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VERSION CHANGE		
NO.	ISSUE	APPROVED
1	V1.1	2007-08-01

Additional Technical Information



MTCS-ME1 (Interfaces)

modEVA-Kit with JENCOLOR Sensors

µC Version 2.2x

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1 Introduction

This document based on the documentation MTCS-ME1 Rev.1.42. It describes the outputs of MTCS-ME1 main board via USB, RS232 and I²C interface.

The MTCS-ME1 includes as standard the USB connector and does not include a standard connector for RS232 or I²C. So every user has to build an own connection describes as follows.

2 MTCS-ME1 main board

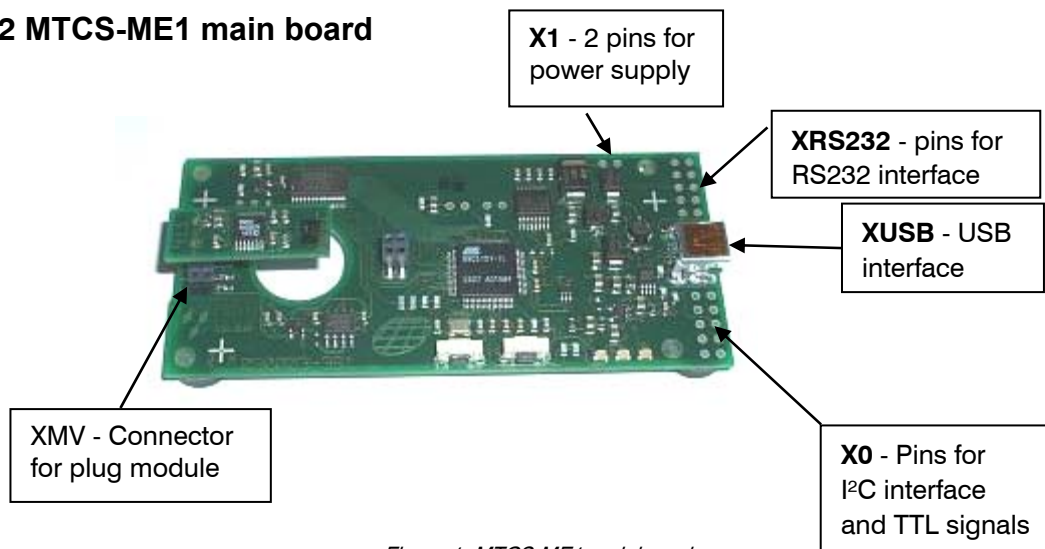


Figure 1; MTCS-ME1 mainboard

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	Compiled:	2007-08-01		
	Checked:	2007-08-01		
	Released:	2007-08-01	DOC. NO.: DB-05-178e	Page 1 of 4

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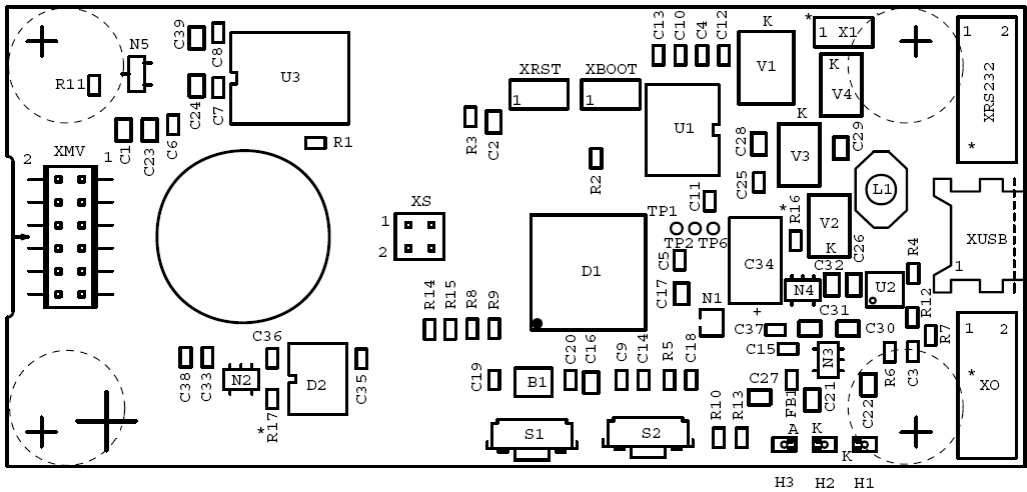


Figure 2; MTCS-ME1 mainboard (zus)

2.1 XMV

The signals of the sensor board are connected via a double line and 12-pole pin bar jack interface (with 2mm pin pitch). Figure 3 and Table 1 show the various signal assignments.

