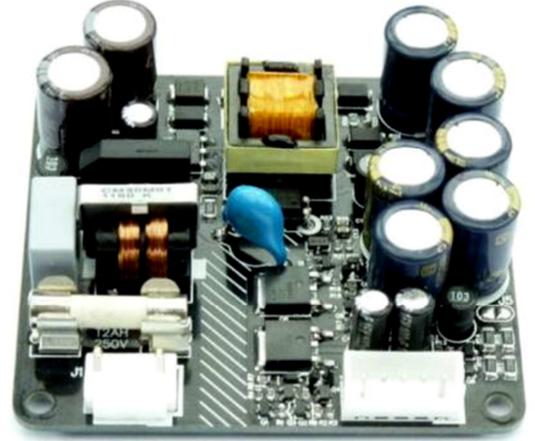


Tripple output 10 Watt universal mains SMPS

1 Features

- Very low EMI signature, Low AC leakage current, Class II Construction
- Universal Mains Input (100V–240VAC/50-60Hz)
- Small dimensions (65 x 60 x 20mm)
- Triple output voltages
- Low standby power consumption
- Low noise output voltages
- Analogue output voltages can be remotely ON/OFF controlled by the connected application
- Standard available in a variety of output configurations. On demand nearly any configuration can be build.



2 Description

These switch mode power supplies are specially designed to be used in mixed signal applications such as process controllers, DSP and audio applications requiring a single low voltage output for powering the digital parts of the circuit and both a positive and negative output rail for powering the analogue circuitry. These last outputs are remotely ON/OFF controllable enabling the user to power off the analogue circuitry and achieving a low power standby state compliant to the stringent 0.5 Watt requirement in effect starting 2013. Special attention has been paid right from the start of the design to guaranty the lowest possible EMI signature, the lowest leakage current, the best noise filtering of the output voltages and highest reliability.

3 Standard output configurations

Model	+VDIG	+VAUX	-VAUX	Notes
SMPS10A-1	+5V	+12V	-12V	
SMPS10A-2	+5V	+15V	-15V	
SMPS10A-3	+7V	+18V	-18V	

4 Specification

Specification	Value	Notes
GENERAL		
Operating temperature range	0 to +50°C	Full load over entire voltage range
Isolation	3000VAC	Class II construction
Switching Frequency	100kHz	
INPUT		
Input Voltage range	100 – 240VAC	
Input Frequency	50 – 60Hz	
Input Current	0.1A @ 230VAC	
Inrush Current	< 40A	Over entire voltage range
Input Protection	Internal T2AH/250VAC fuse	
ON/OFF Control Input NC state	Inactive	See Application Information for more details
ON/OFF Control Input Polarity	Active High	See Application Information for more details
ON/OFF Control High Voltage	$2V < V_{ON/OFF} < 10V$	
No-Load Standby Power	<150mW	Over entire voltage range
Max. Current +VDIG for 0.5W	30mA	See Application Information for more details

OUTPUT		
Max. Total Output power	10W	Continuous over entire input voltage and temp. range
Max. Output Ripple Voltage	50mV	Any output over entire load range; 1Hz – 20MHz
Max. Current Output 1 (VDIG)	1.5A	Continuous over entire input voltage and temp. range
Max. Current Output 2 (+VAUX)	0.5A	Continuous over entire input voltage and temp. range
Max. Current Output 3 (-VAUX)	0.5A	Continuous over entire input voltage and temp. range
OUTPUT SMPS10A-1		
Output Voltage 1 (VDIG)	5V +/- 5%	
Output Voltage 2 (+VAUX)	12V +/- 5%	
Output Voltage 3 (-VAUX)	-12V +/- 5%	
OUTPUT SMPS10A-2		
Output Voltage 1 (VDIG)	5V +/- 5%	
Output Voltage 2 (+VAUX)	15V +/- 5%	
Output Voltage 3 (-VAUX)	-15V +/- 5%	
OUTPUT SMPS10A-3		
Output Voltage 1 (VDIG)	7V +/- 5%	
Output Voltage 2 (+VAUX)	18V +/- 5%	
Output Voltage 3 (-VAUX)	-18V +/- 5%	

5 Safety Warning

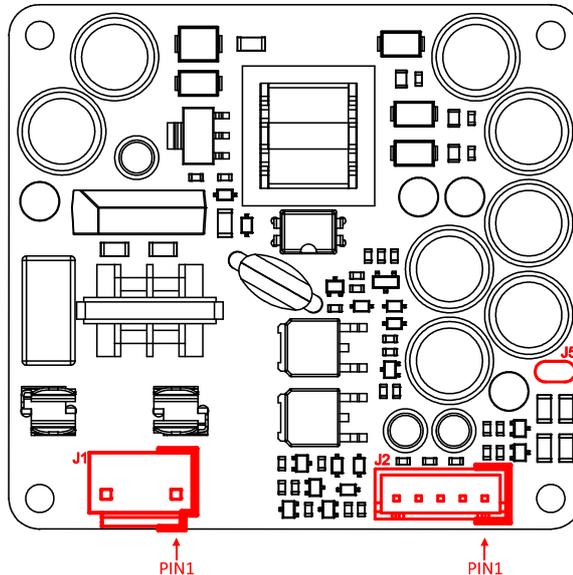


These units operate directly from the mains and carry hazardous voltages at accessible parts. It is mandatory to make sure none of these parts are exposed to inadvertent touch. Observe extreme care during installation and pay attention to never touch ANY parts of the unit while it is connected to the mains. Wait at least 1 minute after disconnecting the mains cord before touching or handling the unit.

6 Connector Pinout

J1 – MAINS INPUT	
PIN	NAME
1	AC 1
2	AC 2

J2 – OUTPUT	
PIN	NAME
1	ON/OFF Control
2	+VAUX
3	+VDIG
4	GND
5	-VAUX



7 Application Information

7.1 Maximum Total Output Power

This SMPS is capable of delivering 10W continuously over the entire specified input voltage and operational temperature range. The total output power is the total sum of all 3 voltages times their load current. How these loads are spread over the outputs does not matter. Please do note when output 1 (+VDIG) is not loaded in your application it is advisable to solder short the J5 connection in order to keep all outputs in regulation.

7.2 ON/OFF Control Input

Output 1 (+VDIG) is always present from the moment the SMPS is connected to the mains. In the default state, with the ON/OFF control line (J2-1) unconnected or tied to ground, Outputs 2 and 3 (+VAUX and -VAUX) are inactive (0V). In this state the module is in its low power standby mode. Featuring a no-load standby power of <math><150\text{mW}</math> and capable of delivering 30mA on +VDIG and still comply to the 0.5W standby regulation. To activate Outputs 2 and 3 (+VAUX and -VAUX) the ON/OFF control line needs to be pulled high to a voltage of at least 2V. The impedance of this line is 10kOhm so it can be directly controlled by any microcontroller or low power circuit. Should your specific application not require a standby mode and you prefer to have Outputs 2 and 3 always activated you can simply connect the ON/OFF control (J2-1) line to the +VDIG output (J2-3)

8 Mechanical Dimensions

