

| Remote RS485 Interface | | | | | | |
|------------------------------------|----------------------|------------------------|----------|--------------------------|--|---|
| id | Designator | Footprint | Quantity | Designation | Description | Purchase Link Data Sheet |
| 1 | U4 | SOP-8 | 1 | | RS485 Transceivers | https://www.digikey.com/volume0/products/data/datasheet/5341/5341-178B.pdf |
| 2 | J3,J4 | RJ45 | 2 | SN65176BDR | Shielded RJ45 Connectors | https://www.digikey.com/volume0/products/data/datasheet/203864/m66b1-1a-data-sheet.pdf |
| 3 | R1, R2, R3, R4 | Imperial: 0402 | 4 | 10 ohm | RS485 Res Pulse Proof Thick Film | https://www.digikey.com/volume0/products/data/datasheet/2178325-1-datasheet.pdf |
| 4 | RS, R6 | Imperial: 0402 | 2 | 120 ohm | 120 ohm, RS485 Term Res | |
| 5 | R7, R8, R9, R10, R15 | Imperial: 0402 | 4 | 10k | 10k ohm Res, UART-RS485 | |
| 6 | D1, D2 | SOT23 | 2 | TVS CDSOT23-SM712 | TVS Diode, RS485 | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 7 | C1, C2, C3, C4 | Imperial: 0402 | 4 | 100nF | Ceramic Cap, RS485 | |
| 8 | U5 | USB to UART | 1 | MCP2200-I/SO | USB to UART Interface | https://www.mouser.com/datasheet/2/268/MCP2200_USB_2_0_to_UART_Protocol_Converter_with_GP-2401246.pdf |
| 9 | C5 | Imperial: 0402 | 1 | 0.22uF | Bypass CAP | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 10 | C6 | Imperial: 0402 | 1 | 10uF | Bus CAP (Can't be more than 10uF) | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 11 | J1, J2 | Micro-USB | 1 | | USB Connection to Rem PC | |
| 12 | Y1 | 3 Pins (Dim Given) | 1 | 12MHz 33pF | Ceramic Resonator | https://www.murata.com/en-us/pdf/download/7cateru/Ceramic_Capacitors32Mdxparhnc-GRM156R60J108ME16%2 |
| 13 | R11 | Imperial: 0402 | 1 | 10k | RES for RESET | |
| Local RS485 Interface | | | | | | |
| id | Designator | Footprint | Quantity | Designation | Description | Purchase Link Data Sheet |
| 1 | U1 | ESP8266 (Slave) | 1 | | | |
| 2 | R12 | Imperial: 0402 | 1 | 499 ohm | UARTRX Res | |
| 3 | R13 | Imperial: 0402 | 1 | 200 ohm | SDIO_CLK Res | |
| 4 | R14 | Imperial: 0402 | 1 | 12k±1% | RES12K Res | |
| 5 | C7 | Imperial: 0402 | 1 | 10uF | | |
| 6 | C8 | Imperial: 0402 | 1 | 0.1uF | | |
| 7 | C9 | Imperial: 0402 | 1 | 1uF | | |
| 8 | C10 | Imperial: 0402 | 1 | 3.0pF | | |
| 9 | C11 | Imperial: 0402 | 1 | 2.4pF | | |
| 10 | J5 | SMA | 1 | WII SMA Coax Conn | | |
| 11 | U2 | SO8N | 1 | 8296 Flash Memory | M95M02-DR | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 12 | C12, C13 | Imperial: 0402 | 2 | 14pF | Crystal OSC Caps | |
| 13 | Y2 | 4 Pins (Custom) | 1 | 32640Hz ±10ppm | Crystal Oscillator | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 14 | L1 | Imperial: 0603 | 1 | 4.3nH | | |
| 15 | L2 | Imperial: 0603 | 1 | 2.2nH | | |
| High Side Switch and Current Sense | | | | | | |
| id | Designator | Footprint | Quantity | Designation | Description | Purchase Link Data Sheet |
| 1 | U8 | 8SOIC | 1 | High Side Current Sensor | | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 2 | U7 (NOT USED) | SOT-23-5 | 1 | Op-AMP I-Sense DUT | OPA320AGDBVRQ1 | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 3 | R17 | Imperial: 0402 | 1 | 1.7M | | |
| 4 | R18 | Imperial: 0402 | 1 | 3.3M | | |
| 5 | C14 | Imperial: 0402 | 1 | 330pF | | |
| 6 | R16 | 4 Pins, Imperial: 0603 | 1 | 100m | Sense Resistor, Metal Film, Low Inductance | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 7 | Q1 | DFN3X3-8L | 1 | Power FET -80V, 16A | Load Switch | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 8 | Q2 | SOT-23-3 | 1 | Control FET | NMOS Gate FET for Load Switch | https://www.digikey.com/volume0/products/data/datasheet/2614/CL05B224K05NNNG-Spec.pdf |
| 9 | R19 (NOT USED) | Imperial: 0402 | 1 | 20hm | | |
| 10 | R20 | Imperial: 0402 | 1 | 550ohm | | |
| 11 | R21 | Imperial: 0402 | 1 | 2M | | |
| 12 | R22 | Imperial: 0402 | 1 | 1M | | |
| 13 | R23 | Imperial: 0402 | 1 | 100k | | |