

Click to
ORDER
samples

AMES60-GY



Enclosed

AMES60-GY series is a AC/DC security power supply, allowing the universal input range between 90VAC and 264VAC.

In addition to the primary output, there is a charger output, with a smaller rated current, providing the backup application the security access systems normally need. This series is designed with thorough alarm features, including AC ok and battery low signaling; moreover, the relay contact is provided to facilitate users, system designs.

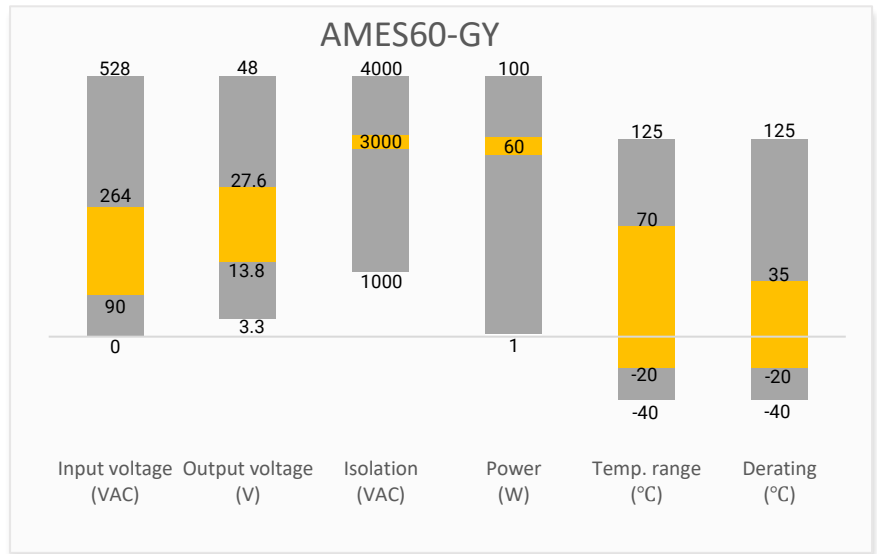
This series of power supply is widely used in emergency lighting system security monitoring and alarm system, UPS system.

Features



- Universal Input: 90 - 264VAC / 127 – 370VDC
- Operating Temp: -20 °C to +70 °C
- High isolation voltage: Up to 3000VAC
- Output short circuit, over-current, over-voltage protection
- Regulated Output
- Battery low protections
- AC OK function

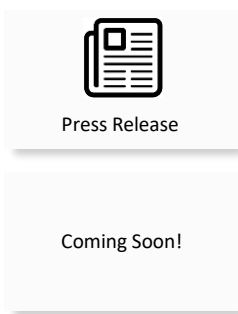
Summary



Training



Product Training Video
(click to open)



Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

Dual Output

Model	Input Voltage (VAC/VDC/Hz)	Output Voltage CH1/CH2 (V)	Output Current CH1/CH2 (A)	Output Voltage Adjustable Range CH1 (V)	Rated Power (W)	Maximum capacitive load (μF)	AVG.Efficiency @230VAC Typ. (%)
AMES60-1414DGY	90-264/127-370/47-63	13.8/13.8	2.8/1.5	12-15	59.34	1600	84
AMES60-2828DGY	90-264/127-370/47-63	27.6/27.6	1.4/0.75	24-29	59.34	1600	84

Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC	1.6		A
	230VAC	1		A
Inrush current	cold start, 115VAC	45		A
	cold start, 230VAC	90		A
Leakage current	240VAC		1	mA

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Line regulation		±0.5		%
Load regulation		±0.5		%
Ripple & Noise*	13.8V output	120		mV p-p
	27.6V output	240		mV p-p
Hold up time	115VAC at full load	10		ms
	230VAC at full load	50		ms
Rise time	115VAC at full load	50		ms
	230VAC at full load	50		ms
Start-up time	115VAC at full load	1600		ms
	230VAC at full load	800		ms

* Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F parallel capacitor.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage			3000	VAC
Tested Input to GND voltage			2000	VAC
Tested Output to GND voltage			500	VAC
Resistance (I/O, I/O to GND)	500VDC		100	MΩ

