

STM32 Project

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1 Hierarchical Index

1.1 Class Hierarchy

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

QChart

Chart	3
QMainWindow	

MainWindow	6
QSerialPort	

SerialPort	13
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2 Class Index

2.1 Class List

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

Chart	3
-----------------------	-------------------

MainWindow	6
----------------------------	-------------------

SerialPort	13
----------------------------	--------------------

3 File Index

3.1 File List

Here is a list of all files with brief descriptions:

Chart.cpp	15
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Chart.h	15
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main.cpp	16
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mainwindow.cpp	17
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mainwindow.h	17
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SerialPort.cpp	18
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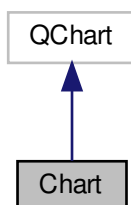
SerialPort.h	18
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4 Class Documentation

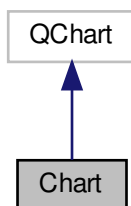
4.1 Chart Class Reference

```
#include <Chart.h>
```

Inheritance diagram for Chart:



Collaboration diagram for Chart:



Public Slots

- void [addData](#) (QString str)
Receives values and add them.

Public Member Functions

- [Chart](#) ()
Sets up basic parameters.
- void [setRange](#) (int range)
Sets range.
- void [setMeasurementRate](#) (int rate)
Sets measurement rate.
- void [clear](#) ()
Clears series and set (x,y) to zero.
- float [getMeasurementRate](#) ()
Currently doesn't matter.

Private Attributes

- `std::unique_ptr< QElapsedTimer > _timer`
- `float _xRange`
- `float _xCurrent`
- `float _xMeasurementRate`
- `float _yMax`
- `std::unique_ptr< QLineSeries > _series`

4.1.1 Constructor & Destructor Documentation

4.1.1.1 Chart()

```
Chart::Chart ( )
```

Sets up basic parameters.

4.1.2 Member Function Documentation

4.1.2.1 addData

```
void Chart::addData (
    QString str ) [slot]
```

Receives values and add them.

Parameters

<i>str</i>	it's QString with received value
------------	----------------------------------

4.1.2.2 clear()

```
void Chart::clear ( )
```

Clears series and set (x,y) to zero.

4.1.2.3 getMeasurementRate()

```
float Chart::getMeasurementRate ( )
```

Currently doesn't matter.

Returns

returns set value of measurement rate

4.1.2.4 setMeasurementRate()

```
void Chart::setMeasurementRate (
    int rate )
```

Sets measurement rate.

Parameters

<i>rate</i>	
-------------	--

4.1.2.5 setRange()

```
void Chart::setRange (
    int range )
```

Sets range.

Parameters

<i>range</i>	
--------------	--

4.1.3 Member Data Documentation

4.1.3.1 _series

```
std::unique_ptr<QLineSeries> Chart::_series [private]
```

4.1.3.2 _timer

```
std::unique_ptr<QElapsedTimer> Chart::_timer [private]
```

4.1.3.3 _xCurrent

```
float Chart::_xCurrent [private]
```

4.1.3.4 _xMeasurementRate

```
float Chart::_xMeasurementRate [private]
```

4.1.3.5 _xRange

```
float Chart::_xRange [private]
```

4.1.3.6 _yMax

```
float Chart::_yMax [private]
```

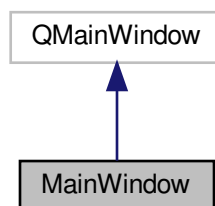
The documentation for this class was generated from the following files:

- [Chart.h](#)
- [Chart.cpp](#)

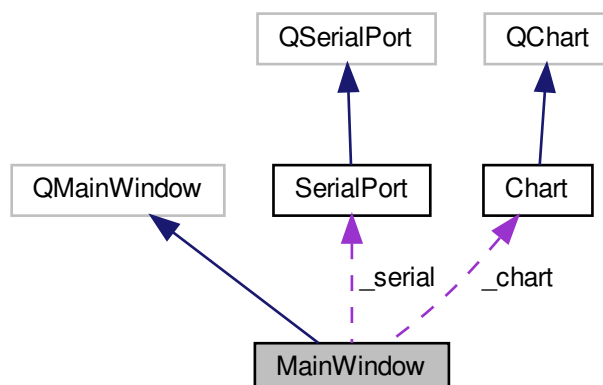
4.2 MainWindow Class Reference

```
#include <mainwindow.h>
```

Inheritance diagram for MainWindow:



Collaboration diagram for MainWindow:



Public Member Functions

- [MainWindow](#) (QWidget *parent=0)
Sets up basic parameters.
- [~MainWindow](#) ()
Destroys all pointers.

