

## Ruggedized 1kW (1.75 kW surge) 120VAC Uninterruptible Power Supply



**Figure 1 - The rugged rolling rackmount enclosure which will house the uninterruptible power supply**

### **Description**

The AP15003 is designed to accept 120 VAC  $\pm 5\%$  at 60 Hz and output a protected pure-sine 120 VAC at 60 Hz which is compatible with typical US devices. The unit is an off-line uninterruptible power supply, which will automatically detect a loss in input power and use internal 672 Wh lead acid (921 Wh with optional LiFePO4 batteries) batteries to support the load until the input power is restored. The intended application is for use in a remotely deployed location where the locally available power is unreliable and the user intends to use standard 120 VAC devices. The system includes a high surge capable AC inverter which especially well suited to handle the high current spikes from compressor starting on refrigeration units, with a peak surge current capability of 21 A<sub>rms</sub>.

The enclosure is a roto-molded mounted 19 inch case with an included telescoping handle and side wheels. When not in use the enclosure is sealed to protect from environmental damage during transport. The front lid must be removed when operating the system. When in use the system is not sealed, so it should be operated in a protected environment, and cannot be exposed to direct water. The internal electronics are conformal coated which offers an additional level of protection from environmental hazards.

The power input connection type can be customized based on the user's needs, including a common local power inlet connector or a standard IEC inlet connector with a provided power cable. The output connections are two 120VAC 5-20R outlets. The control is simply ON/OFF,

with additional status indicators. The unit is actively cooled with integrated fans, and must be operated with the front panel open.

The unit can be upgraded from the standard 672 Wh lead acid batteries to lightweight LiFePO4 batteries which reduces the weight by 20 lbs, increases the capacity by 37% to 921 Wh, and increases the useful lifetime of the batteries by 5X. Contact Apecor for upgrade kits or customization options.

