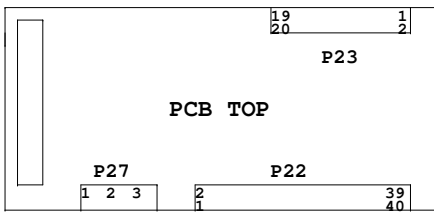


Connection table for AquaCont_V1_X_Oleg_mod

P1
TFT Screen



P27

P22

P27 CONTROLLER POWER

1	+12V (or +48V for 48v version)
2	GND
3	GND

P23 Communication connector

PIN	
1	+12...+24 ISO POWER
2	RXD1
3	DATA ISO
4	TXD1
5	DATA ISO
6	RXD2
7	GND ISO
8	TXD2
9	GND ISO
10	RXD3
11	N.C
12	TXD3
13	I2C-SCL
14	RXD0
15	I2C-SDA
16	TXD0
17	GND
18	GND
19	+5v OUT
20	+5v OUT

P22	SCH NAME	SW FUNCTION
PIN		
1	+12v	used in 48v ver only
2	+12v	used in 48v ver only
3	+12v	used in 48v ver only
4	+12v	used in 48v ver only
5	GND	GND
6	A0	Analog input N.U
7	GND	GND
8	A1	Analog input N.U
9	DIMM7	Yellow(11bit)
10	A2	Analog input N.U
11	DIMM6	True Violet(11bit)
12	A3	Analog input N.U
13	DIMM5	Deep Red(11bit)
14	A4	Analog input N.U
15	DIMM4	Blue(11bit)
16	A5	Analog input N.U
17	DIMM3	Royal Blue(11bit)
18	A6	Analog input N.U
19	N.C	
20	A7	Analog input N.U
21	DIMM2	White(11bit)
22	A10	Analog input N.U
23	DIMM1	UV(11bit)
24	GND	GND
25	DIMM0	Cyan(11bit)
26	MOON-OUT	TO MOON LED
27	GND	
28	+5V TEMPERATURE SENSOR N1	
29	A8	Analog input N.U
30	PWS-OUT0	On/Off Heater P.S
31	PWS-OUT1	On/Off chiller P.S
32	PWS-OUT3	N.U P.S
33	DQ (TEMP OUT) SENSOR N1	
34	PWS-OUT2	N.U P.S
35	+5V TEMPERATURE SENSOR N0	
36	FAN-PWM2	N.U P.S
37	DQ (TEMP OUT) SENSOR N0	
38	FAN-PWM1	Heatsink2 Fan P.S
39	PWS-OUT4	N.U P.S
40	FAN-PWM0	Heatsink1 Fan P.S

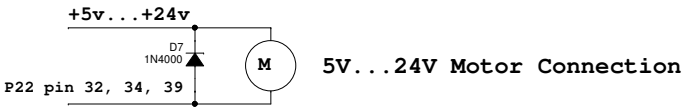
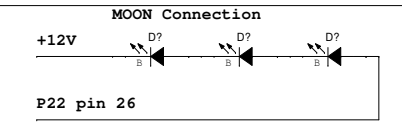
N.U - NOT USED
N.C - NOT CONNECTED
P.S - Output via mosfet switch

Temp. Sensor N1 for WATER

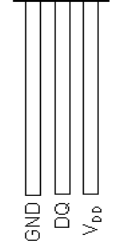
P22 pin 24	GND
P22 pin 33	DQ (Temp. Out)
P22 pin 28	+5V

Temp. Sensor N0 for FAN

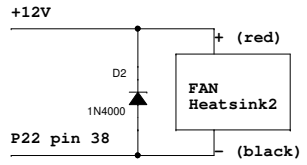
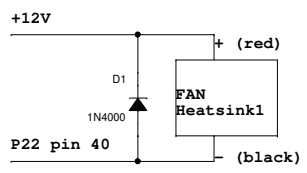
P22 pin 27	GND
P22 pin 37	DQ (Temp. Out)
P22 pin 35	+5V



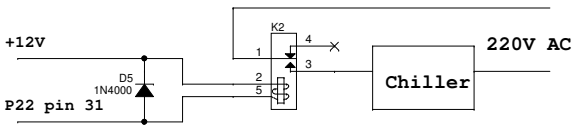
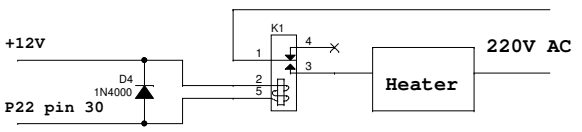
2 pin FAN Connection



