TI Spins Motors

Read Me First
InstaSPIN-FOC and InstaSPIN-MOTION LaunchPad and BoosterPack

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: boostxldrv8301_revB
    - PN: BOOSTXL-DRV8301
  - Low Voltage / Medium Current: boostxldrv8305_reVA
    - PN: BOOSTXL-DRV8305

Version: 2.0.2

Revision History:

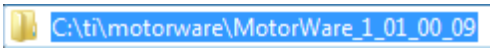
2.0.2	**August, 2015**	**Updated for release of BOOSTXL-DRV8305**
2.0.1	**January 22, 2015**	**Updated for release of LAUNCHXL-F28069M**
1.0.1	**October 28, 2013**	**First release**

Path to Success:

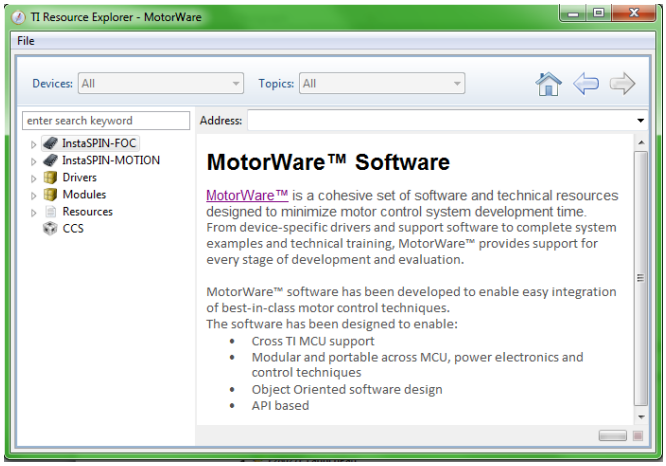
1. Always make sure you are using the latest version of MotorWare
   a. www.ti.com/tool/motorware
   b. LaunchPad and BoosterPack support starts with version 1_01_00_10
   c. Confirm that the latest version available, ex:

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

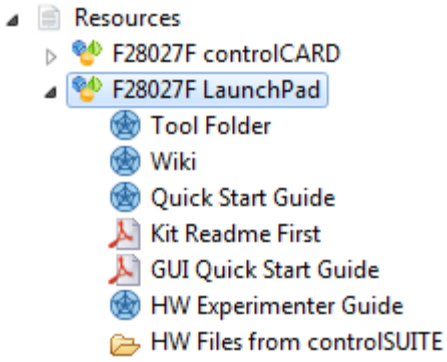
Matches your installation version, ex:

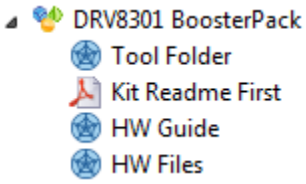


   d. MotorWare contains all of the modules, drivers, example Code Composer Studio based InstaSPIN projects, and associated documentation
   e. It can be easily browsed by running MotorWare.exe from the installation directory



2. Set-up Hardware according to documentation





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

i. Install latest CCSv6 from:
   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)