Hardware Documentation

PCOMnet

Version 1.03
2016-07-11

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History

Date	V	Platform	A,M,R	Chapter	Description	Au
21.02.2014	1.00	PCOMnet		*	New document	TM
19.03.2015	1.01	PCOMnet	M	*	Adapt to corporate CI.	HF
10.06.2016	1.02	PCOMnet	A M	3 4.4	Add figure for bottom placed connectors Correct notes	TM
11.07.2016	1.03	PCOMnet	M M M A	2 3 4.4 5	Modified figure 1 Modified figure 2 Modified notes Added chapter 5 electrical characteristic	TM

V	Version
A,M,R	Added, Modified, Removed
Au	Author

About this document

The following document describes the usage and handling of PCOMnet.

Table of Contents

1 Introduction

This document describes the mechanical and electrical information's for the F&S PCOMnet. Please refer the design guide by using this module for your application.

2 Mechanical Dimensions

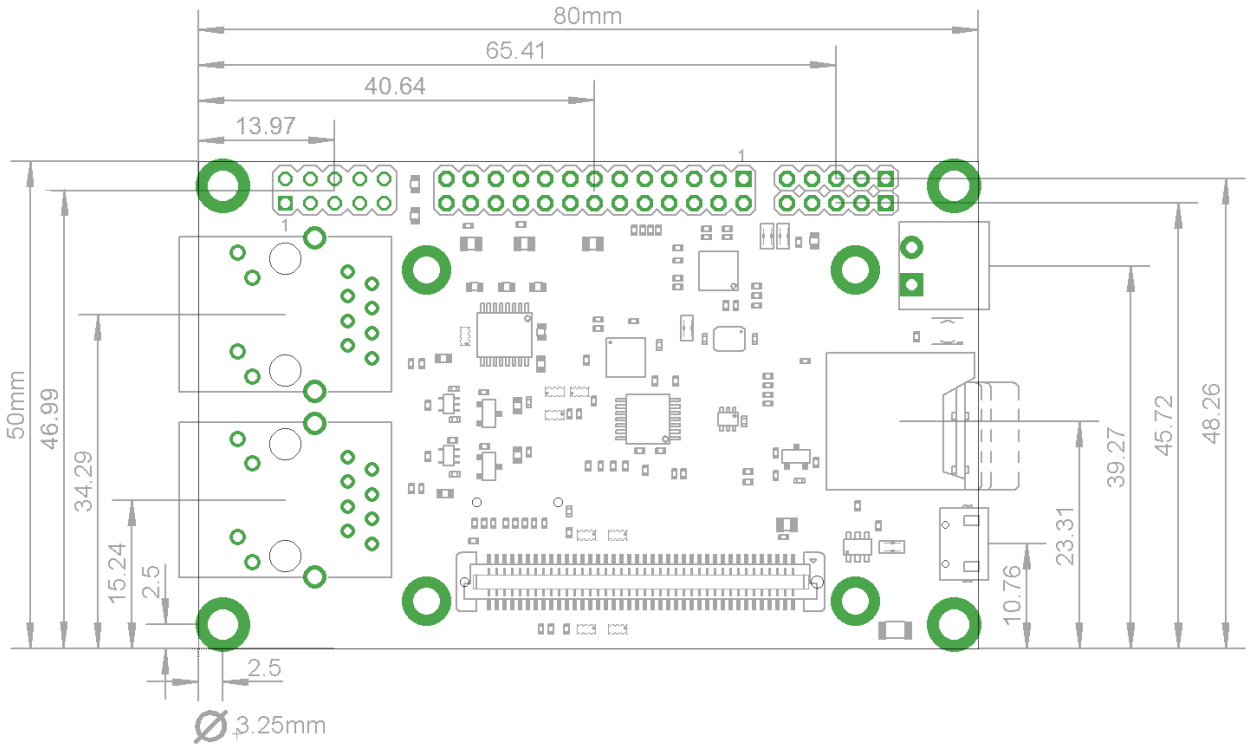

Figure 1: Mechanical Dimensions

3 Connector Layout

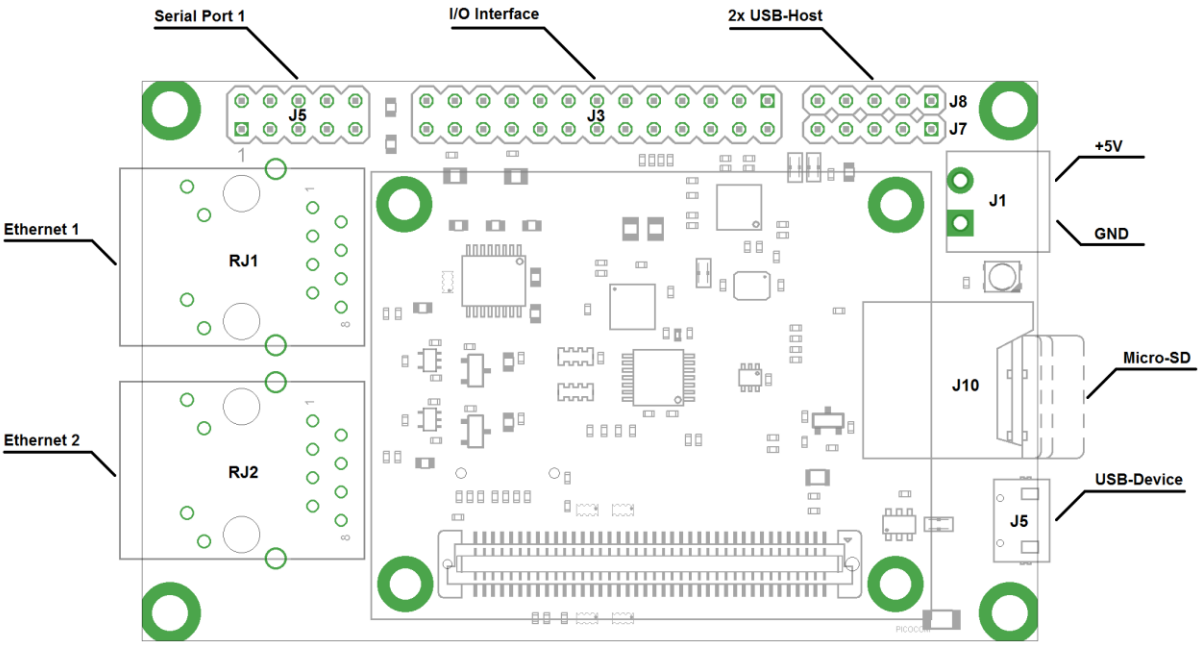