Private Slots

- void [openSerialPort](#) ()
Tries to connect to serial port.
- void [closeSerialPort](#) ()
Closes connection to serial port.
- void [writeData](#) (const QByteArray &data)
Sends data through serial port.
- void [searchForPorts](#) ()
Search for ports.
- void [lineEditEnterText](#) ()
Sends data.
- void [measurementChanged](#) (int index)
Changes measurement goal.
- void [plainTextChanged](#) ()
Scrolls to bottom when required.
- void [handleError](#) (QSerialPort::SerialPortError error)
Display all errors.
- void [buttonClicked](#) ()
Handles connection's button.

Private Member Functions

- QGridLayout * [setupMainLayout](#) ()
Sets up whole layout.
- void [setupSerial](#) ()
Sets up all required values for serial connection.
- void [initActionsConnections](#) ()
Initializes all connections.

Private Attributes

- Chart * [_chart](#)
- SerialPort * [_serial](#)
- QPushButton * [_connectBtn](#)
- QPushButton * [_refreshBtn](#)
- QPlainTextEdit * [_plain](#)
- QChartView * [_chartView](#)
- QComboBox * [_portBox](#)
- QComboBox * [_baudRateBox](#)
- QComboBox * [_parityBox](#)
- QComboBox * [_stopBitsBox](#)
- QComboBox * [_flowControlBox](#)
- QComboBox * [_measurementBox](#)
- QSpinBox * [_spinBox](#)
- QLabel * [_label](#)
- QLineEdit * [_lineEdit](#)
- QCheckBox * [_autoScrollBox](#)

4.2.1 Detailed Description

Author

Przemyslaw Papla

4.2.2 Constructor & Destructor Documentation

4.2.2.1 MainWindow()

```
MainWindow::MainWindow (
    QWidget * parent = 0 ) [explicit]
```

Sets up basic parameters.

Parameters

<i>parent</i>	
---------------	--

4.2.2.2 ~MainWindow()

```
MainWindow::~MainWindow ( )
```

Destroys all pointers.

4.2.3 Member Function Documentation

4.2.3.1 buttonClicked

```
void MainWindow::buttonClicked ( ) [private], [slot]
```

Handles connection's button.

4.2.3.2 closeSerialPort

```
void MainWindow::closeSerialPort ( ) [private], [slot]
```

Closes connection to serial port.

4.2.3.3 handleError

```
void MainWindow::handleError (
    QSerialPort::SerialPortError error ) [private], [slot]
```

Display all errors.

Parameters

<i>error</i>	
--------------	--

4.2.3.4 initActionsConnections()

```
void MainWindow::initActionsConnections ( ) [private]
```

Initializes all connections.

4.2.3.5 lineEditEnterText

```
void MainWindow::lineEditEnterText ( ) [private], [slot]
```

Sends data.

4.2.3.6 measurementChanged

```
void MainWindow::measurementChanged (
    int index ) [private], [slot]
```

Changes measurement goal.

Parameters

<i>index</i>	
--------------	--

4.2.3.7 openSerialPort

```
void MainWindow::openSerialPort ( ) [private], [slot]
```

Tries to connect to serial port.

4.2.3.8 plainTextChanged

```
void MainWindow::plainTextChanged ( ) [private], [slot]
```

Scrolls to bottom when required.

4.2.3.9 searchForPorts

```
void MainWindow::searchForPorts ( ) [private], [slot]
```

Search for ports.

4.2.3.10 setupMainLayout()

```
QGridLayout * MainWindow::setupMainLayout ( ) [private]
```

Sets up whole layout.

Returns

main QGridLayout

4.2.3.11 setupSerial()

```
void MainWindow::setupSerial ( ) [private]
```

Sets up all required values for serial connection.

4.2.3.12 writeData

```
void MainWindow::writeData (
    const QByteArray & data ) [private], [slot]
```

Sends data through serial port.

Parameters

<i>data</i>	data to be send
-------------	-----------------

4.2.4 Member Data Documentation

4.2.4.1 _autoScrollBox

```
QCheckBox* MainWindow::_autoScrollBox [private]
```

4.2.4.2 _baudRateBox

```
QComboBox* MainWindow::_baudRateBox [private]
```

4.2.4.3 _chart

```
Chart* MainWindow::_chart [private]
```

4.2.4.4 _chartView

```
QChartView* MainWindow::_chartView [private]
```

4.2.4.5 _connectBtn

```
QPushButton* MainWindow::_connectBtn [private]
```

4.2.4.6 _flowControlBox

```
QComboBox* MainWindow::_flowControlBox [private]
```

