

5"x3"x1.61"

Small

600W

Powerful

600g

Light



Our innovative NEVO+600S modular configurable power supply is the smallest in its class and the ultimate power solution for demanding industrial applications where size, power density and weight are vital factors. Weighing only 600 grams, the compact package of 5" x 3" x 1.61" delivers up to 600 Watts - equating to a power density of 25 Watts per cubic inch.

Standard features include intelligent fan control providing optimised airflow for various load and temperature conditions, wide output voltage adjust, parallel and series connection of modules and an isolated 5V 200mA bias supply. A low noise fan option is available that allows you to use this innovative power supply in even the quietest of environments.

## MAIN FEATURES

- 600 Watts output power
- Power density of (25W/in<sup>3</sup>)
- Smallest modular footprint 5" x 3" x 1.61"
- Wide output voltage adjust range
- Constant current or voltage operation
- Parallel & series connection of modules
- Series tracker and I2C options
- Intelligent fan control
- Industrial approvals
- User and field configurable
- Low noise option (SL version)
- 2 Year warranty

# SPECIFICATIONS

| INPUT ELECTRICAL    |   |   |       |      |       |    |
|---------------------|---|---|-------|------|-------|----|
| Parameter           | Details   | Min   | Typ   | Max  | Units |    |
| AC input voltage    | Nominal range is 100Vrms to 240Vrms                 | 85  |       | 264  | Vrms  |    |
| AC input frequency  | Contact factory for 400Hz operation.                | 47  | 50/60 | 63   | Hz    |    |
| DC input voltage    | Standard  | 120   |       | 370  | Vdc   |    |
| Power rating        | See graphs for deratings                            |   |       | 600  | Watts |    |
| Input current       | 600 Watts output at 120Vrms input                   |   |       | 6    | Amps  |    |
| Inrush current      | 265Vrms (cold start)                                |   |       | 20   | Amps  |    |
| Fusing              | 5x20 Fast acting                                    |   |       | 8    | Amps  |    |
| Input current limit | Maintains power factor                              |   | 8     |      | Amps  |    |
| Efficiency          | See graphs  |   | 86    | 89   | %     |    |
| Idle power          | All outputs fitted and enabled                      |   | 28    |      | Watts |    |
| Idle power          | All outputs fitted and disabled                     |   | 21    |      | Watts |    |
| Power factor        | Typical value for 300 Watts output at 240Vrms input |   | 0.96  | 0.99 |       |    |
| Holdup              | 600Watts output at 120Vrms input                    | 17  | 20    | 21   | mS    |    |
| UVLO                | Turn on only  | 78  |       | 84   | Vrms  |    |
| Over temperature    | Internally monitored. Latching                      | 115   |       | 125  | °C    |    |
| Reliability         | 40°C 80% load                                       |   |       | 2    | FPMH  |    |
| S I G N A L S       | Bias voltage  |   | 4.8   | 5    | 5.2   | V  |
|                     | Bias current  |   | 0     |      | 200   | mA |
|                     | Power good voltage                                  | PNP open collector with internal 10k pull down resistor | 8     | 10   | 15    | V  |
|                     | Power good current                                  |   | 0     |      | 20    | mA |
|                     | Inhibit voltage                                     |   | 2     |      | 15    | V  |
|                     | Inhibit current                                     | 10k ohm input impedance                                 | 0.2   |      | 1.5   | mA |
|                     | Global inhibit voltage                              |   | 3     |      | 15    | V  |
|                     | Global inhibit current                              | 5k ohm input impedance                                  | 0.6   |      | 3     | mA |
|                     | AC_OK voltage                                       |   | 1     |      | 4     | V  |
|                     | AC_OK current                                       |   | -10   |      | 20    | mA |
| AC_OK warning       | See user manual for exceptions                      | 5   |       |      | mS    |    |

| INSTALLATION          |                        |                     |            |
|-----------------------|------------------------|---------------------|------------|
| Parameter             | Details                | Parameter           | Details    |
| Equipment class       | I                      | Flammability rating | 94V-2      |
| Installation category | II                     | IP rating           | IP10       |
| Pollution degree      | 2                      | ROHS Compliance     | 2011/65/EC |
| Material group        | IIIb (indoor use only) |                     |            |

