

**Part list**  
**AKKON Controller Board V1.4**

Pos	Identifier	Value	Case	Description	Remarks	estimated cost [€]
1	C1	18p	805	capacitor ceramic		0.1
2	C2	18p	805	capacitor ceramic		0.1
3	C3	10u/6.3V	3216	capacitor tantalum		0.7
4	C4	100n	805	capacitor ceramic		0.1
5	C5	18p	805	capacitor ceramic		0.1
6	C6	18p	805	capacitor ceramic		0.1
7	C7	100n	805	capacitor ceramic		0.1
8	C8	100n	805	capacitor ceramic		0.1
9	C9	100n	805	capacitor ceramic		0.1
10	C10	100n	805	capacitor ceramic		0.1
11	C11	100n	805	capacitor ceramic		0.1
12	C12	100n	805	capacitor ceramic		0.1
13	C13	100n	805	capacitor ceramic		0.1
14	C14	100n	805	capacitor ceramic		0.1
15	C15	100n	805	capacitor ceramic		0.1
16	C16	18p	805	capacitor ceramic		0.1
17	C17	18p	805	capacitor ceramic		0.1
18	C18	470u/16V	radial s=3.5mm	capacitor electrolytic D=8mm		0.1
19	C19	100n	805	capacitor ceramic		0.1
20	C20	47u	3528	capacitor tantalum		0.7
21	C21	100n	805	capacitor ceramic		0.1
22	C22	100n	805	capacitor ceramic		0.1
23	C23	100n	805	capacitor ceramic		0.1
24	C24	100n	805	capacitor ceramic		0.1
25	C25	100n	805	capacitor ceramic		0.1
26	C26	100n	805	capacitor ceramic		0.1
27	D1	1N4148	D1206	diode		0.1
28	D2	1N4148	D1206	diode		0.1
29	D3	BAS70_04	SOT-23	schottkey diode		0.3
30	D4	LED_USB	LED	green led low current		0.2
31	D5	BAS70_05	SOT-23	schottkey diode		0.3
32	D6	ClkX	D1206	yellow led low current	o	0.1
33	D7	ClkY	D1206	yellow led low current	o	0.2
34	D8	MaxX	D1206	red led low current	o	0.2
35	D9	MaxY	D1206	red led low current	o	0.2
36	D10	BS40S	SO-DIL	diode		0.3
37	D11	SS14	DO-214	schottkey diode		0.2
38	D12	1N4148	D1206	diode		0.2
39	D13	Power	D1206	green led low current		0.2
40	D14	ClkZ	D1206	yellow led low current	o	0.2
41	D15	ClkC	D1206	yellow led low current	o	0.2
42	D16	PWM	D1206	yellow led low current		0.2
43	D17	MaxZ	D1206	red led low current	o	0.2
44	D18	MaxC	D1206	red led low current	o	0.2
45	IC1	TPS3809K33DBVR	SOT-23	reset controller		1
46	IC2	LPC2148	SOT314-2	ARM7 micro controller		14
47	IC3	74LV245	SOL-20	line driver (altern. 74HC245)		0.8
48	IC4	74LV245	SOL-20	line driver (altern. 74HC245)		0.8
49	IC5	74LV245	SOL-20	line driver (altern. 74HC245)		0.8
50	IC6	74LV245	SOL-20	line driver (altern. 74HC245)		0.8
51	IC7	MAX3232EWE	SOJ-16	RS232 line driver		3
52	IC8	LM1117	SOT-223	voltage regulator		1
53	J1	Reset	PSS2G	connector	o	0.4
54	J2	SPI1	PSS8G	connector	o	0.8
55	J3	Spindle 1	IDC10	connector	if not J7	0.2
56	J4	InputA	IDC16	connector	if not J7	0.3

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57	J5	AOutDisable	SIP2	connector	o	0.3
58	J6	AOut	PSS3G	connector	o	0.6
59	J7	ETHERNET1X5	RJ45	Modular jack RJ45, 8 pins	5 items	5
60	J8	RS2320_ICSP	IDC10	connector		0.2
61	J9	VREF	SIP4	connector		0.3
62	J10	USB	USB_B_BUCHSE	USB connector tye B		0.6
63	J11	UBat	PSS2G	connector	o	0.4
64	J12	JTAG	IDC20	connector	o	0.2
65	J13	Motors	IDC26	connector	if not J7	0.3
66	J14	UB	PSS2W	connector		0.5
67	J15	VCC	PSS2G	connector	o	0.5
68	J16	DebugEn	SIP2	connector	o	0.2
69	J17		PSS3G	connector	o	0.4
70	Q1	BC847	SOT-23	transistor		0.1
71	Q2	BC856	SOT-23	transistor		0.1
72	R1	10K	805	resistor		0.1
73	R2	4K7	805	resistor		0.1
74	R3	100	805	resistor		0.1
75	R4	22K	805	resistor		0.1
76	R5	22K	805	resistor		0.1
77	R6	22K	805	resistor		0.1
78	R7	1K	805	resistor		0.1
79	R8	10K	805	resistor		0.1
80	R9	0	805	resistor		0.1
81	R10	4K7	SIP9	resistor network 8-1		0.2
82	R11	10K	805	resistor		0.1
83	R12	33	805	resistor		0.1
84	R13	33	805	resistor		0.1
85	R14	100K	805	resistor		0.1
86	R15	1K5	805	resistor		0.1
87	R16	10K	805	resistor		0.1
88	R17	3K3	805	resistor		0.1
89	R18	390	805	resistor		0.1
90	R19	Rx	805	resistor		0.1
91	R20	Ry	805	resistor		0.1
92	R21	10K	805	resistor		0.1
93	R22	10K	805	resistor		0.1
94	R23	10K	805	resistor		0.1
95	R24	10K	805	resistor		0.1
96	R25	10K	805	resistor		0.1
97	R26	10K	805	resistor		0.1
98	R27	2K2	805	resistor	o	0.1
99	R28	2K2	805	resistor	o	0.1
100	R29	2K2	805	resistor	o	0.1
101	R30	2K2	805	resistor	o	0.1
102	R31	2K2	805	resistor		0.1
103	R32	2K2	805	resistor		0.1
104	S1	Reset	Taster3305	micro switch		0.2
105	S2	ICSP	DIPSWITCH2	dip switch		0.8
106	X1	12MHz	HC49	oscillator quarz		0.5
107	X2	32768Hz	OSZILLATOR3	clock oscillator quarz		0.4
108				AKKON Controller Board PCB		24
109				<b>Sum [€]</b>		<b>70.2</b>
110						
111						
112						

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Pos	Identifier	Value	Case	Description	Remarks	estimated cost [€]
113						
114				D-Sub jack 9pin fem, clamping	o	1
115				D-Sub jack 25pin fem, clamping	o	1
116				D-Sub jack 15pin fem, clamping	o	1
117				USB to serial converter	o	14
118				Ethernet-Cable RJ45 blue	o	2
119				Ethernet-Cable RJ45 red	o	2
120				Ethernet-Cable RJ45 green	o	2
121				Ethernet-Cable RJ45 yellow	o	2
122				Ethernet-Cable RJ45 grey	o	2
123				screws	o	2
124				soldering paste	o	1
125				RS232 cable to Spindle	o	2
126				<b>Sum [€]</b>		<b>127.1</b>
127						
128						
129						
130						

o..optional (depending on application and mounting)