

Bill of Materials - Bradley Pollock

| Part Name/Description | Unit Quantity | Unit Prototype Cost | Total Prototype Cost | Unit Production Cost | Total Production Cost | Manufacturer | Manufacturer Part # | Vendor Link | Datasheet Link | Supplier | Supplier Part # | # Ordered | Date Ordered | # Received | Surplus | Schematic Reference Designators |
|--|---------------|---------------------|----------------------|----------------------|-----------------------|--|---------------------|---|---|----------|-------------------------------------|-----------|--------------|------------|---------|---|
| 8-bit Microcontroller | 1 | \$2.10 | \$2.10 | \$1.85 | \$1.85 | Microchip | PIC18F27Q84-I/SO | https://www.digikey.com/en/products/detail/microchip-technology/PIC18F27Q84-I-SO/12807406?sr=rs=N4lgTCBcDaI-AoEKDCBGAHAMTAdolpoBYB-aBAegGUBSEAXQF8q | https://www.microchip.com/en-us/product/pic18f27q84 | DigiKey | 150-PIC18F27Q84-I/SO-ND LM25/5U 2T- | 3 | 2/28/2025 | 3 | 2 | U1 |
| 3.3V Buck Switching Power Regulator | 1 | \$3.32 | \$3.32 | \$1.45 | \$1.45 | Onsemi | LM2575D2T-3.3R4G | https://www.digikey.com/en/products/detail/onsemi/LM2575D2T-3-3R4G/1476688 | https://www.onsemi.com/pdf/datasheet/lm2575-d.pdf | DigiKey | 3.3R4GO SCT-ND | 4 | 2/28/2025 | 4 | 3 | U2 |
| SPI Motor Driver | 2 | \$1.95 | \$3.90 | \$1.17 | \$2.34 | Infineon Technologies | BTM9011EPXUMA1 | https://www.digikey.com/en/products/detail/infineon-technologies/BTM9011EPXUMA1/25702022?sr=N4lgTCBcDaIEIBUCyBOADARqwUQAocF0B | https://www.infineon.com/dgdl/infineon-Infineon-BTM9011EP-DS-v01_00-EN-DataSheet-v01_00-EN.pdf?fileId=8ac78c8c90530b3a01912d365ee4326f | DigiKey | 448-BTM9011EPXUMA1CT-ND | 4 | 2/28/2025 | 4 | 2 | U3, U4 |
| 100uF (50V) Capacitor | 1 | \$0.56 | \$0.56 | \$0.27 | \$0.27 | Nichicon | UUD1H101M1NL1GS | https://www.digikey.com/en/products/detail/nichicon/UUD1H101M1NL1GS/590047 | https://www.nichicon.co.jp/english/series_items/catalog_pdf/e-uud.pdf | DigiKey | 493-2306-1-ND | 2 | 2/28/2025 | 2 | 1 | C1 |
| 330uF (50V) Capacitor | 1 | \$1.31 | \$1.31 | \$0.67 | \$0.67 | Panasonic Electronic Components | EEE-FT1H331AP | https://www.digikey.com/en/products/detail/panasonic-electronic-components/EEE-FT1H331AP/2652057 | https://industrial.panasonic.com/cdbs/www-data/pdf/RDE0000/ABA0000C1240.pdf | DigiKey | PCE5026CT-ND | 2 | 2/28/2025 | 2 | 1 | C2 |
| Schottky Diode (40V) 1A SOD-123 | 9 | \$0.00 | \$0.00 | \$0.10 | \$0.93 | Diodes Incorporated | 1N5819HW-7-F | https://www.digikey.com/en/products/detail/diodes-incorporated/1N5819HW-7-F/814970 | https://www.diodes.com/assets/Datasheets/1N5819HW.pdf | DigiKey | 1N5819HW-FDICT-ND | 10 | 2/28/2025 | 10 | | D1, D5, D6, D7, D8, D9, 1 D10, D11, D12 |
