AMASP C# Serial Library

1.0.0

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Chapter 1

Namespace Index

1.1 Packages

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

AmaspCSharp 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 14

Chapter 3

Class Index

3.1 Class List

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

AmaspCSharp.AMASPSerial
AMASP Abstract class 9
AmaspCSharp.AMASPSerialMaster
AMASP Master class 12
AmaspCSharp.AMASPSerialSlave
AMASP Slave class 13
AmaspCSharp.AMASPSerial.PacketData
Represents the data packet, containing the packet type, device ID, Message, code length and erro check type 14

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

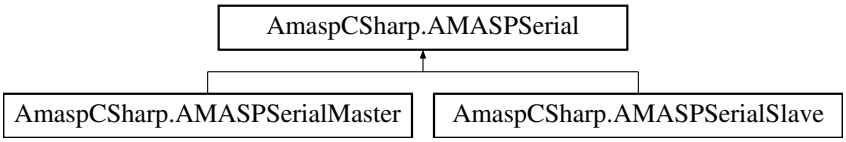
Chapter 5

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 erro 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.
- void 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

serialCom	The serial communication object.

Returns

True if the serial connection was stablished 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()

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

Send a CEP packet (Communication Error Packet).

Parameters

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

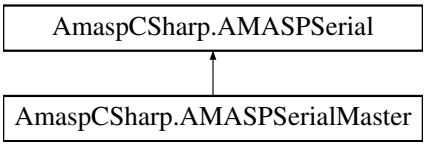
The documentation for this class was generated from the following file:

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

5.2 AmaspCSharp.AMASPSerialMaster Class Reference

AMASP Master class

Inheritance diagram for AmaspCSharp.AMASPSerialMaster:



Public Member Functions

- void sendRequest (int deviceId, byte[ ] message, int msgLength)
  Send a MRP packet to a slave computer.
- void 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]

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

Send a MRP packet to a slave computer.

Parameters

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

5.2.2.2 sendRequest() [2/2]

```
void AmaspCSharp.AMASPSerialMaster.sendRequest (
            int deviceID,
            String message,
            int msgLength )
```

Send a MRP packet to a slave computer.

Parameters

deviceID	Id of the requested device in slave.
message	The string message to be send.
msgLength	The message length.

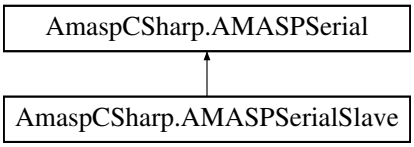
The documentation for this class was generated from the following file:

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

5.3 AmaspCSharp.AMASPSerialSlave Class Reference

AMASP Slave class

Inheritance diagram for AmaspCSharp.AMASPSerialSlave:



Public Member Functions

- void sendResponse (int deviceId, byte[ ] message, int msgLength)

  Send a SRP (Slave Response 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 sendResponse()

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

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

Parameters

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

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

- C:/Users/delai/Documents/Repositorio/amaspcsharplib/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 **DeviceId** `[get, set]`
- byte[] **Message** `[get, set]`
- int **CodeLength** `[get, set]`
- ErrorCheckTypes **ErrorCheckType** `[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/amaspcsharplib/AmaspCSharp/AMASPSerial.cs

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