

**24 W  
AC/DC  
ADAPTER**

# 24 Watt Value Power

**HNP24-L6 Steckernetzteil-Serie**



**HNP-POWER**

| Besondere Merkmale | Features |
|--------------------|----------|
|--------------------|----------|

|                                      |                                     |
|--------------------------------------|-------------------------------------|
| Steckerschaltnetzteil                | Plug in switching adaptor           |
| Doppelte Isolation                   | Double insulated                    |
| Kompakter Aufbau                     | Small low profile package           |
| Überlast- und kurzschlußfest         | Overload, short circuit protection  |
| Minimalster Leerlaufverlust          | Lowest standby power consumption    |
| EU CoC V5 tier 2 / EnergyStar DOE VI | EU CoC V5 tier 2/ EnergyStar DOE VI |

| Anwendung | Application |
|-----------|-------------|
|-----------|-------------|

|                         |                         |
|-------------------------|-------------------------|
| Einplatinencomputer     | Single board computers  |
| Drahtlose Kommunikation | Wireless communications |
| Peripheriegeräte        | Peripherals             |
| Netzwerktechnik         | Networking              |
| Mobile Ausrüstungen     | Portable equipment      |
| Tablets / Smartphones   | Tablets / Smartphones   |
| Telekommunikation       | Telecom                 |

| Technische Daten | Specification |
|------------------|---------------|
|------------------|---------------|

(bei 25°C Umgebungstemperatur) at 25 °C ambient temperature

| Eingangsdaten | Input Specifications |
|---------------|----------------------|
|---------------|----------------------|

|                         |                              |                   |
|-------------------------|------------------------------|-------------------|
| Eingangsspannung        | Input voltages               | 90...264 VAC      |
| Eingangsfrequenz        | Input frequency              | 47...63 Hz        |
| Eingangsstrom           | Input current                | 800mA(rms) @90VAC |
| Netzausfallüberbrückung | Hold-up time, nom.conditions | 20ms @230VAC      |
| Einschaltstromstoß      | Inrush current               | <60A/230VAC       |
| Leerlaufverlust         | No load power consumption    | < 0.075 Watt      |

| Ausgangsdaten | Output Specifications |
|---------------|-----------------------|
|---------------|-----------------------|

|                  |                   |                        |
|------------------|-------------------|------------------------|
| Leistung         | Power             | 24 Watt                |
| Wirkungsgrad     | Efficiency        | DOE VI / CoC V5 tier 2 |
| Ausregelzeit ±2% | Recovery time ±2% | max. 1 ms              |
| Restwelligkeit   | Ripple and noise  | max. 100mV pp          |

| Allgemeine Daten | General Specifications |
|------------------|------------------------|
|------------------|------------------------|

|                        |                              |   |
|------------------------|------------------------------|---|
| Betriebstemperatur     | Operating temperature        | -10°C...+40°C   |
| Lagertemperatur        | Storage temperature          | -20°C...+70°C   |
| Luftfeuchte            | Humidity                     | 10...90% RH   |
| Isolation              | Dielectric Withstand (Hipot) | 3000VAC 1min 5mA inp.<->outp.   |
| Leckstrom              | Leakage current              | 0.25mA max.@240 VAC   |
| Überstromschutz        | Overcurrent protection       | continuous, auto restart  |
| Überspannungsschutz    | Overvoltage protection       | typ. 120%   |
| Zulassungsbestimmungen | Safety requirements          | TÜV/GS EN62368-1:2014+A11:2017  |
| EMV                    | EMC                          | EN55032:2015; EN55035:2017<br>EN61000-3-2:2019;EN61000-3-3:2013+A1:2019 |
| RoHS                   | RoHS                         | 2015/863/EU   |

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## HNP24-L6 Steckernetzteil-Serie

# 24 W AC/DC ADAPTER

### Bestell-Information / Order Information

| Modell      | Ausgang Output | Last/Load Min. | Max.  |
|-------------|----------------|----------------|-------|
| HNP24-090L6 | 9 V            | 0.0 A          | 2.5 A |
| HNP24-120L6 | 12 V           | 0.0 A          | 2.0 A |
| HNP24-150L6 | 15 V           | 0.0 A          | 1.6 A |
| HNP24-240L6 | 24 V           | 0.0 A          | 1.0 A |

