

XP10 DC Power Supply and Battery Charger

BASE

10 Amp High Current Output



Features

- Regulated 12VDC or 24VDC output at up to 10 Amps supply current
- Output Voltage is Single-Switch Selectable and Adjustable
- Selectable Power Monitor Alarm with 2A dry contact output
- Charges lead acid gel cell batteries - includes battery cable kit
- Uninterrupted output on switch over to/from standby battery
- Status LEDs for AC input, DC output and Fault conditions
- Separately fused AC input and Battery circuits
- Current limit, thermal overload and output short protection
- Small Footprint PCB - 4.00"w x 5.75"l x 2.38"h
- Includes Mounting Hardware

MODEL	OUTPUT		BATTERY MAX AH	TRANSFORMER REQUIREMENTS
	VOLTAGE	CURRENT		
XP10	12 VDC	10.0 A	28 AH	Transformer Output: 28-32 VAC, 200 VA Minimum BASE XF29218
	24 VDC	10.0 A	28 AH	Transformer Output: 28-32 VAC, 360 VA Minimum BASE XF28300*

*XF28300 can be used for 12 or 24VDC output.

*** WARNING ***

Turn off all power feeding the module terminals before installing, servicing or changing any switch settings, wiring, battery or fuses. Failure to observe this warning may cause electrical shock hazard or may damage internal or external circuit components. Various components of the unit will become hot during normal operation of the unit. Locate the unit away from cabling or other objects that may be affected or damaged by this heat dissipation. Use caution while working near the unit during normal operation - components can be hot enough to cause serious burns.

Installation Instructions

Install in accordance with applicable sections of the National Electrical Code and other State or Local Regulations.

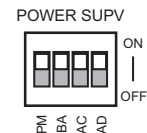
1. Mounting the Board Locate the unit inside a UL Listed NEMA 1 enclosure (such as a BASE LVPC Low Voltage Power Cabinet). Drill or punch four 0.187" diameter holes (3/16") to match the four corner holes in the printed circuit board. Push the nylon standoffs supplied into each hole and snap the PCB module into place. Mounting with double-sided tape is not recommended.

2. Transformer Wiring See Transformer Selection above. Connect Transformer output wires to the two Transformer AC terminals.

3. DC Output Setup Set the Output Voltage Switch for the desired output - 12 or 24 VDC. With no load or battery wiring connected, turn on the AC power source. The AC and DC green LEDs will light. Next, measure the voltage at the DC Output terminals with a voltmeter. The output voltage is factory set to approx. 13.5 vdc or 27.0 vdc - ideal settings for charging batteries. However, if a field adjustment is desired, use a small screwdriver to slowly adjust the output voltage at the potentiometer labeled ADJ. (If no batteries are being used - adjust down to 12 vdc or 24 vdc). Then turn off the AC power source before proceeding with the installation.

4. Power Monitor Setup and Fault Relay Output Terminals Set the Option DIP Switches for the desired Power Monitor Options.

PM	Power Monitor Enable/Disable	ON = Enables PM Alarm Relay and DC Output supervision for DC Power Failure, Shorted, or Low OFF = Power Monitor Off - Reduces No-Load Current Draw by 35 mA.
BA	Battery Supervision	ON = Enables Battery Set supervision for Low or Shorted Battery, or Blown Battery Fuse OFF = No Battery Supervision
AC	AC Power Supervision	ON = Enables AC Power Supervision for AC Power Failure or Blown AC Fuse OFF = No AC Power Supervision
AD	10 Second Alarm Delay	ON = Enables a 10-second Fault Alarm delay for masking short AC power failures or low battery alarms. OFF = Fault Alarms are instantly activated.



The Fault Alarm Relay is energized when no selected fault condition exists. The relay de-energizes and the Fault LED flashes when one or more selected Fault Conditions are present. Terminals of the relay contacts are labeled for when the relay is in Alarm. The ST terminal is a Spare Terminal that can be used as an easy splice point for an end-of-line resistor when monitoring the fault relay with a supervised circuit. Contact Rating is 2 Amps.

5. DC Output Wiring Connect output wiring to the DC OUTPUT terminals. Observe and verify correct DC polarity before powering the unit.

