

## NTS500 Series

500 Watts

### Data Sheet

**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)
- Optional end fan cover (-CEF suffix)
- PM Bus compliant
- RoHS compliant
- Digital I<sup>2</sup>C interface
- Two 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 - 440 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  |

### 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

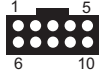

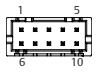
| Model Number | Output Voltage | Minimum Load | Maximum Load with Convection Cooling | Maximum Load with 30CFM Forced Air | Peak Load <sup>1</sup> | Regulation <sup>2</sup> | Ripple P/P (PARD) <sup>3</sup> |
|--------------|----------------|--------------|--------------------------------------|------------------------------------|------------------------|-------------------------|--------------------------------|
| 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.
5. -CF suffix added to the model number indicates cover with top fan. -CEF suffix added to the model number indicates cover with end mounted fan cover and AC inlet.
6. This product is a Component Power Supply and is only for inclusion by professional installers within other equipment and must not be operated as a standalone product. EMC compliance to appropriate standards must be verified at the system level. This product is for sale to OEMs and System Integrators, including through Distribution Channels. It is not intended for sale to End Users.

### Logic Control

|               |   |
|---------------|---|
| Power failure | TTL logic signal goes high 100 - 500 msec after main output. It goes low 10msec 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. |

### Pin Assignments

| Connector  |        |                       |
|--|--------|-----------------------|
| <b>CN1</b>   | PIN 1  | Line                  |
|  | PIN 3  | Neutral               |
|  | PIN 5  | Ground                |
| <b>SK7</b><br>    | 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) |
|  | PIN10  | Power Fail (POK)      |
| <b>SK8</b><br>    | PIN 1  | +12 V Fan             |
|  | PIN 2  | Common                |
| <b>CN403</b><br> | PIN 1  | 5 V_I2C               |
|  | PIN 2  | Ground                |
|  | PIN 3  | A2                    |
|  | PIN 4  | A0                    |
|  | PIN 5  | SVCC2_OR              |
|  | PIN 6  | I2C_SDA               |
|  | PIN 7  | I2C_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       | Molex 90142-0010             |
|           | PINS: 90119-2110             |
| Or        | Amp: 87977-3                 |
|           | PINS: 87309-8                |
| Or        | *Landwin: 2580S1003          |
|           | PINS: 2583T011R              |
| 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              |

