

MECHANICAL COMPONENTS AND ACCESSORIES

ELECTROMECHANICAL VALVES



M5
2/2 Electrovalves Plate



M6
2/2 Electrovalves Plate



M11
2/2 Air solenoid valve



M12
2/2 Air solenoid valve



M17
3/2 Electrovalves Plate



M18
3/2 Electrovalves Plate



M23
3/2 Air solenoid valve



M24
3/2 Air solenoid valve

POWER COMPONENTS



M2
Compressor



M4
15 AWG WIRE



M33
12V 75Ah Battery



M31
20 POS FEMALE Receptacle Connector



M32
POWER CORD 18AWG NORTH AMERICAN

ELECTROMECHANICAL VALVE ACCESSORIES



M7
Reduction Fitting



M8
Reduction Fitting



M9
Reduction Fitting



M10
Reduction Fitting



M13
Push-in fitting



M15
Push-in fitting



M14
Push-in fitting



M16
Push-in fitting



M19
Push-in fitting



M21
Push-in fitting



M20
Push-in fitting



M22
Push-in fitting



M25
Plug socket with cable



M26
Plug socket with cable



M27
Plug socket with cable



M28
Plug socket with cable



M29
Push-in Y-connector



M35
PTC 1/4"



M30
Tubing 4mm

STANDOFFS



M53
STANDOFFS



M55
STANDOFFS



M56
STANDOFFS



M57
STANDOFFS



M58
M3 NUT



M59
M3 NUT



M60
M3 NUT



M61
M3 NUT

BREATHING ACCESSORIES



M34
Spirometer Kit

ENCLOSURE



M36
Hinged Enclosure



M37
Screws

ENCLOSURE



M38
LCD Connector



M39
ON/OFF SWITCH



M40
UI Panel Switch



M42
UI Panel Switch



M43
UI Panel Switch



M44
UI Panel Switch



M45
UI Panel Switch



M46
UI Panel Switch



M47
SWITCH CAP



M48
SWITCH CAP



M49
SWITCH CAP



M50
SWITCH CAP



M51
SWITCH CAP



M52
SWITCH CAP

Title MECHANICAL COMPONENTS AND ACCESSORIES			
Size A4	Number Agorize- Code Life Ventilator		Revision A
Date: 2020-04-15	Sheet 7	of 7	
File: C:\Users\...\07-Mechanicals.SchDoc	Drawn By: Hussam Eid		

PNEUMVENT

This Document Contains the Schematics for the custom Printed Circuit Board (PCB) upon which PNEUMVENT is built on

Please Reference the Block Diagrams for a better understanding of the schematic

Please Reference the Annotated PCB to understand the component placement and locations as this document only shows the electrical schematic and not the circuit board.