### MEMO:

#### Vermerk

Andere Versionen ( Spannungen / Stecker / Farben ) mit Mindestbestellmengen auf Anfrage

#### Note

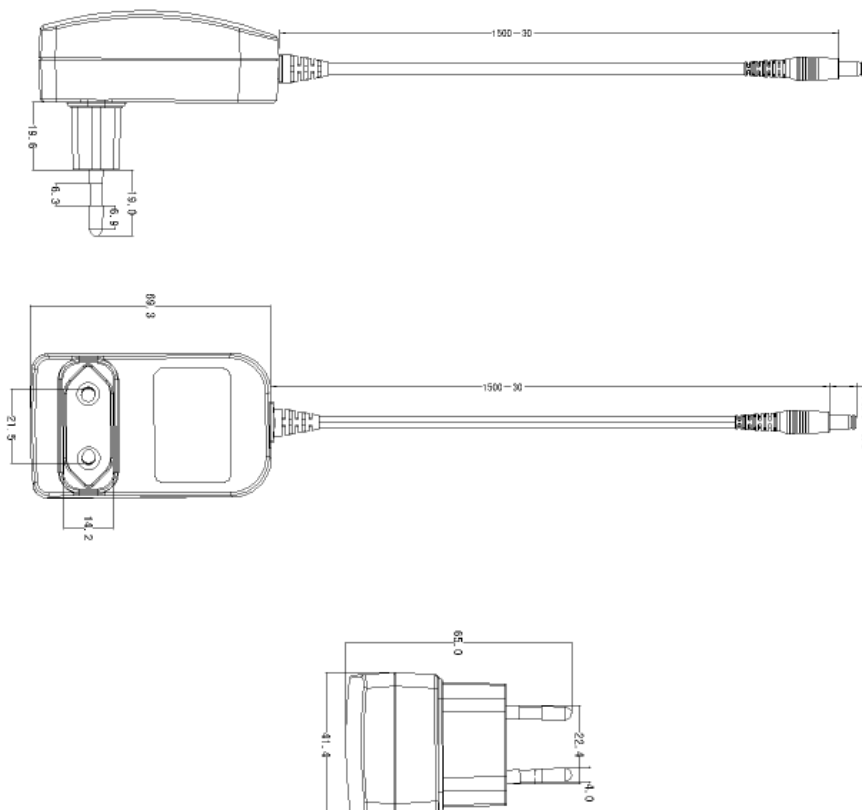
Other versions ( Voltages / Connectors / Colors ) with minimum order quantities on request

### Mechanik

### Mechanical

|            |              |   |
|------------|--------------|---|
| L×B×H      | L×W×H        | 69 × 41 × 65 mm                                       |
| Gewicht    | Weight       | 110 g   |
| DC-Stecker | DC-connector | 2.1 x 5.5 x 10 mm , inside positive, outside negative |
| DC-Kabel   | DC-cable     | L=1500mm , UL2468 24AWG                               |

