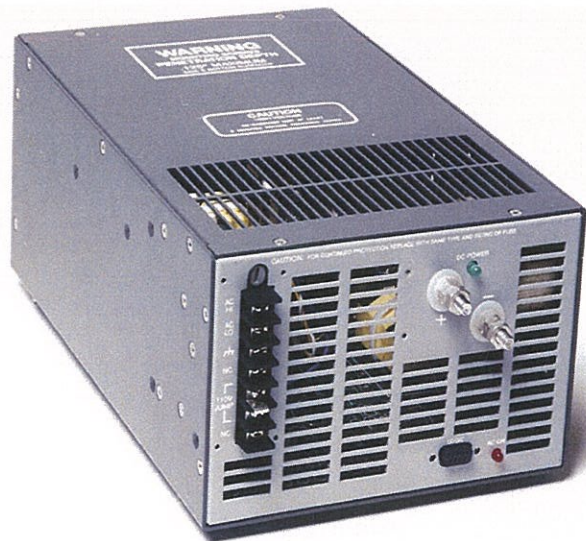


Technology Dynamics Inc.

User Manual  
&  
Connection Diagram  
NTDM SERIES



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## **DISCLAIMER**

**Technology Dynamics Inc.** is not responsible for any damages or injuries resulting from the use of this manual and the equipment described in it. Although this manual is accurate to the best of our knowledge, Technology Dynamics Inc. takes no responsibility for direct or inferred damages resulting from any or all errors contained in it.

# SECTION I

## **Safety instructions and warnings for electrical power equipment.**

### **WARNING**

**Electric shock can kill.** Do not touch live electrical parts.

**Electric ARC flash** can injure eyes, burn skin, cause equipment damage, and ignite combustible material. **DO NOT** use power cables to break load and be sure tools don't cause short circuits.

**Improper use, Phase connection, or Paralleling** can damage this and attached equipment.

**Important:** Protect yourself and others. Read and understand all the instructions in this Repair Manual before servicing this equipment. Keep this manual available for future use by all operators.

### **GENERAL**

Equipment that supplies electrical power can cause death, serious injury or damage to other equipment and property, if the operator does not strictly observe all safety rules and take precautionary actions.

### **Shock Prevention**

Bare conductors, terminals in the output circuit, or ungrounded electrically live equipment can fatally shock a person. Have a competent electrician verify that the equipment is adequately grounded and learn what terminals and parts are electrically HOT. Use proper safety clothing, procedures, and test equipment.

The electrical resistance of the body is decreased when wet, thus more easily permitting dangerous current to flow through it. When inspecting, or servicing equipment, do not work in damp areas without being extremely careful. Stand on a dry rubber mat or dry wood and use insulating gloves that are effective when dampness or sweat cannot be avoided. Keep clothing dry and never work alone.

# SECTION II

## GENERAL DESCRIPTION

### INTRODUCTION

This instruction manual contains installation and operation information for the NTDM Series power supply.

#### **Purpose:**

The purpose of this manual is to provide information and instruction to experienced operators and maintenance personnel who have not been previously exposed to this equipment.

#### **Service Information**

If you have any questions concerning your power supply please contact our service department by mail, telephone, or fax.

Correspondence: Technology Dynamics Inc.  
100 School Street  
Bergenfield, NJ 07621

Call: 201-385-0500

Fax: 201-385-0702

Email: [tdisales@theallpower.com](mailto:tdisales@theallpower.com)

#### **Proprietary Notice**

The information contained in the repair manual was originated by and is the property of Technology Dynamics Incorporated. Reproduction of drawings or schematics associated with this equipment or use of proprietary circuitry, in advance, without express written consent of an officer or other responsible official of the Company is prohibited.

## **Applications and Uses:**

The NTDM Series switching power supply may be used as a universal power source for any electronic equipment requiring such power. As such, it may replace other power sources for most DC operated equipment. However, the NTDM Series is equipped with substantial noise reduction input and output filters making it especially suitable to energize systems which are sensitive to noise modulation.

The NTDM Series power supply, depending on power level, is capable of accepting 110/220VAC single phase commercial power or 208 3 phase via terminal block. The output is delivered via stud terminals.

The presence of input power is indicated by front panel red LED, and the output voltage presence is indicated by a front panel green LED. These indicators are not intended to detect the level of input or output voltages, but merely the existence of such voltages.

The Conversion Module for the NTDM Series is a solid state; self-contained pulse-width modulated switching power supply with its own cooling fans. The module is protected against over-voltage, overload and over-temperature conditions.

AC input and DC output indicators are located on the front panel. The RED indicator when lit, signals the presence of input power. Failure of this indicator to light may be caused by: No input power or the switch is off. The GREEN DC output indicator will light when a DC output voltage is above 50% on the output terminals.

