

# USB-C PD-powered motor control solutions

A simplified and integrated motor control solution for consumer electronic applications using EZ-PD™ PMG1 MCUs

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## Abstract

[EZ-PD™ PMG1](#), a family of high voltage microcontrollers (MCUs) with USB-C Power Delivery (PD), supports embedded firmware engineers and system designers to adopt USB-C into applications such as smart speakers, IoT hubs, home appliances, internet gateways, power, and garden tools.

This whitepaper targets system design engineers interested in integrating USB-C and Power Delivery technology into consumer electronic motor control applications with a minimum requirement of external component interfaces. Infineon's EZ-PD™ PMG1 MCUs provide an integrated solution for embedded systems that supply/consume power from the USB-C port and need an MCU to implement product features. This enables the engineers to develop a single-chip solution for controlling both brushed and brushless (BLDC) DC motors powered directly through a USB-C port.

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## Key learnings for the reader:

- Moving away from conventional fixed voltage adapters towards universal USB-C PD adapters with negotiable power
- Build a highly integrated motor control solution to meet the needs of low-power consumer electronic gadgets
- Adapting to brushless DC motors as a means of reliable and energy efficient system, a step towards digitalization

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