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# Nuvoton Launches KM1M4BF Series MCU and KM1M7AF/KM1M7BF Series MCU for Highly Efficient Motor & Power Control

## *Promoting a Sustainable Future by Improving Power Efficiency for Wide-Ranging Consumer, Enterprise and Industrial Applications*

**Hsinchu, Taiwan – September 20, 2023 –** Leading microcontroller platform manufacturer, Nuvoton Technology, has proudly launched its KM1M4BF series MCU and KM1M7AF/KM1M7BF series MCUs designed for motor and power control in wide-ranging consumer, enterprise, and industrial applications, such as air conditioning, heat pumps, white goods, tools, e-bikes, EV charging, solar invertors, energy storage and power supplies. The new MCU series are designed to improve energy efficiency beyond current solutions, promoting more sustainable ecosystems by reducing energy use where possible, streamlining product development through state-of-the-art references and tools, while also promoting greater single-chip integration of essential features, reducing product platform costs and simplifying supply chains.

### KM1M4BF Series MCU Motor & PFC Controller

The KM1M4BF series MCU is ideal for applications such as white goods, air conditioning, e-bikes or equivalent EV motors. Powered by an Arm® Cortex®-M4F CPU operating up to 120MHz, with integrated Flash and SRAM, it supports a wide operating voltage of 2.9-5.5V and wide operating temperature of -40°C ~ +110°C.  
  
Features include simultaneous two-motor and PFC control, reducing overall component count and platform cost, high speed ADC (2 Msps), built-in differential variable gain amplifier & window comparator, and various safety functions including memory ECC, clock error detection, ADC failure diagnosis, power supply voltage detection, and certification such as IEC60730.  
  
Among its flexible IO, standout analogue connectivity includes 2 sets of differential variable gain amplifier (VGA) and 4 sets of comparators, while notable peripheral set includes 8 sets of motor & power control PWM, complementary PWM output, dead time insert, output shift, duty cut, period cut, and synchronous ADC trigger.  
  
For more information about [Nuvoton KM1M4BF Series MCU](https://www.nuvoton.com/products/microcontrollers/arm-cortex-m4-mcus/km1m4bf-series/).

### KM1M7AF/KM1M7BF Series MCU Power Controller

The KM1M7AF series MCU is ideal for high voltage power supply applications such as EV charging, and energy storage, where it can control primary PFC (AC/DC) and secondary LLC (DC/DC) from a single MCU, reducing component count and platform cost. It provides high speed, highly accurate feedback control via high-speed ADC (2Msps) and high resolution PWM (208ps). For heat pumps and commercial-grade air conditioning, it can control up to 2 motors and provides state-of-the-art 3-phase interleaved PFC simultaneously.  
  
Powered by an Arm® Cortex®-M7 core operating up to 160MHz with integrated Flash and SRAM, it supports a wide operating voltage of 3.5-5.5V and wide operating temperature of -40°C ~ +110°C.  
  
Features include motor & PFC control (KM1M7B series), synchronous control ADC, duty adjustment, dead time auto-adjustment, high speed ADC (2 Msps), 2 sets of CAN-FD (KM1M7AF5/6 series), SM Bus (LQFP 128/144), built-in differential variable gain amplifier (KM1M7A0/1, KM1M7B series) and various safety functions including memory ECC, clock error detection, ADC failure diagnosis, power supply voltage detection, and certification such as IEC60730.   
  
Among its flexible IO, standout analogue connectivity includes 5 sets of differential variable gain amplifier (KM1M7A0/1, KM1M7B series) and 5-channel comparator, while notable peripheral set includes 12 sets of motor & power control PWM, complementary PWM output, dead time insert, output shift, duty cut, period cut and synchronous ADC trigger.   
  
For more information about [Nuvoton KM1M7AF/KM1M7BF Series MCU](https://www.nuvoton.com/products/microcontrollers/arm-cortex-m7-mcus).

### About Nuvoton Technology

Nuvoton Technology Corporation (Nuvoton) was founded to bring innovative semiconductor solutions to the market. Nuvoton was spun-off as a Winbond Electronics affiliate in July 2008 and went public in September 2010 on the Taiwan Stock Exchange (TWSE). Nuvoton focuses on the developments of microcontroller, microprocessor, smart home, cloud security, battery monitoring, component, visual sensing and IoT with security ICs and has strong market share in Industrial, Automotive, Communication, Consumer and Computer markets. Nuvoton owns 6-inch wafer fabs equipped with diversified processing technologies to provide professional wafer foundry services. Nuvoton provides products with a high performance/cost ratio for its customers by leveraging flexible technology, advanced design capability, and integration of digital and analog technologies. Nuvoton values long term relationships with its partners and customers and is dedicated to continuous innovation of its products, processes, and services. Nuvoton has established subsidiaries in the USA, China, Israel, India, Singapore, Korea and Japan to strengthen regional customer support and global management. For more information, please visit [http://www.nuvoton.com](http://www.nuvoton.com/).