

Flowcode allows those with little programming experience to develop electronic systems quickly and easily



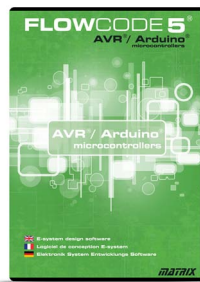
Introducing Flowcode

Flowcode is one of the World's most advanced graphical programming languages for microcontrollers. The great advantage of Flowcode is that it allows those with little experience to create complex electronic systems. Flowcode is available in twenty languages and supports a wide range of devices. Separate versions are available for the PICmicro (8-bit), AVR/Arduino, dsPIC/PIC24 and ARM series of microcontrollers. Flowcode can be used with many microcontroller development hardware solutions including those from Matrix such as Formula Flowcode, E-blocks, MIAC and ECIO.

Flowcode is used in more than 1,200 schools, colleges and universities world-wide in the teaching of technology, science, electronics, automotive and more. Flowcode is also used in conjunction with E-blocks in industry. Engineers use Flowcode and E-blocks for the rapid design of electronic systems and control systems.



TEFLCST5 (student/home)
TEFLCSI5 (professional)
TEFLC105 (10 user)
TEFLCSL5 (site licence)



TEVRST5 (student/home)
TEVRSI5 (professional)
TEVR105 (10 user)
TEVRSL5 (site licence)



TERMST5 (student/home)
TERMSI5 (professional)
TERM105 (10 user)
TERMSL5 (site licence)



TEDSST5 (student/home)
TEDSSI5 (professional)
TEDS105 (10 user)
TEDSSL5 (site licence)

Benefits

- Save time and money Flowcode facilitates the rapid design of electronic systems based on microcontrollers.
- Easy to use interface Simply drag and drop icons on-screen to create an electronic system without writing traditional code line by line.
- Fast and flexible Flowcode has a host of high level component subroutines which means rapid system development. The flowchart programming method allows to develop microcontroller programs.
- Error free results Flowcode works. What you design and simulate on-screen is the result you get when you download to your microcontroller.
- Open architecture Flowcode allows you to view C and ASM code for all programs created and customise them. Access circuit diagram equivalents to the system you design through our data sheets and support material.
- Fully supported Flowcode is supported by a wide range of materials and books for learning about, and developing, electronic systems.
- Core-independent Flowcode programs developed for one microcontroller easily transfer to another microcontroller.

Features

- Supported microcontrollers Microchip PIC 10, 12, 16, 18, dsPIC, PIC24, Atmel AVR/Arduino, Atmel ARM.
- Supported communication systems Bluetooth, CAN, FAT, GPS, GSM, I²C, IrDA, LIN, MIDI, One wire, RC5, RF, RFID, RS232, RS485, SPI, TCP/IP, USB, Wireless LAN, ZigBee
- Supported components ADC, LEDs, switches, keypads, LCDs, Graphical colour LCD, Graphical mono LCDs, Sensors, 7-segment displays, Internal EEPROM, comms systems, Touchscreen LCD, Webserver.
- Supported mechatronics Accelerometer, PWM, Servo, Stepper, Speech.
- Supported subsystems MIAC, MIAC expansion modules, Formula Flowcode.
- Panel designer Design a panel of your choice on-screen and simulate it.
- In-Circuit Debug (ICD) When used with EB006 PIC Multiprogrammer, EB064 dsPIC/PIC24 Multiprogrammer or FlowKit.
- Tight integration with E-blocks Each comms system is supported by E-blocks hardware.
- Virtual networks Co-simulation of many instances of Flowcode for multi-chip systems. Co-simulation of MIAC based systems with MIAC expansion modules.

Language compatibility

Flowcode 5 is available in the following languages:



English



Chinese (Mandarin)



Romanian



Finnish



French



German



Greek



Hungarian



Italian



Japanese



Dutch



Portuguese



Slovak



Spanish



Swedish



Thai



Vietnamese



Polish



Russian



Danish



Korean



Slovene



Taiwanese

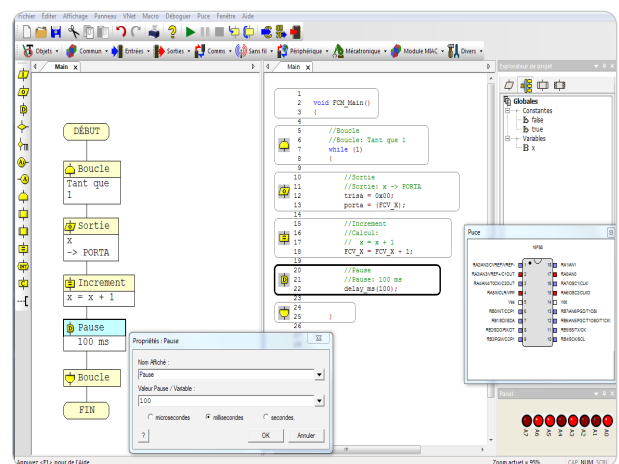


Arabic



Turkish

Flowcode 5 is available in around 20 languages: from Greek to Chinese, with all characters and non-Latin fonts fully supported. Whilst English is the default language of engineers internationally, having software in your language allows you to concentrate on developing your programs, increasing your creativity and productivity.



Flowcode 5 in French

New in version 5

The features in Flowcode 5 are designed to improve the developing environment for professional users. This version has many new features; with some of the major ones listed below:

C code views and customisation

Improvements to the C code viewing and editing. View the flowchart or its generated C code, or even show and edit the flowchart and the C code side-by-side. Insert new icons into the C code in the same way as you can with the flowchart. Customise the C code behind individual components and use Flowcode as a C code management tool.

Search and replace

Search the whole program for icon and variable use, and replace where needed.

New components and E-blocks support

Touchscreen systems, RC5, accelerometer, WLAN, rotary encoder and more.

Simulation improvements

Improved simulation and mathematics parsing. Simulation is faster and truer to "real-life".

Improved support

Access help, support, videos, updates and more from within Flowcode.

Project auto-documentation

Creates a HTML document for the whole program to allow the program to be easier understood by others.

