FTDI LabVIEW Driver for I2C SPI GPIO

Contents

Scope of this document

This document contains the details about “FTDI Driver for I2C SPI GPIO” package provided from AJ and usage of the functions in it.

Hardware Requirements

- FTDI FT4222 device

Software Requirements

- LabVIEW 2014 or greater
- VIPM 2017 or greater
- Windows 7 or later

Utility Dependencies

This package depends on following items in order to run properly. All these dependencies are automatically installed with packages, so no need of external installation is required for these dependencies.

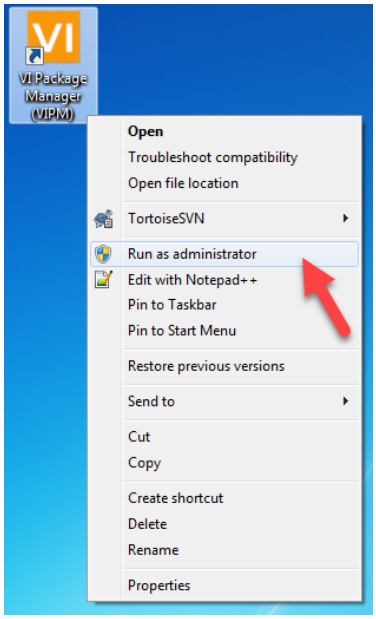
- FTDI D2XX DLL.
- FTDI LibFT4222 DLL.
- OpenG LabVIEW Zip Library
- OpenG File Library

Contact Information

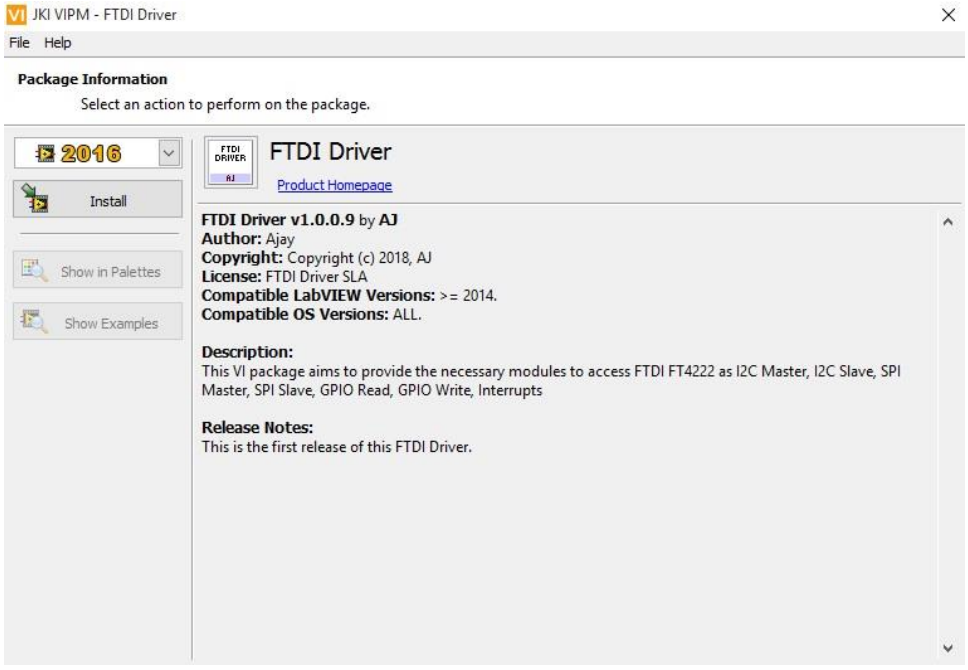
For any assistance in the library, please visit www.digiajay.com or contact mail@digiajay.com

Installation Procedure

Open VIPM in admin mode.



In the VIPM, search for “FTDI Driver for I2C SPI GPIO”. This will list this driver in the underneath table. Select the package listed and double click to open the package details.

