Arduino_Serial_Communication_Library

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1.1 Class List

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

2 File Index

2.1 File List

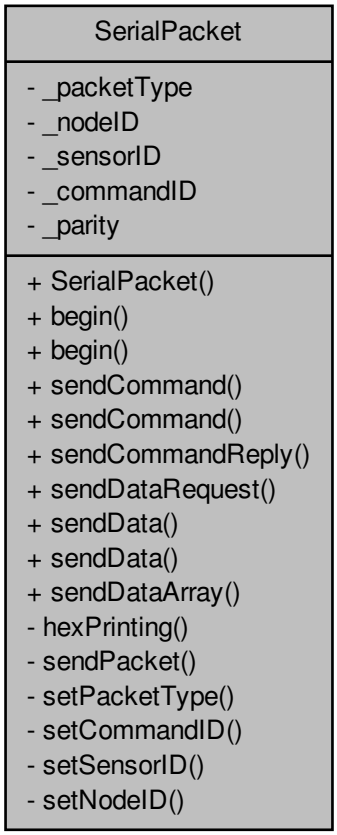
Here is a list of all files with brief descriptions:

3 Class Documentation

3.1 SerialPacket Class Reference

```
#include <SerialPacket.h>
```

Collaboration diagram for SerialPacket:



Public Member Functions

- SerialPacket ()

  SerialPacket.cpp - Library for sending sensor data packets over UART. For more information: variable declaration, changelog,... see SerialPacket.h
- void begin ()

  Begin using default settings:
- void begin (long speed, uint8_t nodeID)

  Begin using custom settings
- void sendCommand (uint8_t commandID, uint8_t payload)

  Send a single command in a packet
- void sendCommand (uint8_t payload)

  Send a single command in a packet, reuses commandID from previous packets
- void sendCommandReply (uint8_t commandID, uint8_t payload)

  Send a single command in a packet, reuses commandID from previous packets
- void sendDataRequest (uint8_t sensorID, uint8_t payload)

  Send a single data value in a packet
- void sendData (uint8_t sensorID, uint8_t payload)

  Send a single data value in a packet

- void sendData (uint8_t payload)

  Send a single data value in a packet, //reuses sensorID from previous packets
- void sendDataArray (uint8_t *dataArray, uint8_t length)

  Send multiple data samples in one packet by passing an array and its length

Private Member Functions

- void hexPrinting (uint8_t data)

  HexPrinting: helper function to print data with a constant field width (2 hex values)
- void sendPacket (uint8_t payload)

  Send a single sample in a packet
- void setPacketType (uint8_t type)

  Set packet type
- void setCommandID (uint8_t commandID)

  Set commandID
- void setSensorID (uint8_t sensorID)

  Set sensorID
- void setNodeID (uint8_t nodeID)

  Set nodeID

Private Attributes

- uint8_t _packetType
- uint8_t _nodeID
- uint8_t _sensorID
- uint8_t _commandID
- uint8_t _parity

3.1.1 Detailed Description

Definition at line 33 of file SerialPacket.h.

3.1.2 Constructor & Destructor Documentation

3.1.2.1 SerialPacket::SerialPacket ( )

SerialPacket.cpp - Library for sending sensor data packets over UART. For more information: variable declaration, changelog,... see SerialPacket.h

Constructor

Definition at line 31 of file SerialPacket.cpp.

3.1.3 Member Function Documentation

3.1.3.1 void SerialPacket::begin ( )

Begin using default settings:

- speed: 115200 baud
- nodeID: 0

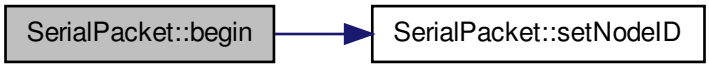
Definition at line 40 of file SerialPacket.cpp.

3.1.3.2 void SerialPacket::begin (long *speed,* uint8_t *nodeID*)

Begin using custom settings

Definition at line 48 of file SerialPacket.cpp.

Here is the call graph for this function:



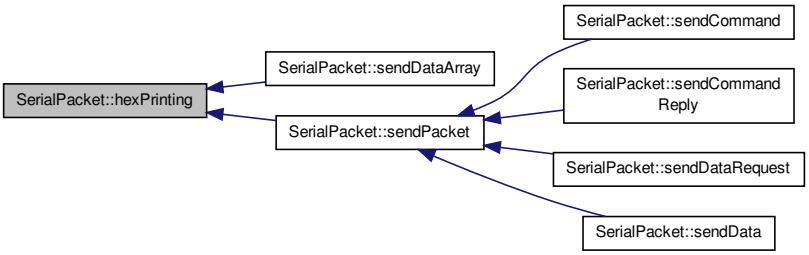
3.1.3.3 void SerialPacket::hexPrinting (uint8_t *data*) [private]

HexPrinting: helper function to print data with a constant field width (2 hex values)

Definition at line 183 of file SerialPacket.cpp.

