

- Reinforced Input to Output Isolation for IEC60601
- Very low Earth Leakage and Class B EMC
- Below 1W standby power
- Medical Approval
- Designed for BF applications
- 5" x 3" footprint
- Standby supply and remote on/off
- High Efficiency & High Power Density (9.3W/in<sup>3</sup>)
- Fits 1U applications
- 3 Year Warranty



Scan here for product page

## NV-Power Medical

180 Watts medical power supply for BF applications

### Key Market Segments & Applications

Medical	Security
Lifesciences/Laboratory	Network Servers and Routers
Instrumentation	Broadcast
Automation	ATE

### Features and Benefits

#### Features

- Very low Earth Leakage and Class B EMC
- Dual Fusing
- Designed for BF medical applications

#### Benefits

- Meets medical leakage specs and achieves curve B EMC
- Simplifies system design, reduces cost
- Simplifies system design

INPUT			
Input Voltage	90 - 264Vac (100 - 240Vac nominal)	Input Frequency	45 - 63Hz
Input Harmonics	EN61000-3-2 compliant	Inrush Current	<40A at 25°C and 264Vac, (cold start)
Input Fuse	Dual Fused, Fast acting (not user accessible)	Power Factor	0.97 typical
Earth Leakage Current	80µA max at 120Vac (60Hz), 170µA max at 240Vac (60Hz). Worst case leakage current is less than 200µA at 264Vac, 63Hz (normal condition, =330µA Single Fault Condition)		

#### HOW TO CREATE A PRODUCT DESCRIPTION

**T** = 12V / 15A  
**G** = 24V / 7.5A

(Blank = no case)  
**-C** = U Chassis + Cover  
**-U** = U Chassis

NVM1-1 Vout 000 Global Signal Case Option Connector Option

	Standby	Logic level to enable main output	Power Good
<b>-S1</b>	12V / 0.2A	low	Yes
<b>-S2</b>	12V / 0.2A	high	Yes
<b>-S5</b>	5V / 0.5A	low	Yes

(Blank = standard, vertical connector)  
**-R** = Right angled connector  
 (see handbook for 'R' connection and mechanical details)

Confirm availability of created product with the factory

#### SAFETY APPROVALS

	Date	Amendments
EN 60950-1	2006	
UL 60950-1	2007	File E13549-A59
CSA 22.2 No 60950-1	2003	
IEC 60950-1*	2005	
CE Mark	LV Directive 2006/95/EC (EN60950-1)	
IEC 60601-1*	1988	A1, A2
EN 60601-1	1990	A1, A2, A13
UL 60601-1	2003	with revs 2006. (File E13549-A59)

\* CB certificate and Report available on request  
Check with factory for status of approvals

#### QUICK SELECTOR

Model	CH1	Standby	Remote On/Off
NVM1-1T000-S1	12V/15A	12V/0.2A	TTL high / OC to inhibit
NVM1-1G000-S1	24V/7.5A		

#### ISOLATION

Input to Output	<b>Reinforced</b>	<b>4.5kV (ac)</b> type tested to 4.5kVac (equivalent to 6.3kVdc), production tested to 4.3kV (dc)
Input to Earth	Basic	1.5 kV (ac), 2.3 kV (dc)
Output to Earth		1.5 kV (ac)

