



STM32U0 SERIES

The latest generation
of entry-level ultra-low-power MCUs



The ideal combination between energy consumption, features, and cost.

Based on the Arm® Cortex®-M0+ core, the STM32U0 series offers high integration, reducing BoM costs and making it an attractive option for cost-conscious customers.

Offering 16 to 256 Kbytes of flash memory and 12 to 40 Kbytes of SRAM, the STM32U0 series is available in a large choice of packages (TSSOP, UQFN, LQFP, UFBGA and WLCSP) from 20 to 81 pins. Most of the packages are pin-to-pin compatible to STM32L0, STM32L1 and STM32L4.

KEY FEATURES AND BENEFITS

The STM32U0 series enables more design freedom in entry-level, battery-operated devices:

Energy savings & longer product usage

- Best-in-class static consumption
- Many ultra-low-power modes for greater flexibility

Integrated features

- High integration, including an LCD driver, MSI internal oscillator, ART accelerator, ADC, DAC, comparators and Opamp
- AES: 128/256-bit key encryption hardware acceleration
- True random number generator (NIST SP800-90B)

Cost effectiveness

- Lower BOM costs thanks to high integration
- Attractive price point
- Benefitting from the STM32 ecosystem

STM32U0 block diagram

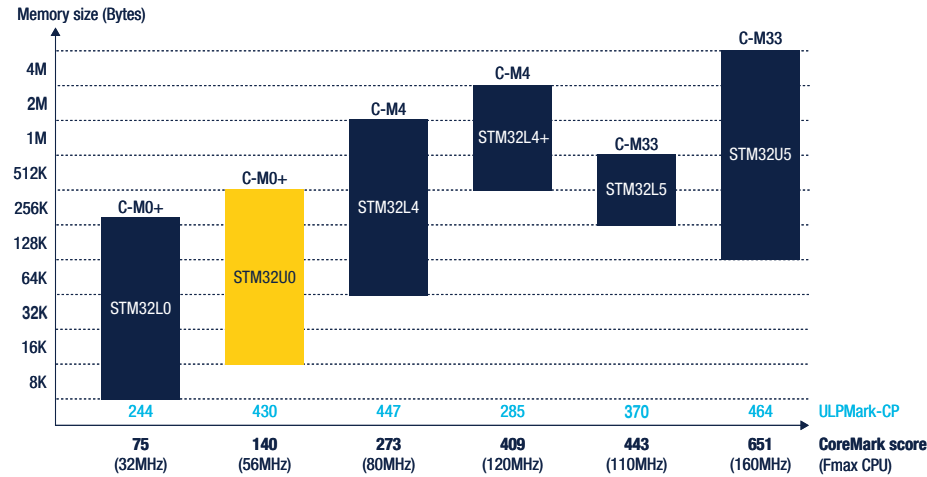


Key Applications

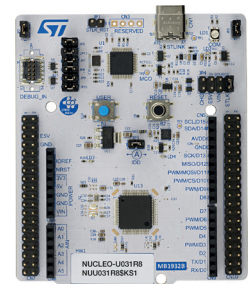
Industrial <ul style="list-style-type: none"> • Thermostats • Smoke detectors • Heat cost allocators • Door locks 	Medical <ul style="list-style-type: none"> • Insulin pumps • Glucose meters
Smart metering <ul style="list-style-type: none"> • Water and gas • Electricity meters • Smart home gateways 	Consumer <ul style="list-style-type: none"> • Activity trackers • GPS • Headphones

Certified security set for firmware code protection (SESIP level 3 and PSA level1)

Enabling more design freedom in entry-level, battery-operated devices



Hardware tools



NUCLEO-U031R8 and NUCLEO-U083RC



STM32U083C-DK

STM32U0 is labelled Sustainable Technology

By reducing power consumption in end devices, STM32U0 contributes to reducing their carbon footprint.



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