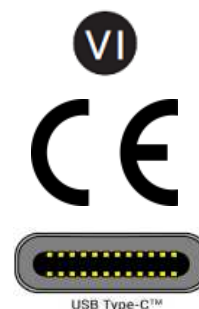


**65 W  
AC/DC  
USB Type-C™  
GaN  
ADAPTER**

# 65 Watt GaN USB Power

**HNP65EU-CPDGaN USB Type-C™ PD 3.0 Adapter**



**HNP-POWER**

## Besondere Merkmale Features

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Steckerschaltnetzteil                | Plug in switching adaptor            |
| Doppelte Isolation                   | Double insulated                     |
| Ultraminiatur Aufbau                 | Ultraminiature design                |
| 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  |
| Schnellladefunktion PD 3.0 & QC 3.0  | Fast Charge with USB PD 3.0 & QC 3.0 |

## Anwendung Application

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

## 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                | 1800mA(rms) @90VAC |
| Netzausfallüberbrückung | Hold-up time, nom.conditions | 20ms @230VAC       |
| Einschaltstromstoß      | Inrush current               | <100A/230VAC       |
| Leerlaufverlust         | No load power consumption    | < 0.21 Watt        |

## Ausgangsdaten Output Specifications

|                  |                   |                                    |
|------------------|-------------------|------------------------------------|
| Leistung         | Power             | 65 Watt                            |
| Wirkungsgrad     | Efficiency        | DOE VI / CoC V5 tier 2, see page 3 |
| Ausregelzeit ±2% | Recovery time ±2% | max. 1 s                           |
| Restwelligkeit   | Ripple and noise  | max. 200mV pp                      |

## Allgemeine Daten General Specifications

|                        |                              |  |
|------------------------|------------------------------|--|
| Betriebstemperatur     | Operating temperature        | -10°C...+25°C  |
| Lagertemperatur        | Storage temperature          | -20°C...+70°C  |
| Luftfeuchte            | Humidity                     | 10...90% RH  |
| Isolation              | Dielectric Withstand (Hipot) | 4000VAC 1min 5mA inp.<->outp.  |
| Leckstrom              | Leakage current              | 0.25mA max.@240 VAC  |
| Überstromschutz        | Overcurrent protection       | Hiccup, auto restart   |
| Überspannungsschutz    | Overvoltage protection       | Hiccup 20V Type-C  |
| Zulassungsbestimmungen | Safety requirements          | CE LVD EN62368-1:2014+A11:2017   |
| EMV                    | EMC                          | EN55032:2015+A11:2020; EN55035:2017+A11:2020<br>EN61000-3-3:2013+A1:2019 |
| RoHS                   | RoHS                         | 2015/863/EU  |

# 65 Watt GaN USB Power

## HNP65EU-CPDGaN USB Type-C™ PD 3.0 Adapter

# 65 W AC/DC USB Type-C™ GaN ADAPTER

### Bestell-Information / Order Information

| Modell         | Ausgang Output | Last/Load Min. | Max.                           |
|----------------|----------------|----------------|--------------------------------|
| HNP65EU-CPDGaN | 5 V            | 0.0 A          | 3.0 A                          |
| oder / or      | 9 V            | 0.0 A          | 3.0 A - Type-C quick charging  |
| oder / or      | 12 V           | 0.0 A          | 3.0 A - Type-C quick charging  |
| oder / or      | 15 V           | 0.0 A          | 3.0 A - Type-C quick charging  |
| oder / or      | 20 V           | 0.0 A          | 3.25 A - Type-C quick charging |

#### Vermerk

Andere Versionen ( Eingangstecker / Farben ) mit Mindestbestellmengen auf Anfrage

#### Note

Other versions ( AC-connectors / Colors ) with minimum order quantities on request

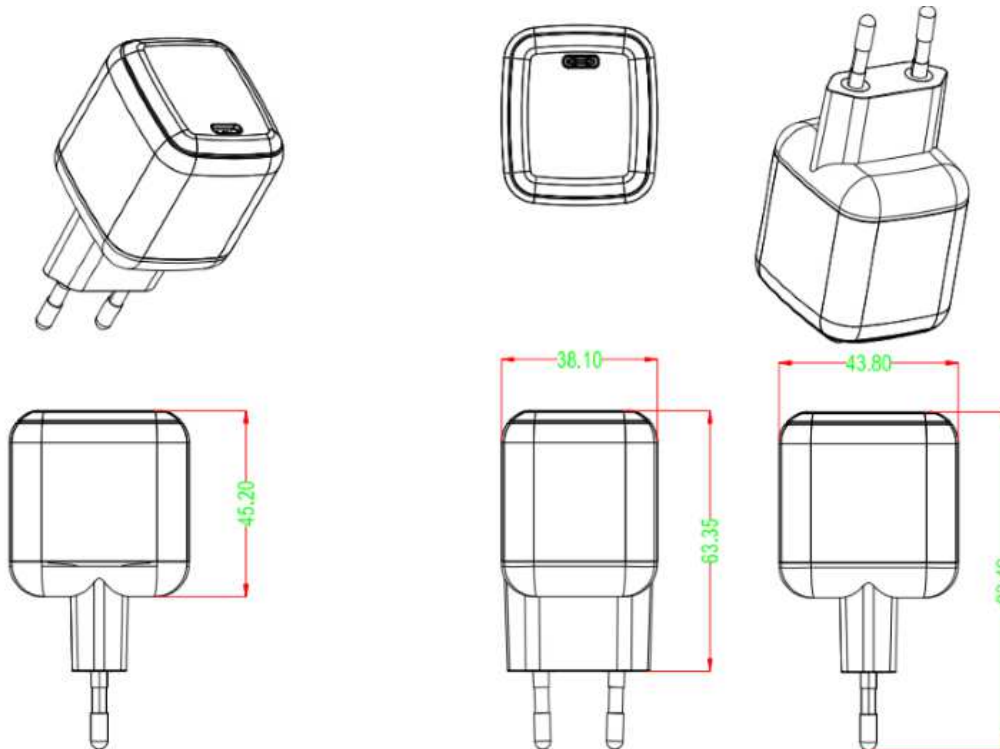
### MEMO :