### PIN-Belegung und Zeichnung / Pin Assignments & Drawing



## Energieeffizienz / Efficiency (EU) 2019/1782

| Model                 | Input Voltage/Frequency | Output Voltage(V) | Output Current(A) | Power for label | Average efficiency | Efficiency at 10% load | No load power consumption (Watt) |
|-----------------------|-------------------------|-------------------|-------------------|-----------------|--------------------|------------------------|----------------------------------|
| HNP06-USBL6           | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,46%             | 78,85%                 | 0,07W                            |
| HNP06-050L6           | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,46%             | 78,85%                 | 0,07W                            |
| HNP06-051-MiniUSBL6   | 230Vac / 50Hz           | 5,1               | 1,47              | 7,5W            | 78,55%             | 74,27%                 | 0,10W                            |
| HNP06-051-MicroUSBL6  | 230Vac / 50Hz           | 5,1               | 1,47              | 7,5W            | 78,01%             | 73,98%                 | 0,10W                            |
| HNP06-060L6           | 230Vac / 50Hz           | 6,0               | 1,25              | 7,5W            | 78,13%             | 78,13%                 | 0,05W                            |
| HNP06-090L6           | 230Vac / 50Hz           | 9,0               | 0,83              | 7,5W            | 81,45%             | 77,22%                 | 0,06W                            |
| HNP06-120L6           | 230Vac / 50Hz           | 12,0              | 0,62              | 7,5W            | 80,71%             | 77,66%                 | 0,09W                            |
| HNP06-MICROUSBL6      | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,46%             | 78,85%                 | 0,07W                            |
| HNP06-MINIUSBL6       | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,46%             | 78,85%                 | 0,07W                            |
| HNP06I-USBL6          | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,13%             | 78,15%                 | 0,08W                            |
| HNP06I-050L6          | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,13%             | 78,15%                 | 0,08W                            |
| HNP06I-051-MiniUSBL6  | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 78,31%             | 74,49%                 | 0,10W                            |
| HNP06I-051-MicroUSBL6 | 230Vac / 50Hz           | 5,1               | 1,47              | 7,5W            | 77,76%             | 73,76%                 | 0,10W                            |
| HNP06I-090L6          | 230Vac / 50Hz           | 9,0               | 0,83              | 7,5W            | 80,18%             | 76,48%                 | 0,07W                            |
| HNP06I-120L6          | 230Vac / 50Hz           | 12,0              | 0,62              | 7,5W            | 81,70%             | 76,52%                 | 0,06W                            |
| HNP06I-MicroUSBL6     | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,13%             | 78,15%                 | 0,08W                            |
| HNP06I-MiniUSBL6      | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,13%             | 78,15%                 | 0,08W                            |
| HNP07-050V2           | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,21%             | 72,50%                 | 0,06W                            |
| HNP07-090V2           | 230Vac / 50Hz           | 9,0               | 0,84              | 7,5W            | 80,58%             | 74,04%                 | 0,06W                            |
| HNP07-120V2           | 230Vac / 50Hz           | 12,0              | 1,00              | 7,5W            | 81,05%             | 70,94%                 | 0,06W                            |
| HNP07-USBV2           | 230Vac / 50Hz           | 5,0               | 1,50              | 7,5W            | 77,15%             | 72,51%                 | 0,06W                            |
| HNP12-USBL6           | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,64%             | 78,92%                 | 0,06W                            |
| HNP12-050L6           | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,64%             | 78,92%                 | 0,06W                            |
| HNP12-075L6-DC90-WHI  | 230Vac / 50Hz           | 7,5               | 1,35              | 10,1W           | 82,29%             | 76,13%                 | 0,08W                            |
| HNP12-075L6-A         | 230Vac / 50Hz           | 7,5               | 1,35              | 10,1W           | 82,29%             | 76,13%                 | 0,08W                            |
| HNP12-090L6           | 230Vac / 50Hz           | 9,0               | 1,30              | 11,7W           | 83,19%             | 80,69%                 | 0,07W                            |
| HNP12-120L6           | 230Vac / 50Hz           | 12,0              | 1,00              | 12,0W           | 85,56%             | 82,15%                 | 0,07W                            |
| HNP12-150L6           | 230Vac / 50Hz           | 15,0              | 0,80              | 12,0W           | 83,12%             | 71,42%                 | 0,09W                            |
