

AC series panels require an external 12V-13.5V DC power supply. Use this document to calculate the amperage required to safely power the controller with all connected components.

12V vs 13.5V Power Supply

It is recommended to use a 13.5V Power Supply when attaching an optional battery backup. Using a higher voltage will allow the Master Controller to fully charge the battery.

Component Current Draw

Component	12V Power Supply		13.5V Power Supply	
	Standby	Full Load	Standby	Full Load
Master Controller	82mA	82mA	74mA	74mA
Battery Backup	+60mA		+125mA	
AC-2DE	15mA	27mA	15mA	27mA
AC-IOE	10mA	30mA	10mA	30mA
AC-PROX-1G	72mA	72mA	77mA	77mA
Door Strike	300mA	500mA	300mA	500mA

Current Calculation

Use following formula to calculate minimum amperage power supply required:

$$(\text{Master Controller} + (\text{AC-2DE} * \text{2DE Quantity}) + (\text{AC-IOE} * \text{IO Quantity}) + \text{Reader} * \text{Reader Quantity}) + (\text{Lock} * \text{Lock Quantity}) + \text{Optional Battery Backup} * 1.20 \text{ (Safety Margin)}$$

Kit	12V Power Supply			13.5V Power Supply		
	Base	+ Readers*	+ Strikes**	Base	+ Readers*	+ Strikes**
2 Doors	131mA	304mA	1.5A	121mA	294mA	1.4A
4 Doors	163mA	476mA	3A	154mA	467mA	2.75A
6 Doors	196mA	650mA	4.25A	186mA	640mA	4.1A
8 Doors	228mA	822mA	5A	218mA	812mA	5A

* Includes Base total, assumes 72mA(12V) and 77mA(13.5V) per reader.

** Includes Reader total, assumes 500mA per door strike.