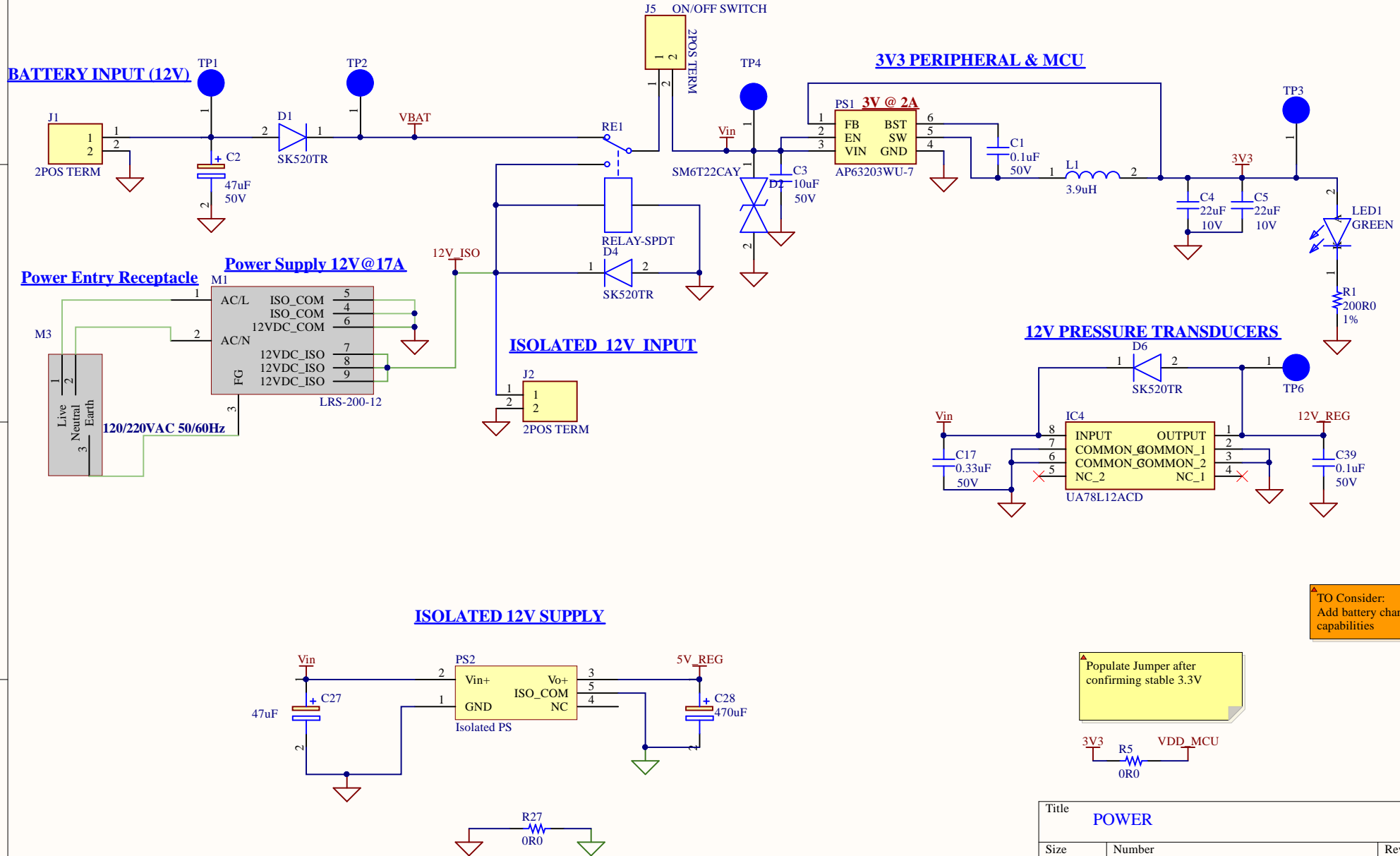
The circuit board is also ready as it has been routed and verified.

This Schematic is created to meet all the guidelines and design specifications for the Code of Life challenge for building a ventilator to help serve the people affected by the COVID-19 crisis