| HNP12-240L6           | 230Vac / 50Hz           | 24,0              | 0,50              | 12,0W           | 86,71%             | 77,66%                 | 0,07W                            |
| HNP12-MicroUSBL6      | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,64%             | 78,92%                 | 0,06W                            |
| HNP12I-USBL6          | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,41%             | 78,96%                 | 0,06W                            |
| HNP12I-050L6          | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,64%             | 78,92%                 | 0,06W                            |
| HNP12I-090L6          | 230Vac / 50Hz           | 9,0               | 1,30              | 11,7W           | 83,44%             | 81,01%                 | 0,07W                            |
| HNP12I-120L6          | 230Vac / 50Hz           | 12,0              | 1,00              | 12,0W           | 85,72%             | 82,15%                 | 0,05W                            |
| HNP12I-150L6          | 230Vac / 50Hz           | 15,0              | 0,80              | 12,0W           | 83,12%             | 71,42%                 | 0,09W                            |
| HNP12I-240L6          | 230Vac / 50Hz           | 24,0              | 0,50              | 12,0W           | 86,71%             | 77,15%                 | 0,07W                            |
| HNP12I-MicroUSBL6     | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 80,40%             | 79,00%                 | 0,06W                            |
| HNP12-050V2           | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 82,12%             | 75,04%                 | 0,06W                            |
| HNP12-090V2           | 230Vac / 50Hz           | 9,0               | 1,33              | 12,0W           | 83,58%             | 74,58%                 | 0,06W                            |
| HNP12-120V2           | 230Vac / 50Hz           | 12,0              | 1,00              | 12,0W           | 84,02%             | 74,66%                 | 0,06W                            |
| HNP12-USBV2           | 230Vac / 50Hz           | 5,0               | 2,40              | 12,0W           | 83,54%             | 76,44%                 | 0,06W                            |
| HNP18-USBV2           | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,17%             | 78,62%                 | 0,06W                            |
| HNP18-CV2             | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,01%             | 78,58%                 | 0,06W                            |
| HNP18-050V2           | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,34%             | 78,75%                 | 0,06W                            |
| HNP18-090V2           | 230Vac / 50Hz           | 9,0               | 2,00              | 18,0W           | 85,51%             | 82,24%                 | 0,06W                            |
| HNP18-120V2           | 230Vac / 50Hz           | 12,0              | 1,50              | 18,0W           | 85,67%             | 82,62%                 | 0,06W                            |
| HNP18-150V2           | 230Vac / 50Hz           | 15,0              | 1,20              | 18,0W           | 85,63%             | 82,74%                 | 0,06W                            |
| HNP18-240V2           | 230Vac / 50Hz           | 24,0              | 0,75              | 18,0W           | 85,92%             | 83,07%                 | 0,07W                            |
| HNP18I-USBV2          | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,26%             | 78,81%                 | 0,06W                            |
| HNP18I-CV2            | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,15%             | 78,69%                 | 0,06W                            |
| HNP18I-050V2          | 230Vac / 50Hz           | 5,0               | 3,00              | 18,0W           | 82,30%             | 78,83%                 | 0,06W                            |
| HNP18I-090V2          | 230Vac / 50Hz           | 9,0               | 2,00              | 18,0W           | 85,43%             | 82,15%                 | 0,06W                            |
| HNP18I-120V2          | 230Vac / 50Hz           | 12,0              | 1,50              | 18,0W           | 85,77%             | 82,59%                 | 0,06W                            |
| HNP18I-150V2          | 230Vac / 50Hz           | 15,0              | 1,20              | 18,0W           | 85,74%             | 82,95%                 | 0,06W                            |
| HNP18I-240V2          | 230Vac / 50Hz           | 24,0              | 0,75              | 18,0W           | 86,08%             | 83,17%                 | 0,07W                            |
| HNP20EU-CPD           | 230Vac / 50Hz           | 5,0               | 3,00              | 15,0W           | 81,39%             | 78,44%                 | 0,10W                            |
|                       | 230Vac / 50Hz           | 9,0               | 2,22              | 19,98W          | 85,47%             | 82,15%                 | 0,10W                            |
|                       | 230Vac / 50Hz           | 12,0              | 1,67              | 20,04W          | 85,48%             | 82,16%                 | 0,10W                            |
