EEZ PSU Arduino shield+BP BOM (PCB: r3B3, 2016-06-25)
Project source code at https://github.com/eez-open

								GBP/EUR ratio:			**1,2888**
					Farnell			**TME**			
Qty	Value	Note	Parts	Code	Unit price	Total	Code	Unit price	Total	Combined	
6	Arduino Due header 1x8-pin, Ethernet header		ADCL, ADCH, Comm, PWML, PWMH, X7	1022256	0,084	£0,50	ZL201-08G	0,074	0,44 €	0,445 €	
2	470n	1812, 100V	C105, C110	1828961	0,676	£1,35	CL43B474KCHNNNE	0,133	0,27 €	0,265 €	
4	10n	1206	C106, C109, C111, C113	1759350	0,034	£0,14	CL31B103KBCNNNC	0,012	0,05 €	0,047 €	
2	22u/50V	Ø6.3 mm	C107, C112	2326151	0,222	£0,44	UWT1H220MCL6GS	0,088	0,18 €	0,176 €	
2	10u	1206	C108, C126	1759445	0,057	£0,11	CSMD10U1206X	0,060	0,12 €	0,120 €	
26	100n	0603	C114, C115, C116, C117, C118, C119, C122, C123, C124, C125, C127, C129, C130, C137, C138, C139, C140, C141, C142, C143, C144, C150, C151, C152, C154, C157	1759016	0,006	£0,16	CL10B104KO8NNNC	0,006	0,15 €	0,155 €	
1	47u	16V	C120	9695664	0,191	£0,19	EEEFK1C470UR	0,190	0,19 €	0,190 €	
1	10u	35V	C121	1850112	0,204	£0,20	EEEFK1V100R	0,210	0,21 €	0,210 €	
1	EECS5R5H105	Supercap 5V	C128	9697497	2,780	£2,78	EECS5R5H105	2,190	2,19 €	2,190 €	
1	22n		C131	1759252	0,012	£0,01	CL21B223KBANNNC	0,009	0,01 €	0,009 €	
2	18p		C132, C136	2320820	0,019	£0,04	CL21C180JBANNNC	0,010	0,02 €	0,021 €	
2	6n8	0603	C133, C135	1759100	0,010	£0,02	CL10B682JB8NNNC	0,004	0,01 €	0,008 €	
4	10n		C134, C147, C155, C156	1759246	0,011	£0,05	CL31B103KBCNNNC	0,012	0,05 €	0,046 €	
1	10u	1206, Tantalum	C145	1457413	0,181	£0,18	T491A106K010AT	0,084	0,08 €	0,084 €	
1	4u7	1206, Tantalum	C146	1457428	0,159	£0,16	T491A475K006AT	0,073	0,07 €	0,073 €	
1	47n		C153	1759260	0,015	£0,02	CC0805KRX7R9473	0,009	0,01 €	0,009 €	
1	1u		C2	2320827	0,064	£0,06	CL21B105KAFNNNG	0,011	0,01 €	0,011 €	
5	BAS316		D22, D23, D24, D25, D27	8734275	0,140	£0,70	BAS316	0,020	0,10 €	0,101 €	
1	BAT54S		D28	1843723	0,066	£0,07	BAT54S-DIO	0,020	0,02 €	0,020 €	
1	SKL16		D29	1299282	0,243	£0,24	SKL16	0,095	0,10 €	0,095 €	
1	Arduino Due header 2x18-pin		Digital	2025426	1,510	£1,51	-			1,946 €	
1	60R@100MHz	0603, Ferrite bead 60R	FB8	1635704	0,033	£0,03	LCBA-600	0,027	0,03 €	0,027 €	
1	TLC5925IDBQR		IC21	1694438	0,894	£0,89	-			1,152 €	