| RELIABILITY |                                  |     |     |       |
|-------------|----------------------------------|-----|-----|-------|
| Component   | Details                          | Min | Max | Units |
| Fan         | Mag Lev Std                      |     | 2.7 | FPMH  |
| Input       | Excluding FAN                    |     | 2   | FPMH  |
| Output      | See individual output datasheets |     | 1   | FPMH  |
| Warranty    |                                  |     | 2   | Years |

| 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: 265Vac, 63Hz, 25°C      |     | 1500 | uA    |

| MECHANICAL |   |
|------------|---|
| Parameter  | Details   |
| Size       | 77.7mm x 133.7mm x 41.0mm (all external dimensions ± 1.0mm) |
| Weight     | 360 gram + 60 gram per output module                        |
| Mounting   | Bottom or side mounting (see diagram for details)           |

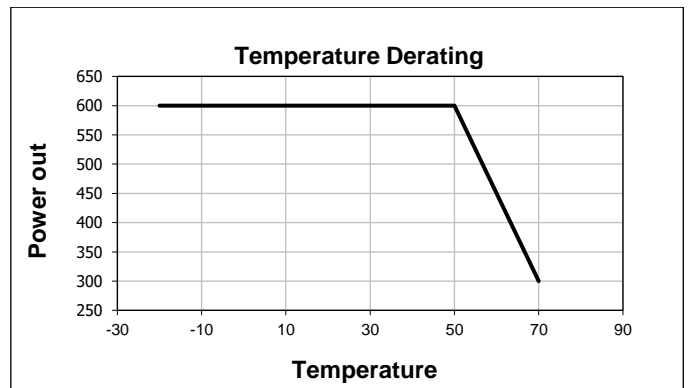
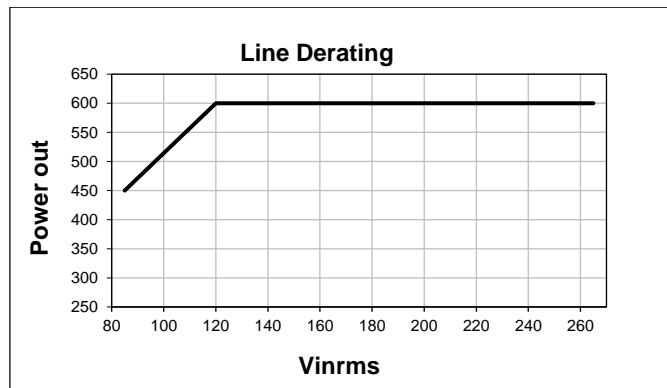
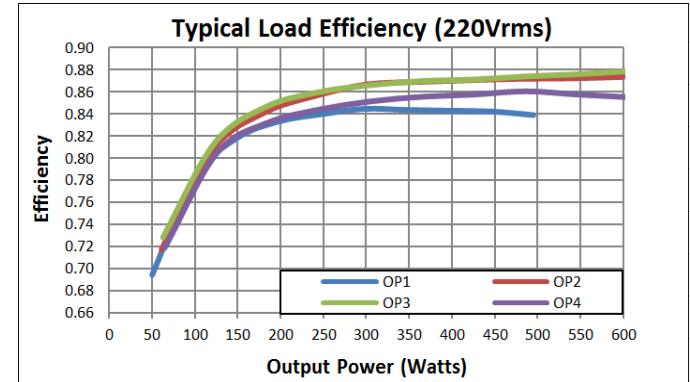
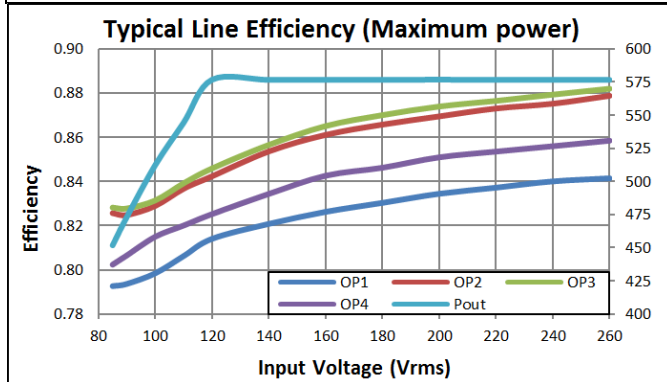
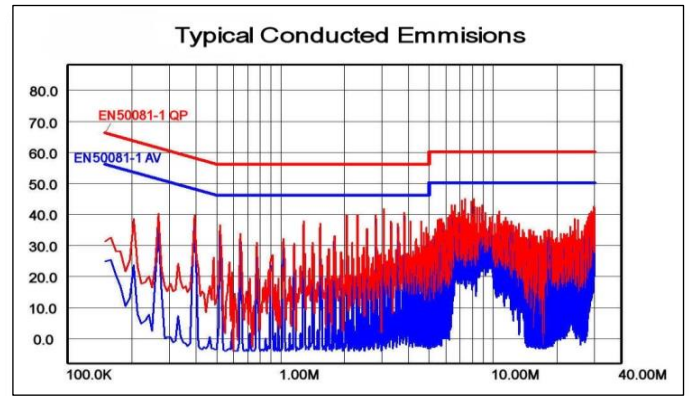
| ENVIRONMENTAL |  |                                       |      |      |       |
|---------------|--|---------------------------------------|------|------|-------|
| Storage       | Parameter  | Details                               | Min  | Max  | Units |
|               | Operation  | Temperature                           |      | -40  | +85   |
| Humidity      |  | Relative, non-condensing              | 5    | 95   | %     |
| Altitude      |  |                                       | -200 | 5000 | m     |
| Air pressure  |  |                                       | 54   | 106  | kPa   |
| Temperature   |  | Full power                            | -20  | 50   | °C    |
|               |  | Derate input and outputs at 2.5%/°C   | 50   | 70   | °C    |
| Humidity      |  | Relative, non-condensing              | 5    | 95   | %     |
| Altitude      |  | (-200 to 2000m for UL60601-1)         | -200 | 3000 | m     |
| Air pressure  |  |                                       | 78   | 106  | kPa   |
| Noise level   |  | Variable, measured 1m from fan intake | 36   | 60   | dBA   |
| Shock         | 3000 bumps at 10G (16ms) half sine wave                              |                                       |      |      |       |
| Vibration     | 1.5G 10 to 200Hz sine wave, 20G for 15min in 3 axes random vibration |                                       |      |      |       |