| HNP24-090L6           | 230Vac / 50Hz           | 9,0               | 2,50              | 22,5W           | 86,14%             | 84,15%                 | 0,05W                            |
| HNP24-120L6           | 230Vac / 50Hz           | 12,0              | 2,00              | 24,0W           | 86,12%             | 83,58%                 | 0,05W                            |
| HNP24-150L6           | 230Vac / 50Hz           | 15,0              | 1,60              | 24,0W           | 86,74%             | 82,89%                 | 0,09W                            |
| HNP24-240L6           | 230Vac / 50Hz           | 24,0              | 1,00              | 24,0W           | 87,64%             | 84,06%                 | 0,07W                            |
| HNP24I-090L6          | 230Vac / 50Hz           | 9,0               | 2,50              | 22,5W           | 86,14%             | 84,15%                 | 0,05W                            |
| HNP24I-120L6          | 230Vac / 50Hz           | 12,0              | 2,00              | 24,0W           | 86,12%             | 83,58%                 | 0,05W                            |
| HNP24I-150L6          | 230Vac / 50Hz           | 15,0              | 1,60              | 24,0W           | 85,98%             | 83,11%                 | 0,10W                            |
| HNP24I-240L6          | 230Vac / 50Hz           | 24,0              | 1,00              | 24,0W           | 87,64%             | 84,06%                 | 0,07W                            |
| HNP36-4USB            | 230Vac / 50Hz           | 5,0               | 7,20              | 36,0W           | 86,70%             | 85,30%                 | 0,07W                            |
| HNP40-5USB            | 230Vac / 50Hz           | 5,0               | 8,00              | 40,0W           | 84,68%             | 82,61%                 | 0,07W                            |
| HNP42EU-050           | 230Vac / 50Hz           | 5,0               | 5,00              | 25,0W           | 84,28%             | 80,90%                 | 0,10W                            |
| HNP42EU-090           | 230Vac / 50Hz           | 9,0               | 3,00              | 27,0W           | 85,90%             | 81,26%                 | 0,10W                            |
| HNP42EU-120           | 230Vac / 50Hz           | 12,0              | 3,50              | 42,0W           | 88,05%             | 84,41%                 | 0,10W                            |
| HNP42EU-150           | 230Vac / 50Hz           | 15,0              | 2,80              | 42,0W           | 88,47%             | 84,21%                 | 0,10W                            |
| HNP42EU-240           | 230Vac / 50Hz           | 24,0              | 1,75              | 42,0W           | 89,20%             | 84,15%                 | 0,10W                            |
| HNP42I-050            | 230Vac / 50Hz           | 5,0               | 5,00              | 25,0W           | 84,28%             | 80,90%                 | 0,10W                            |
| HNP42I-090            | 230Vac / 50Hz           | 9,0               | 3,00              | 27,0W           | 87,02%             | 84,03%                 | 0,08W                            |
| HNP42I-120            | 230Vac / 50Hz           | 12,0              | 3,50              | 42,0W           | 87,99%             | 85,11%                 | 0,07W                            |
| HNP42I-150            | 230Vac / 50Hz           | 15,0              | 2,80              | 42,0W           | 88,84%             | 86,01%                 | 0,08W                            |
| HNP42I-240            | 230Vac / 50Hz           | 24,0              | 1,75              | 42,0W           | 89,65%             | 86,53%                 | 0,08W                            |
| HNP65F-120            | 230Vac / 50Hz           | 12,0              | 5,00              | 60W             | 88,15%             | 86,23%                 | 0,09W                            |
| HNP65F-150            | 230Vac / 50Hz           | 15,0              | 4,30              | 60W             | 90,10%             | 85,33%                 | 0,02W                            |
| HNP65F-240            | 230Vac / 50Hz           | 24,0              | 2,70              | 60W             | 90,78%             | 87,56%                 | 0,01W                            |
| HNP65-120L6           | 230Vac / 50Hz           | 12,0              | 5,00              | 60,0W           | 89,00%             | 83,00%                 | 0,16W                            |
| HNP65-150L6           | 230Vac / 50Hz           | 15,0              | 4,30              | 64,5W           | 89,50%             | 83,00%                 | 0,16W                            |
| HNP65-240L6           | 230Vac / 50Hz           | 24,0              | 2,72              | 65,2W           | 90,00%             | 83,00%                 | 0,16W                            |
| HNP-LED24EU-120L6     | 230Vac / 50Hz           | 12,0              | 2,00              | 24W             | 86,72%             | 83,12%                 | 0,08W                            |
| HNP-LED24EU-240L6     | 230Vac / 50Hz           | 24,0              | 1,00              | 24W             | 87,28%             | 85,02%                 | 0,08W                            |