

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:

ATmega328P

Select

 (141 parts currently listed)

Feature configuration

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

Features

Ext. Full-swing Crystal; Start-up time PWRDWN/RESET: 16K CK/14 CK + 65 ms; [CKS

☐

 Clock output on PORTB0; [CKOUT=0]

☐

 Divide clock by 8 internally; [CKDIV8=0]

☒

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

Boot Flash section size=1024 words Boot start address=\$3C00; [BOOTSZ=01]

☒

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

☐

 Watch-dog Timer always on; [WDTON=0]

☒

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

☐

 Debug Wire enable; [DWEN=0]

☐

 Reset Disabled (Enable PC6 as i/o pin); [RSTDISBL=0]

Brown-out detection level at VCC=4.3 V; [BODLEVEL=100]

Manual fuse bits configuration

Apply feature settings

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	Extended
7	<div><input type="checkbox"/> CKDIV8 Divide clock by 8</div>	<div><input type="checkbox"/> RSTDISBL External reset disable</div>	
6	<div><input type="checkbox"/> CKOUT Clock output</div>	<div><input type="checkbox"/> DWEN debugWIRE Enable</div>	
5	<div><input type="checkbox"/> SUT1 Select start-up time</div>	<div><input checked="" type="checkbox"/> SPIEN Enable Serial programming and Data Downloading</div>	
4	<div><input type="checkbox"/> SUT0 Select start-up time</div>	<div><input type="checkbox"/> WDTON Watchdog Timer Always On</div>	
3	<div><input checked="" type="checkbox"/> CKSEL3 Select Clock Source</div>	<div><input checked="" type="checkbox"/> EESAVE EEPROM memory is preserved through chip erase</div>	
2	<div><input type="checkbox"/> CKSEL2 Select Clock Source</div>	<div><input checked="" type="checkbox"/> BOOTSZ1 Select boot size</div>	<div><input checked="" type="checkbox"/> BODLEVEL2 Brown-out Detector trigger level</div>

1	<input type="checkbox"/> CKSEL1 Select Clock Source	<input type="checkbox"/> BOOTSZ0 Select boot size	<input type="checkbox"/> BODLEVEL1 Brown-out Detector trigger level
0	<input type="checkbox"/> CKSELO Select Clock Source	<input checked="" type="checkbox"/> BOOTRST Select reset vector	<input type="checkbox"/> BODLEVEL0 Brown-out Detector trigger level

Current settings

Apply manual fuse bit 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	Extended	Action	AVRDUDE arguments
0x <input type="text" value="F7"/>	0x <input type="text" value="D2"/>	0x <input type="text" value="03"/>	<input type="button" value="Apply values"/> <input type="button" value="Defaults"/>	-U lfuse:w:0xf7:m -U hfuse:w:0xd2:m -U efuse:w:0x03:m
<p>Apply manual changes to the values on the left side, or load factory default values for the selected device.</p>				<p>Select (try triple-click) and copy-and-paste this option string into your avrdude command line. You may specify multiple -U arguments within one call of avrdude.</p>

References

All information based on database **ATmega328P.xml** build **1**.
Unreviewed original XML backend database from Atmel. Probably buggy! Please report.

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User interface version: 0.9.0.

If you find bugs in the user interface or the database backend(s), please report them.