Thanks.
Hussam Eid
info@hussameid.com

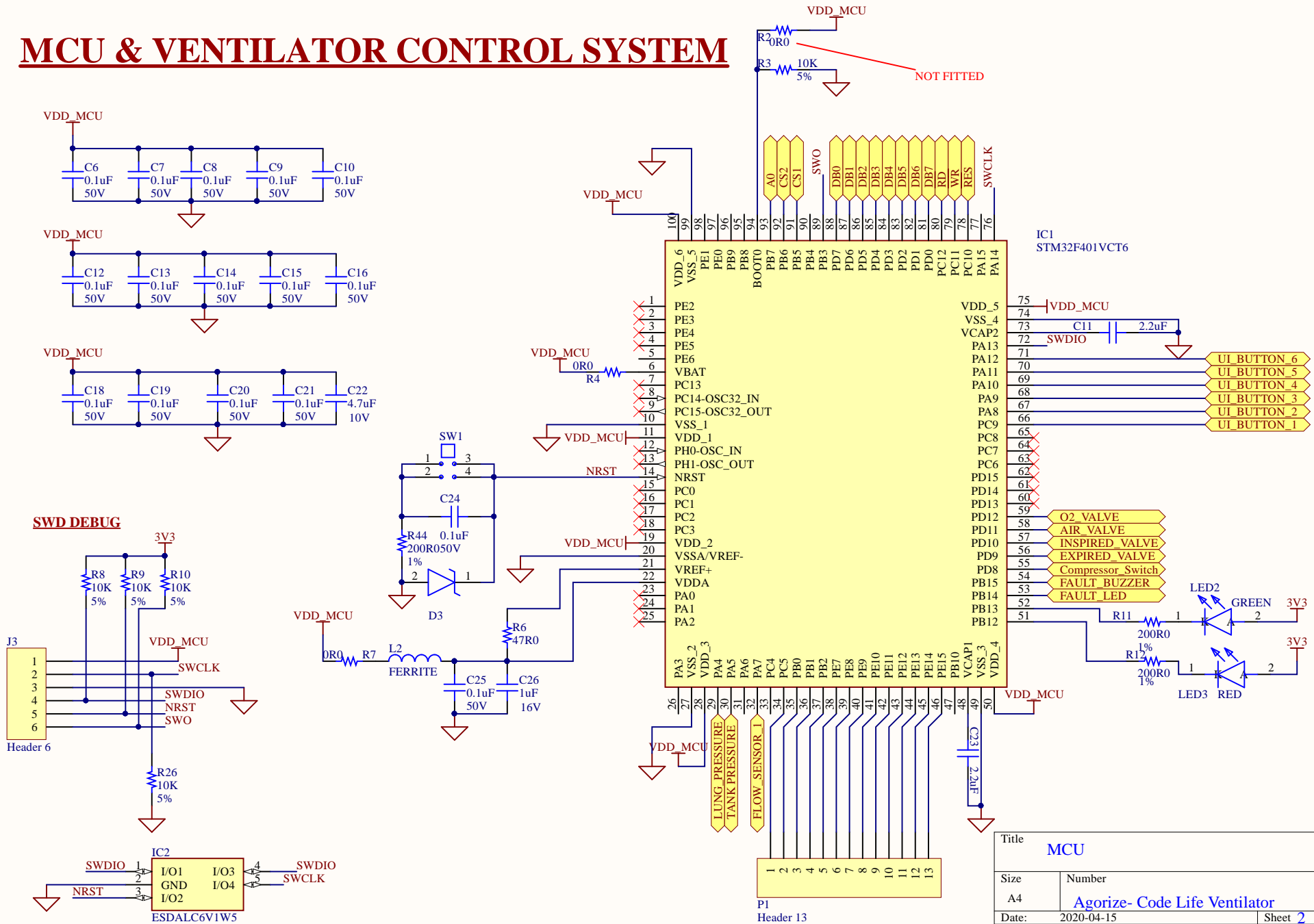
Title COVER		
Size A4	Number Agorize- Code Life Ventilator	Revision A
Date:	2020-04-15	Sheet 0 of 7
File:	C:\Users\...\00-INTRO.SchDoc	Drawn By: Hussam Eid

POWER MANAGMENT (BATTERY AND WALL SOCKET)



Title POWER		
Size A4	Number Agorize- Code Life Ventilator	Revision A
Date: 2020-04-15	Sheet 1	of 7
File: C:\Users\...\01-Power.SchDoc	Drawn By: Hussam Eid	

