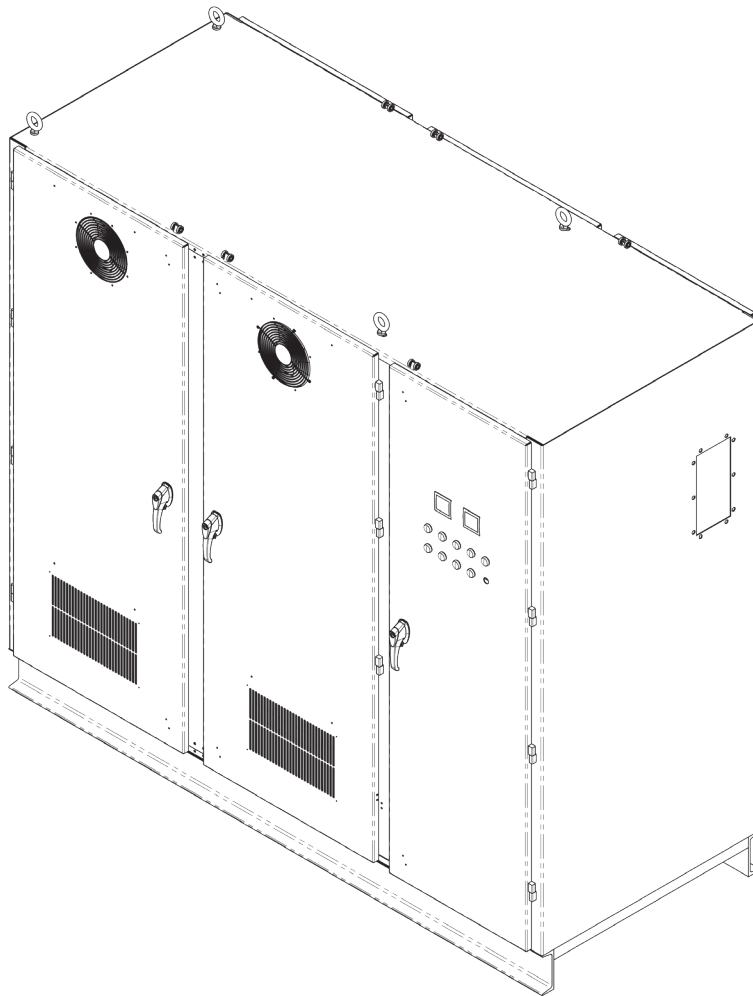


**DATA SHEET**

**DC Power Supply**

*Series 50 Air / Water Cooled (Model 506)*



## PRODUCT INTRODUCTION

### DC Power Supply

#### *Series 50 Air / Water Cooled*

The Series 50 rectifiers provide dependable DC power for industrial applications, featuring a single transformer design and secondary thyristors for precise rectification and regulation. Available as the 6-pulse Model 506 (100A–800A) or the 12-pulse Model 5012 (800A–1600A), both offer standard output voltages of 0–400VDC and 0–500VDC, with optional voltages up to 1000VDC and higher output current options. For e-coating and metal finishing processes requiring low ripple, the Series 50 includes an L/C ripple filter to smooth pulsating DC and minimize AC RMS voltage ripple for superior finish quality.

### Key Features

#### Input Breaker Protection:

Main input AC circuit breaker, complete with a door-interlocked safety mechanism.

#### Cabinet Design:

The Series 50 rectifier is designed and constructed to endure the harsh industrial environments associated with e-coating and metal finishing processes. All enclosure designs feature NEMA 2 rated cabinets with industrial-grade, welded steel construction and a durable, scratch-resistant powder coat finish..

#### Transformers:

Designed for high efficiency, low inrush current, durability, and dynamic loading, the Series 50 rectifier transformers are constructed from high-grade steel and copper to ensure maximum conductivity and minimal loss. These transformers have a low temperature rise and are mechanically and electrically designed to withstand the stress that occurs under fault conditions.

#### Thyristor (SCR's):

In the Series 50 rectifier, fully synchronized, phase lock loop gating circuitry is used to control the thyristors, eliminate gate misfiring, and ensure that all phases are present before gating commences. Thyristors in each phase are surge protected using MOV suppression and an RC snubber circuit. For maximum efficiency and reliability, thyristors are conservatively rated to operate at a current level much lower than their device rating. Additionally, each thyristor is cooled to minimize the junction temperature and increase component life.

