Arduino_WPF

Generated by Doxygen 1.9.8

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Chapter 1

Namespace Index

1.1 Package List

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KamlGeneratedNamesnace	

2 Namespace Index

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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System. Windows. Application	
Arduino_WPF.App	9
Arduino_WPF.App	9
Arduino_WPF.Models.COM	1
System.Windows.Markup.IComponentConnector	
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Arduino_WPF.Views.MainWindow	
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Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Arduino_WPF.App	
Interaction logic for App.xaml	9
Arduino WPF.ViewModels.BaseViewModel	10
Arduino WPF.Models.COM	11
Arduino WPF.Views.CustomControlls.CustomPin	
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SerialConnectionView	24
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Arduino WPF.Utils.StringToVisibilityConverter	
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Chapter 4

Namespace Documentation

4.1 Arduino_WPF Namespace Reference

Classes

· class App

Interaction logic for App.xaml.

4.2 Arduino WPF.Models Namespace Reference

Classes

- class COM
- · class Pin

Enumerations

```
enum PinMode {
Input , Output , Analog , PWM ,
Servo , Unknown }
```

Enum for the different pin modes.

• enum State { Low , High , Unknown }

Enum for the different pin states.

4.3 Arduino_WPF.Utils Namespace Reference

Classes

- class PresetJsonLoader
- class StringToVisibilityConverter

4.4 Arduino_WPF.ViewModels Namespace Reference

Classes

- · class BaseViewModel
- class CustomPinViewModel
- class MainWindowViewModel
- class PinViewViewModel
- class SerialConnectionViewViewModel

4.5 Arduino_WPF.Views Namespace Reference

Classes

· class MainWindow

MainWindow.

· class SerialConnectionView

SerialConnectionView.

• class SerialConnectionView_1

SerialConnectionView_1.

4.6 Arduino_WPF.Views.CustomControlls Namespace Reference

Classes

· class CustomPin

CustomPin.

· class MainView

MainView.

4.7 XamlGeneratedNamespace Namespace Reference

Classes

• class GeneratedInternalTypeHelper

GeneratedInternalTypeHelper.

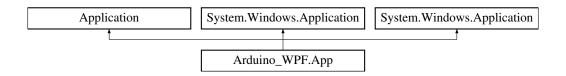
Chapter 5

Class Documentation

5.1 Arduino WPF.App Class Reference

Interaction logic for App.xaml.

Inheritance diagram for Arduino_WPF.App:



Public Member Functions

void InitializeComponent ()

InitializeComponent.

• void InitializeComponent ()

InitializeComponent.

Static Public Member Functions

· static void Main ()

Application Entry Point.

· static void Main ()

Application Entry Point.

5.1.1 Detailed Description

Interaction logic for App.xaml.

App.

The documentation for this class was generated from the following files:

- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/App.xaml.cs
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/App.
 —
 g.i.cs

5.2 Arduino_WPF.ViewModels.BaseViewModel Class Reference

Inheritance diagram for Arduino_WPF.ViewModels.BaseViewModel:



Protected Member Functions

• void **OnPropertyChanged** ([CallerMemberName] string? propertyName=null)

This method is called when a property is changed.

bool SetProperty < T > (ref T field, T value, [CallerMemberName] string? propertyName=null)

This method sets the property and calls OnPropertyChanged if the value is different.

Events

• PropertyChangedEventHandler PropertyChanged

5.2.1 Member Function Documentation

5.2.1.1 OnPropertyChanged()

This method is called when a property is changed.

Parameters

propertyName

5.2.1.2 **SetProperty**< T >()

This method sets the property and calls OnPropertyChanged if the value is different.

Template Parameters

T

Parameters

field	
value	
propertyName	

Returns

The documentation for this class was generated from the following file:

· C:/Users/Adrian/Documents/git/Arduino WPF/Arduino WPF/Arduino WPF/ViewModels/BaseViewModel.cs

5.3 Arduino_WPF.Models.COM Class Reference

Public Member Functions

• COM (int baudrate, string port, Parity parity, int dataBits, StopBits stopBits)

Constructor for the COM class.

void OpenConnection ()

Opens the connection to the serial port.

