

### ■ Main Features

- ⌋ High efficiency and compact size
- ⌋ Provides 3kVAC isolation for DC/DC applications
- ⌋ Provides more than 800W output power
- ⌋ Wide voltage range 10...55Vdc
- ⌋ Output tracks the input voltage as in a standard AC transformer
- ⌋ Easy parallelable for power increase with natural current sharing (external ORing module needed)
- ⌋ Hiccup mode current limitation with auto restart
- ⌋ Up to 70°C operating temperature (with power derating)

## TECHNICAL DATA

| Model type   | NISO-20   |  |
|--|---|--|
| <b>OUTPUT DATA</b>   |   |  |
| Rated voltage  | 10...55Vdc  |  |
| Continuous current   | 20A @ 12...24Vdc<br>17A @ 48Vdc   |  |
| Overload limit   | 21A   |  |
| Short circuit peak current   | 60A   |  |
| Load regulation  | Not regulated see charts on Fig.1   |  |
| Ripple & Noise <sup>1</sup>  | ≤ 80mVpp  |  |
| Output equivalent resistance   | 125mΩ   |  |
| Protections  | <ul style="list-style-type: none"> <li>▪ Overload, short circuit: Hiccup mode</li> <li>▪ Thermal protection</li> <li>▪ Input undervoltage lockout</li> <li>▪ Input overvoltage protection</li> <li>▪ Input transient overvoltage protection</li> </ul>  |  |
| Output overvoltage protection  | ≥ 62Vdc   |  |
| Status Signals   | <ul style="list-style-type: none"> <li>▪ <b>INPUT OK</b> - green LED</li> <li>▪ <b>OUTPUT OK</b> - green LED</li> <li>▪ <b>OVERLOAD</b> - red LED</li> <li>▪ <b>LOAD</b> - bargraph indicating the load current by 4 amber LEDs</li> <li>▪ <b>DC OK</b> - dry contact (NO, 24Vdc / 1A)</li> </ul> |  |
| Parallel connection  | Possible for power or redundancy (with external ORing module)   |  |
| <b>INPUT DATA</b>  |   |  |
| Input DC rated voltage   | Nominal: 12...48Vdc<br>Range: 10...55Vdc  |  |
| Input DC rated current   | 20A   |  |
| Standby power  | < 6W  |  |
| Internal protection fuse   | Fuse 30A ATO blade (not user replaceable)   |  |
| Recommended external protection (use DC rated devices)   | 30A Fuse or MCB 25A C curve   |  |
| <b>GENERAL DATA</b>  |   |  |
| Efficiency   | > 85% ... > 96%<br>Depending on Vout and Vin see chart on Fig.2   |  |
| Dissipated power   | < 35W   |  |
| Operating temperature <sup>3</sup>   | - 40°C...+ 70°C   |  |
| Derating   | See charts on Fig.3   |  |
| Storage temperature  | - 40°C...+ 80°C   |  |
| Humidity   | 5...95% r.H. non condensing   |  |
| Life time expectation  | 123'361h (14.1 years) at 25°C ambient full load   |  |
| Overvoltage category   | ▪ EN50178   | I  |
| Pollution degree   | ▪ IEC60664-1  | 2  |
| Protection Class   | ▪ Class   | II   |
| 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 (reference)</li> <li>▪ EN60950 (reference)</li> </ul>  |  |
| EMC Emission   | <ul style="list-style-type: none"> <li>▪ EN55011 (CISPR11) Class A</li> <li>▪ EN55022 (CISPR22) Class A</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 3</li> <li>▪ EN61000-4-5 Level 3</li> </ul>  |  |
| Protection degree  | ▪ EN60529   | IP20   |
| Vibration sinusoidal   | ▪ IEC 60068-2-6   | (5-17.8Hz: ±1.6mm; 17.8-500Hz: 2g 2hours / axis (X,Y,Z)) |
| Shock  | ▪ IEC 60068-2-27  | (30g 6ms, 20g 11ms; 3 bumps / direction, 18 bumps total) |
| Connection terminals   | 2.5mm <sup>2</sup> , screw type pluggable (24...12AWG)  |  |
| Case material  | Aluminum  |  |
| Weight   | 0.50kg  |  |
| Size (W x H x D)   | 54.0 x 115.0 x 110.0mm  |  |
| <p>1) Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1μF MKP parallel capacitor.</p> <p>2) Start-up type tested: - 40°C, possible at nominal voltage with load deration.</p>  |   |  |
| <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>- Technical parameters are typical, measured in laboratory environment at 25°C and 24Vdc, at nominal values, after minimum 5 minutes of operation.</li> <li>- Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.</li> <li>- Data may change without prior notice in order to improve the product.</li> </ul> |   |  |