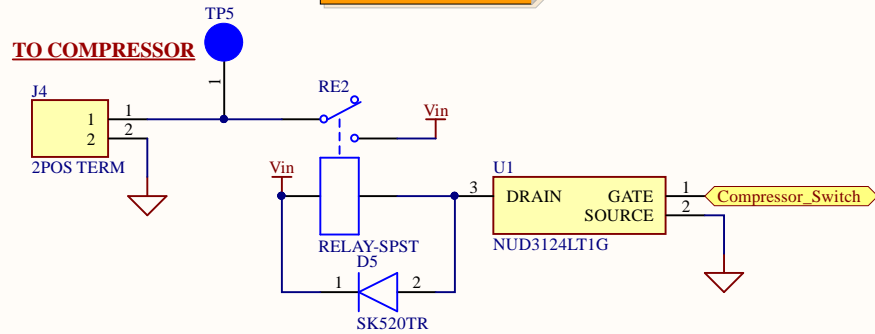
MCU & VENTILATOR CONTROL SYSTEM



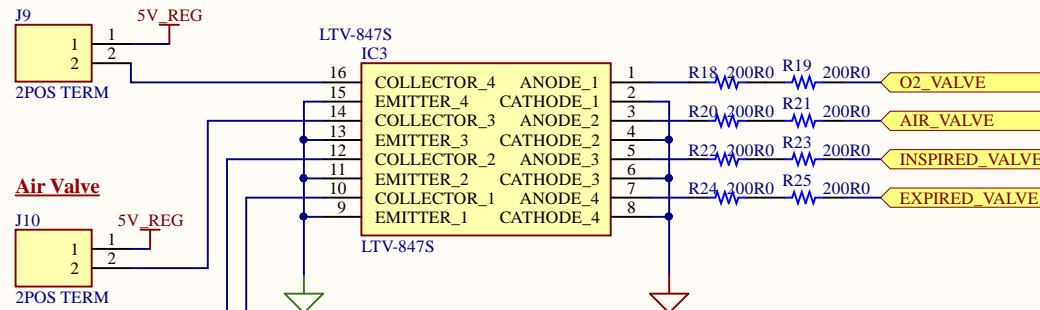
Title			MCU		
Size		Number		Revision	
A4		Agorize- Code Life Ventilator		A	
Date:			2020-04-15		Sheet 2 of 7
File:			C:\Users\...\02-MCU.SchDoc Drawn By: Hussam Eid		

ACTUATORS / AIR VALVE CONTROL

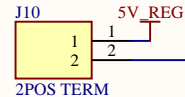
Consider controlling the compressor using a MOSFET for PWM functionality



