

PlcObject Members

Namespace: IPS7Lnk.Advanced

Assemblies: IPS7LnkNet.Advanced.dll, IPS7LnkNet.Advanced.dll

The [PlcObject](#) type exposes the following members.

Constructors

PlcObject()

Initializes a new instance of the [PlcObject](#) class.

C#

```
public PlcObject()
```

PlcObject(PlcIdentity)

Initializes a new instance of the [PlcObject](#) class using the specified `identity`

C#

```
public PlcObject(PlcIdentity identity)
```

Parameters

`identity` [PlcIdentity](#)

The [PlcIdentity](#) of the new [PlcObject](#) to which the PLC value belongs.

Exceptions

[ArgumentNullException](#)

The `identity` is a null reference (Nothing in Visual Basic).

PlcObject(PlcIdentity, PlcName)

Initializes a new instance of the [PlcObject](#) class using the specified `identity` and `name`.

C#

```
public PlcObject(PlcIdentity identity, PlcName name)
```

Parameters

`identity` [PlcIdentity](#)

The [PlcIdentity](#) of the new [PlcObject](#) to which the PLC object belongs.

name PlcName

The name of the object.

Exceptions

ArgumentNullException

The `identity` or `name` is a null reference (Nothing in Visual Basic).

PlcObject(PlcObjectType)

Initializes a new instance of the `PlcObject` class using the specified `type`

C#

```
public PlcObject(PlcObjectType type)
```

Parameters

type PlcObjectType

The `PlcObjectType` of the new `PlcObject` to which the PLC object belongs.

Exceptions

ArgumentNullException

The `type` is a null reference (Nothing in Visual Basic).

PlcObject(PlcObjectType, PlcName)

Initializes a new instance of the `PlcObject` class using the specified `type` and `name`.

C#

```
public PlcObject(PlcObjectType type, PlcName name)
```

Parameters

type PlcObjectType

The `PlcObjectType` of the new `PlcObject` to which the PLC value belongs.

name PlcName

The name of the value.

Exceptions

ArgumentNullException

The `type` or `name` is a null reference (Nothing in Visual Basic).

Events

MemberChanged

Occurs when the value of a [PlcMember](#) changed.

C#

```
public event PlcMemberChangedEventHandler MemberChanged
```

PropertyChanged

Occurs when a property value changes.

C#

```
public event PropertyChangedEventHandler PropertyChanged
```

Properties

Description

Gets or sets more meaningful information about the value and its usage than only using the [Name](#) property.

C#

```
public virtual string Description { get; set; }
```

Property Value

[String](#)

A [String](#) value containing additional information about the value and its usage.

Item[PlcMember]

Gets or sets the value of the [member](#) specified which is associated with this [PlcObject](#).

C#

```
public object this[PlcMember member] { get; set; }
```

Property Value

[Object](#)

The value of the member.

Exceptions

ArgumentException

The **member** is not a valid/known member of the **PlcObject**.

InvalidOperationException

The member does not grant read/write access.

Item[String[]]

Gets or sets the value of the member with the **names** specified which are associated with this **PlcObject**.

C#

```
public object this[params string[] names] { get; set; }
```

Property Value

Object

The value of the member.

Exceptions

ArgumentException

The member with one of the **names** specified is not a valid/known member of the **PlcObject**.

InvalidOperationException

The member does not grant read/write access.

Item[String]

Gets or sets the value of the member with the **name** specified which is associated with this **PlcObject**.

C#

```
public object this[string name] { get; set; }
```

Property Value

Object

The value of the member.

Exceptions

ArgumentException

The member with the `name` specified is not a valid/known member of the [PlcObject](#).

InvalidOperationException

The member does not grant read/write access.

Members

Gets a collection of [PlcMember](#) associated with the [PlcObject](#).

C#

```
public PlcMemberCollection Members { get; }
```

Property Value

PlcMemberCollection

An instance of the [PlcMemberCollection](#) containing all [PlcMember](#) objects associated with the [PlcObject](#).

Name

Gets the name of the object.

C#

```
public PlcName Name { get; }
```

Property Value

PlcName

An instance of the [PlcName](#) class containing the name of the object.

Tag

Gets or sets the object that contains additional user data about the object.

C#

```
public virtual object Tag { get; set; }
```

Property Value

Object

An [Object](#) that contains additional user data about the object. The default is null (Nothing in Visual Basic).

Type

Gets the [PlcType](#) of the object.

C#

```
public PlcType Type { get; }
```

Property Value**PlcType**

The [PlcType](#) used by the object.

