Engduino® 3 - Specifications

Designed to inspire, designed to teach: the Engduino® aims to introduce the basic concepts of programming hardware to even total beginners. Aimed at Key Stage 3 school kids but suitable for ages 9 to 99, Engduino® is a single device packaged with several sensors, a processor, an infrared, 16 full-colour LEDs, micro-SD card holder, expansion connector and a rechargeable battery. Simply plug it into the USB slot of your computer and create your first program ("sketch") to upload to the device. The Engduino® board is shower-proofed with an acrylic coating. Both the Engduino® board and the Engduino® battery are CE certified.

Technical specifications

Microcontroller	ATmega32u4 AVR
USB	USB Plug type A
Infrared transceiver	Compliant with IrDA (9.6 kbit/s to 115.2 kbit/s) Typical link distance up to 1m
Accelerometer	3-Axis, 10-bit, ±2g/±4g/±8g
Magnetometer	3-Axis, 16-bits, range ±1000 μT, sensitivity 0.25μT
Thermistor	100kohm, operating temperature -40°C to 125°C
Full-color LED	Typical forward current: 5mA per colour. Luminous Intensity: Red (355-560mcd), Green(560-850mcd), Blue(180-320mcd)
Input voltage	4.3 - 12V (typical USB input voltage: 5V)
Operating voltage	3.3V
Typical operating current	50mA - 200mA
Maximum operating current	200mA constant
Clock speed	8MHz
On board battery charging management	Voltage regulation: 4.2V, charging current regulation: 130mA
Terminal fuse input current protection	Holding current: 200mA, Tripping current: 500mA
Digital I/O Pins for external connection	6 (2 shared with UART)
Analog I/O Pins for external connection	2
PWM Digital I/O Pins	2
Length (including USB connector)	91mm
Width (including USB connector)	70mm
Weight(including battery)	24g

Battery Specifications

Capacity	150mAh
Nominal battery voltage	3.7V@1S
Discharge rate	25C constant
Integrated protection circuit	
Over charge protection voltage	4.30V
Over charge release voltage	4.10V
Over discharge protection voltage	2.4V
Over discharge release voltage	3.0V
Over current detection voltage	0.18V
Over current detection current	5A
Max continuous charge current	1A
Max continuous discharge current	2A
Short circuit delay time	50us
Operating temperature	-20 to +55°C

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