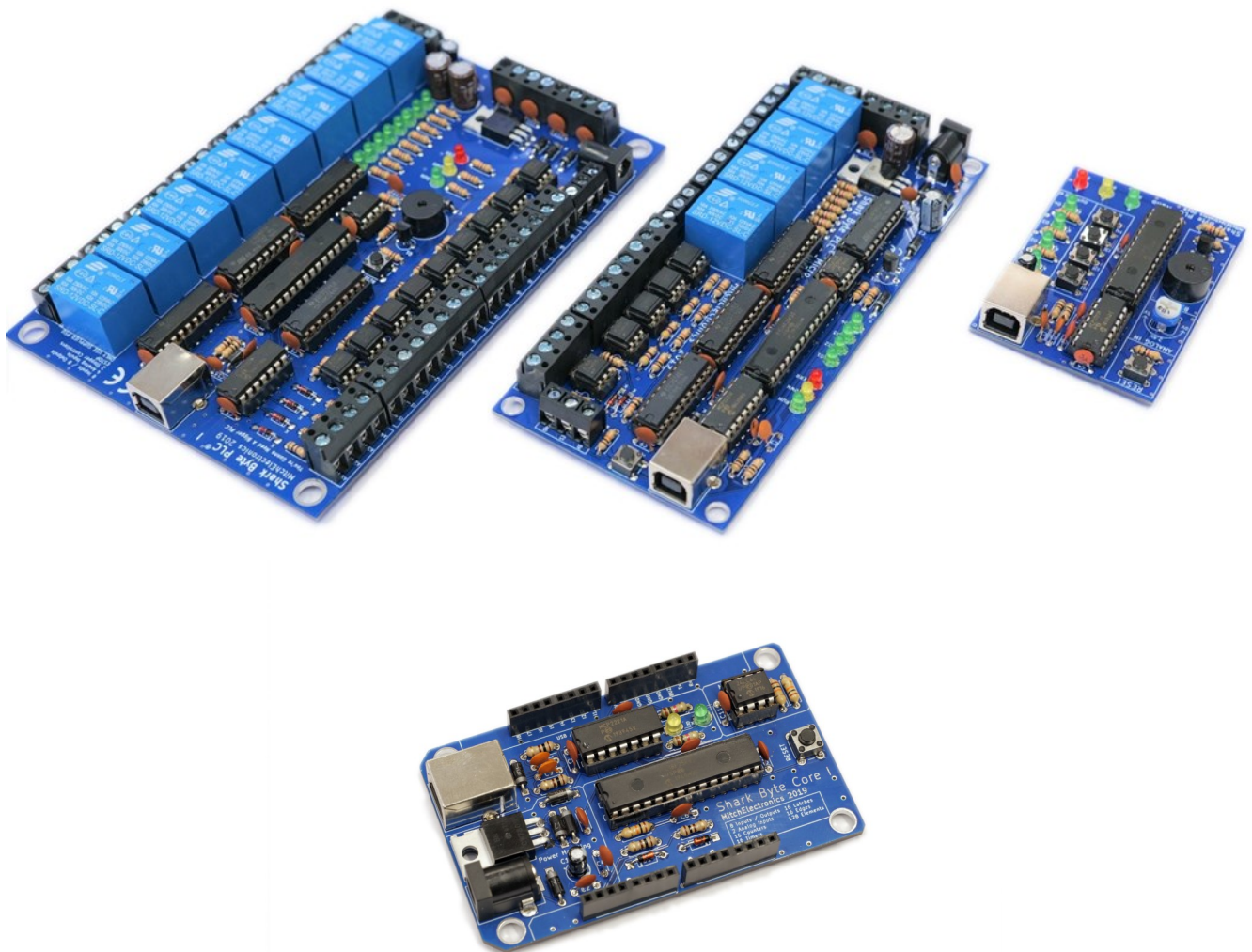


# Shark Byte PLC

MitchElectronics® 2019

For use with constructing kit versions of the PLCs

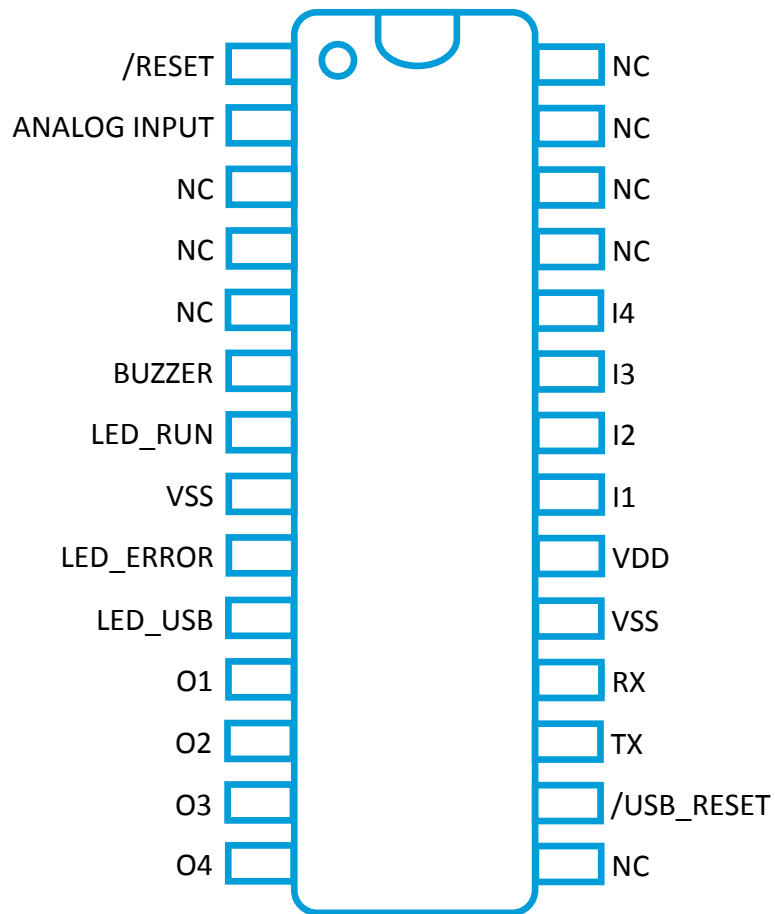