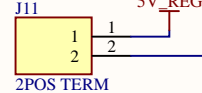
O2 Valve



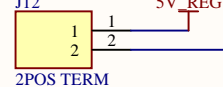
Air Valve



Inspired Air Valve



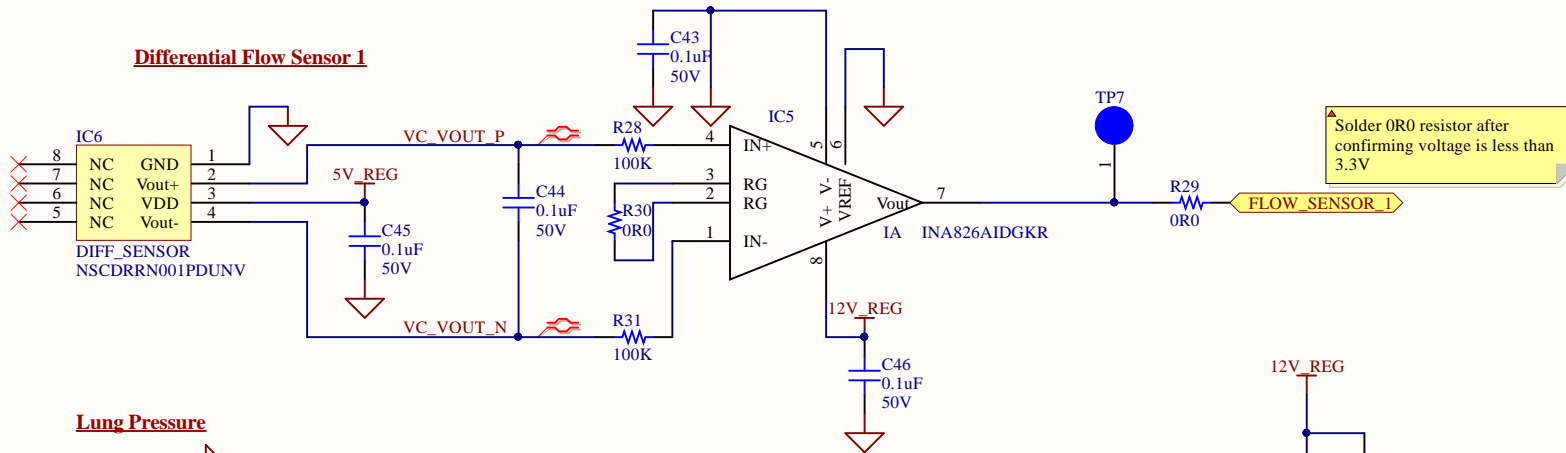
Expired Air Valve



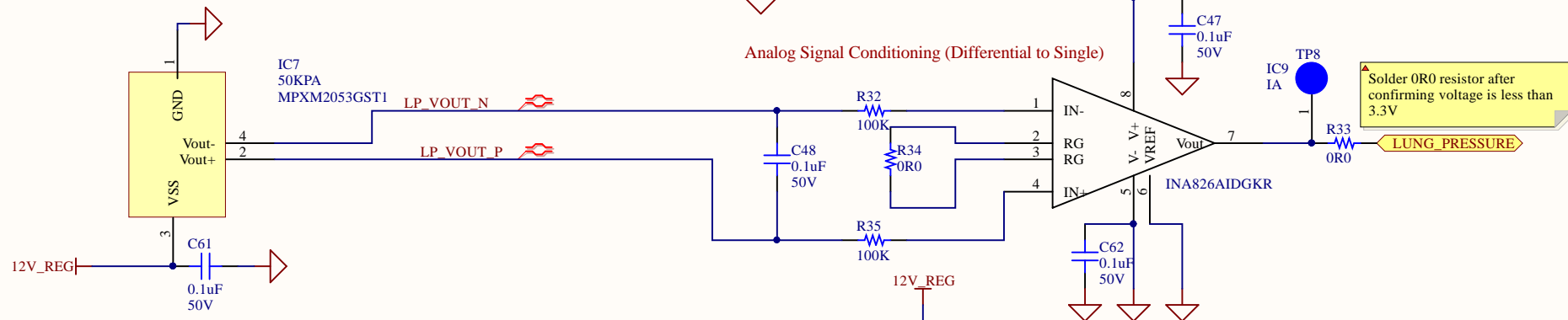
Title		
ACTUATOR		
Size	Number	Revision
A4	Agorize- Code Life Ventilator	A
Date:	2020-04-15	Sheet 3 of 7
File:	C:\Users\...\03-Actuators.SchDoc	Drawn By: Hussam Eid

