

## NTS500 Series

500 Watts

**Total Power:** 200 - 500 Watts  
**Input Voltage:** 85 - 264 Vac  
120 - 300 Vdc  
**# of Outputs:** Single



### Special Features

- Active power factor correction
- IEC EN61000-3-2 compliance
- Remote sense
- Power fail and remote inhibit
- Single wire current sharing
- Built-in EMI filter
- Low output ripple
- 5 V standby
- 12 V fan output
- Overvoltage protection
- Overload protection
- Thermal overload protection
- DC power good
- Built in OR-ing diode / FET
- Optional fan cover (-CF suffix)
- PM Bus compliant
- Digital I<sup>2</sup>C interface
- 2 year warranty
- POE isolation on NTS508

### Safety

- **TUV:** 60950
- **cCSAus:** 60950
- **NEMKO:** 60950
- **CB:** Certificate & report
- **CE:** Mark (LVD)

### Electrical Specifications

Input	
Input range:	85 - 264 Vac (wide range)
Frequency:	47 - 63 Hz
Inrush current:	50 A max., cold start @ 25 °C
Efficiency:	85% typical at full load, nominal line
EMI filter:	FCC Class B conducted and radiated; CISPR22 Class B conducted and radiated; EN55022 Class B conducted and radiated; VDE0878PT3 Class B conducted and radiated.
Safety ground leakage current:	< 0.5 mA @ 50/60 Hz, 264 Vac input
Output	
Maximum power:	200 W for convection; 500 W with 30 CFM forced air
Adjustment range:	± 5%
Standby output:	5 V @ 1 A convection, 2 A forced air, regulated, ± 5%
Fan output:	12 V @ 1 A, -5%, +7%, 0.5 A for -CF version
Hold-up time:	20 ms @ 500 W load, 115 VAC nominal line at factory voltage setting
Overload protection:	Short circuit protection on all outputs. Case overload protected @ 115 - 130% above peak rating
Overvoltage protection:	20 - 35% above nominal output



## Logic Control

Power failure:	TTL logic signal goes high 100 - 500 msec after main output. It goes low at least 4 msec before loss of regulation
Remote on/off:	Requires an external contact closure to inhibit outputs
DC OK:	TTL logic goes high after the output is in regulation. It goes low when there is loss of regulation.
Remote sense:	Compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.

## Environmental Specifications

Operating temperature:	0° to 50 °C ambient derate each output as 2.5% per degree from 50° to 70 °C.
Storage temperature:	-40 °C to +85 °C
Electromagnetic susceptibility:	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
Humidity:	Operating; non-condensing 10% to 90% RH
Vibration:	Three orthogonal axes, sweep at 1 oct/min, 5 min. dwell at four major resonances 2 G peak 8 Hz to 500 Hz, operational

## Ordering Information

Model Number	Output Voltage	Minimum Load	Maximum Load with Convection Cooling	Maximum Load with 30CFM Forced Air	Peak Load <sup>1</sup>	Regulation <sup>2</sup>	Ripple P/P (PARD) <sup>3</sup>
NTS503	12 V	0 A	16.6 A	41.7 A	47 A	±2%	120 mV
NTS505	24 V	0 A	8.3 A	20.8 A	23.4 A	±2%	240 mV
NTS506	18 V	0 A	11.1 A	27.7 A	30 A	±2	180 mV
NTS508	48 V	0 A	4.2 A	10.4 A	11.7 A	±2%	480 mV

1. Peak current lasting < 30 seconds with a maximum 10% duty cycle.
2. At 25 °C including initial tolerance, line voltage, load currents and output voltages adjusted to factory settings.
3. Peak-to-peak with 20 MHz bandwidth and 10 μF (tantalum capacitor) in parallel with a 0.1 μF capacitor at rated line voltage and load ranges.
4. 12 V fan output cannot be used above 50 °C with convection cooling.

## Pin Assignments

### Connector

**CN1** PIN 1 Line  
PIN 3 Neutral  
PIN 5 Ground

**SK7** PIN 1 V1 swp  
PIN 2 - Remote Sense  
PIN 3 + Remote Sense  
PIN 4 5 VSB (standby)  
PIN 5 5 VSB return  
PIN 6 +12 V  
PIN 7 Common  
PIN 8 Inhibit  
PIN 9 DC power good (DC OK)  
PIN 10 Power Fail (POK)

### SK8

**SK8** PIN 1 +12 V Fan  
PIN 2 Common

### CN403

**CN403** PIN 1 5 V\_I<sup>2</sup>C  
PIN 2 Ground  
PIN 3 A2  
PIN 4 A0  
PIN 5 SVCC2\_OR  
PIN 6 I<sup>2</sup>C\_SDA  
PIN 7 I<sup>2</sup>C\_SLC  
PIN 8 A1  
PIN 9 N/C  
PIN 10 +12 V\_RTN\_CTRL