(BOTTOM VIEW)

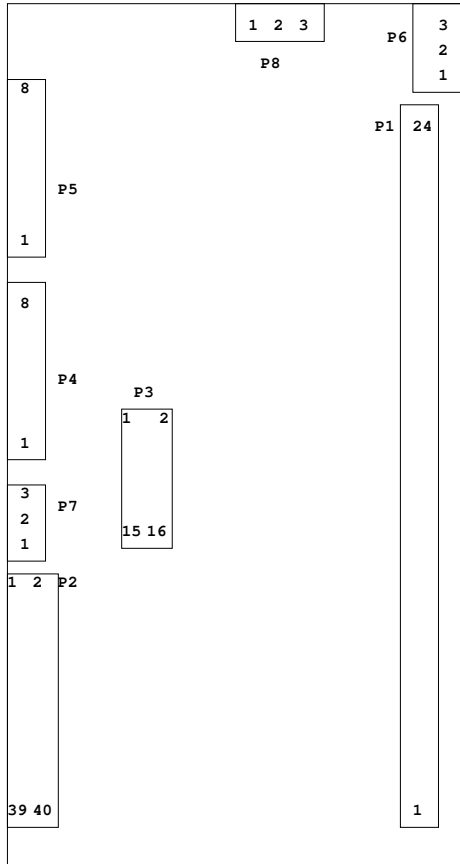


Heater/Cooler Relay Connection



Title	<Title>	Rev	<Rev Code>
Size	A3	Document Number	<Doc>
Date	Tuesday, September 15, 2015	Sheet	1 of 4

Connection table for AquaCont_V1_X_Oleg_mod



P5 and P4 - AQUARIUM Connectors
P7 - Pump power supply connector
P2 - input from shield
P3 - Output to Led LIGHT
P8 - Output to grundl fault lamp
P6 - AC Line Input
P1 - AC Load OUTPUT

P2	SCH NAME	SW FUNCTION
PIN		
1	+12v	used in 48v ver only
2	+12v	used in 48v ver only
3	+12v	used in 48v ver only
4	+12v	used in 48v ver only
5	A0	Analog input N.U
6	GND	GND
7	A1	Analog input N.U
8	GND	GND
9	A2	Analog input N.U
10	DIMM7	Yellow(11bit)
11	A3	Analog input N.U
12	DIMM6	True Violet(11bit)
13	A4	Analog input N.U
14	DIMM5	Deep Red(11bit)
15	A5	Analog input N.U
16	DIMM4	Blue(11bit)
17	A6	Analog input N.U
18	DIMM3	Royal Blue(11bit)
19	A7	Analog input N.U
20	N.C	N.C
21	A10	Analog input N.U
22	DIMM2	White(11bit)
23	GND	GND
24	DIMM1	UV(11bit)
25	MOON-OUT	TO MOON LED
26	DIMM0	Cyan(11bit)
27	+5V TEMPERATURE SENSOR N1	
28	GND	GND
29	PWS-OUT0	On/Off Heater
30	A8	Analog input N.U
31	PWS-OUT3	N.U
32	PWS-OUT1	On/Off chiller
33	PWS-OUT2	N.U
34	DQ (TEMP OUT) SENSOR N1	
35	FAN-PWM2	N.U
36	+5V TEMPERATURE SENSOR N0	
37	FAN-PWM1	Heatsink2 Fan
38	DQ (TEMP OUT) SENSOR N0	
39	FAN-PWM0	Heatsink1 Fan
40	PWS-OUT4	N.U

P5 connector		
PIN		
1	PWS-OUT0	On/Off Heater
2	PWS-OUT1	On/Off chiller
3	PWS-OUT2	N.U
4	PWS-OUT3	N.U
5	PWS-OUT4	N.U
6	FAN-PWM2	N.U
7	Power	+12v or +24V
8	GND	GND

P8 connector	
PIN	
1	220v to ground fault indication lamp
2	N.C
3	220v to ground fault indication lamp