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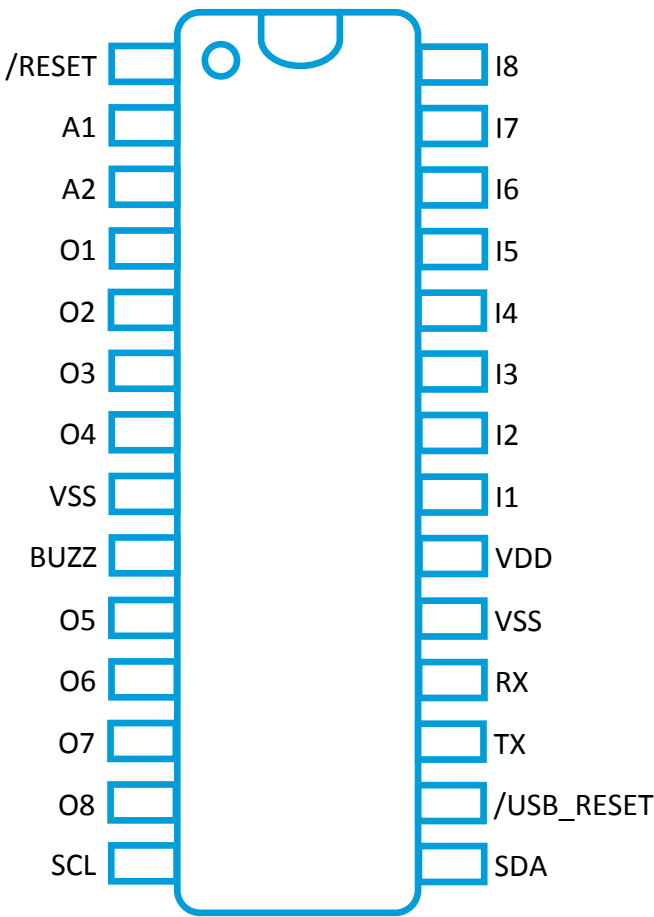
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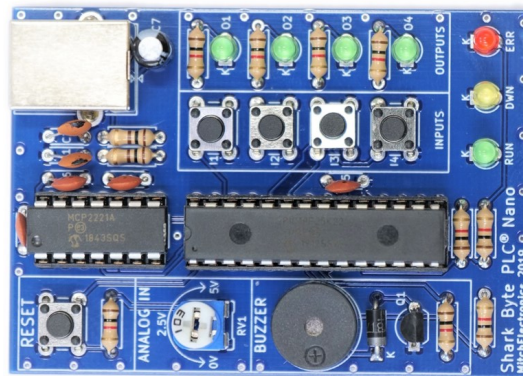
# Shark Byte Nano Pinout