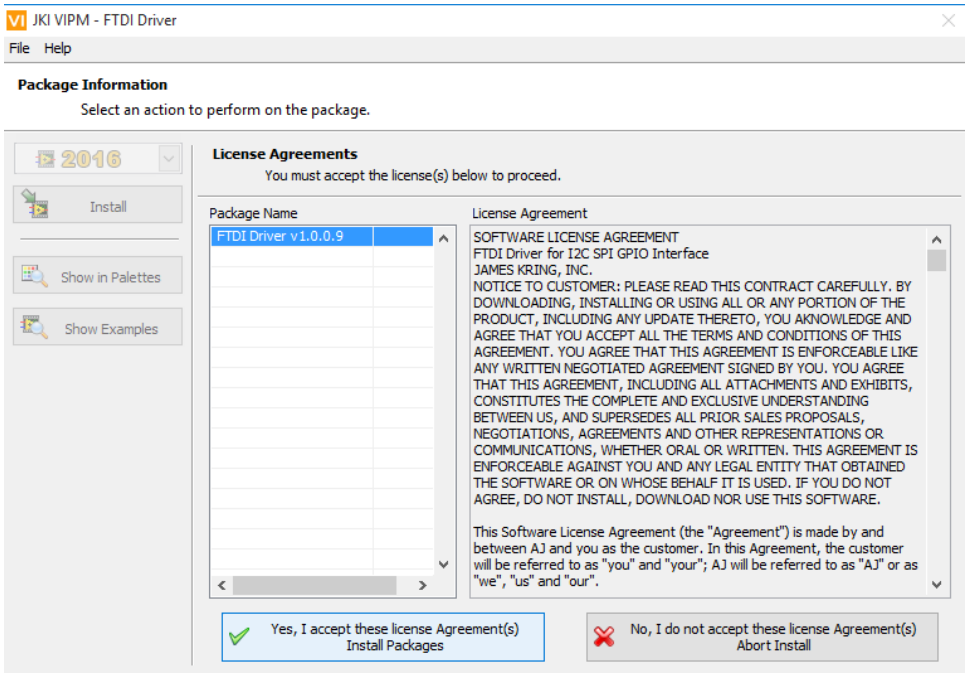


Then click on **Install** to start the installation in above screen.

After selecting Install VPIM opens the selected version of the LabVIEW.

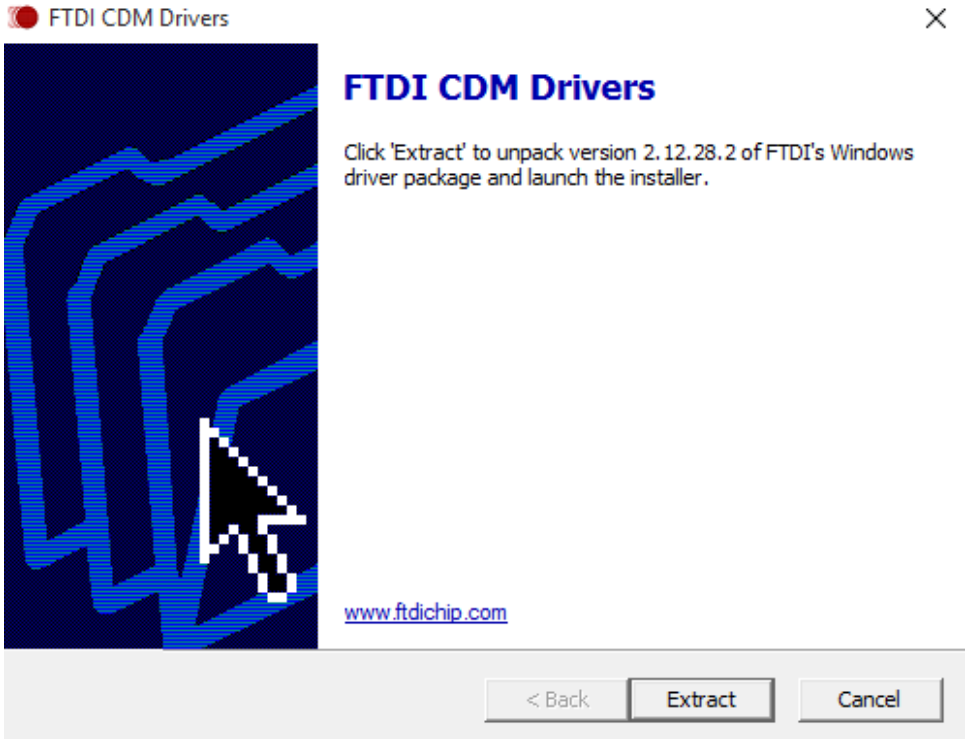
VIPM asks the user to accept the License Agreement after the LabVIEW opens.

