LiQt interface

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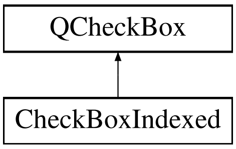
7.1 CheckBoxIndexed Class Reference

```
#include <headactivationdialog.h>
```

Inheritance diagram for CheckBoxIndexed:



Signals

- void clicked (int index)

Public Member Functions

- CheckBoxIndexed (int index, QString text, QWidget ∗parent=0)
- virtual ∼CheckBoxIndexed ()

Private Slots

- void chClicked (bool)

Private Attributes

- int index

7.1.1 Constructor & Destructor Documentation

7.1.1.1 CheckBoxIndexed()

```
CheckBoxIndexed::CheckBoxIndexed (
              int index,
              QString text,
              QWidget ∗ parent = 0 )  [inline]
```

7.1.1.2 ∼CheckBoxIndexed()

```
virtual CheckBoxIndexed::∼CheckBoxIndexed ( )  [inline], [virtual]
```

7.1.2 Member Function Documentation

7.1.2.1 chClicked

```
void CheckBoxIndexed::chClicked (
             bool  )  [inline], [private], [slot]
```

7.1.2.2 clicked

```
void CheckBoxIndexed::clicked (
             int index )  [signal]
```

7.1.3 Member Data Documentation

7.1.3.1 index

```
int CheckBoxIndexed::index  [private]
```

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

- headactivationdialog.h

7.2 ComSettings Struct Reference

```
#include <serialsettingsdialog.h>
```

Public Member Functions

- ComSettings operator= (ComSettings nSett)

Public Attributes

Class of serial port setting. Class constructor have standard values of parameters to allow start program without setting file.

- QString name = "/dev/ttyS0"
- qint32 baudRate = 38400
- QString stringBaudRate = "38400"
- QSerialPort::DataBits dataBits = QSerialPort::Data8
- QString stringDataBits = "8"
- QSerialPort::Parity parity = QSerialPort::OddParity
- QString stringParity = "Odd"
- QSerialPort::StopBits stopBits = QSerialPort::OneStop
- QString stringStopBits = "1"
- QSerialPort::FlowControl flowControl = QSerialPort::NoFlowControl
- QString stringFlowControl = "None"
- bool localEchoEnabled

7.2.1 Member Function Documentation

```
ComSettings ComSettings::operator=() (
             ComSettings nSett )
```

- Reimplemented standard operator. Allow copy parameters between two class object in simply way.

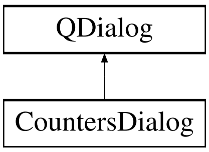
The documentation for this struct was generated from the following files:

- serialsettingsdialog.h
- serialsettingsdialog.cpp

7.3 CountersDialog Class Reference

```
#include <countersdialog.h>
```

Inheritance diagram for CountersDialog:



Signals

- void resetSkipped ()
- void resetRemaining ()
- void remainingValChanged (int val)

Public Member Functions

- CountersDialog (QWidget ∗parent=0)
- ∼CountersDialog ()
- void setRemaining (int val)

Protected Member Functions

- bool event (QEvent ∗e)
- void showEvent (QShowEvent ∗ev)
- bool eventFilter (QObject ∗watched, QEvent ∗event)
- void changeEvent (QEvent ∗event)

Private Slots

- void on_pushButtonRemainReset_clicked ()
- void on_pushButtonSkippedReset_clicked ()
- void on_pushButtonHide_clicked ()
- void doubleSpinBoxRemain_valueChanged (double arg1)

Private Attributes

- Ui::CountersDialog ∗ ui
- bool acceptOnDeactilationEn

7.3.1 Constructor & Destructor Documentation

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

CountersDialog::∼CountersDialog() ( )

7.3.2 Member Function Documentation

void CountersDialog::changeEvent(QEvent ∗event) (
QEvent ∗ *event*) [protected] - Reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

void CountersDialog::doubleSpinBoxRemain_valueChanged (
double *arg1*) [private], [slot] - function to handle value changing signal from appropriate widget.

bool CountersDialog::event(QEvent ∗e) (
QEvent ∗ *e*) [protected] - reimplementation of standard function to handle QEvent::WindowDeactivate or QEvent::Leave for automatic invoke of hide(...) function on window deactivation.

bool CountersDialog::eventFilter (
QObject ∗ *watched,*
QEvent ∗ *event*) [protected] - reimplementation of standard function to handle QEvent::MouseButtonDblClick or QEvent::MouseButtonRelease events to call NumpadDialog or KeyboardDialog to enter data to appropriate widgets.

void CountersDialog::on_pushButtonHide_clicked ( ) [private], [slot] - function which used to hide widget from main screen.

void CountersDialog::on_pushButtonRemainReset_clicked ( ) [private], [slot] - function to rewrite appropriate value at master board. Function called by appropriate button.

void CountersDialog::on_pushButtonSkippedReset_clicked ( ) [private], [slot] - function to rewrite appropriate value at master board. Function called by appropriate button.

void CountersDialog::remainingValChanged (
int *val*) [signal] - function to handle value changing signal from appropriate widget.

void CountersDialog::resetRemaining ( ) [signal] - function to rewrite appropriate value at master board. Signal handled in parent object.

void CountersDialog::resetSkipped ( ) [signal] - function to rewrite appropriate value at master board. Signal handled in parent object.

void CountersDialog::setRemaining(int val) (
int *val*) - function to set value to appropriate widget.

void CountersDialog::showEvent(QShowEvent ∗ev) (
QShowEvent ∗ *ev*) [protected] - reimplementation of standard function. Used to set value of acceptOnDeactilationEn.

7.3.3 Member Data Documentation

bool CountersDialog::acceptOnDeactilationEn [private]

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

- countersdialog.h
- countersdialog.cpp

7.4 CrcCalc Class Reference

`#include <crc16.h>`

Class contain two static function to calculate CRC16 value in two way: with or without CRC table. Functions are used without creating class object and are inline to optimize program.

Public Member Functions

- CrcCalc ()

Static Public Member Functions

- static uint16_t CalculateCRC16 (uint16_t crc, QByteArray c_ptr)
- static uint16_t CalculateCRC16 (QByteArray inpArr)

7.4.1 Member Function Documentation

7.4.1.1 CalculateCRC16() [1/2]

Calculate CRC without table. Used for communication between PC and machine master board.

```
static uint16_t CrcCalc::CalculateCRC16 (
              uint16_t crc,
              QByteArray c_ptr ) [inline], [static]
```

7.4.1.2 CalculateCRC16() [2/2]

Calculate CRC with written table. Can be used to communicate with HMI or other similar devices.

```
static uint16_t CrcCalc::CalculateCRC16 (
              QByteArray inpArr ) [inline], [static]
```

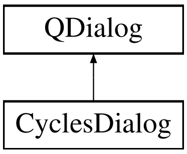
The documentation for this class was generated from the following file:

- crc16.h

7.5 CyclesDialog Class Reference

```
#include <cyclesdialog.h>
```

Inheritance diagram for CyclesDialog:



Signals

- void sendCommand (QByteArray cndArr)

Public Member Functions

- CyclesDialog (QWidget ∗parent=0)
- CyclesDialog (int headCount, QWidget ∗parent=0)
- ∼CyclesDialog ()

Protected Member Functions

- void showEvent (QShowEvent ∗ev)
- bool eventFilter (QObject ∗watched, QEvent ∗event)
- void changeEvent (QEvent ∗event)

Private Slots

- void on_pButtonOK_clicked ()
- void on_pButtonON_clicked ()
- void on_pButtonPrev_clicked ()
- void on_pButtonNext_clicked ()
- void on_pButtonC1_clicked ()
- void on_pButtonC2_clicked ()
- void on_pButtonC3_clicked ()
- void on_pButtonC4_clicked ()
- void on_pButtonC5_clicked ()
- void on_pButtonC6_clicked ()
- void on_pButtonC7_clicked ()
- void on_pButtonC8_clicked ()
- void loadValues (int ∗vals)
- void saveValues (void)

Private Attributes

- Ui::CyclesDialog ∗ ui
- int headCount
- QList< QDoubleSpinBox ∗ > spinBoxList
- QList< QLabel ∗ > labelList
- int lastCycleSel
- QList< int ∗ > cycleValues
- int cycleState
- QSettings ∗ cycleSettings
- QList< uint32_t > headStateList
- QList< uint32_t > headStrokList

7.5.1 Constructor & Destructor Documentation

7.5.1.1 CyclesDialog() [1/2]

Empty constructor (default). Not used in project.

```
CyclesDialog::CyclesDialog (
             QWidget ∗ parent = 0 ) [explicit]
```

7.5.1.2 CyclesDialog() [2/2]

Class constructor. Sets count of heads of machine to create and layout widget of dialog.

```
CyclesDialog::CyclesDialog (
             int headCount,
             QWidget ∗ parent = 0 ) [explicit]
```

7.5.1.3 ∼CyclesDialog()

```
CyclesDialog::∼CyclesDialog ( )
```

7.5.2 Member Function Documentation

`void CyclesDialog::changeEvent() ( QEvent ∗ event ) [protected]` - reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

7.5.2.1 eventFilter()

Mouse event filter to call on-screen numeric key to enter values to appropriate QSpinBoxes. Function called automatically.

```
bool CyclesDialog::eventFilter (
             QObject ∗ watched,
             QEvent ∗ event ) [protected]
```

7.5.2.2 loadValues

Function load values to appropriate QSpinBoxes form QList<int∗ > cycleValues list with consideration of selected cycle by variable lastCycleSel.

```
void CyclesDialog::loadValues (
             int * vals ) [private], [slot]
```

7.5.2.3 A set of set of on_pButtonCX_clicked() functions where number under 'C' X = 1..8

Functions which are invoked by push buttons (pButtonC(1..8)) to select number of cycle to set it parameters. Invoke any of that functions call loadValues (int ∗vals) after set lastCycleSel to fill QSpinBox with previous (saved) values and set pButtonOn to appropriate state.

```
void CyclesDialog::on_pButtonC1_clicked() [private], [slot]
void CyclesDialog::on_pButtonC2_clicked() [private], [slot]
void CyclesDialog::on_pButtonC3_clicked() [private], [slot]
void CyclesDialog::on_pButtonC4_clicked() [private], [slot]
void CyclesDialog::on_pButtonC5_clicked() [private], [slot]
void CyclesDialog::on_pButtonC6_clicked() [private], [slot]
void CyclesDialog::on_pButtonC7_clicked() [private], [slot]
void CyclesDialog::on_pButtonC8_clicked() [private], [slot]
```

7.5.2.4 on_pButtonNext_clicked() and on_pButtonPrev_clicked()

Functions to change number of selected cycle. Invoke any of that functions call loadValues (int ∗vals) after set lastCycleSel to fill QSpinBox with previous (saved) values.
Changing numbers work in cycle: call 'Next' at last select first and call 'Prev' at first select last data list.

```
void CyclesDialog::on_pButtonNext_clicked() [private], [slot]
void CyclesDialog::on_pButtonPrev_clicked() [private], [slot]
```

7.5.2.5 on_pButtonON_clicked

Function which invoke by push button pButtonON. pButtonON is two-state button which allow user turn on (or turn off) selected cycle. State of cycle (enabled or disabled) is displayed on this button and on appropriate button from top buttons menu.

```
void CyclesDialog::on_pButtonON_clicked ( ) [private], [slot]
```

7.5.2.6 saveValues

Function invoke by every on_pButtonCX_clicked() function, functions on_pButtonPrev_clicked() and on_pButtonNext_clicked(). It used to save spinBox values to QList<int∗ > cycleValues and write to "cycles.ini" setting file to appropriate section which are determinate by cycle number.

```
void CyclesDialog::saveValues (
             void ) [private], [slot]
```

7.5.2.7 sendCommand

Signal contain QByteArray type variable to transmit it to serial port. Signal receive by class parent.

```
void CyclesDialog::sendCommand (
             QByteArray cndArr ) [signal]
```

7.5.2.8 on_pButtonOK_clicked

Main function of class . This function used for gathering information from spinBoxes from all cycles and about cycles state, save parameters to file and send to serial port.
Data gather to two different combinations.

- First is state of heads in format 0bIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII (32bit), where every bit means state of head: 1 to enable and 0 to disable head in sequence; position of bit means number of head.
This info sends to Register::LiftReg_::reg to set of registers began from liftReg_SEQU1_L and end at liftReg_SEQU8_H.
- Second combination used to head configuration. Format of data is 0x87654321 (8 half-bytes); every half-byte contain count of strokes which head must make in sequence, number of half-byte determinate sequence number.
Data are write to Register::HeadReg_::reg at headReg_REVOLVER_STR_L and headReg_REVOLVER_STR_H.

After saving and send data dialog will close using standard for QDialog function *accept()*

```
void CyclesDialog::on_pButtonOK_clicked ( ) [private], [slot]
```

7.5.2.9 showEvent()

Reimplementation of default event for QDialog layout *QSpinBox* -es on window in circular form.
For layout is used as follows formulas:
$sinCoef = sin(2. * \pi * i/headCount + \pi/2. + \pi/headCount);$
$cosCoef = cos(2. * \pi * i/headCount + \pi/2. + \pi/headCount);$
$spinBoxList[i]- > move(x0_{hb} + (R) * cosCoef, y0_{hb} + (R) * sinCoef);$

Parameter QShowEvent *ev is ignored and don't use in this function.

```
void CyclesDialog::showEvent (
            QShowEvent * ev ) [protected]
```

7.5.3 Member Data Documentation

- `QSettings* CyclesDialog::cycleSettings[private]` - QSetting class object. Used to save and restore data from file.
- `int CyclesDialog::cycleState[private]` - Variable for containing temporary data with state of sequences (enable or disable).
- `QList<int*> CyclesDialog::cycleValues[private]` - List of 32bit variables for containing data with head state of sequences
- `int CyclesDialog::headCount[private]` - Variable to contain count of heads of machine. Used to create list of QList<uint32_t> headStateList, QList<uint32_t> headStrokList, QList<QDoubleSpinBox*> spinBoxList and QList<QLabel*> labelList; and in layout in function void showEvent (QShowEvent *ev).
- `QList<uint32_t> CyclesDialog::headStateList[private]` - List of 32bit variables for containing data with head state of sequences (enable or disable).
- `QList<uint32_t> CyclesDialog::headStrokList[private]` - List of 32bit variables for containing data with strokes count for head.
- `QList<QLabel*> CyclesDialog::labelList[private]` - List of QLabel class objects. Used for numeration of headStrokList, QList<QDoubleSpinBox*> on user interface.
- `int CyclesDialog::lastCycleSel[private]` - Variable which contain last selected sequence of cycle. At constructor of class sets to 0, changed by every on_pButtonC1_clicked () functions, and functions on_pButtonPrev_clicked () and on_pButtonNext_clicked ()

- `QList<QDoubleSpinBox*> CyclesDialog::spinBoxList[private]` - List of QDoubleSpinBox class objects. Used for set strokes count for heads in selected sequence. Fill in loadValues (int *vals) function for every sequence when variable lastCycleSel changed.

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

- cyclesdialog.h
- cyclesdialog.cpp

7.6 EmailSettings Struct Reference

```
#include <generalsettingdialog.h>
```

Public Attributes

- QString senderAdress = "sender@server.com"
- QString senderPassword = "sender_PSW"
- QString receiverAdress = "receiver@server.com"
- QString emailSubject = "Subject"
- bool mailEnable = false

7.6.1 Member Data Documentation

All variables contain data appropriate that names.

- `QString EmailSettings::emailSubject = "Subject"`
- `bool EmailSettings::mailEnable = false`
- `QString EmailSettings::receiverAdress = "receiver@server.com"`
- `QString EmailSettings::senderAdress = "sender@server.com"`
- `QString EmailSettings::senderPassword = "sender_PSW"`

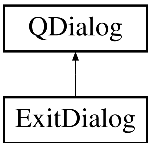
The documentation for this struct was generated from the following file:

- generalsettingdialog.h

7.7 ExitDialog Class Reference

```
#include <exitdialog.h>
```

Inheritance diagram for ExitDialog:



Public Types

- enum ExitCode_ {
  Continue,
  LogOut,
  Shutdown,
  ExitFromProgram,
  ReprogramMachine,
  ServiceMode,
  RestartProgram,
  RestartMachine }
- typedef enum ExitDialog::ExitCode_ ExitCode

Public Member Functions

- ExitDialog (QWidget ∗parent=0)
- ∼ExitDialog ()
- void setLogOutEn (bool en)

Static Public Member Functions

- static ExitCode tryExit (QWidget ∗parent, bool logOutEn=false)

Protected Member Functions

- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void on_pButtonTurnOff_clicked ()
- void on_pButtonRestartApp_clicked ()
- void on_pButtonRastartAll_clicked ()
- void on_pButtonServiceMode_clicked ()
- void on_pButtonExitApp_clicked ()
- void on_pButtonReprogram_clicked ()
- void on_pButtonLogOut_clicked ()
- void on_pushButtonCancel_clicked ()

Private Attributes

- ExitCode exitCode
- Ui::ExitDialog ∗ ui

7.7.1 Member Typedef Documentation

7.7.1.1 ExitCode

`typedef enum ExitDialog::ExitCode_ ExitDialog::ExitCode` - type of variable which will be returned from function tryExit. Created just for good code look.

7.7.2 Member Enumeration Documentation

7.7.2.1 ExitCode_

`enum ExitDialog::ExitCode_` - created for ExitDialog::ExitCode_

Enumerator

Continue	Flag to continue work without any changes. ExitCode
LogOut	Flag to change user.
Shutdown	Flag to exit from program and send shutdown signal to operating system.
ExitFromProgram	Flag to exit from program and go to graphical user interface of operating system.
ReprogramMachine	Send signal disconnect serial port and connect with other parameters. After that open ReprogramDialog class object (or create and open it).
ServiceMode	Flag to disconnect serial port connection (break data line between PC and master board) to give possibility press buttons without machine moving.
RestartProgram	Flag to re-initialization of program.
RestartMachine	Flag to exit from program and send restart signal to operating system. After system restart program will start in usual mode.

7.7.3 Constructor & Destructor Documentation

7.7.3.1 ExitDialog()

```
ExitDialog::ExitDialog (
            QWidget ∗ parent = 0 ) [explicit]
```

7.7.3.2 ∼ExitDialog()

```
ExitDialog::∼ExitDialog ( )
```

7.7.4 Member Function Documentation

`void ExitDialog::changeEvent() ( QEvent * event ) [protected]` - Reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

All function in itemizer are called by click signals of appropriate buttons and assigns appropriate to button (function) name value (from ExitCode_ enumerator) to exitCode variable. That variable will return by tryExit(...) function.

- `void ExitDialog::on_pButtonExitApp_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonLogOut_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonRastartAll_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonReprogram_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonRestartApp_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonServiceMode_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pButtonTurnOff_clicked ( ) [private], [slot]`
- `void ExitDialog::on_pushButtonCancel_clicked ( ) [private], [slot]`

`void ExitDialog::setLogOutEn() ( bool en )` - Function to enable or disable *pButtonLogOut* at exit dialog. Call with *true* value to show button and with *false* to hide it.

`void ExitDialog::showEvent() ( QShowEvent * ev ) [protected]` - Reimplementation of default event for QDialog. In this reimplementation added hiding (or showing) buttons, which are not available for all users. Function called automatically on every window call.

`ExitDialog::ExitCode ExitDialog::tryExit ( QWidget * parent, bool logOutEn = false ) [static]` - static function to call exit dialog end get ExitDialog::ExitCode.

7.7.5 Member Data Documentation

`exitCode ExitDialog::exitCode [private]`

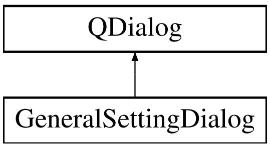
The documentation for this class was generated from the following files:

- exitdialog.h
- exitdialog.cpp

7.8 GeneralSettingDialog Class Reference

```
#include <generalsettingdialog.h>
```

Inheritance diagram for GeneralSettingDialog:



Signals

- void emailSettingsChanged (EmailSettings)
- void machineParamChanged (QByteArray machinePararmArr)
- void serialPortSettingsDialogRequested ()
- void styleChangedIndex (int index)
- void iconsChangedIndex (int index)
- void langChangedIndex (int index)
- void serviceSettingRequest ()
- void headActivationRequest ()
- void usersSettingRequest ()
- void directionChanged (int dir)
- void unloadStateChanged (bool state)
- void sendCommand (QByteArray command)
- void imageRequest (bool enable, bool req=false)

Public Member Functions

- GeneralSettingDialog (QWidget ∗parent=0)
- ∼GeneralSettingDialog ()
- void setIconFolder (QString path)
- void setEmailSettings (EmailSettings emailSett)
- void setMachineSetting (MachineSettings::MachineParameters machineParam)
- void setFocusLossAccept (bool flag)
- void setPasswords (uint16_t serialPass, uint16_t mailPass, uint16_t userPass)
- void setStyle (QStringList stList, int curSelect, QStringList iconList, int iconSel, bool backGrEn)
- void setLangList (QStringList langList, int curSelect)
- void showPortInfo (ComSettings comSett)

Protected Member Functions

- bool event (QEvent ∗e)
- bool eventFilter (QObject ∗watched, QEvent ∗event)
- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void accept ()
- void reject ()
- void lockUnlockEmail ()
- void hideShowPassword ()
- void eventFilterSetup ()
- void changeSerialPortSettingsClicked ()
- void changeServiceStateClicked ()
- void userSettingClicked ()
- void styleChanged (int index)
- void iconChanged (int index)
- void langChanged (int index)
- void changeDirection ()
- void changeCyclesState ()
- void useUnloadStateChanged ()
- void headCountChanged (double arg1)
- void machineTypeChanget (int index)
- void warningTimeChanged (double arg1)
- void on_pButtonHeadsActivation_clicked ()
- void on_checkBoxUseBackgr_clicked ()
- void on_pButtonSelectImg_clicked ()

Private Attributes

- Ui::GeneralSettingDialog ∗ ui
- MachineSettings::MachineParameters machineParamGl
- bool acceptOnDeactilationEn
- bool acceptEnable
- bool logedInSerial
- bool logedInMail
- bool logedInUserSett
- uint16_t serialPassword
- uint16_t mailPassword
- uint16_t usersPassword
- QIcon directionIcon
- QString pathIcon

7.8.1 Constructor & Destructor Documentation

`GeneralSettingDialog::GeneralSettingDialog ( QWidget ∗ parent = 0 ) [explicit]` - constructor of class. Connect signals to clots, fill comboBoxes with data and initialize variables to zero values.

7.8.1.1 ∼GeneralSettingDialog()

`GeneralSettingDialog::∼GeneralSettingDialog ( )` - standard destructor function.

7.8.2 Member Function Documentation

`void GeneralSettingDialog::accept ( ) [private], [slot]` - gather EmailSettings and MachineSettings::MachineParameters to appropriate structures. After that function generate signals emailSettingsChanged(...) and machineParamChanged(...) which are call appropriate function in parent object (getEmailSettings(...) and getMachineParam(...)).

`void GeneralSettingDialog::changeCyclesState ( ) [private], [slot]` - send command with sendCommand(...) function to turn on/off revolver function of machine and show/hide button "Cycles" on main interface (That button call CyclesDialog class object).

`void GeneralSettingDialog::changeDirection ( ) [private], [slot]` - send command with sendCommand(...) function to change rotate direction. Also function generate signal directionChanged(...).

`void GeneralSettingDialog::changeEvent ( QEvent * event ) [protected]` - Reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

`void GeneralSettingDialog::changeSerialPortSettingsClicked ( ) [private], [slot]` - function to call SerialSettingsDialog class object to setup serial port. Function ask password to call setting dialog.

`void GeneralSettingDialog::changeServiceStateClicked ( ) [private], [slot]` - function to generate signal which are call appropriate function in parent object (serviceStateChange(...)).

`void GeneralSettingDialog::directionChanged ( int dir ) [signal]` - signal what are generated by changeDirection(...) and call appropriate function (getDirection(...)) in parent object.

`void GeneralSettingDialog::emailSettingsChanged ( EmailSettings ) [signal]` - signal what are generated by accept(...) and call appropriate function (getEmailSettings(...)) in parent object.

`bool GeneralSettingDialog::event() ( QEvent * e ) [protected]` - reimplementation of standard function to handle *QEvent::WindowDeactivate* or *QEvent::Leave* for automatic invoke of accept(...) function on window deactivation.

`bool GeneralSettingDialog::eventFilter() ( QObject * watched, QEvent * event ) [protected]` - reimplementation of standard function to handle *QEvent:: MouseButtonDblClick* or *QEvent::MouseButtonRelease* events to call NumpadDialog or KeyboardDialog to enter data to appropriate widgets. Widgets which will call this function are defined in eventFilterSetup(...) function. In this function checked is QObject ∗ watched object of QLineEdit class or QDoubleSpinBox class and call appropriate dialog to enter data.

`void GeneralSettingDialog::eventFilterSetup ( ) [private], [slot]` - function to configure widgets on dialog to use eventFilter (...).

`void GeneralSettingDialog::headActivationRequest ( ) [signal]` - signal what are generated by on_pButtonHeadsActivation_clicked(...) and call HeadActivationDialog class object. Connection is made in parent class.

`void GeneralSettingDialog::headCountChanged ( double arg1 ) [private], [slot]` - function to set up heads count on machine. Send appropriate data to master board with sendCommand(...) function.

`void GeneralSettingDialog::hideShowPassword ( ) [private], [slot]` - function to show or hide symbols line edit for sender password on mail setup tab.

`void GeneralSettingDialog::iconChanged ( int index ) [private], [slot]` - function invoked by QListView widget on changing selected item and emit signal iconsChangedIndex(...) to call appropriate function in parent object (setIconFolder(...)) to load other icons to interface.

`void GeneralSettingDialog::iconsChangedIndex ( int index ) [signal]` - signal which are invoked by iconChanged(...) function to call appropriate function in parent object (setIconFolder(...)) to load other icons to interface.

`void GeneralSettingDialog::imageRequest ( bool enable, bool req = false ) [signal]` - signal what can be generated by *checkBoxUseBackgr* and *p↩ ButtonSelectImg*. Parameter *bool enable* used to enable or disable background on a main interface, and parameter *bool req* used to invoke (or not if *false*) QFileDialog to get background image file name. Handled in parent object with setBackGround(...) function.

`void GeneralSettingDialog::langChanged ( int index ) [private], [slot]` - function invoked by QListView widget on changing selected item and emit signal langChangedIndex(...) to call appropriate function in parent object (getLangFile(...)) to change interface language.

`void GeneralSettingDialog::langChangedIndex ( int index ) [signal]` - signal which invoked by langChanged(...) function to call appropriate function in parent object (getLangFile(...)) to change interface language.

`void GeneralSettingDialog::lockUnlockEmail ( ) [private], [slot]` - function called by QPushButton on mail setting tab and used to unlock (or lock) mail settings.

`void GeneralSettingDialog::machineParamChanged ( QByteArray machinePararmArr ) [signal]` - signal which is emitted by function accept(...) and handle by getMachineParam(...) in parent object.

`void GeneralSettingDialog::machineTypeChanget ( int index ) [private], [slot]` - empty function.

`void GeneralSettingDialog::on_checkBoxUseBackgr_clicked ( ) [private], [slot]` - function connected to *cliced()* signal of check box to send signal imageRequest(...) with appropriate parameters.

`void GeneralSettingDialog::on_pButtonHeadsActivation_clicked ( ) [private], [slot]` - function to emit signal headActivationRequest(...) which handle in parent object and call HeadActivationDialog class object.

`void GeneralSettingDialog::on_pButtonSelectImg_clicked ( ) [private], [slot]` - function connected to *cliced()* signal of button to send signal imageRequest(...) with appropriate parameters.

`void GeneralSettingDialog::reject ( ) [private], [slot]` - function to hide dialog without saving settings. Invoked by *Cancel* button.