6. Battery Wiring Maximum standby batteries - 28 Ampere Hours. Connect battery wiring to battery terminals of the Power Supply first. Observe and verify correct DC polarity before proceeding to next step. Incorrect polarity will blow the BATTERY FUSE.

7. Power Up Connect DC output load wiring. Re-check all connections and turn on the AC power source. Connect battery wiring to battery.

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Go!

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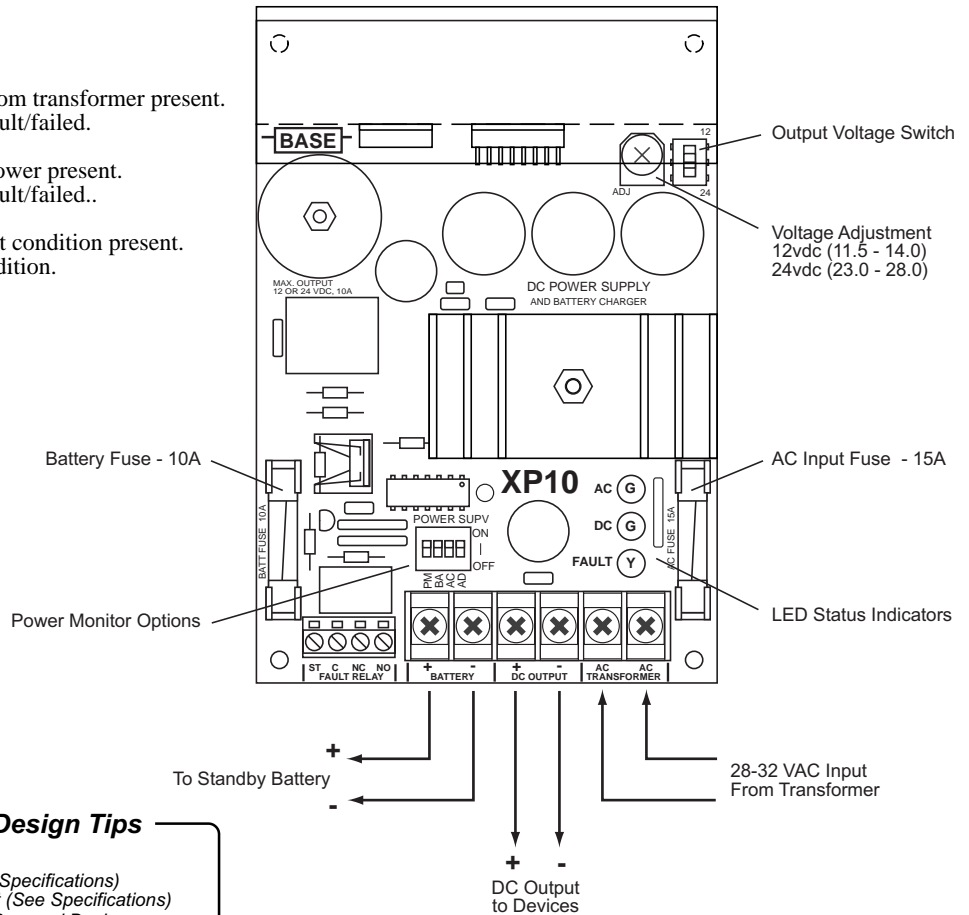
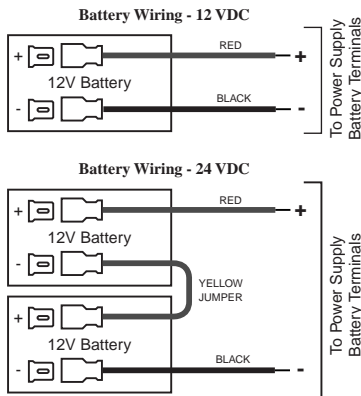
Power Status LED Indicators

Green (G), Yellow (Y)

AC POWER (G) ON = AC power from transformer present.
OFF = AC power fault/failed.

DC POWER (G) ON = DC output power present.
OFF = DC power fault/failed..

FAULT (Y) FLASH = Selected fault condition present.
OFF = No fault condition.