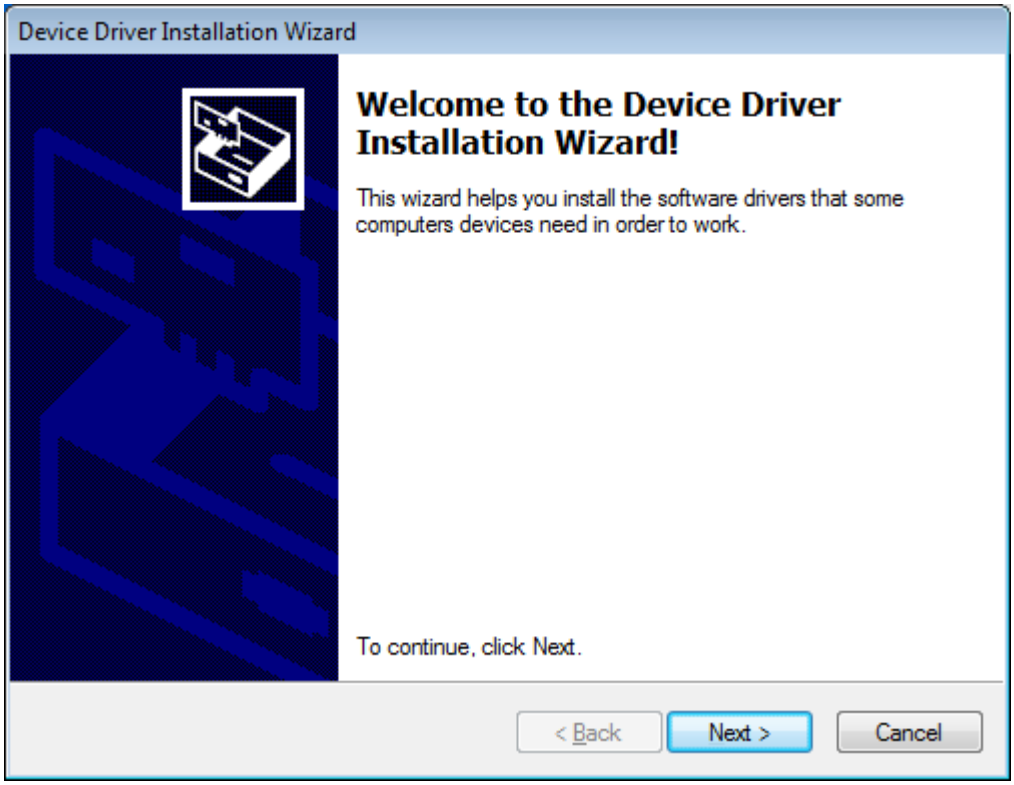
Read through the License Agreement, click on **Yes, I accept these license Agreements(s) Install Packages** button to start the installation.

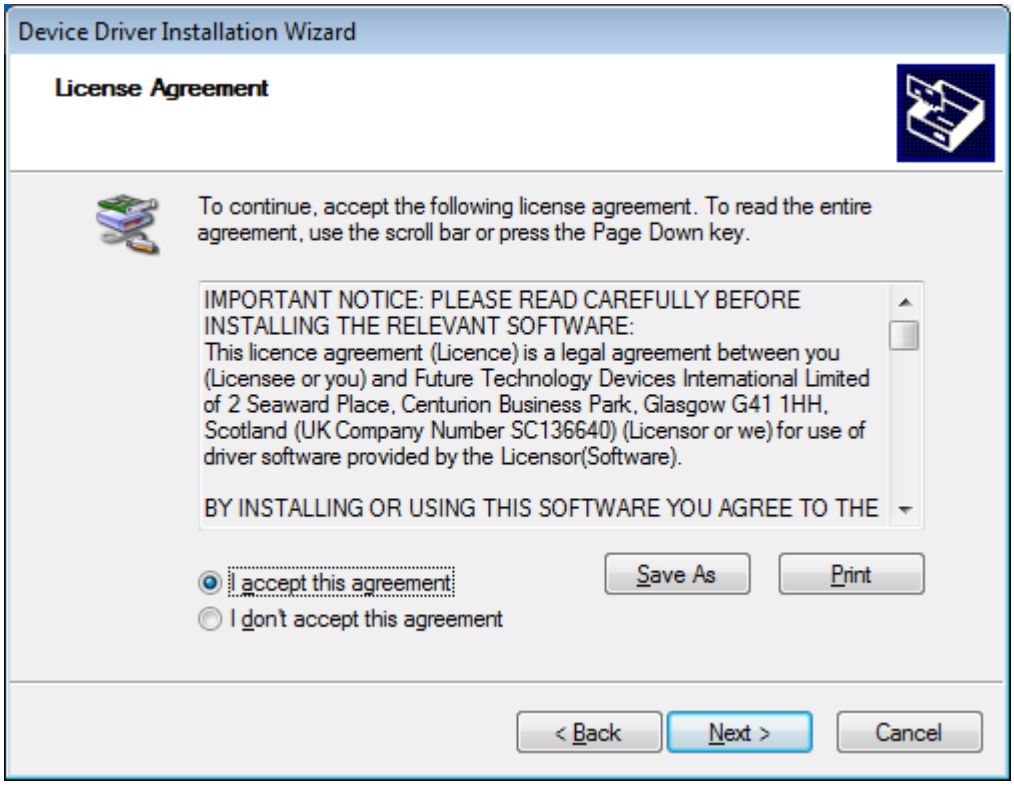


FTDI CDM Drivers dialog box appears to install the FTDI driver.

Click on **Extract** to extract the FTDI CDM driver files.