Interrupts overhaul

Improved range and handling of chip interrupt features in terms of simulation and code generation.

```
9 //Loop
10 //Loop: While 1
11 while (1)
12 {
13
14 //Read ADC value
15 //Call Component Macro: .raw = ADC0 :: ReadAsByte ( )
16 FCL_MAIN_RAW = FCL_ADC0_ReadAsByte();
17
18 //Reduce granularity
19 //Calculation:
20 // // Raw is 0 for off, calib is 0 for max - correct
21 // .calib = .raw >> 3 // 0-31 range
22 FCL_MAIN_CALIB = FCL_MAIN_RAW >> 3;
23
24 //Decide if off
25 //Decision: .calib >= PhaseMax?
26 if (FCL_MAIN_CALIB >= FCL_PHASEMAX)
27 {
28
29 //Interrupt
30 //Interrupt: Disable TMR0
31 cr_bit(intcon, TMR0IE);
32
33 } else {
34
35 //Interrupt
36 //Interrupt: Enable TMR0
37 cr_bit(option_reg, T0CS);
38 st_bit(option_reg, T0CON);
39 }
```

port_access

☐ Replace with:

☒ Find in icons:

Conditions:

☐ Search backwards
☐ Whole words
☐ Case sensitive

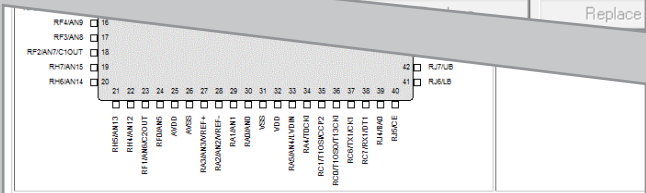
Search in:

☒ All macros
☒ Descriptions
☒ Expressions
☐ Generated code

Find Next

Find All

Replace



Global data:

Components

Name	
gLCD (0)	
RS232 (0)	

Macros

Returns	Name	Description
NONE	Main	
NONE	Plasma	Generates plasma effect
BYTE	Blend	Blends a pixel from surroundings
NONE	Mark	Adds a 'mark' to the plasma
BYTE	GetRain	Finds an empty 'rain drop' if one is free
NONE	NewRain	If a new rain slot is available, add a drop there
BYTE	Rnd	Return 8-bit random number
NONE	MoveRain	Moves all raindrops and renders them
NONE	SetCol	Takes an intensity and sets a colour
INT	GetShine	Gets the 'vector' at the diagonal (sine)
NONE	Gradient	
NONE	Timer	Ticks
NONE		

Select pin(s)

jm_16F1829

VDD

1

20

VSS

RA5/OSC1

2

19

RA0/AN0/PGD

RA4/AN3/OSC2

3

18

RA1/AN1/VREF+PGC

RA3/MCLR

4

17

RA2/AN2/INT

RC5/CCP1/RX

5

16

RC0/AN4

RC4/TX

6

15

RC1/AN5/SDO2

RC3/AN7/CCP2

7

14

RC2/AN6

RC6/AN8

8

13

RB4/AN10/SDA1/SDI1

RC7/AN9/SDO

9

12

RB5/AN11/RX/SDA2/SDI2

RB7/TX/SCL2/SCK2

10

11

RB6/SCL1/SCK1

Interrupt on change m

Trigger on

Trigger on

?

Trigger on rising edge

Trigger on falling edge

Trigger on both edges

New in version 5

Disable icons feature

Icons can be temporarily disabled within Flowcode to assist in debugging.

Improved annotations

The annotation feature has been improved to allow flowchart icon functionality to be better commented and understood.

Project explorer

New project explorer tree-view for components, variables, etc. This makes for easier editing and improves project transparency.

Compilation errors and warning

Better linkage between errors in the compiler and location in Flowcode program makes programs easier to debug.

MIAC expansion

New support for additional MIACs in an electrical system and for the new range of MIAC expansion modules. (PICmicro version only)

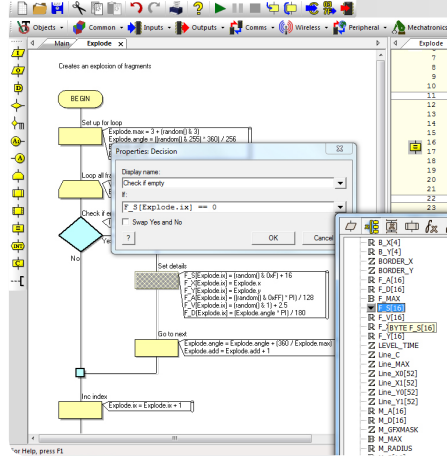
Bookmarks

Bookmark icons within your flowchart to help navigation through larger programs.

New variable types +

New data types include bool, long, uint. Constants now implemented. Possible to set initial values for variables in simulation. Port and pin values are directly supported. Syntax highlighting implemented for Flowcode icons.

Flowcode 5 design cycle



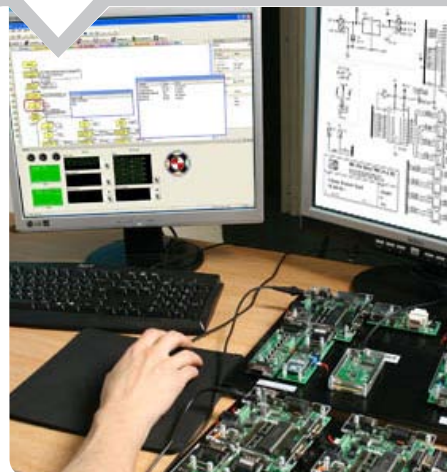
Drag and drop the flow chart icons to create a program. Click on each icon and component to set the actions and properties you want. View the C code created, customise the C code each icon represents. Incorporate C code from other sources.

DESIGN



Drag and drop the components you need onto your simulation panel. Adjust graphical properties of components, design your own graphics, embed photographs and images, assign pin connections to the microcontroller. Simulate the program icon by icon, or at full speed. See the effects of the components, the microcontroller, watch variables change and then flow through the program. Test the system's functionality by clicking on switches or altering sensor values and see the effects on screen.

SIMULATE



Compile and download to your system with one button click. Use the In Circuit Test feature to see your program working on screen and on your hardware at the same time.