| LED (Blue) 470nm 3.3V 0805 pack | 3 | \$0.23 | \$0.69 | \$0.11 | \$0.33 | Lite-On Inc. | LTST-C171TBKT | https://www.digikey.com/en/products/detail/liteon/LTST-C171TBKT/388528 | https://optoelectronics.liteon.com/upload/download/DS22-2000-233/LTST-C171TBKT(0630).pdf | DigiKey | 160-1645-1-ND | 5 | 2/28/2025 | 5 | 2 | D2, D3, D4 |
| 12V 36 W AC/DC External Wall Mount (Class II) Power Supply | 1 | \$12.19 | \$12.19 | \$9.77 | \$9.77 | Tri-Mag, LLC Same Sky (Formerly CUI Devices) | L6R36-120 | https://www.digikey.com/en/products/detail/tri-mag-llc/L6R36-120/7682645 | https://www.tri-mag.com/wp-content/uploads/2021/07/L6R36-Series_1908a.pdf | DigiKey | 364-1282-ND | 1 | 2/28/2025 | 1 | 0 | "Off-board" |
| Barrel Jack | 1 | \$0.49 | \$0.49 | \$0.35 | \$0.35 | Same Sky (Formerly CUI Devices) | PJ-002B | https://www.digikey.com/en/products/detail/same-sky-formerly-cui-devices/PJ-002B/96965 | https://www.sameskydevices.com/product/resource/pj-002b.pdf | DigiKey | CP-002B-ND | 1 | 2/28/2025 | 1 | 0 | J1 |
| Power Jumper (1x2, 2.54mm) 3A Rated | 6 | \$0.10 | \$0.60 | \$0.03 | \$0.19 | Sullins Connector Solutions | QPC02SXGN-RC | https://www.digikey.com/en/products/detail/sullins-connector-solutions/QPC02SXGN-RC/2618262 | https://s3.amazonaws.com/catalog-images/pdf/PAGE128-129%20.100%20JUMPER.pdf | DigiKey | S9337-ND | 6 | 2/28/2025 | 6 | 0 | J2, J3, J4, J5 |
| 2x4 IDC Header Male | 2 | \$0.95 | \$1.90 | \$0.81 | \$1.62 | Molex | 0702460801 | https://www.digikey.com/en/products/detail/molex/0702460801/760165 | https://www.digikey.com/en/products/detail/molex/0702460801/760165 | DigiKey | 900-0702460801-ND | 4 | 2/28/2025 | 4 | 2 | J6, J7 |
| Motor Wire Harness Header | 1 | \$0.30 | \$0.30 | \$0.20 | \$0.20 | Molex | 22284043 | https://www.digikey.com/en/products/detail/molex/0022284043/3138947?sr=N4lgTCBcDa5gtGA-HPALABIQZhAXQL5A | https://www.molex.com/pdm_docs/sd/022284043_sd.pdf | DigiKey | WM50016-04-ND | 2 | 2/28/2025 | 2 | 1 | J8 |
| 330uH Inductor 4A 80mOhm | 1 | \$2.42 | \$2.42 | \$2.42 | \$2.42 | Murata Power Solutions Inc. | 60B334C | https://www.digikey.com/en/products/detail/murata-power-solutions-inc/60B334C/3178535 | https://search.murata.co.jp/Cera/my/image/img/P02A/kmp_6000b.pdf | DigiKey | 811-2464-ND | 1 | 2/28/2025 | 1 | 0 | L1 |
| Tactile switch | 1 | \$0.18 | \$0.18 | \$0.14 | \$0.14 | C&K | PTS636SM43SMTR LFS | https://www.digikey.com/en/products/detail/c-k/PTS636SM43SMTR-LFS/10071723 | https://www.ckswitches.com/media/2779/pts636.pdf | DigiKey | CKN12310-1-ND | 4 | 2/28/2025 | 4 | 3 | SW-1, SW-2 |
| 12V Bipolar Stepper Motor | 1 | \$2.65 | \$2.65 | \$2.05 | \$2.05 | Fulling Motor USA | 35BYHJ30-36A | https://www.digikey.com/en/products/detail/fulfilling-motor-usa/Bipolar-Stepper-Motor-12VDC-259-mA-7-5-deg-48-15776052 | https://www.jameco.com/Jameco/Products/ProdDS/2234476.pdf | Jameco | 2234476 | 2 | 2/28/2025 | 2 | 1 | MG1 |