• void CloseConnection ()

Closes the connection to the serial port.

• void **SetBaudrate** (int baudrate)

This method sets the port of the serial port.

void SetParity (Parity parity)

This method sets the parity of the serial port.

void SetDataBits (int dataBits)

This method sets the data bits of the serial port.

• string ReadSerialOutput ()

Reads the serial buffer and returns it as a string.

void ClearSerialOutput ()

Clears the serial buffer.

void WriteSerialOutput (string data)

Writes data to the serial port.

• string ReadPinConfiguration ()

Reads the pin configuration from the serial buffer and returns it as a string.

List< JObject > ExtractJsonObjects (ref string data)

This method extracts JSON objects from a string and returns them as a list of JObjects.

Static Public Member Functions

• static string[] ListOpenPorts ()

Lists the open ports.

Properties

```
int Baudrate [get, set]
string Port [get, set]
Parity Parity [get, set]
int DataBits [get, set]
StopBits StopBits [get, set]
```

5.3.1 Constructor & Destructor Documentation

5.3.1.1 COM()

```
Arduino_WPF.Models.COM.COM (
    int baudrate,
    string port,
    Parity parity,
    int dataBits,
    StopBits stopBits)
```

Constructor for the COM class.

Parameters

baudrate	
port	
parity	
dataBits	
stopBits	

5.3.2 Member Function Documentation

5.3.2.1 ExtractJsonObjects()

```
List< JObject > Arduino_WPF.Models.COM.ExtractJsonObjects ( ref string data )
```

This method extracts JSON objects from a string and returns them as a list of JObjects.

Parameters

data

Returns

List of JObjects

5.3.2.2 ListOpenPorts()

```
static string[] Arduino_WPF.Models.COM.ListOpenPorts ( ) [static]
```

Lists the open ports.

Returns

5.3.2.3 ReadPinConfiguration()

```
string Arduino_WPF.Models.COM.ReadPinConfiguration ( )
```

Reads the pin configuration from the serial buffer and returns it as a string.

Returns

Pin configuration as a string

5.3.2.4 ReadSerialOutput()

```
string Arduino_WPF.Models.COM.ReadSerialOutput ( )
```

Reads the serial buffer and returns it as a string.

Returns

Serial buffer as a string

5.3.2.5 SetBaudrate()

This method sets the port of the serial port.

Parameters

baudrate

5.3.2.6 SetDataBits()

This method sets the data bits of the serial port.

Parameters

dataBits

5.3.2.7 SetParity()

This method sets the parity of the serial port.

Parameters

parity

5.3.2.8 WriteSerialOutput()

```
void Arduino_WPF.Models.COM.WriteSerialOutput ( string \ data \ )
```

Writes data to the serial port.

Parameters

data

The documentation for this class was generated from the following file:

• C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/Models/COM.cs

5.4 Arduino_WPF.Views.CustomControlls.CustomPin Class Reference

CustomPin.

Inheritance diagram for Arduino_WPF.Views.CustomControlls.CustomPin:



Public Member Functions

• void InitializeComponent ()

InitializeComponent.

void InitializeComponent ()

InitializeComponent.

• void InitializeComponent ()

InitializeComponent.

5.4.1 Detailed Description

CustomPin.

Interaction logic for CustomPin.xaml.

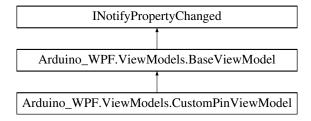
The documentation for this class was generated from the following files:

- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/
 Views/CustomControlls/CustomPin.g.i.cs

- · C:/Users/Adrian/Documents/git/Arduino WPF/Arduino WPF/Arduino WPF/Views/CustomPin.xaml.cs

5.5 Arduino_WPF.ViewModels.CustomPinViewModel Class Reference

Inheritance diagram for Arduino_WPF.ViewModels.CustomPinViewModel:



Public Member Functions

CustomPinViewModel (int iD, PinMode pinMode, State state, Action < CustomPinViewModel > On ← ClickExitButton)

Constructor for the CustomPinViewModel class.

void UpdateState ()

This method updates the state of the pin.