P6 connector AC220V Input	
PIN	
1	AC220V NEUTRAL
2	N.C
3	AC220V LINE

P4 connector		
PIN		
1	DIMM7	Yellow
2	DIMM6	True Violet
3	A8	Analog input N.U
4	A10	Analog input N.U
5	+5V TEMPERATURE SENSOR N1	
6	DQ (TEMP OUT) SENSOR N1	
7	Power	+12v or +24V
8	GND	GND

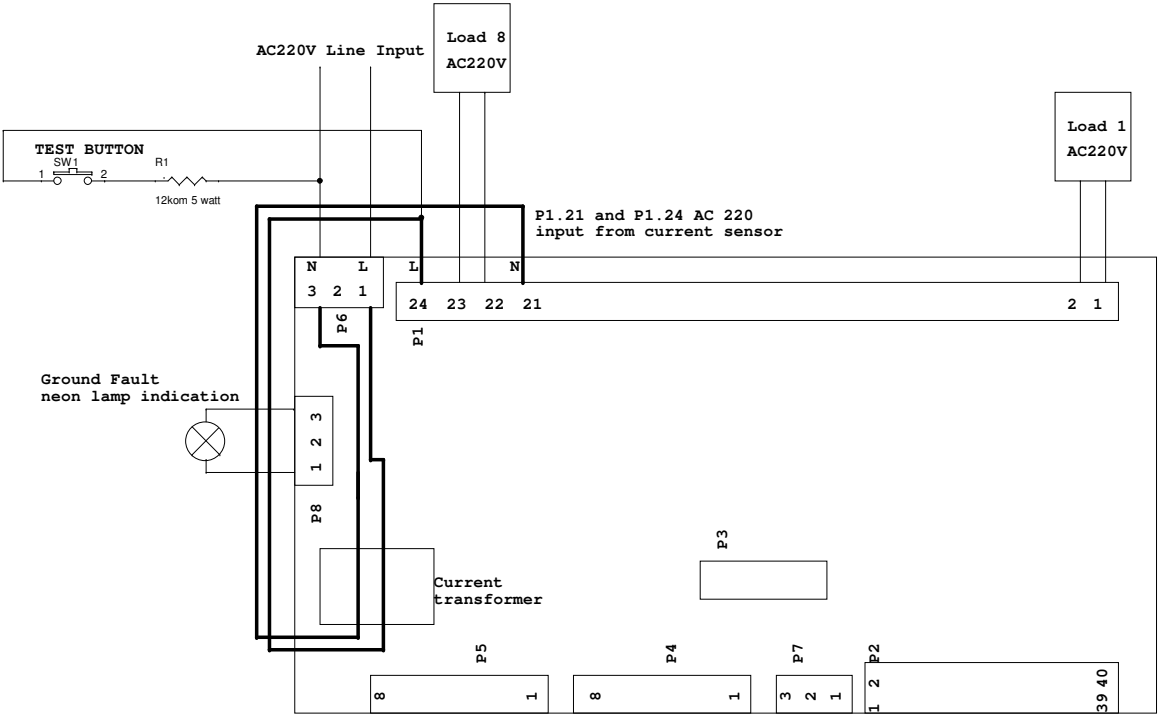
P7 connector		
PIN		
1	Power	+12v or +24V
2	GND	GND
3	Power	+12v N.U

P6	SCH NAME	SW FUNCTION
PIN		
1	AC OUT1	Load OUTPUT 1
2	NEUTRAL	
3	NEUTRAL	N.C
4	AC OUT1	Load OUTPUT 2
5	NEUTRAL	
6	NEUTRAL	N.C
7	AC OUT1	Load OUTPUT 3
8	NEUTRAL	
9	NEUTRAL	N.C
10	AC OUT1	Load OUTPUT 4
11	NEUTRAL	
12	NEUTRAL	N.C
13	AC OUT1	Load OUTPUT 5
14	NEUTRAL	
15	NEUTRAL	N.C
16	AC OUT1	Load OUTPUT 6
17	NEUTRAL	
18	NEUTRAL	N.C
19	AC OUT1	Load OUTPUT 7
20	NEUTRAL	
21	AC NEUTRAL	AC220 NEUTRAL from Sensor
22	AC OUT1	Load OUTPUT 8
23	NEUTRAL	
24	AC LINE	AC220 LINE from Sensor

