



AMASP C# Library

1.0.0

Generated by Doxygen 1.8.20



<b>1 Namespace Index</b>	<b>1</b>
1.1 Packages	1
<b>2 Hierarchical Index</b>	<b>3</b>
2.1 Class Hierarchy	3
<b>3 Class Index</b>	<b>5</b>
3.1 Class List	5
<b>4 Namespace Documentation</b>	<b>7</b>
4.1 AmaspCSharp Namespace Reference	7
<b>5 Class Documentation</b>	<b>9</b>
5.1 AmaspCSharp.AMASPSerial Class Reference	9
5.1.1 Detailed Description	10
5.1.2 Member Enumeration Documentation	10
5.1.2.1 ErrorCheckTypes	10
5.1.2.2 PacketTypes	11
5.1.3 Member Function Documentation	11
5.1.3.1 Begin()	11
5.1.3.2 End()	11
5.1.3.3 ReadPacket()	11
5.1.3.4 SendError()	11
5.2 AmaspCSharp.AMASPSerialMaster Class Reference	12
5.2.1 Detailed Description	12
5.2.2 Member Function Documentation	12
5.2.2.1 SendRequest() [1/2]	12
5.2.2.2 SendRequest() [2/2]	13
5.3 AmaspCSharp.AMASPSerialSlave Class Reference	13
5.3.1 Detailed Description	14
5.3.2 Member Function Documentation	14
5.3.2.1 SendInterruption()	14
5.3.2.2 SendResponse()	14
5.4 AmaspCSharp.AMASPSerial.PacketData Class Reference	15
5.4.1 Detailed Description	15
<b>Index</b>	<b>17</b>



# Chapter 1

## Namespace Index

### 1.1 Packages

Here are the packages with brief descriptions (if available):

<a href="#">AmaspCSharp</a> . . . . .	7
---------------------------------------	---



## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

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

AmaspCSharp.AMASPSerial . . . . .	9
AmaspCSharp.AMASPSerialMaster . . . . .	12
AmaspCSharp.AMASPSerialSlave . . . . .	13
AmaspCSharp.AMASPSerial.PacketData . . . . .	15





## Chapter 3

# Class Index

### 3.1 Class List

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

<a href="#">AmaspCSharp.AMASPSerial</a>	
AMASP Abstract class . . . . .	9
<a href="#">AmaspCSharp.AMASPSerialMaster</a>	
AMASP Master class . . . . .	12
<a href="#">AmaspCSharp.AMASPSerialSlave</a>	
AMASP Slave class . . . . .	13
<a href="#">AmaspCSharp.AMASPSerial.PacketData</a>	
Represents the data packet, containing the packet type, device ID, Message, code length and erro check type . . . . .	15



## Chapter 4

# Namespace Documentation

### 4.1 AmaspCSharp Namespace Reference

#### Classes

- class [AMASPSerial](#)  
*AMASP Abstract class*
- class [AMASPSerialMaster](#)  
*AMASP Master class*
- class [AMASPSerialSlave](#)  
*AMASP Slave class*



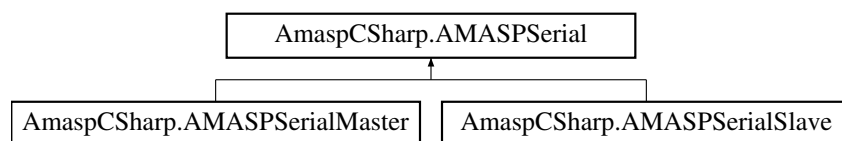
## Chapter 5

# Class Documentation

### 5.1 AmaspCSharp.AMASPSerial Class Reference

AMASP Abstract class

Inheritance diagram for AmaspCSharp.AMASPSerial:



#### Classes

- class [PacketData](#)

*Represents the data packet, containing the packet type, device ID, Message, code length and error check type.*

#### Public Types

- enum [PacketTypes](#) {  
**MRP** = 0, **SRP** = 1, **SIP** = 2, **CEP** = 3,  
**Timeout** = 4 }

*Enumeration to the packet types available in AMASP and the Timeout. MRP(0), SRP(1), SIP(2), CEP(3), Timeout(4).*

- enum [ErrorCheckTypes](#) {  
**None** = 0, **XOR8** = 1, **checksum16** = 2, **LRC16** = 3,  
**fletcher16** = 4, **CRC16** = 5 }