Device Driver Installation Wizard
Welcome to the Device Driver Installation Wizard!
This wizard helps you install the software drivers that some computers devices need in order to work.
To continue, click Next.
< Back
Next >
Cancel


Device Driver Installation Wizard
License Agreement
To continue, accept the following license agreement. To read the entire agreement, use the scroll bar or press the Page Down key.
IMPORTANT NOTICE: PLEASE READ CAREFULLY BEFORE INSTALLING THE RELEVANT SOFTWARE:
This licence agreement (Licence) is a legal agreement between you (Licensee or you) and Future Technology Devices International Limited of 2 Seaward Place, Centurion Business Park, Glasgow G41 1HH, Scotland (UK Company Number SC136640) (Licensor or we) for use of driver software provided by the Licensor(Software).
BY INSTALLING OR USING THIS SOFTWARE YOU AGREE TO THE
I accept this agreement
I don't accept this agreement
Save As
Print
< Back
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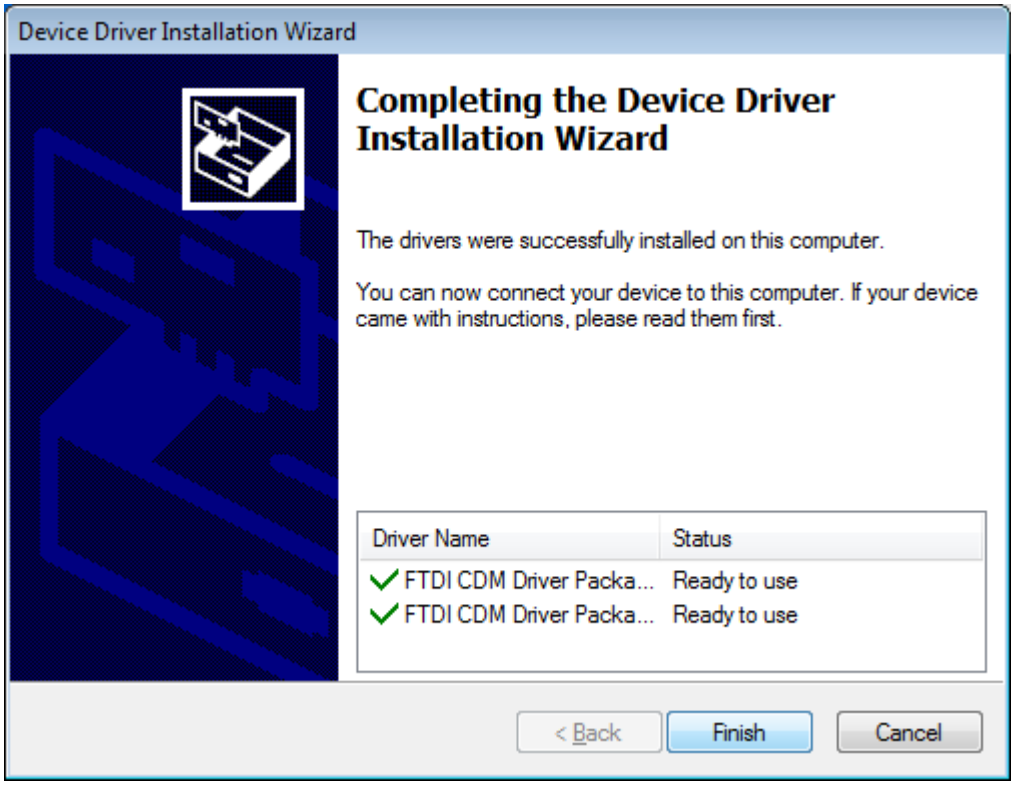
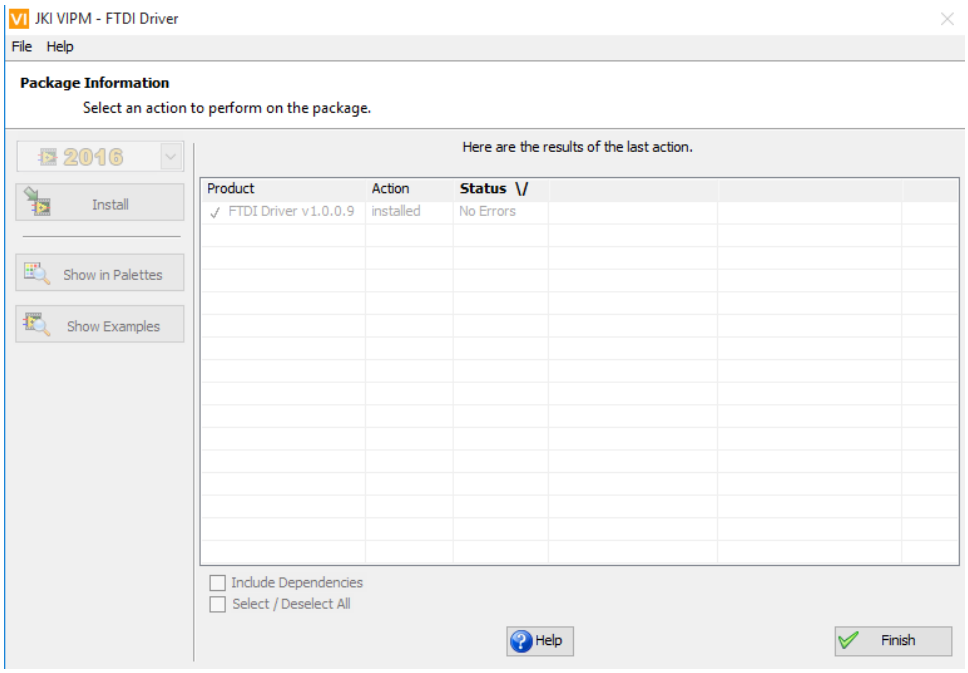
Cancel



