EEZ Arduino shield+BP BOM (PCB: r1B12c, 2016-03-15)

						GBP/EUR ratio:		1,27749

				Farnell			TME			Combined
Qty	Value	Note	Parts	Code	Unit price	Total	Code	Unit price	Total	Combined
6	Arduino Mega2560 header 1x8-pin	TSW-108-07-T-S	ADCL, ADCH, Comm, PWML, PWMH, X8	1022256	0,081	£0,48	ZL201-08G	0,074	0,44 €	0,44 €
6	10n	1206	C1, C5, C7, C10, C40, C41	1759350	0,034	£0,21	CL31B103KBCNNNC	0,012	0,07 €	0,07 €
25	100n	0603	C11, C12, C13, C14, C15, C16, C17, C18, C20, C21, C22, C23, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C36, C38, C39	1759016	0,006	£0,16	CL10B104KO8NNNC	0,006	0,15 €	0,15 €
1	47u	16V	C19	9695664	0,189	£0,19	EEEFK1C470UR	0,190	0,19 €	0,19 €
1	1u		C2	2320827	0,057	£0,06	CL21B105KAFNNNG	0,011	0,01 €	0,01 €
1	10u	35V	C24	1850112	0,204	£0,20	EEEFK1V100R	0,210	0,21 €	0,21 €
2	470n	1812, 100V	C3, C8	1828961	0,484	£0,97	CL43B474KCHNNNE	0,133	0,27 €	0,27 €
1	1F	Supercap 5V	C37	9697497	4,340	£4,34	EECS5R5H105	2,390	2,39 €	2,39 €
2	EEUFC1J220		C4, C9	9692495	0,221	£0,44	EEUFC1J220	0,163	0,33 €	0,33 €
2	18p		C42, C43	2320820	0,019	£0,04	CL21C180JBANNNC	0,010	0,02 €	0,02 €
3	10u	1206	C6, C35, C44	1759445	0,057	£0,17	CSMD10U1206X	0,060	0,18 €	0,18 €
6	BAS316		D1, D2, D3, D4, D5, D7	8734275	0,149	£0,89	BAS316	0,020	0,12 €	0,12 €
1	Arduino Mega2560 header 2x18-pin	TSW-118-07-T-D	Digital	2025426	1,820	£1,82	-			2,33 €
1	TLC5925		IC1	1694438	0,894	£0,89	-			1,14 €
1	SN74LV125APW		IC10	9592512	0,621	£0,62	SN74LV125APW	0,180	0,18 €	0,18 €
2	Si8620EC-B-IS		IC11, IC12	2423243	1,560	£3,12	-			3,99 €
1	PCA21125		IC14	2400445	1,070	£1,07	-			1,37 €
1	AT25256B		IC15	1841577	0,757	£0,76	25AA256-I/SN	1,090	1,09 €	0,97 €
1	ENC28J60-I/SS		IC16	1811239	2,240	£2,24	ENC28J60-I/SS	2,540	2,54 €	2,54 €
6	SN74LVCC3245ADBR	SSOP-24	IC2, IC3, IC4, IC5, IC7, IC8	2342537	0,443	£2,66	-			3,40 €
1	LD1117ADT33TR		IC6	1087169	0,458	£0,46	LD1117ADT33	0,506	0,51 €	0,51 €
2	Si8660EC-B-IS1		IC9, IC13	2423343	3,240	£6,48	-			8,28 €
1	Arduino Mega2560 socket 2x3-pin		ICSP	7991983	0,605	£0,61	ZL262-6DG	0,066	0,07 €	0,07 €
2	BS-244DSM-R	Binding post 4mm, red	J1, J5	1815818	2,120	£4,24	BS-244DSM-R	1,170	2,34 €	2,34 €
2	BS-244DSM-Y	Binding post 4mm, yellow	J2, J6	1815822	2,210	£4,42	BS-244DSM-Y	1,170	2,34 €	2,34 €