| EMC       |          |       |
|-----------|----------|-------|
| Parameter | Standard | Level |

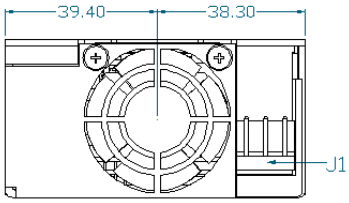
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| Immunity     | Radiated electric field    | EN55011, EN55022, FCC                  | B         |
|              | Conducted emissions        | EN55011, EN55022, FCC                  | B         |
|              | Harmonic distortion        | EN61000-3-2                            | Compliant |
|              | Flicker & fluctuation      | EN61000-3-3                            | Compliant |
|              | Electrostatic discharge    | EN61000-4-2<br>(15kV air, 8kV contact) | 4         |
|              | Radiated RFI               | EN61000-4-3 (10V/m)                    | 3         |
|              | Fast transient burst       | EN61000-4-4 (2kV)                      | 3         |
|              | Input line surges          | EN61000-4-5 (1kV L-N, 2kV L-E)         | 3         |
|              | Conducted RFI              | EN61000-4-6 (10V)                      | 4         |
|              | Power freq. magnetic field | EN61000-4-8 (10A/m)                    | 3         |
| Voltage dips | EN61000-4-11 (EN55024)     | Compliant                              |           |

| AGENCY APPROVALS          |   |             |
|---------------------------|---|-------------|
| Standard                  | Details   | File        |
| UL60950-1                 | UL60950-1 2nd edition revised December 19, 2011 | UL: E316486 |
| IEC/EN60950-1             | IEC 60950-1:2005 (2nd Edition); Am 1:2009       |             |
| CSA-C22.2 No. 60950-1A-07 | 2nd Edition                                     |             |
| CE MARK                   | LVD 2014/35/EU                                  |             |