*Enumeration to the error checking algorithms available in AMASP. None(0), XOR8(1), checksum16(2), LRC16(3), fletcher16(4), CRC16(5).*

## Public Member Functions

- bool [Begin](#) (SerialPort serialCom)  
*Establishes a serial connection.*
- void [End](#) ()  
*Closes the serial connection.*
- int [SendError](#) (int deviceId, int errorCode)  
*Send a CEP packet (Communication Error Packet).*
- [PacketData ReadPacket](#) ()  
*Check if a valid packet is available and read it.*

## Static Public Attributes

- const int **MSGMAXSIZE** = 4096

## Protected Member Functions

- ushort **CRC16Modbus** (byte[] data, int dataLength)
- ushort **LRC16Check** (byte[] data, int dataLength)
- ushort **XORCheck** (byte[] data, int dataLength)
- ushort **Checksum16Check** (byte[] data, int dataLength)
- ushort **Fletcher16Check** (byte[] data, int dataLength)
- int **ErrorCheck** (byte[] data, int dataLength, [ErrorCheckTypes](#) eCheckType)

## Properties

- [ErrorCheckTypes](#) **ErrorCheckType** [get, set]
- SerialPort **SerialCom** [get, set]

### 5.1.1 Detailed Description

AMASP Abstract class

### 5.1.2 Member Enumeration Documentation

#### 5.1.2.1 ErrorCheckTypes

```
enum AmaspCSharp.AMASPSerial.ErrorCheckTypes [strong]
```

Enumeration to the error checking algorithms available in AMASP. None(0), XOR8(1), checksum16(2), LRC16(3), fletcher16(4), CRC16(5).

### 5.1.2.2 PacketTypes

enum [AmaspCSharp.AMASPSerial.PacketTypes](#) [strong]

Enumeration to the packet types available in AMASP and the Timeout. MRP(0), SRP(1), SIP(2), CEP(3), Timeout(4).

## 5.1.3 Member Function Documentation

### 5.1.3.1 Begin()

```
bool AmaspCSharp.AMASPSerial.Begin (
    SerialPort serialCom )
```

Establishes a serial connection.

#### Parameters

<i>serialCom</i>	The serial communication object.
------------------	----------------------------------

#### Returns

True if the serial connection was established or false if not.

### 5.1.3.2 End()

```
void AmaspCSharp.AMASPSerial.End ( )
```

Closes the serial connection.

### 5.1.3.3 ReadPacket()

```
PacketData AmaspCSharp.AMASPSerial.ReadPacket ( )
```

Check if a valid packet is available and read it.

#### Returns

A [PacketData](#) Object which contains the information and data from a packet.

### 5.1.3.4 SendError()

```
int AmaspCSharp.AMASPSerial.SendError (
    int deviceId,
    int errorCode )
```

Send a CEP packet (Communication Error Packet).

**Parameters**

<i>deviceId</i>	Id of the target device in communication.
<i>errorCode</i>	The communication error code (0 to 255).

**Returns**

The error check data.

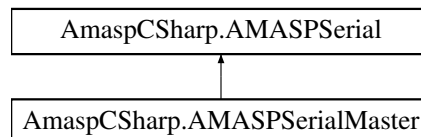
The documentation for this class was generated from the following file:

- C:/Users/delai/Documents/Repositorio/amaspsharp/lib/AmaspCSharp/AMASPSerial.cs

## 5.2 AmaspCSharp.AMASPSerialMaster Class Reference

AMASP Master class

Inheritance diagram for AmaspCSharp.AMASPSerialMaster:

**Public Member Functions**

- int [SendRequest](#) (int deviceId, byte[] message, int msgLength)  
*Send a MRP packet to a slave computer.*
- int [SendRequest](#) (int deviceId, String message, int msgLength)  
*Send a MRP packet to a slave computer.*

**Additional Inherited Members**

### 5.2.1 Detailed Description

AMASP Master class

### 5.2.2 Member Function Documentation

#### 5.2.2.1 SendRequest() [1/2]

```

int AmaspCSharp.AMASPSerialMaster.SendRequest (
    int deviceId,
    byte[] message,
    int msgLength )
  
```

Send a MRP packet to a slave computer.



## Parameters

<i>deviceId</i>	Id of the requested device in slave.
<i>message</i>	The message in bytes to be send.
<i>msgLength</i>	The message length.

## Returns

The error check data.