4.2.4.7 _label

```
QLabel* MainWindow::_label [private]
```

4.2.4.8 _lineEdit

```
QLineEdit* MainWindow::_lineEdit [private]
```

4.2.4.9 _measurementBox

```
QComboBox* MainWindow::_measurementBox [private]
```

4.2.4.10 _parityBox

```
QComboBox* MainWindow::_parityBox [private]
```

4.2.4.11 `_plain`

```
QPlainTextEdit* MainWindow::_plain [private]
```

4.2.4.12 `_portBox`

```
QComboBox* MainWindow::_portBox [private]
```

4.2.4.13 `_refreshBtn`

```
QPushButton* MainWindow::_refreshBtn [private]
```

4.2.4.14 `_serial`

```
SerialPort* MainWindow::_serial [private]
```

4.2.4.15 `_spinBox`

```
QSpinBox* MainWindow::_spinBox [private]
```

4.2.4.16 `_stopBitsBox`

```
QComboBox* MainWindow::_stopBitsBox [private]
```

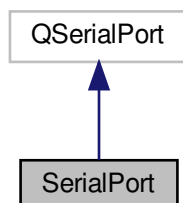
The documentation for this class was generated from the following files:

- [mainwindow.h](#)
- [mainwindow.cpp](#)

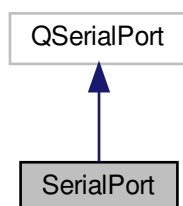
4.3 SerialPort Class Reference

```
#include <SerialPort.h>
```

Inheritance diagram for SerialPort:



Collaboration diagram for SerialPort:



Signals

- void [valueChanged](#) (QString str)

Public Member Functions

- [SerialPort](#) (QObject *parent=nullptr)
Sets up basic stuff.

Private Slots

- void [readData](#) ()
Gathers data bytes to commands.

Private Attributes

- [QString _temp](#)
- [QList< QString > _list](#)

4.3.1 Constructor & Destructor Documentation

4.3.1.1 SerialPort()

```
SerialPort::SerialPort (
    QObject * parent = nullptr )
```

Sets up basic stuff.

Parameters

<i>parent</i>	
---------------	--

4.3.2 Member Function Documentation

4.3.2.1 readData

```
void SerialPort::readData ( ) [private], [slot]
```

Gathers data bytes to commands.

4.3.2.2 valueChanged

```
void SerialPort::valueChanged (
    QString str ) [signal]
```

4.3.3 Member Data Documentation

4.3.3.1 _list

```
QList<QString> SerialPort::_list [private]
```

4.3.3.2 _temp

```
QString SerialPort::_temp [private]
```

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

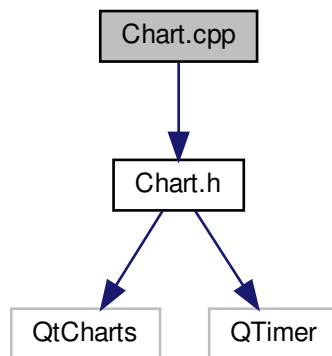
- [SerialPort.h](#)
- [SerialPort.cpp](#)

5 File Documentation

5.1 Chart.cpp File Reference

```
#include "Chart.h"
```

Include dependency graph for Chart.cpp:

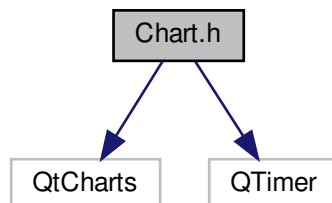


5.2 Chart.h File Reference

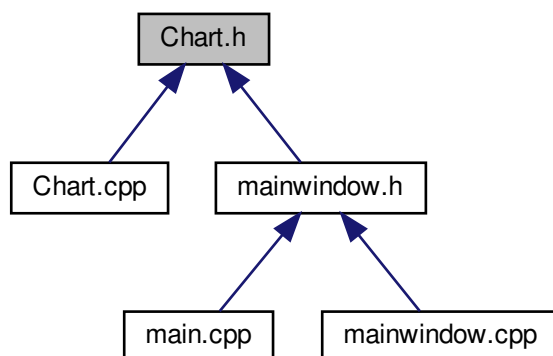
```
#include <QtCharts>
```

```
#include <QTimer>
```

Include dependency graph for Chart.h:



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

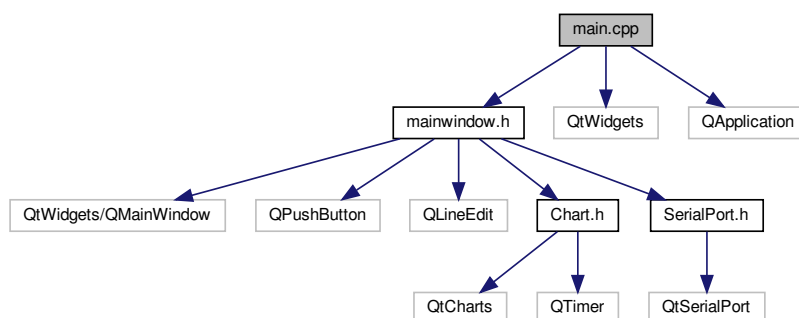


Classes

- class [Chart](#)

5.3 main.cpp File Reference

```
#include "mainwindow.h"
#include <QtWidgets>
#include <QApplication>
Include dependency graph for main.cpp:
```



Functions

- int [main](#) (int argc, char *argv[])

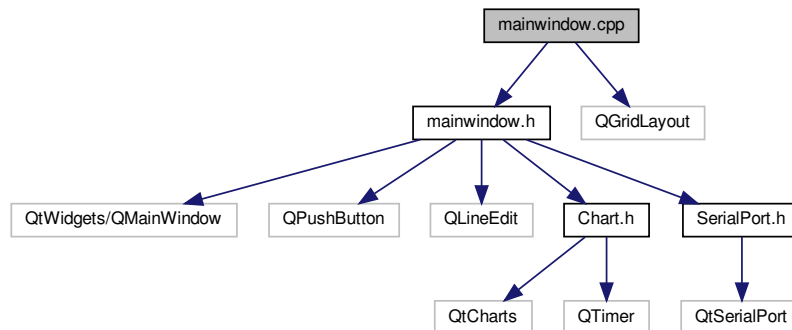
5.3.1 Function Documentation

5.3.1.1 main()

```
int main (
    int argc,
    char * argv[] )
```

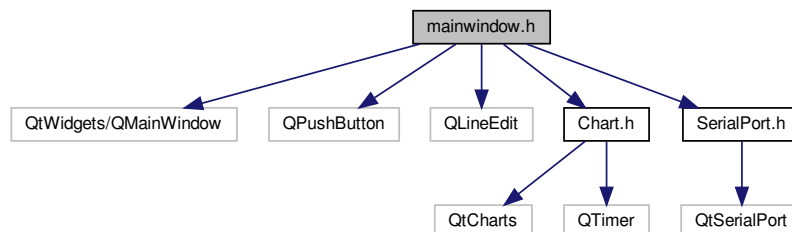
5.4 mainwindow.cpp File Reference

```
#include "mainwindow.h"
#include <QGridLayout>
Include dependency graph for mainwindow.cpp:
```

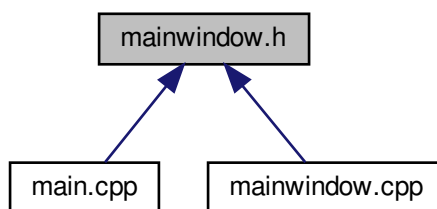


5.5 mainwindow.h File Reference

```
#include <QtWidgets/MainWindow>
#include <QPushButton>
#include <QLineEdit>
#include "Chart.h"
#include "SerialPort.h"
Include dependency graph for mainwindow.h:
```



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



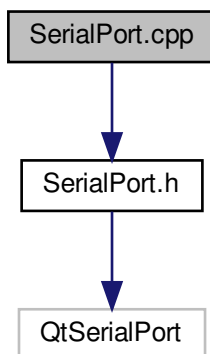
Classes

- class [MainWindow](#)

5.6 SerialPort.cpp File Reference

```
#include "SerialPort.h"
```

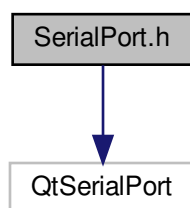
Include dependency graph for `SerialPort.cpp`:



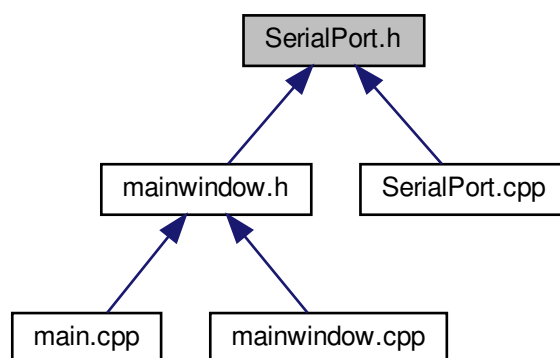
5.7 SerialPort.h File Reference

```
#include <QtSerialPort>
```

Include dependency graph for SerialPort.h:



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



Classes

- class [SerialPort](#)