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2	BS-244DSM-BL	Binding post 4mm,blue	J3, J8	1815821	2,100	£4,20	BS-244DSM-BL	1,170	2,34 €	2,34 €
1	BS-244DSM-B	Binding post 4mm, black	J4, J9	1815819	2,110	£2,11	BS-244DSM-B	1,170	1,17 €	1,17 €
1	BS-244DSM-G	Binding post 4mm, green	J7	1815820	2,170	£2,17	BS-244DSM-G	1,170	1,17 €	1,17 €
1	826926-3	3-pin jumper	JP2	1248141	0,072	£0,07	826926-3	0,110	0,11 €	0,09 €
2	826926-2	2-pin jumper	JP1, JP3	1248140	0,057	£0,11	826926-2	0,100	0,20 €	0,15 €
1	0R-JUMPA	Zero-ohm jumper	JP4	9233750	0,010	£0,01	SMD0805-0R	0,059	0,06 €	0,01 €
2	RT424005	Relay 5V, 8A	K_PAR, K_SER	9950168	2,510	£5,02	RT424005	1,730	3,46 €	3,46 €
2	G6K-2F-5DC	G6K-2F	K_S1, K_S2	4446185	2,810	£5,62	G6K-2F-5DC	2,510	5,02 €	5,02 €
1	60R@100MHz	Ferrite bead 60R	L1	1635704	0,033	£0,03	LCBA-600	0,027	0,03 €	0,03 €
1	TFT_320QVT	*See below*	LCD1	-			-			
2	L-934ID	3mm red	LED_CC1, LED_CC2	2217957	0,147	£0,29	L-934ID	0,049	0,10 €	0,10 €
6	L-934YD	3mm yellow	LED_CV1, LED_CV2, LED_S1+, LED_S1-, LED_S2+, LED_S2-	2217961	0,116	£0,70	L-934YD	0,052	0,31 €	0,31 €
2	L-115WEGW-CA	3mm red/green	LED_O1+, LED_O1-	-			L-115WEGW-CA	0,104	0,21 €	0,21 €
2	L-934GD	3mm green	LED_O2+, LED_O2-	2217959	0,156	£0,31	L-934GD	0,044	0,09 €	0,09 €
1	L-934MBC	3mm blue	LED_PWR	1142493	0,678	£0,68	L-934MBC	0,470	0,47 €	0,47 €
1	Arduino Mega2560 header 1x6-pin	TSW-106-07-T-S	Power	1022255	0,119	£0,12	ZL201-06G	0,052	0,05 €	0,05 €
5	IRLML2246TRPBF		Q1, Q2, Q3, Q5, Q9	1888166	0,099	£0,49	IRLML2246TRPBF	0,100	0,50 €	0,50 €
8	2N7002		Q4, Q6, Q7, Q8, Q10, Q11, Q12, Q13	1713823	0,038	£0,30	2N7002	0,034	0,28 €	0,28 €
4	4K7		R1, R2, R7, R14	9333266	0,012	£0,05	RC0805FR-074K7	0,007	0,03 €	0,03 €
1	560R		R11	9333363	0,014	£0,01	RC0805FR-07560R	0,007	0,01 €	0,01 €
2	10K		R12, R15	9237755	0,009	£0,02	RC0805FR-0710K	0,006	0,01 €	0,01 €
4	50R 0.1%		R16, R17, R18, R19	2141727	0,016	£0,06	RC0805FR-0749R9	0,007	0,03 €	0,03 €
1	10R		R20	2380677	0,111	£0,11	RC0805FR-0710R	0,007	0,01 €	0,01 €
1	2K2 1%		R21	2138946	0,024	£0,02	SMD0805-2K2-1%	0,008	0,01 €	0,01 €
1	120R 1%		R23	2447561	0,002	£0,00	CRCW0805120RFKTABC	0,008	0,01 €	0,00 €
2	200R		R24, R25	9332758	0,016	£0,03	RC0805FR-07200R	0,007	0,01 €	0,01 €
4	240R		R26, R27, R31, R32	9332871	0,016	£0,06	RC0805FR-07240R	0,007	0,03 €	0,03 €
2	1R		R3, R8	2141629	0,016	£0,03	RC0805FR-071R	0,008	0,02 €	0,02 €
10	100K		R4, R6, R9, R10, R13, R22, R28, R30, R33, R34	1887334	0,017	£0,17	SMD0805-100K-1%	0,008	0,08 €	0,08 €
1	1K5		R5	9332600	0,016	£0,02	RC0805FR-071K5	0,007	0,01 €	0,01 €
1	LD-BZEN-0903	Buzzer without built-in generator	SG1	-			LD-BZEN-0903	0,477	0,48 €	0,48 €

