Output Voltages (3.5Vdc to 22Vdc, 7 ranges)
- Battery State of Charge Indicator
- Easily Interfaces to data loggers, transmitters and sensors
- Optically Isolated Power Supply Control ON/OFF Input
- Weatherproof

OVERVIEW

The RPS-1 is a self-contained battery power source for use in conjunction with the HyperLoggerä and ModuLoggerä data logging and alarming systems from Logic Beach. It is also used in the Logic Beach HL-200 System Base to power transducers requiring external power (e.g. Strain Gages, Pressure transducers, 4 to 20ma Loop Transmitters, etc) over a voltage range from 3.5 to 22 VDC. The RPS-1 may also be used as a stand-alone power source for sensors, transmitters, data loggers or other remote equipment requiring a regulated power source.

The RPS-1 contains two User-configurable, rechargeable gel-cell type batteries and integral recharging circuitry. The charging circuitry will accept AC or DC current from Photovoltaic arrays, wind generators, utility-sourced transformers/plug-in power supplies, or other current sources. The sealed batteries are capable of operating in any orientation and over a temperature range of -10 to 60C. A slide switch allows the User to configure the RPS-1 for 12 or 24VDC operation.

Two User programmable Power Supply outputs are available which can source 7 different regulated



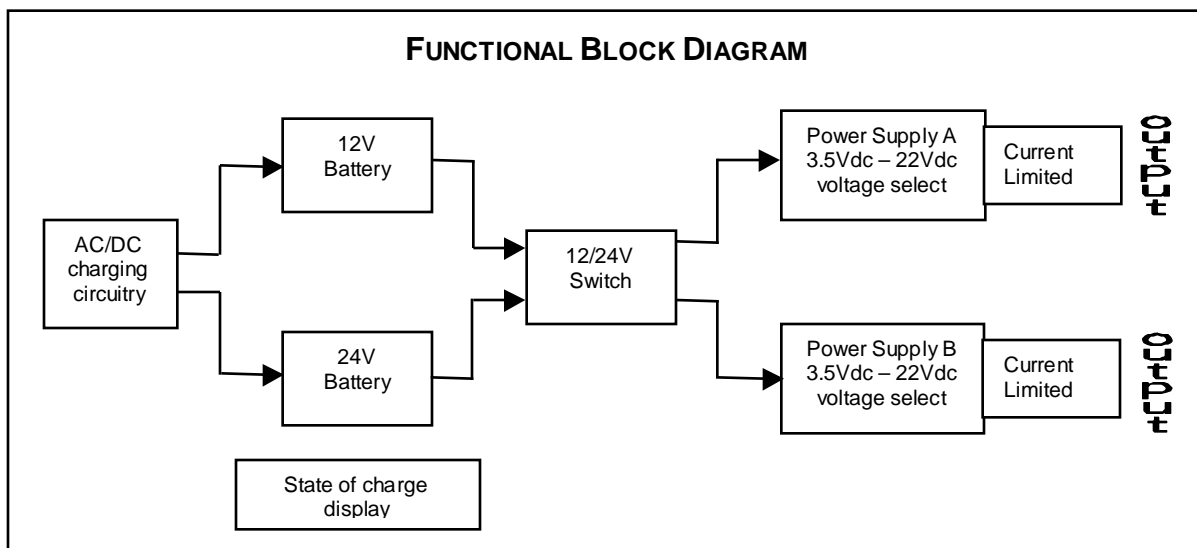
voltage levels from 3.5VDC to 22VDC. Outputs are short circuit / over-current protected.

The two power supplies can be independently programmed for output voltage as well as type of operational mode. Two modes are available, Continuous ON or AUTOMATIC Operation. In AUTOMATIC Operation, the power supply is under control of an optically isolated low voltage (5VDC, 0.5mA) control input signal. This control input interfaces directly to a Logic Beach data logger control output line which in turn cycles the RPS-1 power supplies ON and OFF, providing transducer excitation under datalogger control during a logging session. This automatic power supply cycling technique maximizes RPS-1 battery life.

An integral State-of-Charge (SOC) indicator is provided which will display an approximate Battery State-of-Charge based on battery voltage under a fixed load. Test is actuated by depressing a momentary SOC Test Switch.

The RPS-1 is packaged in a hinged door, weatherproof plastic enclosure. Wiring access to the Input/Output binding head terminal strips is provided through three holes at the base of the box.

LOGIC BEACH INCORPORATED



POWER SUPPLY SPECIFICATIONS

Power Supply: two independently user-programmable power supplies.

Output Voltages: 3.5, 5, 10, 12, 15, 18, 22 Vdc. Dip switch selectable.

Current Outputs: 250mA max per supply, short circuit protected.

Batteries: Two, rechargeable 1.8AH 12V gel-cells, series (24V) or parallel (12Vdc). Three position switch for 12Vdc/24Vdc/off.

CHARGING CIRCUITRY

Input Voltage: 12Vdc operation, 14 to 20 Vac/Vdc
24Vdc operation, 26 to 32 Vac/Vdc

Current: 150mA maximum, automatic current limit control

Charging Technique: Tapering current, fixed voltage – 13.6 (12Vdc operation), 27.4Vdc (24Vdc operation).

OTHER

I/O Wiring: 7/16 binding head terminal strips.

Control Signal: 5Vdc, optically isolated. In AUTO mode high signal turns power supplies ON.

State of Charge: 10 step bar graph LED display of relative battery voltage under load. Indicates LOW to FULL charge.

Package: Gasketed rain-proof plastic, supplied with liquid-tight wiring fittings.

Dimensions: 9.5"H x 7.5" W x 4.15" D

Weight: 7 lbs.

Operating Temperature: -10c to 40C for full capacity and life, -10C to 60C with reduced battery life and capacity.

Product Contents: Instructions, hanger, data logger control interface cable, three sealing glands, and AC charger.