

## 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

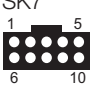
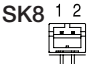
<b>Operating temperature:</b>	0° to 50 °C ambient derate each output as 2.5% per degree from 50° to 70 °C.
<b>Storage temperature:</b>	-40 °C to +85 °C
<b>Electromagnetic susceptibility:</b>	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
<b>Humidity:</b>	Operating; non-condensing 10% 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
	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)
	PIN 1	+12 V Fan
	PIN 2	Common

## Pin Assignments

Connector		
	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

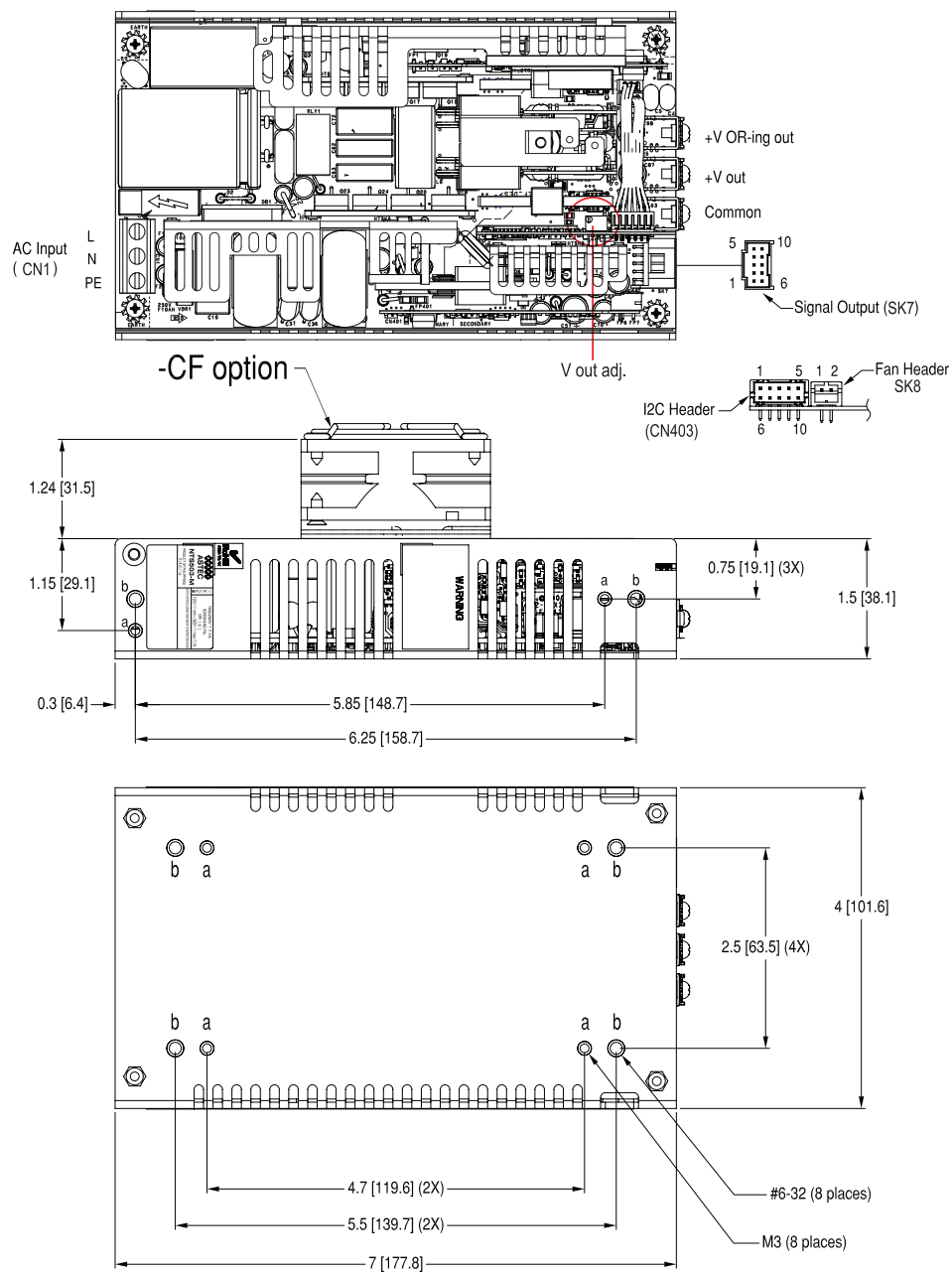
P1	+V1 Output adjust
----	-------------------

