

NTS500-M Series

500 Watts

Medical

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

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 ¹	Regulation ²	Ripple P/P (PARD) ³
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	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 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_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

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

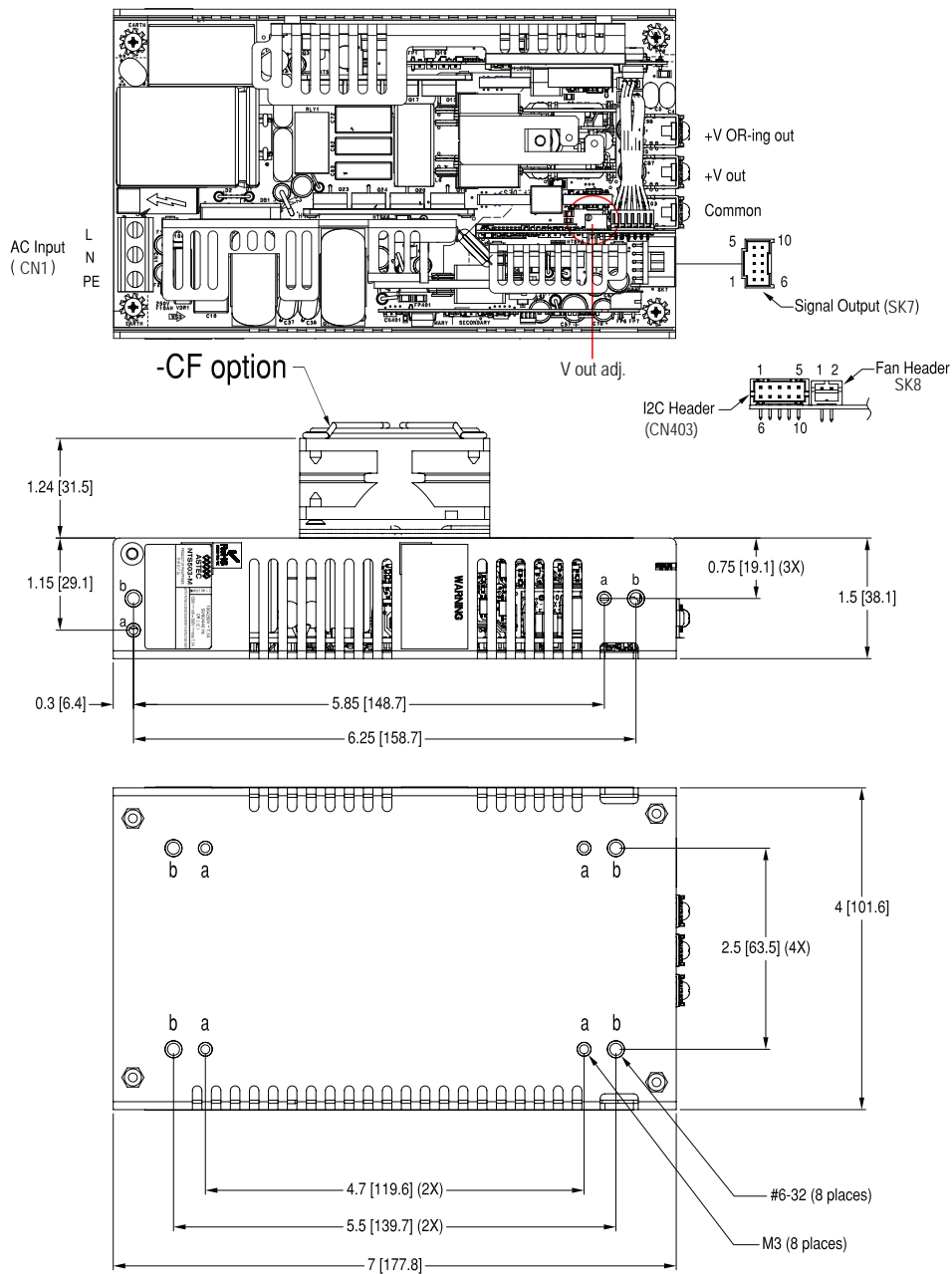
*Landwin 2050 S1000
Pins: 2053T011P

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

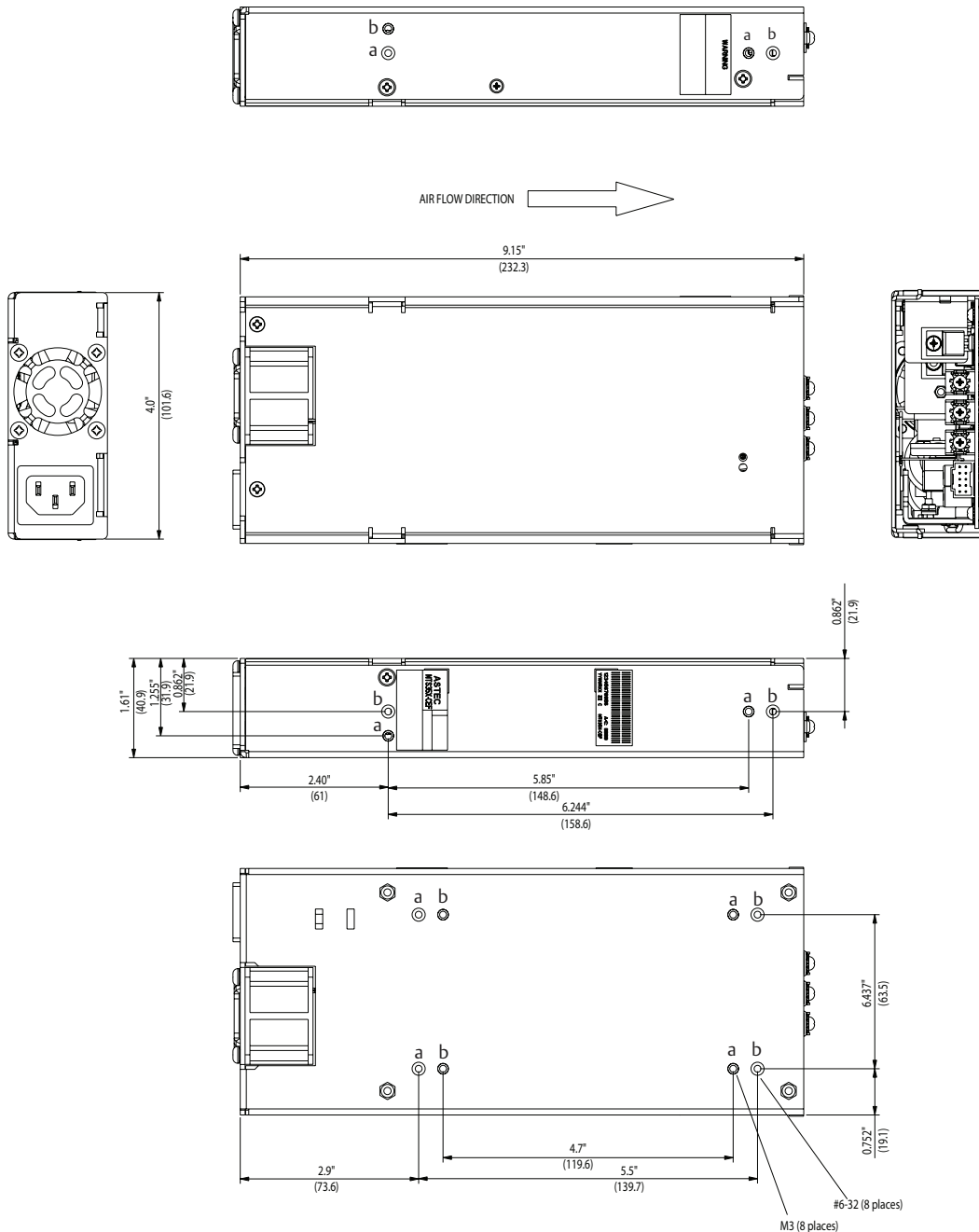
Notes:

1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ±.02".
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

Mechanical Drawing



Mechanical Drawing - CEF option



Americas

5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.Emerson.com/EmbeddedPower
techsupport.embeddedpower@emerson.com

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Emerson Network Power.
The global leader in enabling
business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.
©2011 Emerson Electric Co.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Emerson Network Power:

[NTS505-M-CF](#) [NTS505-M](#) [NTS508-M-CF](#) [NTS508-M](#) [NTS503-M-CF](#) [NTS503-M](#) [NTS503-M-CEF](#) [NTS505-M-CEF](#)
[NTS508-M-CEF](#)