`void GeneralSettingDialog::sendCommand ( QByteArray command ) [signal]` - signal to send data in *QByteArray* format to handle in parent object and send it to serial port.

`void GeneralSettingDialog::serialPortSettingsDialogRequested ( ) [signal]` - signal which handle in parent object and call SerialSettingsDialog class object.

`void GeneralSettingDialog::serviceSettingRequest ( ) [signal]` - signal emit by changeServiceState↩ Clicked(...) function and handle in parent object (serviceStateChange(...)).

`void GeneralSettingDialog::setEmailSettings() ( EmailSettings emailSett )` - function to set mail parameters and fill appropriate field at dialog.

void GeneralSettingDialog::setFocusLossAccept() (
bool *flag*) - function to enable (or disable) hiding widget when user click beside widget.

void GeneralSettingDialog::setIconFolder() (
QString *path*) - function set folder with icons to change icons theme of current dialog.

void GeneralSettingDialog::setLangList() (
QStringList *langList,*
int *curSelect*) - function to set language list to appropriate field (QListView) and select item which are used in present moment.

void GeneralSettingDialog::setMachineSetting() (
MachineSettings::MachineParameters *machineParam*) - function to set machine parameters to appropriate fields and set two-state buttons to appropriate state which are used in present moment.

void GeneralSettingDialog::setPasswords() (
uint16_t *serialPass,*
uint16_t *mailPass,*
uint16_t *userPass*) - function to set system passwords to private variables, which are used to confirm password what user enter to access to some specific functions.

void GeneralSettingDialog::setStyle() (
QStringList *stList,*
int *curSelect,*
QStringList *iconList,*
int *iconSel,*
bool *backGrEn*) - function to fill widgets for selecting icons and style (QListView) and select item which are used in present moment.

void GeneralSettingDialog::showEvent() (
QShowEvent * *ev*) [protected] - reimplementation of standard function. Used to hide or show some widgets which are not available for user.

void GeneralSettingDialog::showPortInfo() (
ComSettings *comSett*) - function to set serial port parameters to appropriate fields at Serial Port tab.

void GeneralSettingDialog::styleChanged (
int *index*) [private], [slot] - function which are called by QListView *currentRowChanged(int)* signal and emit styleChangedIndex(...) signal.

void GeneralSettingDialog::styleChangedIndex (
int *index*) [signal] - signal which invoked by styleChanged(...) function to call appropriate function in parent object (getVeiwSettings(...)) to change interface colors and style.

void GeneralSettingDialog::unloadStateChanged (
bool *state*) [signal] - signal emitted by useUnloadStateChanged(...) function and handle in parent object by getLoadState(...) function.

void GeneralSettingDialog::userSettingClicked ( ) [private], [slot] - function to emit usersSettingRequest(...) signal which are handle in parent object to show UserSettingDialog class object.

void GeneralSettingDialog::usersSettingRequest ( ) [signal] - signal invoked by useUnloadStateChanged(...) function which are handle in parent object to show UserSettingDialog class object.

void GeneralSettingDialog::useUnloadStateChanged ( ) [private], [slot] - function to emit unloadStateChanged(...) signal which are handle in parent object.

void GeneralSettingDialog::warningTimeChanged (
double *arg1*) [private], [slot] - function to send warning time to machine using machineParamChanged(...) function.

7.8.3 Member Data Documentation

```
bool GeneralSettingDialog::acceptEnable[private]
```

```
bool GeneralSettingDialog::acceptOnDeactilationEn[private]
```

```
QIcon GeneralSettingDialog::directionIcon[private]
```

```
bool GeneralSettingDialog::logedInMail[private]
```

```
bool GeneralSettingDialog::logedInSerial[private]
```

```
bool GeneralSettingDialog::logedInUserSett[private]
```

```
MachineSettings::MachineParameters GeneralSettingDialog::machineParamGl[private]
```

```
uint16_t GeneralSettingDialog::mailPassword[private]
```

```
QString GeneralSettingDialog::pathIcon[private]
```

```
uint16_t GeneralSettingDialog::serialPassword[private]
```

```
uint16_t GeneralSettingDialog::usersPassword[private]
```

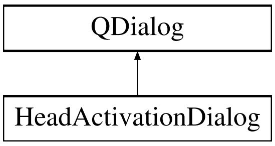
The documentation for this class was generated from the following files:

- generalsettingdialog.h
- generalsettingdialog.cpp

7.9 HeadActivationDialog Class Reference

```
#include <headactivationdialog.h>
```

Inheritance diagram for HeadActivationDialog:



Signals

- void sendCommand (QByteArray cmd)

Public Member Functions

- HeadActivationDialog (int headCount, QWidget ∗parent=0)
- ∼HeadActivationDialog ()
- void setHeadActivState (uint32_t state)
- uint32_t getHeadActivState ()
- bool getHeadActivAtIndex (int index)

Protected Member Functions

- bool event (QEvent ∗e)
- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void pushButtonOK_clicked ()
- void pushButtonCancel_clicked ()
- void headStateChanged (int index)

Private Attributes

- Ui::HeadActivationDialog ∗ ui
- QList< CheckBoxIndexed ∗ > checkBoxList
- int headCount
- uint32_t headActivState
- bool needSendReset

7.9.1 Constructor & Destructor Documentation

7.9.1.1 HeadActivationDialog()

`HeadActivationDialog::HeadActivationDialog ( int headCount, QWidget * parent = 0 ) [explicit]` - class constructor. Used to create widget with headCount QCheckBox widgets to allow user activate (or deactivate) heads.

7.9.1.2 ∼HeadActivationDialog()

`HeadActivationDialog::∼HeadActivationDialog ( )` - standard class destructor.

7.9.2 Member Function Documentation

`void HeadActivationDialog::changeEvent() ( QEvent * event ) [protected]` - reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

`bool HeadActivationDialog::event() ( QEvent * e ) [protected]` - reimplementation of standard function to handle QEvent::WindowDeactivate or QEvent::Leave for automatic invoke pushButtonOK_clicked(...) function on window deactivation.

`bool HeadActivationDialog::getHeadActivAtIndex() ( int index )` - function to get state of head according to given index. Return *bool* value: *true* if head active and *false* if it is not.

`uint32_t HeadActivationDialog::getHeadActivState() ( )` - function return state of heads in 32-bit variable. Position of bit describe head number.

`void HeadActivationDialog::headStateChanged ( int index ) [private], [slot]` - function which called by checkBoxes on window (from checkBoxList). Function update headActivState value and send command to activate (or deactivate) heads to master board with sendCommand (QByteArray cmd) signal.

`void HeadActivationDialog::pushButtonCancel_clicked ( ) [private], [slot]` - function call by *'Cancel'* button and used to hide window. Button, which call function, can be disabled if user must apply changes in settings.

`void HeadActivationDialog::pushButtonOK_clicked ( ) [private], [slot]` - function call by *'OK'* button and used to gather data and hide window.

`void HeadActivationDialog::sendCommand ( QByteArray cmd ) [signal]` - signal to send data in *QByteArray* format to handle in parent object and send it to serial port.

`void HeadActivationDialog::setHeadActivState() ( uint32_t state )` - function to set headActivState value and set checkBoxes on window (from checkBoxList) to appropriate state.

`void HeadActivationDialog::showEvent() ( QShowEvent * ev ) [protected]` - reimplementation of standard event handler; used for update state of checkBoxList items.

7.9.3 Member Data Documentation

`QList<CheckBoxIndexed*> HeadActivationDialog::checkBoxList[private]` - list of redefined QCheckBox class objects. All list items are showed on dialog and used to activate (or deactivate) heads.

`uint32_t HeadActivationDialog::headActivState[private]`

`int HeadActivationDialog::headCount[private]`

`bool HeadActivationDialog::needSendReset[private]`

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

- headactivationdialog.h
- headactivationdialog.cpp

7.10 HeadSetting::HeadComands_ Struct Reference

```
#include <settings.h>
```

Public Attributes

- HeadCommandsEn headCmd

7.10.1 Member Data Documentation

`HeadCommandsEn HeadSetting::HeadComands_::headCmd` - enumerator of commands which are send to head PCB's

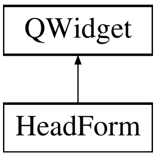
The documentation for this struct was generated from the following file:

- settings.h

7.11 HeadForm Class Reference

```
#include <headform.h>
```

Inheritance diagram for HeadForm:



Public Types

- enum HeadformType_ { HeadPutingOn, HeadRemoving, HeadProcessing }
- enum HeadformState_ { shirtOn, shirtOff, shirtProcessing }
- enum SettBtnPos_ { AtLeftUp, AtLeftDown, AtRightUp, AtRightDown }
- typedef enum HeadForm::HeadformType_ HeadformType
- typedef enum HeadForm::HeadformState_ HeadformState
- typedef enum HeadForm::SettBtnPos_ SettBtnPos

Signals

- void settingButtonCliced (int index)
- void loadStateChanged (int index, LoadState state)

Public Member Functions

- HeadForm (QWidget ∗parent=0)
- ∼HeadForm ()
- void setIndex (int i)
- void setIndexLabelPosition (SettBtnPos position)
- void setPixmap (HeadformState state, QString stStr)
- void setPixmap (HeadformState state)
- void setRagOn (bool state)
- void setIconPath (QString path)
- void setRagColor (QColor color)
- void setStrokCount (int val)
- void setStepBkStrCnt (int val)
- void setDryPower (int val)
- void setOff ()
- HeadformState getRagState ()
- void setHeadformType (HeadformType type)
- HeadformType getHeadformType ()
- QSize getLabelSize ()

Protected Member Functions

- void mousePressEvent (QMouseEvent ∗event)

Private Attributes

- Ui::HeadForm ∗ ui
- QLabel ∗ labelIndex
- QLabel ∗ labelStrokCnt
- QLabel ∗ labelStBkStr
- QImage pixShirtShow
- QImage pixShirtHide
- QImage pixShirtAnimate
- QGraphicsColorizeEffect ∗ graphEffect
- QString pathImage
- int index
- HeadformState headformState
- HeadformType headformType
- QGraphicsScene ∗ grScene
- QGraphicsPixmapItem ∗ grPixLogoItem
- QGraphicsRectItem ∗ grRectBkgrItem
- QRect grSize
- HeadForm::SettBtnPos labelPos

7.11.1 Member Typedef Documentation

```
typedef enum HeadForm::HeadformState_ HeadForm::HeadformState
```

```
typedef enum HeadForm::HeadformType_ HeadForm::HeadformType
```

```
typedef enum HeadForm::SettBtnPos_ HeadForm::SettBtnPos
```

7.11.2 Member Enumeration Documentation

```
enum HeadForm::HeadformState_
```

Enumerator

shirtOn	show rag image on form.
shirtOff	hide rag image on form.
shirtProcessing	show rag image animation on form.

```
enum HeadForm::HeadformType_
```

Enumerator

HeadPutingOn	paint load pallet to appropriate color.
HeadRemoving	paint unload pallet to appropriate color.
HeadProcessing	paint processing pallet to appropriate color.

`enum HeadForm::SettBtnPos_` - describe position of labelIndex, labelStrokCnt and labelStBkStr

Enumerator

AtLeftUp	
AtLeftDown	
AtRightUp	
AtRightDown	

7.11.3 Constructor & Destructor Documentation

7.11.3.1 HeadForm()

`HeadForm::HeadForm (`
`QWidget * parent = 0 )` - constructor of class. Create QWidget class object, initialize QLabel 's, QGraphicScene etc.

7.11.3.2 ∼HeadForm()

`HeadForm::∼HeadForm ( )` - standard class destructor.

7.11.4 Member Function Documentation

`HeadForm::HeadformType HeadForm::getHeadformType ( )` - function to get head type. Return one of HeadformType_ values.

`QSize HeadForm::getLabelSize ( )` - return size of QGraphicView object in pixels.

`HeadForm::HeadformState HeadForm::getRagState ( )` - return state of pallet (HeadformState_ value).

`void HeadForm::loadStateChanged (`
`int index,`
`LoadState state ) [signal]` - signal what emit by mousePressEvent function if headformType is HeadProcessing on mouse click. Signal handle in parent object.

`void HeadForm::mousePressEvent (`
`QMouseEvent * event ) [protected]` - reimplementation of standard mouse event handler. Used to change state of pallet with setPixmap(...) function and emit loadStateChanged(...) signal to handle in parent object by getLoadState(...) function.

`void HeadForm::setDryPower (`
`int val )` - set text to *labelStrokCnt* to display on screen.

`void HeadForm::setHeadformType (`
`HeadForm::HeadformType type )` - set variable headformType value to paint form to appropriate style and use it in future work.

`void HeadForm::setIconPath (`
`QString path )` - function to change folder with icons which used on view and update icons.

void HeadForm::setIndex (
int *i*) - function to set index value and put number on labelIndex. Used in future.

void HeadForm::setIndexLabelPosition (
HeadForm::SettBtnPos *position*) - function to set labelPos and set labelIndex, labelStrokCnt and labelStBkStr labels positions.

void HeadForm::setOff ( ) - print *"OFF"* text on labelStrokCnt to indicate that head is turned off.

void HeadForm::setPixmap() [1/2] (
HeadformState *state,*
QString *stStr*) - set value *state* to headformState variable and style of widget with *stStr*.

void HeadForm::setPixmap() [2/2] (
HeadForm::HeadformState *state*) - polymorphic function. Call setPixmap(HeadformState state, QString stStr) with *state* and current style.

void HeadForm::setRagColor() (
QColor *color*) - set QGraphicsColorizeEffect to rag image.

void HeadForm::setRagOn() (
bool *state*) - function to set or remove rag image from pallet using setPixmap (...) function.

void HeadForm::setStepBkStrCnt() (
int *val*) - function to set text on labelStBkStr or hide it if *val* = 0.

void HeadForm::setStrokCount() (
int *val*) - function to set text on labelStrokCnt or hide it if *val* = 0.

void HeadForm::settingButtonCliced (
int *index*) [signal] - unused signal.

7.11.5 Member Data Documentation

QGraphicsColorizeEffect* HeadForm::graphEffect [private] - object of QGraphicsColorizeEffect class effect. Allow user to colorize items. Used under grPixLogoItem object.

QGraphicsPixmapItem* HeadForm::grPixLogoItem [private] - object of QGraphicsPixmapItem which are used to display image on grScene.

QGraphicsRectItem* HeadForm::grRectBkgrItem [private] - object of QGraphicsRectItem contained by gr↩ Scene to allow put background color (or color gradient) to graphic scene.

QGraphicsScene* HeadForm::grScene [private] - main graphic object on widget contained by graphicsView (graphicsView created in QtDesigner). Allow add all graphic object to widget, colorize them and change styles.

QRect HeadForm::grSize [private] - QRect class object which to create grRectBkgrItem object in constructor HeadForm(...)

HeadformState HeadForm::headformState [private] - variable to contain state of headForm. Sets by set↩ Pixmap(...) polymorphic function, get by getRagState function.

HeadformType HeadForm::headformType [private] - variable to contain type of headForm. Sets by set↩ HeadformType(...) function, get by getHeadformType function.

int HeadForm::index [private] - variable to contain number of headForm. Used in loadStateChanged (...) to send it to parent object. Sets by setIndex function.

`QLabel* HeadForm::labelIndex[private]` - QLabel class object. Used to display number of headForm (index variable).

`HeadForm::SettBtnPos HeadForm::labelPos[private]` - variable to contain position of labelIndex, labelStrok←Cnt and labelStBkStr labels positions. Sets by setIndexLabelPosition(...) function.

`QLabel * HeadForm::labelStBkStr[private]` - QLabel class object. Used to display strokes count in step back mode for current head.

`QLabel * HeadForm::labelStrokCnt[private]` - - QLabel class object. Used to display strokes count for current head.

`QString HeadForm::pathImage[private]` - variable to contain path to image which are load to pixShirtShow, pixShirtHide and pixShirtAnimate. Sets by setIconPath(...) function.

- `QImage HeadForm::pixShirtAnimate[private]`
- `QImage HeadForm::pixShirtHide[private]`
- `QImage HeadForm::pixShirtShow[private]`

  QImage objects. Contain images to set it to grPixLogoItem

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

- headform.h
- headform.cpp

7.12 HeadSetting::HeadParameters_ Struct Reference

```
#include <settings.h>
```

Public Member Functions

- QByteArray toByteArray ()

Public Attributes

- uint16_t headOnType
- uint16_t powerOn
- uint16_t speedRear
- uint16_t speedFront
- uint16_t stroksCount
- uint16_t stroksSBCount
- uint16_t limitRear
- uint16_t limitFront
- uint16_t dwellFLTime
- uint16_t dwellSQTime
- uint16_t heatTime1
- uint16_t heatTime2
- uint16_t heatPower
- uint16_t heatLimit
- uint16_t heatTime1Q
- uint16_t heatTime2Q
- uint16_t dryPowerQ
- uint16_t stepbackDryTimeQ
- uint16_t temperatureSetQ
- uint16_t dryTimeQ
- uint16_t standbyTimeQ
- uint16_t standbyPowerQ
- uint16_t warmFlashTimeQ
- uint32_t inkColor

7.12.1 Member Function Documentation

`QByteArray HeadSetting::HeadParameters_::toByteArray ( )` - function to gather all structure items to QByteArray to have possibility save data on hard drive in compact format.

7.12.2 Member Data Documentation

Fields of structure which contain parameters of head of machine.

- `uint16_t HeadSetting::HeadParameters_::dryPowerQ`
- `uint16_t HeadSetting::HeadParameters_::dryTimeQ`
- `uint16_t HeadSetting::HeadParameters_::dwellFLTime`
- `uint16_t HeadSetting::HeadParameters_::dwellSQTime`
- `uint16_t HeadSetting::HeadParameters_::headOnType`
- `uint16_t HeadSetting::HeadParameters_::heatLimit`
- `uint16_t HeadSetting::HeadParameters_::heatPower`
- `uint16_t HeadSetting::HeadParameters_::heatTime1`
- `uint16_t HeadSetting::HeadParameters_::heatTime1Q`
- `uint16_t HeadSetting::HeadParameters_::heatTime2`
- `uint16_t HeadSetting::HeadParameters_::heatTime2Q`
- `uint32_t HeadSetting::HeadParameters_::inkColor`
- `uint16_t HeadSetting::HeadParameters_::limitFront`
- `uint16_t HeadSetting::HeadParameters_::limitRear`
- `uint16_t HeadSetting::HeadParameters_::powerOn`
- `uint16_t HeadSetting::HeadParameters_::speedFront`
- `uint16_t HeadSetting::HeadParameters_::speedRear`
- `uint16_t HeadSetting::HeadParameters_::standbyPowerQ`
- `uint16_t HeadSetting::HeadParameters_::standbyTimeQ`
- `uint16_t HeadSetting::HeadParameters_::stepbackDryTimeQ`
- `uint16_t HeadSetting::HeadParameters_::stroksCount`
- `uint16_t HeadSetting::HeadParameters_::stroksSBCount`
- `uint16_t HeadSetting::HeadParameters_::temperatureSetQ`
- `uint16_t HeadSetting::HeadParameters_::warmFlashTimeQ`

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

- settings.h
- settings.cpp

7.13 Register::HeadReg_ Union Reference

```
#include <settings.h>
```

Classes

- struct reg

Public Attributes

- struct Register::HeadReg_::reg field
- uint16_t memBeg

7.13.1 Member Data Documentation

`struct Register::HeadReg_::reg Register::HeadReg_::field` - fields of Register::HeadReg_::reg structure to give possibility to access to memory by name.

`uint16_t Register::HeadReg_::memBeg` - variable to notice beginning of memory region of structure.

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

- settings.h

7.14 HeadSetting Class Reference

```
#include <settings.h>
```

Classes

- struct HeadComands_
- struct HeadParameters_

Public Types

- enum {
  - HeadDeviceAdrOffcet = 0x0002

  }
- enum {
  - HeadOn = 0x01,
  - HeadSpeedRear = 0x02,
  - HeadSpeedFront = 0x03,
  - HeadFlDwellTime = 0x04,
  - HeadSqDwellTime = 0x05,
  - HeadStroksCount = 0x06,
  - HeadFlashTime1Q = 0x07,
  - HeadFlashTime2Q = 0x08,
  - HeadSBStroksCount = 0x0E,
  - HeadHoldOnOff = 0x14,
  - HeadRangeLimit1 = 0x16,
  - HeadRangeLimit2 = 0x17,
  - HeadHeatTemper = 0x18,
  - HeadHeatTimeIR = 0x19,
  - HeadFlashPowerStBy = 0x1A,
  - HeadFlashTimeStBy = 0x1B,
  - HeadFlashPowerWtoutIR = 0x1D,
  - HeadHeatWarmTime = 0x1F,
  - HeadFlashWarmTime = 0x20,
  - HeadHeadType = 0x21,
  - HeadPowerOn = 0x01,
  - HeadHeatDryRange,
  - HeadHeatTime1IR,
  - HeadHeatTime2IR

  }
- enum HeadOnType_ {
  - PrintHeadOff = 0x0001,
  - PrintHeadOn,
  - QuartzHeadOff,
  - QuartzHeadOn,
  - InfraRedHeadOff,
  - InfraRedHeadOn

  }
- enum HeadCommandsEn_ {
  - Idle = 0,
  - Head_OnOff = 0x01F4,
  - ChangeRagState = 0x0190,
  - MoveRear = 0x0672,
  - MoveFront,

  - MoveTest,
  - SQ,
  - FL,
  - SQ_FL,
  - Hold_Off,
  - Hold_On,
  - TeachPosition1,
  - TeachPosition2,
  - SQ_FL_UpDown,
  - MPT_Move,
  - PressureSQ = 0x005A,
  - AirRelease = 0x005A,
  - TimeSelect_1 = 0x025B,
  - TimeSelect_2,
  - TimeSelect_3,
  - Stepback,
  - Plast_water,
  - Preheat,
  - IndexHere,
  - SensorOn_Off,
  - TemperatureUnit,
  - WarmFlash,
  - HeatTest

  }
- typedef enum HeadSetting::HeadOnType_ HeadOnType
- typedef struct HeadSetting::HeadParameters_ HeadParameters
- typedef enum HeadSetting::HeadCommandsEn_ HeadCommandsEn
- typedef struct HeadSetting::HeadComands_ HeadComands

Public Member Functions

- void fromByteArray (QByteArray hParamArr)
- HeadParameters operator= (HeadParameters hParam)
- HeadSetting (HeadParameters hParam)
- HeadSetting ()
- ∼HeadSetting ()

Static Public Member Functions

- static uint16_t getHeadStateLo ()
- static uint16_t getHeadStateHi ()
- static bool getHeadStateAtIndex (uint8_t index)
- static void setHeadOn_OffStateInd (uint8_t index, bool state)

Public Attributes

- HeadParameters headParam

Static Public Attributes

- static uint32_t headStateAll

7.14.1 Member Typedef Documentation

7.14.1.1 HeadComands

```
typedef struct HeadSetting::HeadComands_ HeadSetting::HeadComands
```

7.14.1.2 HeadCommandsEn

```
typedef enum HeadSetting::HeadCommandsEn_ HeadSetting::HeadCommandsEn
```

7.14.1.3 HeadOnType

```
typedef enum HeadSetting::HeadOnType_ HeadSetting::HeadOnType
```

7.14.1.4 HeadParameters

```
typedef struct HeadSetting::HeadParameters_ HeadSetting::HeadParameters
```

7.14.2 Member Enumeration Documentation

`anonymous enum`

Describe address of zero head. First head will have address 0x0003 and so on.

Enumerator

HeadDeviceAdrOffcet	0x0002

`anonymous enum`

Describe address of data places for every head. Name of enumerator item describe parameter which are sends to head PCB.

Enumerator

HeadOn	0x01
HeadSpeedRear	0x02
HeadSpeedFront	0x03
HeadFlDwellTime	0x04
HeadSqDwellTime	0x05
HeadStroksCount	0x06
HeadFlashTime1Q	0x07
HeadFlashTime2Q	0x08
HeadSBStroksCount	0x0E

Enumerator

HeadHoldOnOff	0x14
HeadRangeLimit1	0x16
HeadRangeLimit2	0x17
HeadHeatTemper	0x18
HeadHeatTimeIR	0x19
HeadFlashPowerStBy	0x1A
HeadFlashTimeStBy	0x1B
HeadFlashPowerWtoutIR	0x1D
HeadHeatWarmTime	0x1F
HeadFlashWarmTime	0x20
HeadHeadType	0x21
HeadPowerOn	0x01
HeadHeatDryRange	ND
HeadHeatTime1IR	ND
HeadHeatTime2IR	ND

`enum HeadSetting::HeadCommandsEn_`

Enumerator, which written to create names of data what must be send to execute commands for head.

Enumerator

Idle	0
Head_OnOff	0x01F4
ChangeRagState	0x0190
MoveRear	0x0762
MoveFront	0x0763
MoveTest	0x0764
SQ	0x0765
FL	0x0766
SQ_FL	0x0767
Hold_Off	0x0768
Hold_On	0x0769
TeachPosition1	0x076A
TeachPosition2	0x076B
SQ_FL_UpDown	0x076C
MPT_Move	0x076D
PressureSQ	0x005A
AirRelease	0x005B
TimeSelect_1	0x005C
TimeSelect_2	0x005D
TimeSelect_3	0x005E
Stepback	0x005F
Plast_water	0x0060
Preheat	0x0061
IndexHere	0x0062
SensorOn_Off	0x0063
TemperatureUnit	0x0064
WarmFlash	0x0065
HeatTest	0x0066

`enum HeadSetting::HeadOnType_`

Enumerator describe data which put to headOnType variable to set head type and head state.

Enumerator

PrintHeadOff	0x0001
PrintHeadOn	0x0002
QuartzHeadOff	0x0003
QuartzHeadOn	0x0004
InfraRedHeadOff	0x0005
InfraRedHeadOn	0x0006

7.14.3 Constructor & Destructor Documentation

```
HeadSetting::HeadSetting[1/2] (
            HeadParameters hParam )
```
- constructor of class. In this variant of constructor new object fields of headParam variable will fill with *hParam* structure fields.

`HeadSetting::HeadSetting[2/2] ( )` - constructor of class. In this variant of constructor new object fields of headParam variable will fill with default values.

`HeadSetting::∼HeadSetting ( )` - standard class destructor.

7.14.4 Member Function Documentation

```
void HeadSetting::fromByteArray (
            QByteArray hParamArr )
```
- function to fill fields of headParam variable with data obtained from *hParamArr* array.

```
bool HeadSetting::getHeadStateAtIndex (
            uint8_t index ) [static]
```
- function to get state (on or off) of head. State is reading from headStateAll variable. Parameter *index* describe number of bit in headStateAll which will be returned.

`uint16_t HeadSetting::getHeadStateHi ( ) [static]` - function to get two highest bytes of headStateAll variable.

`uint16_t HeadSetting::getHeadStateLo ( ) [static]`- function to get two lowest bytes of headStateAll variable.

```
HeadSetting::HeadParameters HeadSetting::operator= (
            HeadSetting::HeadParameters hParam )
```
- reimplementation of equality operator to copy *hParam* fields to fields of headParam variable.

```
void HeadSetting::setHeadOn_OffStateInd (
            uint8_t index,
            bool state ) [static]
```
- function to set one bit of headStateAll to *state* at *index* position.

