

# POWER

## NTS500-M Series

500 Watts  
Medical

### 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
- 5V standby
- 12V 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
- Digital I2C interface
- 2 year warranty
- POE isolation on NTS508-M

### SAFETY

- TUV: 60601-1
- cULus: 60601-1
- 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:	< 0.3 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

<b>Power failure:</b>	TTL logic signal goes high 100 - 500 msec after main output. It goes low 10msec before loss of regulation.
<b>Remote on/off:</b>	Requires an external contact closure to inhibit outputs
<b>DC OK:</b>	TTL logic goes high after the output is in regulation. It goes low when there is loss of regulation.
<b>Remote sense:</b>	Compensates for 0.5 V lead drop min. Will operate without remote sense connected. Reverse connection protected.

## Environmental Specifications

<b>Operating temperature:</b>	0° to 50 °C ambient derate each output as 2.5% per degree from 50° to 70 °C.
<b>Storage temperature:</b>	-40 °C to +85 °C
<b>Electromagnetic susceptibility:</b>	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
<b>Humidity:</b>	Operating; non-condensing 10% to 90% RH
<b>Vibration:</b>	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-M	12 V	0 A	16.6 A	41.7 A	47 A	± 2%	120 mV
NTS505-M	24 V	0 A	8.3 A	20.8 A	23.4 A	± 2%	240 mV
NTS508-M	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

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	5VSB (standby)
	PIN 5	5VSB return
	PIN 6	+12V
	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

Pin Assignments		
Connector		
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

### Notes:

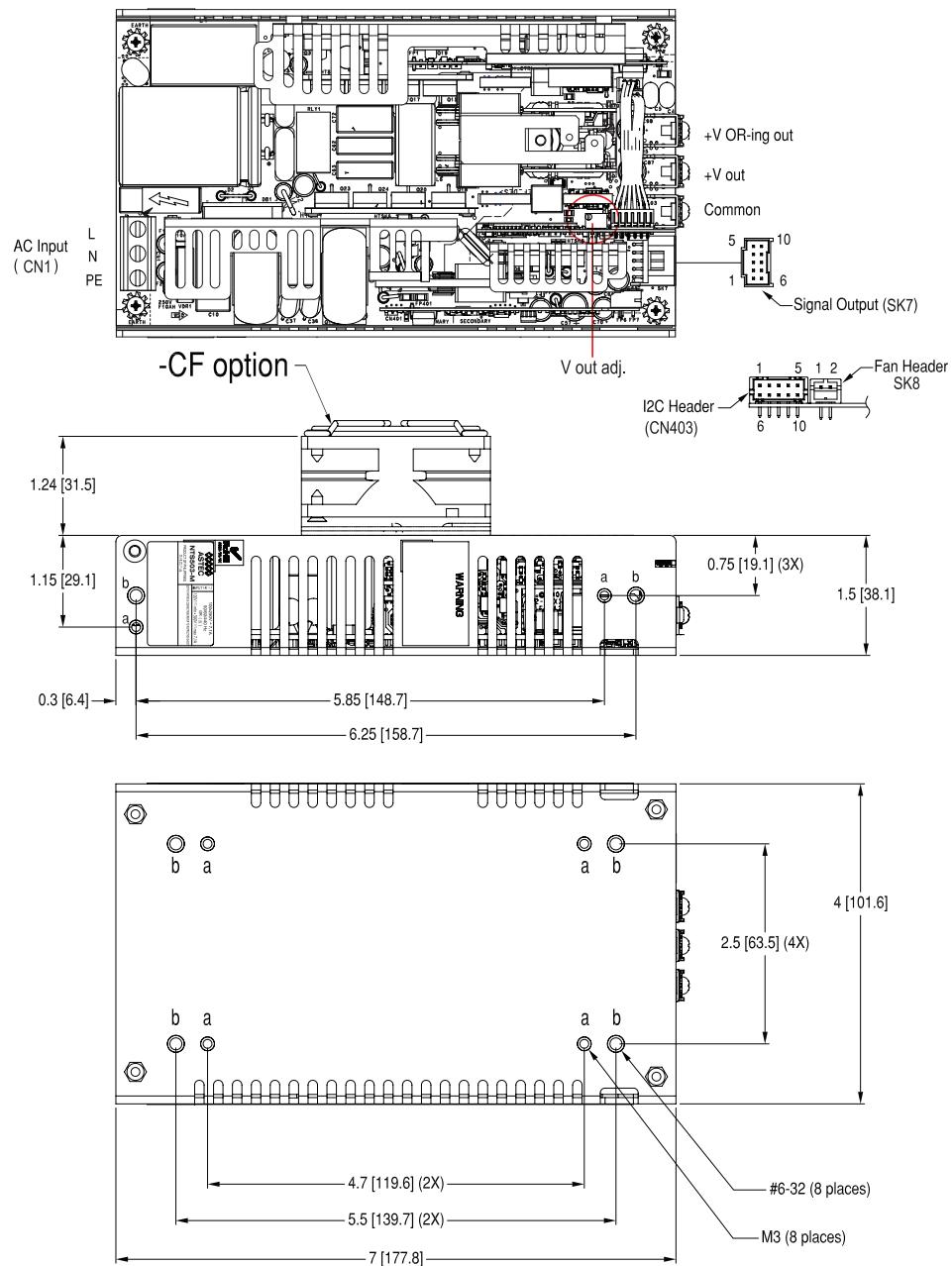
1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.2".
3. Specifications are at factory settings
4. Mounting maximum insertion depth is 0.12".
5. Warranty: 2 year
6. Weight: NTS50X-M - 1.66 lbs/0.75 kg  
NTS50X-M-CF - 2.00 lbs/0.9 kg  
NTS50X-M-CEF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

