

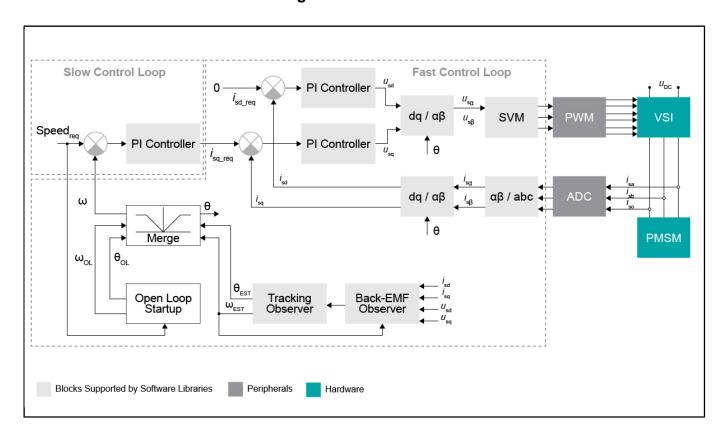
3-Phase PMSM Control

PERMANENT-MAGNET-MOTOR

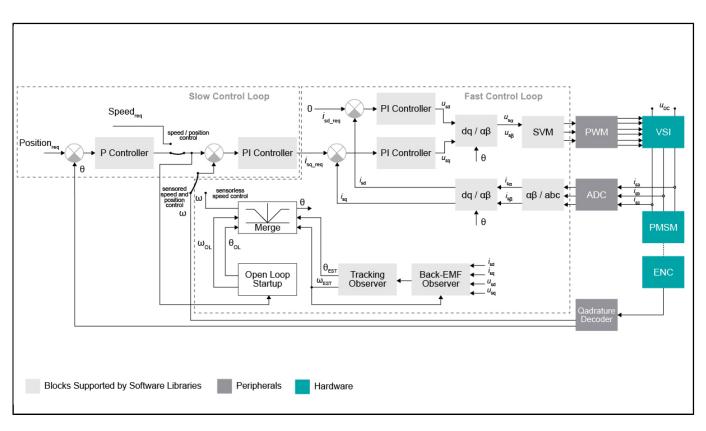
Last Updated: Sep 11, 2025

The 3-phase PMSM control reference design is based on i.MX RT Series Crossover MCUs and V series MCUs. It is intended to provide the example for 3-phase sensor position and sensorless speed PMSM control solutions. The reference design uses a closed-loop field-oriented vector control (FOC) mechanism.

3-Phase PMSM on Kinetis Block Diagram



3-Phase PMSM on i.MX RT10xx Block Diagram



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

www.nxp.com

View additional information for 3-Phase PMSM Control.

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. © 2025 NXP B.V.