



## ■ Main Features

- J Up to 240W output power (voltage dependent)
- J Converts any voltage between 11V and 55V to any voltage between 5V and 55V
- J High efficiency and compact size
- J Constant current or hiccup mode limitation, user settable
- J Digital Power regulation
- J Isolated topology (4.2kVdc)
- J Modbus over USB interface for control and monitoring
- J Multiple integrated protections
- J Parallelable for power or redundancy (integrated ORing circuitry)
- J Suitable for **POWERMASTER** software (available for Windows and Android OS)

## TECHNICAL DATA

Model type	NDW240	
<b>OUTPUT DATA</b>		
Rated voltage	5...55Vdc	
Adj. output voltage range	5...55Vdc	
Continuous current / power	10A / 240W (see charts on Fig.1)	
Overload limit in constant current mode	11A / 264W (see charts on Fig.1)	
Overload limit in hiccup mode (max. 5s)	15A / 360W (see charts on Fig.1)	
Short circuit peak current	18A	
Load regulation	≤ 4% @ 5Vdc, ≤ 2% @ 12Vdc, ≤ 1.5% @ ≥ 24Vdc	
Ripple & Noise <sup>1</sup>	≤ 200mVpp	
Hold up time	≥ 5ms	
Protections	<ul style="list-style-type: none"> <li>▪ Overload and short circuit: Constant current or Hiccup mode (user settable)</li> <li>▪ Thermal protection</li> <li>▪ Output overvoltage</li> </ul>	
Output overvoltage protection	120% of Vout active self tracking	
User interface	<ul style="list-style-type: none"> <li>▪ 7 segment, 2 digit display</li> <li>▪ 3 programming keys</li> <li>▪ <b>DC OK</b> - dry contact (NO, 24Vdc / 1A)</li> <li>▪ <b>Modbus over USB</b> interface</li> </ul>	
Measurement precision	<ul style="list-style-type: none"> <li>▪ Output voltage : range: 5-55V +/- 1% +/- 1 digit</li> <li>▪ Output current : range: 0-16A +/- 3% +/- 1 digit</li> <li>▪ Input voltage : range: 10-52V +/- 3% +/- 1 digit</li> </ul>	
Parallel connection <sup>2</sup>	Possible for power or redundancy with integrated ORING circuitry	
<b>INPUT DATA</b>		
Input DC rated voltage	Nominal: 12...48Vdc Range: 11...55Vdc (UL certified)	
Input DC rated current	12A	
Protections	<ul style="list-style-type: none"> <li>▪ Input Overvoltage &gt; 60V active shutdown</li> <li>▪ Reverse polarity</li> <li>▪ Fuse 20A mini ATO blade (not user replaceable)</li> </ul>	
Recommended external protection (use DC rated devices)	20A Fuse or MCB 20A C curve	
<b>GENERAL DATA</b>		
Efficiency	77% ... 92% (depending on Vin/Vout)	
Dissipated power	< 28W (depending on Vin/Vout)	
Operating temperature <sup>3</sup>	- 40°C...+ 70°C UL certified up to 60°C	
Derating	Depending on Vin and Vout over 60°C See charts on Fig.2	
Storage temperature	- 40°C...+ 80°C	
Humidity	5...95% r.H. non condensing	
Life time expectation	180'542h (20.61 years) at 25°C ambient full load	
MTBF	<ul style="list-style-type: none"> <li>▪ MIL-HDBK-217F &gt; 600'000h at 25°C ambient full load</li> </ul>	
Overvoltage category	<ul style="list-style-type: none"> <li>▪ EN50178 I</li> </ul>	
Pollution degree	<ul style="list-style-type: none"> <li>▪ IEC60664-1 2</li> </ul>	
Protection Class	<ul style="list-style-type: none"> <li>▪ Class I</li> </ul>	
Input / output isolation	4.2kVdc	
Input / ground isolation	2.2kVdc	
Output / ground isolation	0.75kVdc	
Safety Standards	<ul style="list-style-type: none"> <li>▪ UL508 (certified E356563)</li> <li>▪ EN60950 (reference)</li> </ul>	
EMC Emission	<ul style="list-style-type: none"> <li>▪ EN55011 (CISPR11) Class B</li> <li>▪ EN55022 (CISPR22) Class B</li> </ul>	
EMC Immunity	<ul style="list-style-type: none"> <li>▪ EN61000-4-2 Level 3</li> <li>▪ EN61000-4-3 Level 3</li> <li>▪ EN61000-4-4 Level 2</li> <li>▪ EN61000-4-5 Level 1</li> </ul>	
Protection degree	<ul style="list-style-type: none"> <li>▪ EN60529 IP20</li> </ul>	
Vibration sinusoidal	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-6 (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)</li> </ul>	
Shock	<ul style="list-style-type: none"> <li>▪ IEC 60068-2-27 (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total)</li> </ul>	
IN/OUT Connection terminals	2.5mm <sup>2</sup> , screw type pluggable (24...12AWG)	
Communication interface connector	Mini USB-B Type (virtual Com Port)	
Case material	Aluminum	
Weight	0.400kg	
Size (W x H x D)	40.0 x 115.0 x 110.0mm	

1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.

