



AXIOMTEK

IRU Series

LabVIEW™ User Manual

For Samples Reference



Revision History

Version	Revised Date	Author	Description
1.0	2018/06/26	Mario	1 st release

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CHAPTER 1

Introduction

1.1 Install LabVIEW for IRUSeries

Refer to the IRUSeries Setup Manual

1.2 Where to find Sample

The samples folder path is as follows C:\Axiomtek\LabVIEWSDK\IRUSeries\Samples.

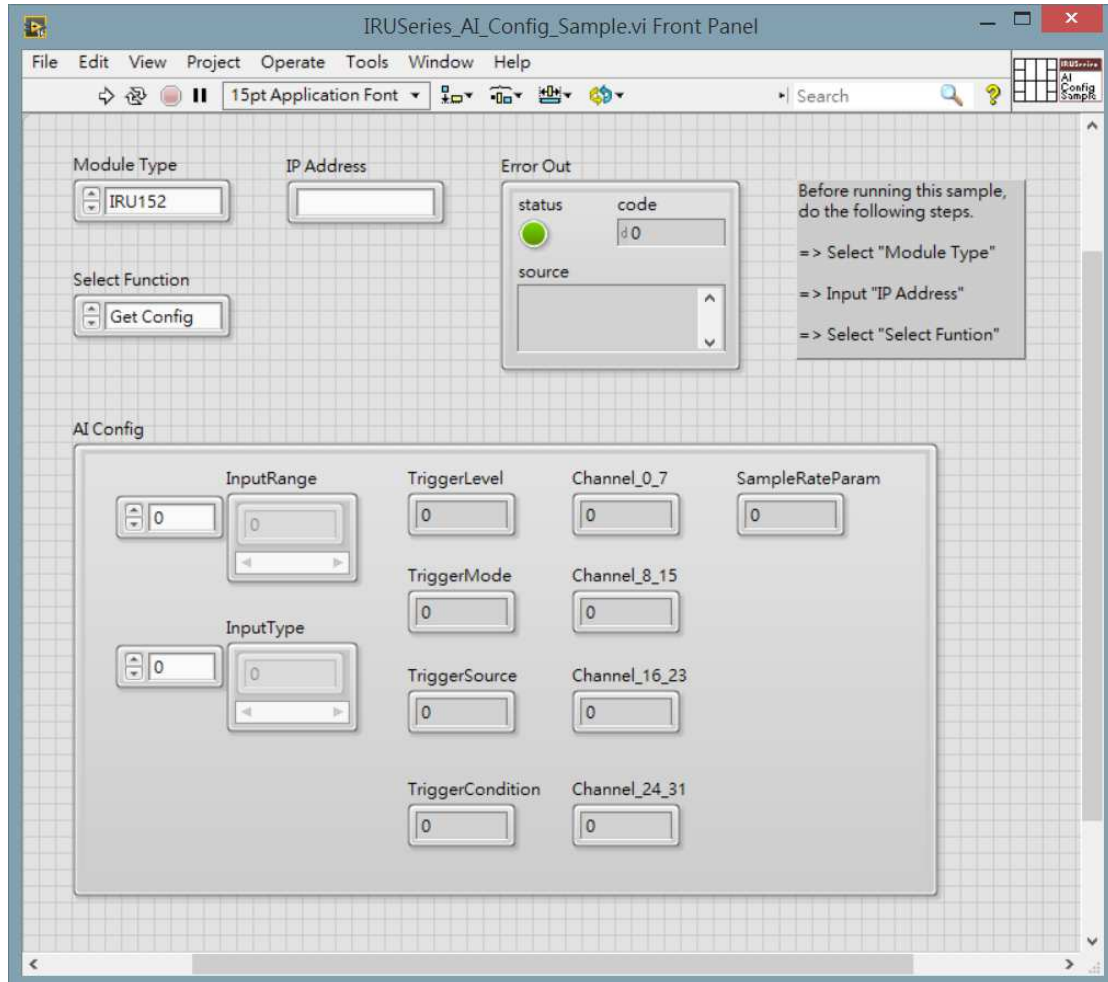
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CHAPTER 2

AI Samples for IRUSeries

2.1 AI_Config_Sample.vi

Get, save and clear AI configuration.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Select Function: Choose the function to run.
- AI Config: Combined with the following components.
 - Input Range: Gotten Input range array, the array size is referenced by hardware.
 - Input Type: Gotten Input type array, the array size is referenced by hardware.
 - Trigger Level: Trigger level.
 - Trigger Mode: Trigger mode.
 - Trigger Source: Trigger source.