### Mechanik

### Mechanical

|         |        |                         |
|---------|--------|-------------------------|
| LxBxH   | LxWxH  | 43.8 × 38.1 × 84.4 mm   |
| Gewicht | Weight | 105 g                   |
| Ausgang | Output | 1x USB4 Socket / Type-C |

### 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                            |
| HNP06-060L6         | 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-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                            |
| HNP12-090L6         | 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                            |
| HNP20EU-CPDV2       | 230Vac / 50Hz           | 5.0V              | 3.0A              | 15.0W           | 84,80%             | 79,16%                 | 0.03W                            |
|                     | 230Vac / 50Hz           | 9.0V              | 2.22A             | 19.98W          | 88,57%             | 81,70%                 | 0.03W                            |
|                     | 230Vac / 50Hz           | 12.0V             | 1.67A             | 20.04W          | 88,78%             | 78,82%                 | 0.03W                            |
| 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                            |
| HNP30EU-CPD         | 230Vac / 50Hz           | 5.0V              | 3.0A              | 15.0W           | 85,16%             | 80,20%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 9.0V              | 3.0A              | 27.0W           | 88,15%             | 83,58%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 12.0V             | 2.5A              | 30.0W           | 89,03%             | 82,83%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 15.0V             | 2.0A              | 30.0W           | 89,16%             | 81,45%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 20.0V             | 1.5A              | 30.0W           | 88,68%             | 77,83%                 | 0.07W                            |
| HNP36-4USB          | 230Vac / 50Hz           | 5.0               | 7.20              | 36.0W           | 86,70%             | 85,30%                 | 0.07W                            |
| HNP36I-4USB         | 230Vac / 50Hz           | 5.0               | 7.20              | 36.0W           | 86,70%             | 85,30%                 | 0.07W                            |
| HNP40F-2CPD         | 230Vac / 50Hz           | 5.0V              | 3.0A              | 15.0W           | 85,66%             | 80,00%                 | 0.17W                            |
|                     | 230Vac / 50Hz           | 9.0V              | 2.22A             | 19.98W          | 89,08%             | 82,04%                 | 0.17W                            |
|                     | 230Vac / 50Hz           | 12.0V             | 1.67A             | 20.04W          | 89,55%             | 80,72%                 | 0.17W                            |
| 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                            |
| HNP65EU-CPDGaN      | 230Vac / 50Hz           | 5.0V              | 3.0A              | 15.0W           | 84,30%             | 69,23%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 9.0V              | 3.0A              | 27.0W           | 88,03%             | 76,96%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 12.0V             | 3.0A              | 36.0W           | 88,86%             | 79,13%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 15.0V             | 3.0A              | 45.0W           | 89,57%             | 82,09%                 | 0.07W                            |
|                     | 230Vac / 50Hz           | 20.0V             | 3.25A             | 65.0W           | 90,46%             | 83,75%                 | 0.07W                            |
| 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                            |
| HNP90M-120          | 230Vac / 50Hz           | 12.0V             | 7.0A              | 84.0W           | 88,59%             | 89,98%                 | 0.10W                            |
| HNP90M-190          | 230Vac / 50Hz           | 19.0V             | 4.7A              | 89.3W           | 88,62%             | 87,51%                 | 0.12W                            |
| HNP90M-240          | 230Vac / 50Hz           | 24.0V             | 3.75A             | 90.0W           | 89,58%             | 86,49%                 | 0.13W                            |
| HNP120M-120         | 230Vac / 50Hz           | 12.0V             | 8.0A              | 96.0W           | 88,56%             | 89,18%                 | 0.14W                            |
| HNP120M-240         | 230Vac / 50Hz           | 24.0V             | 5.0A              | 120.0W          | 88,49%             | 72,54%                 | 0.13W                            |
| HNP120M-480         | 230Vac / 50Hz           | 48.0V             | 2.7A              | 129.6W          | 89,64%             | 87,68%                 | 0.11W                            |
| HNP180U-120         | 230Vac / 50Hz           | 12.0V             | 8.5A              | 102.0W          | 88,61%             | 80,16%                 | 0.07W                            |
| HNP180U-240         | 230Vac / 50Hz           | 24.0V             | 7.5A              | 180.0W          | 91,35%             | 85,82%                 | 0.03W                            |
| HNP180U-480         | 230Vac / 50Hz           | 48.0V             | 3.7A              | 177.6W          | 91,02%             | 82,22%                 | 0.02W                            |