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

PMBus

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

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An Advanced Energy Company

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

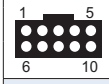
Operating temperature	0° to 50 °C ambient derate each output as 2.5% per degree from 50° to 70 °C.
Storage temperature	-40 °C to +85 °C
Electromagnetic susceptibility	Designed to meet EN61000-4; -2, -3, -4, -5, -6, -8, -11 Level 3
Humidity	Operating; non-condensing 10% to 90% RH
Vibration	Three orthogonal 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_I²C
	PIN 2	Ground
	PIN 3	A2
	PIN 4	A0
	PIN 5	SVCC2_OR
	PIN 6	I²C_SDA
	PIN 7	I²C_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

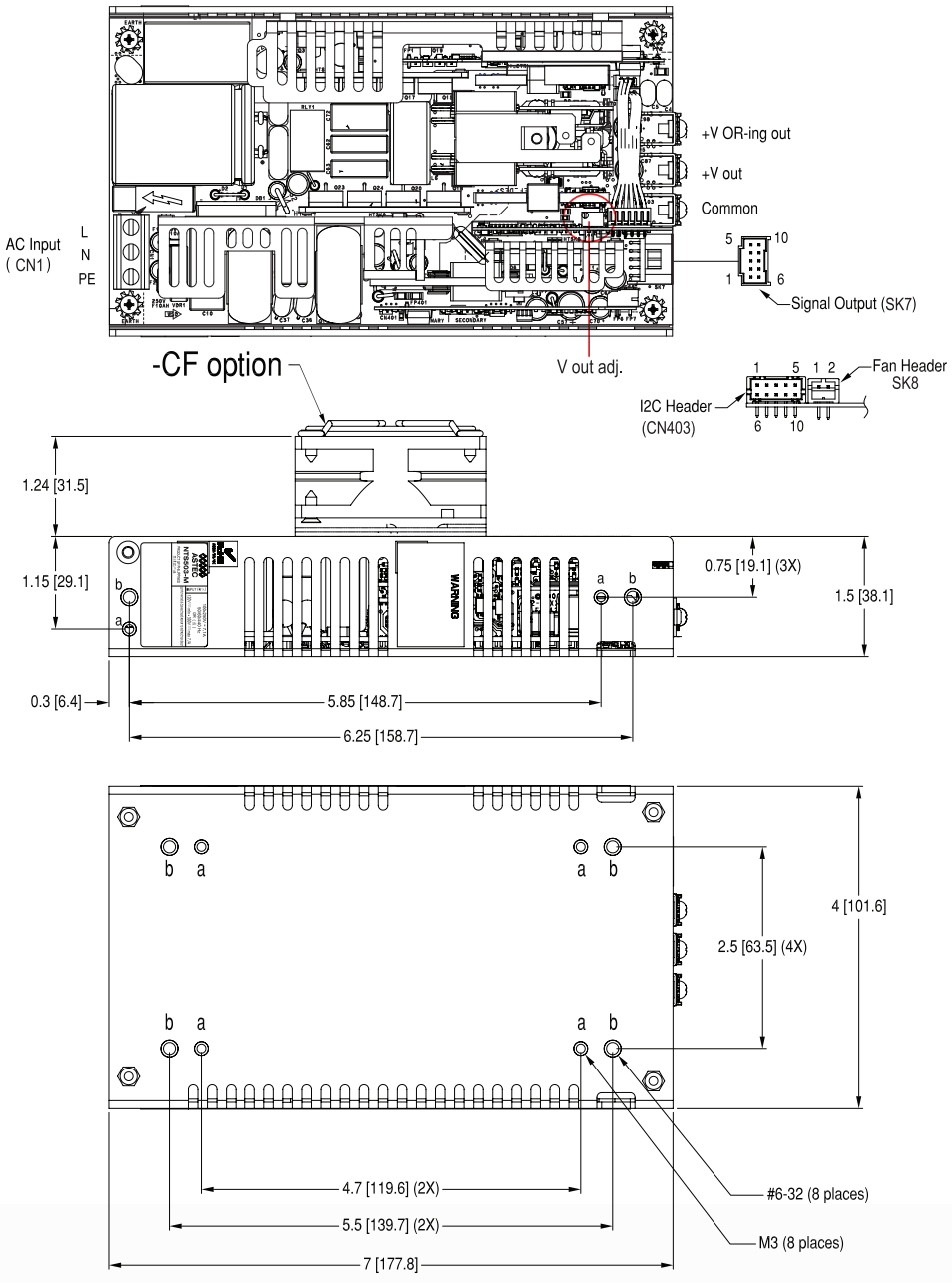
P1	+V1 Output adjust

Mating Connectors

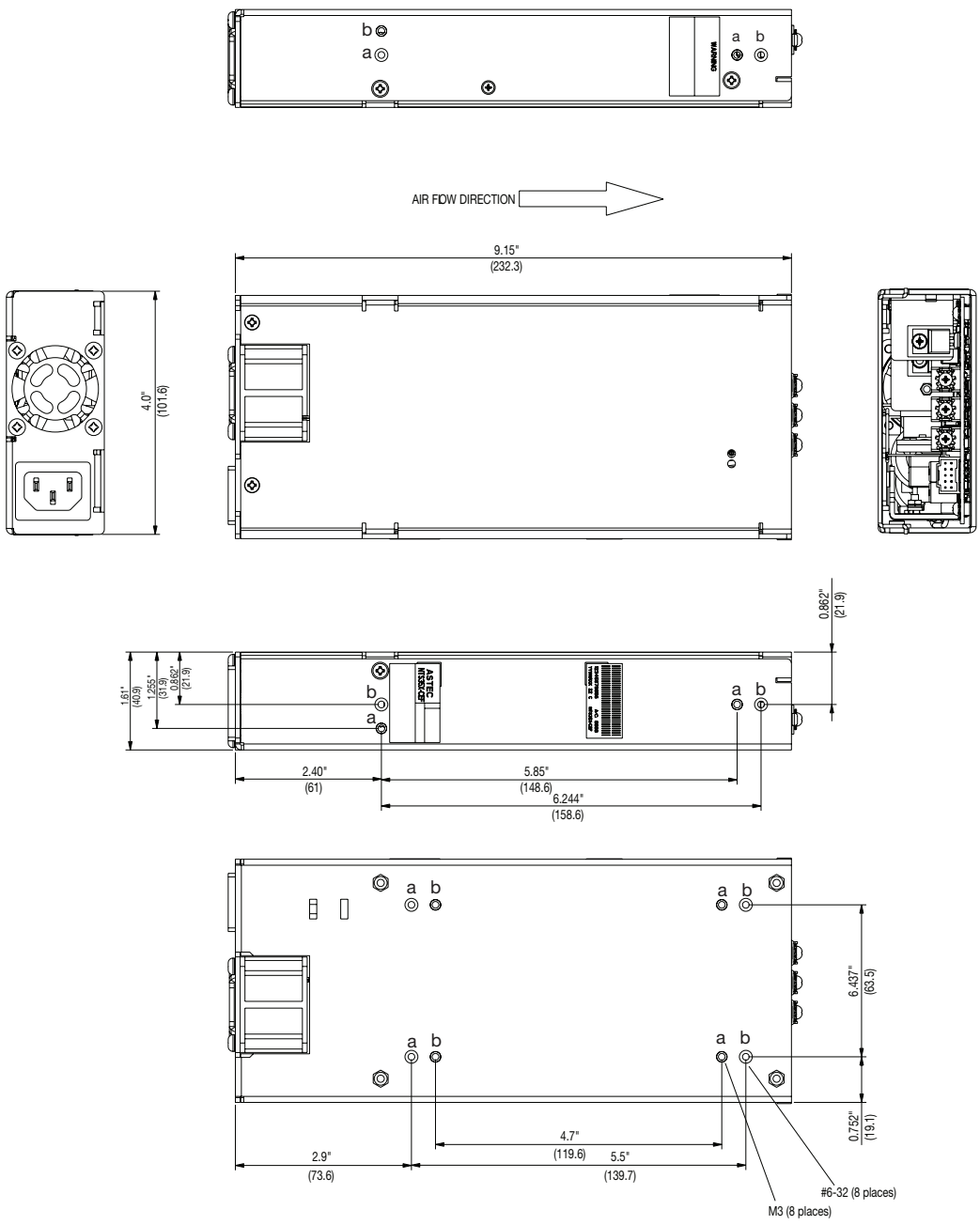
SK4,5,6	Molex 19141-0058
SK7 Control	Molex 90142-0010
signals	PINS: 90119-2110
	Amp: 87977-3
	PINS: 87309-8
	*Landwin: 2580S1003
	PINS: 2583T011R
SK8	JST PHR-2
	Pins: SPH-002T-PO.5S
CN403	JST PHDR-10VS
	Pins: JST SPHD-002T-P0.5 L/P
	*Landwin 2050 S1000
	Pins: 2053T011P

* 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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