# Shark Byte Core I Pinout

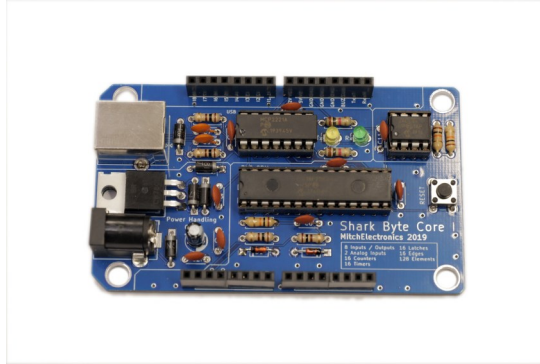


# Shark Byte Nano



Component	Quantity	PCB Identifiers
22pF Capacitor	2	C1, C2
100nF Capacitor	4	C3, C4, C5, C6
10µF Capacitor	1	C7
100Ω Resistor	2	R3, R4
1KΩ Resistor	8	R1, R7, R8, R9, R10, R11, R12, R13
10KΩ Resistor	1	R2
10KΩ Potentiometer	1	RV1
Tactile Switch	5	SW1, SW2, SW3, SW4, SW5
1N5817 Diode	1	D1
Green LED	5	D5, D6, D7, D8, D11
Yellow LED	1	D9
Red LED	1	D10
28 DIP Socket (Narrow)	1	U1
14 DIP Socket	1	U2
Shark Byte Nano IC	1	U1
MCP2221	1	U2
USB B Connector	1	J1
Buzzer (Active)	1	BZ1
2N3904	1	Q1

# Shark Byte Core I



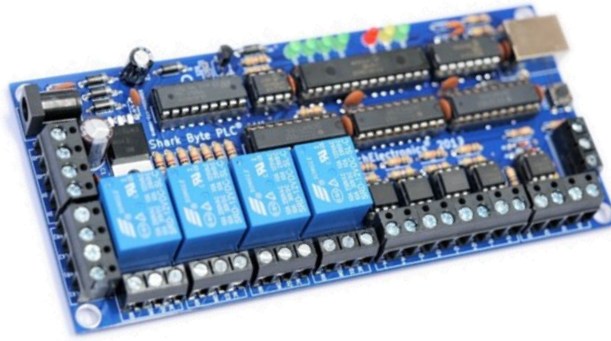
Component	Quantity	PCB Identifiers
10uF Capacitor	1	C1
100nF Capacitor	8	C2, C4, C5, C6, C8, C10, C11, C12
1nF Capacitor	1	C3
22pF Capacitor	2	C7, C9
5V1 Zener	2	D1, D2
1N5817 Diode	5	D3, D4, D5, D6, D7
Yellow LED	1	D8
Green LED	1	D9
DC Power Jack	1	J1
USB B Connector	1	J2
8 Pin Connector	4	-
10K Resistor	3	R1, R2, R9
100R Resistor	2	R3, R4
100R Resistor	2	R5, R6
1K Resistor	2	R7, R8
Tactile Switch	1	SW1
24LC04	1	U1
Core I IC	1	U2
7805	1	U3
MCP2221A	1	U4