Referenced by sendDataArray(), and sendPacket().

Here is the caller graph for this function:

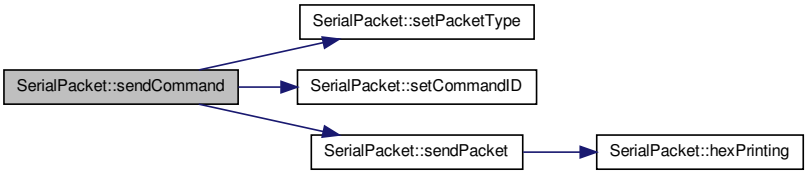


3.1.3.4 void SerialPacket::sendCommand (uint8_t *commandID,* uint8_t *payload*)

Send a single command in a packet

Definition at line 57 of file SerialPacket.cpp.

Here is the call graph for this function:

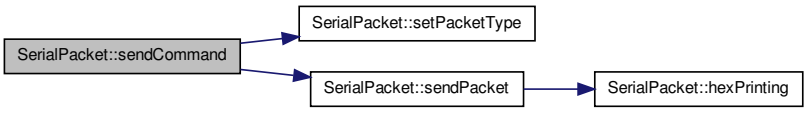


3.1.3.5 void SerialPacket::sendCommand (uint8_t *payload*)

Send a single command in a packet, reuses commandID from previous packets

Definition at line 67 of file SerialPacket.cpp.

Here is the call graph for this function:

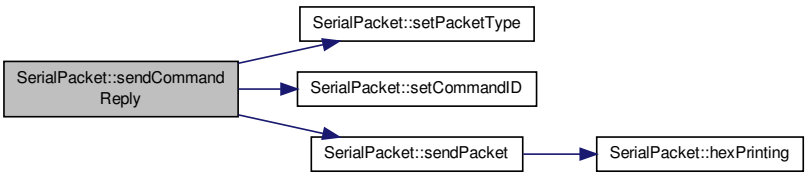


3.1.3.6 void SerialPacket::sendCommandReply (uint8_t *commandID,* uint8_t *payload*)

Send a single command in a packet, reuses commandID from previous packets

Definition at line 76 of file SerialPacket.cpp.

Here is the call graph for this function:

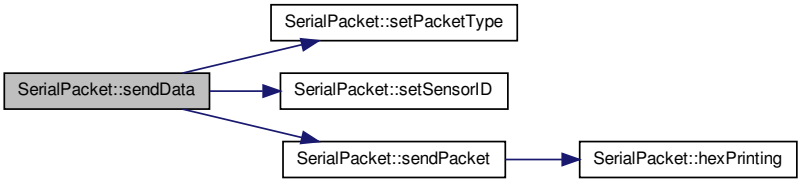


3.1.3.7 void SerialPacket::sendData (uint8_t *sensorID,* uint8_t *payload*)

Send a single data value in a packet

Definition at line 96 of file SerialPacket.cpp.

Here is the call graph for this function:

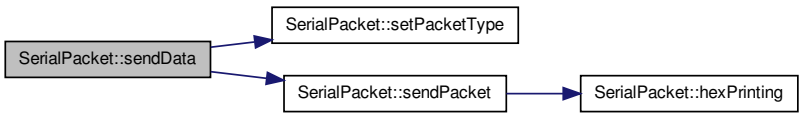


3.1.3.8 void SerialPacket::sendData (uint8_t *payload*)

Send a single data value in a packet, //reuses sensorID from previous packets

Definition at line 106 of file SerialPacket.cpp.

Here is the call graph for this function:

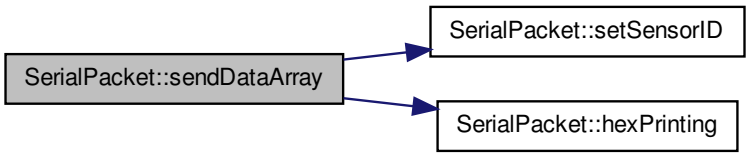


3.1.3.9 void SerialPacket::sendDataArray (uint8_t * *dataArray,* uint8_t *length*)

Send multiple data samples in one packet by passing an array and its length

Definition at line 142 of file SerialPacket.cpp.

