

PLEASE READ THIS INSTALLATION MANUAL CAREFULLY BEFORE INSTALLING THIS PRODUCT AND KEEP THIS MANUAL FOR FUTURE REFERENCE.

### WARNINGS

#### HIGH VOLTAGE WARNING:

Dangerous voltages are present within the power supply. Covers may only be removed by qualified personnel when the power supply has been disconnected from the mains supply voltage for more than 3 minutes. Covers must be replaced and all screws secured properly before reconnecting to the mains voltage.

#### FUSING WARNING:

To ensure continued protection against risk of fire fuses must be replaced with the same type and rating of fuse. Replacements should be carried out by qualified personnel only.

### SPECIFICATIONS

#### INPUT ELECTRICAL – NEVO+1200

Parameter	Details	Min	Max	Units
Input Voltage (5)	Nominally 100Vrms to 240Vrms	85	264	Vac
		120	370	Vdc
AC Input Frequency		47	63	Hz
Power Rating			1200	Watts
Input Current	1200 watt output at 120Vrms		12	Amps
Fusing	Fast acting		12	Amps

#### NOTES:

- NEVO+1200 inputs can only be used with NEVO series output modules and must not be used for any other purpose.
- Use only a power source of the type indicated on the product label for the NEVO+1200 inputs.
- For installation relating to UL60601-1 (Medical) a suitable fuse as described above must be provided in line with the Neutral inlet.
- The NEVO+1200 input module is supplied with two integrated fans. Ensure that the inlet and outlet ventilation holes are not obstructed. Ensure there is adequate ventilation provided in the enclosure wherein or near which the power supply is mounted.
- For Cases where compliance to various safety specifications (UL, CSA, EN) are required, to be described as 100-240VAC, 50-60Hz nominal.

#### OUTPUT ELECTRICAL

Output	Vmin	Vnom	Vmax	I <sub>max</sub>	P <sub>max</sub>	P <sub>pk</sub>
1	1.5V	5V	7.5V	25A	125W	187.5W(4)
2	4.5V	12V	15V	15A	150W	225W(4)
3	9V	24V	30V	7.5A	150W	225W(4)
4	18V	48V	58V	3.75A	150W	225W(4)
5 <sup>S</sup> (Dual)	3.3V	12V	15V	5A	75W (x2)	75W (x2)
8 (Dual)	-	24V	-	3.125A	75W (x2)	75W (x2)

#### NOTES:

- NEVO output modules can only be used with NEVO600, NEVO+600 and NEVO+1200 input modules and must not be used for any other purpose.
- Take care when removing from or adding output modules to the NEVO+600 input so that components are not damaged in the process.
- When the output voltage is adjusted upwards, the output current must be decreased proportionally so that the unit does not exceed the P<sub>max</sub> average power rating as stated in the table above.
- Peak power up to P<sub>pk</sub> is available for not more than 5 seconds at a maximum of 50% duty cycle. The maximum rated average power must not be exceeded. Please refer to the full datasheet and user manual for more information on using the P<sub>pk</sub> feature.
- Specifications are for updated OP5 modules. Serials beginning with 18xxxxxxx.

### ENVIRONMENTAL

	Parameter	Details	Min	Max	Units
Storage	Temperature		-40	85	°C
	Humidity	Relative, non condensing	5	95	%
	Altitude		-200	5000	Metres
	Air Pressure		54	106	kPa
Operation	Temperature	Full Power	-20	50	°C
		Derate input and all outputs at 2.5% / °C	50	70	°C
	Humidity	Relative, non condensing	5	95	%
	Altitude		-200	3000	Meters
	Air Pressure		78	106	kPa
	Noise Level	Unit at idle Unit at full power, 25°C Measured 1m from fan intake		42 61	dBA dBA
Shock	3000 bumps at 10G (16ms) half sine wave				
Vibration	1.5G, 10 to 200Hz sine wave, 20G for 15min in 3 axes				

