


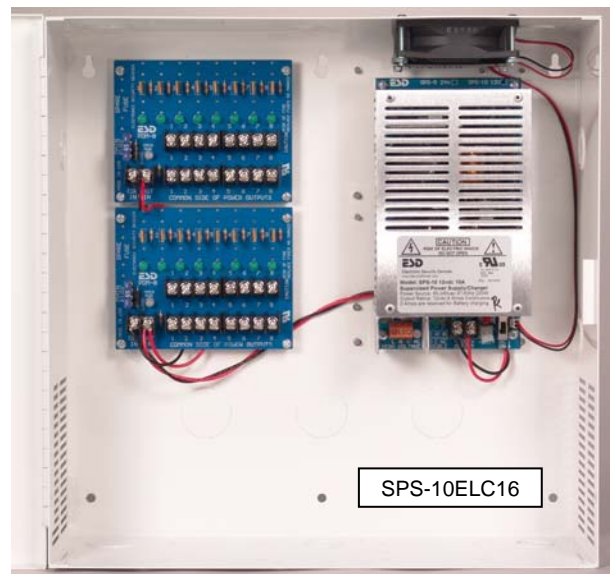
**SPS-5** 24VDC – 5A – Supervised Power Supply/Charger module  
**SPS-10** 12VDC - 10 A – Supervised Power Supply/Charger module  
**SPS-5CE, SPS-10CE** “CE” Power Supply modules with CE mark  
**SPS-5F, SPS-10F** “F” module smart fan option inside for high heat  
**SPS-XXXXXEL**, Supervised Power Supply/Charger in 14 x 14  
 Enclosure

**SPS-XXXXXELC8/ELC16** Same as above with 8 or 16 class II  
 Outputs

**Manufactured in the USA with a Lifetime Warranty**

**Features:**

- **Super Clean Linear Performance**
- **Self Contained, light weight, No External Transformer**
- **Universal AC Input 85-260vac Great Brownout operation**
- **Precise Battery Regulation for all Lead Acid Batteries**
- **C Models have PDM-8C 8’s class II Power Limited outputs with PTC Circuit Breakers**
- **LED’s Indicate AC; Power Good; and DC On**
- **Battery is Precisely Float Charged for Faster Charging with No Switch Over or Drop when AC fails.**
- **Electronic Power Limited Short Circuit Protection**
- **Reversed Battery Protection**
- **Thermal Regulation Prevents Overheating**
- **Our Exclusive Smart Fan (on enclosure) comes with all UL units mounted in our standard Large Metal Enclosure**
- **Battery Cutoff Relay prevents battery from deep discharge**
- **Output ON/OFF Service Switch (not on CE models)**
- **Power Trouble Relay & LED Indicates one of following**  
 AC Power Failed and about 70% battery is remaining  
 Output Voltage High  
 Over heated
- **All of the SPS-510 modules are UL and C-UL c  603, 294, 1076**
- **All of the SPS-510 power supplies in the standard large enclosure are UL and CUL Listed, Certified CSPIR EN55022 and FCC A**
- **CE models are compliant with EN60950**



SPS-10ELC16



Module

**Description**

The SPS-5 and SPS-10 are part of our SPS-510 Series Linear performance power supplies. They are clean, efficient, heavy duty, low frequency off line switching power supplies with battery charger and power supervision. Even though the wattage is the same for both the SPS-5 5 Amp 24vdc and the SPS-10 10 Amp 12vdc, we offer separate 12V and 24V models for optimum performance. The SPS-510 series use a very low switching frequency of 23KHz, just above our hearing range. This, coupled with extensive filtering, provides a balance of super clean power. This design eliminates interference problems with proximity readers and can be used wherever a linear power supply is required. The universal AC input works all over the world. The SPS-510’s become an uninterruptible power supply when a stand-by battery(s) is connected with the supplied cable. These supplies have a special power limiting circuit that

allows the batteries to be float charged across the output without lock up or chirping on and off. The battery(s) is protected with an automatic resetting circuit breaker and diode for over current and accidental reversed battery hookup. Precision float charging means faster recovery time and longer life for the battery(s). There is no switch over or voltage drop when input power fails. Standby battery(s) can be any capacity between 4 and 400 Amp hours. The SPS-5 24vdc is rated for 4 Amps continuous current with 1 Amp reserved for battery charging while the SPS-10 12vdc is rated for 8 Amps continuous current with 2 Amps of current for battery charging. **Power Supervision** includes a battery(s) disconnect relay to prevent deep discharge and a separate power trouble alarm relay. The power trouble alarm relay output, form C contacts, can be used to signal a



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buzzer and/or other signaling device. Both relays are normally energized for fail-safe operation. The trouble relay has a green LED that is on when power is good. The relay will drop off of normal when the standby battery(s) reaches about 70% of capacity. This low voltage indication represents low battery and/or AC power failure. High voltage or over heated failure will also indicate power trouble.