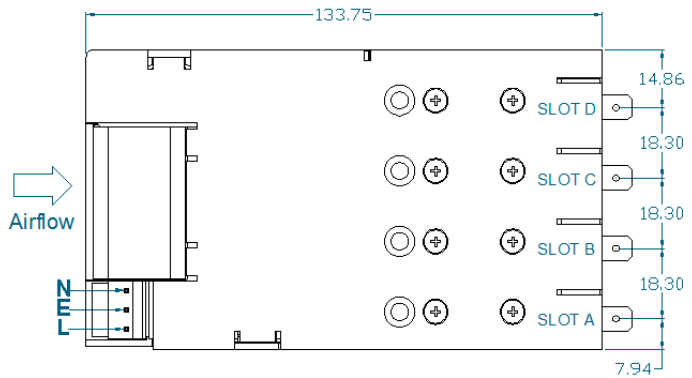
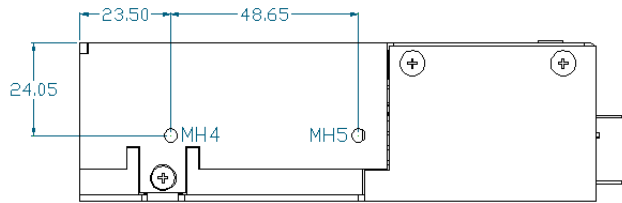
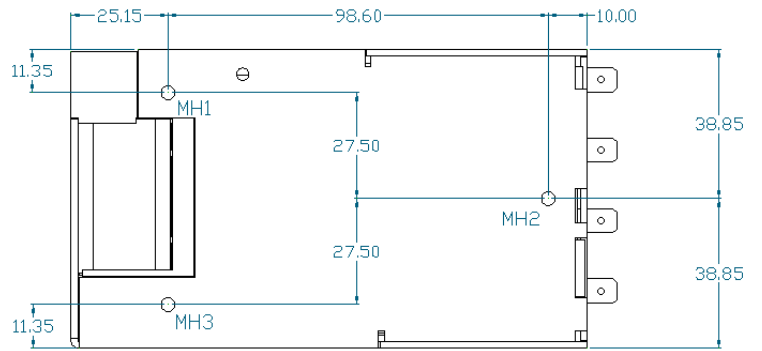
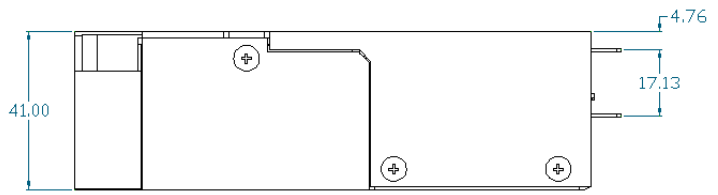
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## MECHANICAL DIMENSIONS AND MOUNTING SCREWS



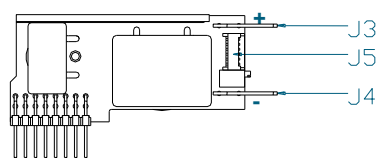
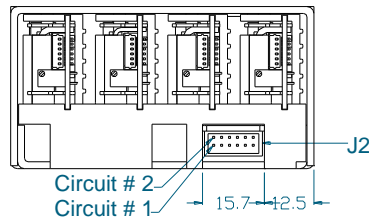
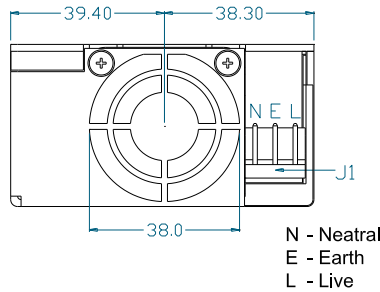
N - Neutral  
E - Earth  
L - Live



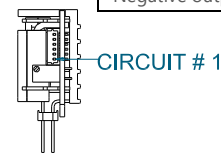
| SCREWS   |                                      |
|--|--------------------------------------|
| MH1, MH2, MH3, MH4, MH5  |                                      |
| Screw type   | M4                                   |
| Tightening   | Tighten to 0.55 Nm <sup>(1)</sup>    |
| Penetration depth  | 4.00mm max including chassis         |
| OUTPUT MODULES x 8   |                                      |
| Screw type   | M3x5, C/Sink, Posi, Stainless Steel  |
| Tightening   | Tighten to 0.50 Nm <sup>(1)</sup>    |
| Penetration depth  | Defined by screw                     |
| CHASSIS x 5  |                                      |
| Screw type   | M3x5, C/Sink, Posi, Stainless Steel  |
| Tightening   | Tighten to 0.50 Nm <sup>(1)</sup>    |
| Penetration depth  | Defined by screw                     |
| FAN x 2  |                                      |
| Screw type   | M3x30, C/Sink, Posi, Stainless Steel |
| Tightening   | Tighten to 0.50 Nm <sup>(1)</sup>    |
| Penetration depth  | Defined by screw                     |
| 1. Torque settings are for general reference only. The torque settings shown in the datasheet are the insert manufacturers recommended values. |                                      |