Here is the call graph for this function:

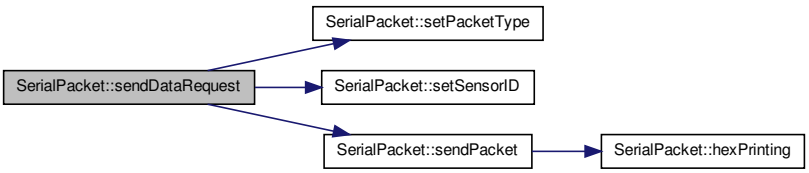


3.1.3.10 void SerialPacket::sendDataRequest (uint8_t *sensorID,* uint8_t *payload*)

Send a single data value in a packet

Definition at line 86 of file SerialPacket.cpp.

Here is the call graph for this function:



3.1.3.11 void SerialPacket::sendPacket (uint8_t *payload*) [private]

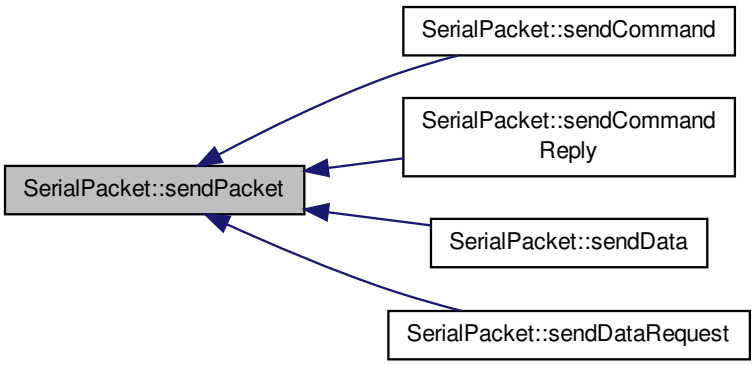
Send a single sample in a packet

Definition at line 115 of file SerialPacket.cpp.

Referenced by sendCommand(), sendCommandReply(), sendData(), and sendDataRequest().

Here is the call graph for this function:

Here is the caller graph for this function:



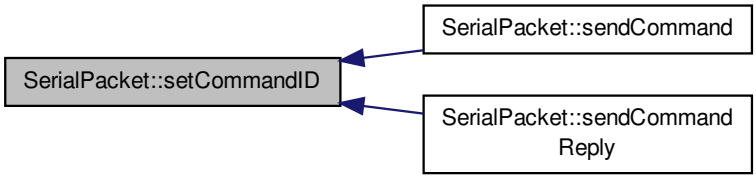
3.1.3.12 void SerialPacket::setCommandID (uint8_t *commandID*) [private]

Set commandID

Definition at line 167 of file SerialPacket.cpp.

Referenced by sendCommand(), and sendCommandReply().

Here is the caller graph for this function:



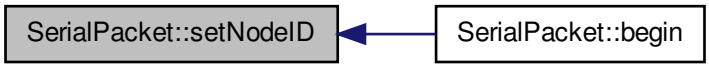
3.1.3.13 void SerialPacket::setNodeID (uint8_t *nodeID*) [private]

Set nodeID

Definition at line 194 of file SerialPacket.cpp.

Referenced by begin().

Here is the caller graph for this function:



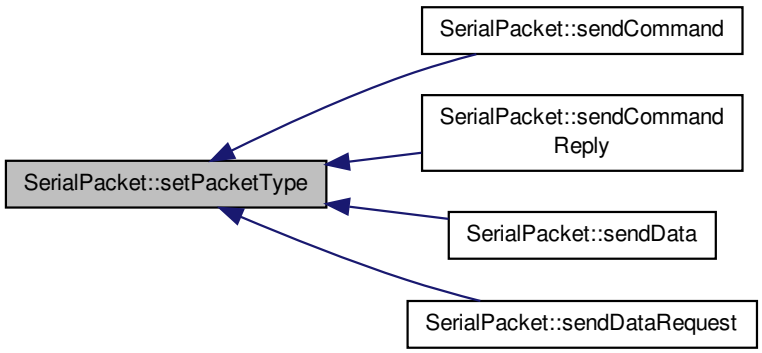
3.1.3.14 void SerialPacket::setPacketType (uint8_t *type*) [private]

Set packet type

Definition at line 175 of file SerialPacket.cpp.

Referenced by sendCommand(), sendCommandReply(), sendData(), and sendDataRequest().