### SAFETY

Parameter	Details	Min	Max	Units
Isolation Voltage	Input to Output		4000	Vac
	Input to Chassis		1500	Vac
	Output to Chassis		250	Vdc
	Output to Output		250	Vdc
Isolation Clearance	Primary to Secondary(Reinforced)	7		mm
	Primary to Chassis (Basic)	2.5		mm
Isolation Creepage	Primary to Secondary(Reinforced)	12		mm
	Primary to Chassis (Basic)	4		mm
Leakage Current	Standard: 250Vac, 60Hz, 25 °C		1500	uA
	Medical: 250Vac, 60Hz, 25 °C		300	uA

### GENERAL INSTALLATION

Parameter	Details	Parameter	Details
Equipment class	I	Flammability rating	94V-2
Installation category	II	IP Rating	IP 10
Pollution degree	2	RoHS Compliance	Yes
Material group	IIIb (indoor use only)		

### MECHANICAL

Parameter	Details
Size	154.5mm (L) x 152.4 mm (W) x 41.0mm (H) (see diagram for tolerance details)
Weight	720 grams + 60 grams per output module
Mounting	Bottom mounting (See diagram details)

### IMPORTANT INSTALLATION NOTES

This power supply is intended for use within equipment or enclosures which restricts access to authorised personnel only. The instructions in this manual and all warning labels on the product must be followed carefully.

### SAFETY

The NEVO+1200S is designed in accordance with safety requirements for UL 60950-1 2nd Ed. 2011-12-19, EN 60950-1: 2006 + A1: 2010 + A11: 2009 + A12: 2011, IEC 60950-1: 2005 2nd Ed. Amd. 1: 2009, CSA C22.2 No. 60950-1-07 + A1: 2011 and LV Directive 2011/65/EU.

The NEVO+1200M is designed in accordance with safety requirements for ANSI/AAMI ES 60601-1: 2005, EN 60601-1: 2006, IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2, CSA C22.2 No. 60601-1-08 and LV Directive LVD 2011/65/EU.

All power supplies must be installed correctly in a controlled environment which restricts access to any unauthorised personnel. Equipment and system manufacturers must protect service personnel against unintentional contact with the output terminals.

### DERATINGS

Temperature - Input and output power must be derated by 2.5%/°C above 50°C.

Input Voltage - Input and output power must be derated by 10W / Vrms below 120Vrms (1200W @ 120Vrms, 1000W @ 100Vrms, 900W @ 90Vrms)

Always remember to take the appropriate deratings into consideration before specifying any power supply for an application. If in doubt contact Vox Power.

### HAZZARDS

If series and/or parallel combinations of outputs exceed safe voltage and/or energy levels, the final equipment manufacturer must provide appropriate protection for both users and service personnel.

### HEALTH AND SAFETY

To comply with section 6 of the health and safety at work act, a label that is clearly visible to service personnel must be placed on the final equipment, which warns that surfaces of the power supply may be hot and should not be touched when the product is operating.

### FUSING

The power supply has internal single pole fusing in the L (Live) line.

### SERVICING

The power supply contains no user serviceable parts. Repairs must be carried out by authorised personnel only. Contact Vox Power Ltd for further information.

### APPROVAL LIMITATIONS – NORTH AMERICA

When this product is used with 180VAC–253VAC mains where no neutral is present, connect the two live wires to L (Live) and N (Neutral) on the input connector.

### COOLING

For proper cooling of the power supply, the air intake and outlet must not be impeded. Allow 50mm clearance at both ends and position cabling appropriately.

### EARTH TERMINAL MARKING

To comply with the requirements of UL60950-1, EN60950-1, IEC60950-1, CSA22.2 no. 60950-1, UL60601-1, EN60601-1, EN61010-1, IEC60601-1, IEC61010-1, CSA22.2 no 601-1 where the incoming wiring earth is intended for connection as the main protective earthing conductor and where the terminals for such a connection is not supplied on a component or subassembly such as a terminal block, the user shall add an appropriate label displaying a protective earth symbol in accordance with 60417-2-IEC-5019 directly adjacent to the terminal. The label should be durable and legible and should withstand the 15s rub test as per UL60950-1 section 1.7.15.