## Mating Connectors

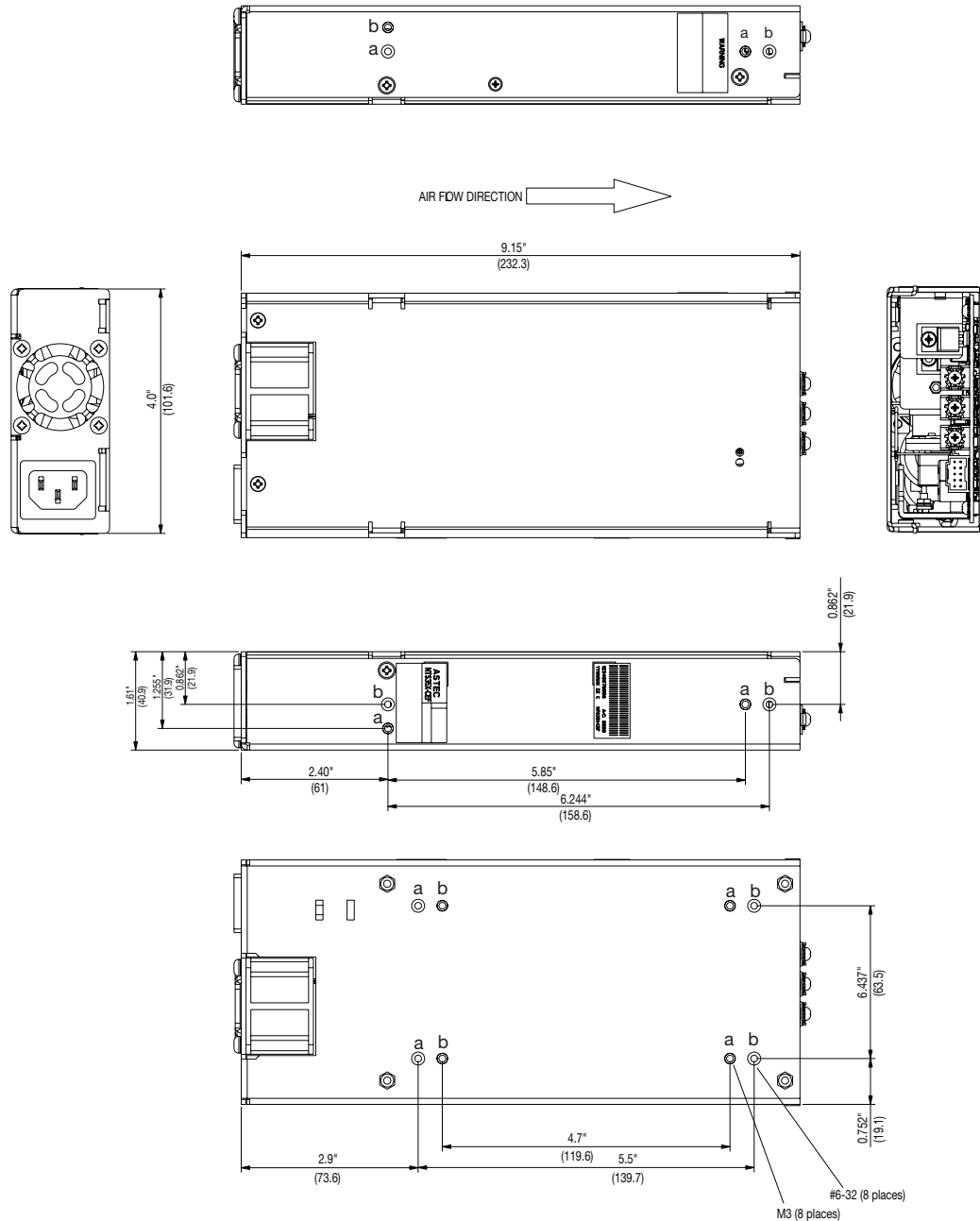
SK4,5,6	Molex 19141-0058
SK7	Molex 90142-0010
	PINS: 90119-2110
Or	Amp: 87977-3
	PINS: 87309-8
Or	*Landwin: 2580S1003
	PINS: 2583T011R
SK8	JST PHR-2
	Pins: SPH-002T-PO.5S
CN403	JST PHDR-10VS
	Pins: JST SPHD-002T-P0.5 L/P
Or	*Landwin 2050 S1000
	Pins: 2053T011P

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

## Mechanical Drawing



## Mechanical Drawing - CEF option



## WORLDWIDE OFFICES

### Americas

2900 S.Diablo Way  
Tempe, AZ 85282  
USA  
+1 888 412 7832

### Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
+44 (0) 1384 842 211

### Asia (HK)

14/F, Lu Plaza  
2 Wing Yip Street  
Kwun Tong, Kowloon  
Hong Kong  
+852 2176 3333

**ARTESYN**  
EMBEDDED TECHNOLOGIES

[www.artesyn.com](http://www.artesyn.com)

While every precaution has been taken to ensure accuracy and completeness in this literature, Artesyn Embedded Technologies assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions. Artesyn Embedded Technologies, Artesyn and the Artesyn Embedded Technologies logo are trademarks and service marks of Artesyn Embedded Technologies, Inc. All other names and logos referred to are trade names, trademarks, or registered trademarks of their respective owners.  
© 2014 Artesyn Embedded Technologies, Inc.

For more information: [www.artesyn.com/power](http://www.artesyn.com/power)  
For support: [productsupport.ep@artesyn.com](mailto:productsupport.ep@artesyn.com)

NTS500-M DS Rev. 04.25.14