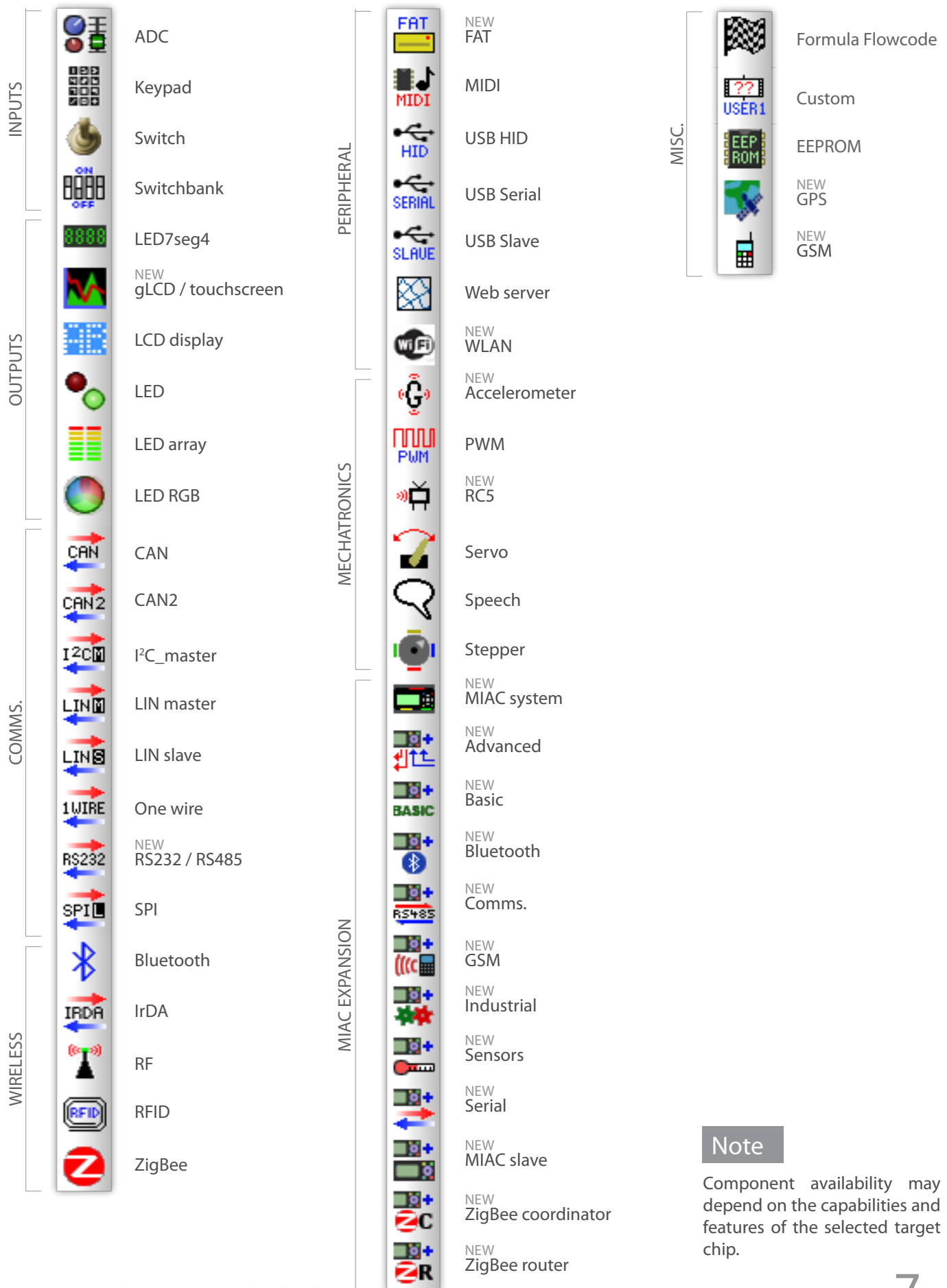
TEST



Download your code into a microcontroller in your own circuit board and control a wide variety of systems - from mobile home habitation systems to wind turbines. Transfer you code to a fully functioning electrical datalogging and control system using rugged MIAC technology. Transfer your program to a new microcontroller with ease.

DEPLOY

Supported components

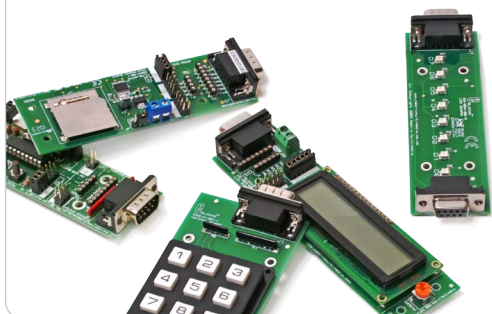


Note

Component availability may depend on the capabilities and features of the selected target chip.

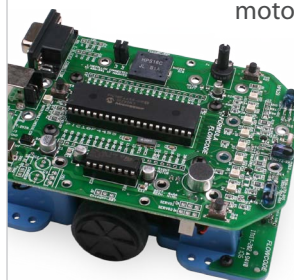
E-BLOCKS

Use with E-blocks for a wide variety of subjects in technology, computer science and engineering education. E-blocks are small circuit boards each containing a block of electronics that you would typically find in an electronic system.



FORMULA FLOWCODE

Use with Formula Flowcode for studies in robotics at age 11 onwards. The Formula Flowcode robot buggy allows users of all ages to learn about robotics systems and understand how they are controlled. The Formula Flowcode robot is designed for use with Flowcode which includes a simulation of the robot sensors and motors. Simply develop the program, simulate its functionality on-screen and then click on a button to download the program to the robot via USB.



LOCKTRONICS

Use with the Locktronics microcontroller for experiments in science. The Locktronics range helps students to apply electrical theory to electrical practice, and is used by thousands of educational institutions and training organisations across the world.



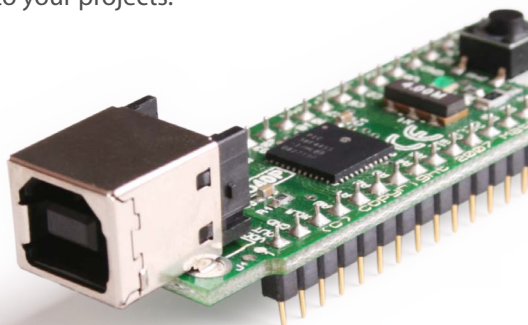
MIAC

Use with the rugged MIAC for experiments in automotive technology. A simulation model is provided within Flowcode that shows step-by-step program execution along with a complete simulation of the MIAC unit. This assists in both learning how the MIAC operates and in developing programs.



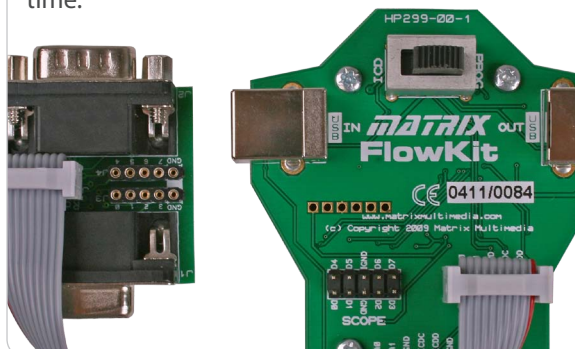
ECIO

Use with ECIO to add functionality to student projects. ECIO single board computers provide one of the fastest and lowest cost ways of embedding advanced intelligence and control into your projects.



YOUR OWN HARDWARE

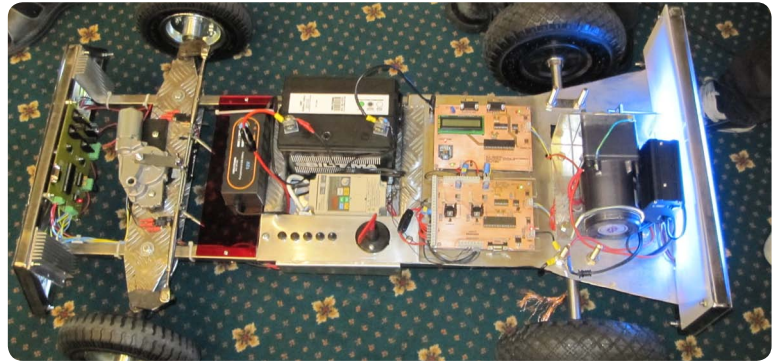
If you are using Flowcode to develop your own hardware you can use the Flowcode In Circuit Test system to allow you to run your program in your own hardware and see the simulation running on your computer screen at the same time.