A **Service Switch** (*not on CE models*). Switch allows the DC output to be turned off for service.

The **Fan power header** provides power for the Smart Fan when mounted in our standard large enclosure. The Smart Fan regulates the temperature in the enclosure by

varying the fan speed to keep the temperature below 125°F. The fan is not required for proper operation; however it adds reliability by reducing operating temperature under extreme conditions.

The **/F option** operates the same way as enclosure smart Fan; but it is a smaller fan mounted inside the module. This option is for the module when used in high heat situations such as a SPS-510/F mounted in one of our outdoor rain tight boxes in a harsh environment.

**Specifications**

**AC Input: 3P Terminal block in high voltage barrier**

AC input/Hz/Watts ..... 85-264vac/47-63Hz/220W  
*Universal AC input does not require any selection switching.  
 Earth ground terminal must be connected to earth ground.*

**AC LED** Indicator next to AC Input ..... Org/Grn

AC Line Fuse Link - *Inside unit for catastrophic failure. This fuse is not field replaceable.* A blown fuse would be indicated by the AC LED off with AC power on.

**DC OUTPUT: (2P Terminal block marked –DC+)**

Nominal Output Voltage SPS-5/SPS-10 ..... 24vdc/12vdc

Typical Output Voltage SPS-5/SPS-10.27.3vdc/13.65vdc

Total Output continuous SPS-5/SPS-10 .. 27.3/13.65vdc

SPS-5ELC8 & C16 1-16 class II outputs PTC's 720ma

SPS-10ELC8 & C16 class II outputs PTC's ..... 1.5A

Output ripple & noise SPS-5/SPS-10 .... 50mv/25mv pp

Current Overload Protection ..... Electronic & PTC

Battery PTC Protection SPS-5/SPS-10 ..... 4A/8A

**DC LED Indicator** (*Adjacent to battery connection*)..... Red

SPS-5/SPS-10 continuous Output .. 24vdc-4A/12vdc-8A

Load regulation no load to max ..... .25%Typ

AC Line regulation 90-264vac ..... .03%Typ

Switching Frequency ..... 23KHz

**Supervision Characteristics:**

**Trouble Output: 3P Terminal block** - announces AC

fail, low battery, & high charge – “C” contacts .2A/120vac

*Three position trouble terminal block is marked “NO, C, NC” are shown in the Normal, energized, no trouble condition.*

Trouble voltage (low) SPS-5/SPS-10 ... 24.2vdc/12.1vdc

*Low voltage equate to approximately 70% battery capacity remaining*

Trouble voltage (high) SPS-5/SPS-10 . 28.1vdc /14.1vdc

*High voltage would indicate problem with power supply*

**Trouble LED Indicator** ..... ON Green Normal

Service Switch Disables power and Battery from

Output There is No service switch is on CE models

**Battery disconnect** trip points 24v/12v ..19.8vdc/9.9vdc

*Battery Cutoff Relay is normally energized for fail-safe operation*

**Battery Header keyed plug marked –Bat+**

The battery charger is precision set to float charge 12V or 24V sealed, AGM or wet Lead Acid Batteries. Two 12V batteries are connected in series for 24V. The amp hour capacity may be anything between 4AH and 400AH. UL evaluated with 40AH.

The Amp Hour recharge rate equals:  
 DC Output Amps Rating – DC load Amps +1A  
 See charge/discharge table on instructions.

**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 – 40°C

“/F” module Smart Fan option Increases Ot by: 11C

Over temp inside module (DC output is reduced) .. 71°C

Ot Module with /F option & 50% load ..... -20- 64°C

Each 3% load reduction increases Ot by ..... +1°C

**Mechanical Characteristics:**

Smart Fan comes with models mounted in an enclosure.

The fan regulates temperature by adjusting fan speed

Weight - Module Only ..... 1.6 lbs

Weight - SPS-5EL16C or SPS-10EL16C ..... 13.0 lbs

Overall Size - Module ..... 7.40H” x 3.94”W x 2.35”D

Mounting holes center to center (4 holes) 3.5”H x 6.8”W

Enclosure (EL) Large Metal Cabinet .. 14” x 14” x 4.75”

Approvals:



EMI conducted and radiated EN5022 CISPR-22 A, FCC A

UL 294 Access Control, UL 603 Burglar Systems, UL 1076 Proprietary Burglar

C603-M1988 Burglar systems

CSA 22.2 #205 –M1983 Signal Equipment file # BP9019

RoHS Lead Free