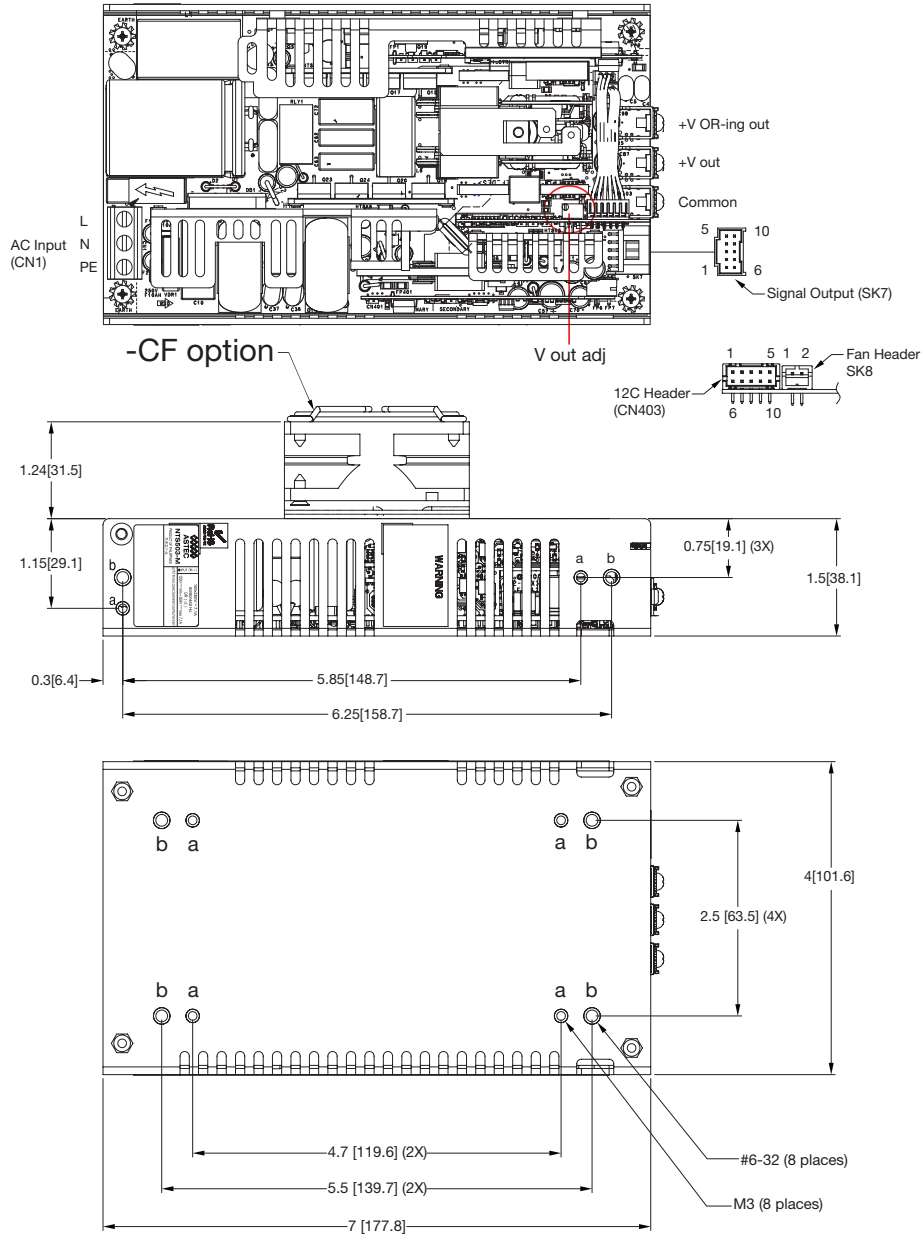
\* Where available

Artesyn Connector Kit #70-841-024 includes all of the above (Molex for SK7)

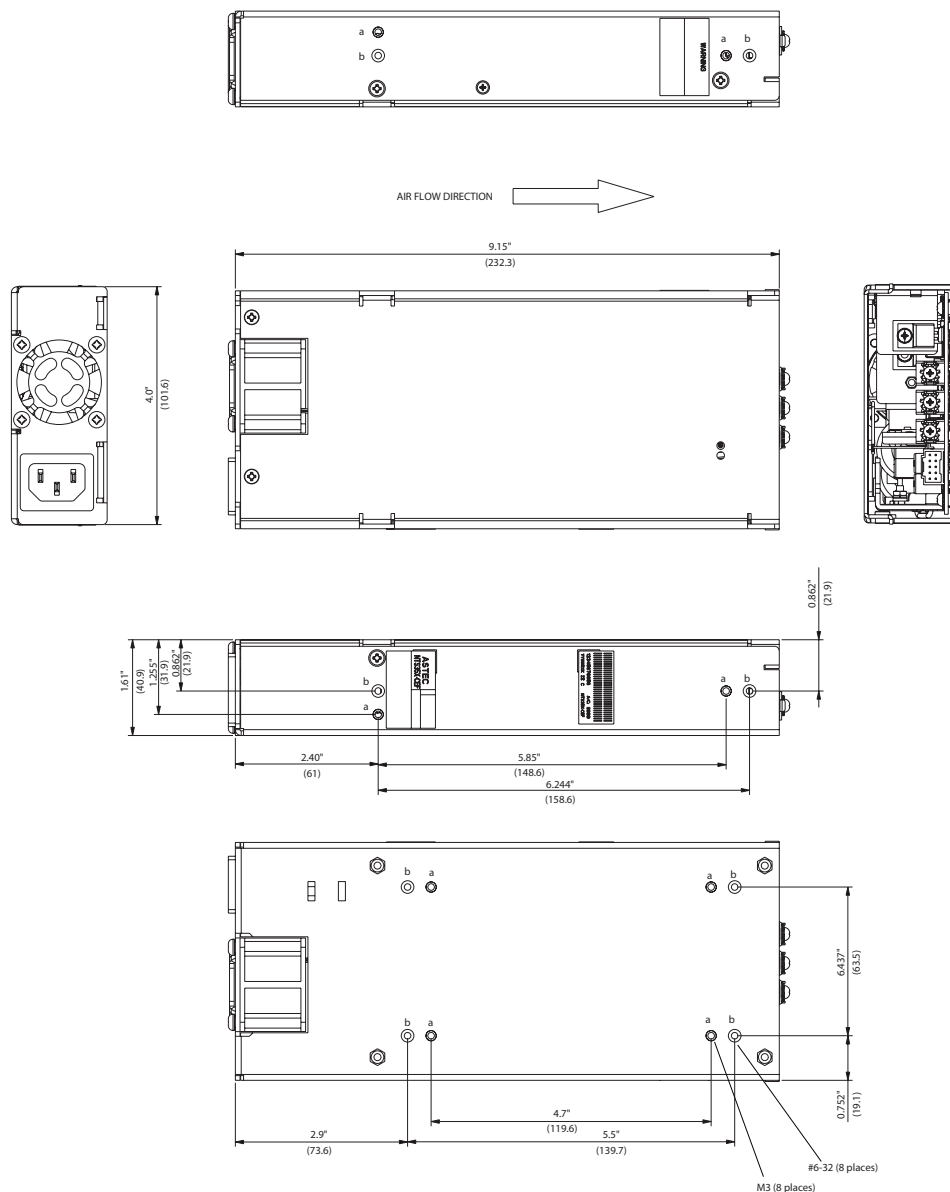
#### Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is  $\pm 0.2$ ".
3. Specifications are at factory settings
4. Mounting maximum insertion depth is 0.12".
5. Warranty: 2 year
6. Weight: NTS50X - 1.66 lbs/0.75 kg  
 NTS50X-CF - 2.00 lbs/0.9 kg  
 NTS50X-CEF - 2.26 lbs/1.03 kg

Mechanical Drawing



Mechanical Drawing - CEF option



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