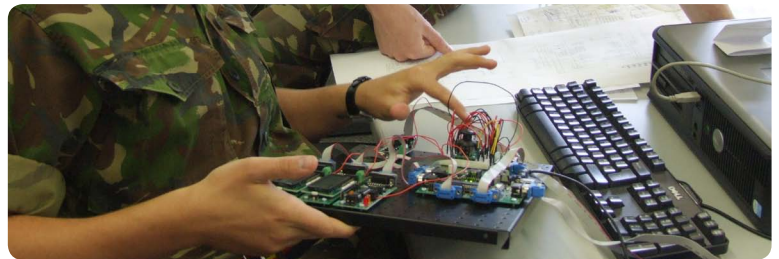
Uses of Flowcode

Flowcode in education

Flowcode is internationally recognised as a market leader in microcontroller development for education. Flowcode is used in more than 1,200 schools, colleges and universities world-wide. Flowcode is used in a variety of subject areas including science, technology, electronics and automotive.



Flowcode is used by many technical institutes in Finland



E-blocks and Flowcode are used to train British army technicians

Flowcode in industry

Flowcode is used in conjunction with E-blocks in industry to shorten the design cycle for developers of electronic systems. Engineers use circuit blocks in E-blocks with Flowcode macros for rapid design of electronics systems and control systems based on MIAC technology.



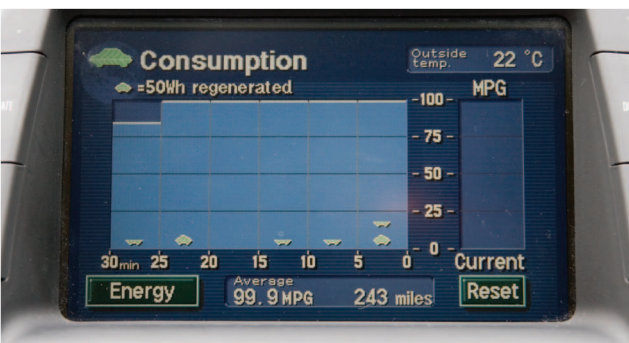
Flowcode is used to develop control systems for small wind turbines, recreational vehicles and fountains



In the last few years Matrix has worked closely with teachers in the Flemish educational system to develop resources for teaching technology and electronics.

In a technology course pupils from the age of 12 are taught robotics using Flowcode in the Flemish language, and the Formula Flowcode robot. Having received a good grounding this knowledge is then built on by using E-blocks with Flowcode at 16+ to understand how electronic systems are developed. Students then build further on this by understanding a course in C programming using the same hardware.

So far this program of study has been rolled out to more than 50 schools in Belgium.



In this project a standard Toyota Prius hybrid car was modified to include an additional battery to achieve a fuel economy in excess of 99mpg.

Having added a large Lithium ion battery and DCDC converter to his Prius, Jim Fell used Flowcode hardware and E-blocks software to hack into the Toyota management system trapping the 'state of charge' (SOC) messages sent from the battery ECU to the power train control. By monitoring SOC messages Jim was able to recharge the Prius' NiMH battery with the reserve Li-ion battery (charged each night from the domestic supply). This enabled him to achieve such an economy that the Prius on-board display 'maxed out' - more than 99mpg.

FlowKit In Circuit Test system

The FlowKit can be connected to hardware systems to provide a real time debug facility where it is possible to step through the Flowcode program on the PC and step through the program in the hardware at the same time. This function is available with Flowcode 4.2 or later.

Benefits

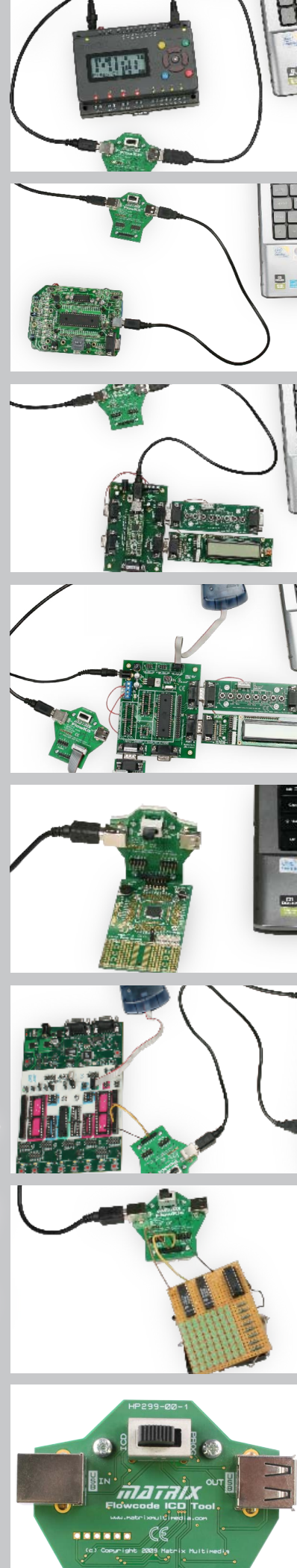
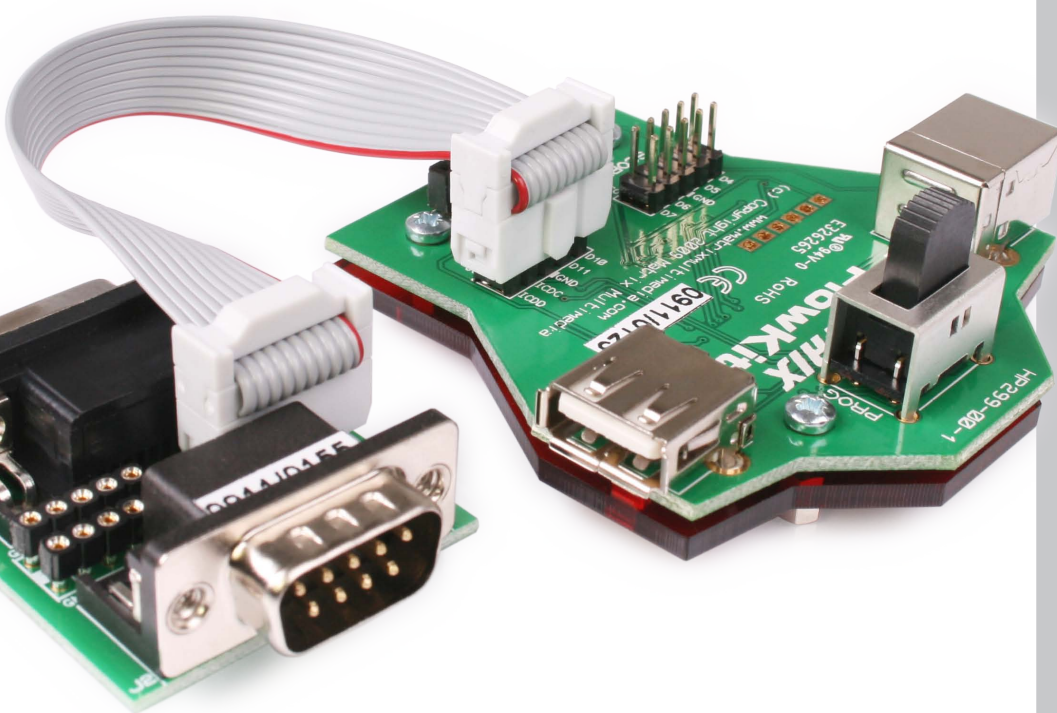
- A fast way to solve programming problems
- Seamless program and debug

