



**evive**  
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## Technical Specifications

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# Technical Specifications

Physical	<b>Dimensions:</b> 116mm x 140mm x 32mm <b>Weight:</b> 320g
Microcontroller	Arduino MEGA 2560 R3
Internal Battery	Li-ion battery: 3.7V, 2400mAh, 18650 type Battery Life: Upto 4.5 hours
External Power Input	<b>USB type B:</b> Upto 1M Baud Rate <b>DC Jack:</b> 5V-30V input with reverse polarity, overcurrent & overvoltage protection <b>Male Headers:</b> Same as DC Jack
Power Output	<b>Stabilized <math>V_{in}</math>:</b> Stabilized output equal to input voltage <b>Variable Out:</b> 1.25V to $V_{in}-1V$ , up to 3A Potentiometer controlled <b>5V Out:</b> Up to 3A <b>3.3V Out:</b> Up to 800mA
Power Switch	Internal Battery Powered - OFF - Externally Powered
Power Panel	Power LED Charging LED RESET Button
Hardware Interaction	<b>Slide Switches:</b> Two SPST three position slide switches <b>Potentiometers:</b> Two B103 potentiometers <b>Tactile Switches:</b> Two push buttons <b>Joystick:</b> 5-way navigation key
Display	1.8" SPI based TFT, 160X128px, 18-bit colour
Buzzer	2kHz to 10kHz beeps, tones, alerts and melodies
Storage	<b>SD Card Slot:</b> 2GB to 32GB micro SD card

Communication	<b>Wi-Fi Adapter:</b> ESP-12E (ESP8266) compatible <b>Bluetooth Adapter:</b> HC05 compatible <b>XBee Adapter:</b> S1, S2, PRO etc. compatible
Plug & Play Interface	<b>M1-M2:</b> Two motor channels via inbuilt motor driver 1A per channel with thermal shutdown capability for motors, relays, pneumatics, steppers etc. <b>S1-S2:</b> Two servo motor channels <b>MD1-MD2:</b> Two motor driver channels
Sensing Channels	<b>Probe I/V:</b> I sensing: up to 3A, 3mA accuracy, upto 75kHz V sensing: -5V to +5V, 3mV accuracy, upto 75kHz <b>Probe V:</b> -30V to +30V, 10mV accuracy, up to 75kHz <b>ADCs:</b> Two 24 bit analog to digital converters (ADE7912)
Data Acquisition Channels	Two male headers, each connected to Sensing Channel
Magic Lid	<b>Mini Breadboard:</b> 170 pin solderless <b>Shield Stack Space:</b> Arduino UNO Pinout Compatible <b>Arduino GPIO:</b> 14+6 Digital I/O Pins, 12+3 PWM Output Pins, 6+4 Analog Input Pins, 6 Interrupt, 4 Serial, IIC, SPI
Status Indicators	<b>Rx0-Tx0:</b> Bi-directional LED <b>Pin 13:</b> Unidirectional LED <b>Actuator Directions:</b> Two bi-directional LEDs for M1-M2 etc.
Jumpers	<b>Sensing Selector:</b> Toggle between V or I sensing on Probe I/V <b>Motor Power Selector:</b> Toggle between $V_{in}$ or $V_{var}$ for plug & play devices
Timer	16 Bit
DAC	<b>Function Generator:</b> Sine, Square, Sawtooth, Triangular wave 12 Bit IIC controlled digital to analog converter, 0-5V
Real Time Clock	I <sup>2</sup> C interface, Calendar function: YYMMDD, Day, hh:mm:ss, Alarm
I/O 3.3V	Two 5V-3.3V bi-directional digital logic level shifters
Others	<b>Vents:</b> Heat dissipation vents <b>Breadboard Mounting Holes:</b> Two holes to connect breadboards <b>Mounting Holes:</b> Two 4mm holes to mount evive on robots