Properties

- ObservableCollection
 PinMode > PinModes [get]
- ObservableCollection< State > PinStates [get]
- string **Titel** [get]

This property gets the title of the pin.

• int ID [get, set]

This property gets the ID of the pin.

PinMode PinMode [get, set]

This property gets the pinMode of the pin.

State State [get, set]

This property gets the state of the pin.

- PinMode SelectedPinMode [get, set]
- State SelectedState [get, set]
- DateTime LastRefresh [get]

This property gets the last refresh of the pin.

ICommand OnClickExitButtonCommand [get, set]

This property gets the command for the exit button.

Additional Inherited Members

Protected Member Functions inherited from Arduino_WPF.ViewModels.BaseViewModel

• void **OnPropertyChanged** ([CallerMemberName] string? propertyName=null)

This method is called when a property is changed.

 $\bullet \ \ bool \ \ \textbf{SetProperty} < \textbf{T} > (ref \ T \ field, \ T \ value, \ [Caller Member Name] \ string? \ property Name = null)$

This method sets the property and calls OnPropertyChanged if the value is different.

Events inherited from Arduino_WPF.ViewModels.BaseViewModel

• PropertyChangedEventHandler PropertyChanged

5.5.1 Constructor & Destructor Documentation

5.5.1.1 CustomPinViewModel()

Constructor for the CustomPinViewModel class.

Parameters

iD	
pinMode	
state	
OnClickExitButton	

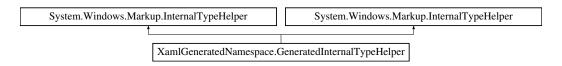
The documentation for this class was generated from the following file:

• C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/ViewModels/CustomPinView ← Model.cs

5.6 XamlGeneratedNamespace.GeneratedInternalTypeHelper Class Reference

GeneratedInternalTypeHelper.

Inheritance diagram for XamlGeneratedNamespace.GeneratedInternalTypeHelper:



Protected Member Functions

• override object **CreateInstance** (System.Type type, System.Globalization.CultureInfo culture)

CreateInstance.

• override object **GetPropertyValue** (System.Reflection.PropertyInfo propertyInfo, object target, System. ← Globalization.CultureInfo culture)

GetPropertyValue.

 override void SetPropertyValue (System.Reflection.PropertyInfo propertyInfo, object target, object value, System.Globalization.CultureInfo culture)

SetPropertyValue.

- override System. Delegate **CreateDelegate** (System. Type delegate Type, object target, string handler) *CreateDelegate*.
- override void AddEventHandler (System.Reflection.EventInfo eventInfo, object target, System.Delegate handler)

AddEventHandler.

• override object CreateInstance (System.Type type, System.Globalization.CultureInfo culture)

CreateInstance.

• override object **GetPropertyValue** (System.Reflection.PropertyInfo propertyInfo, object target, System. ← Globalization.CultureInfo culture)

GetPropertyValue.

• override void **SetPropertyValue** (System.Reflection.PropertyInfo propertyInfo, object target, object value, System.Globalization.CultureInfo culture)

SetPropertyValue.

- override System. Delegate CreateDelegate (System. Type delegate Type, object target, string handler)
 CreateDelegate.
- override void AddEventHandler (System.Reflection.EventInfo eventInfo, object target, System.Delegate handler)

AddEventHandler.

5.6.1 Detailed Description

GeneratedInternalTypeHelper.

The documentation for this class was generated from the following files:

- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/Generated
 —
 InternalTypeHelper.g.cs
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/Generated
 —
 InternalTypeHelper.g.i.cs

5.7 Arduino_WPF.Views.CustomControlls.MainView Class Reference

MainView.

Inheritance diagram for Arduino_WPF.Views.CustomControlls.MainView:

System Windows Controls UserControl UserControl System Windows Controls UserControl UserControl System Windows Controls UserControl UserCo

Public Member Functions

• void InitializeComponent ()

InitializeComponent.