7.14.5 Member Data Documentation

`HeadParameters HeadSetting::headParam`

`uint32_t HeadSetting::headStateAll [static]`

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

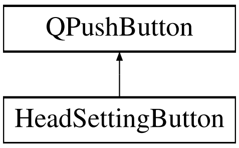
- settings.h
- settings.cpp

7.15 HeadSettingButton Class Reference

Reimplementation of class of QPushButton. Added index variable and signal thisClicked(...)

```
#include <headform.h>
```

Inheritance diagram for HeadSettingButton:



Signals

- void settingButtonCliced (int index)

Public Member Functions

- HeadSettingButton (unsigned int inputNumber, QWidget ∗parent=0)
- void setIconPath (QString path)

Private Slots

- void thisClicked ()

Private Attributes

- unsigned int index

7.15.1 Constructor & Destructor Documentation

```
HeadSettingButton::HeadSettingButton (
            unsigned int inputNumber,
            QWidget * parent = 0 ) [inline]
```

- constructor of class. Create widget and set index variable

7.15.2 Member Function Documentation

```
void HeadSettingButton::setIconPath (
            QString path ) [inline]
```

- function to update icon on button.

```
void HeadSettingButton::settingButtonCliced (
            int index ) [signal]
```

signal what emitted by thisClicked function and handle in parent object by headSettingRequest(...) function.

```
void HeadSettingButton::thisClicked ( ) [inline], [private], [slot]
```

- function which called by standard *QPushButton* clicked() signal.

7.15.3 Member Data Documentation

```
unsigned int HeadSettingButton::index[private]
```

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

- headform.h

7.16 IndexerLiftSettings Class Reference

```
#include <settings.h>
```

Classes

- struct IndexParameters_
- struct LiftParameters_

Public Types

- enum Devices {
  - LiftDevice = 0x0002,
  - IndexerDevice = 0x0001

  }
- enum IndexerLiftDataPlaces {
  - IndexHomeOffset = 0x01,
  - IndexDistOffcet = 0x02,
  - IndexSpeed = 0x03,
  - IndexDirection = 0x04,
  - IndexStepTimeDelay = 0x06,
  - LiftDelayDown = 0x1C,
  - LiftDelayUp = 0x07,
  - IndexDistance = 0x08,
  - IndexLastRevolvWarm = 0x09,
  - IndexAcceleration = 0x0A,
  - IndexAccelerationRet = 0x0B,
  - IndexSpeedRet = 0x0D,
  - WarningTime = 0x0E,
  - LiftHomeOffcet = 0x15,
  - LiftDistance = 0x16,
  - LiftSpeed = 0x17,
  - LiftAcceleration = 0x18,
  - LoadHeadState = 0x1F

  }
- enum IndexerCommandsEn_ {
  - Machine_Reset = 0x0001,
  - Machine_Home = 0x0009,
  - IndexLock = 0x000A,
  - IndexUnLock = 0x000A,
  - MoveUp_Down = 0x0006,
  - MoveLeft = 0x0005,
  - MoveRight = 0x0007,
  - MoveLeftHalf = 0x0005,
  - MoveRightHalf = 0x0007,
  - MoveFull_Half = 0x0004,
  - Auto_Manual = 0x0008,
  - PrintStart = 0x000B,
  - PrintStop = 0x000B,
  - AirRelease = 0x005A,
  - EasySetup = 0x08,
  - IndexMoveHome = 0x005B,
  - IndexMoveEnd = 0x005C,
  - LiftMoveHome = 0x00B8,
  - LiftMoveEnd = 0x00B9,
  - IndexDirChange = 0x005D

  }
- typedef struct IndexerLiftSettings::LiftParameters_ LiftParameters
- typedef struct IndexerLiftSettings::IndexParameters_ IndexParameters
- typedef enum IndexerLiftSettings::IndexerCommandsEn_ IndexerCommandsEn

Public Member Functions

- IndexerLiftSettings (IndexParameters indParam, LiftParameters lifParam)
- IndexerLiftSettings ()
- void fromByteArray (QByteArray indParamArr, QByteArray lifParamArr)

Public Attributes

- IndexParameters indexerParam
- LiftParameters liftParam

7.16.1 Member Typedef Documentation

```
typedef enum IndexerLiftSettings::IndexerCommandsEn_ IndexerLiftSettings::IndexerCommandsEn
```

```
typedef struct IndexerLiftSettings::IndexParameters_ IndexerLiftSettings::IndexParameters
```

```
typedef struct IndexerLiftSettings::LiftParameters_ IndexerLiftSettings::LiftParameters
```

7.16.2 Member Enumeration Documentation

`enum IndexerLiftSettings::Devices` - enumerator which contain device addresses of lift and indexer.

Enumerator

LiftDevice	0x0002
IndexerDevice	0x0001

`enum IndexerLiftSettings::IndexerCommandsEn_` - enumerator, which written to create names of data what must be send to execute commands for indexer and lift device.

Enumerator

Machine_Reset	0x0001
Machine_Home	0x0009
IndexLock	0x000A
IndexUnLock	0x000A
MoveUp_Down	0x0006
MoveLeft	0x0005
MoveRight	0x0007
MoveLeftHalf	0x0005
MoveRightHalf	0x0007
MoveFull_Half	0x0004
Auto_Manual	0x0008
PrintStart	0x000B
PrintStop	0x000B
AirRelease	0x005A
EasySetup	0x0008
IndexMoveHome	0x005B

Enumerator

IndexMoveEnd	0x005C
LiftMoveHome	0x00B8
LiftMoveEnd	0x00B9
IndexDirChange	0x005D

`enum IndexerLiftSettings::IndexerLiftDataPlaces` - Enumerator describe address of data places for indexer and lift device. Name of enumerator item describe parameter which are sends to PCB.

Enumerator

IndexHomeOffset	0x01
IndexDistOffcet	0x02
IndexSpeed	0x03
IndexDirection	0x04
IndexStepTimeDelay	0x06
LiftDelayDown	0x1C
LiftDelayUp	0x07
IndexDistance	0x08
IndexLastRevolvWarm	0x09
IndexAcceleration	0x0A
IndexAccelerationRet	0x0B
IndexSpeedRet	0x0D
WarningTime	0x0E
LiftHomeOffcet	0x15
LiftDistance	0x16
LiftSpeed	0x17
LiftAcceleration	0x18
LoadHeadState	0x1F

7.16.3 Constructor & Destructor Documentation

```
IndexerLiftSettings::IndexerLiftSettings[1/2] (
            IndexerLiftSettings::IndexParameters indParam,
            IndexerLiftSettings::LiftParameters lifParam )
```
- class constructor with data initialization. Initialize indexerParam and liftParam with given data.

`IndexerLiftSettings::IndexerLiftSettings[2/2] ( )` - empty class constructor. Initialize indexerParam and liftParam with default parameters.

7.16.4 Member Function Documentation

```
void IndexerLiftSettings::fromByteArray (
            QByteArray indParamArr,
            QByteArray lifParamArr )
```
- fill fields of indexerParam and liftParam with data parsed from given *QByteArray*'s.

7.16.5 Member Data Documentation

```
IndexParameters IndexerLiftSettings::indexerParam
```

```
LiftParameters IndexerLiftSettings::liftParam
```

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

- settings.h
- settings.cpp

7.17 Register::IndexerReg_ Union Reference

`#include <settings.h>`

Classes

- struct reg

Public Attributes

- struct Register::IndexerReg_::reg field
- uint16_t memBeg

7.17.1 Member Data Documentation

`struct Register::IndexerReg_::reg Register::IndexerReg_::field` - fields of Register::IndexerReg_::reg structure to give possibility to access to memory by name.

`uint16_t Register::IndexerReg_::memBeg` - variable to notice beginning of memory region of structure.

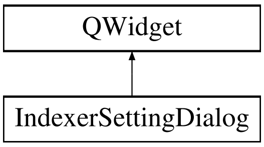
The documentation for this union was generated from the following file:

- settings.h

7.18 IndexerSettingDialog Class Reference

```
#include <indexersettingdialog.h>
```

Inheritance diagram for IndexerSettingDialog:



Signals

- void indexerParamChanged (QByteArray indexParamArr)
- void liftParamChanged (QByteArray liftParamArr)
- void sendCommand (QByteArray command)
- void liftDistanceChanged (float distance)

Public Member Functions

- IndexerSettingDialog (QWidget ∗parent=0)
- ∼IndexerSettingDialog ()
- void setRegisters (Register ∗reg)
- void setIndexerSetting (bool disconnect=true)
- void setLiftSetting (bool disconnect=true)
- void setIndexerSetting (IndexerLiftSettings::IndexParameters indexParam, bool disconnect=true)
- void setLiftSetting (IndexerLiftSettings::LiftParameters liftParam, bool disconnect=true)
- void setLiftDistance (float distance, int liftGearRatio)
- float getLiftDistance ()
- void setLiftGearRatio (uint32_t liftGearRatio)

Protected Member Functions

- bool event (QEvent ∗e)
- bool eventFilter (QObject ∗watched, QEvent ∗event)
- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void connectAll ()
- void disconnectAll ()
- void accept ()
- void reject ()
- void eventFilterSetup ()
- void dSpinBoxIndexDistance_valueChanged (double arg1)
- void spinBoxIndexHomeOffset_valueChanged (double arg1)
- void spinBoxIndexDistanceOffcet_valueChanged (double arg1)
- void spinBoxIndexSpeed_valueChanged (double arg1)
- void dSpinBoxIndexAccel_valueChanged (double arg1)

- void spinBoxindexSpeedRet_valueChanged (double arg1)
- void dSpinBoxIndexAccelRet_valueChanged (double arg1)
- void dSpinBoxLiftDownDelay_valueChanged (double arg1)
- void dSpinBoxLiftUpDelay_valueChanged (double arg1)
- void dSpinBoxLiftDistance_valueChanged (double arg1)
- void spinBoxLiftHomeOffset_valueChanged (double arg1)
- void spinBoxLiftSpeed_valueChanged (double arg1)
- void dSpinBoxLiftAccel_valueChanged (double arg1)
- void on_pButtonLiftMove_clicked ()
- void on_pButtonLiftHome_clicked ()
- void on_pButtonIndexMove_clicked ()
- void on_pButtonIndexHome_clicked ()

Private Attributes

- Ui::IndexerSettingDialog ∗ ui
- bool acceptOnDeactilationEn
- bool acceptEnable
- uint32_t liftGearRatio
- Register ∗ registers

7.18.1 Constructor & Destructor Documentation

`IndexerSettingDialog::IndexerSettingDialog ( QWidget * parent = 0 ) [explicit]` - standard QWidget constructor.

`IndexerSettingDialog::∼IndexerSettingDialog ( )` - standard QWidget destructor.

7.18.2 Member Function Documentation

`void IndexerSettingDialog::accept ( ) [private], [slot]` - function to collect all data from QSpinBoxes to save it at hard drive. Function emit two signals with data indexerParamChanged(...) and liftParamChanged(...) which are handle in parent object. Function invoke by *OK* button and from event (...) when window lost focus or deactivated.

`void IndexerSettingDialog::changeEvent ( QEvent * event ) [protected]`- Reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

`void IndexerSettingDialog::connectAll ( ) [private], [slot]` - function what is used to connect all widgets signals to appropriate functions.

`void IndexerSettingDialog::disconnectAll ( ) [private], [slot]` - function what is used to disconnect all widgets signals to appropriate functions.

All functions in next block used to send parameters to master PCB to configure machine. Method of data packing described in Register class reference.

- `void IndexerSettingDialog::dSpinBoxIndexAccel_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxIndexAccelRet_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxIndexDistance_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxLiftAccel_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxLiftDistance_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxLiftDownDelay_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::dSpinBoxLiftUpDelay_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::spinBoxIndexDistanceOffcet_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::spinBoxIndexHomeOffset_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::spinBoxIndexSpeed_valueChanged ( double arg1 ) [private], [slot]`
- `void IndexerSettingDialog::spinBoxindexSpeedRet_valueChanged ( double arg1 ) [private], [slot]`

`void IndexerSettingDialog::spinBoxLiftHomeOffset_valueChanged ( double arg1 ) [private], [slot]`

`void IndexerSettingDialog::spinBoxLiftSpeed_valueChanged ( double arg1 ) [private], [slot]`

`bool IndexerSettingDialog::event ( QEvent * e ) [protected]` - reimplementation of standard function to handle *QEvent::WindowDeactivate* or *QEvent::Leave* for automatic invoke of accept(...) function on window deactivation.

`bool IndexerSettingDialog::eventFilter ( QObject * watched, QEvent * event ) [protected]` - reimplementation of standard function to handle *QEvent:: MouseButtonDblClick* or *QEvent::MouseButtonRelease* events to call NumpadDialog or KeyboardDialog to enter data to appropriate widgets. Widgets which will call this function are defined in eventFilterSetup(...) function.

`void IndexerSettingDialog::eventFilterSetup ( ) [private], [slot]` - function to configure widgets on dialog to use eventFilter (...).

`float IndexerSettingDialog::getLiftDistance ( )` - function to get lift distance parameter. Used in parent object.

`void IndexerSettingDialog::indexerParamChanged ( QByteArray indexParamArr ) [signal]` - signal which is emitted by function accept(...) and handle by getIndexerParam(...) in parent object.

`void IndexerSettingDialog::liftDistanceChanged ( float distance ) [signal]` - signal which is emitted by function dSpinBoxLiftDistance_valueChanged(...) and handle by getLiftDistance(...) in parent object to update value at pallet distance spinBox.

`void IndexerSettingDialog::liftParamChanged ( QByteArray liftParamArr ) [signal]` - signal which is emitted by function accept(...) and handle by getLiftParam(...) in parent object.

Functions in next block used to send commands to master PCB to move parst of machine. Method of commands data packing described in Register class reference.

- `void IndexerSettingDialog::on_pButtonIndexHome_clicked ( )[private], [slot]`
- `void IndexerSettingDialog::on_pButtonIndexMove_clicked ( )[private], [slot]`
- `void IndexerSettingDialog::on_pButtonLiftHome_clicked ( )[private], [slot]`
- `void IndexerSettingDialog::on_pButtonLiftMove_clicked ( )[private], [slot]`

`void IndexerSettingDialog::reject ( )[private], [slot]` - function to hide dialog without data saving.

`void IndexerSettingDialog::sendCommand (`
`QByteArray command )[signal]`- signal to send data in QByteArray format to handle in parent object and send it to serial port.

`void IndexerSettingDialog::setIndexerSetting[1/2] (`
`bool disconnect = true )` - polymorphic function to set(or update) spinBox values on indexer tab of dialog . In this variant of function data will take from Register::IndexerReg_::reg and set to appropriate widgets at dialog. Boolean variable *disconnect* describe does program must call disconnectAll(...) function or not.

`void IndexerSettingDialog::setIndexerSetting()[2/2] (`
`IndexerLiftSettings::IndexParameters indexParam,`
`bool disconnect = true )` - polymorphic function to set(or update) spinBox values on indexer tab of dialog. In this variant of function data will take from *indexParam* variable, given in parameters. Boolean variable *disconnect* describe does program must call disconnectAll(...) function or not.

`void IndexerSettingDialog::setLiftDistance() (`
`float distance,`
`int liftGearRatio )` - function to update *lift distance* parameter with *distance* parameter.

`void IndexerSettingDialog::setLiftGearRatio (`
`uint32_t liftGearRatio )` - function to set value of liftGearRatio variable.

`void IndexerSettingDialog::setLiftSetting [1/2] (`
`bool disconnect = true )` - polymorphic function to set(or update) spinBox values on lift tab of dialog . In this variant of function data will take from Register::LiftReg_::reg and set to appropriate widgets at dialog. Boolean variable *disconnect* describe does program must call disconnectAll(...) function or not.

`void IndexerSettingDialog::setLiftSetting [2/2] (`
`IndexerLiftSettings::LiftParameters liftParam,`
`bool disconnect = true )` - polymorphic function to set(or update) spinBox values on indexer tab of dialog. In this variant of function data will take from *liftParam* variable, given in parameters. Boolean variable *disconnect* describe does program must call disconnectAll(...) function or not.

`void IndexerSettingDialog::setRegisters (`
`Register * reg )` - function to set pointer to Register class object. In a whole program used only one sample of class and pointer (registers) set from parent object.

`void IndexerSettingDialog::showEvent (`
`QShowEvent * ev )[protected]`- reimplementation of standard function. Used to hide or show some widgets which are not available for user.

7.18.3 Member Data Documentation

```
bool IndexerSettingDialog::acceptEnable[private]
```

```
bool IndexerSettingDialog::acceptOnDeactilationEn[private]
```

```
uint32_t IndexerSettingDialog::liftGearRatio[private]
```

```
Register* IndexerSettingDialog::registers[private]
```

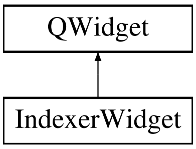
The documentation for this class was generated from the following files:

- indexersettingdialog.h
- indexersettingdialog.cpp

7.19 IndexerWidget Class Reference

```
#include <indexerwidget.h>
```

Inheritance diagram for IndexerWidget:



Public Slots

- void printFinish ()
- void printStart ()
- void setState (u_int16_t state)
- void resetWidget ()

Signals

- void settingButtonCliced ()
- void sendCommand (QByteArray command)
- void resetRequest ()
- void startPrint (bool isAuto)
- void stopPrint ()

Public Member Functions

- IndexerWidget (QWidget ∗parent=0)
- ∼IndexerWidget ()
- bool getIsAutoPrint ()
- void setIconFolder (QString path)
- void clickButton (QByteArray data)

Protected Member Functions

- virtual void resizeEvent (QResizeEvent ∗e)
- void changeEvent (QEvent ∗event)

Private Slots

- void on_pButtonLock_clicked ()
- void on_pButtonMove_clicked ()
- void on_pButtonAuto_clicked ()
- void on_pButtonPrint_clicked ()
- void on_pButtonMoveLeft_clicked ()
- void on_pButtonMoveUp_clicked ()
- void on_pButtonMoveRight_clicked ()
- void on_pButtonReset_clicked ()
- void on_pButtonHome_clicked ()
- void settingPButtonClicSlot ()
- void on_pButtonAir_clicked ()

Private Attributes

- Ui::IndexerWidget ∗ ui
- QPushButton ∗ pButtonSets
- int halfCounter
- bool isAutoPrintEnable
- QString pathIcon
- MachineSettings::MachineState machineState

7.19.1 Constructor & Destructor Documentation

`IndexerWidget::IndexerWidget ( QWidget ∗ parent = 0 ) [explicit]` - standard QWidget constructor. In constructor initialized pButtonSets, resize it and move it to it's place.

`IndexerWidget::∼IndexerWidget ( )` - standard QWidget destructor.

7.19.2 Member Function Documentation

`void IndexerWidget::changeEvent ( QEvent ∗ event ) [protected]` - Reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

`void IndexerWidget::clickButton ( QByteArray data )` - function to imitate clicking of button. Which button will be clicked is selecting by contents of *data*.

`bool IndexerWidget::getIsAutoPrint ( )` - return state of pButtonAuto. Used in parent object.

Functions in next block used to send commands to master PCB to control machine. Data in package tacked from IndexerCommandsEn enumerator. Method of commands data packing described in Register class reference.

- `void IndexerWidget::on_pButtonAir_clicked ( ) [private], [slot]` -
- `void IndexerWidget::on_pButtonAuto_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonHome_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonLock_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonMove_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonMoveLeft_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonMoveRight_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonMoveUp_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonPrint_clicked ( ) [private], [slot]`
- `void IndexerWidget::on_pButtonReset_clicked ( ) [private], [slot]`

---

void IndexerWidget::printFinish ( ) [slot] - unused function.

void IndexerWidget::printStart ( ) [slot] - unused function.

void IndexerWidget::resetRequest ( ) [signal] - signal which emit by on_pButtonReset_clicked(...) function and handle in parent object by resetMachine(...) function.

void IndexerWidget::resetWidget ( ) [slot] - function to return buttons on widget to initial state.

void IndexerWidget::resizeEvent() (
QResizeEvent * *e*) [protected], [virtual] - reimplementation of standard function to move setting button to new place after widget resize. Function call automatically.

void IndexerWidget::sendCommand (
QByteArray *command*) [signal]- signal to send data in QByteArray format to handle in parent object and send it to serial port.

void IndexerWidget::setIconFolder (
QString *path*)- function to change folder with icons which used on view and update icons. Icon path written to pathIcon variable.

void IndexerWidget::setState (
u_int16_t *state*) [slot] - function to set state of widget. State describe which buttons will be enabled or disabled, visible or hidden. State of widget sets by master board of machine, when Register::Master↩ Reg_::reg field masterReg_EKR updates its value.

void IndexerWidget::settingButtonCliced ( ) [signal] - signal which emitted by settingPButtonClicSlot(...) function and handle in parent object by indexerLiftSettingRequest(...) function.

void IndexerWidget::settingPButtonClicSlot ( ) [private], [slot] - function which called by pButton↩ Sets click signal and emit settingButtonCliced(...) signal.

void IndexerWidget::startPrint (
bool *isAuto*) [signal] - signal which handle in parent object by startPrintProcess(...) function.

void IndexerWidget::stopPrint ( ) [signal] - signal which handle in parent object by stopPrintProcess(...) function.

7.19.3 Member Data Documentation

int IndexerWidget::halfCounter [private] - variable which contain count of steps in half mode to hide/show pButtonMove.

bool IndexerWidget::isAutoPrintEnable [private]

MachineSettings::MachineState IndexerWidget::machineState [private] - variable to contain state of machine.

QString IndexerWidget::pathIcon [private] - variable to contain path to icon folder.

QPushButton* IndexerWidget::pButtonSets [private] - QPushButton class object.

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

- indexerwidget.h
- indexerwidget.cpp

7.20 IndexerLiftSettings::IndexParameters_ Struct Reference

```
#include <settings.h>
```

Public Member Functions

- QByteArray toByteArray ()

Public Attributes

- uint16_t distance
- int16_t homeOffset
- int16_t distOffcet
- uint16_t speed
- uint16_t acceleration
- uint16_t speedRet
- uint16_t accelerationRet

7.20.1 Member Function Documentation

`QByteArray IndexerLiftSettings::IndexParameters_::toByteArray ( )`- function to gather all structure items to QByteArray to have possibility save data on hard drive in compact format.

7.20.2 Member Data Documentation

```
uint16_t IndexerLiftSettings::IndexParameters_::acceleration
```

```
uint16_t IndexerLiftSettings::IndexParameters_::accelerationRet
```

```
uint16_t IndexerLiftSettings::IndexParameters_::distance
```

```
int16_t IndexerLiftSettings::IndexParameters_::distOffcet
```

```
int16_t IndexerLiftSettings::IndexParameters_::homeOffset
```

```
uint16_t IndexerLiftSettings::IndexParameters_::speed
```

```
uint16_t IndexerLiftSettings::IndexParameters_::speedRet
```

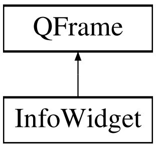
The documentation for this struct was generated from the following files:

- settings.h
- settings.cpp

7.21 InfoWidget Class Reference

`#include <infowidget.h>`

Inheritance diagram for InfoWidget:



Public Member Functions

- InfoWidget (QWidget ∗parent=0)
- ∼InfoWidget ()
- void setRegisterPointer (Register ∗regPtr)
- void setPrinted (int val)
- void setTotal (int val)
- void setIconFolder (QString path)
- void setIndicatorState (u_int16_t state)
- void setErrorText (MachineSettings::MachineParameters machineParameters, uint16_t val)
- void setText (QString text)

Protected Member Functions

- void changeEvent (QEvent ∗event)

Private Attributes

- Ui::InfoWidget ∗ ui
- QImage imageHome
- QImage imageLock
- QImage imageUp
- QImage imageArrows
- QImage imageEmerg
- QImage imageWarning
- QImage imageStopHand
- QString pathIcon
- QTime lastTime
- QGraphicsOpacityEffect ∗ effect [7]
- Register ∗ localRegisters
- QSettings ∗ errMasages

7.21.1 Constructor & Destructor Documentation

`InfoWidget::InfoWidget ( QWidget ∗ parent = 0 ) [explicit]` - standard class constructor. Function initialize QImages and load pictures into them, create QGraphicsOpacityEffects and set it to appropriate images, load error messages file to QSettings class object.

`InfoWidget::∼InfoWidget ( )` - standard class destructor.

7.21.2 Member Function Documentation

`void InfoWidget::changeEvent ( QEvent * event ) [protected]` - reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

`void InfoWidget::setErrorText ( MachineSettings::MachineParameters machineParameters, uint16_t val )` - function to display error message at *labelInfo*. Parameter *machineParameters* used to select text from errMasages object. Parameter *val* is unused. Error code, device and other info takes from localRegisters :: masterReg_DEVERR, masterReg_ERR, masterReg_ERROR_MESSAGE data at function invoke.

`void InfoWidget::setIconFolder ( QString path )` - function to change folder with icons which used on view and update icons. Icon path written to pathIcon variable.

`void InfoWidget::setIndicatorState ( u_int16_t state )` - function to set state of indicators on widget. State describe which indicators will be visible or hidden. State sets by master board of machine, when Register::MasterReg_::reg field masterReg_EKR updates its value.

`void InfoWidget::setPrinted() ( int val )` - function to update values on *labelPrinted* and on *labelDZH*. Value *labelDZH* updates automatically by time delay calculation between invokes of function.

`void InfoWidget::setRegisterPointer ( Register * regPtr )` - function to set pointer to Register class object. In a whole program used only one sample of class and pointer (registers) set from parent object.

`void InfoWidget::setText ( QString text )` - function to set custom text on *labelInfo*.

`void InfoWidget::setTotal ( int val )` - function to update values on *labelTotal*.

7.21.3 Member Data Documentation

`QGraphicsOpacityEffect* InfoWidget::effect[7] [private]`

`QSettings* InfoWidget::errMasages [private]`

`QImage InfoWidget::imageArrows [private]`

`QImage InfoWidget::imageEmerg [private]`

`QImage InfoWidget::imageHome [private]`

`QImage InfoWidget::imageLock [private]`

`QImage InfoWidget::imageStopHand [private]`

`QImage InfoWidget::imageUp [private]`

`QImage InfoWidget::imageWarning [private]`

`QTime InfoWidget::lastTime [private]`

`Register* InfoWidget::localRegisters [private]`

`QString InfoWidget::pathIcon [private]`

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

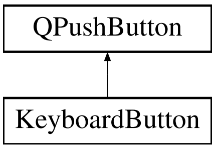
- infowidget.h
- infowidget.cpp

7.22 KeyboardButton Class Reference

Reimplementation of class of QPushButton. Added character variable and signal clicked(...)

`#include <keyboarddialog.h>`

Inheritance diagram for KeyboardButton:



Signals

- void clicked (QString character)

Public Member Functions

- KeyboardButton (QString character)
- QString getCharacter ()
- void setCharacter (QString str)

Private Slots

- void thisClicked ()

Private Attributes

- QString character

7.22.1 Constructor & Destructor Documentation

`KeyboardButton::KeyboardButton (`
`QString character )` - constructor of class with character variable initialization. Value of parameter sets like a text on button.

7.22.2 Member Function Documentation

`void KeyboardButton::clicked (`
`QString character ) [signal]` - signal which emit when button is clicked by thisClicked(..) function.

`QString KeyboardButton::getCharacter ( )` - function to get character variable.

`void KeyboardButton::setCharacter (`
`QString str )` - function to set character variable.

`void KeyboardButton::thisClicked ( ) [inline], [private], [slot]` - function which called by standard *QPushButton::clicked()* signal and emit clicked(...) signal.

