GyroGlove

1.0

Generated by Doxygen 1.7.3

Contents

Chapter 1

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1.1 Class Hierarchy

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

Chapter 2

Class Index

2.1 Class List

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

Chapter 3

Class Documentation

3.1 AC_struct Struct Reference

Public Attributes

- register8_t **AC0CTRL**
- register8_t **AC1CTRL**
- register8_t **AC0MUXCTRL**
- register8_t **AC1MUXCTRL**
- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **WINCTRL**
- register8_t **STATUS**

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

- iox128a1.h

3.2 ADC_CH_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (RES)

Public Attributes

- register8_t **CTRL**
- register8_t **MUXCTRL**
- register8_t **INTCTRL**
- register8_t **INTFLAGS**

- register8_t **reserved_0x6**
- register8_t **reserved_0x7**

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

- iox128a1.h

3.3 ADC_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (CAL)
- **_WORDREGISTER** (CH0RES)
- **_WORDREGISTER** (CH1RES)
- **_WORDREGISTER** (CH2RES)
- **_WORDREGISTER** (CH3RES)
- **_WORDREGISTER** (CMP)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **REFCTRL**
- register8_t **EVCTRL**
- register8_t **PRESCALER**
- register8_t **CALCTRL**
- register8_t **INTFLAGS**
- register8_t **reserved_0x07**
- register8_t **reserved_0x08**
- register8_t **reserved_0x09**
- register8_t **reserved_0x0A**
- register8_t **reserved_0x0B**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- register8_t **reserved_0x1A**
- register8_t **reserved_0x1B**
- register8_t **reserved_0x1C**
- register8_t **reserved_0x1D**
- register8_t **reserved_0x1E**
- register8_t **reserved_0x1F**
- ADC_CH_t **CH0**
- ADC_CH_t **CH1**
- ADC_CH_t **CH2**
- ADC_CH_t **CH3**

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

- iox128a1.h

3.4   AES_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **STATUS**
- register8_t **STATE**
- register8_t **KEY**
- register8_t **INTCTRL**

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

- iox128a1.h

3.5   AWEX_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **reserved_0x01**
- register8_t **FDEVMASK**
- register8_t **FDCTRL**
- register8_t **STATUS**
- register8_t **reserved_0x05**
- register8_t **DTBOTH**
- register8_t **DTBOTHBUF**
- register8_t **DTLS**
- register8_t **DTHS**
- register8_t **DTLSBUF**
- register8_t **DTHSBUF**
- register8_t **OUTOVEN**

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

- iox128a1.h

3.6   CFADac Class Reference

Public Member Functions

- **CFADac** (SPI_t ∗pSPI)
- void **writeInput** (uint8_t n, uint16_t val)
- void **powerUp** (uint8_t n)
- void **writeInputPowerUpAll** (uint8_t n, uint16_t val)

- void **powerUp** (uint8_t n, uint16_t val)
- void **powerDown** (uint8_t n)

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

- FWLib/inc/CFADac.h

3.7 CLK_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **PSCTRL**
- register8_t **LOCK**
- register8_t **RTCCTRL**

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

- iox128a1.h

3.8 CmdProcessor Class Reference

Public Member Functions

- **CmdProcessor** (HardwareSerial *pHW)
- bool **checkCommands** ()
- char * **cmdTerm** ()
- void **cmdTerm** (char *)
- void **resetCmd** ()
- const char * **cmdDelim** ()
- void **cmdDelim** (const char *)
- const char * **getCmd** ()
- uint8_t **paramCnt** ()
- void **getParam** (uint8_t idx, uint8_t &p)
- void **getParam** (uint8_t idx, uint16_t &p)
- void **getParam** (uint8_t idx, char *&p, uint8_t maxlen=128)

Protected Member Functions

- void **processCmd** ()

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

- FWLib/inc/CmdProcessor.h
- FWLib/src/CmdProcessor.cpp

3.9 DAC_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (CH0DATA)
- **_WORDREGISTER** (CH1DATA)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **CTRLC**
- register8_t **EVCTRL**
- register8_t **TIMCTRL**
- register8_t **STATUS**
- register8_t **reserved_0x06**
- register8_t **reserved_0x07**
- register8_t **GAINCAL**
- register8_t **OFFSETCAL**
- register8_t **reserved_0x0A**
- register8_t **reserved_0x0B**
- register8_t **reserved_0x0C**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- register8_t **reserved_0x10**
- register8_t **reserved_0x11**
- register8_t **reserved_0x12**
- register8_t **reserved_0x13**
- register8_t **reserved_0x14**
- register8_t **reserved_0x15**
- register8_t **reserved_0x16**
- register8_t **reserved_0x17**