Here is the caller graph for this function:



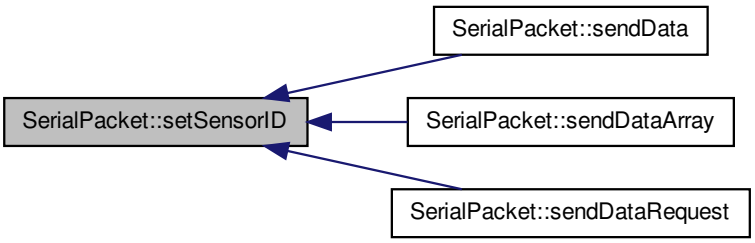
3.1.3.15 void SerialPacket::setSensorID (uint8_t *sensorID*) [private]

Set sensorID

Definition at line 202 of file SerialPacket.cpp.

Referenced by sendData(), sendDataArray(), and sendDataRequest().

Here is the caller graph for this function:



3.1.4 Member Data Documentation

3.1.4.1 uint8_t SerialPacket::_commandID [private]

Definition at line 56 of file SerialPacket.h.

Referenced by sendPacket(), and setCommandID().

3.1.4.2 uint8_t SerialPacket::_nodeID [private]

Definition at line 54 of file SerialPacket.h.

Referenced by sendDataArray(), sendPacket(), and setNodeID().

3.1.4.3 uint8_t SerialPacket::_packetType [private]

Definition at line 53 of file SerialPacket.h.

Referenced by sendDataArray(), sendPacket(), and setPacketType().

3.1.4.4 uint8_t SerialPacket::_parity [private]

Definition at line 57 of file SerialPacket.h.

Referenced by sendDataArray(), and sendPacket().

3.1.4.5 uint8_t SerialPacket::_sensorID [private]

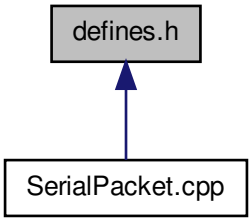
Definition at line 55 of file SerialPacket.h.

Referenced by sendDataArray(), sendPacket(), and setSensorID().

4 File Documentation

4.1 defines.h File Reference

This graph shows which files directly or indirectly include this file:



Macros

- #define SERIAL_ASCII
- #define COMMAND 1
- #define COMMAND_REPLY 2
- #define DATA_REQUEST 3
- #define DATA 4
- #define DATA_ARRAY 5

4.1.1 Macro Definition Documentation

4.1.1.1 #define COMMAND 1

Definition at line 6 of file defines.h.

Referenced by SerialPacket::sendCommand(), and SerialPacket::sendPacket().

4.1.1.2 #define COMMAND_REPLY 2

Definition at line 7 of file defines.h.

Referenced by SerialPacket::sendCommandReply(), and SerialPacket::sendPacket().

4.1.1.3 #define DATA 4

Definition at line 9 of file defines.h.

Referenced by SerialPacket::sendData(), and SerialPacket::sendPacket().

4.1.1.4 #define DATA_ARRAY 5

Definition at line 10 of file defines.h.

4.1.1.5 #define DATA_REQUEST 3

Definition at line 8 of file defines.h.

Referenced by SerialPacket::sendDataRequest(), and SerialPacket::sendPacket().

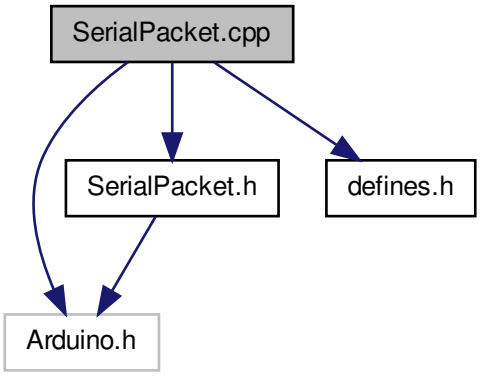
4.1.1.6 #define SERIAL_ASCII

Definition at line 3 of file defines.h.

4.2 SerialPacket.cpp File Reference

```
#include <Arduino.h>
#include "SerialPacket.h"
#include "defines.h"
```

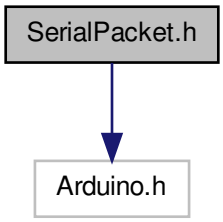
Include dependency graph for SerialPacket.cpp:



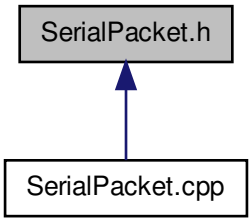
4.3 SerialPacket.h File Reference

```
#include <Arduino.h>
```

Include dependency graph for SerialPacket.h:



This graph shows which files directly or indirectly include this file:



Classes

- class SerialPacket

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