Features

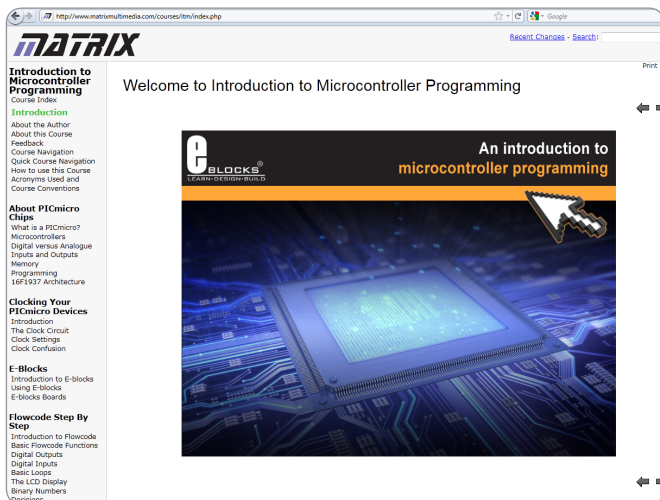
- Compatible with a variety of hardware systems including E-blocks, 3rd party dev boards and user's own hardware
- Comptible with ECIO, MIAC and Formula Flowcode systems via the USB lead
- Allows start, step and play of programs
- Allows users to see and alter variable values

Whilst Flowcode simulation allows debug of a system to a first pass. FlowKit takes debug to a new level by running the program in the hardware and on screen at the same time.

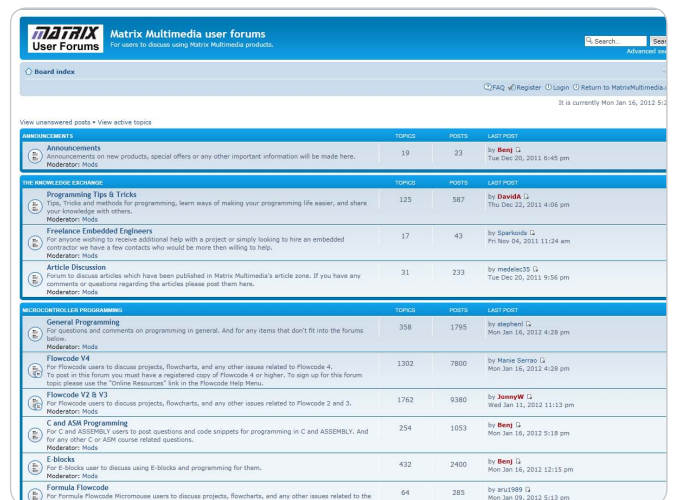
The system is controlled from within the Flowcode environment where controls allow users to start, stop, pause and step through their program one icon at a time. Under user control the Flowcode software shows the location of the program in the flow chart, the value of all variables in the program, and allows users to alter the variable values when the program is paused.



Support for Flowcode 5



The Flowcode / E-blocks Learning Centre includes several web based tutorials and videos supporting Flowcode users



Web based forums, covering a variety of topics, are monitored by our technical support team on a daily basis

Whether you are in education or industry you will find that there are a wide range of resources available to help gain knowledge on how Flowcode is used, programming concepts, microcontroller techniques and circuits.

- In-package support Flowcode is shipped with a comprehensive help file covering all Flowcode functions. Over 30 example files are included with full descriptions.
- Free web based courseware On our web site you will find a number of free web based courseware applications which cover not only how Flowcode is used but also cover the basics of microcontrollers, and how they are used in electronics systems.
- Flowcode community Our extensive online forums are the first point of call for any technical questions you have: on getting your equipment and software working, and on coding techniques and methods for your project.
- Tutorial manuals For more advanced topics, such as Bluetooth, CAN and TCP/IP are available.
- Books There are several books on developing electronic systems with Flowcode. Microcontroller Systems Engineering, by Bert Van Dam, and Pic Projects for Non-Programmers by John Iovine, are both available from the Matrix website.



Tutorial manuals cover more advanced topics like using Flowcode to teach and learn TCP/IP, Bluetooth and CAN bus

Pic Projects for Non-Programmers
by John Iovine



Chinese
Flowcode book

Microcontroller Systems
Engineering with Flowcode
from Bert Van Dam

Licensing, versions and upgrades

	Free version	Home version	Flowcode pro	Flowcode 10 concurrent users	Flowcode 50 concurrent users	Annual student rental for site licence holders
Unlimited icons	N	Y	Y	Y	Y	Y
Code size limit*	2K	4K	-	-	-	-
All devices (PIC/AVR/ARM)	PIC only	Y	Y	Y	Y	Y
All components	N	N	Y	Y	Y	Y
In Circuit Debug	N	N	Y	Y	Y	Y
Virtual networks	N	N	Y	Y	Y	Y
Code customisation	N	N	Y	Y	Y	Y
Licence for commercial use	N	N	Y	N	N	N
Multi-user licence for education	N	N	N	Y	Y	N
Each microcontroller version:						
Retail price each**	£0	£49	£199	£599	£999	£299
Additional price/copy: 2-4 copies			£160			
Additional price/copy: 5+ copies			£125			
Ultimate version each:						
Retail price each**			£450	£1399	£2299	£599
Additional price/copy: 2-4 copies			£370			
Additional price/copy: 5+ copies			£300			

Code size limits

Code size limitations only apply to the 8-bit PICmicro variant of Flowcode. For the free PICmicro version the code will limit to 2KB of compiled and assembled code (18 series PICmicro limit is 4K). For the PICmicro home version the code will limit to 4KB of compiled and assembled code (18 series PICmicro limit is 8K).