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

- iox128a1.h

3.10 DFLL_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **reserved_0x01**
- register8_t **CALA**

- register8_t **CALB**
- register8_t **COMP0**
- register8_t **COMP1**
- register8_t **COMP2**
- register8_t **reserved_0x07**

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

- iox128a1.h

3.11   DMA_CH_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (TRFCNT)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **ADDRCTRL**
- register8_t **TRIGSRC**
- register8_t **REPCNT**
- register8_t **reserved_0x07**
- register8_t **SRCADDR0**
- register8_t **SRCADDR1**
- register8_t **SRCADDR2**
- register8_t **reserved_0x0B**
- register8_t **DESTADDR0**
- register8_t **DESTADDR1**
- register8_t **DESTADDR2**
- register8_t **reserved_0x0F**

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

- iox128a1.h

3.12   DMA_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (TEMP)

Public Attribes

- register8_t **CTRL**
- register8_t **reserved_0x01**
- register8_t **reserved_0x02**
- register8_t **INTFLAGS**
- register8_t **STATUS**
- register8_t **reserved_0x05**
- register8_t **reserved_0x08**
- register8_t **reserved_0x09**
- register8_t **reserved_0x0A**
- register8_t **reserved_0x0B**
- register8_t **reserved_0x0C**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- DMA_CH_t **CH0**
- DMA_CH_t **CH1**
- DMA_CH_t **CH2**
- DMA_CH_t **CH3**

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

- iox128a1.h

3.13   EBI_CS_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (BASEADDR)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**

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

- iox128a1.h

3.14   EBI_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (REFRESH)
- **_WORDREGISTER** (INITDLY)

Public Attributes

- register8_t **CTRL**
- register8_t **SDRAMCTRLA**
- register8_t **reserved_0x02**
- register8_t **reserved_0x03**
- register8_t **SDRAMCTRLB**
- register8_t **SDRAMCTRLC**
- register8_t **reserved_0x0A**
- register8_t **reserved_0x0B**
- register8_t **reserved_0x0C**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- EBI_CS_t **CS0**
- EBI_CS_t **CS1**
- EBI_CS_t **CS2**
- EBI_CS_t **CS3**

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

- iox128a1.h

3.15 EVSYS_struct Struct Reference

Public Attributes

- register8_t **CH0MUX**
- register8_t **CH1MUX**
- register8_t **CH2MUX**
- register8_t **CH3MUX**
- register8_t **CH4MUX**
- register8_t **CH5MUX**
- register8_t **CH6MUX**
- register8_t **CH7MUX**
- register8_t **CH0CTRL**
- register8_t **CH1CTRL**
- register8_t **CH2CTRL**
- register8_t **CH3CTRL**
- register8_t **CH4CTRL**
- register8_t **CH5CTRL**
- register8_t **CH6CTRL**
- register8_t **CH7CTRL**
- register8_t **STROBE**
- register8_t **DATA**

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

- iox128a1.h

3.16   Fifo Class Reference

Public Member Functions

- **Fifo** (uint8_t size)
- int8_t **push** (uint8_t d)
- uint8_t **pop** ()
- uint8_t **count** ()
- uint8_t **full** ()
- uint8_t **empty** ()
- void **clear** ()

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

- FWLib/inc/fifo.h
- FWLib/src/fifo.cpp

3.17   HardwareSerial Class Reference

Inheritance diagram for HardwareSerial:
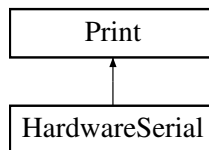
Public Member Functions

- **HardwareSerial** (USART_t ∗usart, PORT_t ∗port, uint8_t in_bm, uint8_t out_-
  bm)
- void **begin** (long baudrate, int8_t bscale=0)
- void **begin2x** (long baudrate, int8_t bscale=0)
- void **end** ()
- uint8_t **available** (void)
- int **read** (void)
- void **flush** (void)
- virtual void **write** (uint8_t)
- void **rxc** ()
- void **dre** ()
- void **txc** ()
- void **enable** (bool bEn)

