

## Engbedded Atmel AVR® Fuse Calculator

### Device selection

Select the AVR device type you want to configure. When changing this setting, default fuse settings will automatically be applied. Presets (hexadecimal representation of the fuse settings) can be reviewed and even be set in the last form at the bottom of this page.

AVR part name:   (141 parts currently listed)

### Feature configuration

This allows easy configuration of your AVR device. All changes will be applied instantly.

#### Features

Ext. Clock; Start-up time: 6 CK + 0 ms; [CKSEL=0000 SUT=00]

☐ Brown-out detection enabled; [BODEN=0]

Brown-out detection level at VCC=2.7 V; [BODLEVEL=1]

☐ Boot Reset vector Enabled (default address=\$0000); [BOOTRST=0]

Boot Flash section size=2048 words Boot start address=\$3800; [BOOTSZ=00] ; default

☐ Preserve EEPROM memory through the Chip Erase cycle; [EESAVE=0]

☐ CKOPT fuse (operation dependent of CKSEL fuses); [CKOPT=0]

☒ Serial program downloading (SPI) enabled; [SPIEN=0]

☐ JTAG Interface Enabled; [JTAGEN=0]

☐ On-Chip Debug Enabled; [OCDEN=0]

### Manual fuse bits configuration

This table allows reviewing and direct editing of the AVR fuse bits. All changes will be applied instantly.

Note: ☐ means unprogrammed (1); ☒ means programmed (0).

Bit	Low	High
7	<input type="checkbox"/> <b>BODLEVEL</b> Brown out detector trigger level	<input type="checkbox"/> <b>OCDEN</b> Enable OCD
6	<input type="checkbox"/> <b>BODEN</b> Brown out detector enable	<input type="checkbox"/> <b>JTAGEN</b> Enable JTAG
5		<input checked="" type="checkbox"/> <b>SPIEN</b> Enable Serial programming and Data Downloading
4		
3	<input checked="" type="checkbox"/> <b>CKSEL3</b> Select Clock Source	<input type="checkbox"/> <b>EESAVE</b> EEPROM memory is preserved through chip erase
2	<input checked="" type="checkbox"/> <b>CKSEL2</b> Select Clock Source	<input checked="" type="checkbox"/> <b>BOOTSZ1</b> Select Boot Size
1	<input checked="" type="checkbox"/> <b>CKSEL1</b> Select Clock Source	<input checked="" type="checkbox"/> <b>BOOTSZ0</b> Select Boot Size
0	<input checked="" type="checkbox"/> <b>CKSELO</b> Select Clock Source	<input type="checkbox"/> <b>BOOTRST</b> Select Reset Vector

### Current settings

These fields show the actual hexadecimal representation of the fuse settings from above. These are the values you have to program into your AVR device. Optionally, you may fill in the numerical values yourself to preset the configuration to these values. Changes in the value fields are applied instantly (taking away the focus)!

Low	High	Action	AVRDUDE arguments
<input type="text" value="0x C0"/>	<input type="text" value="0x D9 *"/>	<input type="button" value="Apply values"/> <input type="button" value="Defaults"/>	-U lfuse:w:0xc0:m -U hfuse:w:0xd9:m
Apply manual changes to the values on the left side, or load factory default values for the selected device.			Select (try triple-click) and copy-and-paste this option string into your avrdude command line. You may specify multiple -U arguments within