

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
- 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)
- PMBus compliant
- RoHS compliant
- Digital I²C interface
- Two 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
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.

| 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 |

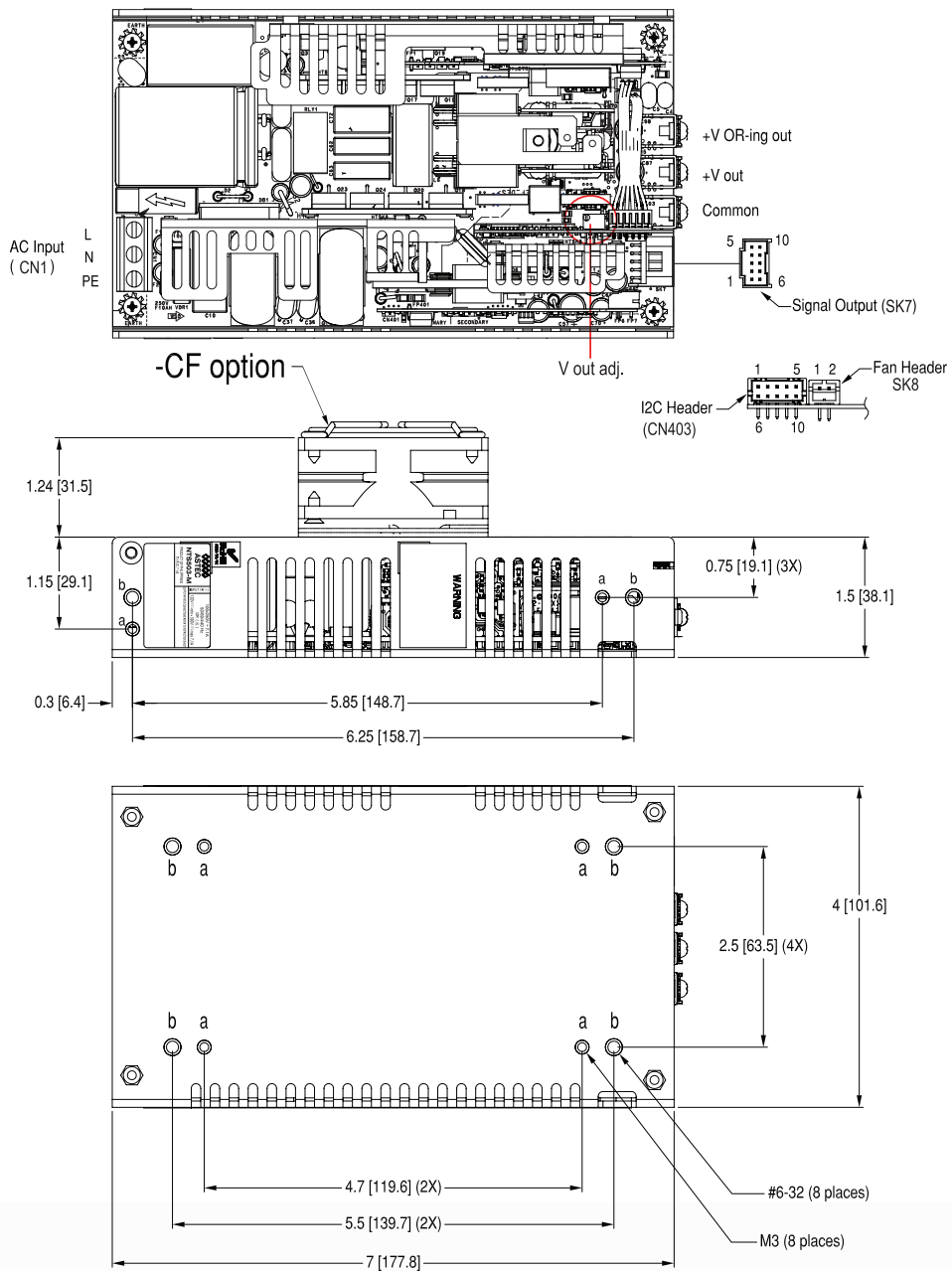
| Pin Assignments | | |
|--|--------|----------------------|
| Connector | | |
|  CN403 | PIN 1 | 5 V_I ² C |
| | PIN 2 | Ground |
| | PIN 3 | A2 |
| | PIN 4 | A0 |
| | PIN 5 | SVCC2_OR |
| | PIN 6 | I ² C_SDA |
| | PIN 7 | I ² C_SLC |
| | PIN 8 | A1 |
| | PIN 9 | N/C |
| | PIN 10 | +12 V_RTN_CTRL |

Notes:

