

## Read Me First

### ***InstaSPIN-FOC and InstaSPIN-MOTION LaunchPad and BoosterPack***

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Version 2.0.2

*Motor Solutions*

#### **Overview**

This Read Me First document acts as a guide book for your evaluation of an InstaSPIN-FOC enabled Piccolo LaunchPad paired with a three phase inverter BoosterPack

#### Supports:

- Piccolo InstaSPIN enabled controllers
  - LAUNCHXL-F28069M LaunchPad for InstaSPIN-FOC
    - Includes on-card XDS100v2 JTAG (isolated)
  - LAUNCHXL-F28027F LaunchPad for InstaSPIN-FOC
    - Includes on-card XDS100v2 JTAG (isolated)
- 3-phase Inverters
  - Low Voltage / Medium Current: boostxldr8301\_re**vB**
    - PN: BOOSTXL-DRV8301
  - Low Voltage / Medium Current: boostxldr8305\_re**vA**
    - PN: BOOSTXL-DRV8305

# TI Spins Motors



**Version: 2.0.2**

## Revision History:

<b>2.0.2</b>	<b>August, 2015</b>	<b>Updated for release of BOOSTXL-DRV8305</b>
<b>2.0.1</b>	<b>January 22, 2015</b>	<b>Updated for release of LAUNCHXL-F28069M</b>
<b>1.0.1</b>	<b>October 28, 2013</b>	<b>First release</b>

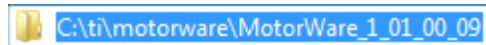
# TI Spins Motors

Path to Success:

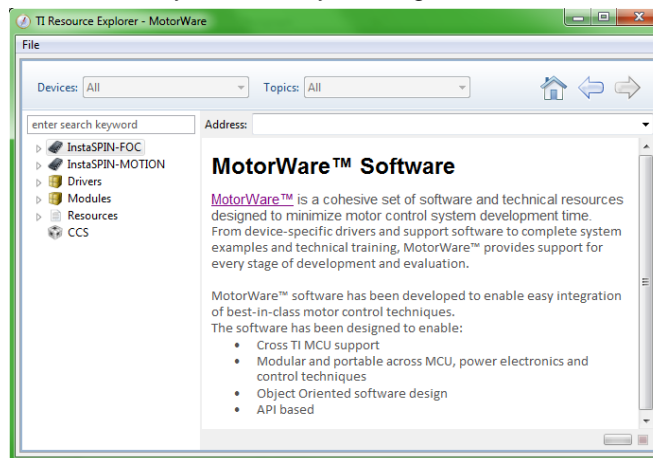
1. Always make sure you are using the latest version of MotorWare
  - a. [www.ti.com/tool/motorware](http://www.ti.com/tool/motorware)
  - b. LaunchPad and BoosterPack support starts with version 1\_01\_00\_10
  - c. Confirm that the latest version available, ex:

Current Version	Version Date
v1.01.00.09	20-AUG-2013

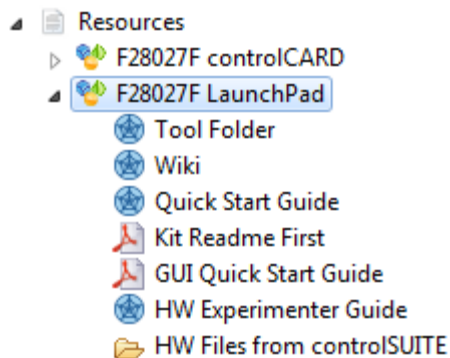
Matches your installation version, ex:



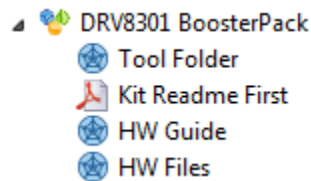
- d. MotorWare contains all of the modules, drivers, example Code Composer Studio based InstaSPIN projects, and associated documentation
- e. It can be easily browsed by running MotorWare.exe from the installation directory



2. Set-up Hardware according to documentation



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- a. For typical use the following settings should be used

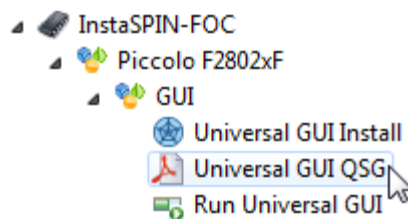
## LAUNCHXL-F28027F

- i. Remove Jumpers 1, 2, 3 to isolate USB and power from BOOSTXL-DRV8301
- ii. S1 set to ON-ON-ON to allow JTAG
- iii. S4 set to OFF
  - 1. The QSG shows S4 set to ON
    - a. ON sets the Piccolo I/Os to UART mode, which is not used by default in the example applications (only JTAG connectivity is used)
    - b. OFF sets the Piccolo I/Os to GPIO mode, allowing them to drive the Fault LEDs on the BoosterPack
  - 2. Fault functionality works regardless of LED functionality
- iv. Provide DC bus through the BoosterPack

## LAUNCHXL-F28069M

- i. Remove Jumpers 1 and 2 to isolate USB and power from BOOSTXL-DRV8301
- ii. S1 set to ON-ON-ON
- iii. JP3, 6, 7 ON
- iv. JP4, 5
  - a. ON-ON: if just using bottom BoosterPack headers J5-J8
  - b. OPEN-OPEN: if using top BoosterPack headers J1-J4 or using both BoosterPack headers J1-J4 & J5-J8;
  - c. Provide DC bus at any attached BoosterPack


- 3. Follow the GUI QSG



- a. Note that you will need to compile your specific .out for the GUI to work properly with your motor

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- i. Install latest CCSv6 from:  
[http://processors.wiki.ti.com/index.php/Download\\_CCS](http://processors.wiki.ti.com/index.php/Download_CCS)
  - ii. Follow the Lab & Projects User's Guide under Resources  
 [InstaSPIN Projects and Labs User's Guide](#)
4. Read further documentation as required
- a. InstaSPIN-FOC & InstaSPIN-MOTION User's Guide ([SPRUHJ1](#))
  - b. Technical Reference Manuals
    - i. F2802xF InstaSPIN-FOC ([SPRUHP4](#))
    - ii. F2806xF InstaSPIN-FOC ([SPRUHI9](#))
    - iii. F2806xM InstaSPIN-MOTION ([SPRUHJ0](#))