Methods

OnMemberChanged(PlcMemberChangedEventArgs)

Raises the [MemberChanged](#) event.

C#

```
protected virtual void OnMemberChanged(PlcMemberChangedEventArgs e)
```

Parameters**e PlcMemberChangedEventArgs**

The [PlcMemberChangedEventArgs](#) that contains the event data.

OnPropertyChanged(PropertyChangedEventArgs)

Raises the [PropertyChanged](#) event.

C#

```
protected virtual void OnPropertyChanged(PropertyChangedEventArgs e)
```

Parameters**e PropertyChangedEventArgs**

The [PropertyChangedEventArgs](#) that contains the event data.

Relocate(Int32)

Relocates the [PlcObject](#) using the specified offset. The original [PlcObject](#) remains unmodified.

C#

```
public PlcObject Relocate(int operandNumber)
```

Parameters

operandNumber Int32

The operand number offset used to adjust the address of the [Type](#).

Returns

PlcObject

A new instance of the [PlcObject](#) configured with the same metadata as this instance but relocated using the specified offset.

Exceptions

ArgumentOutOfRangeException

The offset specified by `operandNumber` result into a new value that would be out of the bounds defined by `MinOperandNumber` or `MaxOperandNumber`.

InvalidOperationException

It is not possible to relocate relative types.

Relocate(Int32, Int32)

Relocates the [PlcObject](#) using the specified offset. The original [PlcObject](#) remains unmodified.

C#

```
public PlcObject Relocate(int operandNumber, int byteNumber)
```

Parameters

operandNumber Int32

The operand number offset used to adjust the address of the [Type](#).

byteNumber Int32

The byte number offset used to adjust the address of the [Type](#).

Returns

PlcObject

A new instance of the [PlcObject](#) configured with the same metadata as this instance but relocated using the specified offset.

Exceptions

ArgumentOutOfRangeException

One of the offsets specified by `operandNumber` or `byteNumber` result into a new value that would be out of

the bounds defined by [MinOperandNumber](#), [MaxOperandNumber](#), [MinByteNumber](#) and [MaxByteNumber](#).

InvalidOperationException

It is not possible to relocate relative types.

Relocate(Int32, Int32, Int32)

Relocates the [PlcObject](#) using the specified offset. The original [PlcObject](#) remains unmodified.

C#

```
public PlcObject Relocate(int operandNumber, int byteNumber, int bitNumber)
```

Parameters

operandNumber [Int32](#)

The operand number offset used to adjust the address of the [Type](#).

byteNumber [Int32](#)

The byte number offset used to adjust the address of the [Type](#).

bitNumber [Int32](#)

The bit number offset used to adjust the address of the [Type](#).

Returns

[PlcObject](#)

A new instance of the [PlcObject](#) configured with the same metadata as this instance but relocated using the specified offset.

Exceptions

ArgumentOutOfRangeException

One of the offsets specified by **operandNumber**, **byteNumber** or **bitNumber** result into a new value that would be out of the bounds defined by [MinOperandNumber](#), [MaxOperandNumber](#), [MinByteNumber](#), [MaxByteNumber](#), [MinBitNumber](#) or [MaxBitNumber](#).

InvalidOperationException

It is not possible to relocate relative types.

Relocate(PlcAddress)

Relocates the [PlcObject](#) using the specified **address**. The original [PlcObject](#) remains unmodified.

C#

```
public PlcObject Relocate(PlcAddress address)
```

Parameters

address PlcAddress

The **PlcAddress** to that the value is to be relocated.

Returns

PlcObject

A new instance of the **PlcObject** configured with the same metadata as this instance but relocated using the specified **address**.

Exceptions

ArgumentNullException

The **address** is a null reference (Nothing in Visual Basic).

ArgumentException

The **address** does not refer to the same **RawType** as this **PlcType**.

InvalidOperationException

It is not possible to relocate absolute object types without relative type information.

Remarks

The **RawType** of the **address** specified needs to be the same as defined by the address of the **Type** of the PLC value.

RelocateCore(PlcType)

Relocates the object to the **type** specified.

C#

```
protected virtual PlcObject RelocateCore(PlcType type)
```

Parameters

type PlcType

The **PlcType** to that the object is to be relocated.

Returns

PlcObject

A new instance of the same type as this PLC object instance relocated to the `type` specified.

ToString()

Converts the object to its string representation.

C#

```
public override string ToString()
```

Returns

`String`

A string that contains the object.

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