7.22.3 Member Data Documentation

`QString KeyboardButton::character [private]`

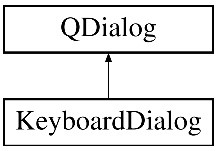
The documentation for this class was generated from the following files:

- keyboarddialog.h
- keyboarddialog.cpp

7.23 KeyboardDialog Class Reference

```
#include <keyboarddialog.h>
```

Inheritance diagram for KeyboardDialog:



Public Types

- enum KeyboardPosition_ { Bottom, Custom }
- typedef enum KeyboardDialog::KeyboardPosition_ KeyboardPosition

Signals

- void keyClicked ()

Public Member Functions

- KeyboardDialog (QWidget ∗parent=0, QString windowTitle="Keyboard")
- ∼KeyboardDialog ()
- void buttonsToUpper ()
- void buttonsToLower ()

Static Public Member Functions

- static QString getText (QWidget ∗parent=0, QString windowTitle="Keyboard", KeyboardPosition position=Custom)

Protected Member Functions

- void changeEvent (QEvent ∗event)

Private Slots

- void appendToLineEdit (QString str)
- void backspace ()
- void submitText ()
- void shift ()
- void deshift ()
- void capsLock ()
- void someKeyClicked ()
- void dashUnderscoreSwitch (bool shifted=false)

Private Attributes

- QStringList characters
- Ui::KeyboardDialog ∗ ui
- QList< KeyboardButton ∗ > buttons
- KeyboardButton ∗ dashUnderscoreButton
- QString text
- bool capsLockFlag
- bool shiftFlag

7.23.1 Member Typedef Documentation

`typedef enum KeyboardDialog::KeyboardPosition_ KeyboardDialog::KeyboardPosition`

7.23.2 Member Enumeration Documentation

`enum KeyboardDialog::KeyboardPosition_`

Enumerator

Bottom	
Custom	

7.23.3 Constructor & Destructor Documentation

```
KeyboardDialog::KeyboardDialog (
            QWidget ∗ parent = 0,
            QString windowTitle = "Keyboard" ) [explicit]
```
- constructor of class. In function fill characters and buttons lists, create connection for functional buttons, and make layout of that widget on window. Parameter *windowTitle* used to put it on window top panel.

`KeyboardDialog::∼KeyboardDialog ( )` - standard QDialog destructor.

7.23.4 Member Function Documentation

```
void KeyboardDialog::appendToLineEdit (
            QString str ) [private], [slot]
```
- function which is connected to every object in buttons list and put appropriate symbol at last position at *lineEdit*. Symbol contains in parameter *str*.

`void KeyboardDialog::backspace ( ) [private], [slot]` - function for removing last symbol at *lineEdit*. invoked by *pbBackspace*.

`void KeyboardDialog::buttonsToLower ( )` - function to change text on keyboard and symbol to lower register.

`void KeyboardDialog::buttonsToUpper ( )` - function to change text on keyboard and symbol to higher register.

`void KeyboardDialog::capsLock ( ) [private], [slot]` - function to call buttonsToUpper(...) or buttonsToLower(...) function appropriate to state of capsLockFlag and invert capsLockFlag value.

`void KeyboardDialog::changeEvent ( QEvent * event ) [protected]` - reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

`void KeyboardDialog::dashUnderscoreSwitch ( bool shifted = false ) [private], [slot]` - function to change dashUnderscoreButton text and character.

`void KeyboardDialog::deshift ( ) [private], [slot]` - function for set shiftFlag value to false (disable "Shift" on keyboard), and set text on buttons to appropriate state

```
QString KeyboardDialog::getText (
            QWidget * parent = 0,
            QString windowTitle = "Keyboard",
            KeyboardPosition position = Custom ) [static]
```

- static function of KeyboardDialog class. Used to get *QString* text value without visible object creation. Return text which was putted with buttons to *QLineEdit* after call submitText(...) function.

`void KeyboardDialog::keyClicked ( ) [signal]` - signal which emitted at clicking of any object from buttons list.

`void KeyboardDialog::shift ( ) [private], [slot]` - function for set shiftFlag value to true (enable "Shift" on keyboard), and set text on buttons to appropriate state.

`void KeyboardDialog::someKeyClicked ( ) [private], [slot]` - function which called by any object from buttons list. Emit keyClicked (...) signal.

`void KeyboardDialog::submitText ( ) [private], [slot]` - function which invoked by *click()* signal from *pbEnter*. Used to copy text to text variable and call standard *QDialog::accept()* function to exit from keyboard dialog.

7.23.5 Member Data Documentation

`QList<KeyboardButton*> KeyboardDialog::buttons [private]` - array of KeyboardButton class objects. Used to add keyboard buttons to dialog interface.

`bool KeyboardDialog::capsLockFlag [private]`

`QStringList KeyboardDialog::characters [private]`

`KeyboardButton* KeyboardDialog::dashUnderscoreButton [private]`

`bool KeyboardDialog::shiftFlag [private]`

`QString KeyboardDialog::text [private]` - variable for containing text from *lineEdit*. Used in getText(...) functions.

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

- keyboarddialog.h
- keyboarddialog.cpp

7.24 MachineSettings::LastRevolverWarm_ Union Reference

Data union for simplify writing data to Register::IndexerReg_::reg at indexerReg_TM field.

```
#include <settings.h>
```

Public Attributes

- struct {
  uint8_t multiple:1
  uint8_t last:1
  uint8_t revolver:1
  uint8_t warm:1
  uint8_t res:4
  } field
- uint8_t all

7.24.1 Member Data Documentation

`uint8_t MachineSettings::LastRevolverWarm_::all` - variable which contain all bits in one byte in right positions.

`struct { ... } MachineSettings::LastRevolverWarm_::field`

Fields of structure.

- `uint8_t MachineSettings::LastRevolverWarm_::last`
- `uint8_t MachineSettings::LastRevolverWarm_::multiple`
- `uint8_t MachineSettings::LastRevolverWarm_::revolver`
- `uint8_t MachineSettings::LastRevolverWarm_::warm`

`uint8_t MachineSettings::LastRevolverWarm_::res` - reserved bits.

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

- settings.h

7.25 IndexerLiftSettings::LiftParameters_ Struct Reference

```
#include <settings.h>
```

Public Member Functions

- QByteArray toByteArray ()

Public Attributes

- uint16_t distance
- int16_t homeOffcet
- uint16_t speed
- uint16_t acceleration
- uint16_t delayDown
- uint16_t delayUp

7.25.1 Member Function Documentation

`QByteArray IndexerLiftSettings::LiftParameters_::toByteArray ( )` - function to gather all structure items to QByteArray to have possibility save data on hard drive in compact format.

7.25.2 Member Data Documentation

`uint16_t IndexerLiftSettings::LiftParameters_::acceleration`

`uint16_t IndexerLiftSettings::LiftParameters_::delayDown`

`uint16_t IndexerLiftSettings::LiftParameters_::delayUp`

`uint16_t IndexerLiftSettings::LiftParameters_::distance`

`int16_t IndexerLiftSettings::LiftParameters_::homeOffcet`

`uint16_t IndexerLiftSettings::LiftParameters_::speed`

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

- settings.h
- settings.cpp

7.26 Register::LiftReg_ Union Reference

```
#include <settings.h>
```

Classes

- struct reg

Public Attributes

- struct Register::LiftReg_::reg field
- uint16_t memBeg

7.26.1 Member Data Documentation

`struct Register::LiftReg_::reg Register::LiftReg_::field` - fields of Register::LiftReg_::reg structure to give possibility to access to memory by name.

`uint16_t Register::LiftReg_::memBeg`- variable to notice beginning of memory region of structure.

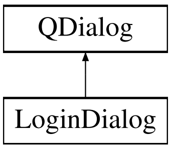
The documentation for this union was generated from the following file:

- settings.h

7.27 LoginDialog Class Reference

```
#include <logindialog.h>
```

Inheritance diagram for LoginDialog:



Public Member Functions

- LoginDialog (QWidget ∗parent=0)
- ∼LoginDialog ()
- void setUserNames (QStringList names)

Public Attributes

- QString userName
- QString userPassword

Protected Member Functions

- bool eventFilter (QObject ∗watched, QEvent ∗event)
- void changeEvent (QEvent ∗event)

Private Slots

- void loginAccepted ()

7.27.1 Constructor & Destructor Documentation

`LoginDialog::LoginDialog ( QWidget ∗ parent = 0 ) [explicit]` - standard QDialog constructor. In constructor connected *pButtonLogin* to loginAccepted(...) function and installed eventFilter to *lineEditPassword*.

`LoginDialog::∼LoginDialog ( )` - standard destructor.

7.27.2 Member Function Documentation

`void LoginDialog::changeEvent ( QEvent * event ) [protected]` - Reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

`bool LoginDialog::eventFilter ( QObject * watched, QEvent * event ) [protected]` - reimplementation of standard function to handle Q↩ Event::MouseButtonDblClick or QEvent::MouseButtonRelease events to call KeyboardDialog to enter data to *lineEditPassword*.

`void LoginDialog::loginAccepted ( ) [private], [slot]` - function which called by *pButtonLogin* button and save use name and password to userName and userPassword variables and call standard *QDialog::accept()* function to exit from dialog. Parameters userName and userPassword are checked in userLogin(...) function.

`void LoginDialog::setUserNames ( QStringList names )` - function used to fill *listWidget* with *names*. Used to give possibility select user name from list.

7.27.3 Member Data Documentation

`QString LoginDialog::userName`

`QString LoginDialog::userPassword`

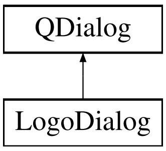
The documentation for this class was generated from the following files:

- logindialog.h
- logindialog.cpp

7.28 LogoDialog Class Reference

```
#include <logodialog.h>
```

Inheritance diagram for LogoDialog:



Public Member Functions

- LogoDialog (QWidget ∗parent=0)
- ∼LogoDialog ()

Protected Member Functions

- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void timerTimeOut ()

Private Attributes

- Ui::LogoDialog ∗ ui
- QTimer ∗ timer
- QMovie ∗ movie

7.28.1 Constructor & Destructor Documentation

LogoDialog::LogoDialog (QWidget ∗ *parent* = *0*) [explicit] - standard dialog constructor. At constructor is loading *gif* animation to movie and creates timer which is connected to timerTimeOut(...) function.

LogoDialog::∼LogoDialog ( ) - standard QDialog destructor.

7.28.2 Member Function Documentation

void LogoDialog::changeEvent (QEvent ∗ *event*) [protected] - reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

void LogoDialog::showEvent (QShowEvent ∗ *ev*) [protected] - reimplementation of standard QDialog function. Used to start playing movie and start timer.

void LogoDialog::timerTimeOut ( ) [private], [slot] - function to close dialog after some count of function calling.

7.28.3 Member Data Documentation

```
QMovie* LogoDialog::movie  [private]
```

```
QTimer* LogoDialog::timer  [private]
```

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

- logodialog.h
- logodialog.cpp

7.29 MachineSettings::MachineHeadType_ Union Reference

Data union for simplify writing data about type of machine.

```
#include <settings.h>
```

Public Attributes

- struct {
    uint8_t servoDriveType:3
    uint8_t carriageType:3
    uint8_t sqFlType:2
  } field
- uint8_t all

7.29.1 Member Data Documentation

`uint8_t MachineSettings::MachineHeadType_::all` - variable which contain all bits in one byte in right positions.

```
struct { ... } MachineSettings::MachineHeadType_::field
```

Fields of structure

- `uint8_t MachineSettings::MachineHeadType_::carriageType`
- `uint8_t MachineSettings::MachineHeadType_::servoDriveType`
- `uint8_t MachineSettings::MachineHeadType_::sqFlType`

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

- settings.h

7.30 MachineSettings::MachineIndexLiftType_ Union Reference

Data union for simplify writing data about type of machine.

```
#include <settings.h>
```

Public Attributes

- struct {
  uint16_t mainServoDriveType:3
  uint16_t indexerType:3
  uint16_t liftType:3
  uint16_t lockType:3
  uint16_t hmiIsConnected:1
  uint16_t keypadIsConnected:1
  uint16_t res_:2
  } field
- uint16_t all

7.30.1 Member Data Documentation

`uint16_t MachineSettings::MachineIndexLiftType_::all`- variable which contain all bits in one byte in right positions.

`struct { ... } MachineSettings::MachineIndexLiftType_::field`

Fields of structure.

- `uint16_t MachineSettings::MachineIndexLiftType_::hmiIsConnected`
- `uint16_t MachineSettings::MachineIndexLiftType_::indexerType`
- `uint16_t MachineSettings::MachineIndexLiftType_::keypadIsConnected`
- `uint16_t MachineSettings::MachineIndexLiftType_::liftType`
- `uint16_t MachineSettings::MachineIndexLiftType_::lockType`
- `uint16_t MachineSettings::MachineIndexLiftType_::mainServoDriveType`

`uint16_t MachineSettings::MachineIndexLiftType_::res_` - reserved bits.

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

- settings.h

7.31 MachineSettings::MachineParameters_ Struct Reference

```
#include <settings.h>
```

Public Member Functions

- QByteArray toByteArray ()

Public Attributes

- uint16_t headCount
- uint16_t warningTime
- int16_t direction
- MachineType machineType
- MachineHeadType headType
- MachineIndexLiftType indexeLiftType
- uint16_t headMaxRange
- uint16_t liftGearRatio
- uint16_t indexerScrewPinch
- uint8_t useUnloadHead
- uint8_t stepTimeDelay
- LastRevolverWarm lastRevWarm

7.31.1 Member Function Documentation

`QByteArray MachineSettings::MachineParameters_::toByteArray ( )` - function to gather all structure items to QByteArray to have possibility save data on hard drive in compact format.

7.31.2 Member Data Documentation

```
int16_t MachineSettings::MachineParameters_::direction
```

```
uint16_t MachineSettings::MachineParameters_::headCount
```

```
uint16_t MachineSettings::MachineParameters_::headMaxRange
```

```
MachineHeadType MachineSettings::MachineParameters_::headType
```

```
MachineIndexLiftType MachineSettings::MachineParameters_::indexeLiftType
```

```
uint16_t MachineSettings::MachineParameters_::indexerScrewPinch
```

```
LastRevolverWarm MachineSettings::MachineParameters_::lastRevWarm
```

```
uint16_t MachineSettings::MachineParameters_::liftGearRatio
```

```
MachineType MachineSettings::MachineParameters_::machineType
```

```
uint8_t MachineSettings::MachineParameters_::stepTimeDelay
```

```
uint8_t MachineSettings::MachineParameters_::useUnloadHead
```

```
uint16_t MachineSettings::MachineParameters_::warningTime
```

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

- settings.h
- settings.cpp

7.32 MachineSettings Class Reference

```
#include <settings.h>
```

Classes

- union LastRevolverWarm_
- union MachineHeadType_
- union MachineIndexLiftType_
- struct MachineParameters_
- union MachineState_

Public Types

- enum Devices { MasterDevice = 0x0000 }
- enum MasterDataPlaces {
  - MasterHeadCount = 0x0001,
  - MasterLastButton = 0x0003,
  - MasterIndexLiftCommand = 0x0004,
  - MasterHeadStateLo = 0x0005,
  - MasterHeadStateHi = 0x0009,
  - MasterPaletStateLo = 0x000A,
  - MasterPaletStateHi = 0x0012,
  - MasterMachineType = 0x0011

  }
- enum MachineType_ {
  - VoltServo = 0x0000,
  - VoltAC,
  - Vector,
  - TitanASE,
  - TitanASA,
  - TitanAAA

  }
- typedef union MachineSettings::MachineState_ MachineState
- typedef enum MachineSettings::MachineType_ MachineType
- typedef union MachineSettings::MachineHeadType_ MachineHeadType
- typedef union MachineSettings::MachineIndexLiftType_ MachineIndexLiftType
- typedef union MachineSettings::LastRevolverWarm_ LastRevolverWarm
- typedef struct MachineSettings::MachineParameters_ MachineParameters

Public Member Functions

- MachineSettings (MachineParameters mParam)
- MachineSettings ()
- void fromByteArray (QByteArray machineParamArray)

Static Public Member Functions

- static bool getServiceWidgEn ()
- static void setServiceWidgEn (bool servEn)
- static MachineType getMachineType ()
- static void setMachineType (MachineType mType)
- static bool getMachineIdle ()
- static void setMachineIdle (bool idle)
- static uint16_t getHeadMaxRange ()
- static uint16_t getHeadType ()
- static uint16_t getIndexLiftType ()
- static uint16_t getHeadPalStateLo ()
- static uint16_t getHeadPalStateHi ()
- static void setHeadMaxRange (uint16_t val)
- static void setHeadType (uint16_t val)
- static void setIndexLiftType (uint16_t val)
- static void setHeadPalStateLo (uint16_t val)
- static void setHeadPalStateHi (uint16_t val)
- static void setHeadPalStateIndex (int index, bool state)

Public Attributes

- QStringList machineTypeList
- QList< int > machineTypeData
- MachineParameters machineParam

Static Public Attributes

- static bool serviceWidgetsEn
- static MachineType machineTypeStat
- static bool machineIdle

Static Private Attributes

- static uint16_t headMaxRangeStat
- static uint16_t headTypeStat
- static uint16_t indexerLiftTypeStat
- static uint32_t headPalStateStat

7.32.1 Member Typedef Documentation

`typedef union MachineSettings::LastRevolverWarm_ MachineSettings::LastRevolverWarm` - union of data fields to write to indexerReg_TM by parameters names.

`typedef union MachineSettings::MachineHeadType_ MachineSettings::MachineHeadType` - union of data to declare parameters of head.

`typedef union MachineSettings::MachineIndexLiftType_ MachineSettings::MachineIndexLiftType` - union of data to declare parameters of lift.

`typedef struct MachineSettings::MachineParameters_ MachineSettings::MachineParameters` - structure of data to save machine parameters to save it on hard drive.

`typedef union MachineSettings::MachineState_ MachineSettings::MachineState` - union to save state of machine to use in program.

`typedef enum MachineSettings::MachineType_ MachineSettings::MachineType` - enumerator to save type of machine to hide or show widgets on dialogs.

7.32.2 Member Enumeration Documentation

enum MachineSettings::Devices - enumerator to declare address of devices to send data to appropriated fields.

Enumerator

MasterDevice	0x0000

enum MachineSettings::MachineType_

Enumerator

VoltServo	0x0000
VoltAC	0x0001
Vector	0x0002
TitanASE	0x0003
TitanASA	0x0004
TitanAAA	0x0005

enum MachineSettings::MasterDataPlaces

Enumerator

MasterHeadCount	0x0001
MasterLastButton	0x0003
MasterIndexLiftCommand	0x0004
MasterHeadStateLo	0x0005
MasterHeadStateHi	0x0009
MasterPaletStateLo	0x000A
MasterPaletStateHi	0x0012
MasterMachineType	0x0011

7.32.3 Constructor & Destructor Documentation

MachineSettings::MachineSettings [1/2] (MachineSettings::MachineParameters *mParam*) - constructor of class to initialize fields of structure with given in *mParam* variable parameters.

MachineSettings::MachineSettings [2/2] ( ) - constructor of class to initialize fields of structure with default parameters.

7.32.4 Member Function Documentation

void MachineSettings::fromByteArray (QByteArray *machineParamArray*) - function to fill appropriated fields of class with data given in *machineParamArray*

uint16_t MachineSettings::getHeadMaxRange ( ) [static] - function to get value of headMaxRangeStat variable.

`uint16_t MachineSettings::getHeadPalStateHi ( ) [static]` - function to get highest 16 bit of headPalStateStat variable.

`uint16_t MachineSettings::getHeadPalStateLo ( ) [static]` - function to get lowest 16 bit of headPalStateStat variable.

`uint16_t MachineSettings::getHeadType ( ) [static]` - function to get value of headTypeStat variable.

`uint16_t MachineSettings::getIndexLiftType( ) [static]` - function to get value of indexerLiftTypeStat variable.

`bool MachineSettings::getMachineIdle ( ) [static]` - function to get value of machineIdle variable.

`MachineSettings::MachineType MachineSettings::getMachineType ( ) [static]` - function to get value of machineTypeStat variable.

`bool MachineSettings::getServiceWidgEn ( ) [static]` - function to get value of serviceWidgetsEn variable.

```
void MachineSettings::setHeadMaxRange (
            uint16_t val ) [static]
```
- function to set value of headMaxRangeStat variable.

```
void MachineSettings::setHeadPalStateHi (
            uint16_t val ) [static]
```
- function to set highest 16 bit of headPalStateStat variable.

```
void MachineSettings::setHeadPalStateIndex (
            int index,
            bool state ) [static]
```
- function to set one bit (value *state*) of headPalStateStat variable at position given by *index*.

```
void MachineSettings::setHeadPalStateLo (
            uint16_t val ) [static]
```
- function to set lowest 16 bit of headPalStateStat variable.

```
void MachineSettings::setHeadType (
            uint16_t val ) [static]
```
- function to set value of headTypeStat variable.

```
void MachineSettings::setIndexLiftType (
            uint16_t val ) [static]
```
- function to set value of indexerLiftTypeStat variable.

```
void MachineSettings::setMachineIdle (
            bool idle ) [static]
```
- function to set value of machineIdle variable.

```
void MachineSettings::setMachineType (
            MachineSettings::MachineType mType ) [static]
```
- function to set value of machineTypeStat variable.

```
void MachineSettings::setServiceWidgEn (
            bool servEn ) [static]
```
- function to set value of serviceWidgetsEn variable.

7.32.5 Member Data Documentation

- `uint16_t MachineSettings::headMaxRangeStat[static], [private]`
- `uint16_t MachineSettings::headTypeStat[static], [private]`
- `uint16_t MachineSettings::indexerLiftTypeStat[static], [private]`

  - variables to describe types and parameters of machine parts.

`uint32_t MachineSettings::headPalStateStat[static], [private]` - variable to describe state of pallets. Position of bit describe pallet number, state of bit at position mean information about containing rag on pallet.

`bool MachineSettings::machineIdle[static]` - contain information about machine state. Get *true* value when machine is ready to work, and *false* in any other case.

`MachineParameters MachineSettings::machineParam` - structure to contain parameters of the whole machine.

- `QList<int> MachineSettings::machineTypeData`
- `QStringList MachineSettings::machineTypeList`
- `MachineSettings::MachineType MachineSettings::machineTypeStat[static]`

  block of variables which are used for filling comboBox with machine types.

`bool MachineSettings::serviceWidgetsEn[static]` - variable which used to describe state of service widgets and dialogs. Changing state need higher access privileges.

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

- settings.h
- settings.cpp

7.33 MachineSettings::MachineState_ Union Reference

```
#include <settings.h>
```

Structure to save state of buttons of IndexerWidget object class. Created for future use.

Public Attributes

- struct {
  uint8_t printStop:1
  uint8_t reserved:1
  uint8_t lockUnLock:1
  uint8_t upDown:1
  uint8_t halfFull:1
  uint8_t reserved2:1
  uint8_t manualAuto:1
  uint8_t airRelease:1
  uint8_t easySetup:1
  uint8_t reserved3:7
  } bit
- uint16_t all

7.33.1 Member Data Documentation

```
uint8_t MachineSettings::MachineState_::airRelease
```

```
uint16_t MachineSettings::MachineState_::all
```

```
struct { ... } MachineSettings::MachineState_::bit
```

```
uint8_t MachineSettings::MachineState_::easySetup
```

```
uint8_t MachineSettings::MachineState_::halfFull
```

```
uint8_t MachineSettings::MachineState_::lockUnLock
```

```
uint8_t MachineSettings::MachineState_::manualAuto
```

```
uint8_t MachineSettings::MachineState_::printStop
```

```
uint8_t MachineSettings::MachineState_::reserved
```

```
uint8_t MachineSettings::MachineState_::reserved2
```

```
uint8_t MachineSettings::MachineState_::reserved3
```

```
uint8_t MachineSettings::MachineState_::upDown
```

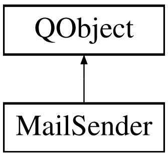
The documentation for this union was generated from the following file:

- settings.h

7.34 MailSender Class Reference

```
#include <mailsender.h>
```

Inheritance diagram for MailSender:



Public Slots

- void setRecipientMailAdress (QString mail="mishko.litvin@gmail.com")
- void setEmailSubject (QString subject="LiQt Machine interface autosend message")
- void setRecipientName (QString name="Customer")
- void setSenderMailAdress (QString mail="Liqt.autosend@gmail.com")
- void setSenderPassword (QString pswd="D7C5cqAz")
- void setSenderName (QString name="LiQt Interface")

Public Member Functions

- MailSender (QObject ∗parent=0)
- int sendMessage (QString messageStr, QString subject, bool clear=true)
- int sendMessage (QString message, bool clear=true)

Private Attributes

- SmtpClient ∗ smtp
- MimeMessage ∗ message
- EmailAddress ∗ senderAddr
- EmailAddress ∗ recipientAddr
- MimeText ∗ messageText
- QString messageSubject

7.34.1 Constructor & Destructor Documentation

```
MailSender::MailSender (
            QObject ∗ parent = 0 )  [explicit]
```

- standard class constructor. Initialize mail sender class with standard parameters.

7.34.2 Member Function Documentation

```
int MailSender::sendMessage [1/2] (
            QString messageStr,
            QString subject,
            bool clear = true )
```
- function to send message with *messageStr* and *subject* by e-mail.

```
int MailSender::sendMessage [2/2] (
            QString message,
            bool clear = true )
```
- function to send message with *messageStr* and subject recorded by setEmailSubject(...) function with e-mail.

Block of function which used for setup parameters of e-mail messages.

- `void MailSender::setEmailSubject ( QString subject = "LiQt Machine interface autosend message" ) [slot]`
- `void MailSender::setRecipientMailAdress ( QString mail = "mishko.litvin@gmail.com" ) [slot]`
- `void MailSender::setRecipientName ( QString name = "Customer" ) [slot]`
- `void MailSender::setSenderMailAdress ( QString mail = "Liqt.autosend@gmail.com" ) [slot]`
- `void MailSender::setSenderName ( QString name = "LiQt Interface" ) [slot]`
- `void MailSender::setSenderPassword ( QString pswd = "D7C5cqAz" ) [slot]`

7.34.3 Member Data Documentation

```
MimeMessage* MailSender::message [private]
```

```
QString MailSender::messageSubject [private]
```

```
MimeText* MailSender::messageText [private]
```

```
EmailAddress* MailSender::recipientAddr [private]
```

```
EmailAddress* MailSender::senderAddr [private]
```

```
SmtpClient* MailSender::smtp [private]
```

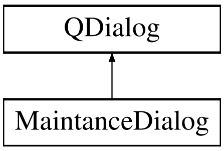
The documentation for this class was generated from the following files:

- mailsender.h
- mailsender.cpp

7.35 MaintanceDialog Class Reference

```
#include <maintancedialog.h>
```

Inheritance diagram for MaintanceDialog:



Public Types

- enum MaintanceType { Warning, Critical }

Public Slots

- void openMaintanceList ()
- void openDialog ()
- void solveItem (int index)

Signals

- void stopRequest ()
- void continueRequest ()
- void maintanceWorkEnable (bool enabled)

Public Member Functions

- MaintanceDialog (QWidget *parent=0)
- MaintanceDialog (MaintanceType mType, QWidget *parent=0, QString name="trouble", QString tr←Info="trouble info", QString machInfo="machine info")
- ∼MaintanceDialog ()
- void setTrableName (QString name="trouble")
- void setTrableInfo (QString info="trouble info")
- void setMachineInfo (QString info="machine info")
- void setMaintanceType (MaintanceType mType=Warning)
- QList< MaintanceElement > getUnsolvedList ()
- void check (int cyclesCount)

Static Public Member Functions

- static bool execute (QWidget *parent=0, MaintanceType mType=Warning, QString name="trouble", QString trInfo="trouble info", QString machInfo="machine info")
- static bool execute (MaintanceElement maintance, QWidget *parent=0)

Protected Member Functions

- void changeEvent (QEvent *event)

Private Slots

- void acceptSlot ()
- void rejectSlot ()

Private Attributes

- Ui::MaintanceDialog ∗ ui
- bool doItNow
- bool maintanceHaveWork
- bool maintanceHaveWarning
- QSettings ∗ settings
- QList< MaintanceElement > maintanceList
- QList< MaintanceElement > unsolvedList
- QList< int > unsolvedListIndex
- MaintanceWidget ∗ maintanceWidget
- bool firstCheck
- int lastCyclesCount

7.35.1 Member Enumeration Documentation

7.35.1.1 MaintanceType

`enum MaintanceDialog::MaintanceType`

Enumerator

Warning	
Critical	

7.35.2 Constructor & Destructor Documentation

`MaintanceDialog() [1/2] (`
`QWidget * parent = 0 ) [explicit]` - standard QDialog class constructor. Lists maintanceList, unsolvedList and unsolvedListIndex are fill in constructor.

```
MaintanceDialog() [2/2] (
            MaintanceDialog::MaintanceType mType,
            QWidget * parent = 0,
            QString name = "trouble",
            QString trInfo = "trouble info",
            QString machInfo = "machine info" ) [explicit]
```
- reimplemented constructor of class. Used to fill appropriated fields on user interface.

