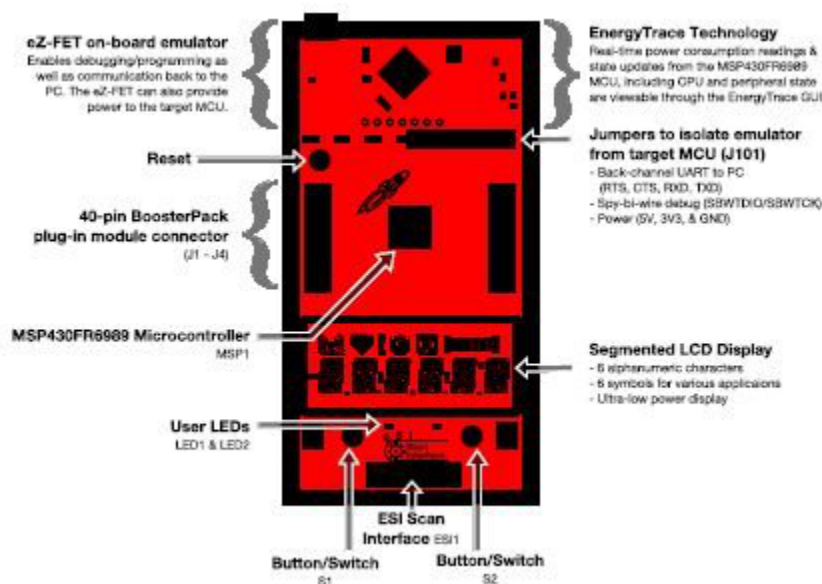


New LaunchPad - More Features - Big Savings



William Cooper

As announced earlier this week, we have a new LaunchPad Development Kit featuring our most integrated FRAM microcontroller. The [MSP-EXP430FR6989 LaunchPad](#) is perfect for evaluation of our platform when considering designs with new devices such as the [MSP430FR6972](#) MCU. This new board will be regularly priced at \$17.99, but is available for over **20 percent off** this month on the TI Store. Let's take a look under the hood to see what this new board has to offer.



The Hardware

Let's start at the top. The MSP430FR6989 LaunchPad includes the eZ-FET emulator on-board. This enables programming and debugging without any extra hardware and offers advanced power profiling technologies with [EnergyTrace++ Technology](#) support. Then as you move past the jumpers, you will notice the MSP430FR6989 microcontroller in the middle of the LaunchPad. This device features 128KB of non-volatile [FRAM that offers unique advantages](#) over traditional microcontrollers. This includes flexibility in terms of a unified space for application and data storage as well as ultra-fast write speeds. Moreover, the microcontroller offers an abundant set of input/output pins that enables simultaneous use of the 40-pin BoosterPack connector and the segment LCD controller that leverages the on-chip driver. As you look below the LCD, this development board also features the standard Buttons and LEDs to enable user-interaction and the header at the bottom is available for connection to the Extended Scan Interface (ESI). The ESI is a dual analog front end that is perfect for rotation detection in applications that involve flow measurement.

The Software

The out-of-box experience on this LaunchPad leverages the low-power LCD capabilities! This out-of-box experience offers two modes:

- Stopwatch Mode
- Temperature Mode

The Stopwatch mode turns the LaunchPad into a stopwatch that counts upward from 0 to 100 hours. From left to right, you can see minutes, seconds and milliseconds. At 60 minutes, the display shifts to show hours, minutes and seconds. Split time is also supported, where the display freezes while the stopwatch continues running in the background. In this mode, the MSP430FR6989 MCU operates primarily in a low-power mode and then wakes up to refresh the display.

Now, let's take a look at the temperature mode. In this mode, the MSP430FR6989 MCU is using the on-chip temperature sensor and displaying the value on the display. You can switch between Fahrenheit and Celsius.

All of this is exciting out of box, but what if you could take it a step further? Wouldn't it be nice if this LaunchPad were hooked up to a battery, and when that battery depleted it stored information about the system state before the system shut down? Well this is now possible with our Compute Through Power Loss (CTPL) Technology that is re-inventing context save and restore in low-power systems. Check out the video below and tune in next week for more information about how it works! [Link](#)

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