

Remote RS485 Interface								
Id	Designator	Footprint	Quantity	Designation	Description	Purchase Link	Data Sheet	
1	U3, U4	SOP 8	2	SN65176BDR	RS485 Transceivers	https://www.digik	https://mm.digik Link	
2	J3,J4	RJ45	2		Shielded RJ45 Connectors	https://www.digik	https://app.adam Link	
3	R1, R2, R3, R4	Imperial: 0402	4	10 ohm	RS485 Res Pulse Proof Thick Film	https://www.digik	https://www.te.co Link	
4	R5, 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.digik	https://www.bour Link	
7	C1, C2, C3, C4	Imperial: 0402	4	100nF	Ceramic Cap, RS485			
8	U5	USB to UART	2	MCP2200-I/SO	USB to UART Interface	https://www.mou	https://www.mou Link	
9	C5	Imperial: 0402	1	0.22uF	Bypass CAP	https://www.digik	https://mm.digik Link	
10	C6	Imperial: 0402	1	10uF	Bus CAP (Can't be more than 10uF)	https://www.digik	https://www.mur Link	
11	J1, J2	Micro-USB	1		USB Connection to Rem PC			
12	Y1	3 Pads (Dim Given)	2	12MHz 33pF	Ceramic Resonator	https://www.digik	https://www.mur Link	
13	R11	Imperial: 0402	1	10k	RES for RESET			
14	D11		1	5V Zener	Clamp Zener			
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	Wifi SMA Coax Conn				
11	U2	S08N	1	8266 Flash Memory	M95M02-DR	https://www.digik	https://www.st.cc Link	
12	C12, C13	Imperial: 0402	2	14pF	Crystal OSC Caps			
13	Y2	4 Pads (Custom)	1	26Mhz ±10ppm	Crystal Oscillator	https://www.digik	https://support.e Link	
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	Notes
1	U6	8SOIC	1	MAX4080	High Side Current Sensor	https://www.digik	https://www.anal Link	
2	R17	Imperial: 0402	1	1.7M				
3	R18	Imperial: 0402	1	3.3M				
4	C14	Imperial: 0402	1	30nF				
5	R16	THT	1	0.1ohm, 35W	Current Sense Resistor	https://www.new	https://www.farn Link	

6	Q1	TO-252	1	AOD66920	Load Switch	https://www.digik	https://aosmd.co	Link
7	D3	D2PAK	1	STTH30L06G-TR	Flyback Diode	https://www.digik	https://mm.digik	Link
8	J6, J7	Screw Terminal Conn	2	300VAC 20A	TJ0251830000G	https://www.digik	http://www.anyte	Link
9	U5		1	FAN73711	Gate Driver	https://www.digik	https://www.onse	Link
10	C17		1	0.47uF	Bootstrap Capacitor	https://www.digik	https://calchip.cc	Link
11	R19		1	500 ohm	Bootstrap Resistor	https://www.digik	https://fscdn.roh	Link
12	D4		1	PU6JB	Bootstrap Diode	https://www.digik	https://www.taiw	Link
13	C18, C21		2	10uF	Bypass Caps			
14	C20, C22		2	0.1uF	Bypass Caps			
15	R20		1	5ohm	Gate Resistor			
Power Conversion								
Id	Designator	Footprint	Quantity	Designation	Description	Purchase Link	Data Sheet	Notes
1	U9	8SOIC	1	MP2492DN-LF-Z	28V to 15V Buck	https://www.digik	https://www.mon	Link
2	C23		1	4.7uF				
	C24		1	100uF				
	C25, C35, C37		3	0.1uF				
	C26, C27, C32		3	10nF				
	C28		1	68uF				
	C29, C30, C31, C33, C36		5	10uF				
	R36		1	300k				
	R37		1	57.6k				
	R38		1	20k				
	D9		1	Schottky 15V Vbr				
	R39		1	10k				
	R40		1	3.57k				
	R41		1	1.15k				
	U10		1	NCP59748MN1ADJTBG	5V to 3v3 Linear Regulator	https://www.digik	https://www.onse	Link
	D10		1	3SMAJ5929B-TP	15V Zener	https://www.digik	https://www.mcc	Link
	C34		1	100uF				