Qty	Part	Description	Reference	Code				Alt			
2	Si8641EC-B-IS1		IC22, IC26	2423294	2,870	£5,74	-				7,398 €
2	SI8651EC-B-IS1		IC23, IC24	2423323	2,220	£4,44	-				5,722 €
1	LD1117ADT33TR		IC25	1087169	0,458	£0,46	LD1117ADT33	0,506	0,51 €	0,506 €
1	PCA21125		IC27	2400445	1,220	£1,22	-				1,572 €
1	AT25256B		IC28	1841577	0,757	£0,76	25AA256-I/SN	1,090	1,09 €	0,976 €
1	W5500		IC29	-			W5500	2,660	2,66 €	2,660 €
1	SN74LVC2G08DCTR		IC32	1470871	0,314	£0,31	-				0,405 €
1	TPS3705-33D		IC33	2296066	1,540	£1,54	-				1,985 €
1	SN74LV1T34DBVR		IC34	2499914	0,242	£0,24	-				0,312 €
1	SN74LVC2G02DCTR		IC35	1236358	0,337	£0,34	SN74LVC2G02DCTR	0,024	0,02 €	0,024 €
1	Arduino Due socket 2x3-pin	2x3-pin socket	ICSP	7991983	0,605	£0,61	ZL262-6DG	0,066	0,07 €	0,066 €
2	BS-244DSM-R	Binding post 4mm, red	J1, J4	1815818	2,120	£4,24	BS-244DSM-R	1,140	2,28 €	2,280 €
1	BS-244DSM-G	Binding post 4mm, green	J2	1815820	2,170	£2,17	BS-244DSM-G	1,140	1,14 €	1,140 €
2	BS-244DSM-B	Binding post 4mm, black	J3, J5	1815819	2,110	£4,22	BS-244DSM-B	1,140	2,28 €	2,280 €
1	826926-2		JP3	1248140	0,057	£0,06	826926-2	0,100	0,10 €	0,073 €
4	0R-JUMPA	Zero-ohm jumper	JP4, JP5, JP6, JP7	9233750	0,010	£0,04	SMD0805-0R	0,059	0,24 €	0,052 €
2	RT424005	Power relay 5V, 8A	K_PAR, K_SER	9950168	2,510	£5,02	RT424005	1,730	3,46 €	3,460 €
2	G6K-2F-5DC	Signal relay 5V, 1A	K_S1, K_S2	4446185	2,810	£5,62	G6K-2F-5DC	2,440	4,88 €	4,880 €
1	TFT_320QVT	2x20-pin socket	LCD1	7992033	2,040	£2,04	ZL262-40DG	0,322	0,32 €	0,322 €
5	HSMH-C170	Red LED	LED_CC1, LED_CC2, LED_PROG1, LED_PROG2, LED_SP	5790840	0,140	£0,70	HSMH-C170	0,056	0,28 €	0,280 €
4	HSMY-C170	Yellow LED	LED_CV1, LED_CV2, LED_S1, LED_S2	5790876	0,140	£0,56	HSMY-C170	0,060	0,24 €	0,240 €
2	HSMG-C170	Green LED	LED_O1, LED_O2	5790852	0,150	£0,30	HSMG-C170	0,095	0,19 €	0,190 €
1	HSMR-C170	Blue LED	LED_PWR	2497350	0,302	£0,30	OSB50805C1E	0,049	0,05 €	0,049 €
1	Arduino Due header 1x6-pin		POWER	1022255	0,114	£0,11	ZL201-06G	0,053	0,05 €	0,053 €
5	IRLML2246TRPBF		Q23, Q24, Q25, Q26, Q28	1888166	0,099	£0,49	IRLML2246TRPBF	0,100	0,50 €	0,500 €
3	2N7002		Q27, Q29, Q30	1713823	0,038	£0,11	2N7002	0,034	0,10 €	0,103 €
8	4K7		R122, R123, R127, R129, R132, R133, R156, R158	9333266	0,012	£0,10	RC0805FR-074K7	0,007	0,06 €	0,056 €
2	1R		R124, R128	2141629	0,016	£0,03	RC0805FR-071R	0,008	0,02 €	0,017 €
3	100K		R125, R131, R142	1887334	0,017	£0,05	SMD0805-100K-1%	0,008	0,02 €	0,025 €
1	1K5		R126	9332600	0,016	£0,02	RC0805FR-071K5	0,007	0,01 €	0,007 €

