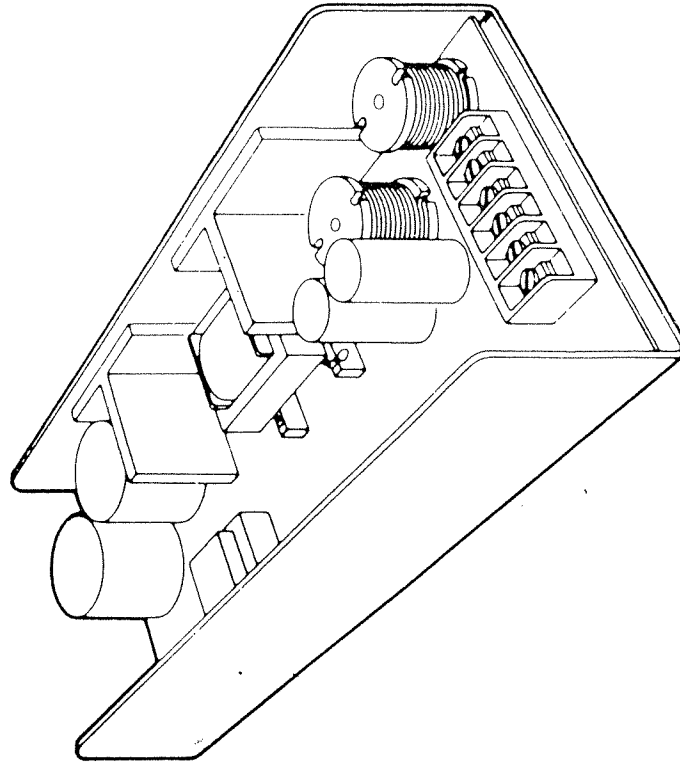


# OPERATING INSTRUCTIONS AND SPECIFICATIONS FOR 86-310-24 24 VDC POWER SUPPLIES

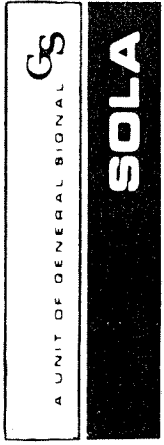


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## BEDIENUNGSANLEITUNG/INSTALLATIONSANWEISUNG

Um den zur Zeit gueltigen Sicherheitsbestimmungen zu genuegen, muessen die nachstehenden Massnahmen beim Einsatz dieser Netzgeraete beruecksichtigt werden.

1. Die maximale Umgebungstemperatur fuer das Geraet ist 50o C.
2. Das Geraet ist ein Einbauteil. Beim Einbau in ein entsprechendes Geraet und bei Herstellung der elektrischen Verbindungen im und am Geraet, sind die einschlaegigen Bestimmungen wie z.B. IEC 950 (VDE 60950) zu beachten und einzuhalten, insbesondere die Anforderungen fuer Zwischenraeume des Schutzleiterkreises und Primaer zum Sekundarkreis (SELV- Kreis).
3. Die Eingangsleitung darf die auf dem Geraet angegebenen Werte nicht uebersteigen.
4. **115/230 VOLT WAHL**  
Die Geraete werden fuer 115 volt Nennspannung geliefert. Bei 230 Volt Verwendung, die JU3 Verbindung entfernen. Nicht beachten dieser Anweisung vor Inbetriebnahme des Geraetes, fuehrt zum Schaden des Primaer-Stromkreises, durch Oeffnung der Sicherung.
5. **ABSICHERUNG (FU2)**  
Die Geraete verwenden 5A, 125V, 5x20mm Sicherung. Bei 230V Betrieb wird eine 3A, 250V, 5x20 mm Sicherung gebraucht.
6. Der Schutzleiter wird an der mit dem Schutzleitersymbol bezeichneten Stelle angeschlossen werden.



The Sola 86-series power supplies are designed for low cost, high reliability, and flexibility in usage. The 86-310-24 power supply is designed for 120/240 VAC input and 24 VDC output at 10 amps.

### Physical Installation

The product is designed to power OEM or special-purpose equipment. The following figures show unit dimensions, footprint, hookup points and jumper options. Please see the "Specifications" section for environmental operating limits.

### 120/240 Volt Option

The units are shipped for 120 volt input. For use at 240 volts, jumper JU3 must be removed. Additionally, the fuse must be changed by the user to maintain safety ratings. Failure to do this before operation will probably cause the fuse to open and may cause damage to the supply.

### Fusing

The units are equipped with a 5 amp 125V normal blow 5x20mm fuse. If 240V operation is desired, replace the fuse with a 3 amp 250 volt normal blow 5x20mm fuse.

**WARNING**

*Replace fuse with an exact replacement as specified.*

### Input and Output Connections

The input connector is a Magnum A2022-03-NL or equivalent barrier strip. The output connector is a RDI 6PVC-06 or equivalent. Hook up the power supply as shown in Figure 2.

