

**SHIELD NCS318 V1.1 (BOM revision B0) 10.06.2019**

	#	Designator	Quantity	Value	PackageReference	Comment
1 - Resistors	1	R63	1	18.2 k	0805	Resistor
	2	R62	1	95.3 k	0805	Resistor
	3	R61	1	0.1 Ohm	2512	Resistor
	4	R58	1	10 k	3296W/ or 3266	Variable Resistor
	5	R35, R41, R42, R56, R67	5	4.7 k	0805	Resistor
	6	R51	1	1 Ohm	1206	Resistor
	7	R50	1	1.5 MOhm	0805	Resistor
	8	R11, R12, R37, R38, R48, R54	6	1 k	0805	Resistor
	9	R65	1	150 Ohm	0805	Resistor
	10	R7, R8, R9, R10, R36	5	150 k	0805	Resistor
	11	R1, R2, R3, R4, R5, R6	6	1 k	1206	Resistor
2 - Capacitors	12	C14	1	10nF 50V	0805	Ceramic capacitor
	13	C6, C12, C13, C19, C20	5	10uF 16V	0805	Ceramic capacitor
	14	C1, C2, C3, C4, C5, C8, C9, C10, C17, C21, C22, C23, C24, C25, C26, C27, C28, C29	18	100nF 50V	0805	Ceramic capacitor
	15	C7	1	10uF 10V/ or 10uF 16V	Size-A (SMD3216) Size-B (SMD3528)	Tantal capacitor
	16	C18	1	100nF 250V	1206	Ceramic capacitor
	17	C11, C16	2	220uF 16V	TH & 'SMD 6.3x7.7mm	Aluminum capacitor 'NACE221M16V6.3X8TR13F
	18	C15	1	10uF 250V	TH & SMD 10x10mm	Aluminum capacitor NACV100M250V10X10.8TR13F
3 - Diodes	19	D15	1	SS16/ SS26	SMA/ SMB	Schottky diode
	20	D14	1	SMBJ220CA	SMB	TVS
	21	D12	1	LED RED	1206	Power indicator
	22	D9	1	ES2J/ or ES2F	SMA/ SMB	Fast diode
4 - IC's & Transistors	23	U1, U2	2	HV5122PJ-G	PLCC-44	HV Driver
	24	U3	1	CD4504BM	SOIC-16	Level converter
	25	U5	1	DS3231SN/ or DS3231MZ	SOIC-16W/ SOIC-8	RTC
	26	U6	1	LM3478MM/ or LM3488MM/ or LM3478MAX	VSSOP-8/ VSSOP-8/ SOIC-8	DC-DC HV.
	27	U7	1	RT8258GE	SOT23-6	DC-DC 5V.
	28	for connect TEM1 via Wire PH2.0-3p	1	DS18B20	TO-92	Temperature sensor
	29	IR1	1	TSOP4836	DIP-3	IR Receiver
	30	T1	1	FDD6N25	DPAK	Transistor MOSFET N-Chanal
	31	T2	1	BC817/ or PMBTA42	SOT-23	Transistor NPN
	5 - Coils	32	L2	1	22uH 2A/ or 15uH	CDRH104R SMD 10.8x10.8x4mm
33		L1	1	220uH 1.5A	CDRH127 SMD 12x12x7mm	Shielded inductance
6 -Misc	34	GPS1, TEM1	2	Jack 3.5mm	ST-11M-030-00-0	For external GPS and DS18B20
	35	DOWN, MODE, UP	3	SWT-3/13 Button	h=13, L=9	Control buttons
	36	BT1	1	Battery Holder CR1220	SMD CR1220	Backup for RTC
	37	insert into the battery holder BT1	1	Battery CR1220		Battery 3V Lithium
	38	B1	1	HCS0903G/ or STD0833C	SMD 8.5x8.5mm	Buzzer HCS0903G Replace STD0833C
	39	SPI1	1	PLD-4	Pich 2.54mm	Connect to Arduino
	40	DG3	1	PLS-4	Pich 2.54mm	Connect to Arduino
	41	AN1, PWR1	2	PLS-6	Pich 2.54mm	Connect to Arduino
	42	DG2	1	PLS-8	Pich 2.54mm	Connect to Arduino
	43	DG1	1	PLS-10	Pich 2.54mm	Connect to Arduino
	44	ExDOWN, ExMODE, ExUP, LS1	4	PH2.0-2p	Pich 2.0mm	For external buttons
	45	GPS1	1	PH2.0-4p	Pich 2.0mm	For external GPS
	46	TEM1	1	PH2.0-3p Right PH2.0-3p/ or	Pich 2.0mm	For external TEMP DS18B20
	47	for connect DS18B20 to TEM1	1	Wire PH2.0-3p	L = 10-30cm	Wire for DS18B20
	48	EDIT	1	PBD-8R	PBD-8R	Not Install, Options

7- RGB LED	49	D1, D2, D3, D4, D5, D6, D7, D8	8	SK6812-Mini	SMD 3535	LED RGB Addressable
8 - Nixie Tubes	50	<i>sockets for NX1, NX2, NX3, NX4, NX5, NX6</i>	84	Socket pin		Sockets for IN18
	51	NX1, NX2, NX3, NX4, NX5, NX6	6	IN-18	Option	Nixie Tube
9 - Neon lamps	52	DS1, DS2, DS3, DS4	4	NE-2H(C2A)		Neon Lamp Replace NE-2H
10 - Mechanical	53	Hex Spacer M3 5mm	4		IN-OUT	
	54	Hex Spacer M3 12mm	4		IN-IN	
	55	Hex Spacer M3 18mm	4		IN-IN	
	56	Screw M3 L=6 mm	8			
	57	<i>for DS18B20 and Neon Lamp</i>	1	Heat Shrink 1/0.5mm	30cm	For insulation DS18B20 (3xL=10mm) and Neon Lamp DS1-DS4 (4xL=20mm; 4xL=38mm)
58	PCB NCS318 v1.1	1			Size 53.26x264mm	