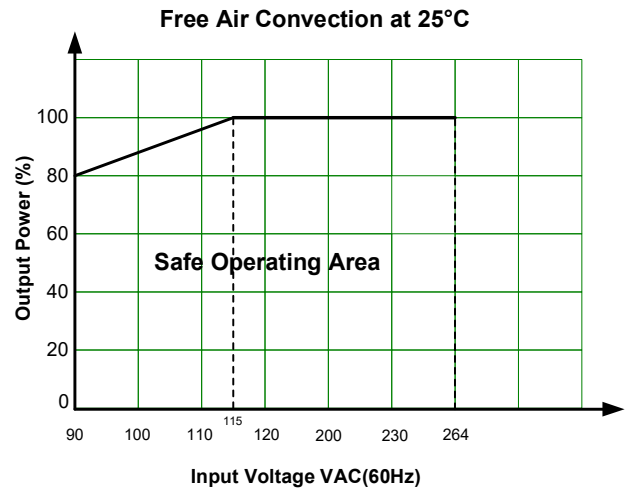
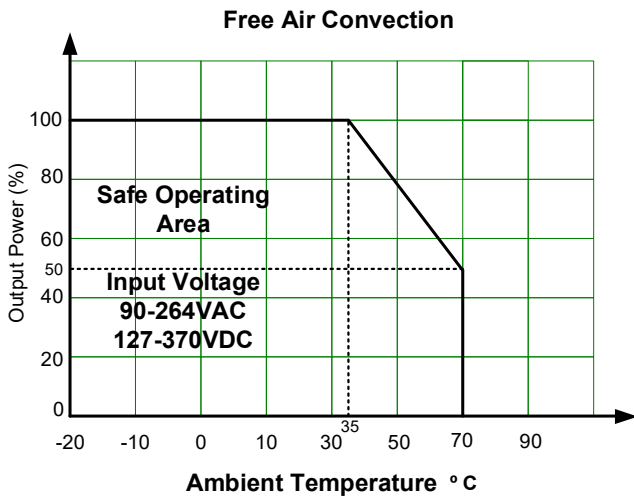
Function Specifications

Parameters	Conditions	Typical	Maximum	Units
AC OK	TTL open collector output ON: AC OK; OFF: AC Fail; Ice: max. 30mA @ 50VDC			
BATTERY LOW	TTL open collector output, ON: Battery Low; OFF: Battery OK; Ice: max. 30mA @ 50VDC			
	13.8V output model, Battery low voltage	<11		V
	27.6V output model, Battery low voltage	<22		V

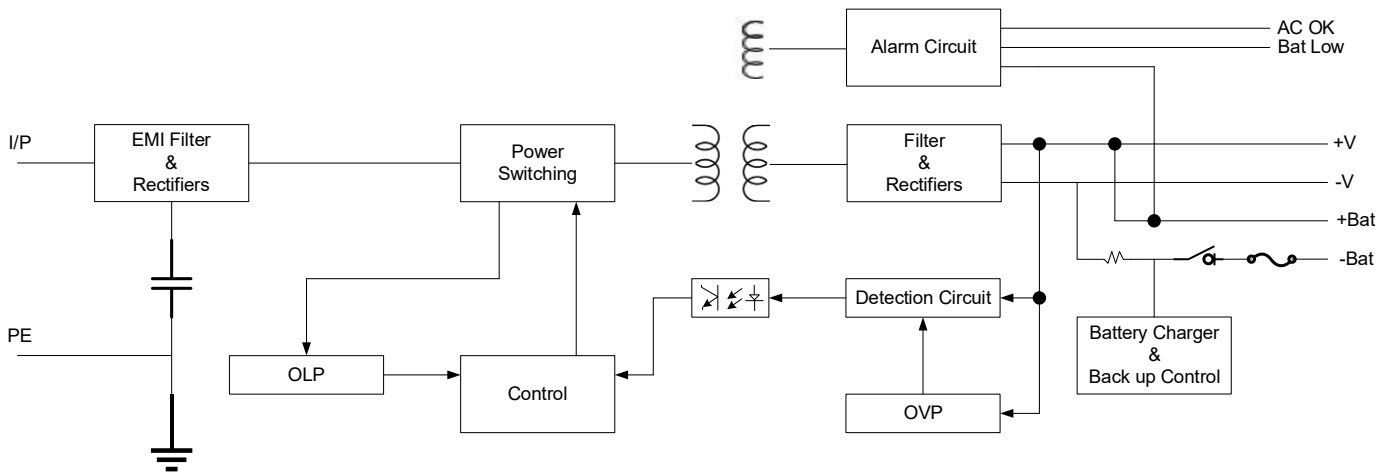
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Over current protection	Hiccup, Auto recovery	≥ 105	150	% of Iout
Short circuit protection	Hiccup, Continuous, Auto recovery			
Over voltage protection	13.8V output model, CH1, Hiccup, Auto recovery	14.49~18.63		VDC
	27.6V output model, CH1, Hiccup, Auto recovery	28.98~37.26		VDC
Battery cut off	13.8V output model	10±0.5		VDC
	27.6V output model	21±1		VDC
Operating temperature	See derating graph	-20	70	°C
Storage temperature		-20	85	°C
Power derating	35 °C to 70 °C	1.43		% / °C
	90VAC ~ 115VAC	0.8		% / VAC
Temperature coefficient	0~50°C on CH1 output	±0.03		% / °C
Cooling	Free air convection			
Humidity	Non-condensing, Storage	≥ 10	95	% RH
	Non-condensing, Operating	≥ 20	90	% RH
Vibration	10~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y,Z axes			
Case material	Metal			
Weight		200		g
Dimensions (L x W x H)		4.07 x 2.44 x 1.46inch (103.5 x 62.0 x 37mm)		
MTBF	> 580 000 hrs (MIL-HDBK -217F, t=+25°C)			
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, 230VAC input voltage and at rated output load unless otherwise specified.				

