

# FLEX28012A



**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 Years warranty**

## Input Data

Nominal Input Voltage (2 x Vac)	115 – 230 Vac
Manual select Input from 115 to 230	
Input Voltage range: (115)	90-135 Vac
(230)	180-264 Vac
Inrush Current (Vn and In 40°C)	≤ 16 A ≤ 5 msec.
Frequency	47 – 63 Hz
Input Current (115 – 230 Vac, In 40°C)	3.3 – 2.2 A
Internal Fuse	T 6.3 A
External Fuse (recommended)	16 A (MCB curve B)

## Output Data

Output Voltage (Vn) Factory Setting ±3%	12 Vdc
Adjustment range (Vadj)	10 – 14 Vdc
Start up with Strong Load (capacitive load)	≤50.000µF
Turn-On delay after applying mains voltage	1 sec. (max)
Rated Current at 12 V 40°C (In)	20 A
Rated Current at 12 V 50°C (In)	18 A
Rated Current at 12 V 60°C (In)	16 A
Power Boost Current at 14 Vdc 60°C(In)	In 60 °C x 1.5 ≥ 3 min.
Current max. Overload ≅ 4Vdc (permanent)	I <sub>max</sub> =In60 °C x (1.8 -2.2)
Maximum Short Circuit Current I <sub>cc</sub>	
Hiccup mode: Max 2 sec. Continuous Mode	30 A
Hold-up Time ( min. Vac) Vn In 40°C	Typ. 20 msec
Residual Ripple	≤ 80 mV <sub>pp</sub>
Efficiency	≥ 91 %
Over temperature Protection	Yes. Shut-down output and automatic restart.
Short-circuit protection	1° Hiccup Mode 2° Continuous mode 3° Restart After Main
Max Dissipation Power at Vn In 40°C	28 W
Over Load protection	Yes
Over Voltage Output protection	Yes (typ. 35 Vdc)
Parallel connection	Yes. “Easy Parallel”
Power Good Contact rating (EN60947.4.1): Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1A Min.1mA at 5 Vdc	Resistive load Min permissive load

## Climatic Data

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

## General Data

Isolation Voltage (In / Out)	3000 Vac
Isolation Voltage (In / PE)	1605 Vac
Isolation Voltage (Out / PE)	500 Vac
Protection Class (EN/IEC 60529)	IP 20
Reliability: MTBF IEC 61709	> 500.000 h
Pollution Degree Environment	2
Connection Terminal Blocks Screw Type	2,5 mm (24 – 14 AWG)
Protection class	I with PE connected
Dimension (w-h-d)	72x115x135 mm
Weight	0.8 kg approx.

## Norms and certifications

The CE mark in According to EMC 2014/30/UE and Low voltage directive 2014/35/UE.

## 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