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

- FWLib/inc/HardwareSerial.h
- FWLib/src/HardwareSerial.cpp

3.18 HIRES_struct Struct Reference

Public Attributes

- register8_t **CTRLA**

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

- iox128a1.h

3.19 I2C_Master Class Reference

Public Types

- enum **DriverState** {
  sIdle, **sBusy**, **sError**, **sArb**,
  sIDScan, **sIDCheck** }
- enum **DriverResult** {
  rOk, **rFail**, **rArbLost**, **rBussErr**,
  rNack, **rBufferOverrun**, **rUnknown**, **rTimeout** }

Public Member Functions

- **I2C_Master** (TWI_t ∗twi)
- void **begin** (uint32_t freq)
- void **end** ()
- int **Write** (uint8_t ID, uint8_t ∗Data, uint8_t nBytes)
- int **WriteSync** (uint8_t ID, uint8_t ∗Data, uint8_t nBytes)
- int **Read** (uint8_t ID, uint8_t nBytes)
- int **ReadSync** (uint8_t ID, uint8_t nBytes)
- int **WriteRead** (uint8_t ID, uint8_t ∗wrData, uint8_t nWriteBytes, uint8_t nRead-Bytes)
- int **WriteReadSync** (uint8_t ID, uint8_t ∗wrData, uint8_t nWriteBytes, uint8_t nReadBytes)
- void **master_int** ()
- void **slave_int** ()
- void **WriteHandler** ()
- void **ReadHandler** ()
- void **ArbHandler** ()
- void **ErrorHandler** ()
- void **MasterFinished** ()
- int **testack** (uint8_t ID)
- void **dumpregs** ()
- I2C_Master::DriverResult **Result** ()

- I2C_Master::DriverState **State** ()
- uint8_t **ReadData** (uint8_t ∗pData, uint8_t maxcnt)
- uint8_t **ReadData** (uint8_t index)
- uint8_t **nReadBytes** ()
- bool **CheckID** (uint8_t ID)
- void **Stop** ()
- void **loop** ()
- bool **busy** ()
- void ∗ **isReserved** ()
- bool **Reserve** (void ∗)
- void **NotifyMe** (I2CNotify ∗pMe)

Protected Member Functions

- uint8_t **busState** ()
- void **showstate** ()

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

- FWLib/inc/I2C_Master.h
- FWLib/src/I2C_Master.cpp

3.20 I2CNotify Class Reference

Inheritance diagram for I2CNotify:
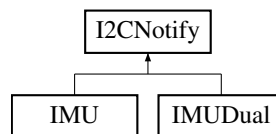
Public Member Functions

- virtual void **I2CWriteDone** ()=0
- virtual void **I2CReadDone** ()=0

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

- FWLib/inc/I2C_Master.h

3.21 I2CTransaction Class Reference

Public Types

- enum **StateType** {

   sIdle, **sSendID**, **sSendAddr**, **sWrite**,

   sRead }
- enum **TransactionType** { **tWrite**, **tRead**, **tIDScan** }

Public Member Functions

- **I2CTransaction** (uint8_t ID)
- **I2CTransaction** (uint8_t ID, uint8_t Addr, uint8_t nBytes)
- **I2CTransaction** (uint8_t ID, uint8_t Addr, uint8_t ∗pData, uint8_t nBytes)
- StateType **state** ()

Public Attributes

- StateType **_state**
- TransactionType **_type**
- uint8_t ∗ **_pBytes**
- uint8_t **_nByteCount**
- uint8_t **_nCurrPos**
- uint8_t **_nCurrID**
- uint8_t **_nCurrAddr**

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

- FWLib/inc/I2CTransaction.h

3.22 IMU Class Reference

Inheritance diagram for IMU:
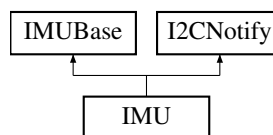
Public Member Functions

- **IMU** (I2C_Master ∗pMas, uint8_t gID, uint8_t aID)
- virtual int **Configure** ()
- virtual void **Reset** ()
- virtual void **SampleRate** (uint16_t)
- virtual int **StartRead** ()
- virtual bool **ReadDone** ()
- virtual bool **Busy** ()
- virtual bool **FifoReady** ()
- virtual void **InitFifo** ()
- virtual bool **FifoInitialized** ()
- virtual void **I2CWriteDone** ()
- virtual void **I2CReadDone** ()
- virtual void **ShowRegs** ()
- virtual uint8_t ∗ **ReadData** (uint8_t ∗)
- virtual void **CheckIDs** (HardwareSerial ∗pSerial)
- virtual void **ResetDevices** ()