• void InitializeComponent ()

InitializeComponent.

• void InitializeComponent ()

InitializeComponent.

Properties

• PinViewViewModel ViewModel [get, set]

5.7.1 Detailed Description

MainView.

Interaction logic for MainView.xaml.

The documentation for this class was generated from the following files:

- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/
 Views/CustomControlls/MainView.g.i.cs
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/

 Views/PinView.g.cs
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/

 Views/PinView.g.i.cs
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/Views/PinView.xaml.cs

5.8 Arduino_WPF.Views.MainWindow Class Reference

MainWindow.

Inheritance diagram for Arduino_WPF.Views.MainWindow:

System.Windows.Window	System.Windows.Markup.IComponentConnector	System.Wind	ows.Window	System.Windows.Markup.IComponentConnector	System.Windows.Window
·					
		Arduino_WPF.Vi	ews.MainWindow		

Public Member Functions

• void InitializeComponent ()

InitializeComponent.

• void InitializeComponent ()

InitializeComponent.

5.8.1 Detailed Description

MainWindow.

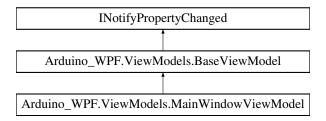
Interaction logic for MainWindow.xaml.

The documentation for this class was generated from the following files:

- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Views/MainWindow.xaml.cs

5.9 Arduino_WPF.ViewModels.MainWindowViewModel Class Reference

Inheritance diagram for Arduino_WPF.ViewModels.MainWindowViewModel:



Additional Inherited Members

Protected Member Functions inherited from Arduino_WPF.ViewModels.BaseViewModel

- void OnPropertyChanged ([CallerMemberName] string? propertyName=null)
 This method is called when a property is changed.
- bool **SetProperty** < **T** > (ref T field, T value, [CallerMemberName] string? propertyName=null)

 This method sets the property and calls OnPropertyChanged if the value is different.

Events inherited from Arduino_WPF.ViewModels.BaseViewModel

PropertyChangedEventHandler PropertyChanged

The documentation for this class was generated from the following file:

• C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/ViewModels/MainWindow

ViewModel.cs

5.10 Arduino_WPF.Models.Pin Class Reference

Public Member Functions

• Pin (int id, PinMode pinMode, State state)

Constructor for the Pin class.

• string WritePinData (State newState, PinMode newPinMode)

Writes the pin data to a JSON string.

• void ReadPinData (string json)

Reads the pin data from a JSON string.

Properties

```
int ID [get, set]PinMode PinMode [get, set]
```

- State State [get, set]
- DateTime LastRefresh [get, set]

5.10.1 Constructor & Destructor Documentation

5.10.1.1 Pin()

Constructor for the Pin class.

Parameters

id	
pinMode	
state	

5.10.2 Member Function Documentation

5.10.2.1 ReadPinData()

```
void Arduino_WPF.Models.Pin.ReadPinData ( string \ json \ )
```

Reads the pin data from a JSON string.

Parameters

json

Exceptions

ArgumentNullException

5.10.2.2 WritePinData()

Writes the pin data to a JSON string.

Parameters

newState newPinMode

Returns

Exceptions

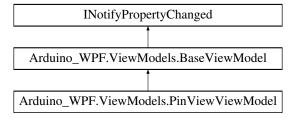
ArgumentNullException

The documentation for this class was generated from the following file:

• C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/Models/Pin.cs

5.11 Arduino_WPF.ViewModels.PinViewViewModel Class Reference

Inheritance diagram for Arduino_WPF.ViewModels.PinViewViewModel:



Public Member Functions

PinViewViewModel ()

This method initializes the PinViewViewModel.

Properties

- ObservableCollection< CustomPinViewModel > Pins [get, set]
- ICommand AddPinCommand [get, set]

Additional Inherited Members

Protected Member Functions inherited from Arduino_WPF.ViewModels.BaseViewModel

• void **OnPropertyChanged** ([CallerMemberName] string? propertyName=null)

This method is called when a property is changed.

bool SetProperty < T > (ref T field, T value, [CallerMemberName] string? propertyName=null)

This method sets the property and calls OnPropertyChanged if the value is different.