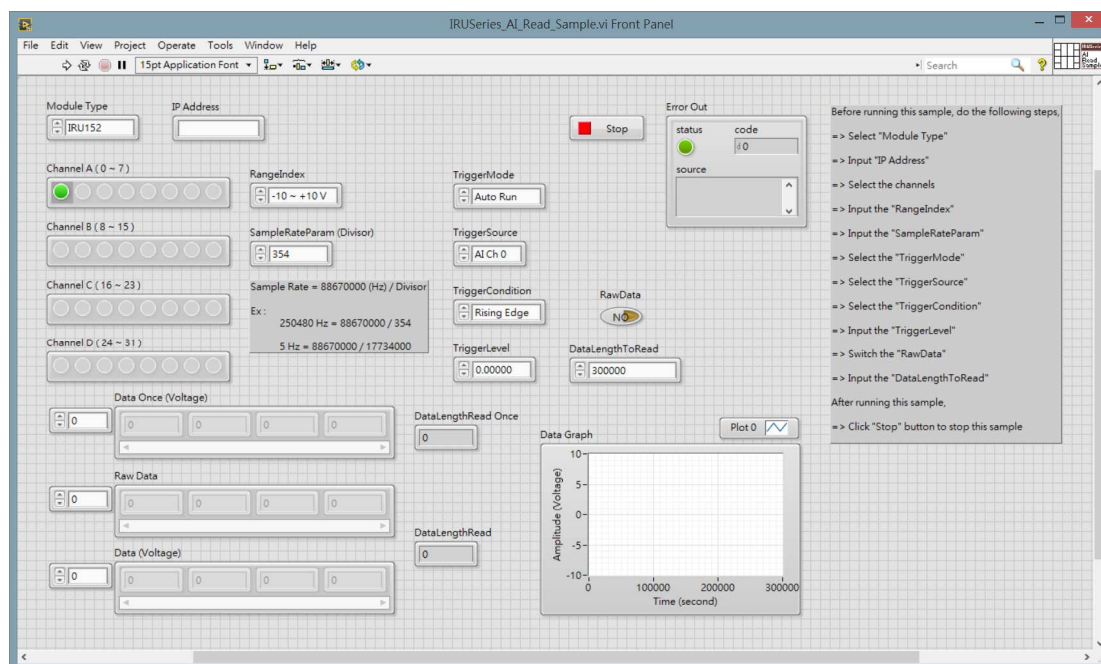
- Trigger Condition: Trigger condition.
- Channel_0_7: Select channel 0 ~ 7.
- Channel_8_15: Select channel 8 ~ 15.
- Channel_16_23: Select channel 16 ~ 23.
- Channel_24_31: Select channel 24 ~ 31.
- Sample Rate Param: Sample rate parameter, the unit is referenced by hardware.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select “Module Type”
 - Input “IP Address”
 - Select “Select Function”
- Run the sample.
- After running this sample, the “AI Config” will show the result if the “Get Config” function is selected.

2.2 AI_Read_Sample.vi

Get the analog signal data and display on the waveform.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Channel A (0 ~ 7): Select channel 0 ~ 7.
- Channel B (8 ~ 15): Select channel 8 ~ 15.
- Channel C (16 ~ 23): Select channel 16 ~ 23.
- Channel D (24 ~ 31): Select channel 24 ~ 31.
- RangeIndex: Input range, referenced by hardware.
- SampleRateParam: Sample rate parameter, referenced by hardware.
- TriggerMode: Trigger mode.
- TriggerSource: Trigger source.
- TriggerCondition: Trigger condition.
- TriggerLevel: Trigger level.
- RawData: If the raw data are needed to be read, switch the button to Yes.
- DataLengthToRead: The data length wanted to read.
- Data Once array: The data read once.
- Raw Data array: The read raw data.
- Data array: The read data.
- DataLengthRead Once: The length of read data once.

