

SPS-20 Supervised Power Supply/Charger 12vdc
20Amp/24vdc 10Amp

“EL” adds 14”x14” Enclosure

“C8 or C16” adds 8 or 16 Circuit Breaker Outputs

“D8 or E16” adds 8 or 16 Fused Outputs

“ACI” adds PDD-8ACI 8 input/output Access Control
Relays with EOL Fire Interface

“PCI” adds PDD-8PCI 8 output distribution with
EOL Fire Interface module

“FT” adds PDD-FT Fire Transfer Relay with EOL Interface

All made with a Lifetime Warranty in the USA

Feature SPS-20:

- **The SPS-20 has two 12vdc 10A (8Amp rated) Outputs that can be connected in Parallel or Series to provide 12vdc, 24vdc, or 12vdc & 24vdc.**
- **Outputs 1 and 2 are fully isolated, Independent Power Supplies.**
- **Efficient Off-Line Switching Power Supply**
- **Self Contained, No External Transformer required**
- **120/240VAC Selectable AC input**
- **Extraordinary Brown Out Capability**
- **Precise Battery Regulation for Lead Acid Batteries**
- **LED's Indicate AC and DC Outputs 1 & 2**
- **Relay Contacts Indicates AC Power Status**
- **Battery Online, No Drop or Switch Over with AC Power Fail**
- **Auto Resetting circuit breaker for battery(s) Over Current Protection with Reverse battery protection**
- **Electronic Power Limited and Short Circuit Protection on each output**
- **Each output has Thermal shut down with auto restart**
- **UL Recognized component for Access Control & Burglar Alarm**



Description

The SPS-20 supervised power supply with battery chargers are two fully isolated independent 12v 10A power supplies enclosed in one small self contained aluminum package. Each power supply, outputs 1 and 2, are a nominal 12vdc at 10 Amps with a 12v lead acid battery charger. These isolated outputs can be connected in parallel or series to provide 12vdc, 24vdc or both 12vdc and 24vdc at the same time. When outputs 1 & 2 are connected in parallel, the output is 13.65vdc at 20 Amps. When outputs 1 & 2 are connected in series, the output is 27.3vdc at 10 Amps. Because each output is independent, This

allows you to use 12vdc and 24vdc at the same time. The 12v current used has to be subtracted from the 8 Amp rating available on the 24vdc. Figures 1 - 4 illustrate each of these four hookups for the SPS-20. Charging two 12v batteries independently is also a very big benefit for long battery life.

The default fuse sizes for the UL listed accessories are: 8C 3A PTC, 16C 1.5A PTC (Class II), 8D 4A, 16D2A, ACI 2A, PCI 1.2A PTC (Class II)

See tech sales sheets for available fuse sizes.



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Specifications/Instructions

AC Input: L, N, G - 3P Terminal block

Safety Cover, snap or hinge is provided

L= Line, N= Neutral, and G = Ground

The G terminal must be connected to Earth Ground.

Optional 3 wire line cord P/N: HA-LC3SZIP

AC input/Hz/Watts default 90-132vac/47-63Hz/400w

AC input/Hz/Watts (set 240) .. 133-250vac/47-63Hz/400w

Caution: Never apply 240vac when SPS-20 is set for 120vac this will void warrantee and damage unit.

The AC input default is 120vac. You may order SPS-20/240 to change the AC default to 240vac, or you can cut the PCB trace marked "CUT 240" on the bottom of the PCB under the input inductor above and toward the inside of the AC input terminal block.

AC LED Indicator (Next to AC Input Terminal Strip)

The AC indicator is a bi-color green and red led.

AC Line Fuse

Fuse: 5 x 20mm 8A 250v fast

AC Status Output Relay: 3P Terminal block

AC fail "C" contacts 2A/120vac

Three position AC fail terminal block marked "NO, C, NC" are shown in the Normal, energized, AC ON condition.

DC OUTPUTS: 4P Terminal block (2 per output)

Output-1 & 2 continuous rating 12vdc at 8A ea

Output 1 & 2 Typical Output Voltage 13.65vdc

Load regulation no load to max25%Typ

AC Line regulation 85-136vac/170-264vac03%Typ

Each Output ripple & noise at full load 400mv pp

Current Overload Short Circuit Protection Yes

Thermal Shut down will auto-restart Yes

Switching Frequency 66KHz

DC LED Indicator (Adjacent to each output pair) Red

Battery Charging (Header plugs marked [-Bat+])

The SPS-20 has 2 12v battery chargers that are precisely set to charge sealed gel, AGM or wet lead acid batteries. Two 12" battery cable assemblies are provided Red (+) & Black (-)

Optional 36" battery cable (1) P/N: WA-36IBAT

Battery(s), any type of lead acid 12v 4AH-100AH

Battery(s) 1 & 2 discharge PTC self resetting 8A

Battery(s) 1 & 2 Reverse hookup protection Yes

In standby mode each battery is limited to 8 Amps of continuous current. When both outputs are connected in parallel, and standby current will be greater than 8 Amps, you must use 2 batteries connecting one to battery 1 and one to battery 2.

See <http://www.securitypower.com/an3batby.pdf> for battery standby selection table.

To estimate the recharge time in hours for depleted battery(s), multiply the AH rating times 1.2. (AH x 1.2). As an example, 2 12v 10AH batteries would take about 12 hours to re-charge.

Environmental:

Humidity 95% RH Non Condensing

Ts Storage Temperature -40°C – 85°C

Ot Operating Temperature Range 100% rating:

Ot Power module only -20 – 44°C

Ot with E-1414 Enclosure on wall -20 – 33°C

each 3% load reduction increases Ot by +1°C

Over temp shut down Mosfet Jt Temp 150°C

Mechanical Characteristics:

SPS-20 Module Dimensions . 7.75"L x 4.17"W x 3.23"H

Height includes 7/16" standoffs

Mounting Holes Center to Center 6.45"W x 3.41"H

SPS-20 module only Weight 2.4lbs.

SPS-20EL (in Large enclosure) 14" x 14" x 4.75"

SPS-20EL Weight with enclosure 11.4lbs

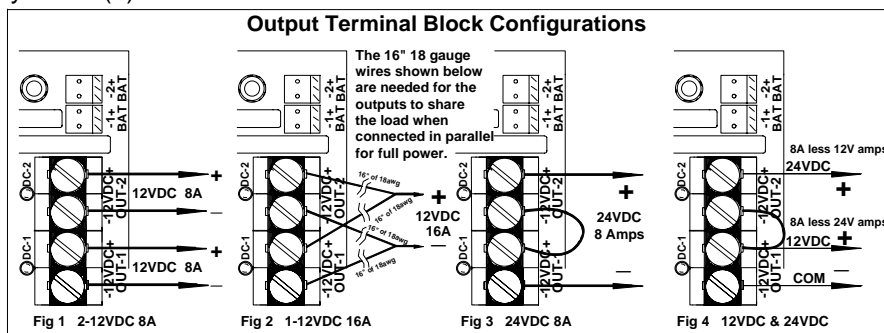


Approvals

SPS-20 meets requirements of UL1950 3rd & EN60950

SPS-20 is UL R/C..... UL603, UL294

RoHS Lead Free



Do not make series or parallel connections at the batteries, before circuit breaker protection, just at the output as shown above. Paralleling jumpers in Fig 2 must be 12" of 18 awg wires to add a little resistance so both outputs can share the load.