2) Pay attention, set the operating mode to "parallel" when connecting more units in parallel, see Instruction Manual for details.

3) Start-up type tested: - 40°C, possible at nominal voltage with load deration.

**Notes:**

- Technical parameters are typical, measured in laboratory environment at 25°C and 24Vdc input and output voltage, at nominal values, after minimum 5 minutes of operation.

- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.

- Data may change without prior notice in order to improve the product.

Fig.1

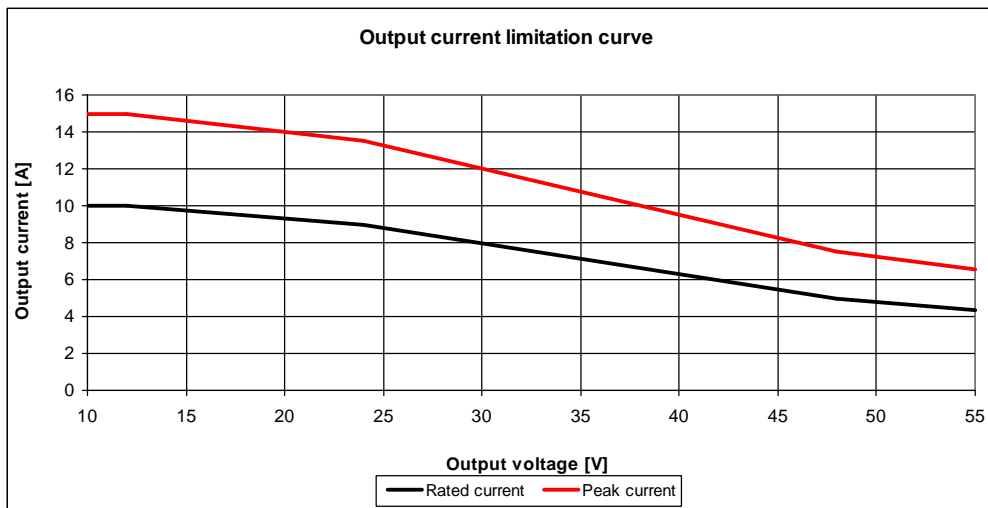