- DataLengthRead: The length of read data or read raw data.
- Data Graph: Display the read data.
- Stop button: Stop the program.
- Error Out: Display the running status of the sub Vis.

How to Use:

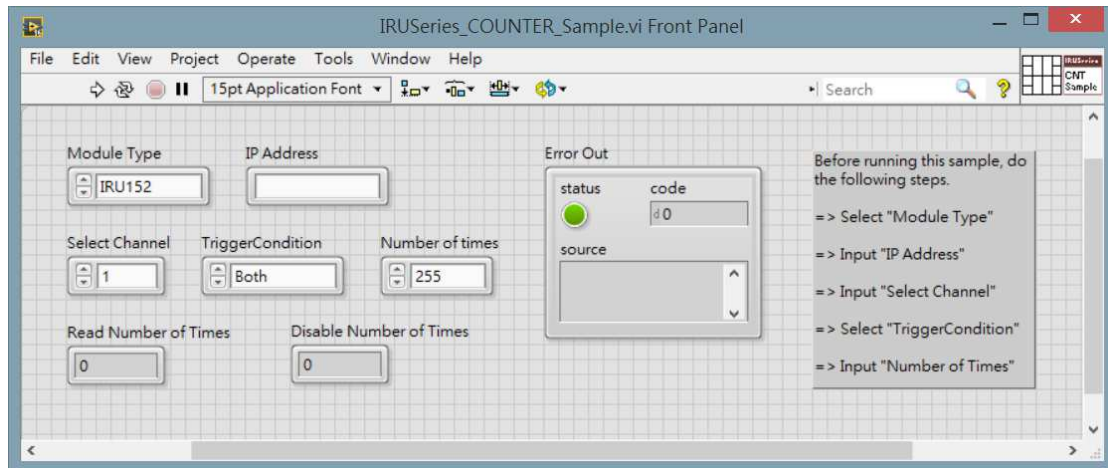
- Before running this sample, do the following steps,
 - Select “Module Type”
 - Input “IP Address”
 - Select the channels
 - Input the “RangeIndex”
 - Input the “SampleRateParam”
 - Select the “TriggerMode”
 - Select the “TriggerSource”
 - Select the “TriggerCondition”
 - Input the “TriggerLevel”
 - Switch the “RawData”
 - Input the “DataLengthToRead”
- Run the sample.
- When this sample is running, the following components will show the data,
 - “Data Once” array
 - “Raw Data” array or “Data” array
 - “DataLengthRead Once”
 - “DataLengthRead”
 - “Data Graph”
- Click “Stop” button to stop the sample.

CHAPTER 3

COUNTER Sample for IRUSeries

3.1 COUNTER_Sample.vi

Demonstrate the COUNTER functions.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Select Channel: Input the selected channel.
- TriggerCondition: The trigger condition, referenced by hardware.
- Number of Times: The number to be counted, referenced by hardware.
- Read Number of Times: Show the current counted number.
- Disable Number of Times: Show the counted number when the counter is disabled.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Input "Select Channel"
 - Select "TriggerCondition"
 - Input "Number of Times"
- Run the sample.
- After running this sample, the following components will show the data,
 - "Read Number of Times"
 - "Disable Number of Times"