Safety Specifications		
Parameters		
Standards	Information technology Equipment	Designed to meet UL62368-1, TUV BS EN/EN62368-1
	EMC - Conducted and radiated emission	BS EN/EN55032 (CISPR32) Class B
	Harmonic current	EN61000-3-2
	Electrostatic Discharge Immunity	EN61000-4-2
	RF, Electromagnetic Field Immunity	EN61000-4-3
	Electrical Fast Transient/Burst Immunity	EN61000-4-4
	Surge Immunity	EN61000-4-5
	RF, Conducted Disturbance Immunity	EN61000-4-6
	Power-frequency Magnetic Field	EN61000-4-8
	Voltage dips, Short Interruptions Immunity	EN61000-4-11

Derating



Block Diagram

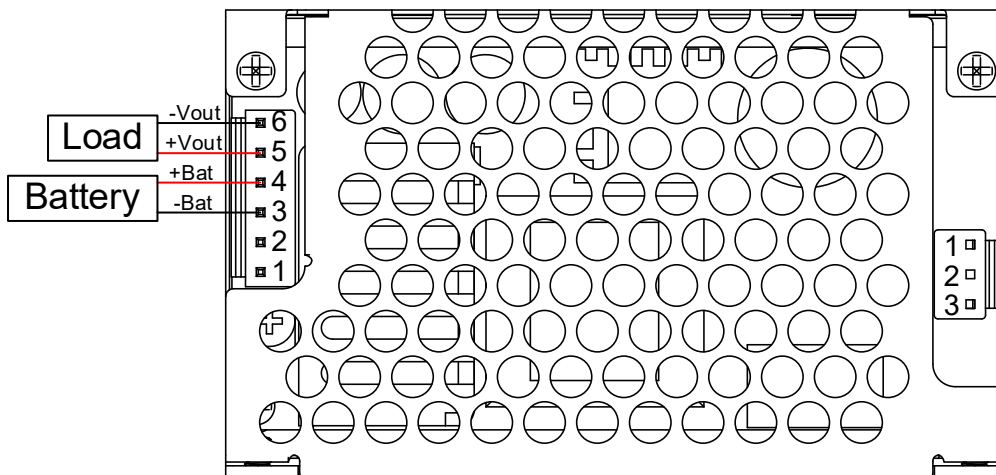


Recommended application

1. Backup connection for AC interruption

The power supply charges the battery and provides energy to the load at the same time when the AC main is OK.

The battery starts to supply power to the load when the AC mains fail.



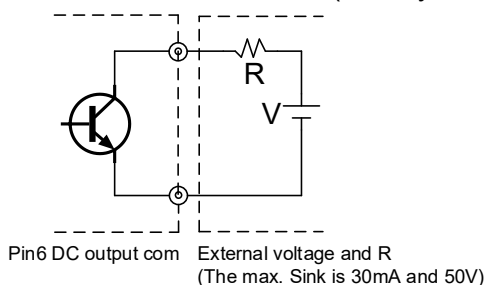
2. Alarm Signal for AC OK and Battery Low

a. Alarm Signal is sent out through " AC OK " & " Battery Low " pins.