`~MaintanceDialog() ( )` - standard QDialog class destructor.

7.35.3 Member Function Documentation

`void MaintanceDialog::acceptSlot ( ) [private], [slot]` - function used to set *true* to doItNow variable and exit from dialog;

`void MaintanceDialog::changeEvent ( QEvent * event ) [protected]` - reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

`void MaintanceDialog::check ( int cyclesCount )` - function used to check does machine must stop for maintenance. Function called at every indexer step and check all maintenance items (from maintanceList). Function emits maintanceWorkEnable(...) signal with appropriate value.

`void MaintanceDialog::continueRequest ( ) [signal]` - unused.

```
bool MaintanceDialog::execute [1/2] (
            QWidget * parent = 0,
            MaintanceDialog::MaintanceType mType = Warning,
            QString name = "trouble",
            QString trInfo = "trouble info",
            QString machInfo = "machine info" ) [static]
```
- function used to call MaintanceDialog(...) constructor with appropriate parameters given in function.

```
bool MaintanceDialog::execute [2/2] (
            MaintanceElement maintance,
            QWidget * parent = 0 ) [static]
```
- function used to call MaintanceDialog(...) constructor with parameters taken from *maintance* variable.

`QList< MaintanceElement > MaintanceDialog::getUnsolvedList ( )` - function used to get unsolvedList variable value.

`void MaintanceDialog::maintanceWorkEnable ( bool enabled ) [signal]` - signal which emitted by check(...) function and handle in parent object. Value which send with signal sets in function.

`void MaintanceDialog::openDialog ( ) [slot]` - function used to open dialogs fo every item in unsolvedList.

`void MaintanceDialog::openMaintanceList ( ) [slot]`

`void MaintanceDialog::rejectSlot ( ) [private], [slot]` - function used to set *false* to doItNow variable and exit from dialog;

Block of function which used for setup parameters and fill appropriate fields of user interface.

- `void MaintanceDialog::setMachineInfo() ( QString info = "machine info" )`
- `void MaintanceDialog::setMaintanceType() ( MaintanceDialog::MaintanceType mType = Warning )`
- `void MaintanceDialog::setTrableInfo ( QString info = "trouble info" )`
- `void MaintanceDialog::setTrableName ( QString name = "trouble" )`

`void MaintanceDialog::solveItem ( int index ) [slot]` - function used to remove one item (number *index*) from unsolvedList and save unsolvedList and unsolvedListIndex to settings. If unsolvedListIndex length is zero emits maintanceWorkEnable (...) signal with *false* value.

`void MaintanceDialog::stopRequest ( ) [signal]` - unused.

7.35.4 Member Data Documentation

```
bool MaintanceDialog::doItNow  [private]
```

```
bool MaintanceDialog::firstCheck  [private]
```

```
int MaintanceDialog:lastCyclesCount  [private]
```

```
bool MaintanceDialog::maintanceHaveWarning  [private]
```

```
bool MaintanceDialog::maintanceHaveWork  [private]
```

```
QList<MaintanceElement> MaintanceDialog::maintanceList  [private]
```

```
MaintanceWidget* MaintanceDialog::maintanceWidget  [private]
```

```
QSettings* MaintanceDialog::settings  [private]
```

```
QList<MaintanceElement> MaintanceDialog::unsolvedList  [private]
```

```
QList<int> MaintanceDialog::unsolvedListIndex  [private]
```

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

- maintancedialog.h
- maintancedialog.cpp

7.36 MaintanceElement Class Reference

```
#include <maintancewidget.h>
```

Class which use to contain data about machine service. Variable names describe contents of the data stored in that variable.

Public Member Functions

- MaintanceElement (int index=0, QString name="trouble", QString trInfo="trouble info", QString mach↩ Info="machine info", int lastCount=0, int repeatCount=0)

Public Attributes

- int troubleIndex
- int troubleType
- QString troubleName
- QString troubleInfo
- QString machineInfo
- int lastCount
- int repeatCyclesCount

7.36.1 Constructor & Destructor Documentation

7.36.1.1 MaintanceElement()

```
MaintanceElement::MaintanceElement (
             int index = 0,
             QString name = "trouble",
             QString trInfo = "trouble info",
             QString machInfo = "machine info",
             int lastCount = 0,
             int repeatCount = 0 )  [inline]
```

7.36.2 Member Data Documentation

```
int MaintanceElement::lastCount
```

```
QString MaintanceElement::machineInfo
```

```
int MaintanceElement::repeatCyclesCount
```

```
int MaintanceElement::troubleIndex
```

```
QString MaintanceElement::troubleInfo
```

```
QString MaintanceElement::troubleName
```

```
int MaintanceElement::troubleType
```

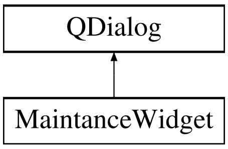
The documentation for this class was generated from the following file:

- maintancewidget.h

7.37 MaintanceWidget Class Reference

```
#include <maintancewidget.h>
```

Inheritance diagram for MaintanceWidget:



Signals

- void troubleSolved (int troubleIndex)
- void maintanceClosed (QList< MaintanceElement > elemList)
- void tutorialRequest (int troubleIndex)

Public Member Functions

- MaintanceWidget (QWidget *parent=0)
- ~MaintanceWidget ()
- void clearText ()
- void setElemets (QList< MaintanceElement > elemList)

Protected Member Functions

- void changeEvent (QEvent *event)

Private Slots

- void solved ()
- void closeWindow ()
- void callTutorial ()

Private Attributes

- Ui::MaintanceWidget * ui
- QList< MaintanceElement > maintanceList

7.37.1 Constructor & Destructor Documentation

`MaintanceWidget::MaintanceWidget ( QWidget * parent = 0 ) [explicit]` - standard QWidget constructor. Used to create connections from buttons to functions.

`MaintanceWidget::~MaintanceWidget ( )` - standard QWidget destructor.

7.37.2 Member Function Documentation

`void MaintanceWidget::callTutorial ( ) [private], [slot]` - function created show (in some way) tutorial how to made maintenance for machine. It is not finished.

`void MaintanceWidget::changeEvent ( QEvent * event ) [protected]` - reimplementation of default event for QDialog to enable user interface translation. Function called automatically.

`void MaintanceWidget::clearText ( )` - function used to QListWidget (remove all items).

`void MaintanceWidget::closeWindow ( ) [private], [slot]` - used to hide QDialog.

`void MaintanceWidget::maintanceClosed ( QList< MaintanceElement > elemList ) [signal]` - signal what emits on window hide. Parameter send maintanceList to signal handler.

`void MaintanceWidget::setElemets ( QList< MaintanceElement > elemList )` - function which used to fill listWidget with maintenance elements and append *elemList* to maintanceList.

`void MaintanceWidget::solved ( ) [private], [slot]` - function to remove selected at *listWidget* item from maintanceList and from *listWidget*. Also this function emit troubleSolved(...) signal with index at list to handle at parent object.

`void MaintanceWidget::troubleSolved ( int troubleIndex ) [signal]` - signal which handle at parent object (request redirected to solveItem(...)) to change list of maintenance items at file system.

`void MaintanceWidget::tutorialRequest ( int troubleIndex ) [signal]` - signal which emitted by callTutorial(...) function. Handled in parent object (handler is not created at present moment).

7.37.3 Member Data Documentation

`QList<MaintanceElement> MaintanceWidget::maintanceList [private]`

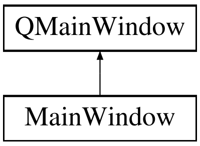
The documentation for this class was generated from the following files:

- maintancewidget.h
- maintancewidget.cpp

7.38 MainWindow Class Reference

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

Inheritance diagram for MainWindow:



Public Member Functions

- MainWindow (QWidget ∗parent=0)
- ∼MainWindow ()
- void masterCodeCheck ()
- void userLogin ()

Public Attributes

- ExitDialog::ExitCode exitCode

Protected Member Functions

- virtual void resizeEvent (QResizeEvent ∗e)
- void showEvent (QShowEvent ∗ev)
- bool eventFilter (QObject ∗obj, QEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void zeroStart ()
- void headsInit ()
- void watchDogTimeout ()
- void headSettingRequest (int index)
- void indexerLiftSettingRequest ()
- void generalSettingDialogRequest ()
- void changeHeadNo (int index)
- void resetMachine ()
- void getSerialData (ModData modData)
- void getUdpData (QByteArray data)
- void getHeadColor (int index, QColor color)
- void getHeadParam (int index, QByteArray hParamArr)
- void getAllHeadParam (int index, QByteArray hParamArr)
- void getHeadCommand (int index, QByteArray commandArr)
- void getHeadActivCommand (QByteArray commandArr)
- void getCyclesCommand (QByteArray commandArr)
- void getLoadState (int index, LoadState state)
- void getIndexerParam (QByteArray indexerParamArr)
- void getMachineParam (QByteArray machineParamArr)

- void getStepDelayTime (double arg1)
- void getDirection (int direction)
- void setUnloadState (bool state)
- void getLiftParam (QByteArray liftParamArr)
- void getLiftOffcet (double arg1)
- void getLiftDistance (float distance)
- void getIndexLiftSettComm (QByteArray commandArr)
- void getIndexLiftCommand (QByteArray commandArr)
- void getMachineCommand (QByteArray commandArr)
- void getSerialSetting (ComSettings comSett)
- void getEmailSettings (EmailSettings emailSett)
- void getVeiwSettings (int stSheetIndex)
- void getLangFile (int langIndex)
- void serviceStateChange ()
- void exitProgram (bool restart=false)
- void saveJob ()
- void loadJob ()
- void setHeadsPosition ()
- void indexerStepFinish ()
- void startPrintProcess (bool autoPrint)
- void stopPrintProcess ()
- void maintanceWorkSlot (bool enable)
- void showMaintananceWidget ()
- void setIconFolder (int index)
- void setBackGround (bool enable, bool request=false)
- void updateTimeSlot ()

Private Attributes

- Ui::MainWindow ∗ ui
- QList< HeadForm ∗ > headButton
- QList< HeadSettingButton ∗ > headSettButton
- InfoWidget ∗ infoWidget
- QSettings ∗ settings
- QSettings ∗ masterCodes
- HeadSetting headSettings
- IndexerLiftSettings indexerLiftSettings
- MachineSettings machineSettings
- GeneralSettingDialog ∗ generalSettingDialog
- SettingDialog ∗ headSettingDialog
- IndexerSettingDialog ∗ indexerLiftSetDialog
- SerialSettingsDialog ∗ serialSettingsDialog
- IndexerWidget ∗ indexer
- MailSender ∗ mailSender
- UserSettingDialog ∗ usersSettingDialog
- MaintanceDialog ∗ maintanceDialog
- MaintanceWidget ∗ maintanceWidget
- CyclesDialog ∗ cycleDialog
- HeadActivationDialog ∗ headActDialog
- ReprogramDialog ∗ reprogramDialog
- SerialPort ∗ comPort
- UdpSocket ∗ udpHandler
- QTimer ∗ watchDog
- QTimer ∗ updateTime

- QTime timeProgramStart
- QTime timeProgramEnd
- QTime timeWorking
- QString truePassword
- bool logedInHeadSettings
- bool logedInIndexer
- bool logedInGeneral
- bool logedInService
- uint16_t headsCount
- bool needCompleteReset
- int indexerCyclesSession
- int indexerCyclesAll
- int ragSessionCount
- int ragAllCount
- uint32_t ragAllCountReg
- int ragAtHeadCount
- bool autoPrintEnabled
- QString userName
- Register ∗ registers
- QTranslator translator
- QStringList headStylesStr

7.38.1 Constructor & Destructor Documentation

7.38.1.1 MainWindow()

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

7.38.1.2 ∼MainWindow()

```
MainWindow::∼MainWindow ( )
```

7.38.2 Member Function Documentation

7.38.2.1 changeEvent()

```
void MainWindow::changeEvent (
            QEvent ∗ event )   [protected]
```

7.38.2.2 changeHeadNo

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

7.38.2.3 eventFilter()

```
bool MainWindow::eventFilter (
            QObject * obj,
            QEvent * ev )  [protected]
```

7.38.2.4 exitProgram

```
void MainWindow::exitProgram (
            bool restart = false )  [private], [slot]
```

7.38.2.5 generalSettingDialogRequest

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

7.38.2.6 getAllHeadParam

```
void MainWindow::getAllHeadParam (
            int index,
            QByteArray hParamArr )  [private], [slot]
```

7.38.2.7 getCyclesCommand

```
void MainWindow::getCyclesCommand (
            QByteArray commandArr )  [private], [slot]
```

7.38.2.8 getDirection

```
void MainWindow::getDirection (
            int direction )  [private], [slot]
```

7.38.2.9 getEmailSettings

```
void MainWindow::getEmailSettings (
             EmailSettings emailSett )  [private], [slot]
```

7.38.2.10 getHeadActivCommand

```
void MainWindow::getHeadActivCommand (
             QByteArray commandArr )  [private], [slot]
```

7.38.2.11 getHeadColor

```
void MainWindow::getHeadColor (
             int index,
             QColor color )  [private], [slot]
```

7.38.2.12 getHeadCommand

```
void MainWindow::getHeadCommand (
             int index,
             QByteArray commandArr )  [private], [slot]
```

7.38.2.13 getHeadParam

```
void MainWindow::getHeadParam (
             int index,
             QByteArray hParamArr )  [private], [slot]
```

7.38.2.14 getIndexerParam

```
void MainWindow::getIndexerParam (
             QByteArray indexerParamArr )  [private], [slot]
```

7.38.2.15 getIndexLiftCommand

```
void MainWindow::getIndexLiftCommand (
             QByteArray commandArr )  [private], [slot]
```

7.38.2.16 getIndexLiftSettComm

```
void MainWindow::getIndexLiftSettComm (
             QByteArray commandArr )  [private], [slot]
```

7.38.2.17 getLangFile

```
void MainWindow::getLangFile (
             int langIndex )  [private], [slot]
```

7.38.2.18 getLiftDistance

```
void MainWindow::getLiftDistance (
             float distance )  [private], [slot]
```

7.38.2.19 getLiftOffcet

```
void MainWindow::getLiftOffcet (
             double arg1 )  [private], [slot]
```

7.38.2.20 getLiftParam

```
void MainWindow::getLiftParam (
             QByteArray liftParamArr )  [private], [slot]
```

7.38.2.21 getLoadState

```
void MainWindow::getLoadState (
             int index,
             LoadState state )  [private], [slot]
```

7.38.2.22 getMachineCommand

```
void MainWindow::getMachineCommand (
             QByteArray commandArr )  [private], [slot]
```

7.38.2.23 getMachineParam

```
void MainWindow::getMachineParam (
            QByteArray machineParamArr )  [private], [slot]
```

7.38.2.24 getSerialData

```
void MainWindow::getSerialData (
            ModData modData )  [private], [slot]
```

7.38.2.25 getSerialSetting

```
void MainWindow::getSerialSetting (
            ComSettings comSett )  [private], [slot]
```

7.38.2.26 getStepDelayTime

```
void MainWindow::getStepDelayTime (
            double arg1 )  [private], [slot]
```

7.38.2.27 getUdpData

```
void MainWindow::getUdpData (
            QByteArray data )  [private], [slot]
```

7.38.2.28 getVeiwSettings

```
void MainWindow::getVeiwSettings (
            int stSheetIndex )  [private], [slot]
```

7.38.2.29 headSettingRequest

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

7.38.2.30 headsInit

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

7.38.2.31 indexerLiftSettingRequest

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

7.38.2.32 indexerStepFinish

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

7.38.2.33 loadJob

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

7.38.2.34 maintanceWorkSlot

```
void MainWindow::maintanceWorkSlot (
             bool enable )  [private], [slot]
```

7.38.2.35 masterCodeCheck()

```
void MainWindow::masterCodeCheck ( )
```

7.38.2.36 resetMachine

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

7.38.2.37 resizeEvent()

```
void MainWindow::resizeEvent (
             QResizeEvent * e )  [protected], [virtual]
```

7.38.2.38 saveJob

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

7.38.2.39 serviceStateChange

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

7.38.2.40 setBackGround

```
void MainWindow::setBackGround (
             bool enable,
             bool request = false )  [private], [slot]
```

7.38.2.41 setHeadsPosition

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

7.38.2.42 setIconFolder

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

7.38.2.43 setUnloadState

```
void MainWindow::setUnloadState (
             bool state )  [private], [slot]
```

7.38.2.44 showEvent()

```
void MainWindow::showEvent (
             QShowEvent * ev )  [protected]
```

7.38.2.45 showMaintananceWidget

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

7.38.2.46 startPrintProcess

```
void MainWindow::startPrintProcess (
             bool autoPrint )  [private], [slot]
```

7.38.2.47 stopPrintProcess

void MainWindow::stopPrintProcess ( ) [private], [slot]

7.38.2.48 updateTimeSlot

void MainWindow::updateTimeSlot ( ) [private], [slot]

7.38.2.49 userLogin()

void MainWindow::userLogin ( )

7.38.2.50 watchDogTimeout

void MainWindow::watchDogTimeout ( ) [private], [slot]

7.38.2.51 zeroStart

void MainWindow::zeroStart ( ) [private], [slot]

7.38.3 Member Data Documentation

7.38.3.1 autoPrintEnabled

bool MainWindow::autoPrintEnabled [private]

7.38.3.2 comPort

SerialPort* MainWindow::comPort [private]

7.38.3.3 cycleDialog

CyclesDialog* MainWindow::cycleDialog [private]

7.38.3.4 exitCode

```
ExitDialog::ExitCode MainWindow::exitCode
```

7.38.3.5 generalSettingDialog

```
GeneralSettingDialog* MainWindow::generalSettingDialog  [private]
```

7.38.3.6 headActDialog

```
HeadActivationDialog* MainWindow::headActDialog  [private]
```

7.38.3.7 headButton

```
QList<HeadForm*> MainWindow::headButton  [private]
```

7.38.3.8 headsCount

```
uint16_t MainWindow::headsCount  [private]
```

7.38.3.9 headSettButton

```
QList<HeadSettingButton*> MainWindow::headSettButton  [private]
```

7.38.3.10 headSettingDialog

```
SettingDialog* MainWindow::headSettingDialog  [private]
```

7.38.3.11 headSettings

```
HeadSetting MainWindow::headSettings  [private]
```

7.38.3.12 headStylesStr

```
QStringList MainWindow::headStylesStr  [private]
```

7.38.3.13 indexer

```
IndexerWidget* MainWindow::indexer  [private]
```

7.38.3.14 indexerCyclesAll

```
int MainWindow::indexerCyclesAll  [private]
```

7.38.3.15 indexerCyclesSession

```
int MainWindow::indexerCyclesSession  [private]
```

7.38.3.16 indexerLiftSetDialog

```
IndexerSettingDialog* MainWindow::indexerLiftSetDialog  [private]
```

7.38.3.17 indexerLiftSettings

```
IndexerLiftSettings MainWindow::indexerLiftSettings  [private]
```

7.38.3.18 infoWidget

```
InfoWidget* MainWindow::infoWidget  [private]
```

7.38.3.19 logedInGeneral

```
bool MainWindow::logedInGeneral  [private]
```

7.38.3.20 logedInHeadSettings

```
bool MainWindow::logedInHeadSettings  [private]
```

7.38.3.21 logedInIndexer

```
bool MainWindow::logedInIndexer  [private]
```

7.38.3.22 logedInService

```
bool MainWindow::logedInService  [private]
```

7.38.3.23 machineSettings

```
MachineSettings MainWindow::machineSettings  [private]
```

7.38.3.24 mailSender

```
MailSender* MainWindow::mailSender  [private]
```

7.38.3.25 maintanceDialog

```
MaintanceDialog* MainWindow::maintanceDialog  [private]
```

7.38.3.26 maintanceWidget

```
MaintanceWidget* MainWindow::maintanceWidget  [private]
```

7.38.3.27 masterCodes

```
QSettings* MainWindow::masterCodes  [private]
```

7.38.3.28 needCompleteReset

```
bool MainWindow::needCompleteReset  [private]
```

7.38.3.29 ragAllCount

```
int MainWindow::ragAllCount  [private]
```

7.38.3.30 ragAllCountReg

```
uint32_t MainWindow::ragAllCountReg  [private]
```

7.38.3.31 ragAtHeadCount

```
int MainWindow::ragAtHeadCount  [private]
```

7.38.3.32 ragSessionCount

```
int MainWindow::ragSessionCount  [private]
```

7.38.3.33 registers

```
Register* MainWindow::registers  [private]
```

7.38.3.34 reprogramDialog

```
ReprogramDialog* MainWindow::reprogramDialog  [private]
```

7.38.3.35 serialSettingsDialog

```
SerialSettingsDialog* MainWindow::serialSettingsDialog  [private]
```

7.38.3.36 settings

```
QSettings* MainWindow::settings  [private]
```

7.38.3.37 timeProgramEnd

```
QTime MainWindow::timeProgramEnd  [private]
```

7.38.3.38 timeProgramStart

```
QTime MainWindow::timeProgramStart  [private]
```

7.38.3.39 timeWorking

```
QTime MainWindow::timeWorking  [private]
```

7.38.3.40 translator

```
QTranslator MainWindow::translator  [private]
```

7.38.3.41 truePassword

```
QString MainWindow::truePassword  [private]
```

7.38.3.42 udpHandler

```
UdpSocket* MainWindow::udpHandler  [private]
```

7.38.3.43 ui

```
Ui::MainWindow* MainWindow::ui  [private]
```

7.38.3.44 updateTime

```
QTimer* MainWindow::updateTime  [private]
```

7.38.3.45 userName

```
QString MainWindow::userName  [private]
```

7.38.3.46 usersSettingDialog

```
UserSettingDialog* MainWindow::usersSettingDialog  [private]
```

7.38.3.47 watchDog

```
QTimer* MainWindow::watchDog  [private]
```

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

- mainwindow.h
- mainwindow.cpp

7.39 Register::MasterReg_ Union Reference

```
#include <settings.h>
```

Classes

- struct reg

Public Attributes

- struct Register::MasterReg_::reg field
- uint16_t memBeg

7.39.1 Member Data Documentation

`struct Register::MasterReg_::reg Register::MasterReg_::field` - - fields of Register::MasterReg_::reg structure to give possibility to access to memory by name.

`uint16_t Register::MasterReg_::memBeg` - variable to notice beginning of memory region of structure.

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

- settings.h

7.40 ModData_ Union Reference

```
#include <serialport.h>
```

Public Attributes

- struct {
  uint16_t crc16Val:16
  uint16_t data:16
  uint8_t registerNo:8
  uint8_t adress:8
  } bits
- struct {
  uint16_t crc16Val:16
  uint16_t data:16
  uint8_t registerNo:7
  uint8_t rwBit:1
  uint8_t adress:7
  uint8_t rwBit_:1
  } fileds
- u_int64_t all:48

7.40.1 Member Data Documentation

`uint8_t ModData_::adress` - field of union which give access to data at position where address of sender/receiver device stored. Part of bits structure.

`u_int64_t ModData_::all` - field of union which give access to all data stored in union. Used to written data to union and have access to parts of data.

`struct { ... } ModData_::bits` - structure (one of union fields) which used to have access to data in different places in data union.

`uint16_t ModData_::crc16Val` - field of union which give access to data at position where 2 bytes of data of package stored.

`uint16_t ModData_::data` - field of union which give access to data at position where control sum of package stored.

`struct { ... } ModData_::fileds` - structure (one of union fields) which used to access to data in different places in data union. Created to have possibility to access to rwBit (Used to check is got data must be written to appropriate place or it is data request).

`uint8_t ModData_::registerNo` - field of union which give access to data at position where register address stored.

`uint8_t ModData_::rwBit` - field of union (one bit) used to check is got data must be written to appropriate place or it is data request.

`uint8_t ModData_::rwBit_` - unused (reserved bit).

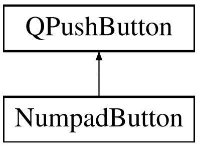
The documentation for this union was generated from the following file:

- serialport.h

7.41 NumpadButton Class Reference

`#include <numpaddialog.h>`

Inheritance diagram for NumpadButton:



Signals

- void clicked (int index)

Public Member Functions

- NumpadButton (unsigned int inputNumber, QString name)

Private Slots

- void thisClicked ()

Private Attributes

- unsigned int index

7.41.1 Constructor & Destructor Documentation

```
NumpadButton::NumpadButton (
            unsigned int inputNumber,
            QString name )
```
- reimplemented constructor of QPushButton class. Initialize button and set value of index with given parameter. Connect standard QPushButton::clicked() signal to thisClicked(...) function.

7.41.2 Member Function Documentation

```
void NumpadButton::clicked (
            int index )  [signal]
```
- signal which emitted when button is clicked with thisClicked(...) function. Signal transmit value of index variable in parameters. Signal handle in parent object.

`void NumpadButton::thisClicked ( ) [inline], [private], [slot]` - function called by QPushButton::clicked() signal and emit clicked(...) signal.

7.41.3 Member Data Documentation

`unsigned int NumpadButton::index [private]`

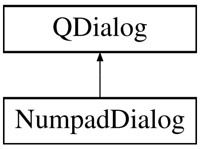
The documentation for this class was generated from the following files:

- numpaddialog.h
- numpaddialog.cpp

7.42 NumpadDialog Class Reference

```
#include <numpaddialog.h>
```

Inheritance diagram for NumpadDialog:



Signals

- void valueSubmited (QString value)

Public Member Functions

- NumpadDialog (QWidget ∗parent=0, QString windowTitle="Numpad")
- ∼NumpadDialog ()

Static Public Member Functions

- static double getValue (QWidget ∗parent=0, QString windowTitle="Numpad")

Protected Member Functions

- void changeEvent (QEvent ∗event)

Private Slots

- void appendToLineEdit (int number)
- void submitValue ()
- void changeSign ()
- void appendZero ()
- void addDot ()
- void backspace ()

Private Attributes

- Ui::NumpadDialog ∗ ui
- NumpadButton ∗ buttons [10]
- const QString stSheet
- QAction ∗ actionSubmit
- double value

7.42.1 Constructor & Destructor Documentation

```
NumpadDialog::NumpadDialog (
            QWidget * parent = 0,
            QString windowTitle = "Numpad" )  [explicit]
```
- standard QDialog constructor.

`NumpadDialog::∼NumpadDialog( )` - standard QDialog destructor.

7.42.2 Member Function Documentation

`void NumpadDialog::addDot ( )  [private], [slot]` - function to add dot to text field.

```
void NumpadDialog::appendToLineEdit (
            int number )  [private], [slot]
```
- function which used to add number to text field. Function called by 1..9 button from buttons array.

`void NumpadDialog::appendZero ( )  [private], [slot]` - function which used to add zero to text field. Function called by 0 button from buttons array.

`void NumpadDialog::backspace ( )  [private], [slot]` - function to remove last symbol from text field.

```
void NumpadDialog::changeEvent (
            QEvent * event )  [protected]
```
- reimplementation of default event of QWidget to enable user interface translation. Function called automatically.

`void NumpadDialog::changeSign ( )  [private], [slot]` - function to change sign of number which is st text field.

```
double NumpadDialog::getValue (
            QWidget * parent = 0,
            QString windowTitle = "Numpad" )  [static]
```
- static function of class used to show dialog and get *double* value.

`void NumpadDialog::submitValue ( )  [private], [slot]` - function to transform text at text field to *double* number and put it to value variable.

```
void NumpadDialog::valueSubmited (
            QString value )  [signal]
```
- unused.