Power System Design Tips

Calculating Total Current Draw

$$\text{Total Current Draw} = \begin{aligned} &+ \text{ No-load Current Draw (See Specifications)} \\ &+ \text{ Max Battery Charge Current (See Specifications)} \\ &+ \text{ Estimated Load Current of Powered Devices} \\ &+ \text{ Estimated Load Current (for Future Expansion)} \end{aligned}$$

The Total Current Draw must not exceed 10 Amps, or the power supply may overheat. The XP10 has built-in current limit/thermal overload protection and the DC output will turn off if either occurs. A better design guideline (to prevent early power problems and extend the life of power supplies and batteries) is to limit the calculated draw to **50-75%** of Max. (5.00-7.50A), *especially* when charging batteries. Also, future system expansion should be considered in your load calculations.

Cable Resistance

When powering devices over considerable distances, cabling resistance may be so high that the voltage available at the device has dropped to an unacceptable level. To prevent this from occurring, system cabling should be designed with adequate sized conductors.

Heat Buildup

A by-product of *all* step-down power supplies/regulators/transformers is heat. Continuously pushing power supplies to their limits will maximize heat dissipation and buildup within power cabinets - which will thereby work to reduce the life of these components. Consider their location or the use of cabinet grills or fans to reduce heat buildup.

Power Distribution

Separately fusing output devices or groups of output devices greatly reduces trouble-shooting efforts. The larger the power supply and number of devices powered, the greater the need for power distribution. BASE has a variety of power distribution products that help speed installations while providing easier maintenance and a custom professional appearance.

The information in this manual is believed to be accurate in all respects. However, BASE Electronics cannot assume responsibility for any consequences resulting from the use thereof. The information contained herein is subject to change and BASE Electronics may issue a revision to incorporate such changes at any time.

• Indoor Temperature Range: -25° C. to +70° C.

XP10 Specifications

• **Electrical**
AC Input: 28-32 VAC, 50-60 Hz
Maximum Output: 13.8 or 27.6 VDC, 10A (at 25°C)
Maximum No-Load Current Consumption: 125mA (0.125 A)
Maximum Battery Charge Current : 700mA (0.700 A)
Battery Type: Sealed Lead Acid Gel Cell Type Only
Fault Supervision Relay Form-C Contact Rating: 2A
Connections: Captive Screw Terminals for #14 to #22AWG Wire
AC Input Fuse: 15A, Type 3AG, Fast Blow
Battery Fuse: 10A, Type 3AG, Fast Blow

• Size: 4.00 wide by 5.75 long by 2.38 high (inches)
• Mounting: (4) 1/4 inch high nylon standoffs included

• **Controls and Indicators**
Output Voltage is Single-Switch selectable and adjustable: 12 or 24 VDC
Fault Supervision Select 4-pole Dip Switch: PM, BA, AC, AD
3 LED Indicators for AC Power (Green), DC Power (Green), Fault (Flashing Yellow)

• **Special Features**
On-board selectable Fault Supervision with Relay Form-C Contact Output
Charger for Lead Acid Gel Cell Batteries
Separately fused AC input and Battery circuits

Limited Warranty

This XP Series DC Power Supply Module is warranted by BASE Electronics against manufacturing defects in materials and workmanship for a period of 2 years from date of purchase. During this period, any warranty repair required will be made at no charge for parts or labor. This warranty does not apply to any work or materials provided by any outside persons or technicians involved in the installation, unauthorized repair, connection, or testing of this product. This warranty does not cover any damage or failure caused by or attributable to Acts of God, abuse, misuse, improper or abnormal usage, faulty or improper installation or maintenance, neglect or accident. BASE Electronics is not responsible or liable for any special, consequential or indirect damages resulting from or in connection with the use or performance of this product as pertaining to economic loss, property loss, costs for removal or installation, or loss of revenues or profit. Except as provided herein, BASE Electronics makes no expressed or implied warranties. The duration of product performance for its intended purpose is limited to the duration set forth herein.

For Warranty or other repair, send the product postage prepaid to BASE Electronics and include Sender's name, company, address, phone and brief problem description. BASE Electronics will notify sender of any required repair costs not covered under this warranty prior to making such repairs.

This Warranty gives you specific legal rights. You may have other rights that vary from state to state.