Qty	Value	Description	Reference	Order code		£	Mfg part		€	€
3	180R		R130, R143, R144	2447583	0,005	£0,02	SMD0805-180R-1%	0,008	0,02 €	0,019 €
4	49R9		R134, R136, R137, R138	2141727	0,016	£0,06	RC0805FR-0749R9	0,007	0,03 €	0,028 €
5	10K		R135, R141, R145, R157, R159	9237755	0,009	£0,05	RC0805FR-0710K	0,006	0,03 €	0,030 €
1	10R		R139	2380677	0,111	£0,11	RC0805FR-0710R	0,007	0,01 €	0,007 €
1	12K4		R140	2141850	0,010	£0,01	-			0,013 €
2	30K		R149, R150	9334327	0,009	£0,02	SMD0805-30K-1%	0,008	0,02 €	0,017 €
1	100R		R151	1099793	0,024	£0,02	RC0805FR-07100R	0,007	0,01 €	0,007 €
1	0R		R152	9233750	0,010	£0,01	SMD0805-0R	0,059	0,06 €	0,013 €
1	10K	1206	R153	2331878	0,041	£0,04	HP06-10K1%	0,016	0,02 €	0,016 €
2	1K		R154, R155	1099800	0,024	£0,05	RC0805FR-071K	0,007	0,01 €	0,014 €
2	4x10K	1206, array	RN1, RN2	1770137	0,015	£0,03	DR1206-10K-4/8	0,007	0,01 €	0,014 €
1	LD-BZEN-0903	Buzzer without built-in generator	SG1	-			LD-BZEN-0903	0,483	0,48 €	0,483 €
1	MC000006	8-pin push-in connector	X12	2007972	1,530	£1,53	-			1,972 €
2	TSW-113-07-F-D	2x13-pin header	X13, X15	2025182	1,640	£3,28	-			4,227 €
1	MC000005	6-pin push-in connector	X14	2007971	1,190	£1,19	-			1,534 €
1	09185067324	IDC 10-pin	X16	1096984	0,745	£0,75	T821-1-10-S1	0,290	0,29 €	0,290 €
1	22-23-2021	2-pin 0.1" socket	X17	1462926	0,040	£0,04	MX-22-23-2021	0,060	0,06 €	0,051 €
1	826629-8	8-pin 0.1" header	X18	1593416	0,281	£0,28	ZL201-08G	0,061	0,06 €	0,061 €
1	22-23-2041	4-pin 0.1" socket	X19	1462920	0,130	£0,13	MX-22-23-2041	0,009	0,01 €	0,009 €
1	32,768kHz	RTC XTAL	Y1	2449395	0,151	£0,15	32.768K-TC38	0,142	0,14 €	0,142 €
1	25MHz	Ethernet XTAL	Y2	2467741	0,206	£0,21	25.00M-SMDHC49S	0,359	0,36 €	0,265 €
2	SMAJ18A		ZD10, ZD11	1749305	0,040	£0,08	P4SMAJ18A-DIO	0,105	0,21 €	0,103 €
1	4V3	MiniMELF	ZD12	1466545	0,023	£0,02	BZV55-C4V3.115	0,020	0,02 €	0,020 €
	P4SMAJ36A	Model 0-30V	ZD8, ZD9	1899455	0,186	£0,19	P4SMAJ36A-DIO	0,105	0,11 €	
2	P4SMAJ48A	Model 0-40V	ZD8, ZD9	1749310	0,157	£0,31	P4SMAJ48A-DIO	0,102	0,20 €	0,204 €
	P4SMAJ60A	Model 0-50V	ZD8, ZD9	1899460	0,098	£0,10	P4SMAJ60A-DIO	0,105	0,11 €	
						£60,37			**27,13 €**	**54,57 €**