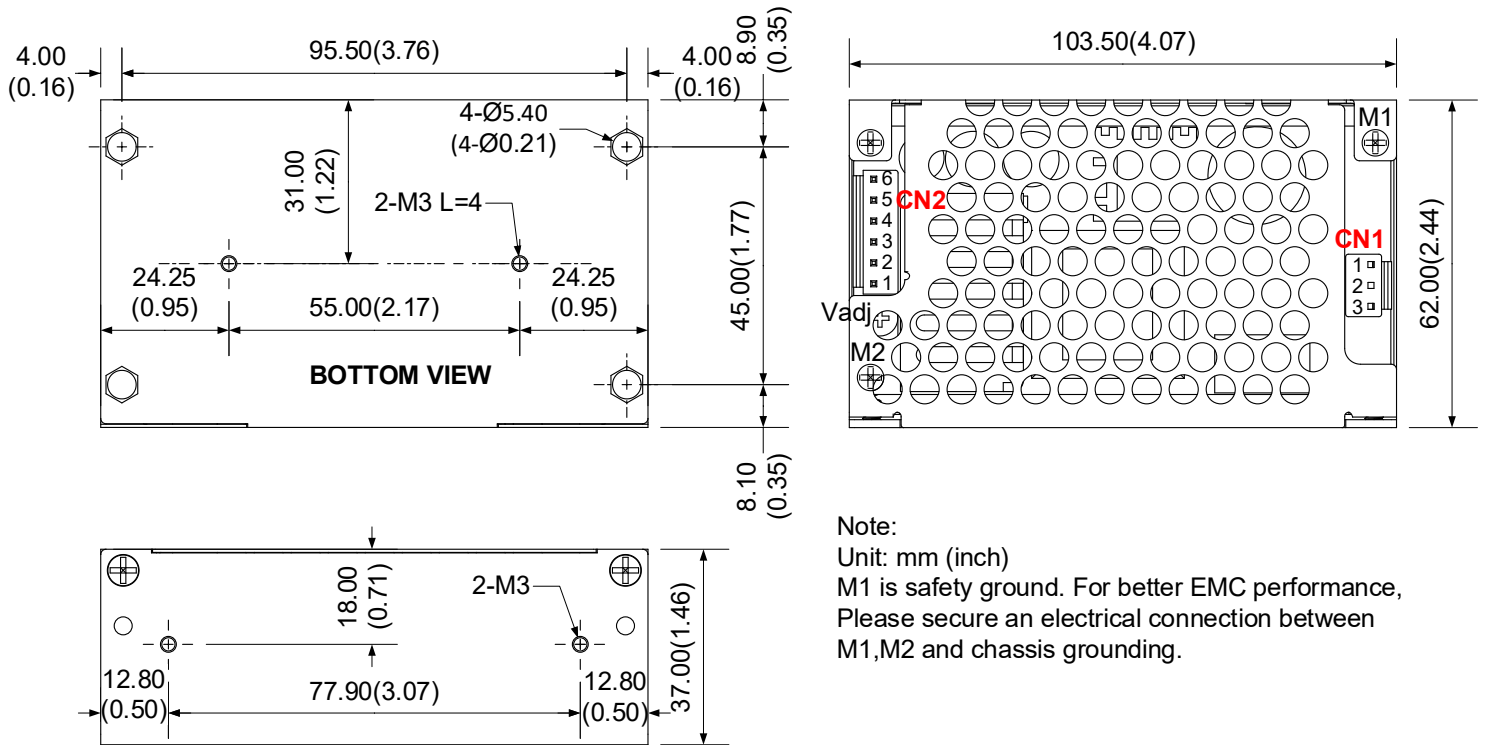
b. An external voltage source is required for this function. The maximum applied voltage is 50V and the maximum sink current is 30mA.

Function	Description	Output of alarm
AC OK	The signal is "Low" when the power supply turns ON	Low (0.3V max. at 30mA)
	The signal turns to be "High" when the power supply turns OFF	High or open (External applied voltage 50V max.)
Battery Low	The signal is "Low" when battery voltage under BATTERY LOW defines voltage	Low (0.3V max. at 30mA)
	The signal is "High" when battery voltage above BATTERY LOW defines voltage	High or open (External applied voltage 50V max.)

Internal Circuit of AC OK (Battery low)



Dimensions



Note:
Unit: mm (inch)
M1 is safety ground. For better EMC performance, Please secure an electrical connection between M1, M2 and chassis grounding.

AC input Connector (CN1): JST B3P-VH or equivalent

Pin No	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

DC output Connector (CN2): JST B6P-VH or equivalent

Pin No	Assignment	Pin No	Assignment	Mating Housing	Terminal
1	Bat Low	4	+Bat	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	AC OK	5	+Vout		
3	-Bat	6	-Vout		

* -Vout and -Bat cannot be shorted

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.