## CONNECTORS

| PINOUTS                 |                               |
|-------------------------|-------------------------------|
| <b>J1</b>               |                               |
| Circuit                 | Details                       |
| 1                       | Live                          |
| 2                       | Earth                         |
| 3                       | Neutral                       |
| <b>J2</b>               |                               |
| Circuit                 | Details                       |
| 1                       | Power good                    |
| 2                       | Inhibit                       |
| 3                       | Power good                    |
| 4                       | Inhibit                       |
| 5                       | Power good                    |
| 6                       | Inhibit                       |
| 7                       | Power good                    |
| 8                       | Inhibit                       |
| 9                       | Global inhibit                |
| 10                      | AC OK                         |
| 11                      | +5V 200mA bias supply         |
| 12                      | COM                           |
| <b>J5<sup>(4)</sup></b> |                               |
| Circuit                 | Details                       |
| 1                       | -Sense                        |
| 2                       | +Sense                        |
| 3                       | Voltage control               |
| 4                       | Current control / share / out |
| 5                       | COM                           |
| 6                       | +5V local bias supply         |



|                 |
|-----------------|
| <b>J3</b>       |
| Positive output |
| <b>J4</b>       |
| Negative output |

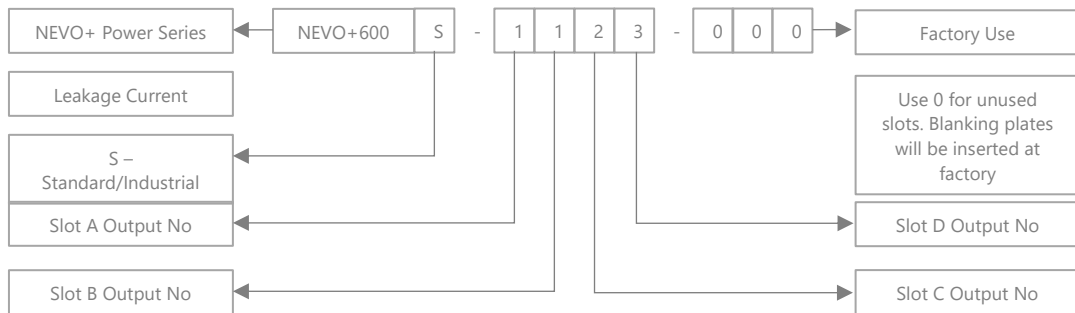


| REF.    | DETAILS   | MANUFACTURER | HOUSING    | TERMINAL   |
|---------|---|--------------|------------|------------|
| J1      | MAINS INPUT: 3 Pin, 5.08mm, with Friction Lock, 18-24 AWG     | MOLEX        | 10013036   | 0008701031 |
| J2      | GLOBAL SIGNALS: 12 Pin, 2mm, without Friction Lock, 24-30 AWG | MOLEX        | 511101251  | 0503948051 |
| J3/4(1) | OUTPUT POWER TERMINAL: TAB SIZE 6.35mmx0.8mm                  | VARIOUS      |            | VARIOUS    |
| J5      | OUTPUT SIGNALS: 6 Pin, 1.25mm, with Friction lock, 28-32 AWG  | MOLEX        | 0510210600 | 0500588000 |

**Notes**

- Terminal and wire current rating must exceed maximum short circuit output current. Eg. Output 1 = 25A\*1.25 = 31.25Amps
- Direct equivalents may be used for any connector parts
- All cables must be rated 105°C min, equivalent to UL1015
- Pinout is for single output types only

## PART NUMBERING SYSTEM



Our design team will assist with value add requirement if an application requires standard/non-standard accessories or non-nominal voltage settings.

Once approved, the factory will issue a 3 or 4 digit code for your specific configuration which can be used for all future orders of the same configuration. When ordering an input unit with no outputs inserted, simply order NEVO+600S

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