

EFDBPNYM XY6020L

EFDBPNYM XY6020L CNC Step Down Stabilized Power Supply

USER MANUAL

1. Introduction

Thank you for choosing the EFDBPNYM XY6020L CNC Step Down Stabilized Power Supply. This module is designed to provide a stable and adjustable DC output voltage and current from a higher DC input voltage. It features a large LCD display for comprehensive monitoring and easy operation. This manual provides essential information for the safe and efficient use of your device, including setup, operation, maintenance, and troubleshooting.

2. Safety Instructions

Please read and understand all safety instructions before operating the device. Failure to follow these instructions may result in electric shock, fire, or damage to the product.

- Ensure the input voltage is within the specified range of 6.0V to 70V. Exceeding this range can damage the module.
- Do not exceed the maximum output current of 20.00A or output power of 1200W.
- Always connect the input and output terminals correctly, observing polarity.
- Avoid short circuits at the output.
- Operate the device in a well-ventilated area to prevent overheating.
- Do not expose the module to moisture or extreme temperatures.
- Disconnect power before making any connections or disconnections.
- This device is not a toy. Keep out of reach of children.

3. Product Overview

The XY6020L is a high-performance CNC step-down power supply module. It features a robust design with an input common-mode inductor to minimize input power ripple, ensuring a low ripple output.

Key Features:

- Constant Voltage and Constant Current (CV/CC) operation.
- Large, full-view dedicated power LCD for comprehensive display.

- Input common-mode inductor for reduced input power wavenumber impact.
- Complete display and simple operation.
- Multiple protection mechanisms (OVP, UVP, OCP, OPP, OTP, etc.).

Components:

The product typically includes the main XY6020L module and a base plate for mounting and connection. The base plate provides a stable platform and facilitates wiring.



Figure 3.1: XY6020L Base Plate. This image shows the base plate component, which provides a stable mounting and connection point for the main power supply module.



Figure 3.2: XY6020L Module with Base Plate. This image displays the complete XY6020L power supply module assembled with its base plate, illustrating the overall unit.

4. Setup

Follow these steps to set up your XY6020L power supply:

1. **Mounting:** Securely mount the XY6020L module onto its base plate or a suitable enclosure using appropriate fasteners.
2. **Input Power Connection:** Connect your DC input power source (6.0V to 70V) to the input terminals. Ensure correct polarity: positive to '+' and negative to '-'.
3. **Output Load Connection:** Connect your load to the output terminals. Again, observe correct polarity.
4. **Verification:** Double-check all connections before applying power.

5. Operating Instructions

The XY6020L features a user-friendly interface for setting parameters and monitoring operation.

Power On/Off:

- Apply input power to turn on the device. The LCD will illuminate.
- Remove input power to turn off the device.

Setting Output Voltage and Current:

Use the control buttons (refer to the device's physical interface for specific button labels) to navigate the menu and adjust the desired output voltage and current. The large LCD display will show real-time values and settings.

- **Voltage Adjustment:** Select the voltage setting mode and use the adjustment buttons to set the target output voltage (0.0V to 60V).
- **Current Limit Adjustment:** Select the current limit setting mode and use the adjustment buttons to set the maximum output current (0A to 20.00A). This acts as a constant current limit.

Protection Mechanism Settings:

The device includes various adjustable protection features. Access these settings through the menu to configure them according to your application requirements.

- **External Temperature Protection:** 0 - 110°C (default off).
- **Input Overvoltage Protection (OVP):** Default 71V.
- **Input Undervoltage Protection (UVP):** 4.8-71V adjustable (default 4.8V).
- **Output Over-voltage Protection (OVP):** 0-65V (default 65V).
- **Output Overcurrent Protection (OCP):** 0-16A (default 16A).
- **Output Over Power Protection (OPP):** 0-950W (default 950W).
- **Over Temperature Protection (OTP):** 60 - 110°C (default 95°C).
- **Timeout Protection:** 0 -100H adjustable (default off).
- **Over Capacity Protection:** 0~9999AH adjustable (default off).
- **Super Energy Protection:** 0~9999WH adjustable (default off).

6. Maintenance

Proper maintenance ensures the longevity and reliable operation of your XY6020L power supply.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the module. Do not use abrasive cleaners or solvents. Ensure the device is powered off and disconnected before cleaning.
- **Ventilation:** Ensure that the cooling fan and ventilation openings are not obstructed.
- **Cooling Fan Operation:** The cooling fan activates automatically under specific conditions:
 - When current > 2A, power > 50W, or temperature > 50°C.
 - The fan turns off when current < 1.5A, power < 45W, and temperature < 45°C.

- **Storage:** Store the device in a cool, dry place away from direct sunlight and corrosive environments when not in use.

7. Troubleshooting

If you encounter issues with your XY6020L, refer to the following common problems and solutions:

- **No Display/No Power:**
 - Check input power source connection and ensure it is within the 6.0V-70V range.
 - Verify input polarity.
- **Output Voltage/Current Not Stable:**
 - Ensure input power is stable and sufficient for the desired output.
 - Check load connections for any loose wiring or short circuits.
 - Verify that protection mechanisms (e.g., OCP, OPP) are not being triggered.
- **Device Shuts Down Unexpectedly:**
 - Check for activation of protection mechanisms (OVP, UVP, OCP, OPP, OTP). The display may indicate the triggered protection.
 - Ensure adequate ventilation to prevent over-temperature shutdown.
- **Incorrect Readings:**
 - Ensure proper calibration if applicable (refer to advanced settings, not detailed here).
 - Verify connections are secure and free from interference.

8. Specifications

Parameter	Value
Input Voltage	6.0V ~ 70V
Output Voltage	0.0V ~ 60V
Output Current	0 ~ 20.00A
Output Power	0 ~ 1200W
Output Ripple (typical)	100mV VPP
Max Output Voltage	(Input Voltage + 1.1V) - 2V
Input Voltage Measurement Resolution	0.01V
Output Voltage Setting/Measurement Resolution	0.01V
Current Setting/Measurement Resolution	0.01A
Input Voltage Measurement Accuracy	±1% + 5 words
Output Voltage Setting/Measurement Accuracy	±0.4% + 1 word
Output Current Setting/Measurement Accuracy	±0.5% + 3 words
Cooling Fan Activation	Current > 2A, Power > 50W, or Temp > 50°C

Parameter	Value
Cooling Fan Deactivation	Current < 1.5A, Power < 45W, and Temp < 45°C
External Temperature Protection	0 - 110°C (Default Off)
Input Overvoltage Protection (OVP)	Default 71V
Input Undervoltage Protection (UVP)	4.8 - 71V (Default 4.8V)
Output Overvoltage Protection (OVP)	0 - 65V (Default 65V)
Output Overcurrent Protection (OCP)	0 - 16A (Default 16A)
Output Over Power Protection (OPP)	0 - 950W (Default 950W)
Over Temperature Protection (OTP)	60 - 110°C (Default 95°C)
Timeout Protection	0 - 100H (Default Off)
Over Capacity Protection	0 ~ 9999AH (Default Off)
Super Energy Protection	0 ~ 9999WH (Default Off)
Item Weight	3.53 ounces
Package Dimensions	0.39 x 0.39 x 0.39 inches

9. Warranty and Support

For warranty information and technical support, please contact the manufacturer or your point of purchase. Keep your purchase receipt as proof of purchase.

Manufacturer: EFDBPNYM

Model: XY6020L

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question