7.42.3 Member Data Documentation

`QAction* NumpadDialog::actionSubmit  [private]`

`NumpadButton* NumpadDialog::buttons[10]  [private]`

`const QString NumpadDialog::stSheet  [private]`

`double NumpadDialog::value  [private]`

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

- numpaddialog.h
- numpaddialog.cpp

7.43 Register::MasterReg_::reg Struct Reference

```
#include <settings.h>
```

Fields of structure describe data places at master board to setup machine states and parameters.

Public Attributes

- uint16_t masterReg_DEV_INF_H
- uint16_t masterReg_SIZE
- uint16_t _res
- uint16_t masterReg_PRZ
- uint16_t masterReg_STA
- uint16_t masterheadReg
- uint16_t masterReg_LAM
- uint16_t masterReg_TOTALH
- uint16_t masterReg_TOTALL
- uint16_t masterheadReg1
- uint16_t masterReg_PAL
- uint16_t masterReg_INPUT
- uint16_t masterReg_REMAINH
- uint16_t masterReg_REMAINL
- uint16_t masterReg_SPEED
- uint16_t masterReg_PRINTEDH
- uint16_t masterReg_PRINTEDL
- uint16_t masterReg_MACHINE_TYPE
- uint16_t masterReg_PAL1
- uint16_t masterReg_EKR
- uint16_t masterReg_ACTIVHEAD_L
- uint16_t masterReg_ACTIVHEAD_H
- uint16_t masterReg_DEVERR
- uint16_t masterReg_ERR
- uint16_t masterReg_KODH
- uint16_t masterReg_KODL
- uint16_t masterReg_DATH
- uint16_t masterReg_DATL
- uint16_t masterReg_KOD_ON
- uint16_t masterReg_DAT
- uint16_t REG_KOD_WPISZ
- uint16_t masterReg_HRW
- uint16_t masterReg_HRW1
- uint16_t masterReg_KOD_ON2
- uint16_t masterReg_KOD_ON3
- uint16_t masterReg_ERROR_MESSAGE
- uint16_t masterReg_DEV_INF_L

7.43.1 Member Data Documentation

`uint16_t Register::MasterReg_::_res` - reserved field.

`uint16_t Register::MasterReg_::reg::masterheadReg` - States of the Heads On/Off buttons. Low Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterheadReg1` - States of the Head On/Off buttons. High Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_ACTIVHEAD_H` - States of the Head Activation buttons. 0 means Head is Active, 1 means Head is Not Active. High Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_ACTIVHEAD_L` - States of the Head Activation buttons. 0 means Head is Active, 1 means Head is Not Active. Low Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_DAT` - Actual Date readed from system

`uint16_t Register::MasterReg_::reg::masterReg_DATH` - Date of the installment code activation. High Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_DATL` - Date of the installment code activation. Low Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_DEV_INF_H` - Number of PCB and version of software of MASTER. High Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_DEV_INF_L` - Number of the PCB and version of software of MASTER. Low Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_DEVERR` - Address of the device with error

`uint16_t Register::MasterReg_::reg::masterReg_EKR` - States of the information screen

- low-order byte:
  - bit 0 – e-stop icon
  - bit 1 – safety bar icon
  - bit 2 – error lamp
- high-order byte: (value)
  - 0 – you need to reset
  - 1 - resetting
  - 2 – you need to home
  - 3 - homing
  - 4 – you need to lock
  - 5 - locking
  - 6 - unlocking
  - 7 – ready to print
  - 8 - printing
  - 9 – you need to lower the pallets
  - 10 - half index – middle position
  - 11 - half index – extreme position

uint16_t Register::MasterReg_::reg::masterReg_ERR - Error signature

uint16_t Register::MasterReg_::reg::masterReg_ERROR_MESSAGE - Number of the error message

uint16_t Register::MasterReg_::reg::masterReg_HRW - State of the HRW (flash station between two heads). Low Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_HRW1 - State of the HRW (flash station between two heads). High Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_INPUT - States of the PCB211 inputs.

uint16_t Register::MasterReg_::reg::masterReg_KOD_ON - States of the installment code off/on buttons 1-st Word of Register

uint16_t Register::MasterReg_::reg::masterReg_KOD_ON2 - States of the installment code off/on buttons. 2-nd Word of Register

uint16_t Register::MasterReg_::reg::masterReg_KOD_ON3 - States of the installment code off/on buttons. 3-rd Word of Register

uint16_t Register::MasterReg_::reg::masterReg_KODH - Value of the installment code. High Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_KODL - Value of the installment code. Low Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_LAM - States of the warning lamps (icons)

- bit 0 – HOME lamp
- bit 1 – flashing HOME lamp
- bit 2 – LOCK lamp
- bit 3 – flashing LOCK lamp
- bit 4 – UP lamp
- bit 5 – flashing UP lamp

uint16_t Register::MasterReg_::reg::masterReg_MACHINE_TYPE - Machine type (because of one bad man have very interesting way to use.)

uint16_t Register::MasterReg_::reg::masterReg_PAL - States of the Palet buttons. Low Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_PAL1 - States of the Pallets buttons. High Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_PRINTEDH - Value of the PRINTED counter. High Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_PRINTEDL - Value of the PRINTED counter. Low Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_PRZ - Number of the last pressed button from application

uint16_t Register::MasterReg_::reg::masterReg_REMAINH - Value of the REMAIN counter. High Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_REMAINL - Value of the REMAIN counter. Low Word of Double Word Register

uint16_t Register::MasterReg_::reg::masterReg_SIZE - Size of the machine – number of heads (not pallets)

uint16_t Register::MasterReg_::reg::masterReg_SPEED - Value of the production speed of the machine

uint16_t Register::MasterReg_::reg::masterReg_STA - States of 2-state buttons from bottom menu:

- bit 0 – print / stop
- bit 2 – lock / unlock
- bit 3 – up / down
- bit 4 – half / full
- bit 6 – manual / auto
- bit 7 – air release
- bit 8 – easy setup off / on

`uint16_t Register::MasterReg_::reg::masterReg_TOTALH` - Value of the TOTAL counter. High Word of Double Word Register

`uint16_t Register::MasterReg_::reg::masterReg_TOTALL` - Value of the TOTAL counter. Low Word of Double Word Register

`uint16_t Register::MasterReg_::reg::REG_KOD_WPISZ` - Number of installment code to enter

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

- settings.h

7.44 Register::IndexerReg_::reg Struct Reference

```
#include <settings.h>
```

Fields of structure describe data places at master board to setup indexer states and parameters.

Public Attributes

- uint16_t masterReg_DEV_INF_H
- uint16_t indexerReg_HOME_OFF
- uint16_t indexerReg_DIST_OFF
- uint16_t indexerReg_MAX_SPEED
- uint16_t indexerReg_DIR
- uint16_t _res0
- uint16_t indexerReg_CYCLE_DWELL
- uint16_t indexerliftReg_UP_DELAY
- uint16_t indexerReg_DIST
- uint16_t indexerReg_TM
- uint16_t indexerReg_ACC
- uint16_t indexerReg_RACC
- uint16_t _res1
- uint16_t indexerReg_RSPEED
- uint16_t indexerReg_WARN
- uint16_t _res2
- uint16_t _res3
- uint16_t _res4
- uint16_t _res5
- uint16_t _res6
- uint16_t _res7
- uint16_t liftReg_HOME_OFF
- uint16_t liftReg_DIST
- uint16_t liftReg_SPEED
- uint16_t liftReg_ACC
- uint16_t indexerReg_HRW_TIME_1
- uint16_t indexerReg_HRW_TIME_2
- uint16_t indexerReg_HRW_TIME_3
- uint16_t indexerReg_HRW_TIME_4
- uint16_t indexerReg_MODE
- uint16_t _res8
- uint16_t indexerReg_LOAD
- uint16_t indexerReg_WARM_CYCLES
- uint16_t indexerReg_WARM_TEMP
- uint16_t indexerReg_WARM_TIME
- uint16_t indexerReg_SKOK_SR
- uint16_t indexerReg_DEV_INF_L

7.44.1 Member Data Documentation

- uint16_t Register::IndexerReg_::reg::_res0
- uint16_t Register::IndexerReg_::reg::_res1
- uint16_t Register::IndexerReg_::reg::_res2
- uint16_t Register::IndexerReg_::reg::_res3
- uint16_t Register::IndexerReg_::reg::_res4
- uint16_t Register::IndexerReg_::reg::_res5
- uint16_t Register::IndexerReg_::reg::_res6
- uint16_t Register::IndexerReg_::reg::_res7
- uint16_t Register::IndexerReg_::reg::_res8

  - reserved fields.

uint16_t Register::IndexerReg_::reg::indexerliftReg_UP_DELAY - Value of the Lift Up delay

uint16_t Register::IndexerReg_::reg::indexerReg_ACC - Value of the acceleration of indexer

uint16_t Register::IndexerReg_::reg::indexerReg_CYCLE_DWELL - Value of the Cycle dwell time

uint16_t Register::IndexerReg_::reg::indexerReg_DEV_INF_L - Number of the PCB and version of the INDEXER software. Low Word of Double Word Register

uint16_t Register::IndexerReg_::reg::indexerReg_DIR - Work Direction

uint16_t Register::IndexerReg_::reg::indexerReg_DIST - Value of the indexer distance

uint16_t Register::IndexerReg_::reg::indexerReg_DIST_OFF - Value of the indexer distance offset

uint16_t Register::IndexerReg_::reg::indexerReg_HOME_OFF - Value of the indexer home offset

uint16_t Register::IndexerReg_::reg::indexerReg_HRW_TIME_1 - Half Rapid Wave heating time #1

uint16_t Register::IndexerReg_::reg::indexerReg_HRW_TIME_2 - Half Rapid Wave heating time #2

uint16_t Register::IndexerReg_::reg::indexerReg_HRW_TIME_3 - Half Rapid Wave heating time #3

uint16_t Register::IndexerReg_::reg::indexerReg_HRW_TIME_4 - Half Rapid Wave heating time #4

uint16_t Register::IndexerReg_::reg::indexerReg_LOAD - State of the load button

uint16_t Register::IndexerReg_::reg::indexerReg_MAX_SPEED - Value of the maximal speed of indexer

uint16_t Register::IndexerReg_::reg::indexerReg_MODE - States of the buttons from Mode Window

uint16_t Register::IndexerReg_::reg::indexerReg_RACC - Value of the return acceleration of indexer

uint16_t Register::IndexerReg_::reg::indexerReg_RSPEED - Value of the return speed of the indexer

uint16_t Register::IndexerReg_::reg::indexerReg_SKOK_SR - Indexer screw pitch

uint16_t Register::IndexerReg_::reg::indexerReg_TM - States of 2-states buttons

- bit 0 - multiprint table move (0 = off, 1 = on)
- bit 1 - last on/off
- bit 2 - revolver/step back
- bit 3 - warm flash

`uint16_t Register::IndexerReg_::reg::indexerReg_WARM_CYCLES` - Number of the warming cycles

`uint16_t Register::IndexerReg_::reg::indexerReg_WARM_TEMP` - Temperature of the warming pallets

`uint16_t Register::IndexerReg_::reg::indexerReg_WARM_TIME` - Time of the warming pallets

`uint16_t Register::IndexerReg_::reg::indexerReg_WARN` - Value of the warning time

`uint16_t Register::IndexerReg_::reg::liftReg_ACC` - Value of the lift acceleration

`uint16_t Register::IndexerReg_::reg::liftReg_DIST` - Value of the lift distance

`uint16_t Register::IndexerReg_::reg::liftReg_HOME_OFF` - Value of the lift home offset

`uint16_t Register::IndexerReg_::reg::liftReg_SPEED` - Value of the lift speed

`uint16_t Register::IndexerReg_::reg::masterReg_DEV_INF_H` - Number of the PCB and version of software of INDEXER. High Word of Double Word Register

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

- settings.h

7.45 Register::HeadReg_::reg Struct Reference

```
#include <settings.h>
```

Public Attributes

- uint16_t REG_DEV_INF_H
- uint16_t headReg_ON
- uint16_t headReg_RSPD
- uint16_t headReg_FSPD
- uint16_t headReg_FLDWE
- uint16_t headReg_SQDWE
- uint16_t headReg_NOSTR
- uint16_t headReg_RW1_TIME
- uint16_t headReg_RW2_TIME
- uint16_t headReg_RW3_TIME
- uint16_t headReg_REG_INP
- uint16_t headReg_ROZ
- uint16_t headReg_STAN
- uint16_t REG_KEY
- uint16_t headReg_SBSTR
- uint16_t REG_LED
- uint16_t headRegIsHeat
- uint16_t headReg_R
- uint16_t headReg_G
- uint16_t headReg_B
- uint16_t REG_SERVO_HOLD
- uint16_t REG_SHUTTLE_REAR_POS
- uint16_t headReg_RANGE_1
- uint16_t headReg_RANGE_2
- uint16_t REG_TEMP_SET
- uint16_t REG_SENSOR_TIME
- uint16_t REG_STANDBY_POWER
- uint16_t REG_STANDBY_TIME
- uint16_t headReg_CONFIG
- uint16_t REG_RW_POWER
- uint16_t REG_TEMP_MEAS
- uint16_t headReg_WARM_PAL_TIME
- uint16_t headReg_WARM_FLASH_TIME
- uint16_t headReg_MACHINE_TYPE
- uint16_t headReg_PRESSURE_1
- uint16_t headReg_PRESSURE_2
- uint16_t headReg_PRESSURE_3
- uint16_t headReg_PRESSURE_4
- uint16_t headReg_PRESSURE_5
- uint16_t headReg_ERROR_MESSAGE
- uint16_t REG_HMI_DATA
- uint16_t headReg_REVOLVER_STR_L
- uint16_t headReg_REVOLVER_STR_H
- uint16_t REG_DEV_INF_L

7.45.1 Member Data Documentation

`uint16_t Register::HeadReg_::reg::headReg_B` - Ink color – Blue value

`uint16_t Register::HeadReg_::reg::headReg_CONFIG` - Additional head configuration

- bit 0 – IR sensor on / off
- bit 1 – warm flash on / off

`uint16_t Register::HeadReg_::reg::headReg_ERROR_MESSAGE` - Number of the error message

`uint16_t Register::HeadReg_::reg::headReg_FLDWE` - Delay before FL

`uint16_t Register::HeadReg_::reg::headReg_FSPD` - Speed in the front direction

`uint16_t Register::HeadReg_::reg::headReg_G` - Ink color – Green value

`uint16_t Register::HeadReg_::reg::headReg_MACHINE_TYPE` - Type of the head

`uint16_t Register::HeadReg_::reg::headReg_NOSTR` - Number of the strokes

`uint16_t Register::HeadReg_::reg::headReg_ON` - States of the information screen

- low-order byte: (value)
  - 0 – empty head
  - 1 – print head off
  - 2 – print head on
  - 3 – rapid head off
  - 4 – rapid head on
  - 5 – shuttle head off
  - 6 – shuttle head on
  - 7 – pilot off
  - 8 – pilot on
  - 9 – flock head off
  - 10 – flock head on
  - 11 – vacuum head off
  - 12 – vacuum head on
- high-order byte:
  - bit 0 – type of the ink: 0 = plastisol, 1 = water based
  - bit 1 & bit 2 – heating time selector: 00 = 1-st time, 01 = 2-nd time, 10 = 3-rd time
  - bit 3 – step back function off / on
  - bit 4 – preheat function off / on
  - bit 5 & bit 6 – number of rapid
  - bit 7 – cake flash unit

`uint16_t Register::HeadReg_::reg::headReg_PRESSURE_1` - Pressure of the 1-st stroke

`uint16_t Register::HeadReg_::reg::headReg_PRESSURE_2` - Pressure of the 2-nd stroke

`uint16_t Register::HeadReg_::reg::headReg_PRESSURE_3` - Pressure of the 3-rd stroke

`uint16_t Register::HeadReg_::reg::headReg_PRESSURE_4` - Pressure of the 4-th stroke

`uint16_t Register::HeadReg_::reg::headReg_PRESSURE_5` - Pressure of the 5-th stroke

`uint16_t Register::HeadReg_::reg::headReg_R` - Ink color – Red value `uint16_t Register::HeadReg_::reg::headReg_RANGE_1` - 1-st position of the print range

`uint16_t Register::HeadReg_::reg::headReg_RANGE_2` - 2-nd position of the print range

`uint16_t Register::HeadReg_::reg::headReg_REG_INP` - Sates of the Inpute

`uint16_t Register::HeadReg_::reg::headReg_REVOLVER_STR_H` - Number of the strokes in revolver mode. High Word of Double Word Register

`uint16_t Register::HeadReg_::reg::headReg_REVOLVER_STR_L` - Number of the strokes in revolver mode. Low Word of Double Word Register

`uint16_t Register::HeadReg_::reg::headReg_ROZ` - Command from MASTER PCB

`uint16_t Register::HeadReg_::reg::headReg_RSPD` - Speed in the rear direction

`uint16_t Register::HeadReg_::reg::headReg_RW1_TIME` - 1-st time of the flash

`uint16_t Register::HeadReg_::reg::headReg_RW2_TIME` - 2-st time of the flash

`uint16_t Register::HeadReg_::reg::headReg_RW3_TIME` - 3-st time of the flash

`uint16_t Register::HeadReg_::reg::headReg_SBSTR` - Number of the strokes in step back

`uint16_t Register::HeadReg_::reg::headReg_SQDWE` - Delay before SQ

`uint16_t Register::HeadReg_::reg::headReg_STAN` - Execution status of the command

`uint16_t Register::HeadReg_::reg::headReg_WARM_FLASH_TIME` - Time of the flashes warming

`uint16_t Register::HeadReg_::reg::headReg_WARM_PAL_TIME` - Time of the pallets warming

`uint16_t Register::HeadReg_::reg::headRegIsHeat` - Information about heating of the flash (0 – not heating, 1 – heating)

`uint16_t Register::HeadReg_::reg::REG_DEV_INF_H` - Number of the PCB and version of the software. High Word of Double Word Register

`uint16_t Register::HeadReg_::reg::REG_DEV_INF_L` - Number of the PCB and version of the software. High Word of Double Word Register

`uint16_t Register::HeadReg_::reg::REG_HMI_DATA` - Last pressed button of the HMI

`uint16_t Register::HeadReg_::reg::REG_KEY` - Last pressed keypad button

`uint16_t Register::HeadReg_::reg::REG_LED` - States of the keypad diodes

`uint16_t Register::HeadReg_::reg::REG_RW_POWER` - Power of the flash heating when IR sensor is disabled

`uint16_t Register::HeadReg_::reg::REG_SENSOR_TIME` - Heating time of the flash with IR sensor

`uint16_t Register::HeadReg_::reg::REG_SERVO_HOLD` - Hold on / Hold off on servo head (State of the enable of the servo drive)

`uint16_t Register::HeadReg_::reg::REG_SHUTTLE_REAR_POS` - Shuttle rear position

`uint16_t Register::HeadReg_::reg::REG_STANDBY_POWER` - Power of the flash standby

`uint16_t Register::HeadReg_::reg::REG_STANDBY_TIME` - Time of the flash standby

`uint16_t Register::HeadReg_::reg::REG_TEMP_MEAS` - Measured temperature

`uint16_t Register::HeadReg_::reg::REG_TEMP_SET` - Heating set temperature

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

- settings.h

7.46 Register::LiftReg_::reg Struct Reference

```
#include <settings.h>
```

Public Attributes

- uint16_t _res0
- uint16_t _res1
- uint16_t _res2
- uint16_t _res3
- uint16_t _res4
- uint16_t _res5
- uint16_t liftReg_SEQU1_L
- uint16_t liftReg_SEQU1_H
- uint16_t liftReg_SEQU2_L
- uint16_t liftReg_SEQU2_H
- uint16_t liftReg_SEQU3_L
- uint16_t liftReg_SEQU3_H
- uint16_t liftReg_SEQU4_L
- uint16_t liftReg_SEQU4_H
- uint16_t liftReg_SEQU5_L
- uint16_t liftReg_SEQU5_H
- uint16_t liftReg_SEQU6_L
- uint16_t liftReg_SEQU6_H
- uint16_t liftReg_SEQU7_L
- uint16_t liftReg_SEQU7_H
- uint16_t liftReg_SEQU8_L
- uint16_t liftReg_SEQU8_H
- uint16_t liftReg_DIST_PULSE_L
- uint16_t liftReg_DIST_PULSE_H
- uint16_t REG_TEMP_UNIT
- uint16_t REG_GET_ZERO_OFF_CONTACT
- uint16_t REG_SKIPC_H
- uint16_t REG_SKIPC_L
- uint16_t liftReg_DOWN_DELAY
- uint16_t REG_PCB35_STAN
- uint16_t REG_PCB35_ROZ
- uint16_t REG_PCB35_SELECT
- uint16_t REG_PCB35_HEAT
- uint16_t REG_PCB35_ERR_DEV
- uint16_t REG_PCB35_MACHINE_TYPE
- uint16_t REG_PCB35_ERR_MESSAGE

7.46.1 Member Data Documentation

- `uint16_t Register::LiftReg_::reg::_res0`
- `uint16_t Register::LiftReg_::reg::_res1`
- `uint16_t Register::LiftReg_::reg::_res2`
- `uint16_t Register::LiftReg_::reg::_res3`
- `uint16_t Register::LiftReg_::reg::_res4`
- `uint16_t Register::LiftReg_::reg::_res5`

  - reserved fields.

uint16_t Register::LiftReg_::reg::liftReg_DIST_PULSE_H - Eccentricy distance of lift. High Word of Double Word Register

uint16_t Register::LiftReg_::reg::liftReg_DIST_PULSE_L - Eccentricy distance of lift. Low Word of Double Word Register

uint16_t Register::LiftReg_::reg::liftReg_DOWN_DELAY - Lift down delay time

---

States of heads On/Off buttons of revolver mode – sequence 1. Low and high words of double word register. Fields for 8 sequences

- uint16_t Register::LiftReg_::reg::liftReg_SEQU1_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU1_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU2_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU2_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU3_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU3_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU4_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU4_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU5_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU5_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU6_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU6_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU7_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU7_L
- uint16_t Register::LiftReg_::reg::liftReg_SEQU8_H
- uint16_t Register::LiftReg_::reg::liftReg_SEQU8_L

---

uint16_t Register::LiftReg_::reg::REG_GET_ZERO_OFF_CONTACT - Lift gear ratio

uint16_t Register::LiftReg_::reg::REG_PCB35_ERR_DEV - Number of head with error

uint16_t Register::LiftReg_::reg::REG_PCB35_ERR_MESSAGE - Number of the error message

uint16_t Register::LiftReg_::reg::REG_PCB35_HEAT - States of flashes

uint16_t Register::LiftReg_::reg::REG_PCB35_MACHINE_TYPE - Type of machine

uint16_t Register::LiftReg_::reg::REG_PCB35_ROZ - Commands for heads

uint16_t Register::LiftReg_::reg::REG_PCB35_SELECT - Select which head must execute the command

uint16_t Register::LiftReg_::reg::REG_PCB35_STAN - States of heads On/Off

uint16_t Register::LiftReg_::reg::REG_SKIPC_H - Value of skipped shirts counter. High Word of Double Word Register

uint16_t Register::LiftReg_::reg::REG_SKIPC_L - Value of skipped shirts counter. Low Word of Double Word Register

uint16_t Register::LiftReg_::reg::REG_TEMP_UNIT - Temperature units of flash with IR sensor

- bit 0: 0 = Celsius, 1 = Fahrenheit
- bit 1: 0 = sensor not active, 1 = sensor active

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

- settings.h

7.47 Register Class Reference

```
#include <settings.h>
```

Classes

- union HeadReg_
- union IndexerReg_
- union LiftReg_
- union MasterReg_

Public Types

- enum MasterRegNom {
  - masterReg_DEV_INF_H,
  - masterReg_SIZE,
  - _res,
  - masterReg_PRZ,
  - masterReg_STA,
  - masterheadReg,
  - masterReg_LAM,
  - masterReg_TOTALH,
  - masterReg_TOTALL,
  - masterheadReg1,
  - masterReg_paletStLow,
  - masterReg_INPUT,
  - masterReg_REMAINH,
  - masterReg_REMAINL,
  - masterReg_SPEED,
  - masterReg_PRINTEDH,
  - masterReg_PRINTEDL,
  - masterReg_MACHINE_TYPE,
  - masterReg_paletStHigh,
  - masterReg_EKR,
  - masterReg_ACTIVHEAD_L,
  - masterReg_ACTIVHEAD_H,
  - masterReg_DEVERR,
  - masterReg_ERR,
  - masterReg_KODH,
  - masterReg_KODL,
  - masterReg_DATH,
  - masterReg_DATL,
  - masterReg_KOD_ON,
  - masterReg_DAT,
  - REG_KOD_WPISZ,
  - masterReg_HRW,
  - masterReg_HRW1,
  - masterReg_KOD_ON2,
  - masterReg_KOD_ON3,
  - masterReg_ERROR_MESSAGE,
  - masterReg_DEV_INF_L

  }
- enum IndexerRegNom {
  - indexerReg_HOME_OFFSET = 0x01,
  - indexerReg_DIST_OFFSET,
  - indexerReg_SPEED,
  - indexerReg_DIR,

  - _res0,
  - indexerReg_CYCLE_DWELL,
  - indexerliftReg_UP_DELAY,
  - indexerReg_DIST,
  - indexerReg_TM,
  - indexerReg_ACC,
  - indexerReg_RACC,
  - _res1,
  - indexerReg_RSPEED,
  - indexerReg_WARN,
  - _res2,
  - _res3,
  - _res4,
  - _res5,
  - _res6,
  - _res7,
  - liftReg_HOME_OFFSET,
  - liftReg_DIST,
  - liftReg_SPEED,
  - liftReg_ACC,
  - indexerReg_HRW_TIME_1,
  - indexerReg_HRW_TIME_2,
  - indexerReg_HRW_TIME_3,
  - indexerReg_HRW_TIME_4,
  - indexerReg_MODE,
  - _res8,
  - indexerReg_LOAD,
  - indexerReg_WARM_CYCLES,
  - indexerReg_WARM_TEMP,
  - indexerReg_WARM_TIME,
  - indexerReg_SKOK_SR,
  - indexerReg_DEV_INF_L

  }
- enum LiftRegNom {
  - liftReg_SEQU1_L = 0x06,
  - liftReg_SEQU1_H,
  - liftReg_SEQU2_L,
  - liftReg_SEQU2_H,
  - liftReg_SEQU3_L,
  - liftReg_SEQU3_H,
  - liftReg_SEQU4_L,
  - liftReg_SEQU4_H,
  - liftReg_SEQU5_L,
  - liftReg_SEQU5_H,
  - liftReg_SEQU6_L,
  - liftReg_SEQU6_H,
  - liftReg_SEQU7_L,
  - liftReg_SEQU7_H,
  - liftReg_SEQU8_L,
  - liftReg_SEQU8_H,
  - liftReg_DIST_PULSE_L,
  - liftReg_DIST_PULSE_H,
  - REG_TEMP_UNIT,
  - REG_GET_ZERO_OFF_CONTACT,
  - REG_SKIPC_H,
  - REG_SKIPC_L,
  - liftReg_DOWN_DELAY,
  - REG_PCB35_STAN,
  - REG_PCB35_ROZ,
  - REG_PCB35_SELECT,
  - REG_PCB35_HEAT,
  - REG_PCB35_ERR_DEV,
  - REG_PCB35_MACHINE_TYPE,