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Qty	Part number	Description	Reference	Farnell		£	Mfr part		€	€
2	282836-4	Terminal block 4-way, 1.5mm2, 5mm	X1, X2	3089058	0,701	£1,40	282836-4	0,640	1,28 €	1,28 €
2	22-23-2021	2-pin 0.1" socket	X3, X7	1462926	0,040	£0,08	MX-22-23-2021	0,060	0,12 €	0,10 €
1	22-23-2041	4-pin 0.1" socket	X4	1462920	0,131	£0,13	MX-22-23-2041	0,100	0,10 €	0,10 €
2	09185106324	10-pin IDC socket	X5, X6	1106832	1,020	£2,04	09185106324	0,820	1,64 €	1,64 €
1	LMJTAB881243M-L	RJ-45 with transformer, LEDs	X8	-			LMJTAB881243M-L	2,220	2,22 €	2,22 €
2	22-23-2031	3-pin 0.1" socket	X9, X11	1462950	0,062	£0,12	MX-22-23-2031	0,070	0,14 €	0,14 €
1	32,768kHz	RTC XTAL	Y1	2449395	0,151	£0,15	32.768K-TC38	0,142	0,14 €	0,14 €
1	25MHz	Ethernet XTAL	Y2	2467741	0,206	£0,21	25.00M-SMDHC49S	0,359	0,36 €	0,26 €
9	Screwed spacer sleeve; M5; 8mm; brass	See picture *EEZ Arduino shield binding posts extensions.JPG*	n/a	-			TFM-M5X8/DR218	0,187	1,68 €	1,68 €
13	Spacer sleeve for LED 12mm	See picture EEZ Arduino shield+BP LED spacers.JPG	n/a	-			FIX-LEDH-12	0,064	0,83 €	0,83 €
						£64,51			38,24 €	58,37 €

Optional (input and output protection)

Qty	Part number	Description	Reference	Farnell		£	Mfr part		€	€
1	SMBJ5.0A-TR		D6	2353654	0,071	£0,07	SMBJ5.0A-TR	0,089	0,09 €	0,09 €
1	1301.9316	Tactile switch	SW1	1217765	0,510	£0,51	1301.9316	0,220	0,22 €	0,22 €
5	ERZE08A201	Varistor 130VAC	VR1, VR2, VR3, VR4, VR5	2291786	0,191	£0,96	SIOV-S10K130	0,263	1,31 €	1,22 €
5			VR6, VR7, VR8, VR9, VR10							
			VR1, VR2, VR3, VR4, VR5							
			VR6, VR7, VR8, VR9, VR10							
			VR1, VR2, VR3, VR4, VR5							
			VR6, VR7, VR8, VR9, VR10							
2	1.5KE75A	0-30 V Model	ZD1, ZD2				1.5KE75A-LF	0,570		
2	1.5KE43A	0-30 V Model	ZD3, ZD4				1.5KE43A-LF	0,580		
2	1.5KE100A	0-40 V Model	ZD1, ZD2				1.5KE100A-DIO	0,200		
2	1.5KE56A	0-40 V Model	ZD3, ZD4				1.5KE56A-DIO	0,200		
2	1.5KE130A	0-50 V Model	ZD1, ZD2				1.5KE130A-E3/54	0,236	0,47 €	0,00 €
2	1.5KE68A	0-50 V Model	ZD3, ZD4	9885102	0,393	£0,79	1.5KE68A	0,201	0,40 €	0,40 €
						£2,32			2,50 €	1,93 €