Events inherited from Arduino_WPF.ViewModels.BaseViewModel

• PropertyChangedEventHandler PropertyChanged

The documentation for this class was generated from the following file:

5.12 Arduino_WPF.Utils.PresetJsonLoader Class Reference

Static Public Member Functions

• static string LoadPresetJsonConfigurations ()

Loads the preset JSON configurations.

static List
 PresetJsonLoader > GetPresetConfigurations ()

Gets the preset configurations.

 $\bullet \;\; \text{static List} < \; \textbf{PresetJsonLoader} > \; \textbf{GetPresetAnalogConfigurations} \; ()$

Gets the preset analog configurations.

• static List< PresetJsonLoader > LoadConfigurationsFromFile (string filePath)

Loads the configurations from a file.

Properties

- int ld [get, set]
- string **Mode** [get, set]
- int State [get, set]

5.12.1 Member Function Documentation

5.12.1.1 GetPresetAnalogConfigurations()

```
static List< PresetJsonLoader > Arduino_WPF.Utils.PresetJsonLoader.GetPresetAnalogConfigurations
( ) [static]
```

Gets the preset analog configurations.

Returns

returns a list of preset analog configurations.

5.12.1.2 GetPresetConfigurations()

```
static List< PresetJsonLoader > Arduino_WPF.Utils.PresetJsonLoader.GetPresetConfigurations (
) [static]
```

Gets the preset configurations.

Returns

returns a list of preset configurations.

5.12.1.3 LoadConfigurationsFromFile()

Loads the configurations from a file.

Parameters

filePath

Returns

List of preset configurations.

5.12.1.4 LoadPresetJsonConfigurations()

```
static string Arduino_WPF.Utils.PresetJsonLoader.LoadPresetJsonConfigurations ( ) [static]
```

Loads the preset JSON configurations.

Returns

The serialized JSON string.

The documentation for this class was generated from the following file:

• C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/Utils/PresetJsonLoader.cs

5.13 Arduino_WPF.Views.SerialConnectionView Class Reference

SerialConnectionView.

Inheritance diagram for Arduino WPF.Views.SerialConnectionView:

```
System.Windows.Controls.UserControl

System.Windows.Controls.UserControl

System.Windows.Controls.UserControl

System.Windows.Markup.IComponentConnector

System.Windows.Markup.IComponentConnector
```

Public Member Functions

- void InitializeComponent ()
 - InitializeComponent.
- void InitializeComponent ()

InitializeComponent.

5.13.1 Detailed Description

SerialConnectionView.

Interaction logic for SerialConnectionView_1.xaml.

The documentation for this class was generated from the following files:

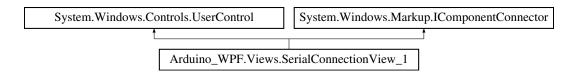
- C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/obj/Debug/net8.0-windows/

 Views/SerialConnectionView.g.i.cs

5.14 Arduino_WPF.Views.SerialConnectionView_1 Class Reference

SerialConnectionView_1.

Inheritance diagram for Arduino_WPF.Views.SerialConnectionView_1:



Public Member Functions

• void InitializeComponent ()

InitializeComponent.

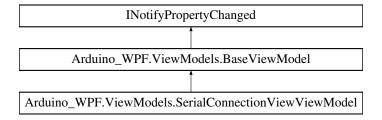
5.14.1 Detailed Description

SerialConnectionView_1.

The documentation for this class was generated from the following file:

5.15 Arduino_WPF.ViewModels.SerialConnectionViewViewModel Class Reference

Inheritance diagram for Arduino_WPF.ViewModels.SerialConnectionViewViewModel:



Public Member Functions

• SerialConnectionViewViewModel ()

This method initializes the SerialConnectionViewViewModel.

• void AddPin (int id, PinMode pinMode, State state)

This method adds a pin to the Pins collection.

void RemovePin (CustomPinViewModel pin)

This method removes a pin from the Pins collection.