#### IMMUNITY EN61000-6-2:2001

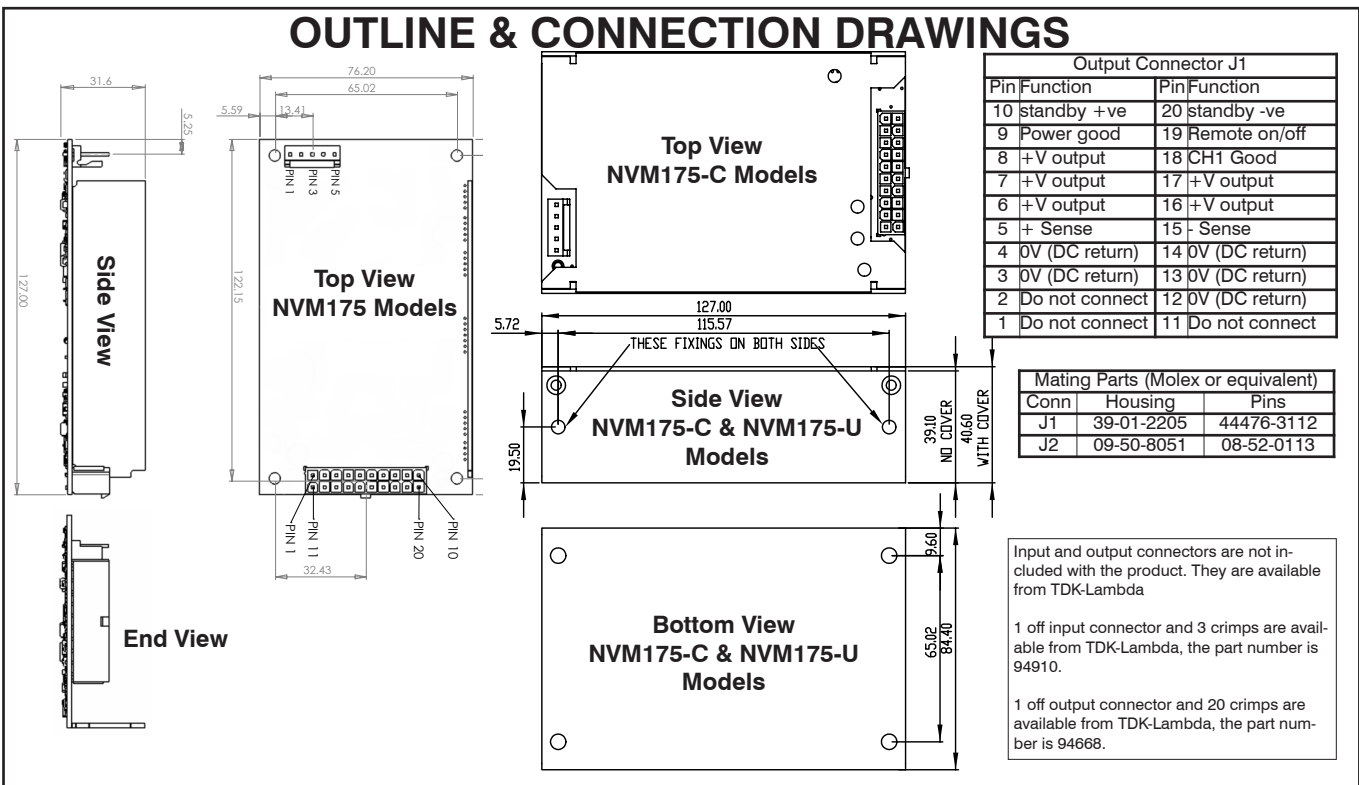
Criteria	EN61000-6-2:2001	Criteria
Electrostatic Discharge	EN61000-4-2 Level 4	Air discharge 15kV Contact discharge 8kV Not applicable to open frame units
Electromagnetic Field	EN61000-4-3 Level 3	(12V/m)
Fast / Burst Transient	EN61000-4-4 Level 4	(tested to 4.4kV)
Surge Immunity	EN61000-4-5 Level 3	Common mode - 2.2kV Differential - 1.1kV
Conducted RF Immunity	EN61000-4-6 Level 3	(12V)
Power Frequency Magnetic Field	EN61000-4-8 Level 4	(30A/m)
Voltage Dips, Variations, Interruptions	EN61000-4-11 Class 3	Criteria B for 5 sec interruption

#### EMISSIONS EN61000-6-3:2001, EN60601-1-2:2001

Radiated Electric Field	EN55011, EN55022	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B (2005) see application note for details
Conducted Emissions	EN55011, EN55022	(as per CISPR.11/22) Class B, FCC47 part 15 subpart B (2005)
Conducted Harmonics	EN61000-3-2	Class A
Flicker	EN61000-3-3	Compliant - d <sub>max</sub> only

OUTPUT SPECIFICATION			ENVIRONMENT		
Remote Sense	Yes	Channel 1 - Max 0.5V total line drop.	Temperature	0° to 50°C operational, -40°C to 85°C storage (max 12 months). Full load, with 1.5m/s air blown from input to output (approximately 10CFM)	
Total Regulation	1%	Including Line (for 90-264Vac input change) and Load (for 0-100% load change)	Convection Rating	See Application note for details	
Ripple & Noise	1%	(or 50mV if higher) pk-pk, using EIAJ test method & 20MHz bandwidth	Derating	50° to 70°C derate each output by 2.5% per °C with 2.0m/s air blown from input to output.	
Voltage Accuracy	±1%		Low Temp Startup	-20°C	
Turn on Time	1.5s max	at 90 Vac & 100% rated output power	Humidity	5 - 95% RH non condensing	
Efficiency	up to 90%		Shock	±3 x 30g shocks in each plane, total 18 shocks 30g shock = 11ms (+/-0.5msec), half sine Conforms to EN60068-2-27, EN60068-2-47, IEC68-2-27, IEC68-2-47, JIS C0041-1987. Conforms to MIL-STD-810E/F, Method 516.5, Pro I, IV, VI	
Hold up	16ms min	at 90 Vac			
Min Load	None	on any output	Vibration	Single axis 10 - 500 Hz at 2g (sweep and endurance at resonance) in all 3 planes Conforms to EN60068-2-6, IEC68-2-6 Conforms to MIL-STD-810E, Method 514.4, Pro I, Cat 1,9	
Transient Response	<4%	of set voltage for 50% load change (in 50µs within the range 25 - 100% load)			
Recovery	<500µs	for recovery to 1% of set voltage	Altitude	5,000metres operational (3,000 metres for IEC/EN/UL60601-1)	
Short circuit protection	Yes				
Over Temperature protection	Yes		Pollution	Degree 2, Material group IIIb	
Over Voltage Protection	Yes	120-135% of Vout. Remove ac for 10 seconds then reapply to restart unit.			
Power good signal (J1, pin 12)	Yes	S,S1,S4,S5 type global signals Logic low signal indicates ac supply is good and output 1 is within regulation. Provides minimum 4mS AC Fail warning			
		S2,S3 type global signals Logic low signal indicates output 1 is within regulation			

## OUTLINE & CONNECTION DRAWINGS





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