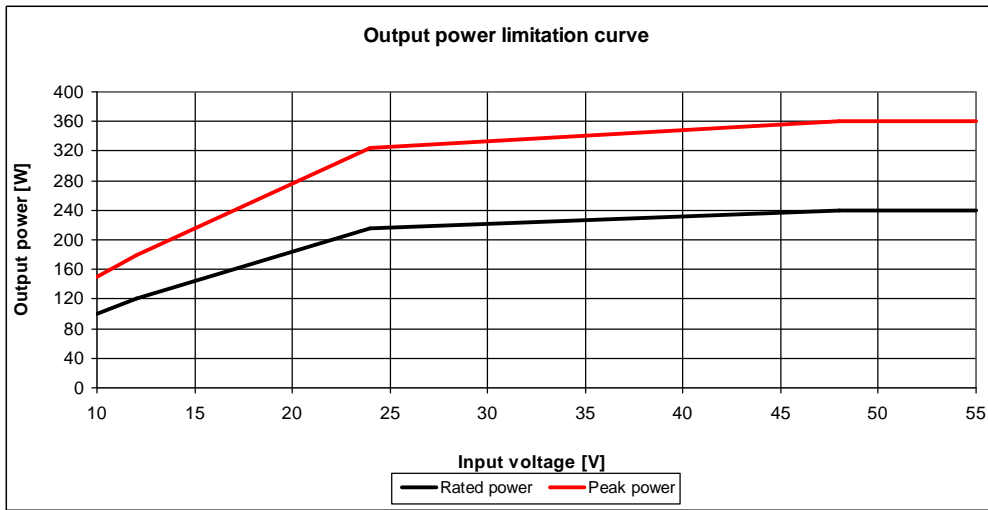
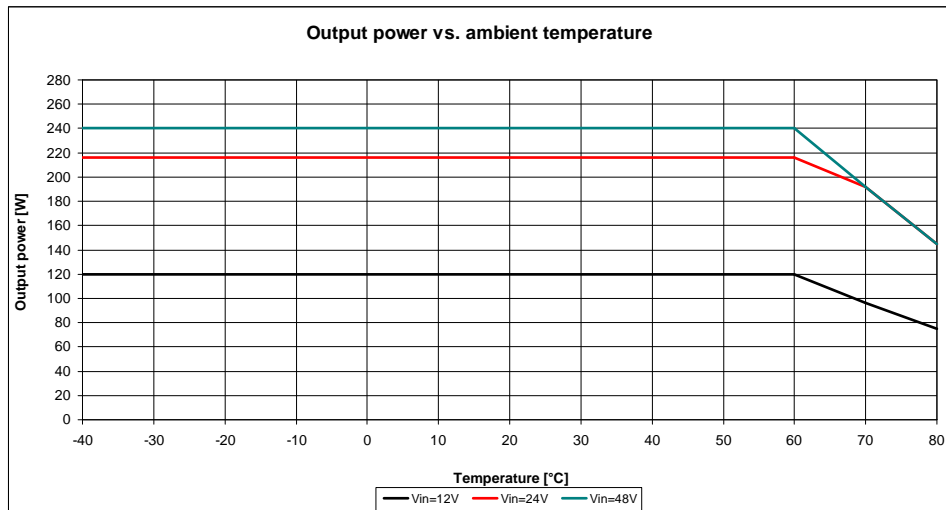
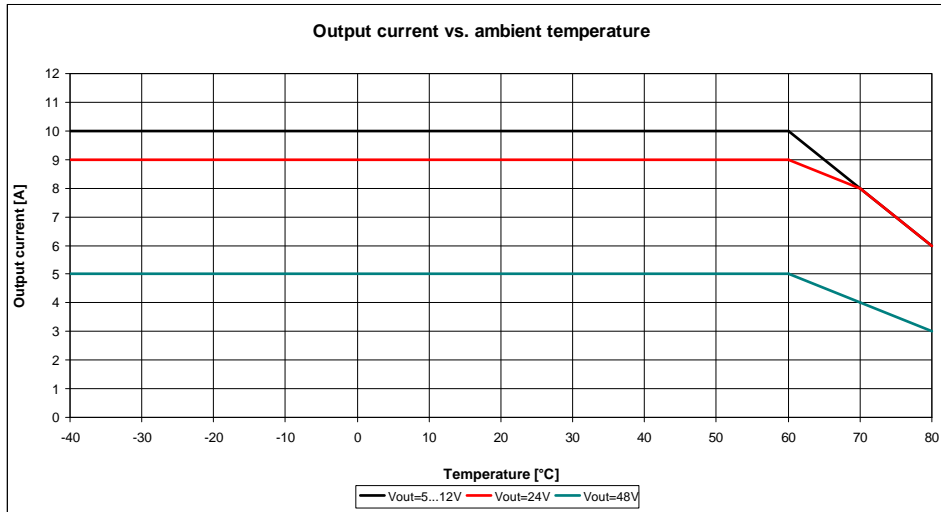
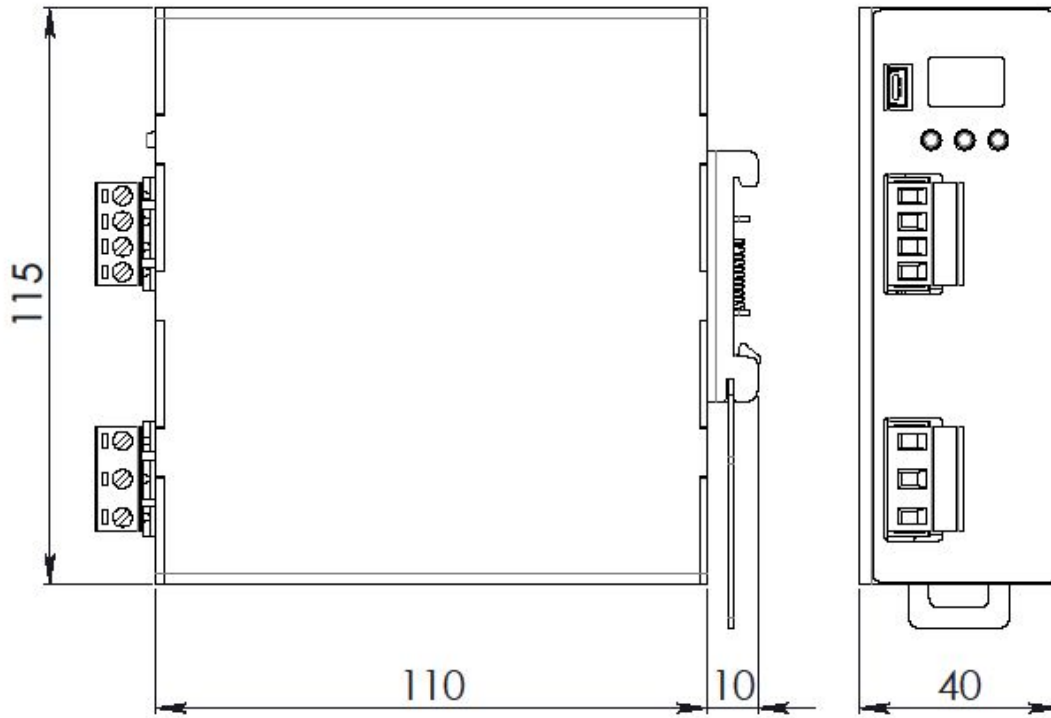


Fig.2



**DIMENSIONS**



**CONNECTION**



**Input Connection:**

- + = Positive DC
- - = Negative DC
- | = Earth ground

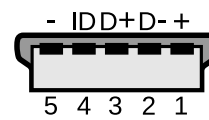
**Output Connection:**

- + = Positive DC
- - = Negative DC

**Signalling:**

- DC OK:** Dry contact
  - NO
  - COM

**Mini USB-B Type**



- 1 = VBUS (+5V)
- 2 = Data (D-)
- 3 = Data (D+)
- 4 = Not connected (ID)
- 5 = GND