

L0005 Valve Controller BOM											
Project:	Liquids Engine										
Revision:	2.0										
Date:	3/19/2022										
Author:	Colton Acosta										
Qty	Component	Manufacturer	Part Number	Designator	Footprint	Footprint Type	Price per Unit	Data Sheet	Source	Alternate Parts	Other
1	ARM Cortex-M7 Microcontroller 100-LQFP	STMicroelectronics	STM32H750VBT6	U1	100-LQFP	SMD	\$17.06	STM32H750VBT6	LCSC		
6	SSR RELAY SPST-NO 300MA 0-600V	Panasonic Electric Works	AQH0223AX	K1-K6	8-SMD	SMD	\$1.07	AQH0223AX	Digikey		
12	RES 100 OHM 5% 1/10W 0603	YAGEO	RC0603JR-07100RL	R2-R13	0603	SMD	\$0.10	RC0603JR-07100RL	Digikey		
6	CAP CER 0.1UF 250V X7R 1206	Samsung Electro-Mechanics	CL31B104KEHSFNE	C16-C21	1206	SMD	\$0.25	CL31B104KEHSFNE	Digikey		
6	PV SERIES 275V 4032 PKG	Bourns Inc.	PV275K4032R2	RV1-RV6	2-SMD, J-Lead	SMD	\$0.62	PV275K4032R2	Digikey		
1	CONN HEADER R/A 20POS 1.27MM	CNC Tech	3220-20-0200-00	P1	20POS, 2ROW	Through-hole	\$1.43	3220-20-0200-00	Digikey		
1	3.3V Linear Regulator	Texas Instruments	LMS8117AMP-3.3/NOPB	U2	SOT-223	SMD	\$1.39	LMS8117AMP-3.3/NOPB	Digikey		
2	10 uF Tantalum Capacitor	KEMET	T491A106K010AT	C1, C2	1206	SMD	\$0.37	Datasheet	Digikey		
2	CONN HEADER R/A 3POS 3.96MM	TE Connectivity AMP Connectors	647676-3	P14, P15	3POS, Right-Angle	Through-hole	\$0.28	Datasheet	Digikey		
2	CONN HOUSING 3POS .156" SNGL	TE Connectivity AMP Connectors	2132781-3				\$0.36	Datasheet	Digikey		
6	CONN SOCKET 18-22AWG CRIMP TIN	TE Connectivity AMP Connectors	1744144-1				\$0.18		Digikey		
1	2.0MM PITCH CONNECTOR WITH 4 P.C	EDAC Inc.	140-504-415-000	P2	4POS, Right-Angle	Through-hole	\$0.17	140-504-415-000	Digikey		
1	2.0MM PITCH CONNECTOR WITH 4 SLO	EDAC Inc.	140-504-210-011				\$0.10	140-504-210-011	Digikey		
4	CONN SOCKET 24-28AWG CRIMP TIN	Sullins Connector Solutions	SWT201-UPTN-S01-UU-UU				\$0.10	SWT201-UPTN-S01-UU-UU	Digikey		
6	CONN HEADER VERT 3POS 3.96MM	Molex	353130360	P3-P8	3POS	Through-hole	\$0.45	353130360	Digikey		
6	CONN RCPT HSG 3POS 3.96MM	Molex	351560300				\$0.28	351560300	Digikey		
18	CONN SOCKET 18-24AWG CRIMP TIN	Molex	502179001				\$0.14	502179001	Digikey		
10	0.1 uF 0603 ceramic capacitor	KEMET	C0603C104J4RACTU	C3-C7, C10, C15, C22-C25	0603	SMD	\$0.14	C0603C104J4RACTU	Digikey		
	CAP CER 10000PF 50V X7R 0603	KYOCERA AVX	06035C103KAT2A		0603	SMD	\$0.10	06035C103KAT2A	Digikey		
2	CAP CER 10UF 6.3V X5R 0603	Murata Electronics	GRM188R60J106ME47D	C3, C9	0603	SMD	\$0.21	GRM188R60J106ME47D	Digikey		
4	CONN HEADER VERT 6POS 2MM	Molex	353620650	P10-P13	6POS	Through-hole	\$0.46	353620650	Digikey		
4	CONN RECEPTACLE HOUSING 6POS 2MM	Molex	355070600				\$0.24	355070600	Digikey		
24	CONN SOCKET 24-30AWG CRIMP TIN	Molex	502128000				\$0.04	502128000	Digikey		
2	CONN HEADER R/A 2POS 3.96MM	TE Connectivity AMP Connectors	647676-2	P9, P16	2POS, Right-Angle	Through-hole	\$0.27	647676-2	Digikey		
2	CONN HOUSING 2POS .156" SNGL	TE Connectivity AMP Connectors	2132813-2				\$0.27	2132813-2	Digikey		
4	CONN SOCKET 18-22AWG CRIMP TIN	TE Connectivity AMP Connectors	1744144-1				\$0.18	1744144-1	Digikey		
1	WL-OCPT OPTOCOUPLER PHOTOTRANSIS	Würth Elektronik	140105146000	U5	4-LSOP	SMD	\$0.28	140105146000	Digikey		
2	IC TRNSLTR BIDIRECTIONAL SC70-5	Analog Devices Inc./Maxim Integrated	MAX3370EXK+T	U3, U4	SC-70-5	SMD	\$3.39	MAX3370EXK+T	Digikey		
2	Green LED 1206 SMD	Lumex Opto/Components Inc.	SML-LX1206GC-TR	D1, D2	1206	SMD	\$0.38	SML-LX1206GC-TR	Digikey		
3	240 Ohm Resistor 0603 SMD LED current limiting	Vishay	MCT06030C2400FP500	R1, R24, R25	0603	SMD	\$0.13	MCT06030C2400FP500	Digikey		
1	Amber LED 1206 SMD	Würth Electronics	150120AS75000	D3	1206	SMD	\$0.21	150120AS75000	Digikey		
1	Tactile Switch SMD	C&K	PTS 647 SM38 SMTR2 LFS	B1	4LEAD	SMD	\$0.18	PTS 647 SM38 SMTR2 LFS	Digikey		
1	FUSE BOARD MNT 10A 250VAC 72VDC	Bel Fuse Inc.	0678L9100-Q2	F1	SMD, Square End Block	SMD	\$0.94	0678L9100-Q2	Digikey		
1	LED RED DIFFUSED 1608 SMD	Rohm Semiconductor	SML-D12U1WT86	D4	1608	SMD	\$0.21	SML-D12U1WT86	Digikey		
4	RES 1K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT1K00	R18-R21	0603	SMD	\$0.10	RMCF0603FT1K00	Digikey		
5	RES 10K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT10K0	R14-R17, R22	0603	SMD	\$0.10	RMCF0603FT10K0	Digikey		
1	RES 5.1K OHM 1% 1/10W 0603	YAGEO	RC0603FR-075K1L	R23	0603	SMD	\$0.10	RC0603FR-075K1L	Digikey		
2	MOSFET 2N-CH 50V 0.28A SOT563	Central Semiconductor Corp	CMLDM7003 TR	Q1, Q2	SOT-563	SMD	\$0.54	CMLDM7003 TR	Digikey		
4	2.2 uF 0603 Ceramic Capacitor	Samsung Electro-Mechanics	CL10A225K08NNNC	C11-C14	0603	SMD	\$0.10	CL10A225K08NNNC	Digikey		
2	RES 100K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT100K	R26, R27	0603	SMD	\$0.10	RMCF0603FT100K	Digikey		