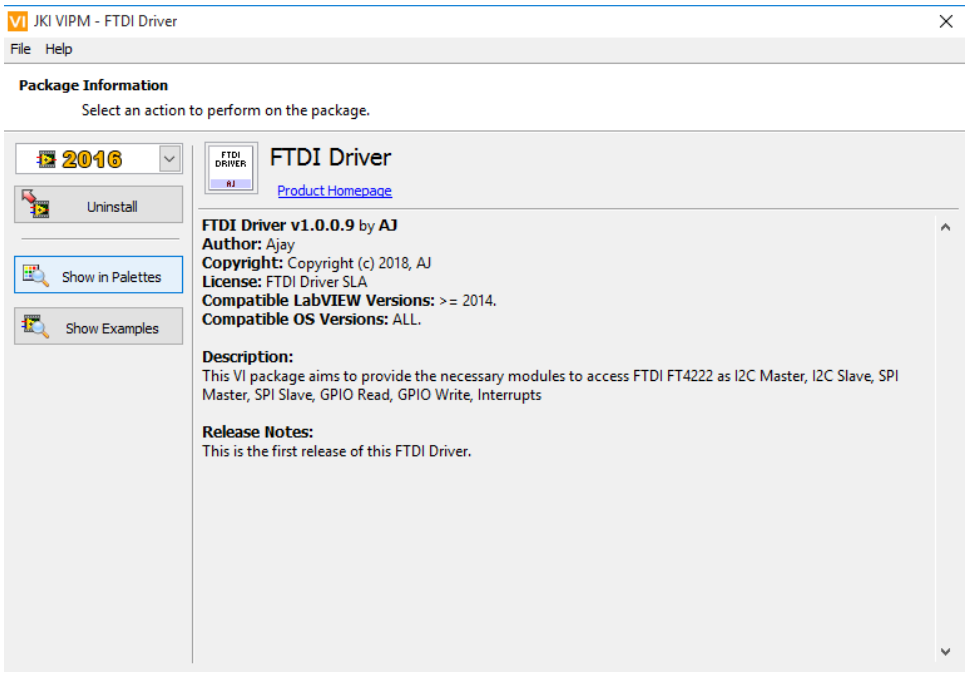
Now FTDI Device driver is installed, click Finish to close the dialog.

Once the extraction and installation finish, the Package Information dialog box appears. It shows the Product, Action and the Status where you can find the name, action and the status of the driver. Then click on **Finish.**



Now FTDI VIPM Package installation is completed. Click **Finish** to close this dialog.