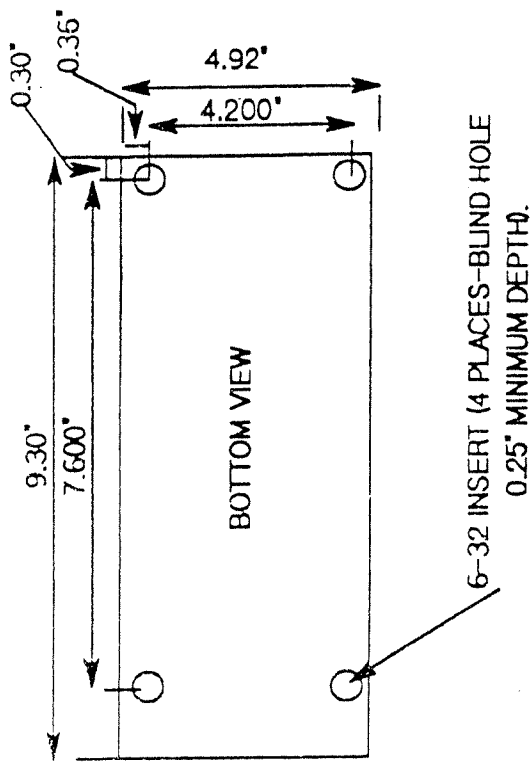


Figure 1. Mounting Hole Dimensions

(3 place decimals are +/- 0.005", 2 place decimals are +/- 0.02")

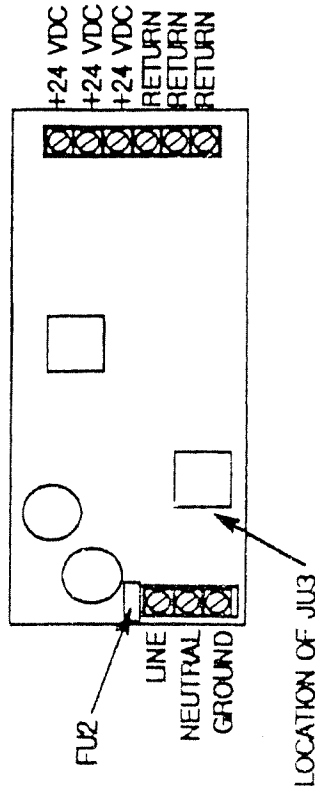


Figure 2. Connections and Jumper Locations

## SPECIFICATIONS

### INPUT

**Voltage:** 115/230 VAC (90-136 and 180-264 VAC), user-selectable.

**Current:** 3.8A typical at 115V  
1.9A typical at 230V

**Frequency:** 47-63 Hz

**Inrush Current:** 16A max at 115V  
30A max at 230V

**Fuse:** 5A 125V normal blow 5X20mm (standard as shipped)  
3A 250V normal blow 5X20mm (user supplied for 230V operation)

**Brownout:** The power supply will not be damaged by low input voltage even when the output voltage is below specification.

**Efficiency:** @115 VRMS input & 10A load:  
80% min / 85% typical

### OUTPUT

**Output voltage:** 24 VDC +/- 1%, factory set

**Turn-on time:** 500 mSec maximum from AC input to regulation

**Load Regulation:** 0-10A at 115 VRMS input is +/- 0.2%

**Line Regulation:** From 90-136 VRMS input at 8 A output, +/- 0.2%.

**Holdup time:** (90 VRMS input / 10A load)  
20 mS minimum

### Ripple and noise:

(Measured at 10A output with differential probe)  
100 mV Peak to Peak switching ripple maximum  
250 mV Peak to Peak combined maximum

Safety Agency Approvals and Radiated Emissions:

<b>Current limit:</b>	16.5-19.5 A (t < 100 mSec)
<b>Peak output current limit:</b>	11-14A (t > 1 second)
<b>Average current limit:</b>	26-30 volts
<b>Overvoltage shutdown:</b>	5A load change, 500 uS maximum.
<b>Transient response:</b>	2% maximum
<b>Overshoot:</b>	0.02% per degree C
<b>Temperature drift:</b>	Derate output power by 6 watts per degree C from 50 to 70° C.
<b>Temperature Derating:</b>	Red LED indicates presence of output voltage.
<b>Indicator:</b>	

**LIMITED WARRANTY**

Sola will, at its option, either repair or replace any class 086 power supply that fails, during normal use, to operate within specifications for a period of one year.

**ENVIRONMENTAL:**

**Operating environment limits:**

<b>Temperature:</b>	0 to 50° C
<b>Humidity:</b>	15 to 90% non-condensing
<b>Altitude:</b>	0 to 2,000 meters

**Non-operating environmental limits:**

<b>Temperature:</b>	-20 to 80° C
<b>Humidity:</b>	15% to 90% non-condensing
<b>Altitude:</b>	0 to 10,000 meters