### WARRANTY

Contact your sales agent or Vox Power for product repairs. See Vox Power standard terms and conditions for warranty conditions. Vox Power products are not intended for use in connection with life support systems, human implantations, nuclear facilities or systems, aircraft, spacecraft, military or naval missile, ground support or control equipment used for the purpose of guidance navigation or direction of any aircraft, spacecraft or military or naval missile or any other application where product failure could lead to loss of life or catastrophic property damage. The user will hold Vox Power harmless from any loss, cost or damage resulting from its breach of these provisions.

### PRODUCT LABELS

#### NEVO+1200M and NEVO+1200S

The external product label contains information relevant to the power system. The label contains input voltage, maximum input current, input frequency, maximum output power, fuse rating and type, serial number, approvals and product part number in format NEVO+1200x-abcdefgh-zzzz.

### NEVO OUTPUT MODULES

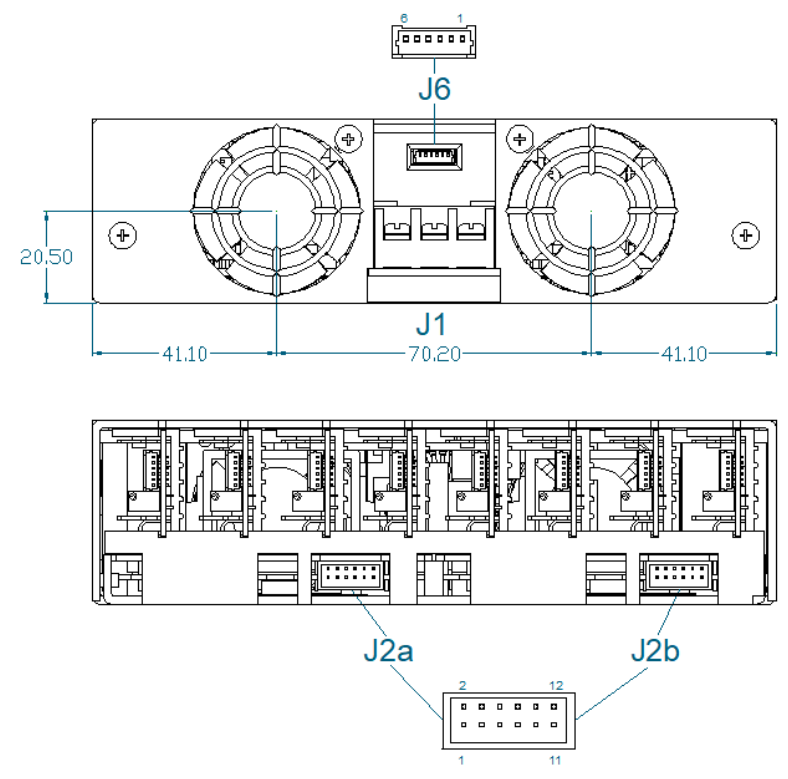
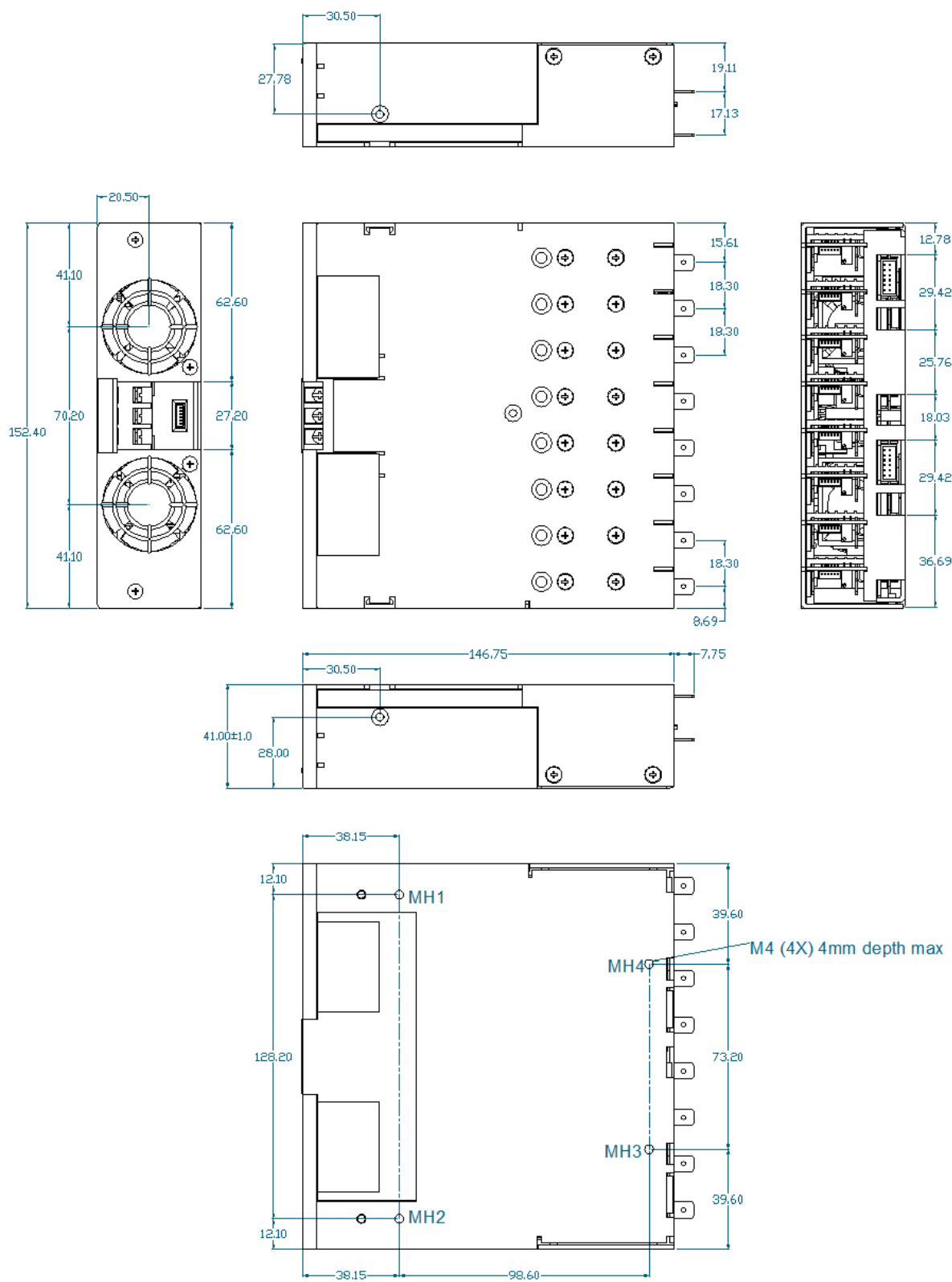
Each output module label contains information relevant to that particular output. The label contains voltage adjustment range, maximum output current, serial number, approvals and part number in format OPX.