Protected Member Functions

- void **SaveFifoData** ()
- int **Wr** (uint8_t ID, uint8_t addr, uint8_t data)
- int **Rd** (uint8_t ID, uint8_t addr, uint8_t cnt, uint8_t ∗pData)

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

- inc/IMU.h
- IMU.cpp

3.23   **IMUBase Class Reference**

Inheritance diagram for IMUBase:
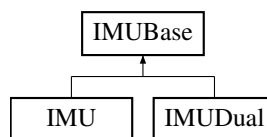
Public Member Functions

- virtual int **Configure** ()=0
- virtual void **Reset** ()=0
- virtual void **SampleRate** (uint16_t)=0
- virtual int **StartRead** ()=0
- virtual bool **ReadDone** ()=0
- virtual bool **FifoReady** ()=0
- virtual void **InitFifo** ()=0
- virtual bool **FifoInitialized** ()=0
- virtual bool **Busy** ()=0
- virtual uint8_t ∗ **ReadData** (uint8_t ∗)=0
- virtual void **ShowRegs** ()=0
- virtual void **CheckIDs** (HardwareSerial ∗pSerial)=0
- virtual void **ResetDevices** ()=0

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

- inc/IMU.h

3.24 IMUDual Class Reference

Inheritance diagram for IMUDual:
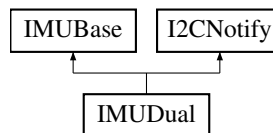
Public Member Functions

- **IMUDual** (I2C_Master ∗pMas, uint8_t gIDa, uint8_t aIDa, uint8_t gIDb, uint8_-
  t aIDb)
- virtual int **Configure** ()
- virtual void **Reset** ()
- virtual void **SampleRate** (uint16_t)
- virtual int **StartRead** ()
- virtual bool **ReadDone** ()
- virtual bool **Busy** ()
- virtual bool **FifoReady** ()
- virtual void **InitFifo** ()
- virtual bool **FifoInitialized** ()
- virtual void **I2CWriteDone** ()
- virtual void **I2CReadDone** ()

- virtual uint8_t ∗ **ReadData** (uint8_t ∗)
- virtual void **ShowRegs** ()
- virtual void **CheckIDs** (HardwareSerial ∗pSerial)
- virtual void **ResetDevices** ()

## Protected Member Functions

- int **StartRead** (uint8_t idx)
- void **SaveFifoData** (uint8_t idx)
- int **Wr** (uint8_t ID, uint8_t addr, uint8_t data)
- int **Rd** (uint8_t ID, uint8_t addr, uint8_t cnt, uint8_t ∗pData)

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

- inc/IMU.h
- IMUDual.cpp

3.25 IMUManager Class Reference

Public Member Functions

- int **AddIMU** (IMUBase ∗pIMU)
- int **Configure** ()
- void **Reset** ()
- int **loop** (HardwareSerial ∗pSerial)
- bool **FifosReady** ()
- void **InitFifos** ()
- bool **FifosInitialized** ()
- void **Stream** (uint16_t cnt)
- void **StreamContinuous** (bool bEnable)
- void **SampleRate** (uint16_t rate)
- bool **StartRead** ()
- bool **ReadDone** ()
- void **SendPacket** (HardwareSerial ∗pSerial)
- void **Test** ()
- void **ShowIMURegs** ()
- void **CheckIDs** (HardwareSerial ∗pSerial)
- void **ResetDevices** ()

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

- inc/IMUManager.h
- IMUManager.cpp

3.26 IRCOM_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **TXPLCTRL**
- register8_t **RXPLCTRL**

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

- iox128a1.h

3.27 MCU_struct Struct Reference

Public Attributes

- register8_t **DEVID0**
- register8_t **DEVID1**
- register8_t **DEVID2**
- register8_t **REVID**
- register8_t **JTAGUID**
- register8_t **reserved_0x05**
- register8_t **MCUCR**
- register8_t **reserved_0x07**
- register8_t **EVSYSLOCK**
- register8_t **AWEXLOCK**
- register8_t **reserved_0x0A**
- register8_t **reserved_0x0B**

