

Microcontrollers

Arduino and Teensy

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# Microcontrollers:

A microcontroller is a specific type of CPU, which runs a set of instruction multiple times, apart from CPU it has also got ram and rom, i/o pins, ADC and DAC integrated into it.

It is used to do small repetitive tasks. A set of instructions are programmed.

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| Difference | Arduino (UNO R3) | Teensy (3.5) |
| CPU | Atmega 328 (16MHz) (32bit) | ARM Cortex 4 (120MHz) (8-bit) |
| CAN BUS port | 0 | 1 |
| I2C port | 1 (a4/a5) | 3 |
| SPI port | 2 | 3 |
| Real Time Clock | No | Yes |
| Flash | 32kb | 512kb + sd card slot |
| RAM | 2kb | 192kb |
| EEPROM | 1kb | 4kb |
| Input voltage | 7-12v | 3.2v |
| Pwm pins | 6 ( 8bit) | 22 (16bit) |
| Total digital pins | 14 |  |
| Serial ports | 2 | 6 |
| dimensions | 6.3\*1.8\*0.5 | 8\*5.5\*2.5 cm3 |
| Ethernet | 100mbps capable | No port |
| dma |  |  |
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