### Adjustment Potentiometers

**P1** +V1 Output adjust

### Mating Connectors

**SK4,5,6** Molex 19141-0058

**SK7 Control signals** Molex 90142-0010

PINS: 90119-2110

or

Amp: 87977-3

PINS: 87309-8

### SK8

JST PHR-2  
Pins: SPH-002T-PO.5S

### CN403

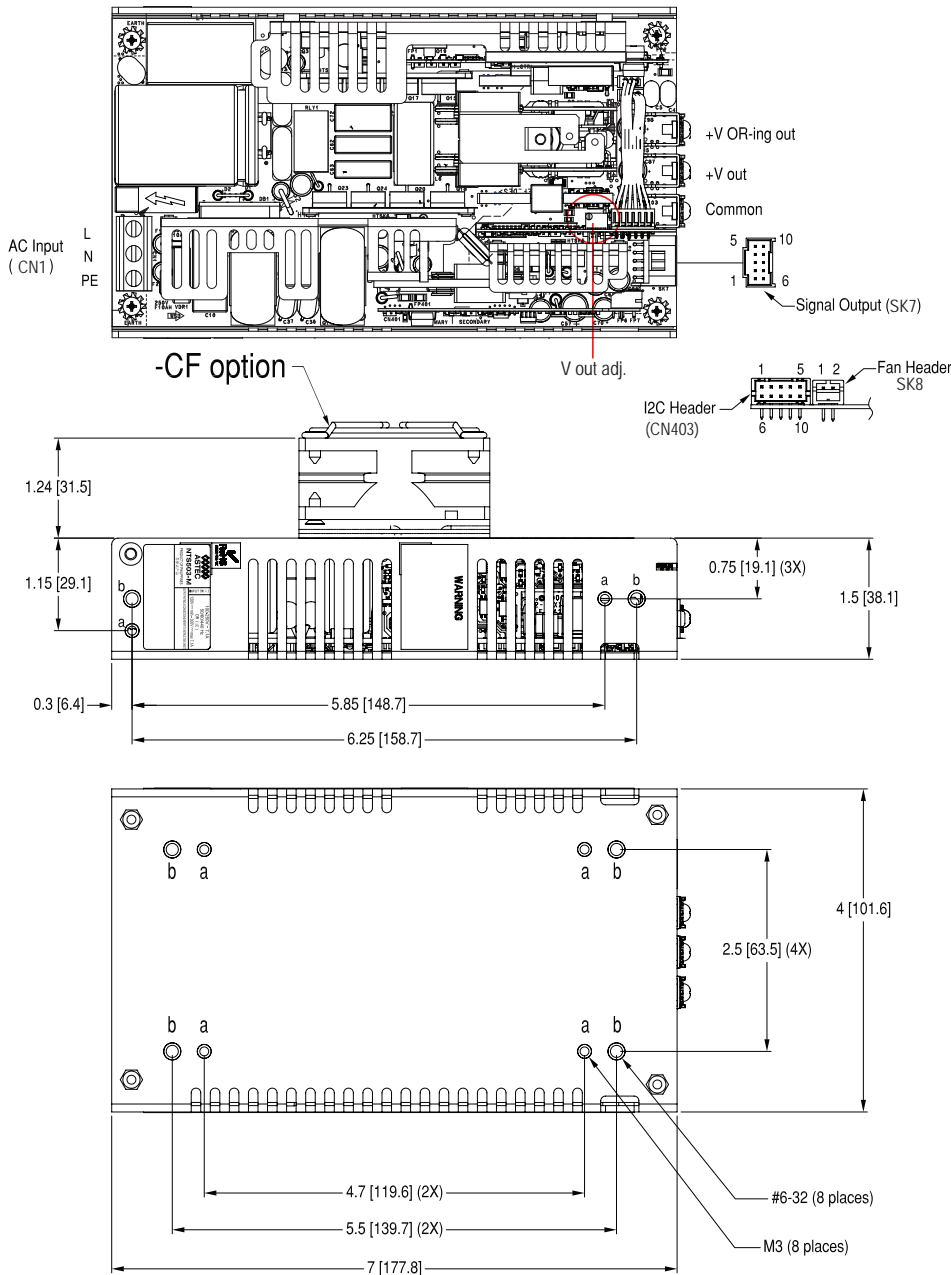
JST PHDR-10VS  
Pins: JST 5PHD-002T-PO.5-L/P or  
Landwin 2050 S1000  
Pins: 2053T011P

Emerson Connector Kit #70-841-024 includes all of the above

### Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ±.02".
3. Specifications are at factory settings
4. Mounting maximum insertion depth is 0.12".
5. Warranty: 2 year
6. Weight: 3.016 lb. / 1.18 kg.

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