## PRODUCT SPECIFICATIONS

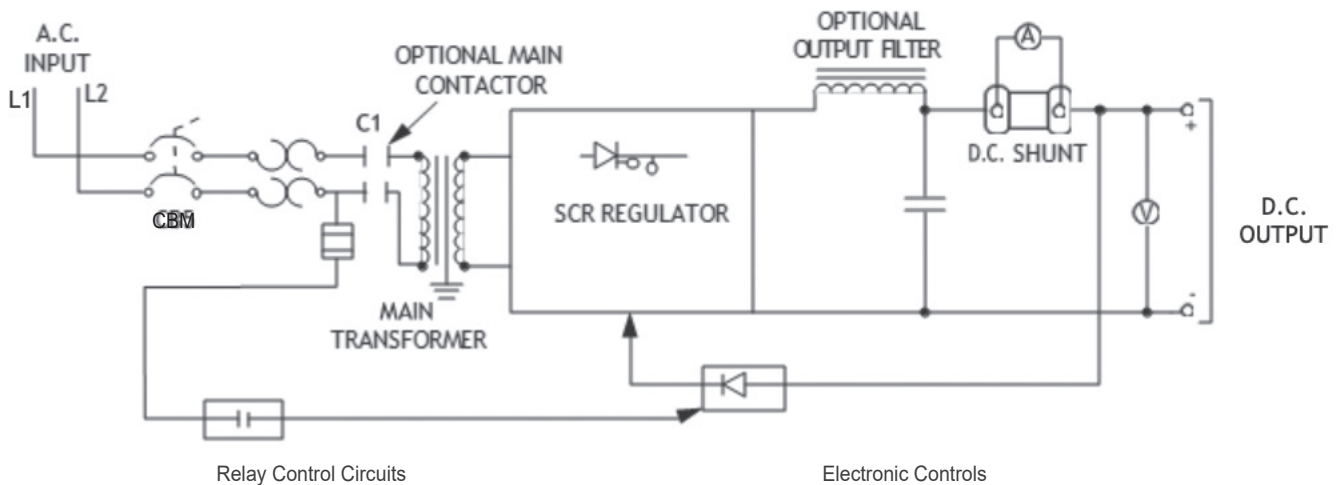
Electrical		
	Input Voltage	480V, 3-phase / Consult factory for voltages up to 600V*
	Output Voltage Range	0V - 400 VDC, 0 - 500 VDC / Consult factory for voltages up to 1,000 VDC*
	Output Current Rating	100A - 1600A / Consult factory for other current ratings
Voltage Options		
	Frequency	60 Hz (50 Hz optional)*

## PRODUCT SPECIFICATIONS (CONT.)

Environmental		
Operating Temperature		32° to 104° F (0° to 40° C) (122° F (50° C) Optional)*
Humidity Rating		95% relative humidity (non-condensing)
Elevation		Maximum: 5,000 ft. (1524 meters) without de-rating
Codes/Standards		Compliant to applicable portions of the National Electric Code NFPA 70 (NEC)
Mechanical		
Enclosure Types		NEMA Type 2

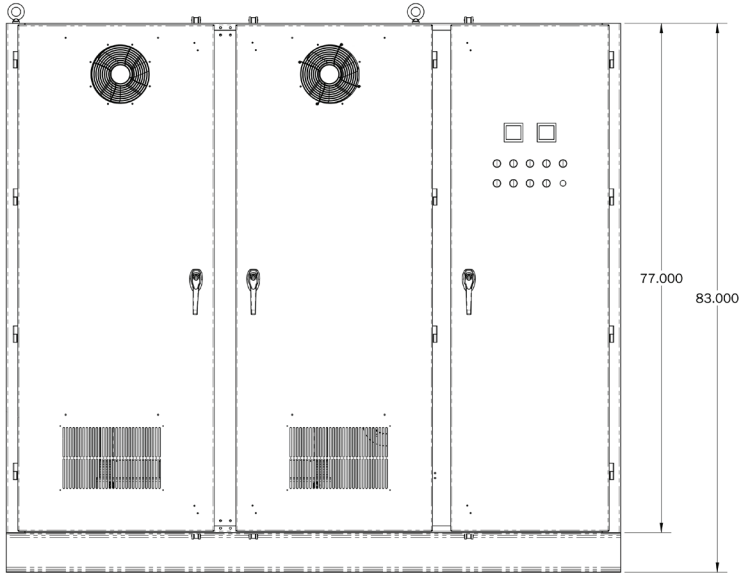
## ONE-LINE DRAWING

The basic function is to take A.C. power and convert it to D.C. power:

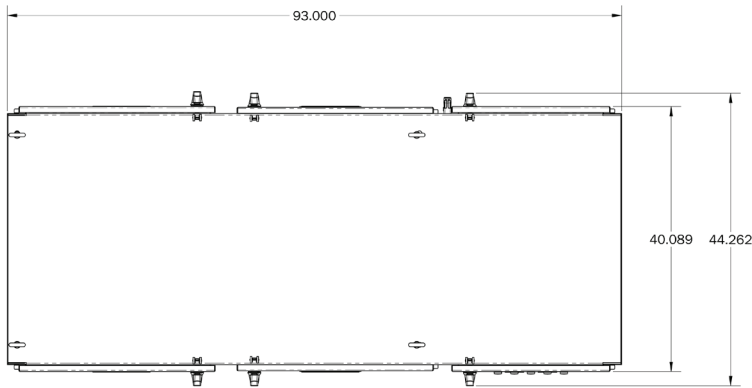


# DIMENSIONAL DRAWINGS

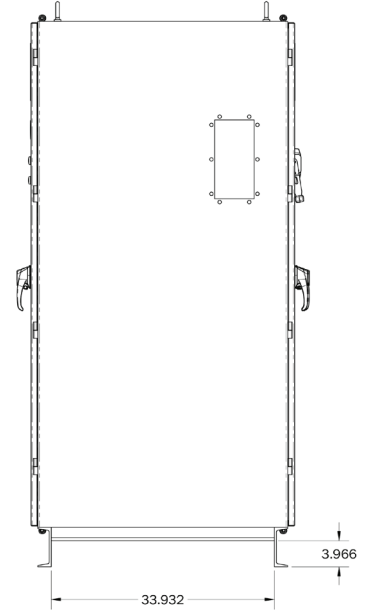
Series 50 Power Supply (Measurements in Inches)  
Large enclosure illustrated below



Front View



Top View



Side View

### Enclosure Dimensions:

- Medium 72 x 44 x 85.5
- Large 93 x 44 x 83

## Ordering Information

Contact Trystar

DC Power Supply (Series 50)

