

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 I²C 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 |

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 | PIN 1 | +12 V Fan |
| | PIN 2 | Common |

| | | |
|--------------|--------|----------------------|
| CN403 | PIN 1 | 5 V_I ² C |
| | PIN 2 | Ground |
| | PIN 3 | A2 |
| | PIN 4 | A0 |
| | PIN 5 | SVCC2_OR |
| | PIN 6 | I ² C_SDA |
| | PIN 7 | I ² C_SCL |
| | 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:

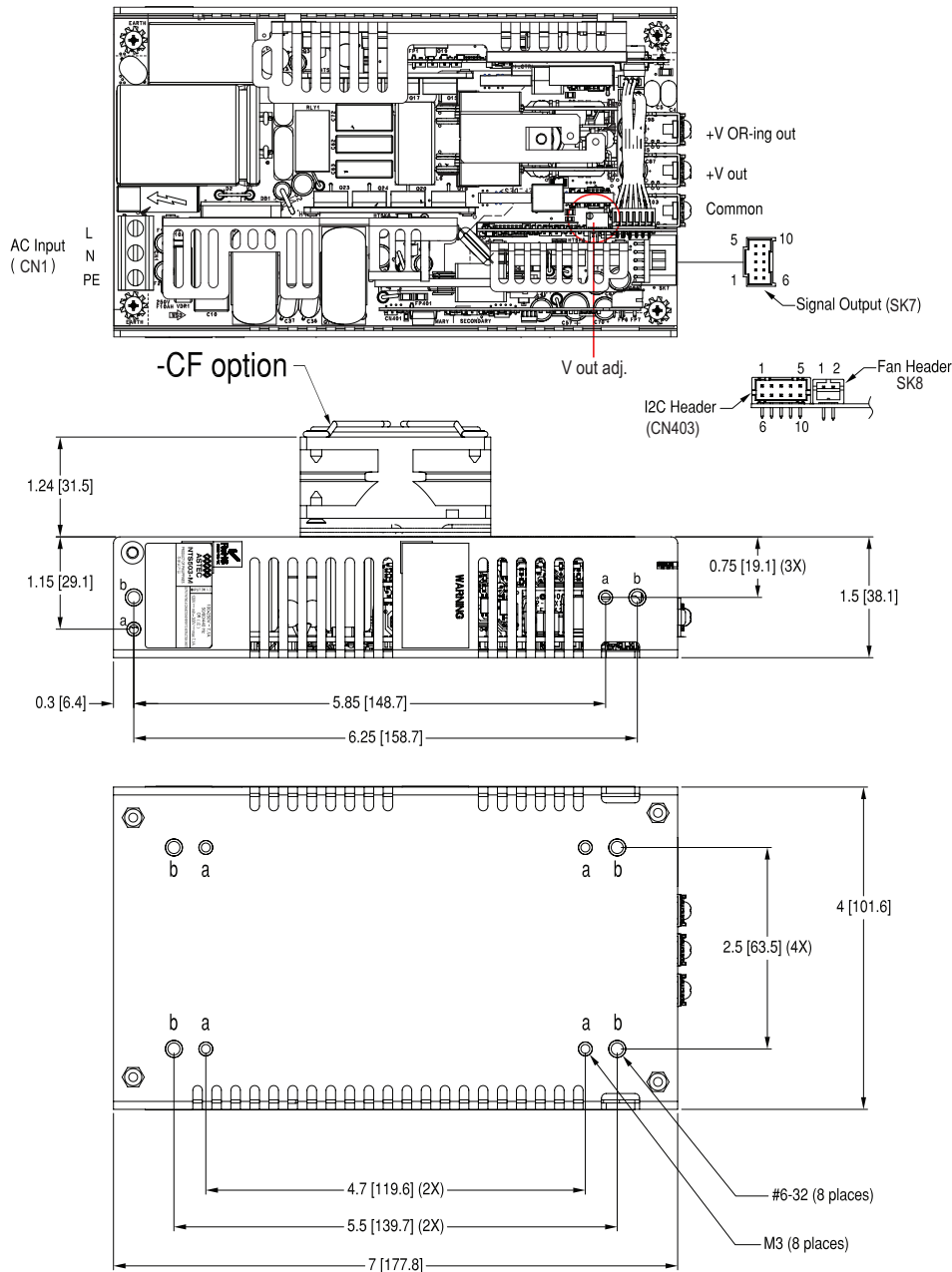
- Specifications subject to change without notice.
- All dimensions in inches (mm), tolerance is ± 0.02 ".
- Specifications are at factory settings
- Mounting maximum insertion depth is 0.12".
- Warranty: 2 year
- Weight: 3.016 lb. / 1.18 kg.

Ordering Information

| Model Number | Output Voltage | Minimum Load | Maximum Load with Convection Cooling | Maximum Load with 30CFM Forced Air | Peak Load ¹ | Regulation ² | Ripple P/P (PARD) ³ |
|--------------|----------------|--------------|--------------------------------------|------------------------------------|------------------------|-------------------------|--------------------------------|
| NTS503 | 12 V | 0 A | 16.6 A | 41.7 A | 47 A | $\pm 2\%$ | 120 mV |
| NTS505 | 24 V | 0 A | 8.3 A | 20.8 A | 23.4 A | $\pm 2\%$ | 240 mV |
| NTS508 | 48 V | 0 A | 4.2 A | 10.4 A | 11.7 A | $\pm 2\%$ | 480 mV |

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

Mechanical Drawing



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