SENSORS, FEEDBACK & SIGNAL CONDITIONING

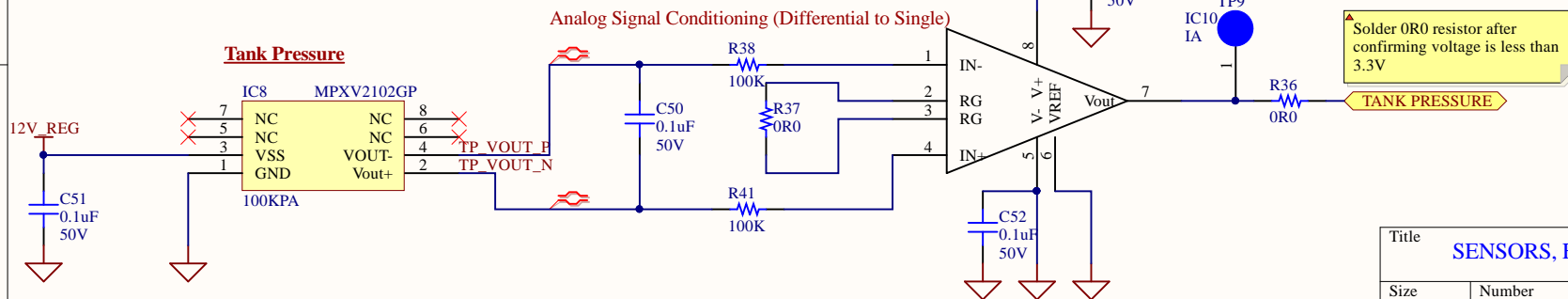
Differential Flow Sensor 1



Lung Pressure

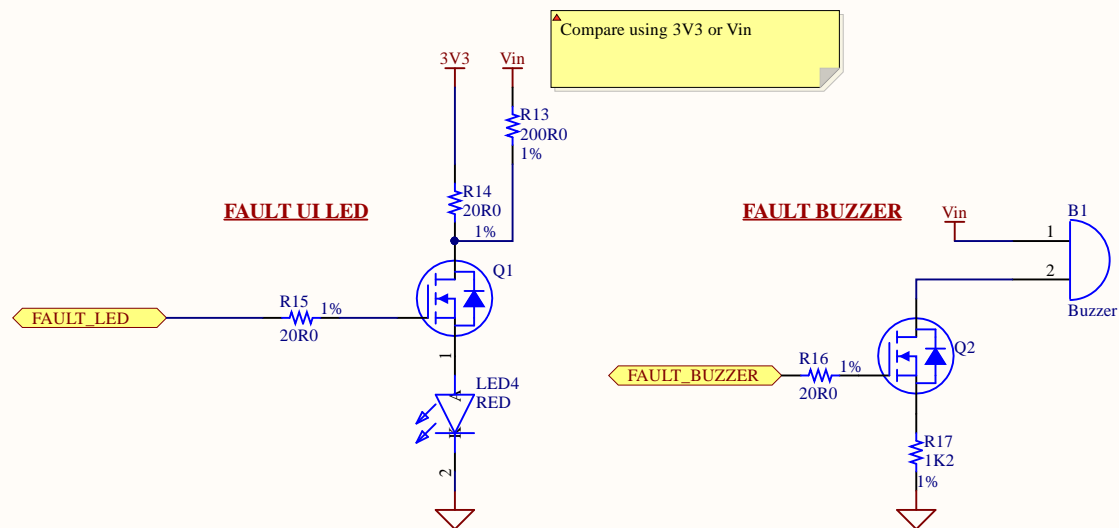


Tank Pressure



Title			SENSORS, FEEDBACK & SIGNAL CONDITIONING		
Size	Number			Revision	
A4	Agorize- Code Life Ventilator			A	
Date:	2020-04-15			Sheet 4	of 7
File:	C:\Users\...\04-Sensors.SchDoc			Drawn By:	Hussam Eid

ERROR & FAULT ALARM INDICATORS

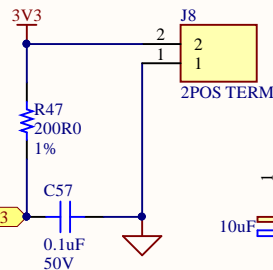


Title			ERROR & FAULT ALARM INDICATORS
Size	Number	Revision	
A4	Agorize- Code Life Ventilator	A	
Date:	2020-04-15	Sheet 5	of 7
File:	C:\Users\...\05-Alarm.SchDoc	Drawn By:	Hussam Eid

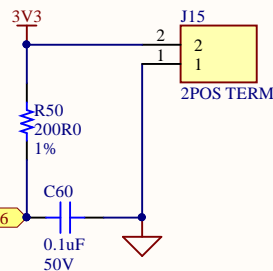
A



C



UI BUTTON 6

D