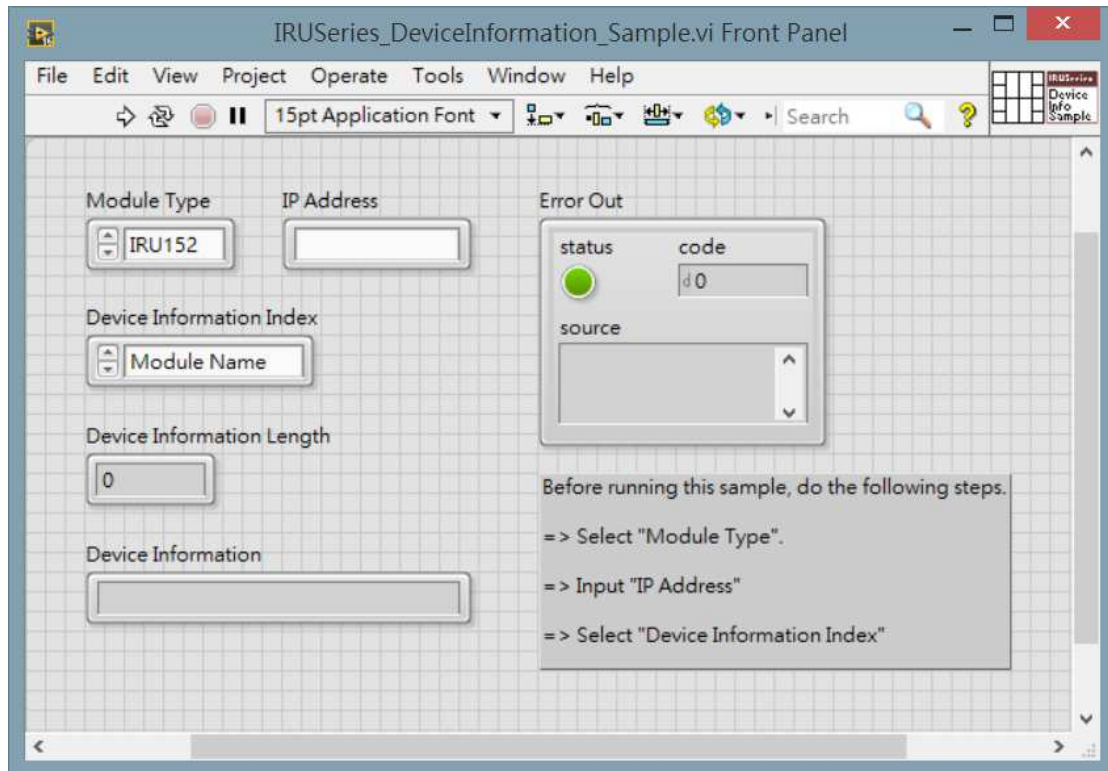
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CHAPTER 4

Deviceinformation Sample for IRUSeries

4.1 Deviceinformation_Sample.vi

Get device information.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Device Information Index: Select the information index to get, referenced by hardware.
- Device Information Length: The length of gotten information.
- Device Information: Display the gotten information.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Select "Device Information Index"
- Run the sample.

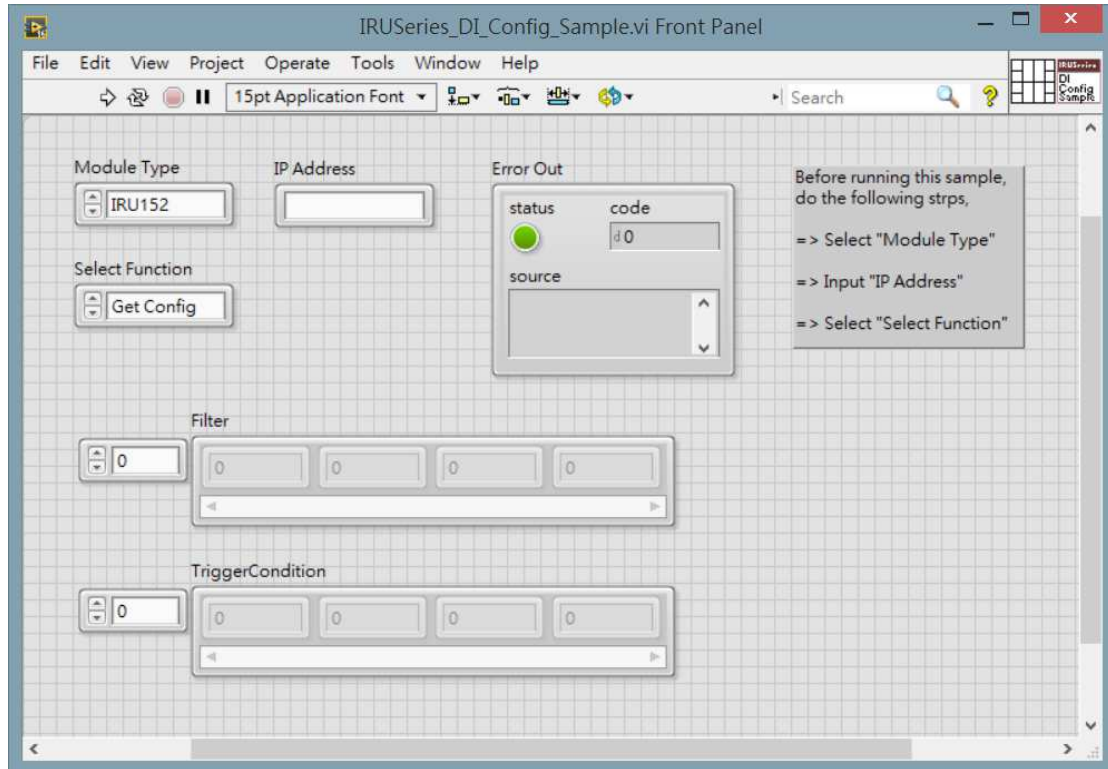
- After running this sample, the following components will show the data,
 - “Device Information Length”
 - “Device Information”