The NTDM Series power supply has an internal fan for self cooling. Do not obstruct the airflow; proper cooling is required for contained operation. Periodically check the air intake vent, and remove all dust and debris.

As designed the NTDM Series has two mounting surfaces. 8-32 UNC holes are located on the bottom and side surfaces.

The power supply as shipped from the factory is fully tested and inspected for complete customer satisfaction.

Do not tamper with settings or attempt to open the unit which will void the warranty.

Contact the factory should a problem develop or the unit fails to operate properly at:

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## SECTION III

### TYPICAL SPECIFICATIONS

The following specifications provide the *not to exceed* limits governing the electrical performance and the mechanical outline of the NTDM Series switching power supplies. These specifications pertain to the unit as it is shipped from the factory. They do not necessarily reflect the total system's capability or range, which can be exercised only by internal controls.

#### Electrical

Input Voltage:	115/552VAC 1 Phase (1000-1500W units) 220 1 Phase or 208 3 Phase (2000-3000W units)
<b>Note:</b>	See label on the unit for exact input information
Output Voltage:	See label on unit for exact output voltage
Output Current:	See label on unit for exact output current
Efficiency:	85 % Typical full load
In-Rush Surge Current:	30 A peak maximum, 115VAC 40 Amps 220
Turn-On time:	Output operates <1 second from turn-on
Overshoot:	No overshoot at turn-on/turn-off, inhibit/enable or power failure.
Hold-up time:	20ms typical after loss of input power when operating at full load, nominal line input.
Leakage Current:	Less than 2.0 mA @ 240 VAC
Operating Temperature:	-20-50 <sup>0</sup> C ambient for full output power
Over-Temperature Protection:	Automatically latched off in over-temperature condition or loss of airflow, unit resets after cool-down and recycling of the input line.
Cooling:	DC operated ball bearing fan. Front or rear air intake without de-rating.

Line Regulation:	0.5%
Load Regulation:	0.5% from min to max load
Minimum Load:	None Required
Noise and Ripple (PARD):	1% of output or 200 mVpp whichever is smaller measured at supply terminals, DC to 20 Mhz bandwidth.
DC Output Control:	$\pm 10\%$ voltage range screwdriver adjustment
Over-Voltage Protection:	Trip points are within 115% - 140% of nominal output voltage, screwdriver adjustment.
Overload & Short Circuit Protection:	Current limiting (foldback with automatic recovery upon removal of overload or short circuit) within 105% and 125% of current rating, screwdriver adjustment.
Overtemperature Protection:	Measure On heat Sink 90 deg C $\pm 5\%$ Auto Recovery
Output Good Signal:	TTL interface signal logic LO (referenced to the logic ground) if output voltage is not within $\pm 10\%$ of nominal. Front panel visual indication (LED Green) when the output voltage is within $\pm 10\%$ of nominal.
Input Power Fail Signal:	TTL interface signal logic LO (referenced to the logic ground) following the loss of input power, 3 ms min before output good signal changes from HI to LO. Front panel visual indication (LED Red) when the input voltage is within specification.
Remote Logic Inhibit:	TTL compatible interface signal logic LO (referenced to the log ground) inhibit the DC output.



# SECTION IV

## CONNECTION / OPERATION

### **Receipt and Inspection:**

Remove the unit from its shipping container or box and inspect it for shipping damage.

The unit should be free of dents, scratches and dirt. The air filters should be clean and unobstructed. Attached main cables should be free of cuts, abrasions, and cracking and it should be firmly held in its strain relief device. The air filters should not be dented inward since this would cause contact with the rotating fan.

Upon successful completion of the physical inspection, follow the instruction provided in the section below.

### **Connections:** Terminal Blocks and Output Studs.

AC Power input is via Terminal Block, TB1. Input power must be converted as indicated on the power supply. Use only proper AWG wire when connecting AC power to the unit. Connection in any other manner will cause damage to the unit as well as possible injury.

DC output is via the output studs. Connect the positive lead to the stud labeled (+) and the negative lead to the stud labeled (-). Use only proper AWG wire when connecting DC output to the unit. Connection in any other manner will cause damage to the unit as well as possible injury.

### **Installation Requirements:**

Mount unit in system or case as needed (unit will operate in any orientation as long as the air vents are unobstructed). Attach all Input and Output cables to the unit. Make sure there are no shorted connections, tools, or other objects in the vicinity of the power connections. No adjustments are necessary for proper operation. The unit is Factory set and tested for proper operation. Do not tamper with any adjustment potentiometers on the unit. Contact the factory for proper guidance.

# MECHANICAL OUTLINE