Figure 2: Connector Layout Top

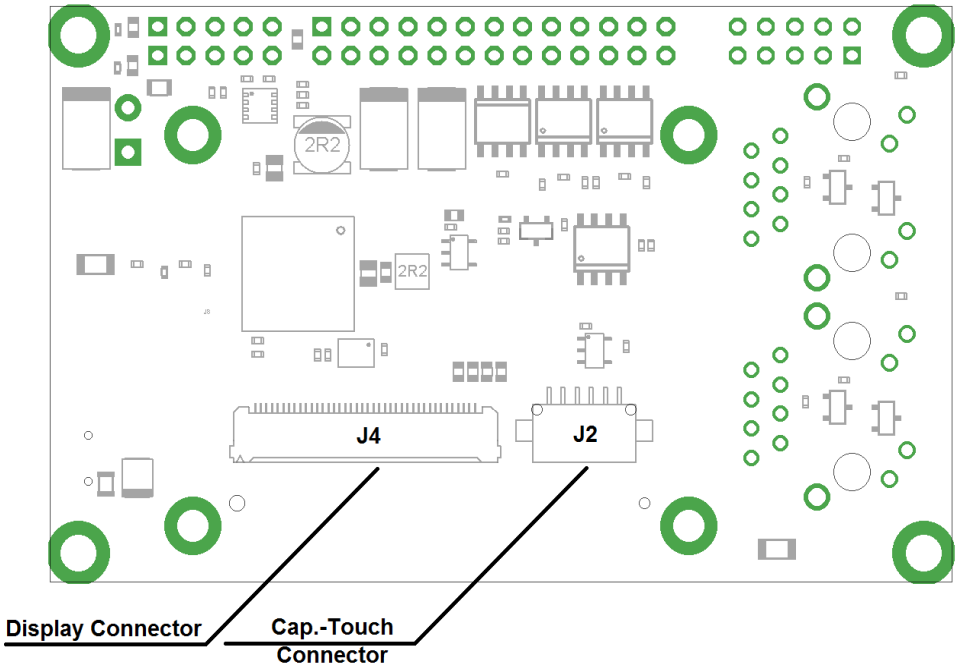

Figure 3: Connector Layout Bottom

4 Interface and Signal Description

4.1 Power Supply

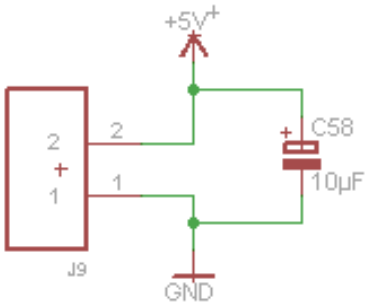

Figure 4: Connector J1: Power supply

J1 Power Supply		
Pin	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	GND	7, 8, 25, 42, 61, 62, 72, 73
2	+5V ±5% DC power	5, 6

4.2 Capacitive Touch Interface

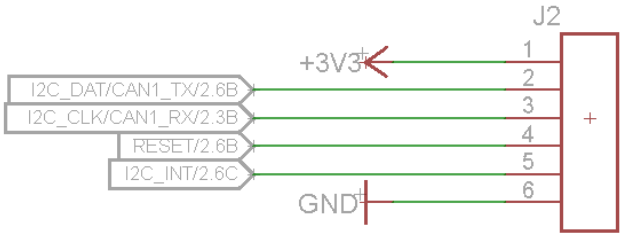

Figure 5: Capacitive touch interface J2

J2 Capacitive touch interface		
Pin	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	+3.3V	5, 6
2	I2C_DAT (*)	32
3	I2C_CLK (*)	33
4	I2C_INT	40
5	GND	7, 8, 25, 42, 61, 62, 72, 73

(*) Note: If use 2nd CAN this signals are not connected

4.3 Ethernet

4.3.1 LAN 1

RJ1 LAN1		
Pin on RJ45	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	TX+ (Transmit Data)	3
2	TX- (Transmit Data)	1
3	RX+ (Received Data)	4
4	NC	
5	RX- (Received Data)	2
6	NC	
7	NC	
8	NC	

4.3.2 LAN 2

RJ2 LAN1		