CHAPTER 5

DI Samples for IRUSeries

5.1 DI_Config_Sample.vi

Get, save and clear DI configuration.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Select Function: Choose the function to run.
- Filter array: Gotten each channel's filter setting.
- TriggerCondition array: Gotten each channel's trigger condition setting.
- Error Out: Display the running status of the sub Vis.

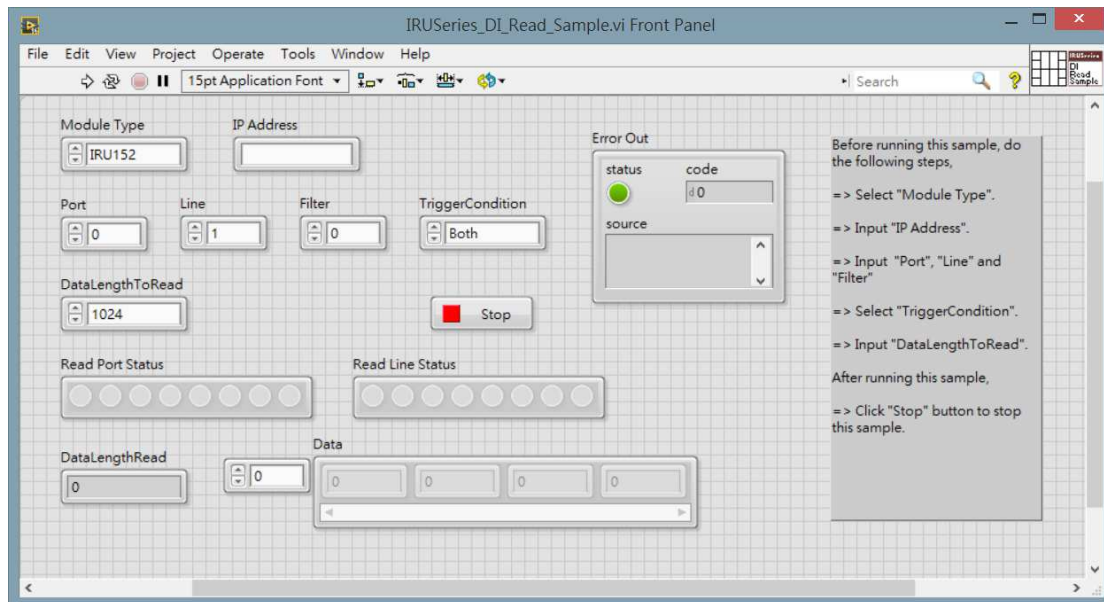
How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Select "Select Function"
- Run the sample.

- After running this sample, the “Filter” and “TriggerCondition” will show the results if the “Get Config” function is selected.