Limited components

Free and home versions do not have all components. Limited component versions all have LED, LED array, Switch, Switchbank, ADC, LCD, 7-segment display, Keypad, Quad 7-segment display, and PWM. The PICmicro version additionally has MIAC and Formula Flowcode. These versions cannot have more components added to them as free downloads. Other versions include all components.

Free version

This well featured version allows you to verify that Flowcode will provide the functions you need and is also suitable for use with hardware devices like the Formula Flowcode robot and ECIO. This is a fully working version of Flowcode that has some limitations. For Flowcode for PICmicro MCUs the demo version will produce hex code for only the following: 16F628A, 16F690, 16F88, 16F84A, 16F877, 18F2220, 18F4431, Formula Flowcode, and ECIO. Free versions are limited to around 50 usable icons and also have code size limitations for PICmicro microcontrollers.

Home version

The Home version is limited in the compiled code size it can produce and in the number of Flowcode components provided: communications functions are not supported. The AVR/Arduino home version is limited in Flowcode components but has no code size limit. Home versions are not licensed for use in institutions.

Pro version

The Pro version includes all functions, components, full code compilation size and is licensed for commercial use. Industrial users who need more than one licence will need to purchase each licence separately.

Multiuser education

Multiuser versions are fully functional like the Pro version, but these are for educational (non-commercial) use only. Only 10 and 50 user versions are available. Those requiring between 10 and 20 users will need to purchase 2 of 10 user versions.

Upgrading licences

Upgrades from one type of licence (e.g. Student to Pro) to another are simply the price difference.

Version 4 to version 5 upgrade

Upgrades from version 4 to version 5 will be charged at 50% of the version 5 price.

Version 3 to version 5 upgrade

Upgrades from version 3 to version 5 will be charged at 70% of the version 5 price.

Crossgrade

Customers who have a version of Flowcode for one microcontroller will be charged at 50% of the price of Flowcode for each subsequent microcontroller family.

Upgrade procedure

Please contact Matrix Multimedia or one of our dealers with your old serial number which is found on the inside of your CD ROM case.

Buying online

The only downloadable version available is the free version. Copies of Flowcode for purchase are only available in CD ROM form from Matrix or an authorised dealer.

Activation

Each product will need activation with a code issued by Matrix. An internet connection is recommended for this.

Upgrade rights

Upgrade rights do not apply to all versions of Flowcode. If your version of Flowcode has been included free of charge with MIAC or other hardware systems then upgrade rights might not apply.

Annual student rental

Max number of students is 200.

*Code size limit only applies to PICmicro versions. Other versions use limited icon numbers to limit functionality.

**These target prices are exclusive of tax and any applicable postage charges, and may vary slightly from one region to another.

Supported devices

PICmicro version

10F200 (high tech only), 10F202 (high tech only), 10F204 (high tech only), 10F206 (high tech only), 10F220 (high tech only), 10F222 (high tech only), 12C508 (high tech only), 12C508A (high tech only), 12C509 (high tech only), 12C509A (high tech only), 12C671, 12C672, 12CE518 (high tech only), 12CE519 (high tech only), 12CE673, 12CE674, 12F1822, 12F1840, 12F508 (high tech only), 12F509 (high tech only), 12F510 (high tech only), 12F609, 12F615, 12F617, 12F629, 12F635, 12F675, 12F683, 12HV609, 12HV615, 12LF1840, RF12F675F, RF12F675H, RF12F675K, 16C716, 16C717, 16C72, 16C72A, 16C73, 16C73A, 16C73B, 16C74, 16C74A, 16C74B, 16C76, 16C77, 16C770, 16C771, 16C773, 16C774, 16C84, 16CR72, 16CR83, 16CR84, 16F1823, 16F1824, 16F1825, 16F1826, 16F1827, 16F1828, 16F1829, 16F1847, 16F1933, 16F1934, 16F1936, 16F1937, 16F1938, 16F1939, 16F1946, 16F1947, 16F505 (high tech only), 16F506 (high tech only), 16F610, 16F616, 16F627, 16F627A, 16F628, 16F628A, 16F630, 16F631, 16F636, 16F639, 16F648A, 16F676, 16F677, 16F684, 16F685, 16F687, 16F688, 16F689, 16F690, 16F707, 16F716, 16F72, 16F722, 16F723, 16F724, 16F726, 16F727, 16F73, 16F737, 16F74, 16F747, 16F76, 16F767, 16F77, 16F777, 16F785, 16F818, 16F819, 16F83, 16F84, 16F84A, 16F87, 16F870, 16F871, 16F872, 16F873, 16F873A, 16F874, 16F874A, 16F876, 16F876A, 16F877, 16F877A, 16F88, 16F882, 16F883, 16F884, 16F886, 16F887, 16F913, 16F914, 16F916, 16F917, 16F946, 16LF1824, 16LF1825, 16LF1828, 16LF1829, 16LF1847, 16LF1902, 16LF1903, 16LF1933, 16LF1934, 16LF1936, 16LF1937, 16LF1938, 16LF1939, 16LF1946, 16LF1947, 16LF707, 18F1220, 18F1230, 18F1320, 18F1330, 18F13K22, 18F13K50, 18F14K22, 18F14K50, 18F2220, 18F2221, 18F2320, 18F2321, 18F2331, 18F23K20, 18F23K22, 18F2410, 18F242, 18F2420, 18F2423, 18F2431, 18F2439, 18F2450, 18F2455, 18F2458, 18F248, 18F2480, 18F24J10, 18F24J11, 18F24J50, 18F24K20, 18F24K22, 18F2510, 18F2515, 18F252, 18F2520, 18F2523, 18F2525, 18F2539, 18F2550, 18F2553, 18F258, 18F2580, 18F2585, 18F25J10, 18F25J11, 18F25J50, 18F25K20, 18F25K22, 18F25K80, 18F2610, 18F2620, 18F2680, 18F2682, 18F2685, 18F26J11, 18F26J13, 18F26J50, 18F26J53, 18F26K20, 18F26K22, 18F26K80, 18F27J13, 18F27J53, 18F4220, 18F4221, 18F4320, 18F4321, 18F4331, 18F43K20, 18F43K22, 18F4410, 18F442, 18F4420, 18F4423, 18F4431, 18F4439, 18F4450, 18F4455, 18F4458, 18F448, 18F4480, 18F44J10, 18F44J11, 18F44J50, 18F44K20, 18F44K22, 18F4510, 18F4515, 18F452, 18F4520, 18F4523, 18F4525, 18F4539, 18F4550, 18F4553, 18F458, 18F4580, 18F4585, 18F45J10, 18F45J11, 18F45J50, 18F45K20, 18F45K22, 18F45K80, 18F4610, 18F4620, 18F4680, 18F4682, 18F4685, 18F46J11, 18F46J13, 18F46J50, 18F46J53, 18F46K20, 18F46K22, 18F46K80, 18F47J13, 18F47J53, 18F6310, 18F6390, 18F6410, 18F6490, 18F6520, 18F6527, 18F6585, 18F65J10, 18F65J15, 18F65J50, 18F65K22, 18F65K80, 18F6620, 18F6622, 18F6627, 18F6680, 18F66J10, 18F66J11, 18F66J15, 18F66J16, 18F66J50, 18F66J55, 18F66J60, 18F66J65, 18F66J90, 18F66J93, 18F66K22, 18F66K80, 18F6720, 18F6722, 18F67J10, 18F67J11, 18F67J50, 18F67J60, 18F67J90, 18F67J93, 18F67K22, 18F8310, 18F8390, 18F8410, 18F8490, 18F8520, 18F8527, 18F8585, 18F85J10, 18F85J15, 18F85J50, 18F85K22, 18F8620, 18F8622, 18F8627, 18F8680, 18F86J10, 18F86J11, 18F86J15, 18F86J16, 18F86J50, 18F86J55, 18F86J60, 18F86J65, 18F86J90, 18F86J93, 18F86K22, 18F8720, 18F8722, 18F87J10, 18F87J11, 18F87J50, 18F87J60, 18F87J90, 18F87J93, 18F87K22, 18F96J60, 18F96J65, 18F97J60, 18F13K50, 18LF14K50, 18LF25K80, 18LF26J13, 18LF26J53, 18LF26K80, 18LF27J13, 18LF27J53, 18LF45K80, 18LF46J13, 18LF46J53, 18LF46K80, 18LF47J13, 18LF47J53, 18LF65K80, 18LF66K80

