

## L0005 Valve Controller BOM

Project:	Liquids Engine										
Revision:	3.1										
Date:	6/9/2023										
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	<a href="#">STM32H750VBT6</a>	LCSC		
6	SSR RELAY SPST-NO 300MA 0-600V	Panasonic Electric Works	AQH0223AX	K1-K6	8-SMD	SMD	\$1.07	<a href="#">AQH0223AX</a>	Digikey		
12	RES 100 OHM 5% 1/10W 0603	YAGEO	RC0603JR-07100RL	R2-R13	0603	SMD	\$0.10	<a href="#">RC0603JR-07100RL</a>	Digikey		
6	CAP CER 0.1UF 250V X7R 1206	Samsung Electro-Mechanics	CL31B104KEHSFNE	C16-C21	1206	SMD	\$0.25	<a href="#">CL31B104KEHSFNE</a>	Digikey		
6	PV SERIES 275V 4032 PKG	Bourns Inc.	PV275K4032R2	RV1-RV6	2-SMD, J-Lead	SMD	\$0.62	<a href="#">PV275K4032R2</a>	Digikey		
1	CONN HEADER R/A 20POS 1.27MM	CNC Tech	3220-20-0200-00	P1	20POS, 2ROW	Through-hole	\$1.43	<a href="#">3220-20-0200-00</a>	Digikey		
1	3.3V Linear Regulator	Texas Instruments	LMS8117AMP-3.3/NOPB	U2	SOT-223	SMD	\$1.39	<a href="#">LMS8117AMP-3.3/NOPB</a>	Digikey		
2	10 uF Tantalum Capacitor	KEMET	T491A106K010AT	C1, C2	1206	SMD	\$0.37	<a href="#">Datasheet</a>	Digikey		
2	CONN HEADER R/A 3POS 3.96MM	TE Connectivity AMP Connectors	647676-3	P14, P15	3POS, Right-Angle	Through-hole	\$0.28	<a href="#">Datasheet</a>	Digikey		Photogate connector
2	CONN HOUSING 3POS .156" SNGL	TE Connectivity AMP Connectors	2132781-3				\$0.36	<a href="#">Datasheet</a>	Digikey		Photogate connector
6	CONN SOCKET 18-22AWG CRIMP TIN	TE Connectivity AMP Connectors	1744144-1				\$0.18		Digikey		Photogate connector
1	2.0MM PITCH CONNECTOR WITH 4 P.C	EDAC Inc.	140-504-415-000	P2	4POS, Right-Angle	Through-hole	\$0.17	<a href="#">140-504-415-000</a>	Digikey		Engine controller connector
1	2.0MM PITCH CONNECTOR WITH 4 SLO	EDAC Inc.	140-504-210-011				\$0.10	<a href="#">140-504-210-011</a>	Digikey		Engine controller connector
4	CONN SOCKET 24-28AWG CRIMP TIN	Sullins Connector Solutions	SWT201-UPTN-S01-UU-UU				\$0.10	<a href="#">SWT201-UPTN-S01-UU-UU</a>	Digikey		Engine controller connector
6	CONN HEADER VERT 3POS 3.96MM	Molex	353130360	P3-P8	3POS	Through-hole	\$0.45	<a href="#">353130360</a>	Digikey		Solenoid connector
6	CONN RCPT HSG 3POS 3.96MM	Molex	351560300				\$0.28	<a href="#">351560300</a>	Digikey		Solenoid connector
18	CONN SOCKET 18-24AWG CRIMP TIN	Molex	502179001				\$0.14	<a href="#">502179001</a>	Digikey		Solenoid connector
8	0.1 uF 0603 ceramic capacitor	KEMET	C0603C104J4RACTU	C3-C7, C10, C15, C22	0603	SMD	\$0.14	<a href="#">C0603C104J4RACTU</a>	Digikey		
	CAP CER 10000PF 50V X7R 0603	KYOCERA AVX	06035C103KAT2A		0603	SMD	\$0.10	<a href="#">06035C103KAT2A</a>	Digikey		
	1 uF 0603 Ceramic Capacitor	KEMET	C0603X105J4RACAUTO		0603	SMD	\$0.48	<a href="#">C0603X105J4RACAUTO</a>	Digikey		
4	CONN HEADER VERT 6POS 2MM	Molex	353620650	P10-P13	6POS	Through-hole	\$0.46	<a href="#">353620650</a>	Digikey		Servo Connectors
4	CONN RECEPTACLE HOUSING 6POS 2MM	Molex	355070600				\$0.24	<a href="#">355070600</a>	Digikey		Servo Connectors
24	CONN SOCKET 24-30AWG CRIMP TIN	Molex	502128000				\$0.04	<a href="#">502128000</a>	Digikey		Servo Connectors
