

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
					<i>Subtotal</i>	750	mA
					<i>Safety Margin</i>	25%	
					<i>Total Current Required on +12V Rail</i>	937.5	mA
	Wall Power Supply			1	1000	1000	mA
					<i>Total Remaining Current Available on +12V Rail</i>	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
					<i>Subtotal</i>	800	mA
					<i>Safety Margin</i>	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
					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	9HD1333CCP-F(F	110VAC	9V	2000	2000	mA
						0	mA
Power Rails Connected to External Power Source 1	+5V Regulator	LM7805T	5V - 18V	1	1000	1000	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
	Total Remaining Current Available on External Power Source 2						500	mA
		Component Name	Part Number	Supply		Capacity	Required	
						0	0	
						Battery Life	0	hours
Notes								

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