ECIO-28, ECIO-40, Formula Flowcode Buggy, Locktronics PIC, MCHP_FSUSB, MIAC System, MIAC, PIC18_STARTERKIT_E14

AVR/Arduino version

Arduino BT 168, Arduino BT 328, Arduino Duemilanove 168, Arduino Duemilanove 328P, Arduino Ethernet, Arduino Fio, Arduino Leonardo, Arduino LilyPad 168, Arduino LilyPad 328, Arduino Mega 1280, Arduino Mega 2560, Arduino Mega ADK 2560, Arduino Mini, Arduino Nano 168, Arduino Nano 328, Arduino Pro 168 3V3, Arduino Pro 168 5V, Arduino Pro 328 3V3, Arduino Pro 328 5V, Arduino Pro Mini 3V3, Arduino Pro Mini 5V, Arduino Serial, Arduino Uno PDIP, Arduino Uno SMD, , AT90CAN128, AT90CAN32, AT90CAN64, AT90PWM1, AT90PWM2, AT90PWM216, AT90PWM2B, AT90PWM3, AT90PWM316, AT90PWM3B, AT90PWM81, AT90S2313, AT90S2323, AT90S2333, AT90S2343, AT90S4414, AT90S4433, AT90S4434, AT90S8515, AT90S8535, AT90USB1286, AT90USB1287, AT90USB162, AT90USB646, AT90USB647, AT90USB882, , ATMEGA103, ATMEGA128, ATMEGA1280, ATMEGA1281, ATMEGA1284P, ATMEGA16, ATMEGA161, ATMEGA162, ATMEGA163, ATMEGA164, ATMEGA164P, ATMEGA164S, ATMEGA165P, ATMEGA168, ATMEGA168P, ATMEGA169, ATMEGA169P, ATMEGA16M1, ATMEGA16U2, ATMEGA16U4, ATMEGA2560, ATMEGA2561, ATMEGA32, ATMEGA323, ATMEGA324, ATMEGA324P, ATMEGA325, ATMEGA3250, ATMEGA3250P, ATMEGA325P, ATMEGA328, ATMEGA328P, ATMEGA329, ATMEGA3290, ATMEGA3290P, ATMEGA329P, ATMEGA32C1, ATMEGA32M1, ATMEGA32U2, ATMEGA32U4, ATMEGA32U6, ATMEGA406, ATMEGA448, ATMEGA48P, ATMEGA64, ATMEGA640, ATMEGA644, ATMEGA644P, ATMEGA645, ATMEGA6450, ATMEGA6450P, ATMEGA645P, ATMEGA649, ATMEGA6490, ATMEGA6490P, ATMEGA649P, ATMEGA64C1, ATMEGA64M1, ATMEGA8, ATMEGA8515, ATMEGA8535, ATMEGA88, ATMEGA88P, ATMEGA8U2, , ATTINY13, ATTINY167, ATTINY22, ATTINY2313, ATTINY24, ATTINY25, ATTINY26, ATTINY261, ATTINY4313, ATTINY44, ATTINY45, ATTINY461, ATTINY48, ATTINY84, ATTINY85, ATTINY861, ATTINY87, ATTINY88, , ATXMEGA128A1, ATXMEGA128A3, ATXMEGA128D3, ATXMEGA16A4, ATXMEGA16D4, ATXMEGA192A3, ATXMEGA192D3, ATXMEGA256A3, ATXMEGA256A3B, ATXMEGA256D3, ATXMEGA32A4, ATXMEGA32D4, ATXMEGA64A1, ATXMEGA64A3, ATXMEGA64D3

ARM version

AT91SAM7S128, AT91SAM7S16, AT91SAM7S161, AT91SAM7S256, AT91SAM7S32, AT91SAM7S321, AT91SAM7S512, AT91SAM7S564, AT91SAM7S564_EK, AT91SAM7SE256, AT91SAM7SE32, AT91SAM7SE512, EB031, ECIOARM

