



STM32C0 MCU SERIES

Entry-level 32-bit MCU
for cost-sensitive applications



Your next 8-bit MCU is a 32-bit!

The STM32C0, ST's most affordable 32-bit MCU, makes 32-bit capabilities accessible to all developers.

Bridging the gap between 8- or 16-bit MCUs and higher performance 32-bit MCUs, the STM32C0 provides access to the benefits of STM32 designs. Powered by the industry-standard Arm® Cortex®-M0+ core running at 48 MHz, the STM32C0 lets developers do more with less.

- For developers working with 32-bit MCUs, the STM32C0 offers an entry-level solution that leaves room for future product upgrades to the STM32G0 series or other STM32 MCUs.
- For designers developing applications usually served by 8-bit or 16-bit MCUs, the STM32C0 allows you to upgrade your design, with a limited impact on your cost structure and additional support thanks to a proven STM32 ecosystem.

The STM32C0 series offers up to 256 Kbytes of flash memory, and 36 Kbytes of RAM. It is available in a variety of 8- to 64-pin packages, including the tiny 3x3 mm UFQFPN20 package and WLCSP 12-pin to 24-pin packages.

KEY FEATURES & BENEFITS

- **Affordability:** helps you reduce costs thanks to an attractive price point and an optimized BOM
- **Reliability:** benefits from proven STM32 quality & reliability
- **Continuity:** offers a consistent pinout with STM32G0 and shares the same technology platform

KEY APPLICATIONS

- Smart homes
- Industrial devices
- Consumer devices



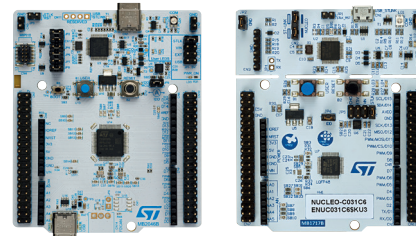
STM32C071 BLOCK DIAGRAM

System	Core	Connectivity
Power supply 1.2V regulator POR/PDR/BOR	Arm® Cortex®-M0+ CPU Up to 48 MHz	1x USB FS Device X-less
Xtal oscillator 32 kHz + 1 ~ 48 MHz	Nested vector interrupt Controller (NVIC)	2x SPI (I²S)
Internal RC oscillators 32 kHz (±5%) + 48 MHz (1%)	SW debug	2x USART (1x with LIN, smartcard, IrDA, modem control)
Internal RC oscillators 48 kHz (auto trimming on ext. synchro)	AHB-Lite bus matrix	2x I²C (SMBus, PMBus, Fast Mode Plus)
Clock control	APB bus	Control
RTC	Up to 128-Kbyte Flash memory	1x 32-bit timer
Systick timer	24-Kbyte SRAM	1x 16-bit Motor C. timer 4 PWM + 3 compl.
2x watchdogs (independent and system)	8-byte backup registers	1x 16-bit timer 4 PWM
18 I/Os on 20 pins 45 I/Os on 48 pins	Boot ROM	1x 16-bit timer 1 PWM
Cyclic Redundancy Check (CRC)	5-channel DMA	2x 16-bit timers 1 PWM with compl. output
	Analog	
	1x 12-bit ADC SAR Up to 19 channels 2.5 MSPS	

HARDWARE TOOLS

A full set of development boards enables flexible prototyping as well as full STM32C0 evaluation.

NUCLEO-C071RB
NUCLEO-C031C6
Prototyping board



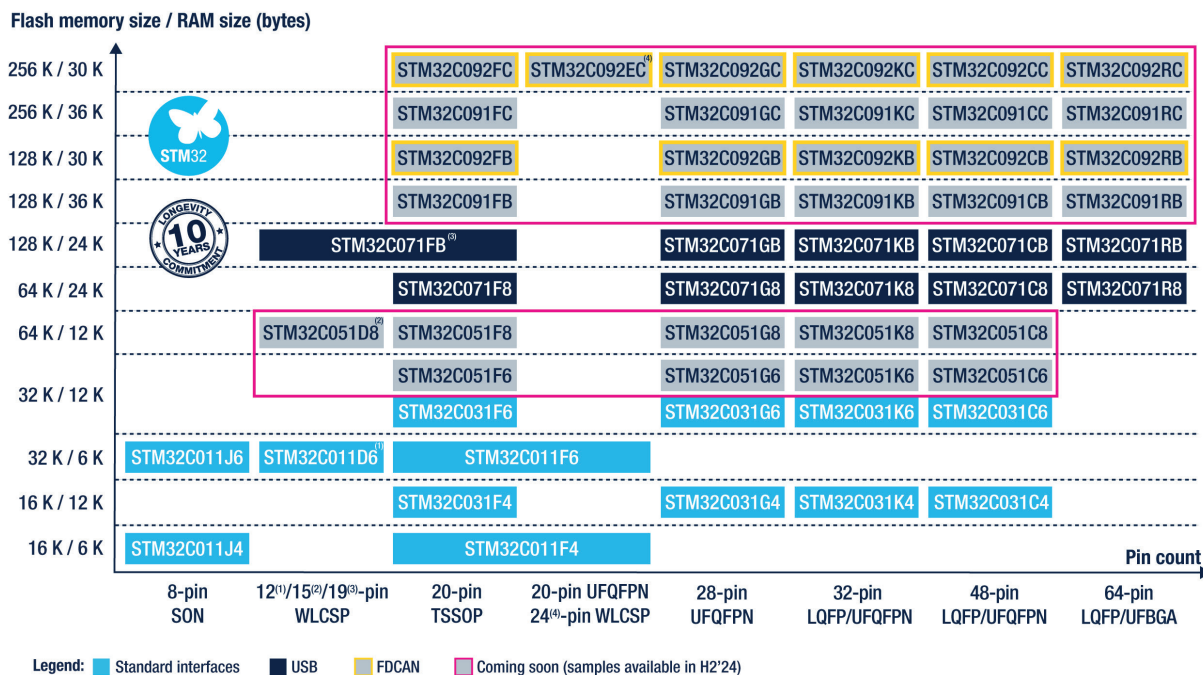
STM32C0116-DK
Wired sample board



STM32C0316-DK
Mini evaluation board



STM32C0 PORTFOLIO



START DEVELOPING NOW!

More than **1 million** developers have chosen STM32Cube, making it the reference in the industry.

STM32CubeC0
firmware package



STM32C0 Online training



STM32C0 Product selector



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