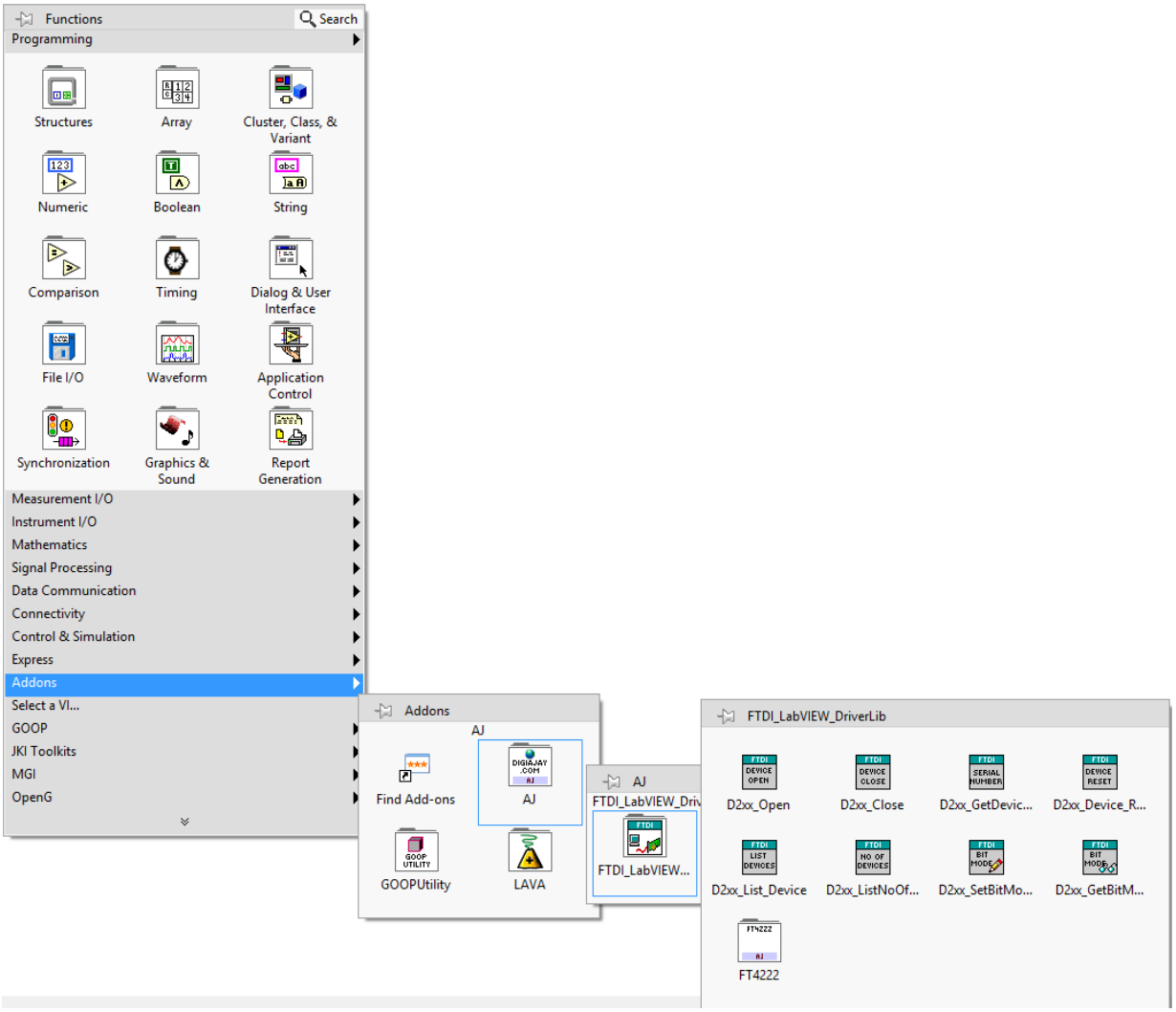
After installation you can see the drivers in pallets by clicking **Show in Palettes**. It will open the selected version of the LabVIEW with the palettes.



Function Palette Organization

This section explains the various functions available from this FTDI package. To know more about these functions, please refer to [this FTDI document].

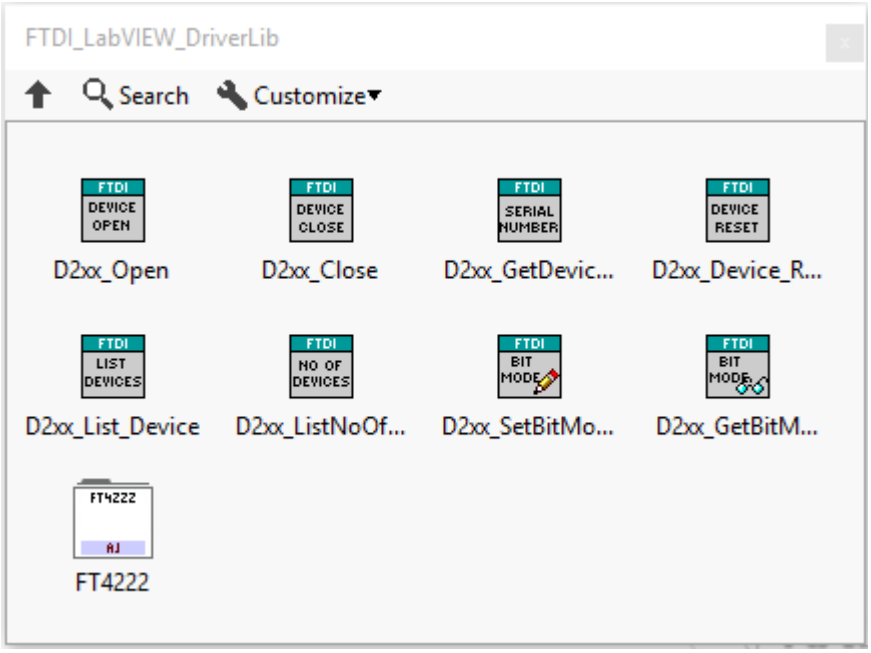
To view the driver installed in LabVIEW, right click on the Block Diagram -> Addons -> AJ -> FTDI LabVIEW DriverLib.



The FTDI_LabVIEW_DriverLib sub-palette contains following functions.