| 0.1 uF Ceramic Capacitor, +/-10%, X7R, 50V, 0805 pack | 6 | \$0.00 | \$0.00 | \$0.07 | \$0.42 | Multicomp | 0805B104K500BD | https://www.digikey.com/en/products/detail/multicomp-components/0805B104K500BD/15776052 | https://mm.digikey.com/Volume0/opasdata/0220001/medias/docs/0490/3372_0805B104K500BD.pdf | Peralta | 0805B104K500BD | 12 | 2/28/2025 | 12 | 6 | C3, C4, C5, C6, C7, C8 |
| Fuse (1000mA 250V 5x20mm cartridge) | 5 | \$0.00 | \$0.00 | \$0.73 | \$3.65 | Littelfuse Inc. | 0218001.HXP | https://www.digikey.com/en/products/detail/littelfuse-inc/0218001-HXP/777135 | https://www.littelfuse.com/~/media/assets/pdf/assetguid-a96d72b7-5296-4815-88b4-98b2f6738874 | Peralta | F2419-ND | 3 | 2/28/2025 | 3 | -2 | F1 |
| 500 mA 250 V AC DC Fuse Cartridge, 5mm x 20mm | 5 | \$0.00 | \$0.00 | \$0.53 | \$2.67 | Eaton - Electronics Division | BK1/GMA-500-R | https://www.digikey.com/en/products/detail/eaton-electronics-division/BK1-GMA-500-R/1877132 | http://am.eaton.com/eaton-electronics-components/resources/data-sheet/eaton-gma-time-delay-glass-tube-fuses-data-sheet.pdf | Peralta | 283-3263-ND | 3 | 2/28/2025 | 3 | -2 | F2, F3 |
| 2x4 IDC Header Female (Ribbon Cable) | 2 | \$0.00 | \$0.00 | \$4.53 | \$9.06 | Molex | 0015453508 | https://www.digikey.com/en/products/detail/molex/0015453508/3122857 | https://www.molex.com/pdm_docs/s/as/AS-71395-001-001.pdf | Peralta | WM25220-ND | 2 | 2/28/2025 | 2 | 0 | "Off-board" |
| ICSP and Servo Headers (2.54mm male) | 2 | \$0.00 | \$0.00 | \$0.16 | \$0.32 | Adam Tech | PH11-18-UA | https://www.digikey.com/en/products/detail/adam-tech/PH11-18-UA/9830420 | http://tech.com/products/download/data_sheet/201605/ph1-xx-ua-data-sheet.pdf | Peralta | PH11-18-UA-ND | 0 | 2/28/2025 | 0 | -2 | J9, J10 |
| 330Ohm resistor .25W +/-5% | 1 | \$0.00 | \$0.00 | \$0.01 | \$0.01 | KOA Speer Electronics, Inc. | RK73B2ATTD331J | https://www.digikey.com/en/products/detail/koaspeer-electronics-inc/RK73B2ATTD331J/1023654 | https://www.koaspeer.com/pdfs/RK73B.pdf | Peralta | ATTD331JCT-ND | 3 | 2/28/2025 | 3 | 2 | R1 |
| 10kOhm .25W +/-1% | 1 | \$0.00 | \$0.00 | \$0.01 | \$0.01 | Stackpole Electronics Inc | RNCP0805FTD10K0 | https://www.digikey.com/en/products/detail/stackpole-electronics-inc/RNCP0805FTD10K0/22402 | https://www.seielect.com/catalog/sei-mcp.pdf | Peralta | RNCP0805FTD10K0CT-ND | 3 | 2/28/2025 | 3 | 2 | R2 |
| 220Ohm .25W +/-5% | 3 | \$0.00 | \$0.00 | \$0.01 | \$0.03 | KOA Speer Electronics, Inc. | RK73B2ATTD221J | https://www.digikey.com/en/products/detail/koaspeer-electronics-inc/RK73B2ATTD221J/1023656 | https://www.koaspeer.com/pdfs/RK73B.pdf | Peralta | ATTD221JCT-ND | 5 | 2/28/2025 | 5 | 2 | R3, R4, R5 |