Pin on RJ45	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	TX+ (Transmit Data)	79
2	TX- (Transmit Data)	77
3	RX+ (Received Data)	80
4	NC	
5	RX- (Received Data)	78
6	NC	
7	NC	
8	NC	

4.4 I/O Connector

J3 I/O (CAN, SPI, I²C, I/O)		
Pin on J3	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	NC	NC
2	NC	NC
3	SPI_MISO (*)	26
4	SPI_MOSI (*)	27
5	SPI_CLK (*)	28
6	SPI_CS (*)	29
7	GND	7, 8, 25, 42, 61, 62, 72, 73
8	GND	7, 8, 25, 42, 61, 62, 72, 73
9	I2C_DAT (**)	32
10	I2C_CLK (**)	33
11	GPIO9 (*)	27
12	GND	7, 8, 25, 42, 61, 62, 72, 73
13	CAN0+	
14	CAN0-	
15	GND	7, 8, 25, 42, 61, 62, 72, 73
16	GND	7, 8, 25, 42, 61, 62, 72, 73
17	CAN1+ (**)	
18	CAN1- (**)	
19	GND	7, 8, 25, 42, 61, 62, 72, 73
20	RESET_IN	
21	GND	7, 8, 25, 42, 61, 62, 72, 73
22	VBAT	9
23	GND	7, 8, 25, 42, 61, 62, 72, 73
24	+5V (***)	
25	GND	7, 8, 25, 42, 61, 62, 72, 73
26	+3.3V	5, 6

(*) Note: If PCOMnet is configured with WLAN SPI signals are not connected! GPIO9 is only available if WLAN is mounted.