1. **D2xx_Open**
2. **D2xx_Close**
3. **D2xx_Device_Reset**
4. **D2xx_List_Device**
5. **D2xx_ListNoOfDevices**
6. **D2xx_SetBitMode**
7. **D2xx_GetBitMode**

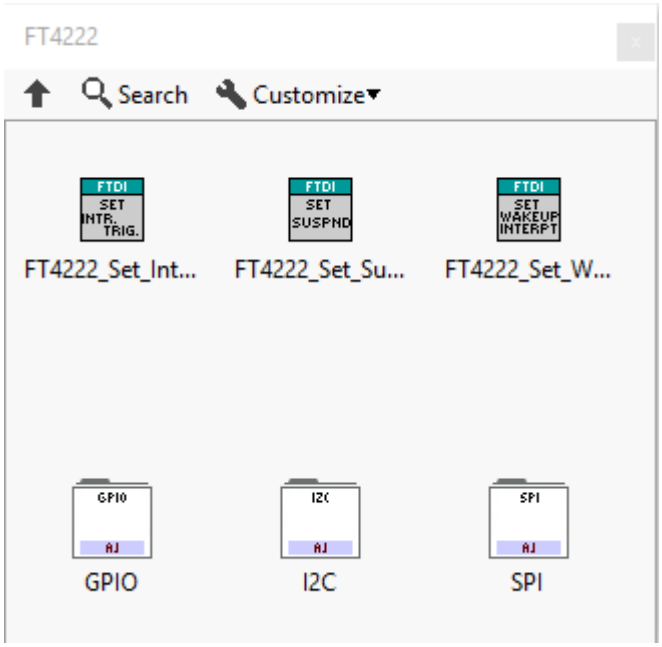
Click on the sub-palette **FT4222**



The sub-palette **FT4222** contain

1. **FT4222_Set_Interrupt_Trigger_Condition**
2. **FT4222_Set_Suspend_Out**
3. **FT4222_Set_WakeUp_Interrupt**

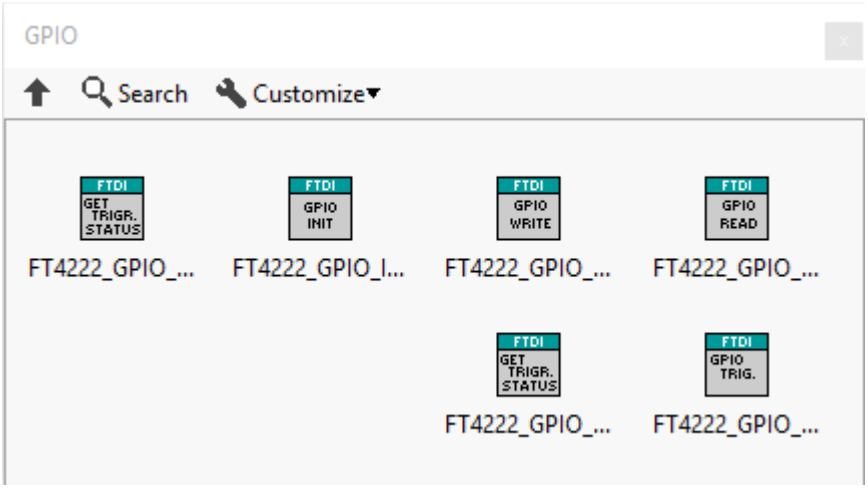
Click on sub-palette **GPIO** or **I2C** or **SPI** to get relevant APIs**.**



GPIO sub-palette contains

1. **FT4222_GPIO_GetTriggerStatus**
2. **FT4222_GPIO_Init**
3. **FT4222_GPIO_Write**

4. **FT4222_GPIO_Read**
5. **FT4222_GPIO_ReadTriggerQueue**
6. **FT4222_GPIO_SetInputTrigger**



I2C sub-palette contains I2C Master Functions and I2C Slave functions. First 2 rows Contains the I2C Master Functions like

1. **FT4222_I2C_Master_Init**
2. **FT4222_I2C_Master_Close**
3. **FT4222_I2C_Master_ Write**
4. **FT4222_I2C_Master_Read**
5. **FT4222_I2C_Master_Reset**
6. **FT4222_I2C_Master_GetStatus**

Next three rows contain I2C Slave Functions like

1. **FT4222_I2C_Slave_Init**
2. **FT4222_I2C_Slave_Close**
3. **FT4222_I2C_Slave_Write**
4. **FT4222_I2C_Slave_Read**
5. **FT4222_I2C_Slave_SetAddress**
6. **FT4222_I2C_Slave_GetAddress**
7. **FT4222_I2C_Slave_GetRxStatus**
8. **FT4222_I2C_Slave_SetClockStretch**
9. **FT4222_I2C_Slave_SetResponseWord**
10. **FT4222_I2C_Slave_Reset**

SPI sub-palette contains SPI General Functions, SPI Master Functions, SPI Slave Functions
First row contains SPI General Functions like