  - REG_PCB35_ERR_MESSAGE

  }
- enum HeadRegNom {
  - headReg_REG_DEV_INF_H,
  - headReg_ON,
  - headReg_SPD_REAR,
  - headReg_SPD_FRONT,
  - headReg_FLDWE,
  - headReg_SQDWE,
  - headReg_STR_COUNT,
  - headReg_RW1_TIME,
  - headReg_RW2_TIME,
  - headReg_RW3_TIME,
  - REG_INP,
  - headReg_ROZ,
  - headReg_STAN,
  - REG_KEY,
  - headReg_StBk_STR_COUNT,
  - REG_LED,
  - headRegT,
  - headReg_R,
  - headReg_G,
  - headReg_B,
  - headReg_SERVO_HOLD,
  - REG_SHUTTLE_REAR_POS,
  - headReg_RANGE_1,
  - headReg_RANGE_2,
  - REG_TEMP_SET,
  - REG_SENSOR_TIME,
  - REG_STANDBY_POWER,
  - REG_STANDBY_TIME,
  - headReg_CONFIG,
  - REG_RW_POWER,
  - REG_TEMP_MEAS,
  - headReg_WARM_PAL_TIME,
  - headReg_WARM_FLASH_TIME,
  - headReg_MACHINE_TYPE,
  - headReg_PRESSURE_1,
  - headReg_PRESSURE_2,
  - headReg_PRESSURE_3,
  - headReg_PRESSURE_4,
  - headReg_PRESSURE_5,
  - headReg_ERROR_MESSAGE,
  - REG_HMI_DATA,
  - headReg_REVOLVER_STR_L,
  - headReg_REVOLVER_STR_H,
  - headReg_REG_DEV_INF_L

  }
- typedef union Register::MasterReg_ MasterReg
- typedef union Register::IndexerReg_ IndexerReg
- typedef union Register::LiftReg_ LiftReg
- typedef union Register::HeadReg_ HeadReg

Public Member Functions

- Register (uint16_t headCount)
- void writeReg (uint8_t dev, uint8_t place, uint16_t data)
- uint16_t readReg (uint8_t dev, uint8_t place)
- void setMasterReg (MachineSettings mSett)
- void setHeadReg (int index, HeadSetting hSett)
- void setIndexLiftReg (IndexerLiftSettings iLSett)

Static Public Member Functions

- static uint32_t calcLiftPulse (uint16_t gearRatio, uint16_t liftDist=118)

Private Attributes

- MasterReg masterReg
- IndexerReg indexerReg
- LiftReg liftReg
- QList< HeadReg > headRegList
- uint16_t ∗ masterRegPtr
- uint16_t ∗ indexerRegPtr
- uint16_t ∗ liftRegPtr
- QList< uint16_t ∗ > headRegPtrList
- HeadSetting headSettings
- IndexerLiftSettings indexerLiftSettings
- MachineSettings machineSettings

7.47.1 Member Typedef Documentation

```
typedef union Register::HeadReg_ Register::HeadReg
```

```
typedef union Register::IndexerReg_ Register::IndexerReg
```

```
typedef union Register::LiftReg_ Register::LiftReg
```

```
typedef union Register::MasterReg_ Register::MasterReg
```

7.47.2 Member Enumeration Documentation

```
enum Register::HeadRegNom
```

Enumerator

headReg_REG_DEV_INF_H	0x00
headReg_ON	0x01
headReg_SPD_REAR	0x02
headReg_SPD_FRONT	0x03
headReg_FLDWE	0x04
headReg_SQDWE	0x05
headReg_STR_COUNT	0x06
headReg_RW1_TIME	0x07
headReg_RW2_TIME	0x08
headReg_RW3_TIME	0x09
REG_INP	0x0A
headReg_ROZ	0x0B
headReg_STAN	0x0C
REG_KEY	0x0D
headReg_StBk_STR_COUNT	0x0E
REG_LED	0x0F
headRegT	0x10
headReg_R	0x11
headReg_G	0x12
headReg_B	0x13

Enumerator

headReg_SERVO_HOLD	0x14
REG_SHUTTLE_REAR_POS	0x15
headReg_RANGE_1	0x16
headReg_RANGE_2	0x17
REG_TEMP_SET	0x18
REG_SENSOR_TIME	0x19
REG_STANDBY_POWER	0x1A
REG_STANDBY_TIME	0x1B
headReg_CONFIG	0x1C
REG_RW_POWER	0x1D
REG_TEMP_MEAS	0x1E
headReg_WARM_PAL_TIME	0x1F
headReg_WARM_FLASH_TIME	0x20
headReg_MACHINE_TYPE	0x21
headReg_PRESSURE_1	0x22
headReg_PRESSURE_2	0x23
headReg_PRESSURE_3	0x24
headReg_PRESSURE_4	0x25
headReg_PRESSURE_5	0x26
headReg_ERROR_MESSAGE	0x27
REG_HMI_DATA	0x28
headReg_REVOLVER_STR_L	0x29
headReg_REVOLVER_STR_H	0x2A
headReg_REG_DEV_INF_L	0x2B

enum Register::IndexerRegNom

Enumerator

indexerReg_HOME_OFFSET	0x01
indexerReg_DIST_OFFSET	0x02
indexerReg_SPEED	0x03
indexerReg_DIR	0x04
_res0	0x05
indexerReg_CYCLE_DWELL	0x06
indexerliftReg_UP_DELAY	0x07
indexerReg_DIST	0x08
indexerReg_TM	0x09
indexerReg_ACC	0x0A
indexerReg_RACC	0x0B
_res1	0x0C
indexerReg_RSPEED	0x0D
indexerReg_WARN	0x0E
_res2	0x0F
_res3	0x10
_res4	0x11
_res5	0x12
_res6	0x13
_res7	0x14
liftReg_HOME_OFFSET	0x15
liftReg_DIST	0x16
liftReg_SPEED	0x17
liftReg_ACC	0x18
indexerReg_HRW_TIME_1	0x19
indexerReg_HRW_TIME_2	0x1A

Enumerator

indexerReg_HRW_TIME_3	0x1B
indexerReg_HRW_TIME_4	0x1C
indexerReg_MODE	0x1D
_res8	0x1E
indexerReg_LOAD	0x1F
indexerReg_WARM_CYCLES	0x20
indexerReg_WARM_TEMP	0x21
indexerReg_WARM_TIME	0x22
indexerReg_SKOK_SR	0x23
indexerReg_DEV_INF_L	0x24

enum Register::LiftRegNom

Enumerator

liftReg_SEQU1_L	0x06
liftReg_SEQU1_H	0x07
liftReg_SEQU2_L	0x08
liftReg_SEQU2_H	0x09
liftReg_SEQU3_L	0x0A
liftReg_SEQU3_H	0x0B
liftReg_SEQU4_L	0x0C
liftReg_SEQU4_H	0x0D
liftReg_SEQU5_L	0x0E
liftReg_SEQU5_H	0x0F
liftReg_SEQU6_L	0x10
liftReg_SEQU6_H	0x11
liftReg_SEQU7_L	0x12
liftReg_SEQU7_H	0x13
liftReg_SEQU8_L	0x14
liftReg_SEQU8_H	0x15
liftReg_DIST_PULSE_L	0x16
liftReg_DIST_PULSE_H	0x17
REG_TEMP_UNIT	0x18
REG_GET_ZERO_OFF_CONTACT	0x19
REG_SKIPC_H	0x1A
REG_SKIPC_L	0x1B
liftReg_DOWN_DELAY	0x1C
REG_PCB35_STAN	0x1D
REG_PCB35_ROZ	0x1E
REG_PCB35_SELECT	0x1F
REG_PCB35_HEAT	0x20
REG_PCB35_ERR_DEV	0x21
REG_PCB35_MACHINE_TYPE	0x22
REG_PCB35_ERR_MESSAGE	0x23

enum Register::MasterRegNom

Enumerator

masterReg_DEV_INF_H	0x00
masterReg_SIZE	0x01
_res	0x02
masterReg_PRZ	0x03
masterReg_STA	0x04

Enumerator

masterheadReg	0x05
masterReg_LAM	0x06
masterReg_TOTALH	0x07
masterReg_TOTALL	0x08
masterheadReg1	0x09
masterReg_paletStLow	0x0A
masterReg_INPUT	0x0B
masterReg_REMAINH	0x0C
masterReg_REMAINL	0x0D
masterReg_SPEED	0x0E
masterReg_PRINTEDH	0x0F
masterReg_PRINTEDL	0x10
masterReg_MACHINE_TYPE	0x11
masterReg_paletStHigh	0x12
masterReg_EKR	0x13
masterReg_ACTIVHEAD_L	0x14
masterReg_ACTIVHEAD_H	0x15
masterReg_DEVERR	0x16
masterReg_ERR	0x17
masterReg_KODH	0x18
masterReg_KODL	0x19
masterReg_DATH	0x1A
masterReg_DATL	0x1B
masterReg_KOD_ON	0x1C
masterReg_DAT	0x1D
REG_KOD_WPISZ	0x1E
masterReg_HRW	0x1F
masterReg_HRW1	0x20
masterReg_KOD_ON2	0x21
masterReg_KOD_ON3	0x22
masterReg_ERROR_MESSAGE	0x23
masterReg_DEV_INF_L	0x24

7.47.3 Constructor & Destructor Documentation

Register::Register (
uint16_t *headCount*) - class constructor. Function used to append

- Register::MasterReg_::memBeg to masterRegPtr,
- Register::IndexerReg_::memBeg to indexerRegPtr,
- Register::LiftReg_::memBeg to liftRegPtr
- *headCount* of Register::HeadReg_::memBeg to headRegPtrList

and allocate memory for all structures and pointers.

7.47.4 Member Function Documentation

uint32_t Register::calcLiftPulse (
uint16_t *gearRatio*,
uint16_t *liftDist* = *118*) [static] - static function to calculate (from given parameters) 32 bit value to put it into liftReg_DIST_PULSE_L and liftReg_DIST_PULSE_H registers.

uint16_t Register::readReg (
uint8_t *dev*,
uint8_t *place*) - function to read register at *dev* and *place*.

void Register::setHeadReg (
int *index*,
HeadSetting *hSett*) - function to fill headRegPtrList*[index]* with parameters given in *hSett*

void Register::setIndexLiftReg (
IndexerLiftSettings *iLSett*) - function to fill indexerReg and liftReg with parameters given in *iLSett*

void Register::setMasterReg (
MachineSettings *mSett*) - function to fill masterReg with parameters given in *mSett*

void Register::writeReg (
uint8_t *dev*,
uint8_t *place*,
uint16_t *data*) - function to write *data* to register at *dev* and *place*.

7.47.5 Member Data Documentation

QList<HeadReg> Register::headRegList [private]

QList<uint16_t*> Register::headRegPtrList [private]

HeadSetting Register::headSettings [private]

IndexerLiftSettings Register::indexerLiftSettings [private]

IndexerReg Register::indexerReg [private]

uint16_t* Register::indexerRegPtr [private]

LiftReg Register::liftReg [private]

uint16_t* Register::liftRegPtr [private]

MachineSettings Register::machineSettings [private]

MasterReg Register::masterReg [private]

uint16_t* Register::masterRegPtr [private]

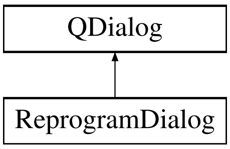
The documentation for this class was generated from the following files:

- settings.h
- settings.cpp

7.48 ReprogramDialog Class Reference

#include <reprogramdialog.h>

Inheritance diagram for ReprogramDialog:



Public Types

- enum BoardType_ {
  - Master_ATXmega,
  - Heads_ATXmega,
  - Master_ATmega,
  - Heads_ATmega

  }
- typedef enum ReprogramDialog::BoardType_ BoardType

Public Slots

- void setProgress (int progress)

Signals

- void programArrReady (ReprogramDialog::BoardType type, QByteArray progArr)

Public Member Functions

- ReprogramDialog (QWidget *parent=0)
- ~ReprogramDialog ()

Private Slots

- void on_pushButtonOpenFile_clicked ()
- void on_pushButtonErase_clicked ()
- void on_pushButtonWrite_clicked ()

Private Attributes

- Ui::ReprogramDialog * ui
- QFile inFile
- QString inFileName
- QByteArray programArr

7.48.1 Member Typedef Documentation

typedef enum ReprogramDialog::BoardType_ ReprogramDialog::BoardType - describe type of processor and type of device which will be reprogrammed by this module.

7.48.2 Member Enumeration Documentation

enum ReprogramDialog::BoardType_

Enumerator

Master_ATXmega	0x00
Heads_ATXmega	0x01
Master_ATmega	0x02
Heads_ATmega	0x03

7.48.3 Constructor & Destructor Documentation

```
ReprogramDialog::ReprogramDialog (
          QWidget * parent = 0 ) [explicit]
```
- standard QWidget constructor.

```
ReprogramDialog::~ReprogramDialog ( )
```
- standard QWidget destructor.

7.48.4 Member Function Documentation

```
void ReprogramDialog::on_pushButtonErase_clicked ( ) [private], [slot]
```
- function to emit programArrReady(...) with *progArr* filled with zeros.

```
void ReprogramDialog::on_pushButtonOpenFile_clicked ( ) [private], [slot]
```
- function to open text-HEX file with program in Intel-hex format, set value of inFileName and set file name of inFile.

```
void ReprogramDialog::on_pushButtonWrite_clicked ( ) [private], [slot]
```
- function which used for open inFile, read text from it and fill programArr with hex data to write it into devices. After that function emit programArrReady(...) signal with appropriate parameters.

```
void ReprogramDialog::programArrReady (
          ReprogramDialog::BoardType type,
          QByteArray progArr ) [signal]
```
- signal which emitted by on_pushButtonErase_clicked(...) and on_pushButtonWrite_clicked(...) functions and handle in parent object.

```
void ReprogramDialog::setProgress (
          int progress ) [slot]
```
- function to set value of programming process at dialog.

7.48.5 Member Data Documentation

```
QFile ReprogramDialog::inFile [private]
```

```
QString ReprogramDialog::inFileName [private]
```

```
QByteArray ReprogramDialog::programArr [private]
```

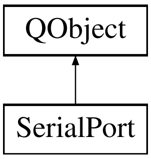
The documentation for this class was generated from the following files:

- reprogramdialog.h
- reprogramdialog.cpp

7.49 SerialPort Class Reference

#include <serialport.h>

Inheritance diagram for SerialPort:



Public Slots

- void openSerialPort ()
- void openSerialPort (ComSettings cSett)
- void closeSerialPort ()
- void sendProgram (ReprogramDialog::BoardType type, QByteArray programArr)
- void sendData (QByteArray data, bool send=false, bool halfByte=false)
- void sendModData (uint8_t dev, uint8_t place, uint16_t data)
- void sendReg (uint8_t dev, uint8_t place)
- void setupPort ()
- void setComParams (ComSettings sett)
- void setStyleSheet (QString stSheet)

Signals

- void dataReady (QByteArray data)
- void dataReady (ModData modData)
- void serialSettingAccepted (ComSettings seittngs)
- void working ()
- void proramProgres (int progres)

Public Member Functions

- SerialPort (QObject *parent=0)
- SerialPort (ComSettings settings, QObject *parent=0)
- void setRegisterPointer (Register *regPtr)

Private Slots

- void readData ()
- void handleError (QSerialPort::SerialPortError error)
- void showStatusMessage (const QString &message)
- void getSerialSetting (ComSettings setting)

Private Member Functions

- QByteArray dataTransform (QByteArray data)

Private Attributes

- SerialSettingsDialog * settingsComDialog
- QSerialPort * serial
- Register * registers
- ModData modData8
- QByteArray dataToSendBuff
- int replyCnt
- bool initApp

7.49.1 Constructor & Destructor Documentation

SerialPort::SerialPort [1/2] (
QObject ∗ *parent* = *0*) [explicit] - first variant of polymorphic constructor of class. Create QSerialPort class object and SerialSettingsDialog class object with default parameters.

SerialPort::SerialPort () [2/2] (
ComSettings *settings*,
QObject ∗ *parent* = *0*) [explicit] - second variant of polymorphic constructor of class. Create QSerialPort class object and SerialSettingsDialog class object with given at *settings* parameters.

7.49.2 Member Function Documentation

void SerialPort::closeSerialPort ( ) [slot] - function to close serial port if it's open.

void SerialPort::dataReady [1/2] (
QByteArray *data*) [signal] - signal which emits by readData(...) function. Signal contain byte array with data after CRC check.

void SerialPort::dataReady [2/2] (
ModData *modData*) [signal] - signal which emits by readData(...) function. Signal contain *modData* after CRC check.

QByteArray SerialPort::dataTransform (
QByteArray *data*) [private] - function to transform data from half-byte to full-byte array.

void SerialPort::getSerialSetting (
ComSettings *setting*) [private], [slot] - function to emit serialSettingAccepted(...) signal to save serial settings to hard drive.

void SerialPort::handleError (
QSerialPort::SerialPortError *error*) [private], [slot] - serial port errors handler. Used to show QMessageBox with error text.

void SerialPort::openSerialPort [1/2] ( ) [slot] - function to open serial port with settings↩ComDialog->currentSettings

void SerialPort::openSerialPort [2/2] (
ComSettings *cSett*) [slot] - function to open serial port with settings given in *cSett* variable.

void SerialPort::proramProgres (
int *progres*) [signal] - signal to send process of reprogramming PCB's.

void SerialPort::readData ( ) [private], [slot] - function to get data from serial port, analyze that data and create reply to send that to master PCB.

void SerialPort::sendData (
QByteArray *data*,
bool *send* = *false*,
bool *halfByte* = *false*) [slot] - function to send data to serial port. Function take *data* to send it to serial port. Parameter *send* describe way of data send: if *true* than data sends immediately, if *false* than data adding to dataToSendBuff and send in it's turn. Parameter *halfByte* specifies requirement of data transformation - if *true* data transform to half byte variant and sends after that, if *false* data sends as it is.

void SerialPort::sendModData (
uint8_t *dev*,
uint8_t *place*,
uint16_t *data*) [slot] - function to send mod data to serial port. At function data gather to QByteArray and sends to serial port.

void SerialPort::sendProgram (
ReprogramDialog::BoardType *type*,

QByteArray *programArr*) [slot] - function to send *programArr* to PCB. Parameter *type* describe which commands will be sends to start reprogramming and size of memory page.

void SerialPort::sendReg (
uint8_t *dev,*
uint8_t *place*) [slot] - function to send data from registers at *dev* and *place*. At function data gather to QByteArray and sends to serial port.

void SerialPort::serialSettingAccepted (
ComSettings *seittngs*) [signal] - signal which handle in parent and used to save serial settings to hard drive.

void SerialPort::setComParams (
ComSettings *sett*) [slot] - function to set parameters of serial. If serial port is open it will be closed before setting up parameters.

void SerialPort::setRegisterPointer (
Register * *regPtr*) - function to set pointer to Register class object. In a whole program used only one sample of class and pointer (registers) sets from parent object.

void SerialPort::setStyleSheet (
QString *stSheet*) [slot] - function to set style sheet to settingsComDialog.

void SerialPort::setupPort ( ) [slot] - function to configure serial with settingsComDialog. If serial port is open it will be closed before setting up parameters. After setting serial port it will be open again.

void SerialPort::showStatusMessage (
const QString & *message*) [private], [slot] - function to send status messages from serial port to debug text thread.

void SerialPort::working ( ) [signal] - signal to update watchDog timer at parent object.

7.49.3 Member Data Documentation

QByteArray SerialPort::dataToSendBuff [private] - FIFO buffer variable, which contain data to send that to serial port.

bool SerialPort::initApp [private] - variable which contain info about state of program. If variable is *true* at readData(...) function execute specific code, and after that variable sets to *false*.

ModData SerialPort::modData8 [private]

Register* SerialPort::registers [private]

int SerialPort::replyCnt [private] - counter for specific code.

QSerialPort* SerialPort::serial [private]

SerialSettingsDialog* SerialPort::settingsComDialog [private]

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

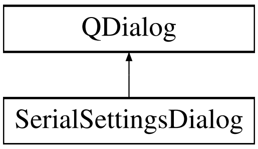
- serialport.h
- serialport.cpp

7.50 SerialSettingsDialog Class Reference

The class is taken from standard Qt examples.

#include <serialsettingsdialog.h>

Inheritance diagram for SerialSettingsDialog:



Signals

- void serialSettingAccepted (ComSettings comSett)

Public Member Functions

- SerialSettingsDialog (QWidget *parent=0)
- SerialSettingsDialog (ComSettings nSett, QWidget *parent=0)
- ~SerialSettingsDialog ()
- ComSettings settings () const
- void setSettings (ComSettings nSett)

Protected Member Functions

- void changeEvent (QEvent *event)

Private Slots

- void showPortInfo (int idx)
- void apply ()
- void reject ()
- void checkCustomBaudRatePolicy (int idx)
- void checkCustomDevicePathPolicy (int idx)
- void fillPortsParameters ()
- void fillPortsInfo ()
- void updateSettings ()

Private Attributes

- Ui::SerialSettingsDialog * ui
- bool acceptOnDeactilationEn
- ComSettings currentSettings
- QIntValidator * intValidator

7.50.1 Constructor & Destructor Documentation

```
SerialSettingsDialog::SerialSettingsDialog() [1/2] (
            QWidget * parent = 0 )  [explicit]
```

```
SerialSettingsDialog::SerialSettingsDialog [2/2] (
            ComSettings nSett,
            QWidget * parent = 0 )  [explicit]
```

```
SerialSettingsDialog::~SerialSettingsDialog ( )
```

7.50.2 Member Function Documentation

```
void SerialSettingsDialog::apply ( )  [private], [slot]
```

```
void SerialSettingsDialog::changeEvent (
           QEvent * event )  [protected]
```

```
void SerialSettingsDialog::checkCustomBaudRatePolicy (
           int idx )  [private], [slot]
```

```
void SerialSettingsDialog::checkCustomDevicePathPolicy (
           int idx )  [private], [slot]
```

```
void SerialSettingsDialog::fillPortsInfo ( )  [private], [slot]
```

```
void SerialSettingsDialog::fillPortsParameters ( )  [private], [slot]
```

```
void SerialSettingsDialog::reject ( )  [private], [slot]
```

```
void SerialSettingsDialog::serialSettingAccepted (
           ComSettings comSett )  [signal]
```

```
void SerialSettingsDialog::setSettings (
           ComSettings nSett )
```

```
ComSettings SerialSettingsDialog::settings ( ) const
```

```
void SerialSettingsDialog::showPortInfo (
           int idx )  [private], [slot]
```

```
void SerialSettingsDialog::updateSettings ( )  [private], [slot]
```

7.50.3 Member Data Documentation

```
bool SerialSettingsDialog::acceptOnDeactilationEn  [private]
```

```
ComSettings SerialSettingsDialog::currentSettings  [private]
```

```
QIntValidator* SerialSettingsDialog::intValidator  [private]
```

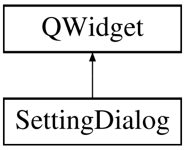
The documentation for this class was generated from the following files:

- serialsettingsdialog.h
- serialsettingsdialog.cpp

7.51 SettingDialog Class Reference

`#include <headsettingdialog.h>`

Inheritance diagram for SettingDialog:



Signals

- void accept (int index, QByteArray hParamArr)
- void changeNumber (int newIndex)
- void sendCommand (int index, QByteArray command)
- void setParamsToAll (int index, QByteArray hParamArr)
- void colorChanged (int index, QColor col)

Public Member Functions

- SettingDialog (HeadSetting hSttg, int index=0, QWidget *parent=0)
- ~SettingDialog ()
- void setRegisters (Register *reg)
- void setHeadParams (int index=0, bool disconnect=true)
- void setHeadParams (HeadSetting hSttg, int index=0, bool disconnect=true)
- void setIconFolder (QString path)

Protected Member Functions

- bool event (QEvent *e)
- bool eventFilter (QObject *watched, QEvent *event)
- void showEvent (QShowEvent *ev)
- void changeEvent (QEvent *event)

Private Slots

- void accept ()
- void reject ()
- void pButtonIncClkd ()
- void pButtonDecClkd ()
- void connectAll ()
- void disconnectAll ()
- void eventFilterSetup ()
- void temperatureSensoreChanged (bool tempSens)
- void on_toolButtonPlast_clicked ()
- void on_toolButtonFL_clicked ()
- void on_toolButtonMoveRear_clicked ()
- void on_toolButtonFL_SQup_clicked ()
- void on_toolButtonMoveFront_clicked ()
- void on_toolButtonMTPMove_clicked ()
- void on_toolButtonSQ_clicked ()
- void on_toolButtonMoveTest_clicked ()
- void on_toolButtonPressure_clicked ()
- void on_toolButtonHoldOn_clicked ()
- void on_toolButtonFL_SQ_clicked ()
- void on_toolButtonStepBack_clicked ()
- void on_toolButtonIndexHere_clicked ()
- void on_toolButtonInkColor_clicked ()
- void on_toolButtonPressureAir_clicked ()
- void on_pButtonHeadOnOff_clicked ()
- void on_toolButtonQuartzPreheat_clicked ()
- void on_toolButtonQuartzTest_clicked ()
- void on_toolButtonQuartzStepBack_clicked ()
- void on_toolButtonQuartzWarming_clicked ()
- void on_pushButtonCopyToAll_clicked ()
- void tabWidget_currentChanged (int index)

- void spinBoxRearSpeed_valueChanged (double arg1)
- void dSpinBoxRearRange_valueChanged (double arg1)
- void spinBoxFrontSpeed_valueChanged (double arg1)
- void dSpinBoxFrontRange_valueChanged (double arg1)
- void spinBoxStrokCount_valueChanged (double arg1)
- void spinBoxSBStrokCount_valueChanged (double arg1)
- void dSpinBoxHeatTime1IR_valueChanged (double arg1)
- void dSpinBoxHeatTime2IR_valueChanged (double arg1)
- void dSpinBoxDryingRangeIR_valueChanged (double arg1)
- void dSpinBoxFlDwellTime_valueChanged (double arg1)
- void dSpinBoxSqDwellTime_valueChanged (double arg1)
- void dSpinBoxHeatTime1Q_valueChanged (double arg1)
- void dSpinBoxHeatTime2Q_valueChanged (double arg1)
- void spinBoxDryPowerQ_valueChanged (double arg1)
- void dSpinBoxStepbackDryTimeQ_valueChanged (double arg1)
- void dSpinBoxTemperatureSetQ_valueChanged (double arg1)
- void dSpinBoxDryTimeQ_valueChanged (double arg1)
- void spinBoxStandbyPowerQ_valueChanged (double arg1)
- void dSpinBoxStandbyTimeQ_valueChanged (double arg1)
- void dSpinBoxWarmFlashTimeQ_valueChanged (double arg1)
- void rButtonTime1_clicked ()

Private Attributes

- Ui::SettingDialog ∗ ui
- bool withTemperatureSensor
- int index
- bool acceptOnDeactilationEn
- bool acceptEnable
- HeadSetting headSettings
- Register ∗ registers

7.51.1 Constructor & Destructor Documentation

SettingDialog::SettingDialog (
HeadSetting *hSttg*,
int *index = 0*,
QWidget ∗ *parent = 0*) [explicit] - class constructor. At constructor fields of dialog fill with parameters given at *hSttg* and call eventFilterSetup(...) function.

SettingDialog::∼SettingDialog ( ) - standard destructor.

7.51.2 Member Function Documentation

void SettingDialog::accept (
int *index*,
QByteArray *hParamArr*) [signal] - signal which emitted by accept(...) function and handled in parent object. Parameter *index* contain information about head number, and *hParamArr* contain all head parameters. Parameters are save to hard drive at parent object.

void SettingDialog::accept ( ) [private], [slot] - function to collect head parameters, put them to appropriate places at array and emit accept(...) signal.

void SettingDialog::changeEvent (
QEvent ∗ *event*) [protected]- reimplementation of default event of QDialog to enable user interface translation. Function called automatically.

void SettingDialog::changeNumber (
int *newIndex*) [signal] - signal which handle at parent object and used for fast change of head number. Signal emits by pButtonIncClkd(...) and pButtonDecClkd(...) functions with appropriate value of parameter.

void SettingDialog::colorChanged (
int *index*,
QColor *col*) [signal] - signal which emits by on_toolButtonInkColor_clicked(...) function. Signal contain information about rag color on head.

void SettingDialog::connectAll ( ) [private], [slot] - function to connect all fields of dialog to appropriate functions.

void SettingDialog::disconnectAll ( ) [private], [slot] - function to disconnect all fields of dialog to appropriate functions.