P3 Led Light connector		
PIN		
1	DIMM7	Yellow(11bit)
2	+12v	+12V for FAN and Moon
3	DIMM6	True Violet(11bit)
4	FAN-PWM1	Heatsink2 Fan
5	DIMM5	Deep Red(11bit)
6	FAN-PWM0	Heatsink1 Fan
7	DIMM4	Blue(11bit)
8	MOON-OUT	TO MOON LED
9	DIMM3	Royal Blue(11bit)
10	+5V TEMPERATURE SENSOR N0	
11	DIMM2	White(11bit)
12	DQ (TEMP OUT) SENSOR N0	
13	DIMM1	UV(11bit)
14	GND	Ground
15	DIMM0	Cyan(11bit)
16	GND	Ground

Title		
Size	Document Number	Rev
A3	<Doc>	<Rev Code>
Date:	Friday, September 18, 2015	Sheet 1 of 1

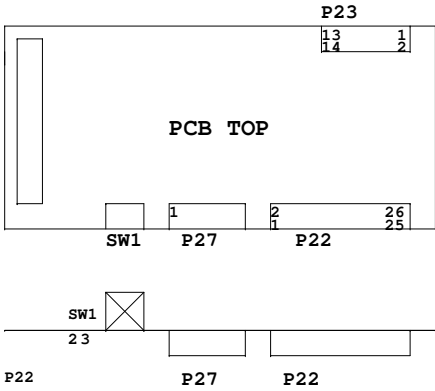
Connection table for AquaCont_V1_X_Oleg_mod



Title		<Title>	Rev
Size	Document Number	<Doc>	<RevCode>
A3			
Date:	Tuesday, August 25, 2015	Sheet	1 of 1

Connection table for STD161

P1
TFT Screen



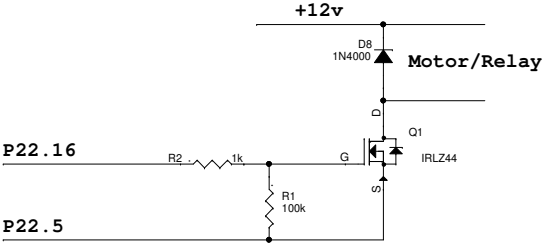
P27 CONTROLLER POWER	
1	GND
2	GND
3	+48V or +12V

P23 Communication connector	
PIN	
1	N.C
2	RXD1
3	N.C
4	TXD1
5	N.C
6	RXD2
7	N.C
8	TXD2
9	N.C
10	RXD3
11	N.C
12	TXD3
13	I2C-SCL
14	RXD0
15	I2C-SDA
16	TXD0
17	GND
18	GND
19	+5v OUT
20	+5v OUT

P22	SCH NAME	SW FUNCTION
PIN		
1	+12v	used in 48v ver only
2	+12v	used in 48v ver only
3	+12v	used in 48v ver only
4	+12v	used in 48v ver only
5	GND	GND
6	A0	Timer 1 (Air)
7	GND	GND
8	A1	Timer 2 (CO2)
9	DIMM7	Orange
10	A2	Timer 4 (UV Lamp)
11	DIMM6	N.U.
12	A3	Timer 3 (Filter)
13	DIMM5	Red
14	A4	Timer 5 (fill sump)
15	DIMM4	Cool White
16	A5	Analog input N.U.
17	DIMM3	Royal Blue
18	A6	Vacuum pump
19	N.C	N.C
20	A7	AutoFeeder
21	DIMM2	Warm White
22	A10	Light Sensor
23	DIMM1	UV
24	GND	GND
25	DIMM0	Green
26	MOON-OUT	TO MOON LED
27	GND	GND
28	+5V TEMPERATURE SENSOR N1	
29	A8	water level
30	PWS-OUT0	On/Off Heater P.S
31	PWS-OUT1	On/Off chiller P.S
32	PWS-OUT3	Dosing pump 4 P.S
33	DQ (TEMP OUT) SENSOR N1	
34	PWS-OUT2	Dosing pump 3 P.S
35	+5V TEMPERATURE SENSOR N0	
36	FAN-PWM2	Dosing pump 1 P.S
37	DQ (TEMP OUT) SENSOR N0	
38	FAN-PWM1	Heatsink2 Fan P.S
39	PWS-OUT4	Dosing pump 2 P.S
40	FAN-PWM0	Heatsink1 Fan P.S