Optional

Qty	Value	Description	Reference	Order code		£	Mfg part		€	€
1	SMBJ5.0A-TR		D26	2353654	0,071	£0,07	SMBJ5.0A-TR	0,089	0,09 €	0,089 €
1	A101SYCQ04	Toggle switch	SW1	2292959	1,960	£1,96	-			2,526 €
1	1301.9316	Tactile switch	SW2	1217765	0,510	£0,51	1301.9316	0,220	0,22 €	0,220 €
1	M20-9980446	2x4 pin header	WIFI	1022233	0,138	£0,14	ZL202-8G	0,064	0,06 €	0,064 €
1	M20-9980546	2x5-pin header	X20	1022236	0,191	£0,19	ZL202-10G	0,053	0,05 €	0,053 €
						£2,87			**0,43 €**	**2,95 €**

Optional (V/F converters for battery temperature)

Qty	Value	Package	Ref	Order code			Manuf. part			
1	100n	0603	C148	1759016	0,006	£0,01	CL10B104KO8NNNC	0,006	0,01 €	0,006 €
1	47n		C149	1759260	0,015	£0,02	CC0805KRX7R9473	0,009	0,01 €	0,009 €
1	BC857BS		IC30	1081247	0,035	£0,04	BC857BS	0,027	0,03 €	0,027 €
1	TLC555		IC31	9589880	0,194	£0,19	TLC555CD	0,250	0,25 €	0,250 €
1	HCPL-181		OK3	1244525	0,255	£0,26	HCPL-181-000E	0,250	0,25 €	0,250 €
1	180R		R146	2447583	0,009	£0,01	RC0805JR-07180R	0,060	0,06 €	0,011 €
2	1K5		R147, R148	9332600	0,016	£0,03	RC0805FR-071K5	0,007	0,01 €	0,014 €
						£0,55			**0,62 €**	**0,57 €**

Arduino board

	Arduino Due rev3	32-bit MCU, 3.3V		2250861	32,940	£32,94	A000062	36,500	36,50 €	
	or search for clones on eBay, AliExpress, etc.									

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

1	**Option #1:** http://eckstein-shop.de/32-inch-240x320-TFT-with-Touch-panel_1			-				14,450	14,45 €	14,450 €
	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)*									
									14,45 €	

Enclosure and mechanical

Qty	Value	Description		Order code			Manuf. part			
2	NSR-08	Plug; female; PIN:8 w/o terminals for Ethernet cable		-			NSR-08	0,086	0,17 €	0,171 €
1	NSR-05	Plug; female; PIN:5 w/o terminals for USB cable		-			NSR-05	0,026	0,03 €	0,026 €
21	NDR-T	Contact; female; 28÷22AWG; NSR/NDR; tinned		-			NDR-T	0,026	0,55 €	0,554 €
9	Screwed spacer sleeve; M5; 8mm; brass	Extend binding post for PCB mounting	n/a	-			TFM-M5X8/DR218	0,187	1,68 €	1,681 €
4	Spacer sleeve; 5mm; cylindrical; brass	5 mm between TFT display and front panel	n/a	1733405	0,065	£0,26	DR316/3.2X5	0,057	0,23 €	0,228 €

4	Screwed spacer sleeve; hexagonal; polyamide; M3	11 mm between TFT display and PCB	n/a	2494576	0,238	£0,95	TP-11	0,128	0,51 €	0,512 €
4	Plastic washer; round; M3			-			B3/BN1074	0,008	0,03 €	0,032 €
11	Light pipe for LED	Round; Ø3mm; Front: convex; straight	n/a	2293496	0,362	£3,98	PLP2-625	0,486	5,35 €	5,132 €
						£5,19			**8,55 €**	**8,34 €**