• void **UpdatePin** (int id, **State** state, **PinMode** pinMode)

This method updates the pin.

void ClearSerialOutput ()

This method clears the serial output.

void WritePinConfiguration ()

Writes the pin configuration.

Properties

```
    ObservableCollection
    CustomPinViewModel > Pins [get]

    ObservableCollection < string > AvailablePorts [get]

• ObservableCollection < PinMode > PinModes [get]

    ObservableCollection
    State > PinStates [get]

int BaudRate [get, set]
• Parity Parity [get, set]
• int DataBits [get, set]
• StopBits StopBits [get, set]
• string SelectedPort [get, set]
• string SerialOutput [get, set]

    CustomPinViewModel SelectedPin [get, set]

    PinMode SelectedPinMode [get, set]

    State SelectedState [get, set]

    string ReadPinConfiguration [get, set]

• COM COM [get]
     Gets or sets the COM object.

    ICommand OpenCOMCommand [get]

    ICommand CloseCOMCommand [get]

    ICommand RefreshPinsCommand [get]

    ICommand ListPortsCommand [get]

    RelayCommand ClearSerialOutputCommand [get]

• ObservableCollection< Parity > ParityValues [get]

    ObservableCollection < StopBits > StopBitsValues [get]

• ICommand WritePinCommand [get]

    ICommand ReadPinCommand [get]

    ICommand LoadPresetConfigurationsCommand [get]

    PresetJsonLoader SelectedPresetConfiguration [get, set]

    List< PresetJsonLoader > PresetConfigurations [get, set]

    ICommand LoadConfigurationsFromFileCommand [get]
```

Additional Inherited Members

Protected Member Functions inherited from Arduino_WPF.ViewModels.BaseViewModel

• void **OnPropertyChanged** ([CallerMemberName] string? propertyName=null)

This method is called when a property is changed.

 $\bullet \ \ bool \ \ \textbf{SetProperty} < \textbf{T} > (ref \ T \ field, \ T \ value, \ [Caller Member Name] \ string? \ property Name = null)$

This method sets the property and calls OnPropertyChanged if the value is different.

Events inherited from Arduino_WPF.ViewModels.BaseViewModel

• PropertyChangedEventHandler PropertyChanged

5.15.1 Member Function Documentation

5.15.1.1 AddPin()

This method adds a pin to the Pins collection.

Parameters

id	
pinMode	
state	

5.15.1.2 RemovePin()

```
\label{lem:converse} \begin{tabular}{ll} \be
```

This method removes a pin from the Pins collection.

Parameters



5.15.1.3 UpdatePin()

```
void Arduino_WPF.ViewModels.SerialConnectionViewViewModel.UpdatePin ( int \ id,  \textbf{State} \ state,  \textbf{PinMode} \ pinMode \ )
```

This method updates the pin.

Parameters

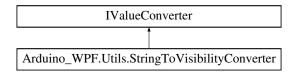
id	
state	
pinMode	

The documentation for this class was generated from the following file:

C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/ViewModels/SerialConnection
 — ViewViewModel.cs

5.16 Arduino_WPF.Utils.StringToVisibilityConverter Class Reference

Inheritance diagram for Arduino_WPF.Utils.StringToVisibilityConverter:



Public Member Functions

• object Convert (object value, Type targetType, object parameter, CultureInfo culture)

This method converts a string to a visibility.

• object ConvertBack (object value, Type targetType, object parameter, CultureInfo culture)

This method converts a visibility to a string.

5.16.1 Member Function Documentation

5.16.1.1 Convert()

This method converts a string to a visibility.

Parameters

value	
targetType	
parameter	
culture	

Returns

5.16.1.2 ConvertBack()

This method converts a visibility to a string.

Parameters

value	
targetType	
parameter	
culture	

	29
Returns	
Exceptions	
NotImplementedException	
The documentation for this class was generated from the following file:	
 C:/Users/Adrian/Documents/git/Arduino_WPF/Arduino_WPF/Arduino_WPF/Utils/StringToVisibilityConvects 	erter.∢

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