

Power Budget

Team Number:	106						
Project Name:	Automatic Plant Care System						
Team Member Names:	Jon San Vicente						
Version:	1						

All Major Components	Component Name	Part Number	Supply	#	Absolute	Total	Unit
	Curiosity Nano	PIC18F57Q43	1.7V -5.1V	1	500	500	mA
	MOSFET	AOTF2618L	0V - 60V	1	200	200	mA
	H-Bridge	FAN8100N	1.8V - 9V	1	100	100	mA
	DC-Motor	11696	12V	1	500	500	mA
	LED	XBUG53D	9V	3	50	150	mA
+9V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
	H-Bridge	FAN8100N	2.2V - 9V	1	300	100	mA
	DC-Motor	11696	12V	1	500	500	mA
	LED	XBUG53D	9V	3	50	150	mA
						0	mA
						0	mA
						Subtotal	750 mA
						Safety Margin	25%
						Total Current Required on +12V Rail	937.5 mA
	Wall Power Supply			1	1000	1000	mA
							62.5 mA
+5V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
	Curiosity Nano	PIC18F57Q43	1.7V -5.1V	1	500	500	mA
	MOSFET	AOTF2618L	0V - 60V	1	200	200	mA
	H-Bridge	FAN8100N	1.8V - 9V	1	100	100	mA
						0	mA
						0	mA
						Subtotal	800 mA
						Safety Margin	25%

Total Current Required on +5V Rail						1000	mA
c2. Regulator or Source Choice	+5V Regulator	LM7805T	5V - 18V	1	1000	1000	mA
Total Remaining Current Available on +5V Rail						0	mA
-5V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
						0	mA
						0	mA
						0	mA
						0	mA
						Subtotal	0 mA
						Safety Margin	25%
Total Current Required on -5V Rail						0	mA
						0	mA
						0	mA
Total Remaining Current Available on -5V Rail						0	mA
+3.3V Power Rail	Component Name	Part Number	Supply	#	Absolute	Total	Unit
						0	mA
						0	mA
						0	mA
						0	mA
						Subtotal	0 mA
						Safety Margin	25%
Total Current Required on +3.3V Rail						0	mA
						0	mA
Total Remaining Current Available on 3.3V Rail						0	mA

C. For each power rail above, select a specific voltage regulator using the same process as for major component selection. Confirm that

External Power Source 1	Component Name	Part Number	Supply	Output	Absolute	Total	Unit
Power Source 1 Selection	Plug-in Wall Supply	3)HD1333CCP-F(F	110VAC	9V	2000	2000	mA
Power Rails Connected to External Power Source 1	+5V Regulator	LM7805T	5V - 18V	1	1000	1000	mA
						0	mA
						0	mA
Total Remaining Current Available on External Power Source 1						1000	mA

External Power Source 2	Component Name	Part Number	Supply	Output	Absolute	Total	Unit
						500	mA
						0	mA
	<i>Total Remaining Current Available on External Power Source 2</i>					500	mA
Component Name	Part Number	Supply	Capacity	Required			
			0	0			
					<i>Battery Life</i>	0	hours
Notes							

[1] For inductive loads (e.g., motors, solenoids) this is often called "stall current" on the data sheet