# Washing Machine Control Reference Design

TIDesigns

**(ACTIVE) TIDM-VF-WASHINGMACHINE**

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Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

## Description

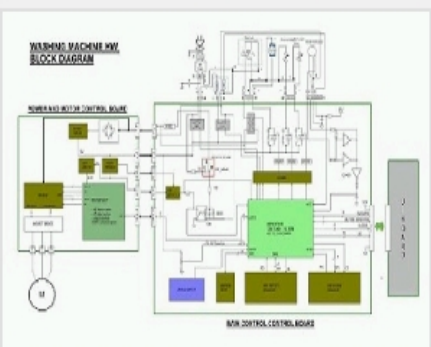
This solution is designed for the inverter front-loading washing machine. It includes three parts: the main control board for the whole washing process control, the motor control board for DD VF motor control, and the user inference board. This solution can implement different washing programs and realize failure detection.

## Features

- Uses InstaSPIN™ estimator for sensorless PMSM control
- Online parameter identification
- The motor can continue to run in the same direction and with the same speed after the motor stall recovers
- Includes agitate washing mode

## Schematic/Block Diagram

Quickly understand overall system functionality.



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## Design Guide

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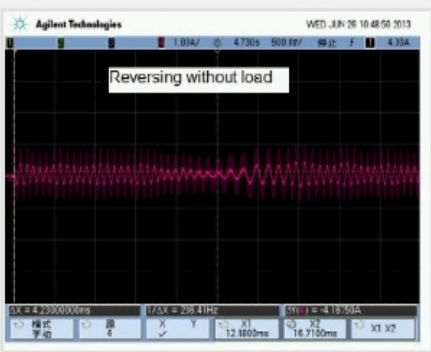


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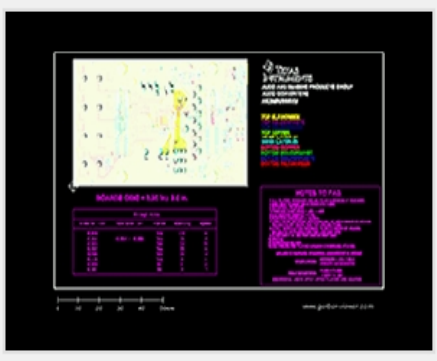
## Design Files

Download ready-to-use system files to speed your design process. Get Viewer.



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## Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

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| Part Number | Name | Product Family | Sample & Buy | Design Kits & Evaluation Modules |
|---|---|---|---|---|
| MSP430F5418 | 16-Bit Ultra-Low-Power Microcontroller, 128KB Flash, 16KB RAM, 12 Bit ADC, 2 USCIs, 32-bit HW Multi | Low Power + Performance | Sample & Buy | Not Available |
| TMS320F28027F | Piccolo Microcontroller with InstaSPIN-FOC | Real-time Control | Sample & Buy | View Design Kits & Evaluation Modules |

## Technical Documents

### User Guides (1)

| Title | Abstract | Type | Size (KB) | Date | Views |
|---|---|---|---|---|---|
| Washing Machine Control Reference Design User's Guide | | PDF | 4548 | 12 Sep 2014 | 137 |

### Design Files (3)

| Title | Abstract | Type | Size (KB) | Date | Views |
|---|---|---|---|---|---|
| Washing Machine Control Reference Design Bill of Materials (BOM) | | PDF | 55 | 28 Aug 2014 | 87 |
| Washing Machine Control Reference Design Files | | ZIP | 2099 | 28 Aug 2014 | 70 |
| Washing Machine Control Reference Design Schematic | | PDF | 479 | 28 Aug 2014 | 132 |

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