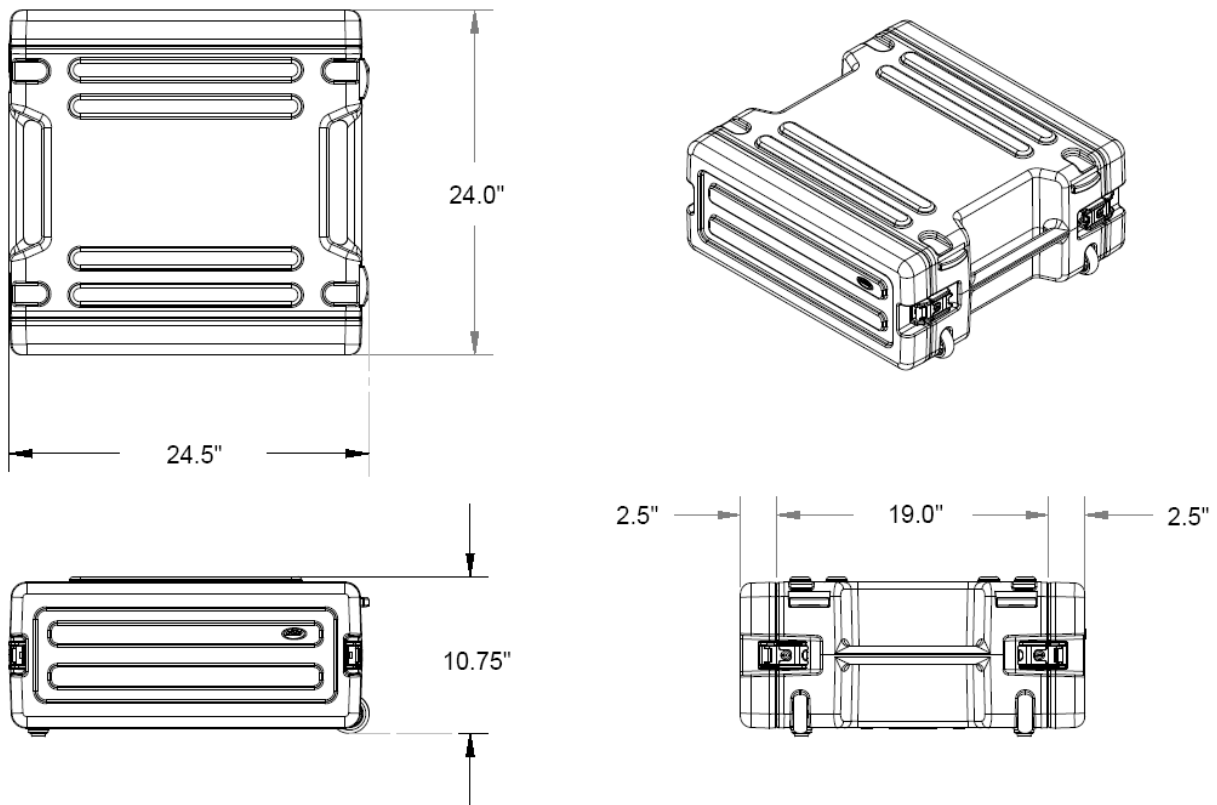


Figure 2 - Dimensions of the Rugged UPS



Figure 3 - Example of the Front Panel (different unit shown)

## Specifications

	Parameters	Min.	Typ.	Max.	Units	Conditions
$V_{in}$	Input AC Voltage		120		VAC	60Hz
$V_{out}$	Output AC Voltage	114	120	126	VAC	60Hz
$I_{in}$	Input AC Current	-	10	-	$A_{RMS}$	Continuous
		-	-	15	$A_{RMS}$	Surge
$I_{out}$	Output AC Current	-	8.33	-	$A_{RMS}$	Continuous
		-	15	-	$A_{RMS}$	5 sec Surge
		-	21	-	$A_{RMS}$	0.1 sec Surge
$P_{out}$	Output AC Power	0	-	1000	W / VA	Continuous
		0	-	1750	W / VA	Surge
$C$	Storage Capacity - Lead Acid	-	672	-	Wh	
	Storage Capacity - LiFePO4	-	921	-	Wh	
$CL$	Cycle Life - Lead Acid	200	-	-	#	Number of cycles until < 80% of initial rated capacity
	Cycle Life - LiFePO4	1000	2000	-	#	
$THD$	Output Total Harmonic Distortion	-	-	5%		
$PF$	Input Power Factor	0.95	-	-		Full Load
$\eta$	Total Efficiency	-	84	-	%	75% Load
$T_A$ $T_{STG}$	Full Rating Ambient Operating Temperature	- 20	-	40	°C	Limited to 75% Power *Battery useful lifetime is reduced by extreme temperature storage
	Derated Ambient Operating Temperature	- 20	-	50		
	Storage Temperature	- 20	-	40		
$RH$	Relative Humidity	0	-	95	%	Operation (non condensing)
		-	100	-	%	Storage (lid closed)
$W$	Weight w/ Lead Acid	-	53 / 116	-	kg / lbs	Two Man Lift / One Man Roll
	Weight w/ LiFePO4	-	44 / 97	-	kg / lbs	
$Dim$	Dimensions	-	61 / 24	-	cm / in	Length
		-	61 / 24	-	cm / in	Width
		-	27 / 10.75	-	cm / in	Height

Table 1: Electrical and Mechanical Characteristics



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## Warranty Statement

The AP15002 is warranted to be free from defects in material and workmanship for a period of TWO (2) years from the date of shipment to the original end user. ApECOR will, at its option, repair or replace any such defective products.

### **Claim Procedure**

- Before requesting warranty service, check the User Manual to be certain that there is a problem with the controller. Contact ApECOR to request Returned Material Authorization (RMA). Return the defective product to your authorized ApECOR distributor with shipping charges prepaid. Provide proof of date and place of purchase.
- To obtain service under this warranty, the returned products must include the model, serial number and detailed reason for the failure, the module type, solar panel size, type of batteries. This information is critical to a rapid disposition of your warranty claim.
- ApECOR may elect to pay the return shipping charges if the repairs are covered by the warranty, but only if the customer is domestic to the United States of America. Otherwise it is the responsibility of the end user's distributor to arrange shipping.

### **Warranty Exclusions and Limitations**

This warranty does not apply under the following conditions:

- Damage by accident, negligence, abuse or improper use.
- Source or load conditions exceeding the ratings of the product.
- Unauthorized product modification or attempted repair.
- Damage occurring during shipment.

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3267 Progress Dr.  
Suite 106A  
Orlando, FL 32826  
1-407-476-4747  
Email: [ask@apecor.com](mailto:ask@apecor.com)  
Website: [www.apecor.com](http://www.apecor.com)