### OTHER

- A label warning that external surfaces are hot during operation and that the unit should be allowed to cool down properly should be placed on the unit where such a label is clearly visible.
- The NEVO+1200 range is designed to comply with EMC standards but it does not imply that the end system will comply.
- To prolong the life of the unit use in dust free environment.
- Units can be damaged during transit. Contact your sales agent or Vox Power and DO NOT apply power to the unit in case of transit damage
- Always use adequately sized cables and ensure good crimp connections. Use cable supports to minimise stress on connectors.
- Avoid excessive shock or vibration.

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TOLERANCES unless otherwise stated - All dimensions in mm and according to DIN 2768-1/-2 CLASS C

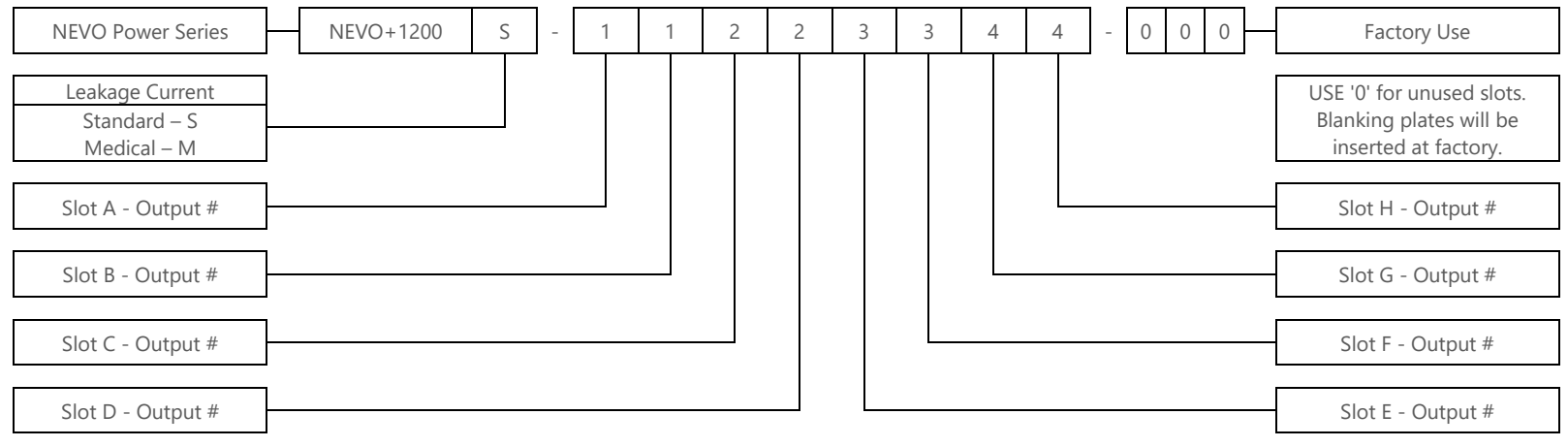
PINOUTS		
<b>J1</b>		
Circuit	Details	
1	Live	
2	Earth	
3	Neutral	
<b>J2a/b</b>		
Circuit	Details	Notes
1	Power Good	Slot A and E
2	Inhibit	B and F
3	Power Good	C and G
4	Inhibit	D and H
5	Power Good	
6	Inhibit	
7	Power Good	
8	Inhibit	
9	Global Inhibit	
10	AC OK	
11	+5V 1A Bias Supply	
12	COM	
<b>J6</b>		
Circuit	Details	Notes
1	Common	
2	+5V 0.5A Bias	Always on
3	Shut Down	
4	Reserved	
5	Reserved	
6	Reserved	

REF	DETAILS	MANUFACTURER	HOUSING	TERMINAL
J1	MAINS INPUT: 3 Pin, Barrier, 6-32 Steel Screws, 0.8 NM or 7IN LB Torque Cable 14-18AWG, 300V, 16A, 105°C, use appropriately rated fork or ring terminal.	MOLEX		
J2a/b	GLOBAL SIGNALS: 12 Pin, 2mm, with Friction Lock, 24-30 AWG	MOLEX	511101260	0503948051
J6	INPUT BIAS: OUTPUT SIGNALS: 6 Pin, 1.25mm, with Friction lock, 28-32 AWG	MOLEX	0510210600	0500588000

- Notes
- Direct equivalents may be used for any connector parts.
  - All cables must be rated 105°C min, equivalent to UL1015

SCREWS			
LOCATION	DETAILS	PENETRATION	TIGHTENING
MOUNTING	M4 x 4	4mm max, including chassis	0.55 NM
OUTPUT MODULES	M3 x 5, Countersink Posi, 16 Places	Defined by screw	0.50 NM
CHASSIS LID AND FACEPLATE	M3 x 5, Countersink Posi, 9 Places M3 x 30, Countersink Posi, 2 Places	Defined by screw	0.50 NM

PART NUMBERING SYSTEM



Contact your Distributor or Vox Power for special configuration requirements. The factory may allocate a 3 or 4 digit suffix to identify such requirement.