Fig.1

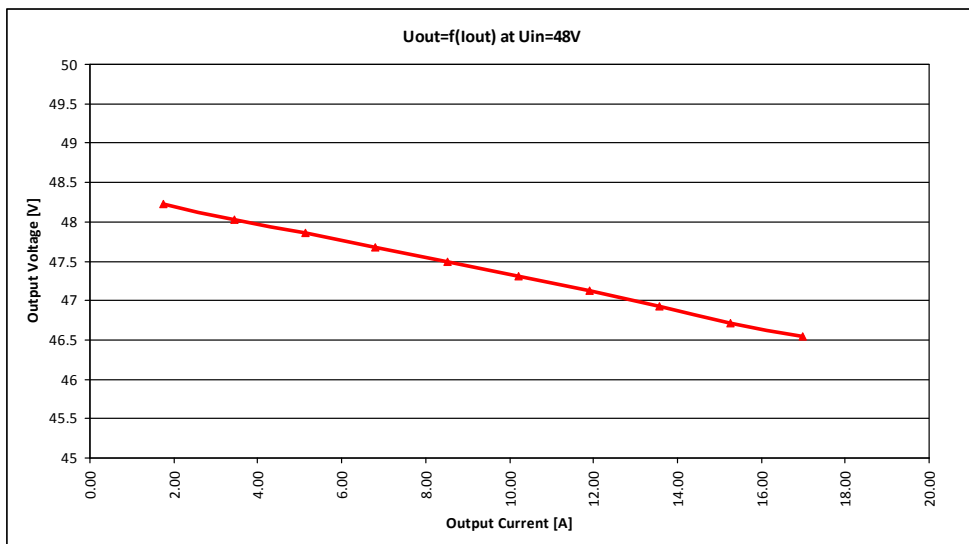
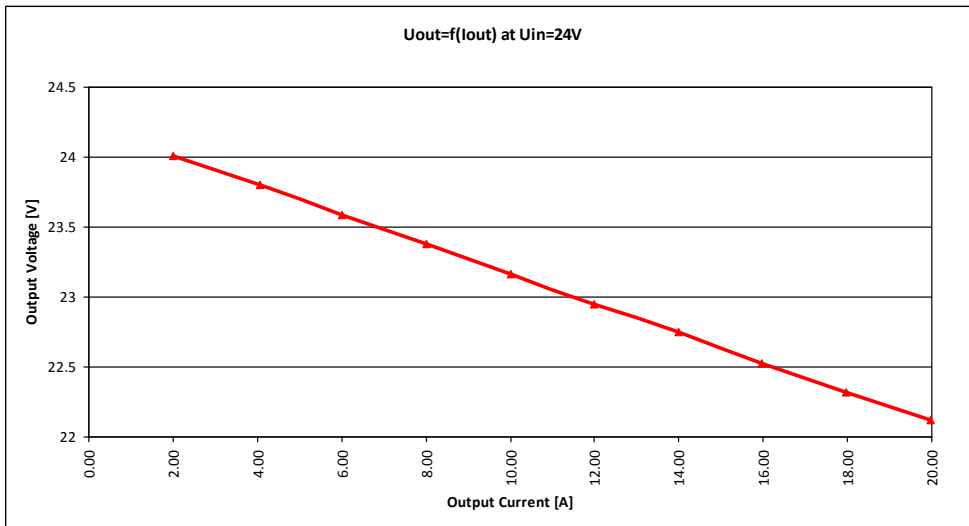
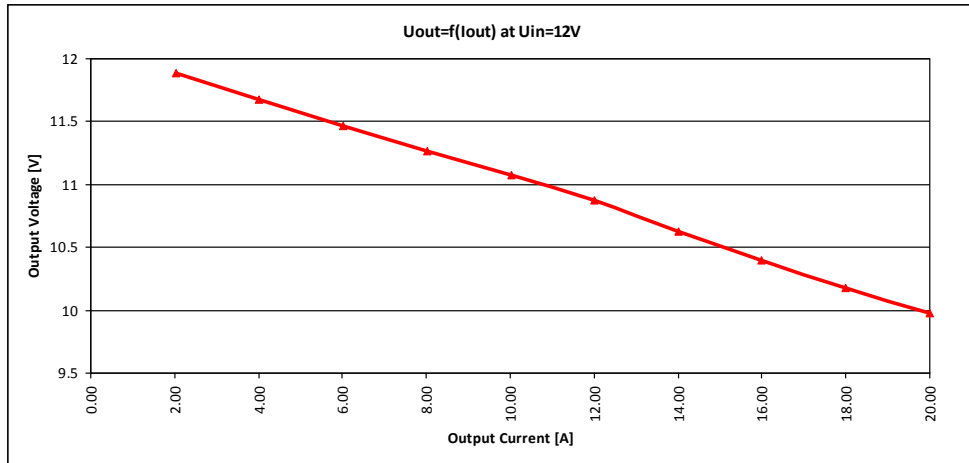