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 SPHD-002T-P0.5 L/P
Or	*Landwin 2050 S1000
	Pins: 2053T011P

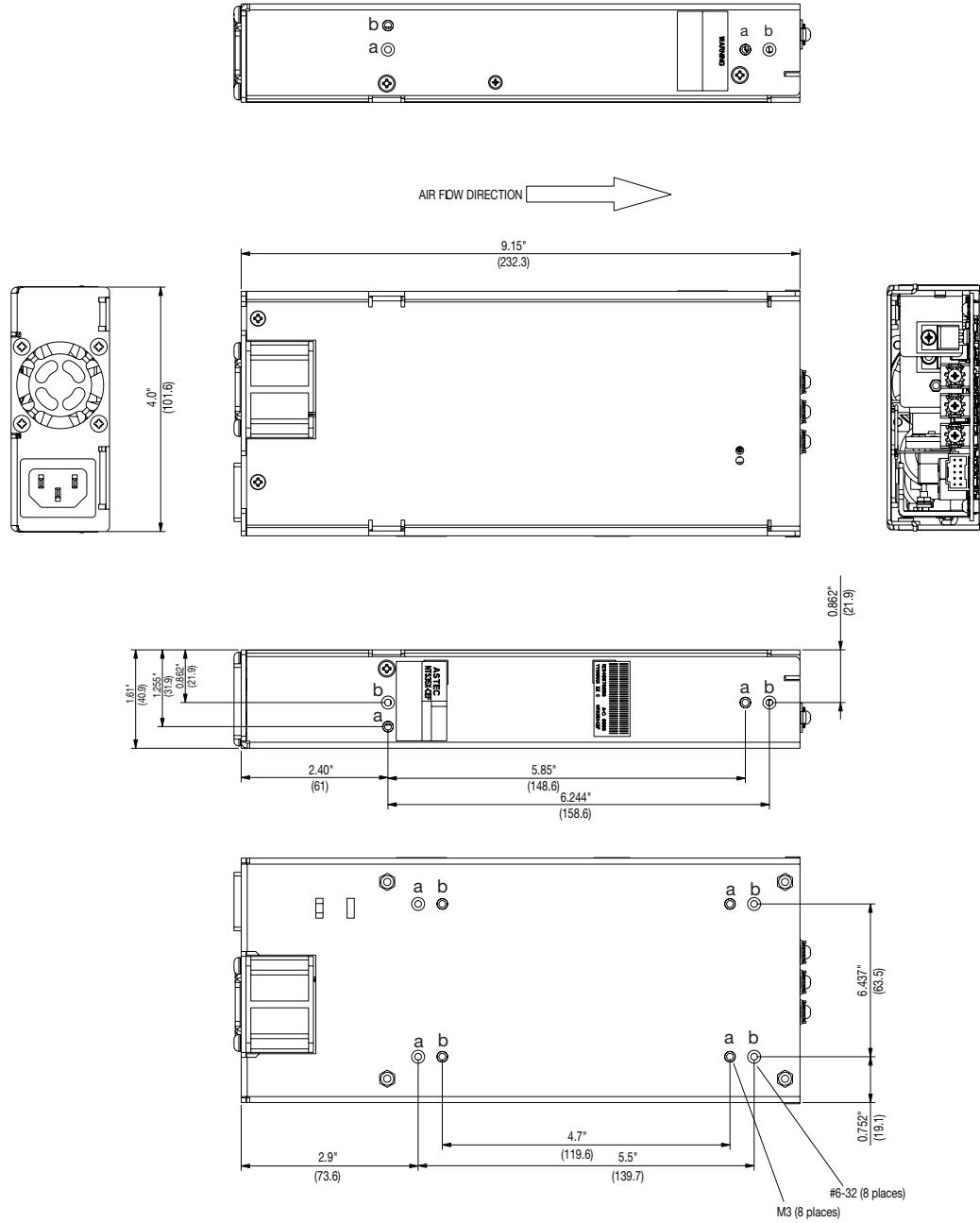
\* Where available

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

## Mechanical Drawing



## Mechanical Drawing - CEF option



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