5.2 DI_Read_Sample.vi

Get the digital input data and display it.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Port: Select port.
- Line: Select line.
- Filter: Select filter.
- TriggerCondition: Select condition.
- DataLengthToRead: The data length wanted to read.
- Read Port Status: Read port status.
- Read Line Status: Read line status.
- DataLengthRead: The length of read data or read raw data.
- Data array: The read data.
- Stop Program button: Stop the program.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Input "Port", "Line" and "Filter"
 - Select "TriggerCondition"

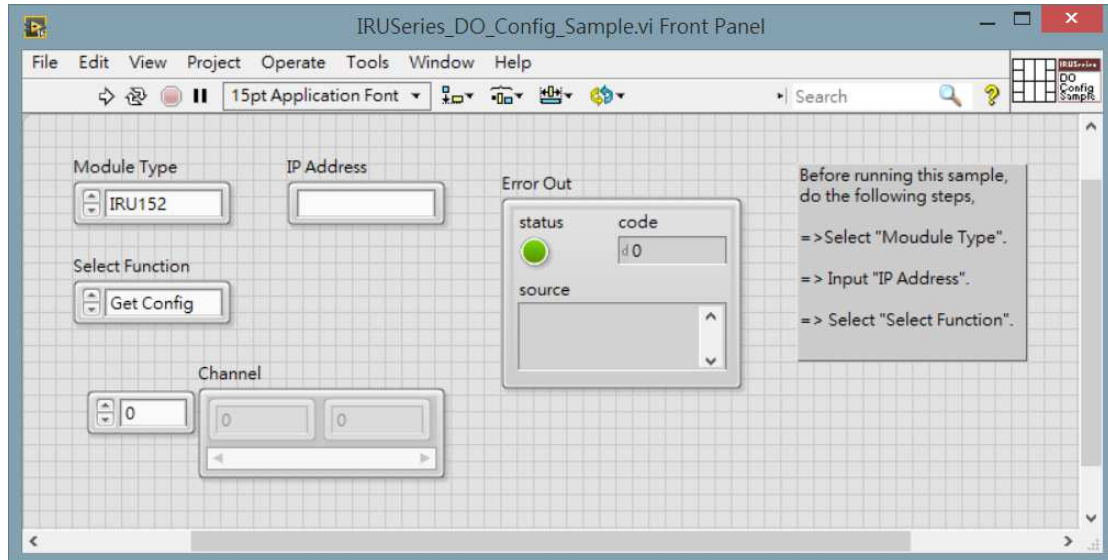
- Input "DataLengthToRead"
- Run the sample.
- When this sample is running, the following components will show the data,
 - "Read Port Status"
 - "Read Line Status"
 - "DataLengthRead"
 - "Data"
- Click "Stop" button to stop the sample.

CHAPTER 6

DO Samples for IRUSeries

6.1 DO_Config_Sample.vi

Get, save and clear DO configuration.



VI Controls Description:

- Board Type: Select device board type.
- IP Address: The device IP address.
- Select Function: Choose the function to run.
- Channel array: Gotten each channel's output setting.
- Error Out: Display the running status of the sub Vis.

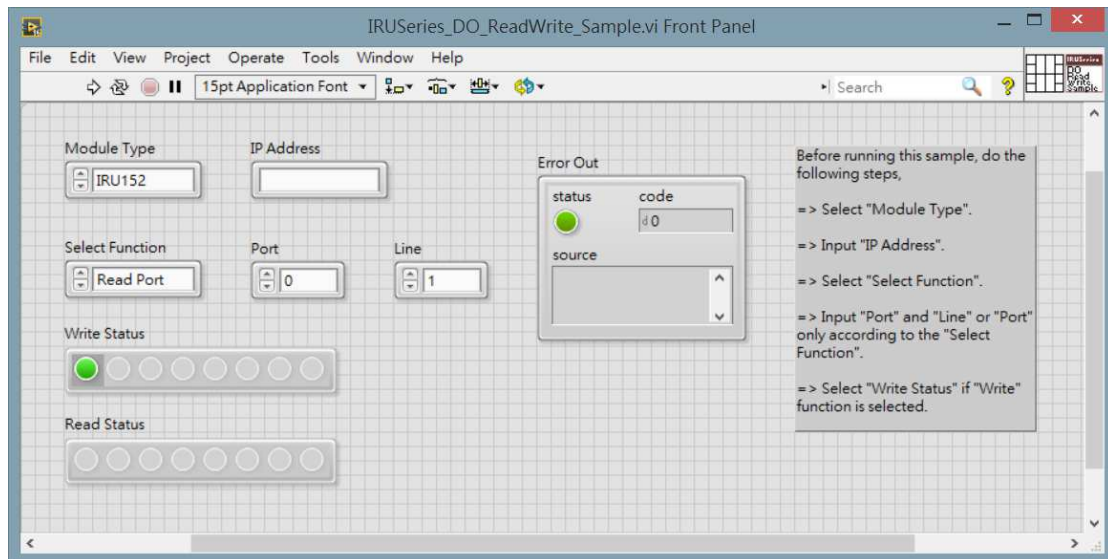
How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Select "Select Function"
- Run the sample.
- After running this sample, the "Channel" will show the results if the "Get Config" function is selected.