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

- iox128a1.h

3.28 MyDriver Class Reference

Public Member Functions

- void **doThis** ()
- void **toggleBlueLed** ()

Public Attributes

- unsigned char **aValue**
- unsigned char **bBlueState**
- volatile PORT_t ∗ **aPort**
- volatile PORT_t ∗ **bPort**

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

- GyroAcc.cpp

3.29   NVM_FUSES_struct Struct Reference

Public Attributes

- register8_t **FUSEBYTE0**
- register8_t **FUSEBYTE1**
- register8_t **FUSEBYTE2**
- register8_t **reserved_0x03**
- register8_t **FUSEBYTE4**
- register8_t **FUSEBYTE5**

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

- iox128a1.h

3.30   NVM_LOCKBITS_struct Struct Reference

Public Attributes

- register8_t **LOCKBITS**

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

- iox128a1.h

3.31   NVM_PROD_SIGNATURES_struct Struct Reference

Public Attributes

- register8_t **RCOSC2M**
- register8_t **reserved_0x01**
- register8_t **RCOSC32K**

- register8_t **RCOSC32M**
- register8_t **reserved_0x04**
- register8_t **reserved_0x05**
- register8_t **reserved_0x06**
- register8_t **reserved_0x07**
- register8_t **LOTNUM0**
- register8_t **LOTNUM1**
- register8_t **LOTNUM2**
- register8_t **LOTNUM3**
- register8_t **LOTNUM4**
- register8_t **LOTNUM5**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- register8_t **WAFNUM**
- register8_t **reserved_0x11**
- register8_t **COORDX0**
- register8_t **COORDX1**
- register8_t **COORDY0**
- register8_t **COORDY1**
- register8_t **reserved_0x16**
- register8_t **reserved_0x17**
- register8_t **reserved_0x18**
- register8_t **reserved_0x19**
- register8_t **reserved_0x1A**
- register8_t **reserved_0x1B**
- register8_t **reserved_0x1C**
- register8_t **reserved_0x1D**
- register8_t **reserved_0x1E**
- register8_t **reserved_0x1F**
- register8_t **ADCACAL0**
- register8_t **ADCACAL1**
- register8_t **reserved_0x22**
- register8_t **reserved_0x23**
- register8_t **ADCBCAL0**
- register8_t **ADCBCAL1**
- register8_t **reserved_0x26**
- register8_t **reserved_0x27**
- register8_t **reserved_0x28**
- register8_t **reserved_0x29**
- register8_t **reserved_0x2A**
- register8_t **reserved_0x2B**
- register8_t **reserved_0x2C**
- register8_t **reserved_0x2D**
- register8_t **TEMPSENSE0**
- register8_t **TEMPSENSE1**
- register8_t **DACAOFFCAL**

- register8_t **DACAGAINCAL**
- register8_t **DACBOFFCAL**
- register8_t **DACBGAINCAL**
- register8_t **reserved_0x34**
- register8_t **reserved_0x35**
- register8_t **reserved_0x36**
- register8_t **reserved_0x37**
- register8_t **reserved_0x38**
- register8_t **reserved_0x39**
- register8_t **reserved_0x3A**
- register8_t **reserved_0x3B**
- register8_t **reserved_0x3C**
- register8_t **reserved_0x3D**
- register8_t **reserved_0x3E**

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

- iox128a1.h

3.32 NVM␣struct Struct Reference

Public Attributes

- register8_t **ADDR0**
- register8_t **ADDR1**
- register8_t **ADDR2**
- register8_t **reserved_0x03**
- register8_t **DATA0**
- register8_t **DATA1**
- register8_t **DATA2**
- register8_t **reserved_0x07**
- register8_t **reserved_0x08**
- register8_t **reserved_0x09**
- register8_t **CMD**
- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **INTCTRL**
- register8_t **reserved_0x0E**
- register8_t **STATUS**
- register8_t **LOCKBITS**

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

- iox128a1.h

3.33 OCD␣struct Struct Reference

Public Attributes

- register8_t **OCDR0**
- register8_t **OCDR1**

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

- iox128a1.h

3.34 OSC␣struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **STATUS**
- register8_t **XOSCCTRL**
- register8_t **XOSCFAIL**
- register8_t **RC32KCAL**
- register8_t **PLLCTRL**
- register8_t **DFLLCTRL**

