

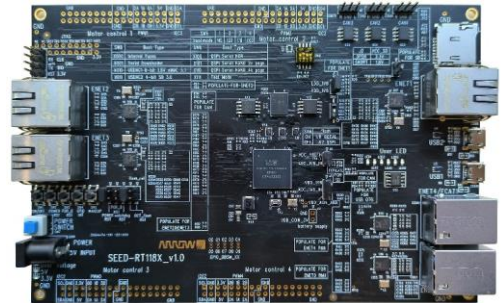
## Motor Control with Industrial Network

### Description

This reference design represents a reference solution for motor control and industrial network based on the NXP i.MX RT1189. Reference design SEED-RT118X is mostly used for motor control, EtherCAT, and TSN. i.MX RT1180 Crossover MCUs are dual-core devices featuring an Arm® Cortex®-M7 and Cortex-M33 for high performance and real-time functionality.

### Advantages

NXP i.MX RT1189 includes an integrated Gbps time-sensitive networking (TSN) switch and EtherCAT Slave Controller making it ideal for industrial and automotive communication applications.



### Features

- Up to 4 motor control interfaces supported.
- Motor control demo by EtherCAT based on CiA 402 protocol.
- 5 TSN ports with TSN switch inside, the master/slave sync error is  $\pm 10\text{ns}$ .

### Core Chips

- MCU control: **NXP** MIMXRT1189CVM8A
- FLASH: **ISSI** IS25WP128F-JBLE, IS25LP128F-JBLE
- QSPI FLASH: **MICRON** MT35XU512ABA2G12-0AAT
- EEPROM: **MICROCHIP** AT24C256C-SSHL-T
- ETHERNET PHY: **REALTEK** RTL8201FI-VC-CG, RTL8211FDI-CG
- CAN Transceivers: **NXP** TJA1044GT/3Z

### Applications

- Factory Automation
- Industrial Gateway
- Healthcare
- Motion Control
- Robotics
- Motor Drives

### Block Diagram

