

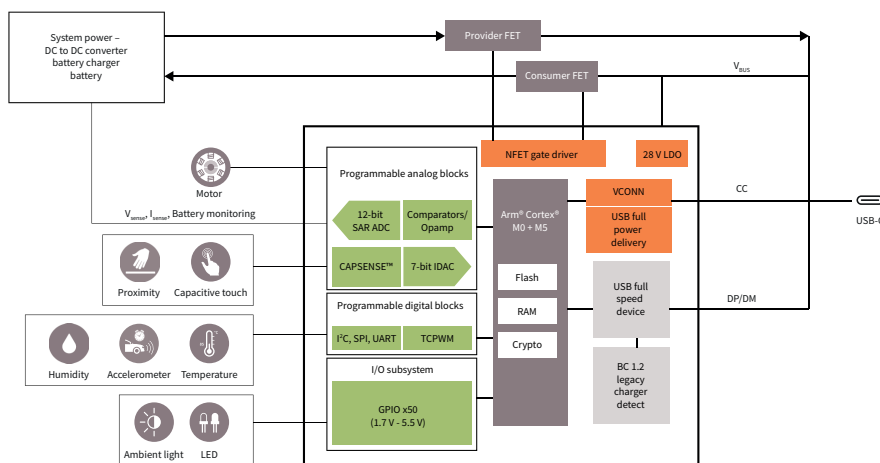
## Product brief

# EZ-PD™ Power Delivery Microcontroller Gen 1

Industry's first high-voltage USB-C PD solution with an onboard MCU

Power Delivery Microcontroller Gen 1 (EZ-PD™ PMG1) is a high-voltage USB-C Power Delivery Microcontroller (PDMCU) targeting market segments, such as consumer, industrial, and communications, that powers from the USB-C connector and needs a MCU to implement the product features.

The EZ-PD™ PMG1 family of devices has a market-proven USB power delivery stack, ensuring spec compliance and interoperability. It's the only high-voltage, programmable USB power delivery solution on the market today, complete with an integrated Arm® Cortex®-M0/M0+, up to 256 KB Flash and 32 KB RAM, a USB full speed device, with analog and digital peripherals. The EZ-PD™ PMG1 family offers customers a unified firmware view with an SDK supported in ModusToolbox™, enabling seamless migration between all EZ-PD™ PMG1 devices.



### Key features

#### USB Power Delivery 3.1

- › Supports up to 28 V on  $V_{BUS}$  EPR
- › VBUS FET gate drivers
- › VBUS fault protections: OVP, OCP

#### 32-Bit MCU Subsystem

- › 48-MHz Arm® Cortex®-M0/M0+ MCU with DMA controller and RTC
- › Up to 256 KB flash and 32 KB RAM

USB full speed device with BC v1.2

#### Analog peripherals

- › One 12-bit, 1 MS/second ADC
- › Buck-Boost controller
- › 2x low-power comparators, OpAmps
- › CAPSENSE™ with SMARTSENSE™ auto-tuning
- › 2x 7-bit current output IDACs configurable as a single 8-bit IDAC

#### Digital peripherals

- › Up to 8x 16-bit TCPWM blocks
- › Up to 8x serial communication blocks (SCBs): I2C master or slave, SPI master or slave, UART

#### Hardware crypto block

- › AES<sup>1)</sup>, SHA<sup>2)</sup>, CRC<sup>3)</sup>, TRNG<sup>4)</sup> and vector unit

#### Packages

- › 24-, 40-, 48- QFN, 42-CSP and 97-BGA

1) Advanced Encryption Standard  
 2) Secure Hash Algorithm  
 3) Cyclic Redundancy Check  
 4) Pseudo Random Number Generation

### Applications

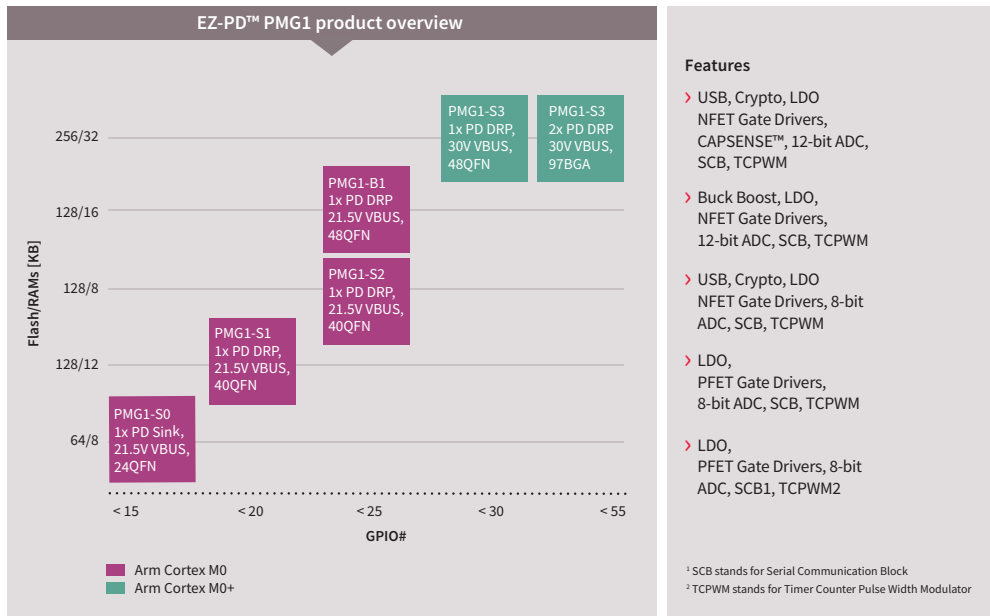
- › Power tools
- › E-Bike
- › Small home appliances
- › Wireless speaker
- › Sensor hub
- › Secure boot engine



# EZ-PD™ Power Delivery Microcontroller Gen 1

## Industry's first high-voltage MCU with integrated USB-C PD

### EZ-PD™ PMG1 Family Portfolio



### Getting Started with EZ-PD™ PMG1

- 1 Download ModusToolbox™**
- 2 Purchase the EZ-PD™ PMG1 kit**
- 3 Download the Getting Started EZ-PD™ PMG1 app note**

Learn more at [www.infineon.com/pmg1](http://www.infineon.com/pmg1)

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