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MSP430FR2433 LaunchPad Development Kit

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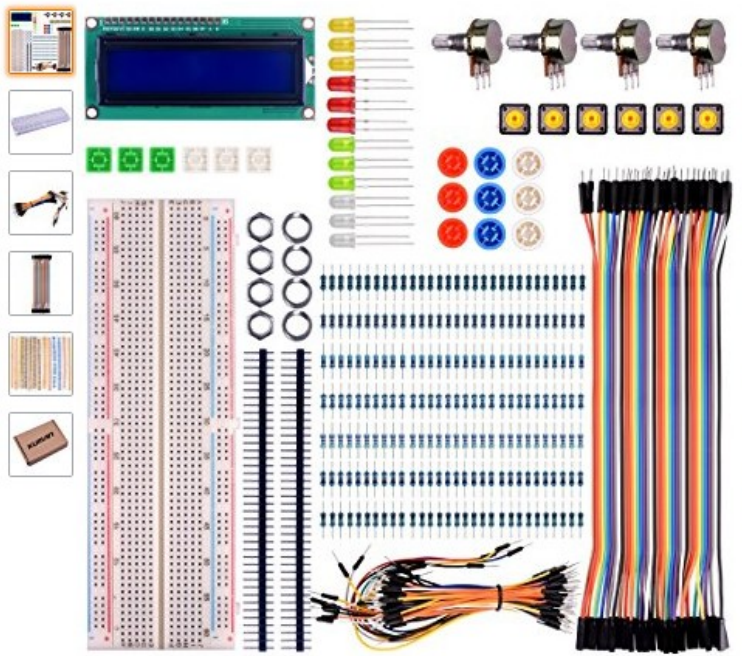
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# Starter Kit

# OLED Display IIC



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## UCTRONICS 0.96 Inch OLED Module 12864 128x64 Yellow Blue SSD1306 Driver I2C Serial Self-Luminous Display Board for Arduino Raspberry PI

by UCTRONICS

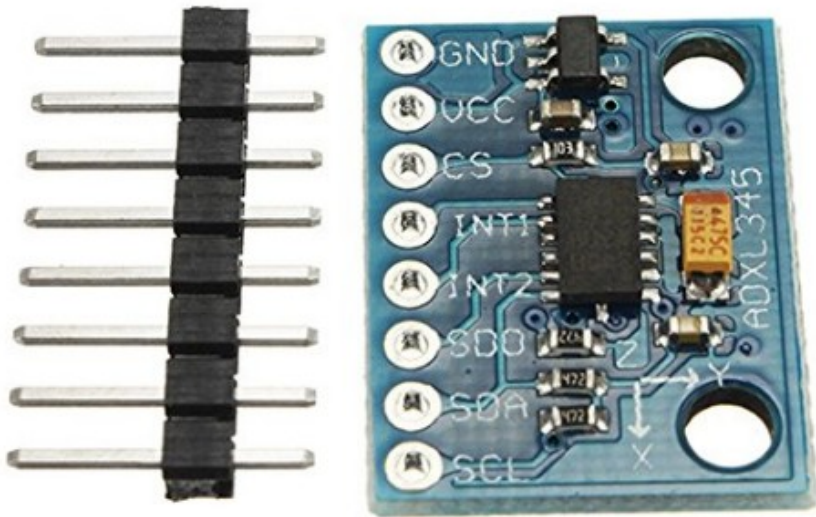
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- UCTRONICS 0.96 Inch OLED Module for showing graphical & textual information directly on your micro-controller projects. It supports many chips: Arduino UNO and Mega, Raspberry pi, 51 MCU, STM 32, etc., the UNO shown in the picture is NOT INCLUDE
- Resolution: 128 x 64, View angle: > 160°, Support voltage: 3.3V-5V DC, Power consumption: 0.04W during normal operation, full screen lit 0.08W
- Embedded Driver IC: SSD1306. Communication: I2C/IIC Interface, only need two I / O ports
- Needn't backlight, the display unit can self-luminous. It has Super High Contrast, bright and crisp dots, even tiny fonts quite readable
- No embedded fonts inside the OLED controller, user can create the fonts through the font generation software. We offer technical support and software library as well as the guide book in the package



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HiLetgo®

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# Accelerometer



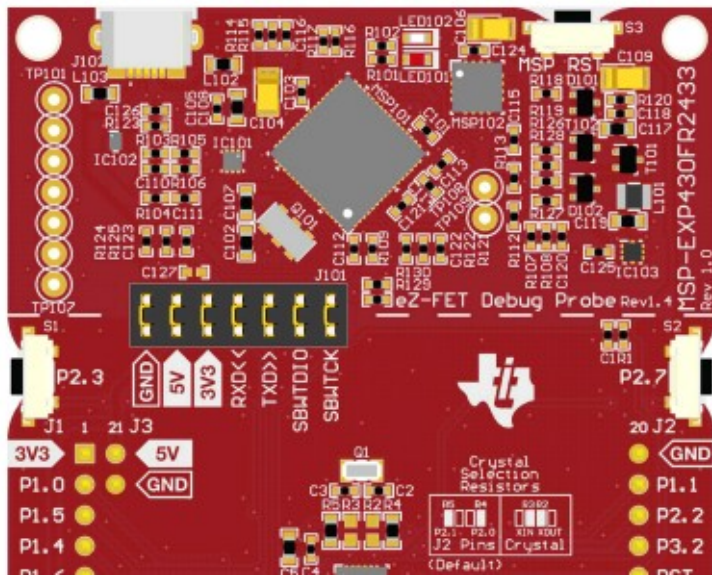
Course reference materials:

## MSP430FR2433 LaunchPad™ Development Kit (MSP-EXP430FR2433)

# Launchpad User Guide

The MSP-EXP430FR2433 LaunchPad™ Development Kit is an easy-to-use evaluation module (EVM) based on the [MSP430FR2433](#) Value Line Sensing microcontroller (MCU). It contains everything needed to start developing on the ultra-low-power MSP430FR2x Value Line Sensing MCU platform, including onboard debug probe for programming, debugging, and energy measurements. The board includes two buttons and two LEDs for creating a simple user interface. It also supports using a supercapacitor (must be purchased and installed by the user) that acts like a rechargeable battery, enabling stand-alone applications without an external power supply.

Figure 1 shows the MSP-EXP430FR2433 LaunchPad development kit.



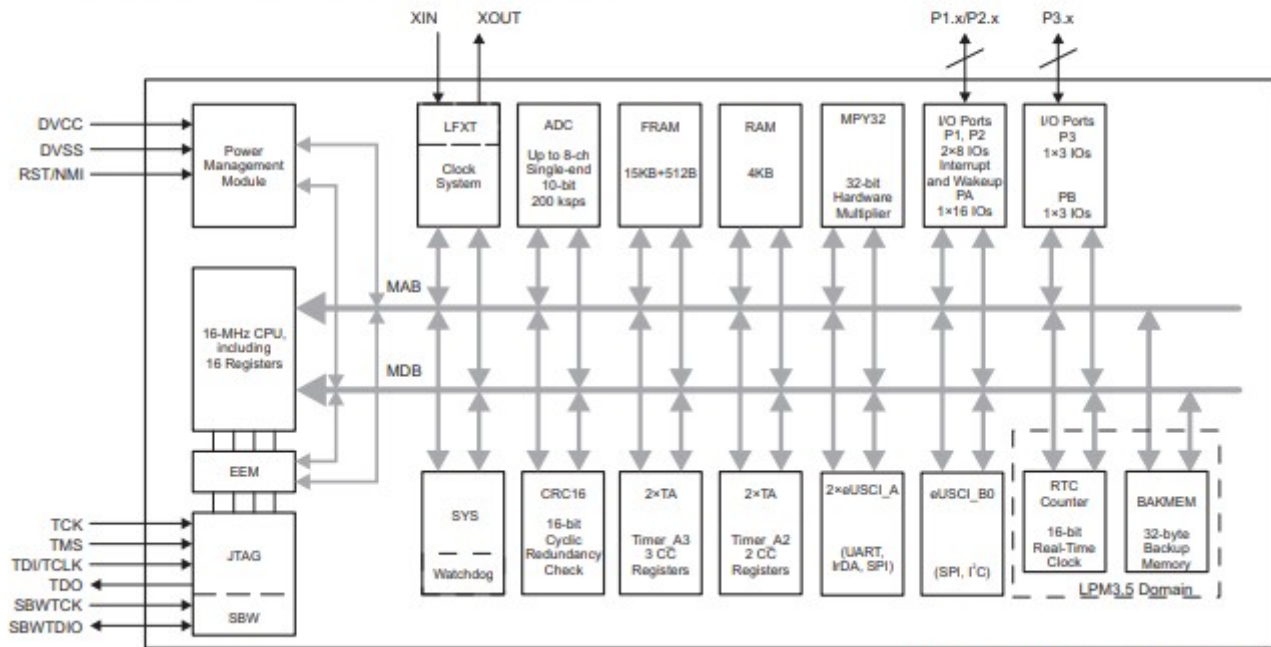
<http://www.ti.com/lit/ug/slau739/slau739.pdf>



### 1.4 Functional Block Diagram

Figure 1-1 shows the functional block diagram.

## MSP430FR2433 Mixed-Signal Microcontroller Data Sheet



# **MSP430FR4xx and MSP430FR2xx Family**

## **User's Guide**



<http://www.ti.com/lit/ug/slau445g/slau445g.pdf>

# Reference Text Book

 **MSP430 Microcontroller Basics (Paperback)**  
by John H. Davies

★★★★★ (29)  
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# MSP430 MICROCONTROLLER BASICS

- Details C and assembly language usage for the MSP430
- Companion Web site contains a development kit
- Full coverage is given to the MSP430 instruction set, sigma-delta analog-digital converters and timers

John Davies

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**LaunchPad with MSP430FR2433**  
Revision 1.0

Hardware  
Pin number  
Other Pins

PC  
Serial UART  
SPI

analogRead()  
digitalRead() and digitalWrite()  
digitalRead(), digitalWrite()  
and analogWrite()

FRAM	16	KB
SRAM	4	KB

Serial	hardware
ADC	10 bits
Use pins numbers only!	
Default PC = (0)	
Software PC (1) master only	

+3.3V				1		+5V
LED1		A0	P1_0	2		GROUND
	RXD	A5	P1_5	3		
	TXD	A4	P1_4	4		
		A6	P1_6	5		
		A7	P1_7	6		
	SCK		P2_4	7		
PUSH2			P2_7	8		
	SCL (I)	A3	P1_3	9		

20			GROUND
19	P1_1	A1	LED2
18	P2_1		
17	P3_2		
16			RESET
15	P2_6	SDA (I)	MOSI
14	P2_5	SCL (I)	MISO
13	P3_1		
12	P2_4		