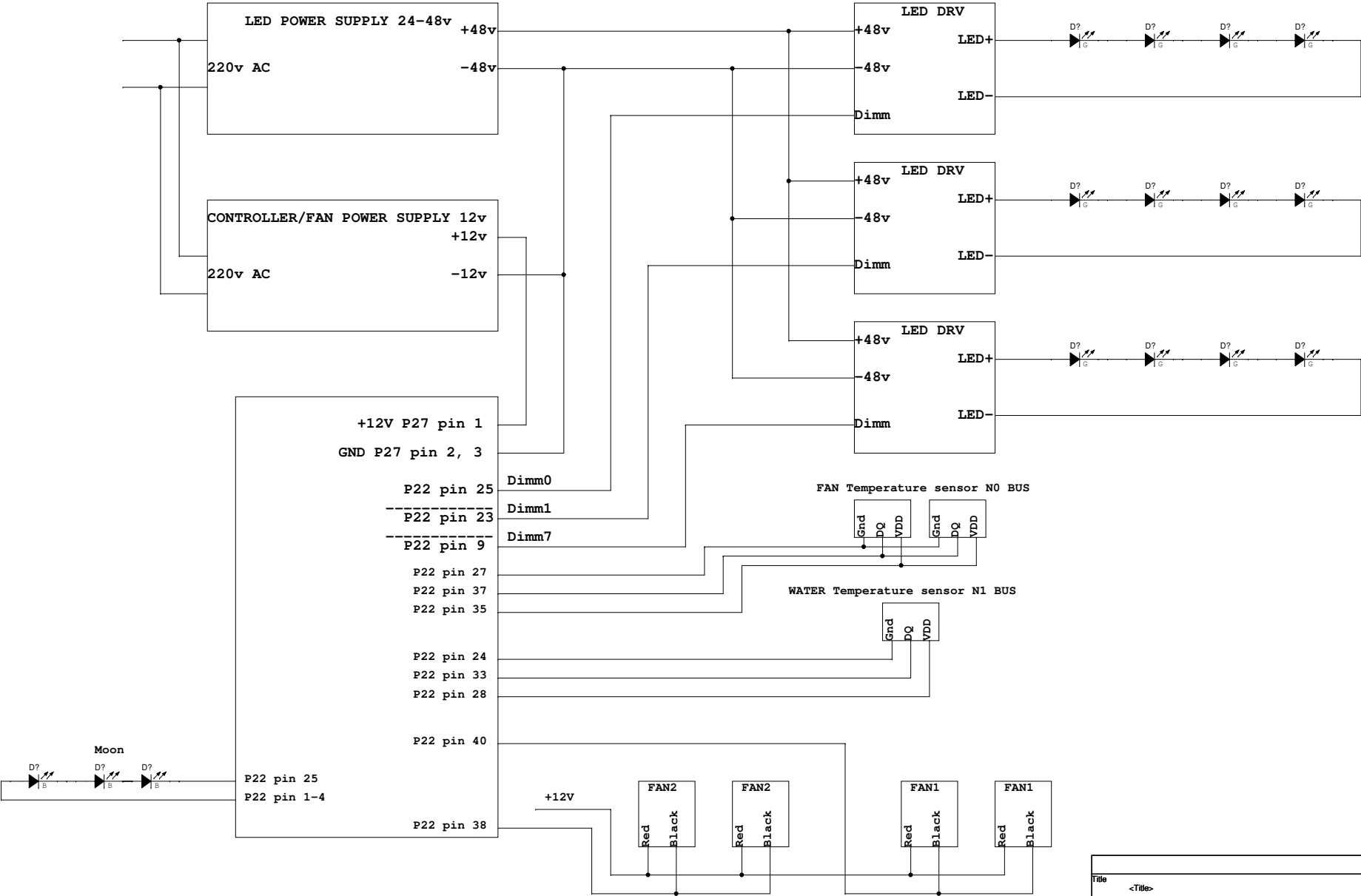
N.U - NOT USED
N.C - NOT CONNECTED
P.S - Output via mosfet switch