## 5.2.2.2 SendRequest() [2/2]

```
int AmaspCSharp.AMASPSerialMaster.SendRequest (
    int deviceId,
    String message,
    int msgLength )
```

Send a MRP packet to a slave computer.

## Parameters

<i>deviceId</i>	Id of the requested device in slave.
<i>message</i>	The string message to be send.
<i>msgLength</i>	The message length.

///

## Returns

The error check data.

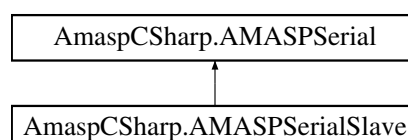
The documentation for this class was generated from the following file:

- C:/Users/delai/Documents/Repositorio/amaspsharp/lib/AmaspCSharp/AMASPSerialMaster.cs

## 5.3 AmaspCSharp.AMASPSerialSlave Class Reference

AMASP Slave class

Inheritance diagram for AmaspCSharp.AMASPSerialSlave:



## Public Member Functions

- int [SendResponse](#) (int deviceId, byte[] message, int msgLength)  
*Send a SRP (Slave Response Packet) to a master computer.*
- int [SendInterruption](#) (int deviceId, int InterrupCode)  
*Send a SIP (Slave Interrupt Packet) to a master computer.*

## Additional Inherited Members

### 5.3.1 Detailed Description

AMASP Slave class

### 5.3.2 Member Function Documentation

#### 5.3.2.1 SendInterruption()

```
int AmaspCSharp.AMASPSerialSlave.SendInterruption (
    int deviceId,
    int InterrupCode )
```

Send a SIP (Slave Interrupt Packet) to a master computer.

#### Parameters

<i>deviceId</i>	Id of the slave device who answered.
<i>InterrupCode</i>	The code of the interruption (0 to 255).

#### Returns

The error check data.

#### 5.3.2.2 SendResponse()

```
int AmaspCSharp.AMASPSerialSlave.SendResponse (
    int deviceId,
    byte[] message,
    int msgLength )
```

Send a SRP (Slave Response Packet) to a master computer.

#### Parameters

<i>deviceId</i>	Id of the slave device who answered.
<i>message</i>	The response message (in bytes) to be send.
<i>msgLength</i>	The message length.

#### Returns

The error check data.

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

- C:/Users/delai/Documents/Repositorio/amaspsharp/lib/AmaspCSharp/AMASPSerialSlave.cs

## 5.4 AmaspCSharp.AMASPSerial.PacketData Class Reference

Represents the data packet, containing the packet type, device ID, Message, code length and erro check type.

### Properties

- [PacketTypes](#) **Type** [get, set]
- int **Deviceld** [get, set]
- byte[] **Message** [get, set]
- int **CodeLength** [get, set]
- [ErrorCheckTypes](#) **ErrorCheckType** [get, set]
- int **ErrorCheckData** [get, set]

### 5.4.1 Detailed Description

Represents the data packet, containing the packet type, device ID, Message, code length and erro check type.

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

- C:/Users/delai/Documents/Repositorio/amaspsharp/lib/AmaspCSharp/AMASPSerial.cs



# Index

- AmaspCSharp, [7](#)
- AmaspCSharp.AMASPSerial, [9](#)
  - Begin, [11](#)
  - end, [11](#)
  - ErrorCheckTypes, [10](#)
  - PacketTypes, [10](#)
  - readPacket, [11](#)
  - SendError, [11](#)
- AmaspCSharp.AMASPSerial.PacketData, [14](#)
- AmaspCSharp.AMASPSerialMaster, [12](#)
  - sendRequest, [12](#), [13](#)
- AmaspCSharp.AMASPSerialSlave, [13](#)
  - sendResponse, [14](#)
- Begin
  - AmaspCSharp.AMASPSerial, [11](#)
- end
  - AmaspCSharp.AMASPSerial, [11](#)
- ErrorCheckTypes
  - AmaspCSharp.AMASPSerial, [10](#)
- PacketTypes
  - AmaspCSharp.AMASPSerial, [10](#)
- readPacket
  - AmaspCSharp.AMASPSerial, [11](#)
- SendError
  - AmaspCSharp.AMASPSerial, [11](#)
- sendRequest
  - AmaspCSharp.AMASPSerialMaster, [12](#), [13](#)
- sendResponse
  - AmaspCSharp.AMASPSerialSlave, [14](#)