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

- iox128a1.h

3.35 PMIC␣struct Struct Reference

Public Attributes

- register8_t **STATUS**
- register8_t **INTPRI**
- register8_t **CTRL**

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

- iox128a1.h

3.36 PORT␣struct Struct Reference

Public Attributes

- register8_t **DIR**

- register8_t **DIRSET**
- register8_t **DIRCLR**
- register8_t **DIRTGL**
- register8_t **OUT**
- register8_t **OUTSET**
- register8_t **OUTCLR**
- register8_t **OUTTGL**
- register8_t **IN**
- register8_t **INTCTRL**
- register8_t **INT0MASK**
- register8_t **INT1MASK**
- register8_t **INTFLAGS**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **reserved_0x0F**
- register8_t **PIN0CTRL**
- register8_t **PIN1CTRL**
- register8_t **PIN2CTRL**
- register8_t **PIN3CTRL**
- register8_t **PIN4CTRL**
- register8_t **PIN5CTRL**
- register8_t **PIN6CTRL**
- register8_t **PIN7CTRL**

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

- iox128a1.h

3.37 **PORTCFG_struct Struct Reference**

Public Attributes

- register8_t **MPCMASK**
- register8_t **reserved_0x01**
- register8_t **VPCTRLA**
- register8_t **VPCTRLB**
- register8_t **CLKEVOUT**

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

- iox128a1.h

3.38 PR_struct Struct Reference
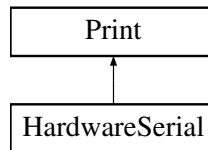
Public Attributes

- register8_t **PRGEN**
- register8_t **PRPA**
- register8_t **PRPB**
- register8_t **PRPC**
- register8_t **PRPD**
- register8_t **PRPE**
- register8_t **PRPF**

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

- iox128a1.h

3.39 Print Class Reference

Inheritance diagram for Print:

Public Member Functions

- virtual void **write** (uint8_t)=0
- virtual void **write** (const char ∗str)
- virtual void **write** (const uint8_t ∗buffer, size_t size)
- void **print** (const char[ ])
- void **print** (char, int=BYTE)
- void **print** (unsigned char, int=BYTE)
- void **print** (int, int=DEC)
- void **print** (unsigned int, int=DEC)
- void **print** (long, int=DEC)
- void **print** (unsigned long, int=DEC)
- void **print** (double, int=2)
- void **println** (const char[ ])
- void **println** (char, int=BYTE)
- void **println** (unsigned char, int=BYTE)
- void **println** (int, int=DEC)
- void **println** (unsigned int, int=DEC)

- void **println** (long, int=DEC)
- void **println** (unsigned long, int=DEC)
- void **println** (double, int=2)
- void **println** (void)

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

- FWLib/inc/Print.h
- FWLib/src/Print.cpp

3.40   QuadDecoder Class Reference

Public Types

- enum **Direction** { **CW**, **CCW** }
- typedef enum QuadDecoder::Direction **DirType**

Public Member Functions

- **QuadDecoder** (PORT_t ∗port, uint8_t portPin, bool bUseIndex, bool bInvertIO, uint8_t qEvMux, EVSYS_CHMUX_t qPinInput, EVSYS_QDIRM_t qIndexS-tate, TC0_t ∗pTimer, TC_EVSEL_t qEventChannel, uint8_t lineCount)
- bool **Setup** ()
- bool **PortSetup** ()
- bool **EventSetup** ()
- void **TC_DecSetup** ()
- void **TC_FreqSetup** ()
- DirType **Get_Direction** ()
- uint16_t **Count** ()

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

- FWLib/inc/QuadDecoder.h
- FWLib/src/QuadDecoder.cpp

3.41   ring_buffer Struct Reference

Public Attributes

- unsigned char **buffer** [RX_BUFFER_SIZE]
- int **head**
- int **tail**

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

- FWLib/src/HardwareSerial.cpp

3.42 RST_struct Struct Reference

Public Attributes

- register8_t **STATUS**
- register8_t **CTRL**

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

- iox128a1.h

3.43 RTC_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (CNT)
- **_WORDREGISTER** (PER)
- **_WORDREGISTER** (COMP)

Public Attributes

- register8_t **CTRL**
- register8_t **STATUS**
- register8_t **INTCTRL**
- register8_t **INTFLAGS**
- register8_t **TEMP**
- register8_t **reserved_0x05**
- register8_t **reserved_0x06**
- register8_t **reserved_0x07**