external power switch



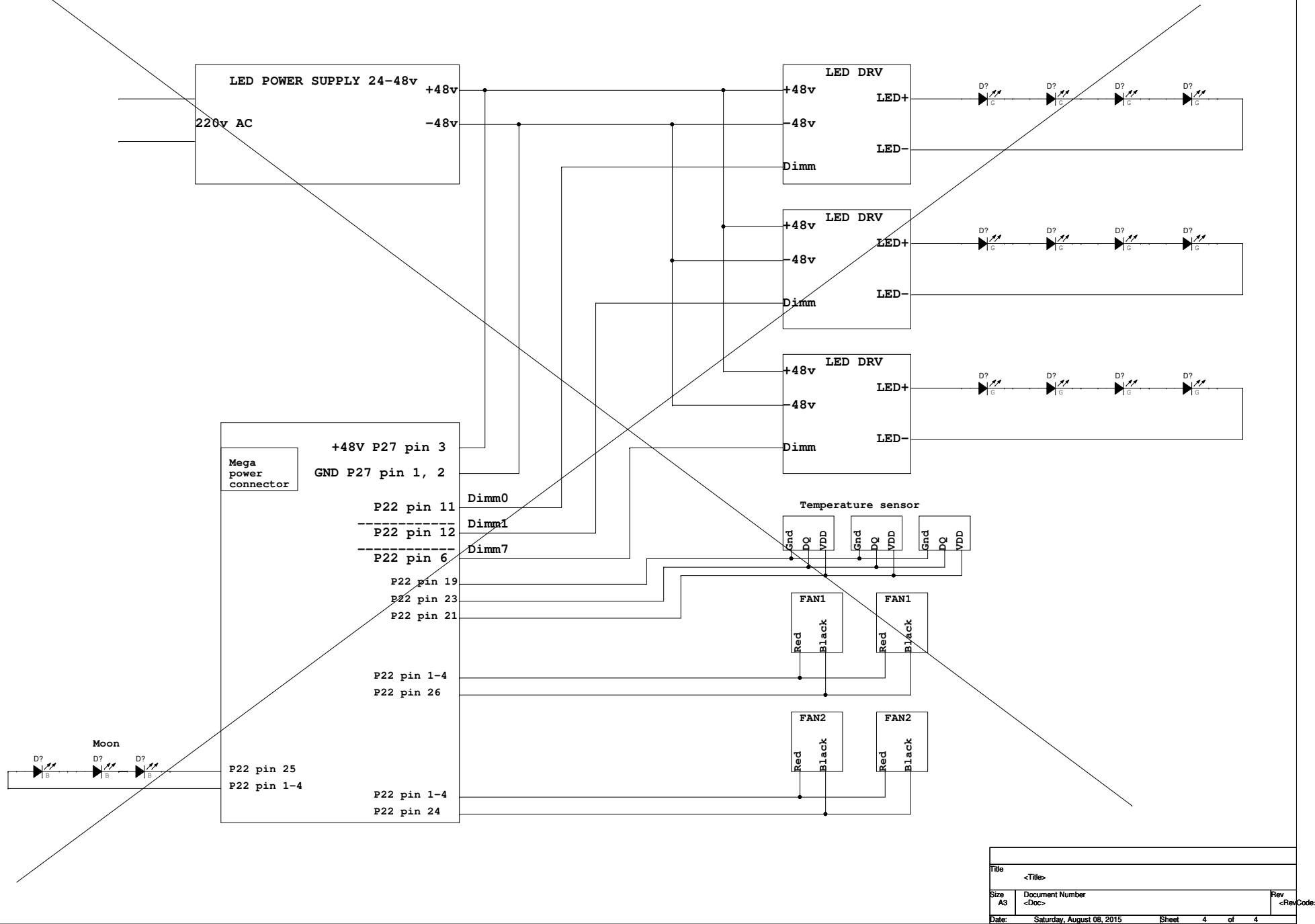
Title		
<Title>		
Size	Document Number	Rev
A3	<Doc>	<RevCode>
Date:	Friday, September 18, 2015	Sheet 2 of 4

12v Shield/Controller



Title			<Title>
Size	Document Number		Rev
A3	<Doc>		<RevCode>
Date:	Saturday, August 08, 2015	Sheet	3 of 4

48v Shield/Controller



Title		
<Title>		
Size	Document Number	Rev
A3	<Doc>	<RevCode>
Date:	Saturday, August 08, 2015	Sheet 4 of 4