(**) Note: If PCOMnet is configured with two CAN I2C_CLK and I2C_DAT are not connected

(***) Note: It is possible to supply voltage on this pin instead of J1. Please contact sales@fs-net.de

4.5 CAN Interface

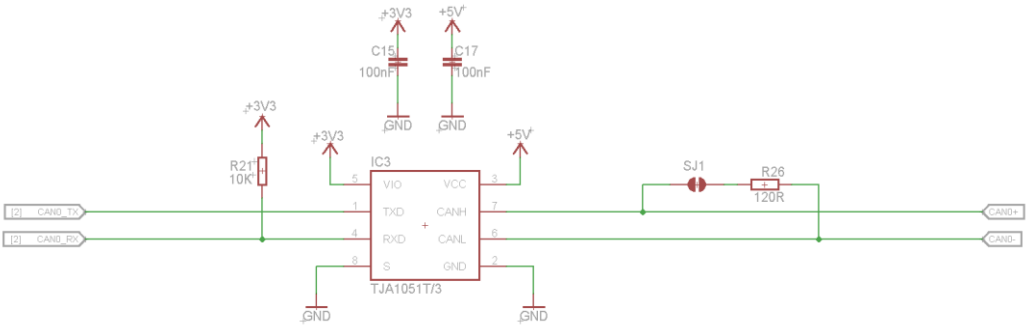

Figure 6: CAN interface

4.5.1 CAN1

J3 CAN1		
Pin	Signal	
12	GND	
13	CAN-L	connected to TJA1051T/3
14	CAN-H	connected to TJA1051T/3
15	GND	

A 120R termination resistor can be connected to the CAN lines with Jumper SJ1.

4.5.2 CAN2

J3 CAN2*		
Pin	Signal	
9	CAN-L	connected to TJA1051T/3
10	CAN-H	connected to TJA1051T/3
11	GND	

A 120R termination resistor can be connected to the CAN lines with Jumper SJ2.

***Note:** CAN2 is only available if IC4 is mounted. I2C is in this case not available.

4.7 Serial port

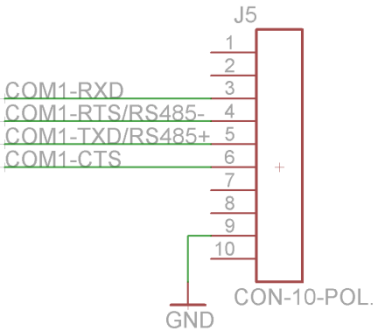

Figure 7: Serial port – 2x 5pol connector

4.7.1 COM1

J5 COM1		
Pin	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	-	-
2	-	-
3	RXD	18
4	RTS / RS485-	69
5	TXD / RS458+	17
6	CTS	11
7	-	-
8	-	-
9	GND	7, 8, 25, 42, 61, 62, 72, 73
10	-	-

4.8 Display Connector

J4 40-Pol. FPC connector		
Pin	Signal	Pin on PicoCOMA5 J1 (80 Pin)
1	GND	7, 8, 25, 42, 61, 62, 72, 73
2	GND	7, 8, 25, 42, 61, 62, 72, 73
3	VCFL	
4	VCFL	
5	VCFL	
6	BL_CTRL	65
7	DEN	68
8	B5	58
9	B4	57
10	B3	56
11	B2	55
12	B1	54
13	B0*	63
14	GND	7, 8, 25, 42, 61, 62, 72, 73
15	G5	53
16	G4	52
17	G3	51
18	G2	50
19	G1	49
20	G0	48
21	GND	7, 8, 25, 42, 61, 62, 72, 73
22	R5	47
23	R4	46
24	R3	45
25	R2	44
26	R1	43
27	R0*	64
28	CLK	
29	GND	7, 8, 25, 42, 61, 62, 72, 73
30	HSYNC*	63
31	VSYNC*	64
32	DE	60
33	SHUT	
34	GND	7, 8, 25, 42, 61, 62, 72, 73
35	GND	7, 8, 25, 42, 61, 62, 72, 73
36	VLCD	
37	TOCUH_Y+	75
38	TOUCH_X+	71
39	TOUCH_Y-	76
40	TOUCH_X-	74

*NOTE: If HSYNC/VSYNC is used R0 is connected to R5 (Jumper R7) and B0 to B5 (Jumper R5).

4.9 USB Device

This connection is used for file download and application development. The boot loader uses the USB device connection for downloading the operating system. The required cable is included in the starter kit.