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

- iox128a1.h

3.44 SLEEP_struct Struct Reference
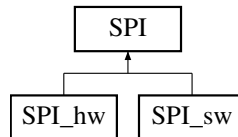
Public Attributes

- register8_t **CTRL**

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

- iox128a1.h

3.45   SPI Class Reference

Inheritance diagram for SPI:
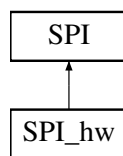

Public Member Functions

- virtual void **send** (uint8_t ∗pBuffer, size_t nBytes)=0
- virtual void **getdata** (uint8_t ∗pBuffer, size_t maxBytes)=0
- virtual void **begin** ()=0
- virtual void **end** ()=0
- virtual void **setBitOrder** (uint8_t)=0
- virtual void **setDataMode** (uint8_t)=0
- virtual void **setClockDivider** (uint8_t)=0

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

- FWLib/inc/SPI.h

3.46   SPI_hw Class Reference

Inheritance diagram for SPI_hw:

Public Member Functions

- **SPI_hw** (SPI_t ∗spi, PORT_t ∗port, uint8_t clk2x, uint8_t dataOrder, uint8_t enMaster, uint8_t spiMode, uint8_t preScale)
- void **send** (uint8_t ∗pBuffer, size_t nBytes)
- void **getdata** (uint8_t ∗pBuffer, size_t maxBytes)
- void **begin** ()
- void **end** ()
- void **setBitOrder** (uint8_t)

- void **setDataMode** (uint8_t)
- void **setClockDivider** (uint8_t)
- void **spi_int** ()

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

- FWLib/inc/SPI_hw.h
- FWLib/src/SPI_hw.cpp

3.47 SPI␣struct Struct Reference
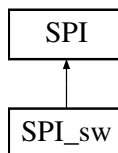
Public Attributes

- register8_t **CTRL**
- register8_t **INTCTRL**
- register8_t **STATUS**
- register8_t **DATA**

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

- iox128a1.h

3.48 SPI␣sw Class Reference

Inheritance diagram for SPI_sw:

Public Member Functions

- **SPI_sw** ([PORT_t](#) ∗port, uint8_t sck_pin, uint8_t miso_pin, uint8_t mosi_pin, uint8_t cs_pin, uint8_t clk2x, uint8_t dataOrder, uint8_t enMaster, uint8_t spi-Mode, uint8_t preScale)
- void **send** (uint8_t ∗pBuffer, size_t nBytes)
- void **getdata** (uint8_t ∗pBuffer, size_t maxBytes)
- void **begin** ()
- void **end** ()
- void **setBitOrder** (uint8_t)
- void **setDataMode** (uint8_t)

- void **setClockDivider** (uint8_t)

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

- FWLib/inc/SPI_sw.h
- FWLib/src/SPI_sw.cpp

3.49 TC0_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (CNT)
- **_WORDREGISTER** (PER)
- **_WORDREGISTER** (CCA)
- **_WORDREGISTER** (CCB)
- **_WORDREGISTER** (CCC)
- **_WORDREGISTER** (CCD)
- **_WORDREGISTER** (PERBUF)
- **_WORDREGISTER** (CCABUF)
- **_WORDREGISTER** (CCBBUF)
- **_WORDREGISTER** (CCCBUF)
- **_WORDREGISTER** (CCDBUF)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **CTRLC**
- register8_t **CTRLD**
- register8_t **CTRLE**
- register8_t **reserved_0x05**
- register8_t **INTCTRLA**
- register8_t **INTCTRLB**
- register8_t **CTRLFCLR**
- register8_t **CTRLFSET**
- register8_t **CTRLGCLR**
- register8_t **CTRLGSET**
- register8_t **INTFLAGS**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **TEMP**
- register8_t **reserved_0x10**
- register8_t **reserved_0x11**
- register8_t **reserved_0x12**
- register8_t **reserved_0x13**