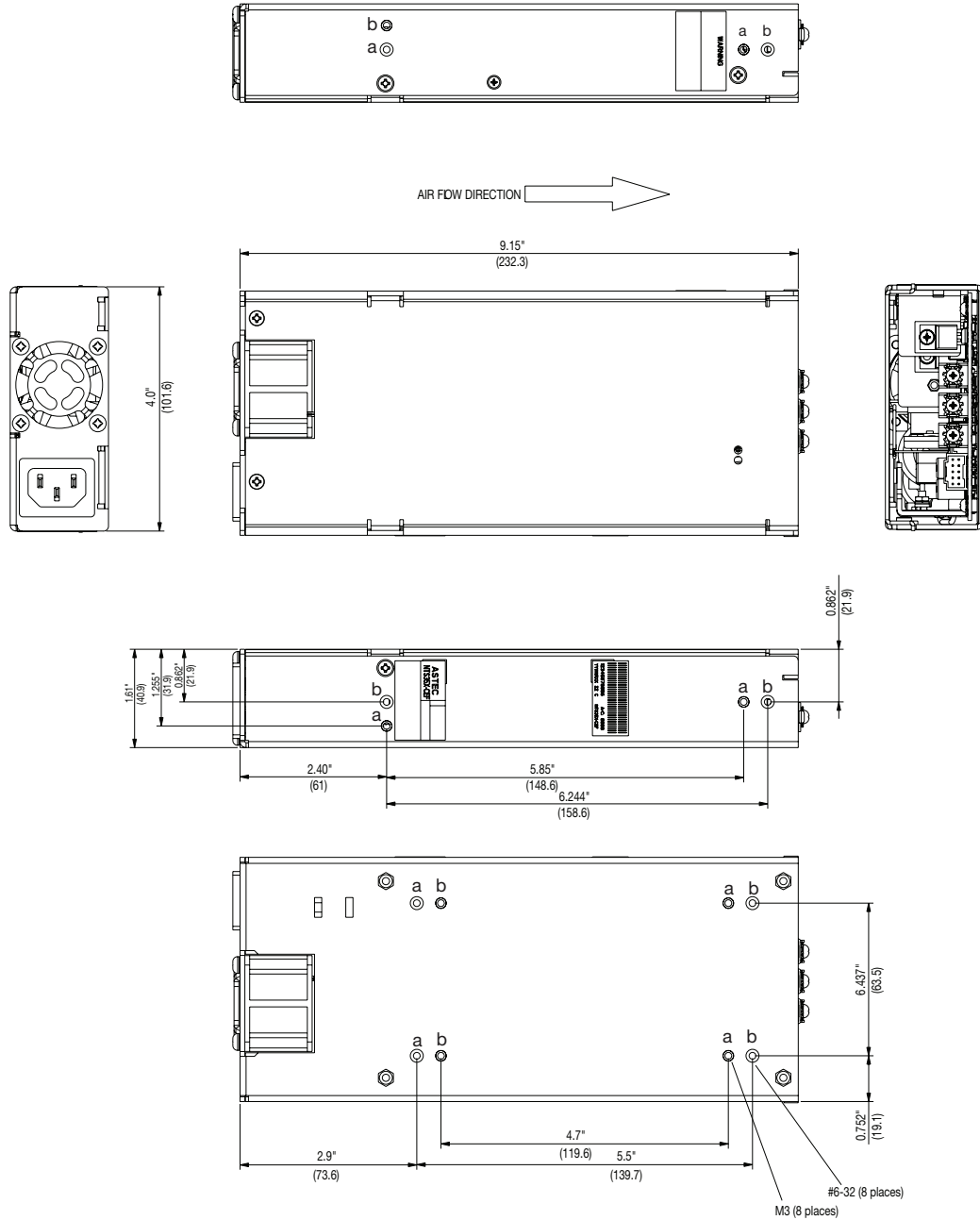
1. Specifications subject to change without notice.
2. All dimensions in inches (mm), tolerance is ± 0.2 ".
3. Specifications are at factory settings
4. Mounting maximum insertion depth is 0.12".
5. Warranty: 2 year
6. Weight: NTS50X-M - 1.66 lbs/0.75 kg
 NTS50X-M-CF - 2.00 lbs/0.9 kg
 NTS50X-M-CEF -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

| Adjustment Potentiometers | |
|--|------------------------------|
| P1 | +V1 Output adjust |
| Mating Connectors | |
| SK4,5,6 | Molex 19141-0058 |
| SK7 Control signals | Molex 90142-0010 |
| | PINS: 90119-2110 |
| | Amp: 87977-3 |
| | PINS: 87309-8 |
| | *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 |
| | *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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