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6.2 DO_ReadWrite_Sample.vi

Get or set the digital output status.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Select Function: Choose the function to run.
- Port: Select port.
- Line: Select line.
- Write Status: Port or line status to be set.
- Read Status: Port or line status is read.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Select "Select Function"
 - Input "Port" and "Line" or "Port" only according to the "Select Function"
 - Select "Write Status" if "Write" function is selected
- Run the sample.
- After running this sample, the "Read Status" will show the results if the "Read" function is selected.

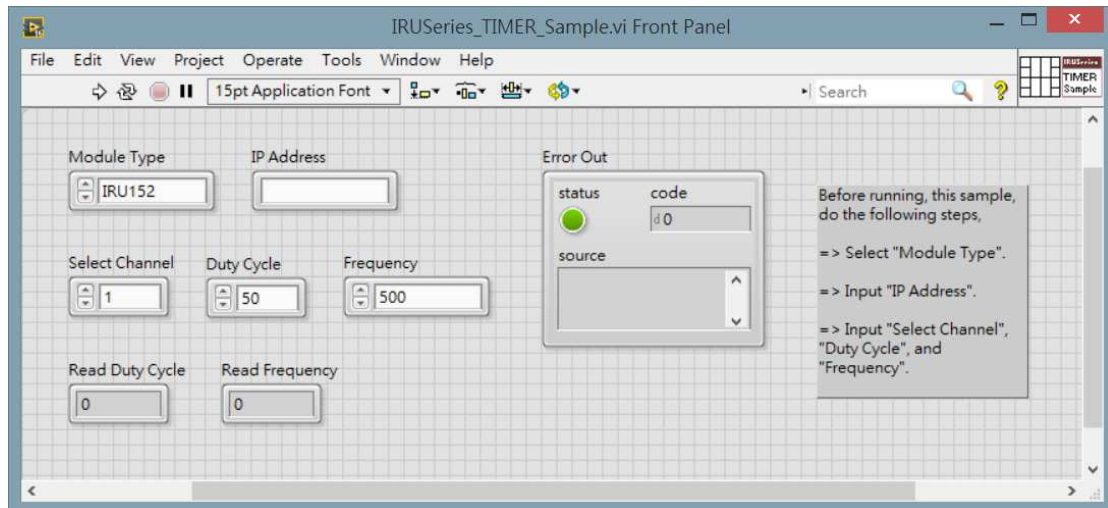
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CHAPTER 7

TIMER Sample for IRUSeries

7.1 TIMER_Sample.vi

Demonstrate the TIMER functions.



VI Controls Description:

- Module Type: Select device module type.
- IP Address: The device IP address.
- Select Channel: Input the selected channel.
- Duty Cycle: Select duty cycle.
- Frequency: Select frequency.
- Read Duty Cycle: Gotten duty cycle.
- Read Frequency: Gotten frequency.
- Error Out: Display the running status of the sub Vis.

How to Use:

- Before running this sample, do the following steps,
 - Select "Module Type"
 - Input "IP Address"
 - Input "Select Channel", "Duty Cycle" and "Frequency"
- Run the sample.
- After running this sample, the "Read Duty Cycle" and "Read Frequency" will show the results.