J6 Connecting table	
Pin at J4	Function
1	USB_VBUS
2	USB0_D-
3	USB0_D+
4	NC
5	GND

4.10 USB Host

The USB Host connector J6 and J7 can be used with USB devices.

J7 Connecting table	
Pin at J4	Function
1	USB_PWR0
2	USBD0_D-
3	USBD0_D+
4	GND
5	SHIELD_GND

J8 Connecting table	
Pin at J4	*Function*
1	USB_PWR1
2	USBD1_D-
3	USBD1_D+
4	GND
5	SHIELD_GND

4.11 EDT Interface

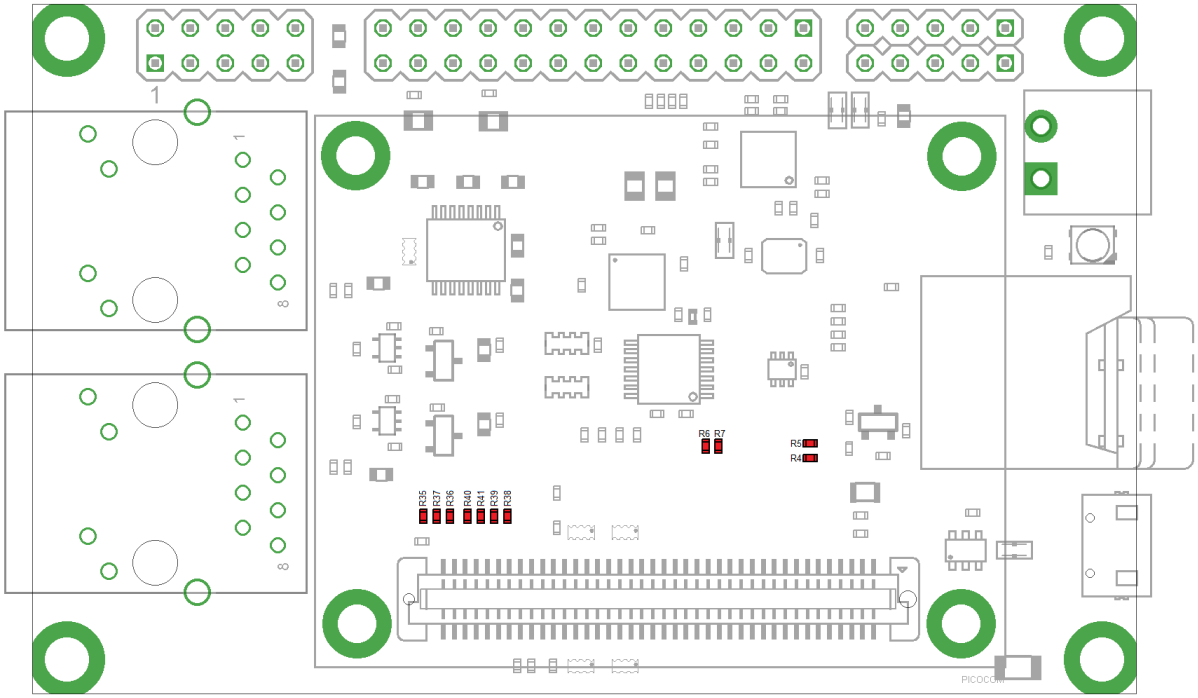

Figure 8: Display config jumper

Connecting table		
Jumper	Pin at J4	Function
R4	13	B0
R5	30	HSYNC
R6	27	R0
R7	31	VSYNC
R35	7	DEN
R36	30	HSYNC
R37	31	VSYNC
R38	32	Connect DE to LCD_DE
R39	32	Connect LCD_DE to GND
R40	33	Connect LCD_SHUT +3.3V
R41	33	Connect LCD_SHUT GND

Jumper settings		
Display	Jumper	Notes
ET035080		
ET043080		
ET050080		
ET057080		
ET070080	R5, R7, R36, R37, R39	HSYNC / VSYNC Enabled
ETM057080		

5 Electrical characteristic

VCC: 5V +/-5%
VBAT In for RTC: 2.2 … 3.45V

6 Appendix

Important Notice

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Figures