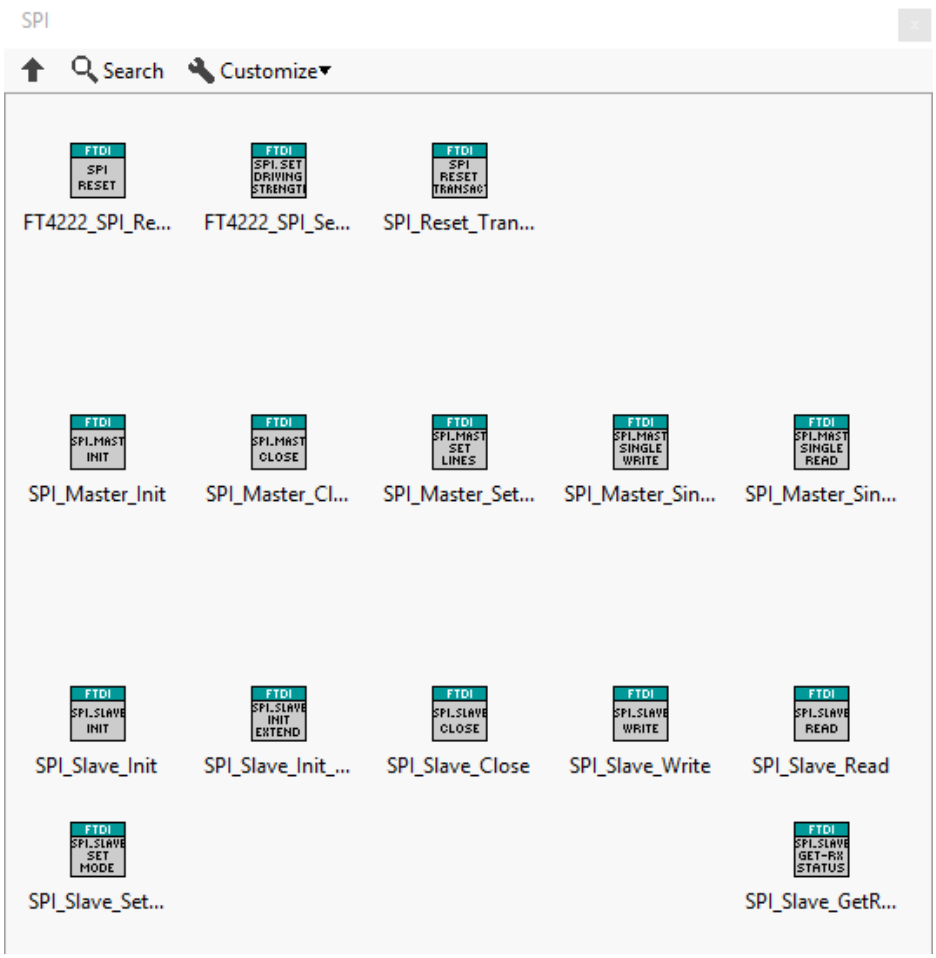
1. **FT4222_SPI_Reset**
2. **FT4222_SPI_SetDrivingStrength**
3. **SPI_ResetTransaction**

The second row contains SPI Master Functions like

1. **SPI_Master_Init**
2. **SPI_Master_Close**
3. **SPI_Master_SetLines**
4. **SPI_Master_SingleWrite**
5. **SPI_Master_SingleRead**

The next two rows contain SPI Slave Functions like

1. **SPI_Slave_Init**
2. **SPI_Slave_Init_Ext**
3. **SPI_Slave_Close**
4. **SPI_Slave_Write**
5. **SPI_Slave_Read**
6. **SPI_Slave_SetMode**
7. **SPI_Slave_GetRxStatus**


SPI
Search
Customize
FTDI
SPI RESET
FT4222_SPI_Re...
FTDI
SPI_SET DRIVING STRENGTH
FT4222_SPI_Se...
FTDI
SPI RESET TRANSACT
SPI_Reset_Tran...
FTDI
SPI_MAST INIT
SPI_Master_Init
FTDI
SPI_MAST CLOSE
SPI_Master_Cl...
FTDI
SPI_MAST SET LINES
SPI_Master_Set...
FTDI
SPI_MAST SINGLE WRITE
SPI_Master_Sin...
FTDI
SPI_MAST SINGLE READ
SPI_Master_Sin...
FTDI
SPI_SLAVE INIT
SPI_Slave_Init
FTDI
SPI_SLAVE INIT EXTEND
SPI_Slave_Init_...
FTDI
SPI_SLAVE CLOSE
SPI_Slave_Close
FTDI
SPI_SLAVE WRITE
SPI_Slave_Write
FTDI
SPI_SLAVE READ
SPI_Slave_Read
FTDI
SPI_SLAVE SET MODE
SPI_Slave_Set...
FTDI
SPI_SLAVE GET-RX STATUS
SPI_Slave_GetR...