



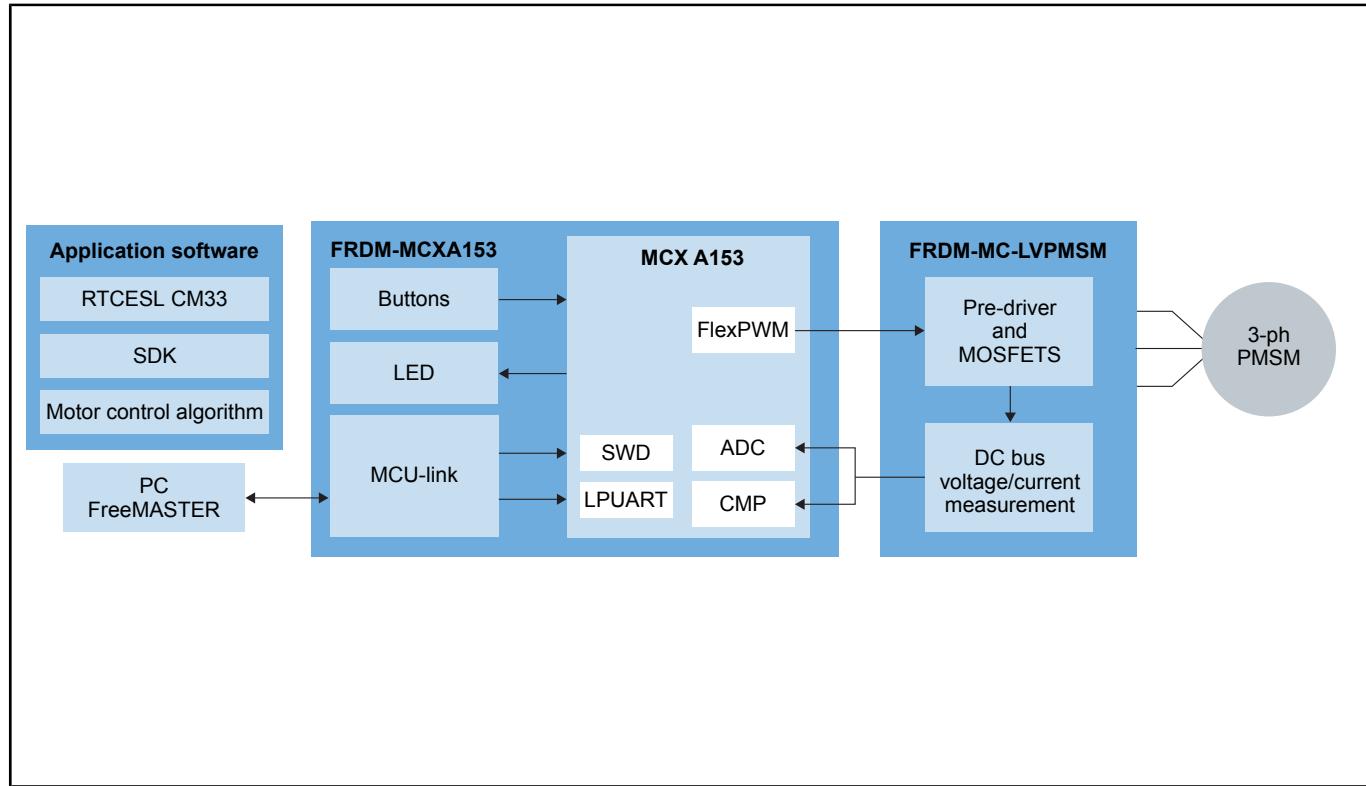
# PMSM Sensorless FOC Using MCX A153

## FOC-USING-MCXA

Last Updated: Dec 23, 2025

This FRDM-MCXA153 based solution is a starting point to develop entry-level applications for 3-phase PMSM using a sensorless FOC technique. It integrates advanced libraries for control and math operations (RTCESL), and a graphics tool (MCAT) to fine tune PI controllers, debug, visualize motor quantities and estimate motor electrical parameters for optimal control. This design leverages the motor control subsystem from the MCX A153 MCU.

## Motor-control Dev Platform Block Diagram



[View additional information for PMSM Sensorless FOC Using MCX A153.](#)

**Note:** The information on this document is subject to change without notice.

---

[www.nxp.com](http://www.nxp.com)

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2026 NXP B.V.