# Shark Byte Core I

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Component	Quantity	PCB Identifiers
28 DIP Socket (Narrow)	1	U2
14 DIP Socket	1	U4
8 DIP Socket	1	U1

# Shark Byte Micro



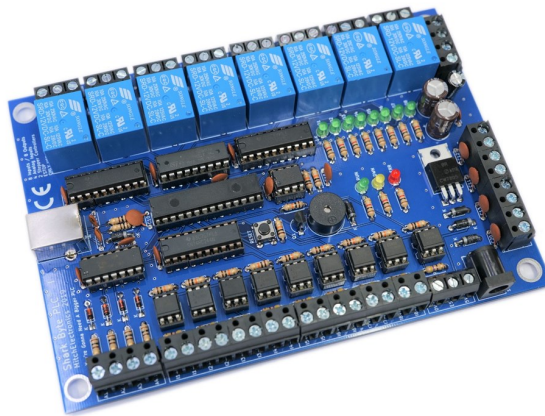
Component	Quantity	PCB Identifiers
22pF Capacitor	2	C6, C7
1nF Capacitor	1	C4
100nF Capacitor	9	C3, C5, C8, C9, C10, C11, C12, C13, C14
100μF Capacitor	1	C1
470μF Capacitor	1	C2
22Ω Resistor	2	R1, R2
100Ω Resistor	2	R3, R4
470Ω Resistor	5	R9, R15, R16, R17, R18
1KΩ Resistor	8	R8, R11, R12, R13, R14, R23, R24, R25
10KΩ Resistor	8	R5, R6, R7, R10, R19, R20, R21, R22
Tactile Switch	1	SW1
1N5817 Diode	6	D1, D2, D3, D4, D5, D6
5V1 Zener Diode	2	D7, D8
Green LED	5	D9, D10, D11, D12, D13
Yellow LED	1	D14
Red LED	1	D15
Shark Byte Micro IC	1	U3



## Shark Byte Micro Continued

Component	Quantity	PCB Identifiers
MCP2221	1	U2
USB B Connector	1	J2
DC Connector	1	J1
2N3904	1	Q1
4 Way Screw Terminal	5	J3, J4, J6, J11
3 Way Screw Terminal	5	J5, J7, J8, J9, J10
12V Relay	4	K1, K2, K3, K4
7805 5V Regulator	1	U1
24LC64	1	U4
4N35 Opto-Isolator	5	U5, U6, U8, U11, U12
ULN2803A	1	U7
74HC244	1	U9
74HC374	2	U10, U13
28 DIP Socket (Narrow)	1	U3
20 DIP Socket	3	U9, U10, U13
18 DIP Socket	1	U7
14 DIP Socket	1	U2
8 DIP Socket	1	U4
6 DIP Socket	5	U5, U6, U8, U11, U12

# Shark Byte I



Component	Quantity	PCB Identifiers
22pF Capacitor	2	C14, C15
1nF Capacitor	1	C12
100nF Capacitor	14	C2, C3, C5, C6, C8, C9, C10, C11, C13, C16, C17, C18, C19, C20
100μF Capacitor	1	C7
470μF Capacitor	2	C1, C4
100Ω Resistor	6	R1, R2, R3, R4, R26, R27
470Ω Resistor	9	R5, R6, R7, R8, R9, R10, R11, R12, R13
1KΩ Resistor	12	R15, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39
10KΩ Resistor	12	R14, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R28
Tactile Switch	1	SW1
1N5817 Diode	5	D1, D6, D7, D8, D9
5V1 Zener Diode	4	D2, D3, D4, D5
Green LED	11	D10, D11, D12, D13, D14, D15, D16, D19, D20
Yellow LED	1	D17
Red LED	1	D18
Shark Byte I IC	1	U14