Fig.2

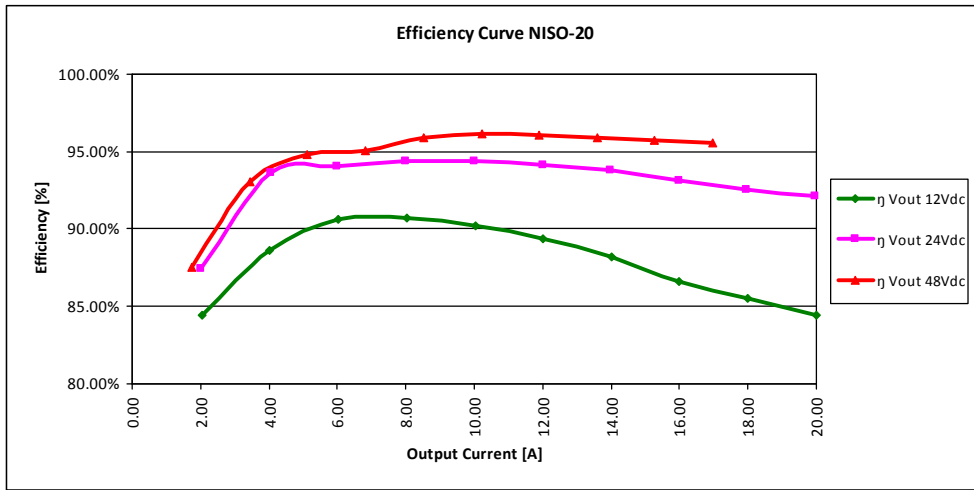
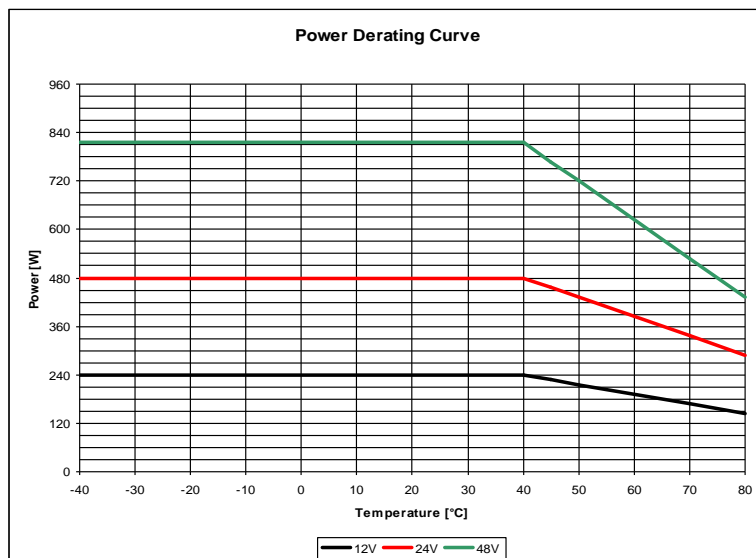
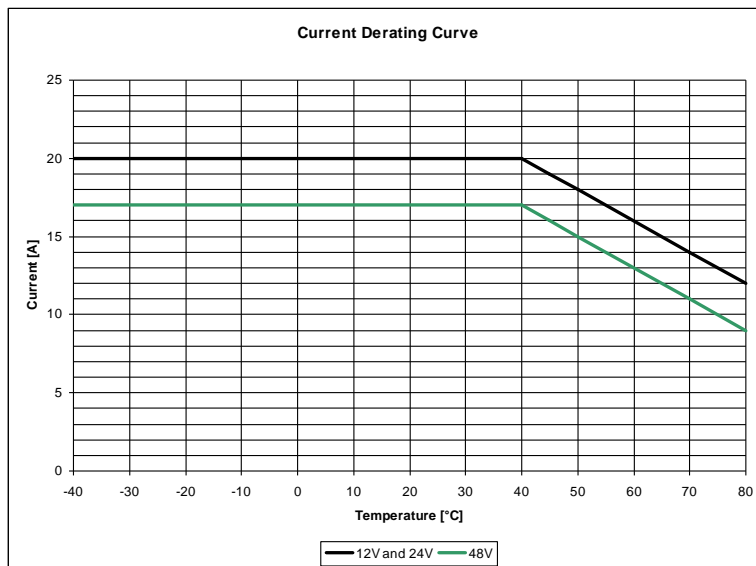
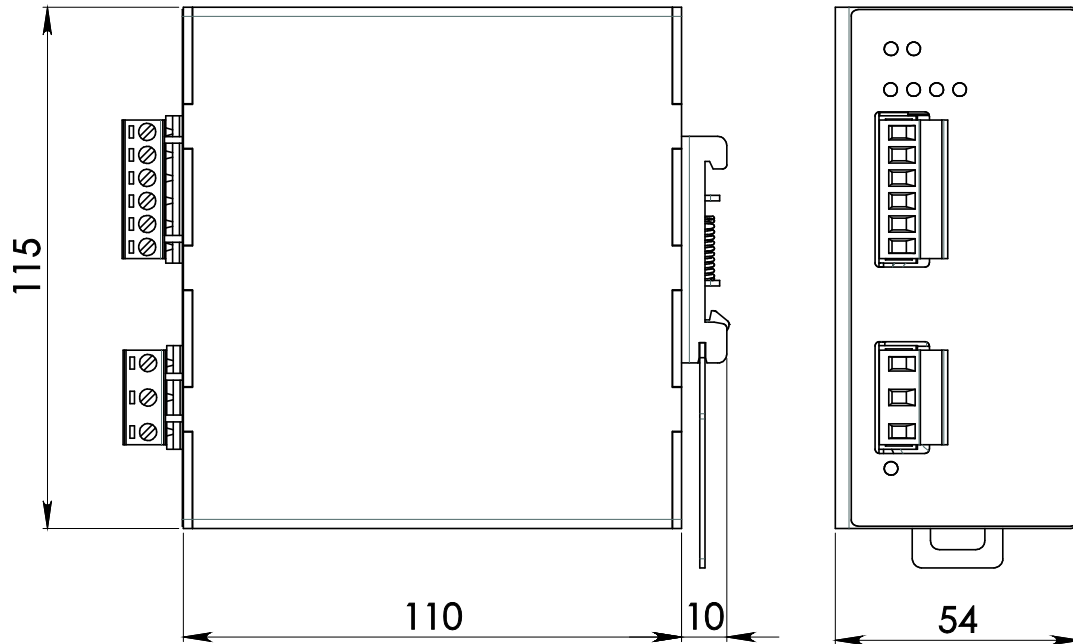


Fig.3



**DIMENSIONS**



**CONNECTION**



**Input Connection:**

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

**Output Connection:**

- + = Positive DC
- - = Negative DC

**Signalling:**

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