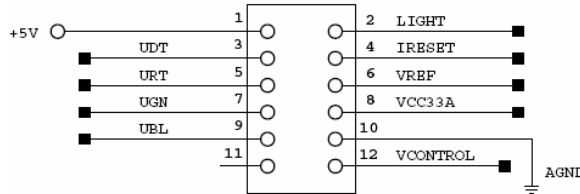


Figure 3: Signal assignments of sensor interface

Table 1: Signal assignments of sensor interface

PIN	I/O	NAME	DESCRIPTION
1	I	+5V	Analogue operating voltage for target illumination
2	I	LIGHT	Turns target illumination on
3	O	UDT	Signal level of isolating diode (not used)
4	I	IRESET	Resets/discharges current-to-charge converter
5	O	URT	Red signal level
6	I	VREF	Reference voltage
7	O	UGN	Green signal level
8	I	VCC33A	Analogue operating voltage for signal gain
9	O	UBL	Blue signal level
10	I	AGND	Analogue frame ground
11		n.c.	
12	I	VCONTROL	Control voltage for target illuminator

For operation with a MTCS-ME1 DARK sensor board (8-pole connector), pins 1, 2, 11 and 12 remain unassigned.

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2.2 X1

The two pins of X1 are for extern power supply. It is not used while USB is connected.

Table 2: Signal assignments of X1

PIN	I/O	NAME	DESCRIPTION
1	I	+5V	Analogue operating voltage for target illumination
2	I	AGND	Analogue frame ground

2.3 XRS232

For RS232 you have to connect pins 3 and 5 as data wire and AGND. Additional is a extern power supply necessary (see also chapter 2.2).

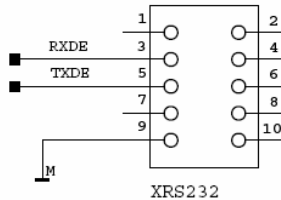


Figure 4: Signal assignments of XRS232

Table 3: Signal assignments XRS232

PIN	I/O	NAME	DESCRIPTION
1		n.c.	
2		n.c.	
3	I/O	RXDE	Receive Data
4		n.c.	
5	I/O	TXDE	Transmit Data
6		n.c.	
7		n.c.	
8		n.c.	
9	I	AGND	Analogue frame ground
10		n.c.	
11		n.c.	
12		n.c.	

2.4 XUSB

For USB interface see pin connection of XUSB as follows. XUSB is supply as a miniature jacket.

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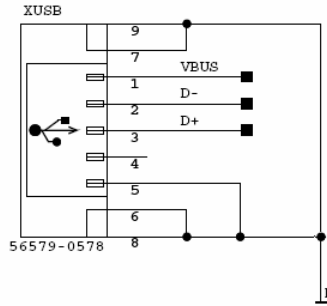


Figure 5: Signal assignments XUSB

2.5 XO

The pins of XO allow to configure a two wire interface (TWI) like I²C and to use some digital I/O of controller for custom specific applications.

The TWI is not included in the standard firmware. Using a TWI the controller requires a custom specific development forward of the existing firmware.

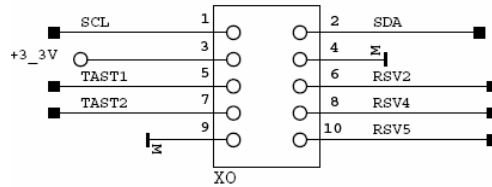


Figure 5: Signal assignments XO

The pins TASTx and RSVx are additional connections to free controller ports. They can be used as external interrupt or status signals by realizing a custom specific firmware.

Table 4: Signal assignments of XO

PIN	I/O	NAME	DESCRIPTION
1	I	SCL	System clock
2	I/O	SDA	System data
3	I	+ 3,3V	Analogue operating voltage
4	I	AGND	Analogue frame ground
5	I	TAST 1	Signal input μ C port1.1 (par. to S1)
6	I/O	RSV2	Signal input/output μ C port2.5
7	I	TAST 2	Signal input μ C port1.5 (par. to S2)
8	I/O	RSV4	Signal input/output μ C port3.3
9	I	AGND	Analogue frame ground
10	I/O	RSV5	Signal input/output μ C port3.4

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