2	CONN HEADER R/A 2POS 3.96MM	TE Connectivity AMP Connectors	647676-2	P9, P16	2POS, Right-Angle	Through-hole	\$0.27	<a href="#">647676-2</a>	Digikey		AC Power Connectors
2	CONN HOUSING 2POS .156" SNGL	TE Connectivity AMP Connectors	2132813-2				\$0.27	<a href="#">2132813-2</a>	Digikey		AC Power Connectors
4	CONN SOCKET 18-22AWG CRIMP TIN	TE Connectivity AMP Connectors	1744144-1				\$0.18	<a href="#">1744144-1</a>	Digikey		AC Power Connectors
1	WL-OCPT OPTOCOUPLER PHOTOTRANSIS	Würth Elektronik	140105146000	U5	4-LSOP	SMD	\$0.28	<a href="#">140105146000</a>	Digikey		
2	Green LED 1206 SMD	Lumex Opto/Components Inc.	SML-LX1206GC-TR	D1, D2	1206	SMD	\$0.38	<a href="#">SML-LX1206GC-TR</a>	Digikey		
1	240 Ohm Resistor 0603 SMD LED current limiting	Vishay	MCT06030C2400FP500	R1	0603	SMD	\$0.13	<a href="#">MCT06030C2400FP500</a>	Digikey		
1	Tactile Switch SMD	C&K	PTS 647 SM38 SMTR2 LFS	B1	4LEAD	SMD	\$0.18	<a href="#">PTS 647 SM38 SMTR2 LFS</a>	Digikey		
1	FUSE BOARD MNT 10A 250VAC 72VDC	Bel Fuse Inc.	0678L9100-02	F1	SMD, Square End Block	SMD	\$0.94	<a href="#">0678L9100-02</a>	Digikey		
4	RES 1K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT1K00	R18-R21	0603	SMD	\$0.10	<a href="#">RMCF0603FT1K00</a>	Digikey		
7	RES 10K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT10K0	R14-R17, R22, R29, R31	0603	SMD	\$0.10	<a href="#">RMCF0603FT10K0</a>	Digikey		
1	RES 5.1K OHM 1% 1/10W 0603	YAGEO	RC0603FR-075K1L	R23	0603	SMD	\$0.10	<a href="#">RC0603FR-075K1L</a>	Digikey		
3	MOSFET 2N-CH 50V 0.28A SOT563	Central Semiconductor Corp	CMLDM7003 TR	Q1, Q2, Q3	SOT-563	SMD	\$0.54	<a href="#">CMLDM7003 TR</a>	Digikey		
4	2.2 uF 0603 Ceramic Capacitor	Samsung Electro-Mechanics	CL10A225KO8NNNC	C11-C14	0603	SMD	\$0.10	<a href="#">CL10A225KO8NNNC</a>	Digikey		
2	RES 100K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT100K	R26, R27	0603	SMD	\$0.10	<a href="#">RMCF0603FT100K</a>	Digikey		
1	280 Ohm Resistor 0603 SMD RGB LED current limiting Red	Stackpole Electronics Inc	RMCF0603FT280R	R28	0603	SMD	\$0.10	<a href="#">RMCF0603FT280R</a>	Digikey		
1	82 Ohm Resistor 0603 SMD RGB LED current limiting Green	Stackpole Electronics Inc	RMCF0603JT82R0	R25	0603	SMD	\$0.10	<a href="#">RMCF0603JT82R0</a>	Digikey		RMCF0603FT82R0
1	68 Ohm Resistor 0603 SMD RGB LED current limiting Blue	Stackpole Electronics Inc	<a href="#">RMCF0603FT280R</a>	R24	0603	SMD	\$0.10	<a href="#">RMCF0603FT280R</a>	Digikey		
1	LED RGB CLEAR 4PLCC SMD	CreeLED, Inc.	CLMVC-FKA-CL1D1L71BB7C3	D3		SMD	\$0.19	<a href="#">CLMVC-FKA-CL1D1L71BB7C3</a>	Digikey		
1	RES 4.7K OHM 1% 1/10W 0603	Stackpole Electronics Inc	RMCF0603FT4K70	R30	0603	SMD	\$0.10	<a href="#">RMCF0603FT4K70</a>	Digikey		
1	IC USB-TO-UART BRIDGE 28VOFN	Silicon Labs	CP2102-GMR	U3	QFN-28	SMD	\$3.24	<a href="#">CP2102-GMR</a>	LCSC		
1	TVS DIODE 5.5VWM 8.5VC SOT23-5	Littelfuse Inc.	SP0504BAHTG	D4	SOT23-5	SMD	\$0.95	<a href="#">SP0504BAHTG</a>	Digikey		
1	RES 20K OHM 1% 1/10W 0603	YAGEO	RC0603FR-0720KL	R32	0603	SMD	\$0.10	<a href="#">RC0603FR-0720KL</a>	Digikey		