

# RISH FLEX 28012A



**Input: 115 - 230 Vac**  
**Output: 12 Vdc 60 °C**  
**Efficiency up to 91%**  
**Strong overload without switch-off, up to 50%**  
**Flexible Power continuity : from 240 to 336 W**  
**“Power Good” Relay**  
**Three mode of output protections:**

- 1) Hiccup mode
- 2) Continuous Out Mode
- 3) Manual Reset

**DIN Rail Mountable**  
**Extremely small size**  
**3 Year warranty**

## Input Data

Nominal Input Voltage (2 x Vac)	
Manual select Input from 115 to 230	<b>115 – 230 Vac</b>
Input Voltage range (Vac)	<b>90 – 135 (115)</b> <b>180 – 264 (230)</b>
Inrush Current (Vn and In Load) I <sup>2</sup> t	<b>≤ 16 A ≤ 5 msec.</b>
Frequency	<b>47 – 63 Hz ±6%</b>
Input Current (115 – 230 Vac)	<b>3.3 – 2.2 A</b>
Internal Fuse	<b>T 6.3 A</b>
External Fuse (recommended)	<b>16 A (MCB curve B)</b>

## Output Data

Output Voltage (Vn) Factory Setting ±3%	<b>12 Vdc</b>
Adjustment range (Vadj)	<b>10 – 14 Vdc</b>
Start up with Strong Load (capacitive load)	<b>≤50.000µF</b>
Turn-On delay after applying mains voltage	<b>1 sec. (max)</b>
Rated Current at 12 V 40°C (In)	<b>16 A (permanent)</b>
Rated Current at 12 V 50°C (In)	<b>15 A (permanent)</b>
Rated Current at 12 V 60°C (In)	<b>14 A (permanent)</b>
Power Boost Current at 12 Vdc 60°C(In)	<b>In 60 °C x 1.5 ≥ 3 min.</b>
Current max. Overload ≡ 4Vdc (permanent)	<b>Imax=In60 °Cx(1.8 -2.2)</b>
Current Short Circuit Icc	
Max 2 sec.: Hiccup mode	<b>30 A</b>
Permanent : Continuous Mode	
Hold-up Time ( min. Vac) 12Vdc 5A	<b>Typ. 20 msec</b>
Residual Ripple	<b>≤ 80 mV<sub>pp</sub></b>
Efficiency	<b>≥ 91 %</b>
Over temperature Protection	<b>Yes. Shut-down output and automatic restart.</b>
Short-circuit protection	<b>1° Hiccup Mode</b> <b>2° Continuous mode</b> <b>3° Manual Reset</b>
Dissipation power load max (W)	<b>28</b>
Over Load protection	<b>Yes</b>
Over Voltage Output protection	<b>Yes (typ. 35 Vdc)</b>
Parallel connection	<b>Yes. “Easy Parallel”</b>
Power Good Contact rating (EN60947.4.1):	
Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A	<b>Resistive load</b>
Min. 1mA at 5 Vdc	<b>Min permissive load</b>

## Climatic Data

Ambient Temperature operation	<b>-25 up to +70 °C</b> <b>(&gt;60°derating 2.5% °C)</b>
Ambient Temperature Storage	<b>-40 up to +85 °C</b>
Humidity at 25 °C, no condensation	<b>95 % to 25 °C</b>

## General Data

Isolation Voltage (In / Out)	<b>3000 Vac</b>
Isolation Voltage (In / PE)	<b>1605 Vac</b>
Isolation Voltage (Out / PE)	<b>500 Vac</b>
Protection Class (EN/IEC 60529)	<b>IP 20</b>
Reliability: MTBF IEC 61709	<b>&gt; 500.000 h</b>
Pollution Degree Environment	<b>2</b>
Connection Terminal Blocks Screw Type	<b>2,5 mm (24 – 14 AWG)</b>
Protection class	<b>I with PE connected</b>
Dimension (w-h-d)	<b>72x115x135 mm</b>
Weight	<b>0.65 kg approx.</b>

## Norms and certifications

The CE mark in According to EMC 2004/108/EC and Low voltage directive 2006/95/EC.

## Electrical Safety

In compliance to UL508.

According to IEC/EN 60950 (VDE 0805) e EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input / Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

## EMC Immunity

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

## EMC Emission:

EN61000-6-4,

## Standards Conformity

EN 60204-1 Safety of Electrical Equipment Machines