All functions in next block used to send parameters to master PCB to configure machine. Functions used to get values from fields with head parameters, gather them into byte array and emit sendCommand(...) signal with appropriate data.

- void SettingDialog::dSpinBoxDryingRangeIR_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxDryTimeQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxFlDwellTime_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxFrontRange_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxHeatTime1IR_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxHeatTime1Q_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxHeatTime2IR_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxHeatTime2Q_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxRearRange_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxSqDwellTime_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxStandbyTimeQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxStepbackDryTimeQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxTemperatureSetQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::dSpinBoxWarmFlashTimeQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxDryPowerQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxFrontSpeed_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxRearSpeed_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxSBStrokCount_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxStandbyPowerQ_valueChanged (double *arg1*) [private], [slot]
- void SettingDialog::spinBoxStrokCount_valueChanged (double *arg1*) [private], [slot]

---

bool SettingDialog::event (QEvent ∗ *e*) [protected] - reimplementation of standard function to handle *QEvent::WindowDeactiv* or *QEvent::Leave* for automatic invoke of accept(...) function on window deactivation.

bool SettingDialog::eventFilter (QObject ∗ *watched,* QEvent ∗ *event*) [protected] - reimplementation of standard function to handle *QEvent:: MouseButtonDblClick* or *QEvent::MouseButtonRelease* events to call NumpadDialog or KeyboardDialog to enter data to appropriate widgets. Widgets which will call this function are defined in eventFilterSetup(...) function.

void SettingDialog::eventFilterSetup ( ) [private], [slot] - function to configure widgets on dialog to use eventFilter(...)

void SettingDialog::on_pButtonHeadOnOff_clicked ( ) [private], [slot] - function to handle *clicked()* signal from *pButtonHeadOnOff* button. Used to send command to turn on/off print head.

void SettingDialog::on_pushButtonCopyToAll_clicked ( ) [private], [slot] - function to emit setParamsToAll signal. Before emitting signal function collect parameters and send data in signal parameters.

All functions in next block used to send button codes to master PCB.
Function emit sendCommand(...) signal with appropriate data.

- void SettingDialog::on_toolButtonFL_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonFL_SQ_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonFL_SQup_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonHoldOn_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonIndexHere_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonInkColor_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonMoveFront_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonMoveRear_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonMoveTest_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonMTPMove_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonPlast_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonPressure_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonPressureAir_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonQuartzPreheat_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonQuartzStepBack_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonQuartzTest_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonQuartzWarming_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonSQ_clicked ( ) [private], [slot]
- void SettingDialog::on_toolButtonStepBack_clicked ( ) [private], [slot]

---

void SettingDialog::pButtonDecClkd ( ) [private], [slot] - function to emit changeNumber(...) signal with index decreased by 1.

void SettingDialog::pButtonIncClkd ( ) [private], [slot] - function to emit changeNumber(...) signal with index increased by 1.

void SettingDialog::rButtonTime1_clicked ( ) [private], [slot] - function to change selected time of warming of heater.

void SettingDialog::reject ( ) [private], [slot] - unused.

void SettingDialog::sendCommand (
int *index*,
QByteArray *command*) [signal] - signal emitted by every parameter setup function. Used to send appropriate parameter to appropriate head.

void SettingDialog::setHeadParams [1/2] (
int *index* = *0*,
bool *disconnect* = *true*) - function which used to fill appropriate fields of head setting dialog with parameters taken from head registers.

void SettingDialog::setHeadParams [2/2] (
HeadSetting *hSttg*,
int *index* = *0*,
bool *disconnect* = *true*) - function which used to fill appropriate fields of head setting dialog with parameters taken from hSttg data union.

void SettingDialog::setIconFolder (
QString *path*) - function to set icon folder and update icons on toolButtons at dialog.

void SettingDialog::setParamsToAll (
int *index*,
QByteArray *hParamArr*) [signal] - signal which emitted by on_pushButtonCopyToAll_clicked(...) function and handle at parent object. Used to copy parameters to all heads.

void SettingDialog::setRegisters (
Register * *reg*) - function to set registers pointer.

void SettingDialog::showEvent (
QShowEvent * *ev*) [protected]- reimplementation of standard function. Used to hide or show some widgets which are not available for user.

void SettingDialog::tabWidget_currentChanged (
int *index*) [private], [slot] - function to send type of head. Using of this function is locked.

void SettingDialog::temperatureSensoreChanged (
bool *tempSens*) [private], [slot] - function to set state of temperature sensor.

7.51.3 Member Data Documentation

```
bool SettingDialog::acceptEnable [private]
```

```
bool SettingDialog::acceptOnDeactilationEn [private]
```

```
HeadSetting SettingDialog::headSettings [private]
```

```
int SettingDialog::index [private]
```

```
Register* SettingDialog::registers [private]
```

```
bool SettingDialog::withTemperatureSensor [private]
```

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

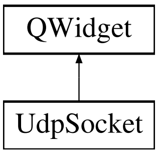
- headsettingdialog.h
- headsettingdialog.cpp

7.52 UdpSocket Class Reference

Unfinished class. Will be used at future to connect machine to other systems/machines.

`#include <udpsocket.h>`

Inheritance diagram for UdpSocket:



Signals

- void exitReq ()
- void dataReady (QByteArray data)

Public Member Functions

- UdpSocket (QWidget *parent=0)
- void startUdp (bool isMaster=true)
- void stopUdp ()
- void sendData (QByteArray bArr)

Private Slots

- void connectToSocket ()
- void disconnectFromSocket ()
- void startTransmit (QByteArray data)
- void reciveData ()

Private Attributes

- QUdpSocket * udp
- QHostAddress udpAdr
- quint16 udpPort
- bool search
- bool isMaster
- QHostAddress myIP

7.52.1 Constructor & Destructor Documentation

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

7.52.2 Member Function Documentation

```
void UdpSocket::connectToSocket ( )  [private], [slot]

void UdpSocket::dataReady (
          QByteArray data )  [signal]

void UdpSocket::disconnectFromSocket ( )  [private], [slot]

void UdpSocket::exitReq ( )  [signal]

void UdpSocket::reciveData ( )  [private], [slot]

void UdpSocket::sendData (
          QByteArray bArr )

void UdpSocket::startTransmit (
          QByteArray data )  [private], [slot]

void UdpSocket::startUdp (
          bool isMaster = true )

void UdpSocket::stopUdp ( )
```

7.52.3 Member Data Documentation

```
bool UdpSocket::isMaster  [private]
```

```
QHostAddress UdpSocket::myIP  [private]
```

```
bool UdpSocket::search  [private]
```

```
QUdpSocket* UdpSocket::udp  [private]
```

```
QHostAddress UdpSocket::udpAdr  [private]
```

```
quint16 UdpSocket::udpPort  [private]
```

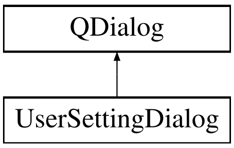
The documentation for this class was generated from the following files:

- udpsocket.h
- udpsocket.cpp

7.53 UserSettingDialog Class Reference

#include <usersetting.h>

Inheritance diagram for UserSettingDialog:



Public Member Functions

- UserSettingDialog (QWidget ∗parent=0)
- ∼UserSettingDialog ()
- bool isUser (QString userName, QString userPassw)
- QStringList getUserNames ()
- bool getLoginWindowEnable ()

Protected Member Functions

- void showEvent (QShowEvent ∗ev)
- void changeEvent (QEvent ∗event)

Private Slots

- void tableCellActivated (int row, int col)
- void addUser ()
- void removeUsers ()
- void removeAllUsers ()
- void acceptSlot ()
- void rejectSlot ()
- void loginDialogEnable ()

Private Attributes

- Ui::UserSettingDialog ∗ ui
- int tableRowSelected
- int tableColnumSelected
- QSettings ∗ usersData

7.53.1 Constructor & Destructor Documentation

UserSettingDialog::UserSettingDialog (QWidget ∗ *parent = 0*) [explicit] - standard dialog constructor. At function fields of dialog fills with appropriate data.

UserSettingDialog::∼UserSettingDialog ( ) - standatrd QDialog destructor.

7.53.2 Member Function Documentation

void UserSettingDialog::acceptSlot ( ) [private], [slot] - function called by *pButtonOK* uad used to collect and save data from fields of dialog.

void UserSettingDialog::addUser ( ) [private], [slot] - function which used to add field to *tableWidget* to add new user.

void UserSettingDialog::changeEvent (QEvent ∗ *event*) [protected] - Reimplementation of default event for QWidget to enable user interface translation. Function called automatically.

7.53.2.1

bool UserSettingDialog::getLoginWindowEnable ( ) - function to get state of *checkBoxLoginDialogEn*. Used to decide on the need to call user login dialog.

QStringList UserSettingDialog::getUserNames ( ) - function used to take *QStringList* with names of users.

```
bool UserSettingDialog::isUser (
            QString userName,
            QString userPassw )
```
- function to check user name and password.

void UserSettingDialog::loginDialogEnable ( ) [private], [slot] - function to get field *LOGIN_DIALOG_EN* from usersData settings.

void UserSettingDialog::rejectSlot ( ) [private], [slot] - function which used to close dialog without data saving.

void UserSettingDialog::removeAllUsers ( ) [private], [slot] - function to clean *tableWidget*.

void UserSettingDialog::removeUsers ( ) [private], [slot] - function to remove selected row from *tableWidget*.

```
void UserSettingDialog::showEvent (
            QShowEvent * ev ) [protected]
```
- reimplementation of standard function. Used to setup parameters of *tableWidget*.

```
void UserSettingDialog::tableCellActivated (
            int row,
            int col ) [private], [slot]
```
- function called by *cellClicked*(...) signal. Used ro set value of tableRowSelected and tableColnumSelected to use that values at other functions.

7.53.3 Member Data Documentation

int UserSettingDialog::tableColnumSelected [private]

int UserSettingDialog::tableRowSelected [private]

QSettings* UserSettingDialog::usersData [private]

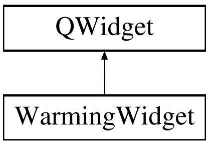
The documentation for this class was generated from the following files:

- usersetting.h
- usersetting.cpp

7.54 WarmingWidget Class Reference

`#include <warmingwidget.h>`

Inheritance diagram for WarmingWidget:



Signals

- void sendCommand (QByteArray)

Public Member Functions

- WarmingWidget (QWidget *parent=0)
- ~WarmingWidget ()
- void setIconFolder (QString path)
- void setRegisters (Register *reg)
- void resetWidget ()

Protected Member Functions

- void showEvent (QShowEvent *ev)

Private Slots

- void on_toolButton_clicked ()
- void on_dSpinBoxTime_valueChanged (double arg1)
- void on_dSpinBoxCycles_valueChanged (double arg1)
- void on_dSpinBoxTemperature_valueChanged (double arg1)

Private Attributes

- Ui::WarmingWidget * ui
- QString pathIcon
- Register * registers

7.54.1 Constructor & Destructor Documentation

WarmingWidget::WarmingWidget (QWidget * *parent* = *0*) [explicit] - standard QWidget constructor.

WarmingWidget::~WarmingWidget ( ) - standard QWidget destructor.

7.54.2 Member Function Documentation

void WarmingWidget::on_dSpinBoxCycles_valueChanged (double *arg1*) [private], [slot] - function to send count of cycles which work with warming.

void WarmingWidget::on_dSpinBoxTemperature_valueChanged (double *arg1*) [private], [slot] - function set temperature of pallets in warming mode.

void WarmingWidget::on_dSpinBoxTime_valueChanged (double *arg1*) [private], [slot] - function to set time of work of flash in one warming step.

void WarmingWidget::on_toolButton_clicked ( ) [private], [slot] - function to send signal to start/stop warming.

void WarmingWidget::resetWidget ( ) - function to reset widget state.

void WarmingWidget::sendCommand (QByteArray) [signal] - signal emitted by every parameter setup function. Used to send appropriate parameter to parent object.

void WarmingWidget::setIconFolder (QString *path*)- function to set icon folder and update icons on toolButtons at widget.

void WarmingWidget::setRegisters(Register *reg) (**Register** ∗ *reg*) - function to set pointer to Register class object. In a whole program used only one sample of class and pointer (registers) set from parent object.

void WarmingWidget::showEvent(QShowEvent *ev) (QShowEvent ∗ *ev*) [protected] - reimplementation of standard function. Used hide or show some widgets which are not available for user and fill widget field with appropriate data.

7.54.3 Member Data Documentation

QString WarmingWidget::pathIcon [private]

Register∗ WarmingWidget::registers [private]

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

- warmingwidget.h
- warmingwidget.cpp

8 File Documentation

8.1 countersdialog.cpp File Reference

```
#include "countersdialog.h"
#include "ui_countersdialog.h"
```

8.2 countersdialog.h File Reference

```
#include <QDialog>
#include <QShowEvent>
#include "numpaddialog.h"
```

Classes

- class CountersDialog

Namespaces

- Ui

8.3 crc16.h File Reference

```
#include <stdio.h>
#include <stdint.h>
#include <QByteArray>
#include <QDebug>
```

Classes

- class CrcCalc

Variables

- const uint16_t crctable [256]

8.3.1 Variable Documentation

8.3.1.1 crctable

```
const uint16_t crctable[256]
```

8.4 cyclesdialog.cpp File Reference

```
#include "cyclesdialog.h"
#include "ui_cyclesdialog.h"
```

8.5 cyclesdialog.h File Reference

```
#include <QDialog>
#include <QDoubleSpinBox>
#include <QLabel>
#include <QLineEdit>
#include <QList>
#include <QShowEvent>
#include <QFocusEvent>
#include <QEvent>
#include <QSettings>
#include <QByteArray>
#include "settings.h"
#include "numpaddialog.h"
#include "crc16.h"
#include <QDebug>
```

Classes

- class CyclesDialog

Namespaces

- Ui

8.6 exitdialog.cpp File Reference

```
#include "exitdialog.h"
#include "ui_exitdialog.h"
```

8.7 exitdialog.h File Reference

```
#include <QDialog>
#include <QShowEvent>
#include "settings.h"
```

Classes

- class ExitDialog

Namespaces

- Ui

8.8 generalsettingdialog.cpp File Reference

```
#include "generalsettingdialog.h"
#include "ui_generalsettingdialog.h"
#include "crc16.h"
```

8.9 generalsettingdialog.h File Reference

```
#include <QDialog>
#include <QString>
#include <QDebug>
#include <QByteArray>
#include <QMessageBox>
#include <QInputDialog>
#include <QShowEvent>
#include "settings.h"
#include "numpaddialog.h"
#include "keyboarddialog.h"
#include "serialsettingsdialog.h"
```

Classes

- struct EmailSettings
- class GeneralSettingDialog

Namespaces

- Ui

Functions

- QDataStream & operator<< (QDataStream &out, const EmailSettings &st)
- QDataStream & operator>> (QDataStream &in, EmailSettings &st)

8.9.1 Function Documentation

8.9.1.1 operator<<()

```
QDataStream& operator<< (
             QDataStream & out,
             const EmailSettings & st )   [inline]
```

8.9.1.2 operator>>()

```
QDataStream& operator>> (
             QDataStream & in,
             EmailSettings & st )   [inline]
```

8.10 headactivationdialog.cpp File Reference

```
#include "headactivationdialog.h"
#include "ui_headactivationdialog.h"
```

8.11 headactivationdialog.h File Reference

```
#include <QDialog>
#include <QCheckBox>
#include <QList>
#include <QShowEvent>
#include <QDebug>
#include "settings.h"
#include "crc16.h"
```

Classes

- class CheckBoxIndexed
- class HeadActivationDialog

Namespaces

- Ui

8.12 headform.cpp File Reference

```
#include "headform.h"
#include "ui_headform.h"
#include <QBitmap>
#include <QPalette>
```

8.13 headform.h File Reference

```
#include <QWidget>
#include <QPixmap>
#include <QPushButton>
#include <QLabel>
#include <QMouseEvent>
#include <QDebug>
#include <QGraphicsEffect>
#include <QGraphicsScene>
#include <QGraphicsRectItem>
#include <QGraphicsPixmapItem>
```

Classes

- class HeadSettingButton
- class HeadForm

Namespaces

- Ui

Typedefs

- typedef enum LoadState_ LoadState

Enumerations

- enum LoadState_ { LoadClean = 0x00, LoadOne = 0x01, LoadAuto = 0x02 }

8.13.1 Typedef Documentation

8.13.1.1 LoadState

```
typedef enum LoadState_ LoadState
```

8.13.2 Enumeration Type Documentation

8.13.2.1 LoadState_

```
enum LoadState_
```

Enumerator

LoadClean	
LoadOne	
LoadAuto	

8.14 headsettingdialog.cpp File Reference

```
#include "headsettingdialog.h"
#include "ui_headsettingdialog.h"
```

8.15 headsettingdialog.h File Reference

```
#include <QDialog>
#include <QWidget>
#include <QFocusEvent>
#include <QEvent>
#include <QApplicationStateChangeEvent>
#include <QDebug>
#include <QMessageBox>
#include <QByteArray>
#include <QLineEdit>
#include <QColorDialog>
#include "settings.h"
#include "numpaddialog.h"
#include "crc16.h"
```

Classes

- class SettingDialog

Namespaces

- Ui

8.16 indexersettingdialog.cpp File Reference

```
#include "indexersettingdialog.h"
#include "ui_indexersettingdialog.h"
```

8.17 indexersettingdialog.h File Reference

```
#include <QWidget>
#include <QByteArray>
#include <QEvent>
#include <QShowEvent>
#include <QLineEdit>
#include "settings.h"
#include "numpaddialog.h"
#include "crc16.h"
```

Classes

- class IndexerSettingDialog

Namespaces

- Ui

8.18 indexerwidget.cpp File Reference

```
#include "indexerwidget.h"
#include "ui_indexerwidget.h"
```

8.19 indexerwidget.h File Reference

```
#include <QWidget>
#include <QResizeEvent>
#include <QPushButton>
#include <QDebug>
#include <QThread>
#include "settings.h"
#include "crc16.h"
```

Classes

- class IndexerWidget

Namespaces

- Ui

8.20 infowidget.cpp File Reference

```
#include "infowidget.h"
#include "ui_infowidget.h"
```

8.21 infowidget.h File Reference

```
#include <QFrame>
#include <QImage>
#include <QBitmap>
#include <QGraphicsEffect>
#include <QDebug>
#include <QTime>
#include <QSettings>
#include "settings.h"
```

Classes

- class InfoWidget

Namespaces

- Ui

8.22 keyboarddialog.cpp File Reference

```
#include "keyboarddialog.h"
#include "ui_keyboarddialog.h"
```

8.23 keyboarddialog.h File Reference

```
#include <QDialog>
#include <QPushButton>
#include <QDebug>
#include <QApplication>
```

Classes

- class KeyboardButton
- class KeyboardDialog

Namespaces

- Ui

8.24 logindialog.cpp File Reference

```
#include "logindialog.h"
#include "ui_logindialog.h"
```

8.25 logindialog.h File Reference

```
#include <QDialog>
#include <QEvent>
#include "numpaddialog.h"
#include "keyboarddialog.h"
```

Classes

- class LoginDialog

Namespaces

- Ui

8.26 logodialog.cpp File Reference

```
#include "logodialog.h"
#include "ui_logodialog.h"
```

8.27 logodialog.h File Reference

```
#include <QDialog>
#include <QShowEvent>
#include <QTimer>
#include <QMovie>
```

Classes

- class LogoDialog

Namespaces

- Ui

8.28 mailsender.cpp File Reference

```
#include "mailsender.h"
#include <QDebug>
```

8.29 mailsender.h File Reference

```
#include <QObject>
#include <QDebug>
#include <QMessageBox>
#include "mailSrc/SmtpMime"
```

Classes

- class MailSender

8.30 main.cpp File Reference

```
#include "mainwindow.h"
#include <QApplication>
#include <QDebug>
#include "logodialog.h"
#include <QProcess>
```

Functions

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

8.30.1 Function Documentation

8.30.1.1 main()

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

8.31 maintancedialog.cpp File Reference

```
#include "maintancedialog.h"
#include "ui_maintancedialog.h"
```

8.32 maintancedialog.h File Reference

```
#include <QDialog>
#include <QIcon>
#include <QDebug>
#include <QSettings>
#include "maintancewidget.h"
```

Classes

- class MaintanceDialog

Namespaces

- Ui

8.33 maintancewidget.cpp File Reference

```
#include "maintancewidget.h"
#include "ui_maintancewidget.h"
```

8.34 maintancewidget.h File Reference

```
#include <QDialog>
```

Classes

- class MaintanceElement
- class MaintanceWidget

Namespaces

- Ui

Functions

- QDataStream & operator<< (QDataStream &out, const MaintanceElement &st)
- QDataStream & operator>> (QDataStream &in, MaintanceElement &st)

8.34.1 Function Documentation

8.34.1.1 operator<<()

```
QDataStream& operator<< (
             QDataStream & out,
             const MaintanceElement & st )  [inline]
```

8.34.1.2 operator>>()

```
QDataStream& operator>> (
             QDataStream & in,
             MaintanceElement & st )  [inline]
```

8.35 mainwindow.cpp File Reference

```
#include "mainwindow.h"
#include "ui_mainwindow.h"
#include "math.h"
#include "crc16.h"
```

8.36 mainwindow.h File Reference

```
#include <QMainWindow>
#include <QPushButton>
#include <QResizeEvent>
#include <QShowEvent>
#include <QDebug>
#include <QPixmap>
#include <QImage>
#include <QSettings>
#include <QPalette>
#include <QGradient>
#include <QStyle>
#include <QInputDialog>
#include <QByteArray>
#include <QFileDialog>
#include <QEvent>
#include <QMessageBox>
#include <QProgressDialog>
#include <QTime>
#include <QTimer>
#include <QDate>
#include <QStringList>
#include <QTranslator>
#include "headform.h"
#include "headsettingdialog.h"
#include "indexerwidget.h"
#include "indexersettingdialog.h"
#include "generalsettingdialog.h"
#include "numpaddialog.h"
#include "keyboarddialog.h"
#include "serialport.h"
#include "mailsender.h"
#include "serialsettingsdialog.h"
#include "infowidget.h"
#include "usersetting.h"
#include "logindialog.h"
#include "maintancedialog.h"
#include "exitdialog.h"
#include "cyclesdialog.h"
#include "udpsocket.h"
#include "headactivationdialog.h"
#include "reprogramdialog.h"
#include "settings.h"
```

Classes

- class MainWindow

Namespaces

- Ui

8.37 numpaddialog.cpp File Reference

```
#include "numpaddialog.h"
#include "ui_numpaddialog.h"
```

8.38 numpaddialog.h File Reference

```
#include <QDialog>
#include <QPushButton>
#include <QDebug>
#include <QAction>
#include <QKeySequence>
```

Classes

- class NumpadButton
- class NumpadDialog

Namespaces

- Ui

8.39 README.md File Reference

8.40 reprogramdialog.cpp File Reference

```
#include "reprogramdialog.h"
#include "ui_reprogramdialog.h"
```

8.41 reprogramdialog.h File Reference

```
#include <QDialog>
#include <QFile>
#include <QFileDialog>
#include <QByteArray>
#include <QMessageBox>
#include <QDebug>
```

Classes

- class ReprogramDialog

Namespaces

- Ui

8.42 serialport.cpp File Reference

```
#include "serialport.h"
```

8.43 serialport.h File Reference

```
#include <QObject>
#include <QByteArray>
#include <QDebug>
#include <QtSerialPort/QSerialPort>
#include <QMessageBox>
#include <QThread>
#include <QProgressDialog>
#include "serialsettingsdialog.h"
#include "settings.h"
#include "crc16.h"
#include "reprogramdialog.h"
```

Classes

- union ModData_
- class SerialPort

Typedefs

- typedef union ModData_ ModData

8.43.1 Typedef Documentation

8.43.1.1 ModData

```
typedef union ModData_ ModData
```

8.44 serialsettingsdialog.cpp File Reference

```
#include "serialsettingsdialog.h"
#include "ui_serialsettingsdialog.h"
#include "generalsettingdialog.h"
#include <QtSerialPort/QSerialPortInfo>
#include <QIntValidator>
#include <QLineEdit>
```

Variables

- static QT_USE_NAMESPACE const char blankString [ ] = QT_TRANSLATE_NOOP("SettingsDialog", "N/A")

8.44.1 Variable Documentation

8.44.1.1 blankString

```
QT_USE_NAMESPACE const char blankString[ ] = QT_TRANSLATE_NOOP("SettingsDialog", "N/A")  [static]
```

8.45 serialsettingsdialog.h File Reference

```
#include <QDialog>
#include <QtSerialPort/QSerialPort>
#include <QDataStream>
#include <QEvent>
#include <QMetaType>
#include <QStringList>
```

Classes

- struct ComSettings
- class SerialSettingsDialog

Namespaces

- Ui

Functions

- Q_DECLARE_METATYPE (ComSettings)
- QDataStream & operator<< (QDataStream &out, const ComSettings &st)
- QDataStream & operator>> (QDataStream &in, ComSettings &st)

8.45.1 Function Documentation

8.45.1.1 operator<<()

```
QDataStream& operator<< (
             QDataStream & out,
             const ComSettings & st )   [inline]
```

8.45.1.2 operator>>()

```
QDataStream& operator>> (
             QDataStream & in,
             ComSettings & st )   [inline]
```

8.45.1.3 Q_DECLARE_METATYPE()

```
Q_DECLARE_METATYPE (
             ComSettings   )
```

8.46 settings.cpp File Reference

```
#include "settings.h"
#include <QDebug>
```

8.47 settings.h File Reference

```
#include <QByteArray>
#include <QStringList>
#include <QList>
#include <QDate>
#include "math.h"
```

Classes

- class HeadSetting
- struct HeadSetting::HeadParameters_
- struct HeadSetting::HeadComands_
- class MachineSettings
- union MachineSettings::MachineState_
- union MachineSettings::MachineHeadType_
- union MachineSettings::MachineIndexLiftType_
- union MachineSettings::LastRevolverWarm_
- struct MachineSettings::MachineParameters_
- class IndexerLiftSettings
- struct IndexerLiftSettings::LiftParameters_
- struct IndexerLiftSettings::IndexParameters_
- class Register
- union Register::MasterReg_
- struct Register::MasterReg_::reg
- union Register::IndexerReg_
- struct Register::IndexerReg_::reg
- union Register::LiftReg_
- struct Register::LiftReg_::reg
- union Register::HeadReg_
- struct Register::HeadReg_::reg

Typedefs

- typedef u_int32_t uint32_t
- typedef u_int16_t uint16_t
- typedef u_int8_t uint8_t

8.47.1 Typedef Documentation

8.47.1.1 uint16_t

```
typedef u_int16_t uint16_t
```

8.47.1.2 uint32_t

```
typedef u_int32_t uint32_t
```

8.47.1.3 uint8_t

```
typedef u_int8_t uint8_t
```

8.48 udpsocket.cpp File Reference

```
#include "udpsocket.h"
```

8.49 udpsocket.h File Reference

```
#include <QUdpSocket>
#include <QByteArray>
#include <QDebug>
#include <QWidget>
#include <QNetworkInterface>
#include <QThread>
#include <QMessageBox>
```

Classes

- class UdpSocket

8.50 usersetting.cpp File Reference

```
#include "usersetting.h"
#include "ui_usersetting.h"
```

8.51 usersetting.h File Reference

```
#include <QDialog>
#include <QDebug>
#include <QShowEvent>
#include <QCheckBox>
#include <QSettings>
#include "keyboarddialog.h"
```

Classes

- class UserSettingDialog

Namespaces

- Ui

8.52 warmingwidget.cpp File Reference

```
#include "warmingwidget.h"
#include "ui_warmingwidget.h"
```

8.53 warmingwidget.h File Reference

```
#include <QWidget>
#include <QByteArray>
#include <QShowEvent>
#include "settings.h"
#include "crc16.h"
```

Classes

- class WarmingWidget

Namespaces

- Ui