# Shark Byte I Continued

Component	Quantity	PCB Identifiers
MCP2221	1	U13
USB B Connector	1	J2
DC Connector	1	J1
2N3904	1	Q1
4 Way Screw Terminal	8	J1, J2, J5, J6, J7, J10
3 Way Screw Terminal	9	J4, J11, J12, J13, J14, J15, J16, J17, J18
12V Relay	8	K1, K2, K3, K4, K5, K6, K7, K8
7805 5V Regulator	1	U1
Buzzer (Active)	1	BZ1
24LC64	1	U11
4N35 Opto-Isolator	9	U2, U3, U4, U5, U6, U7, U8, U9, U10
ULN2803A	1	U17
74HC244	1	U12
74HC374	2	U15, U16
28 DIP Socket (Narrow)	1	U14
20 DIP Socket	3	U12, U15, U16
18 DIP Socket	1	U17
14 DIP Socket	1	U13
8 DIP Socket	1	U11
6 DIP Socket	9	U2, U3, U4, U5, U6, U7, U8, U9, U10

## IMPORTANT INFORMATION

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*RoHS Compliant Kit (Lead free)*



*Low Voltage Kit*



*Caution! Soldering Required*

# TERMS AND CONDITIONS

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## **MitchElectronics Mission**

The main goal of MitchElectronics products is to provide safe electronics to makers and professionals alike while keeping the cost affordable. MitchElectronics kits are ideal for classrooms whereby students can learn about electronics using a hands-on approach which is not only highly effective at teaching students but also improves hand-eye co-ordination as well as grow interest in electronics. Since MitchElectronics kits are aimed at novices and those who are new to electronics they are designed to use low voltage power supplies such as 9V batteries which are inherently safe due to their limited voltage and current capabilities.

## **MitchElectronics Liability**

MitchElectronics kits must be inspected and tested by a competent individual before use and must be constructed by those who are competent to do so. MitchElectronics is not liable for kits and products that are constructed incorrectly or to a poor standard whereby poor standard includes (but not limited to) poor solder connections, overheated components, and damaged components. MitchElectronics is not liable for harm, injury, or damage caused by the misuse of kits and/or products if

- Incorrectly constructed
- Powered by sources other than “portable batteries” or the specified power supply
- Kits used outside their operational range (such as voltage supply, temperature etc.)
- Used as a sub-system (i.e. connected to additional circuits and modules)
- Used in a non-educational environment
- Used in a commercial environment
- Used in any dangerous or potentially hazardous environment
- Purchased from an unauthorised third party

*Portable batteries refers to low powered alkali batteries. Lithium-based batteries and those with large current capabilities (such as lead-acid batteries) are not considered portable or safe*

The use of the kits or products in the above scenarios automatically voids any warrantee or guarantee of that kit or product.

## **Kits must be**

- Inspected for damage before and after construction
- Inspected for missing parts
- Constructed correctly by a qualified individual
- Used in an appropriate manner (i.e. within operational ranges)
- Purchased from an authorised seller

Those who are not competent to construct, inspect, and test kits and products must be accompanied by a competent individual and that competent individual assumes all responsibility for harm or damages and MitchElectronics is not liable for any harm or damage.

## **Missing Parts**

MitchElectronics is only liable for missing parts for kits that have been purchased within 28 days and that have been purchased directly from [www.mitchelectronics.co.uk](http://www.mitchelectronics.co.uk). MitchElectronics is not liable for any product sold by an unauthorised third party.