dsPIC/PIC24 version

24EP32GP202, 24EP32GP203, 24EP32GP204, 24EP32MC202, 24EP32MC203, 24EP32MC204, 24EP64GP202, 24EP64GP203, 24EP64GP204, 24EP64GP206, 24EP64MC202, 24EP64MC203, 24EP64MC204, 24EP64MC206, 24EP128GP202, 24EP128GP204, 24EP128GP206, 24EP128MC202, 24EP128MC204, 24EP128MC206, 24EP256GP202, 24EP256GP204, 24EP256GP206, 24EP256GU810, 24EP256GU814, 24EP256MC202, 24EP256MC204, 24EP256MC206, 24EP512GP806, 24EP512GU810, 24EP512GU814, 24F08KA101, 24F08KA102, 24F16KA101, 24F16KA102, 24F16KA301, 24F16KA302, 24F16KA304, 24F32KA301, 24F32KA302, 24F32KA304, 24FJ16GA002, 24FJ16GA004, 24FJ32GA002, 24FJ32GA004, 24FJ32GA102, 24FJ32GA104, 24FJ32GB002, 24FJ32GB004, 24FJ48GA002, 24FJ48GA004, 24FJ64GA002, 24FJ64GA004, 24FJ64GA006, 24FJ64GA008, 24FJ64GA010, 24FJ64GA102, 24FJ64GA104, 24FJ64GB002, 24FJ64GB004, 24FJ64GB106, 24FJ64GB108, 24FJ64GB110, 24FJ96GA006, 24FJ96GA008, 24FJ96GA010, 24FJ128DA106, 24FJ128DA110, 24FJ128DA206, 24FJ128DA210, 24FJ128GA006, 24FJ128GA008, 24FJ128GA010, 24FJ128GA106, 24FJ128GA108, 24FJ128GA110, 24FJ128GB106, 24FJ128GB108, 24FJ128GB110, 24FJ128GB206, 24FJ128GB210, 24FJ192GA106, 24FJ192GA108, 24FJ192GA110, 24FJ192GB106, 24FJ192GB108, 24FJ192GB110, 24FJ256DA106, 24FJ256DA110, 24FJ256DA206, 24FJ256DA210, 24FJ256GA106, 24FJ256GA108, 24FJ256GA110, 24FJ256GB106, 24FJ256GB108, 24FJ256GB110, 24FJ256GB206, 24FJ256GB210, 24HJ12GP201, 24HJ12GP202, 24HJ16GP304, 24HJ32GP202, 24HJ32GP204, 24HJ32GP302, 24HJ32GP304, 24HJ64GP202, 24HJ64GP204, 24HJ64GP206, 24HJ64GP206A, 24HJ64GP210, 24HJ64GP210A, 24HJ64GP502, 24HJ64GP504, 24HJ64GP506, 24HJ64GP506A, 24HJ64GP510A, 24HJ64GP510A, 24HJ128GP206, 24HJ128GP206A, 24HJ128GP210, 24HJ128GP210A, 24HJ128GP306, 24HJ128GP306A, 24HJ128GP310, 24HJ128GP310A, 24HJ128GP502, 24HJ128GP504, 24HJ128GP506, 24HJ128GP506A, 24HJ128GP510, 24HJ128GP510A, 24HJ128GP802, 24HJ128GP804, 24HJ256GP206, 24HJ256GP206A, 24HJ256GP210, 24HJ256GP210A, 24HJ256GP610, 24HJ256GP610A, STARTERKIT_24FJ256GB106, EXPLORER16_24FJ64GA004, EXPLORER16_24FJ128GA010, 30F1010, 30F2010, 30F2011, 30F2012, 30F2020, 30F2023, 30F3010, 30F3011, 30F3012, 30F3013, 30F3014, 30F4011, 30F4012, 30F4013, 30F5011, 30F5013, 30F5015, 30F5016, 30F6010, 30F6010A, 30F6011, 30F6011A, 30F6012, 30F6012A, 30F6013, 30F6013A, 30F6014, 30F6014A, 30F6015, 33EP32GP502, 33EP32GP503, 33EP32GP504, 33EP32MC202, 33EP32MC203, 33EP32MC204, 33EP32MC502, 33EP32MC503, 33EP32MC504, 33EP32MC506, 33EP64GP502, 33EP64GP503, 33EP64GP504, 33EP64GP506, 33EP64MC202, 33EP64MC203, 33EP64MC204, 33EP64MC206, 33EP64MC502, 33EP64MC503, 33EP64MC504, 33EP64MC506, 33EP128GP502, 33EP128GP504, 33EP128GP506, 33EP128MC202, 33EP128MC204, 33EP128MC206, 33EP128MC502, 33EP128MC504, 33EP128MC506, 33EP256GP502, 33EP256GP504, 33EP256GP506, 33EP256MC202, 33EP256MC204, 33EP256MC206, 33EP256MC502, 33EP256MC504, 33EP256MC506, 33EP256MU806, 33EP256MU810, 33EP256MU814, 33EP512GP806, 33EP512MC806, 33EP512MU810, 33EP512MU814, 33FJ06GS101, 33FJ06GS102, 33FJ06GS202, 33FJ12GP201, 33FJ12GP202, 33FJ12MC201, 33FJ12MC202, 33FJ16GP304, 33FJ16GS402, 33FJ16GS404, 33FJ16GS502, 33FJ16GS504, 33FJ16MC304, 33FJ32GP202, 33FJ32GP204, 33FJ32GP302, 33FJ32GP304, 33FJ32GS406, 33FJ32GS606, 33FJ32GS608, 33FJ32GS610, 33FJ32MC202, 33FJ32MC204, 33FJ32MC302, 33FJ32MC304, 33FJ64GP202, 33FJ64GP204, 33FJ64GP206, 33FJ64GP206A, 33FJ64GP306, 33FJ64GP306A, 33FJ64GP310, 33FJ64GP310A, 33FJ64GP706, 33FJ64GP706A, 33FJ64GP708, 33FJ64GP708A, 33FJ64GP710, 33FJ64GP710A, 33FJ64GP802, 33FJ64GP804, 33FJ64GS406, 33FJ64GS506, 33FJ64GS608, 33FJ64GS610, 33FJ64MC202, 33FJ64MC204, 33FJ64MC506, 33FJ64MC506A, 33FJ64MC508, 33FJ64MC508A, 33FJ64MC510, 33FJ64MC510A, 33FJ64MC706, 33FJ64MC706A, 33FJ64MC710, 33FJ64MC710A, 33FJ64MC802, 33FJ64MC804, 33FJ128GP202, 33FJ128GP204, 33FJ128GP206, 33FJ128GP206A, 33FJ128GP306, 33FJ128GP306A, 33FJ128GP310, 33FJ128GP310A, 33FJ128GP706, 33FJ128GP706A, 33FJ128GP708, 33FJ128GP708A, 33FJ128GP710, 33FJ128GP710A, 33FJ128GP802, 33FJ128GP804, 33FJ128MC202, 33FJ128MC204, 33FJ128MC506, 33FJ128MC506A, 33FJ128MC510, 33FJ128MC510A, 33FJ128MC706, 33FJ128MC706A, 33FJ128MC708, 33FJ128MC708A, 33FJ128MC710, 33FJ128MC710A, 33FJ128MC802, 33FJ128MC804, 33FJ256GP506, 33FJ256GP506A, 33FJ256GP510, 33FJ256GP510A, 33FJ256GP710, 33FJ256GP710A, 33FJ256MC510, 33FJ256MC510A, 33FJ256MC710, 33FJ256MC710A, EXPLORER16_33FJ256GP710, STARTERKIT_24FJ256GB106,

Plus the following FCDs for Microchip specific boards;
EXPLORER16_24FJ128GA010, EXPLORER16_24FJ64GA004, EXPLORER16_33FJ256GP710, STARTERKIT_24FJ256GB106,

Note that microcontroller compatibility changes on a frequent basis.
If you have specific microcontroller requirements then please contact your dealer.



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