Optional (V/F converters for battery temperature)

2	100n	0603	C45, C47	1759016	0,006	£0,01	CL10B104KO8NNNC	0,006	0,01 €	0,01 €
2	47n		C46, C48	1759260	0,015	£0,03	CC0805KRX7R9473	0,009	0,02 €	0,02 €
2	BC857BS		IC17, IC19	1081247	0,035	£0,04	BC857BS	0,027	0,03 €	0,03 €
2	NE555D		IC18, IC20	9589880	0,194	£0,39	TLC555CD	0,250	0,50 €	0,50 €
2	1K5		R29, R35	9332600	0,016	£0,03	RC0805FR-071K5	0,007	0,01 €	0,01 €
2	22-23-2021	2-pin 0.1" socket	X10, X12	1462926	0,040	£0,08	MX-22-23-2021	0,060	0,12 €	0,10 €
						£0,58			**0,69 €**	**0,67 €**

Arduino boards

	Arduino Mega2560r3	8-bit MCU, 5V		2212779	28,760	£28,76	A000067	35,900	35,90 €	35,90 €
	Arduino Due	32-bit MCU, 3.3V		2250861	32,940	£32,94	A000062	36,500	36,50 €	36,50 €
	or search for clones on eBay, etc.									

3.2" TFT Touch screen with SD-card (TFT_320QVT)

	Option #1: http://eckstein-shop.de/32-inch-240x320-TFT-with-Touch-panel_1		-					14,450	14,45 €	14,45 €
	Option #2: search on eBay, etc. for *3.2" TFT LCD Display Module + Touch Panel +SD Reader (before buy check model name, screen site and resolution, total physical dimension 65x95mm, 40-pin connector and controller type SSD1289)*									
4	Screwed spacer sleeve; 10mm, M2.5 hexagonal; polyamide	Do not use metal spacer!	-				TFF-M2.5X10/DR182	0,1748	0,70 €	0,70 €
4	Spacer sleeve; 4mm; cylindrical; brass	Internal diameter 2.6mm	-				DR315/2.6X4	0,0732	0,29 €	0,29 €
										15,44 €
2	SIL-32 gold plated pin strip	Replacement for TFT display 2x20-pin header (not required if you are satisfied with original connector). See picture *EEZ Arduino shield+BP 40-pin connector (replaced).JPG*	-				STS-32P-K	1,453	2,91 €	2,91 €
1	Socket 2x20-pin	Socket for TFT display (required only in combination with above mentioned replacement)	-				ZL304-2X20P	1,820	1,82 €	1,82 €

Cables

1 Ethernet cable: search on eBay, etc. for *RJ45 Male to Female Panel Mount Ethernet Network Lan Extension Cable PC*

1 Mega2560: Search on eBay, etc. for *USB 2.0 B Male to USB B Female Printer Panel Mount Extension Cable*

1 Due: Search on eBay, etc. for *USB 2.0 B Female Panel Mount to USB Micro Cable*

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2	FC10300-S	Ribbon cable with IDC connectors, 10x28AWG, 30cm	2217665	0,847	£1,69	FC10300-S	1,210	2,42 €	2,16 €
Enclosure									
	Economica EP1153220 (L320 x D200 x H115mm)	http://www.modushop.biz/site/index.php?route=pro	-				19,400	19,40 €	19,40 €
	Couple of round handles 2U	http://www.modushop.biz/site/index.php?route=pro	-				3,900	3,90 €	3,90 €