PlcType Class

Namespace: IPS7Lnk.Advanced
Assemblies: IPS7LnkNet.Advanced.dll

Represents PLC type declarations while each declaration does provide the necessary information required to map a .NET framework Type to the according type representation within a PLC.

C#

```
public abstract class PlcType : IPlcSymbol, IPlcEntity, IPlcRelocatable<PlcType>,
IPlcRelocatable
```

Inheritance Object › PlcType

Derived

- PlcArrayType
- PlcObjectType
- PlcValueType

Implements IPlcSymbol, IPlcEntity, IPlcRelocatable<PlcType>, IPlcRelocatable

Fields

Name	Description
MaxLength	Specifies the maximum value that can be used for the Length property.
MinLength	Specifies the minimum value that can be used for the Length property.

Properties

Name	Description
Address	Gets the start address of the PlcType in the PLC.
DefaultValue	Gets the type dependent default value which can be assigned to an entity of the type represented.
Description	Gets or sets more meaningful information about the type and its usage than only using the Name property.
EndAddress	Gets the end address of the PlcType in the PLC.
FrameworkType	Gets the concrete .NET framework type used when working with the PlcType.
HasElementType	Gets a value indicating whether the current PlcType encompasses another type this is the case when the current PlcType is an array.
Identity	Gets the identity of the PlcType in the PLC.
IsAbsolute	Gets a value indicating whether the PlcType does absolutely refer to a PLC resource.
IsArray	Gets a value indicating whether the framework Type of the PlcType is an array.
IsClass	Gets a value indicating whether the framework Type of the PlcType is a class; that is, not a value type or interface.
Layout	Gets the characteristics to use when aligning the Members of the PlcType.

Name	Description
Length	Gets a 32-bit integer that represents the total number of elements that can be stored in a value of the type.
Members	Gets the members associated with the PLC type.
Name	Gets the name of the PLC type represented.
RelativeType	Gets the PlcType from that this PlcType has been absolutely defined.
Size	Gets a 32-bit integer that represents the total number of bytes required to store a value of the type within the PLC memory.
SizeInBits	Gets a 32-bit integer that represents the total number of bits required to store a value of the type within the PLC memory.
TypeCode	Gets the PlcTypeCode of the PLC type represented.

Methods

Name	Description
CreateEntity	Creates a new IPlcEntity object which represents a concrete accessible entity of this PlcType.
Equals(Object)	Determines whether the specified `other` is equal to this PlcType.
Equals(PlcType)	Determines whether the specified `other` is equal to this PlcType.
GetElementType(Int32)	Retrieves the PlcType object encompassed or referred to by the current array type.
GetHashCode	Retrieves a hash code for this PlcType.
GetRawType(PlcTypeCode)	Retrieves the according PlcRawType for the `typeCode` specified.
GetRawType(Type)	Retrieves the according PlcRawType for the `type` specified.
GetSize(PlcRawType)	Retrieves the according size for the `rawType` specified.
GetSize(PlcRawType, Boolean)	Retrieves the according size (optionally in bytes or bits) for the `rawType` specified.
GetSize(PlcTypeCode)	Retrieves the according size for the `typeCode` specified.
GetSize(PlcTypeCode, Boolean)	Retrieves the according size (optionally in bytes or bits) for the `typeCode` specified.
GetSize(Type)	Retrieves the according size for the `type` specified.
GetSize(Type, Boolean)	Retrieves the according size (optionally in bytes or bits) for the `type` specified.
GetSupportedRawTypes(PlcTypeCode)	Retrieves the PlcRawType members supported by the PlcTypeCode specified by `typeCode`.
GetSupportedRawTypes(Type)	Retrieves the PlcRawType members supported by the PlcTypeCode of the Type specified by `type`.
GetType(PlcTypeCode)	Retrieves the according framework Type for the `typeCode` specified.
GetTypeCode(Type)	Retrieves the according PlcTypeCode for the framework Type specified.
IsSupported(PlcTypeCode, PlcRawType)	Determines whether the specified `rawType` can be used to address the PLC memory to access data of the PlcTypeCode specified by `typeCode`.

Name	Description
IsSupportedArrayType(PlcTypeCode)	Determines whether the PlcTypeCode specified by `typeCode` can be also used to access the PLC memory by an array of that PlcTypeCode.
MakeAbsoluteType(PlcIdentity)	Retrieves the absolute PlcType using the PlcIdentity specified by `identity`.
MakeArrayType	Returns a PlcType object representing a one-dimensional array of the current type, with a length of zero.
MakeArrayType(Int32)	Returns a PlcType object representing an array of the current type, with the specified `length`.
Of(PlcTypeCode)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcName)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcName, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcName, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcName, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcIdentity, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, Int32, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, Int32, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, Int32, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, Int32, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcName)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcName, Int32)	Retrieves the according PlcType which matches the supplied type metadata.

Name	Description
Of(PlcTypeCode, Type, PlcIdentity, PlcName, Int32, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcName, Int32, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcName, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcName, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcIdentity, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(PlcTypeCode, Type, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcName)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcName, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcName, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcName, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcIdentity, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of(Type, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, PlcName)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, PlcName, Int32)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, PlcName, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, PlcName, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.

Name	Description
Of``1(PlcIdentity, PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcIdentity, PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcTypeLayout, IEnumerable)	Retrieves the according PlcType which matches the supplied type metadata.
Of``1(PlcTypeLayout, IPlcMemberInfo)	Retrieves the according PlcType which matches the supplied type metadata.
Relocate(Int32)	Relocates the PlcType using the specified offset.
Relocate(Int32, Int32)	Relocates the PlcType using the specified offset.
Relocate(Int32, Int32, Int32)	Relocates the PlcType using the specified offset.
Relocate(PlcAddress)	Relocates the PlcType using the specified `address`.
ToString	Returns a String representing the framework type name and the address range of the current PlcType.

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