- register8_t **reserved_0x14**
- register8_t **reserved_0x15**
- register8_t **reserved_0x16**
- register8_t **reserved_0x17**
- register8_t **reserved_0x18**
- register8_t **reserved_0x19**
- register8_t **reserved_0x1A**
- register8_t **reserved_0x1B**
- register8_t **reserved_0x1C**
- register8_t **reserved_0x1D**
- register8_t **reserved_0x1E**
- register8_t **reserved_0x1F**
- register8_t **reserved_0x22**
- register8_t **reserved_0x23**
- register8_t **reserved_0x24**
- register8_t **reserved_0x25**
- register8_t **reserved_0x30**
- register8_t **reserved_0x31**
- register8_t **reserved_0x32**
- register8_t **reserved_0x33**
- register8_t **reserved_0x34**
- register8_t **reserved_0x35**

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

- iox128a1.h

3.50 TC1_struct Struct Reference

Public Member Functions

- **_WORDREGISTER** (CNT)
- **_WORDREGISTER** (PER)
- **_WORDREGISTER** (CCA)
- **_WORDREGISTER** (CCB)
- **_WORDREGISTER** (PERBUF)
- **_WORDREGISTER** (CCABUF)
- **_WORDREGISTER** (CCBBUF)

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **CTRLC**
- register8_t **CTRLD**
- register8_t **CTRLE**
- register8_t **reserved_0x05**
- register8_t **INTCTRLA**
- register8_t **INTCTRLB**
- register8_t **CTRLFCLR**
- register8_t **CTRLFSET**
- register8_t **CTRLGCLR**
- register8_t **CTRLGSET**
- register8_t **INTFLAGS**
- register8_t **reserved_0x0D**
- register8_t **reserved_0x0E**
- register8_t **TEMP**
- register8_t **reserved_0x10**
- register8_t **reserved_0x11**
- register8_t **reserved_0x12**
- register8_t **reserved_0x13**
- register8_t **reserved_0x14**
- register8_t **reserved_0x15**
- register8_t **reserved_0x16**
- register8_t **reserved_0x17**
- register8_t **reserved_0x18**
- register8_t **reserved_0x19**
- register8_t **reserved_0x1A**
- register8_t **reserved_0x1B**
- register8_t **reserved_0x1C**
- register8_t **reserved_0x1D**
- register8_t **reserved_0x1E**
- register8_t **reserved_0x1F**
- register8_t **reserved_0x22**
- register8_t **reserved_0x23**
- register8_t **reserved_0x24**
- register8_t **reserved_0x25**
- register8_t **reserved_0x2C**
- register8_t **reserved_0x2D**
- register8_t **reserved_0x2E**
- register8_t **reserved_0x2F**
- register8_t **reserved_0x30**
- register8_t **reserved_0x31**
- register8_t **reserved_0x32**
- register8_t **reserved_0x33**
- register8_t **reserved_0x34**

- register8_t **reserved_0x35**

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

- iox128a1.h

3.51 tmElements_t Struct Reference

Public Attributes

- uint8_t **Second**
- uint8_t **Minute**
- uint8_t **Hour**
- uint8_t **Wday**
- uint8_t **Day**
- uint8_t **Month**
- uint8_t **Year**

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

- FWLib/inc/Time.h

3.52 TWI_MASTER_struct Struct Reference

Public Attributes

- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **CTRLC**
- register8_t **STATUS**
- register8_t **BAUD**
- register8_t **ADDR**
- register8_t **DATA**

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

- iox128a1.h

3.53 TWI_SLAVE_struct Struct Reference

Public Attributes

- register8_t **CTRLA**

- register8_t **CTRLB**
- register8_t **STATUS**
- register8_t **ADDR**
- register8_t **DATA**
- register8_t **ADDRMASK**

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

- iox128a1.h

3.54   TWI_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- [TWI_MASTER_t](#) **MASTER**
- [TWI_SLAVE_t](#) **SLAVE**

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

- iox128a1.h

3.55   USART_struct Struct Reference

Public Attributes

- register8_t **DATA**
- register8_t **STATUS**
- register8_t **reserved_0x02**
- register8_t **CTRLA**
- register8_t **CTRLB**
- register8_t **CTRLC**
- register8_t **BAUDCTRLA**
- register8_t **BAUDCTRLB**

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

- iox128a1.h

3.56 VPORT_struct Struct Reference

Public Attributes

- register8_t **DIR**
- register8_t **OUT**
- register8_t **IN**
- register8_t **INTFLAGS**

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

- iox128a1.h

3.57 WDT_struct Struct Reference

Public Attributes

- register8_t **CTRL**
- register8_t **WINCTRL**
- register8_t **STATUS**

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

- iox128a1.h

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