

PicoCOM1

Start Interface

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Preliminary Documentation

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1 Delivery

Components delivered with the Start interface ensure the proper start up and ease the development with the PicoCOM1

The delivered components are listed in Table 1.

Table 1: Delivered components

Quantity	Component
1	PicoCOM-Start Interface
1	PicoCOM1
1	Ethernet cable Cat 5
1	Null modem cable
1	USB Device cable
1	RS232 adapter cable

2 Connectors

Figure 1 shows the base board with the position of the connectors without PicoCOM1.

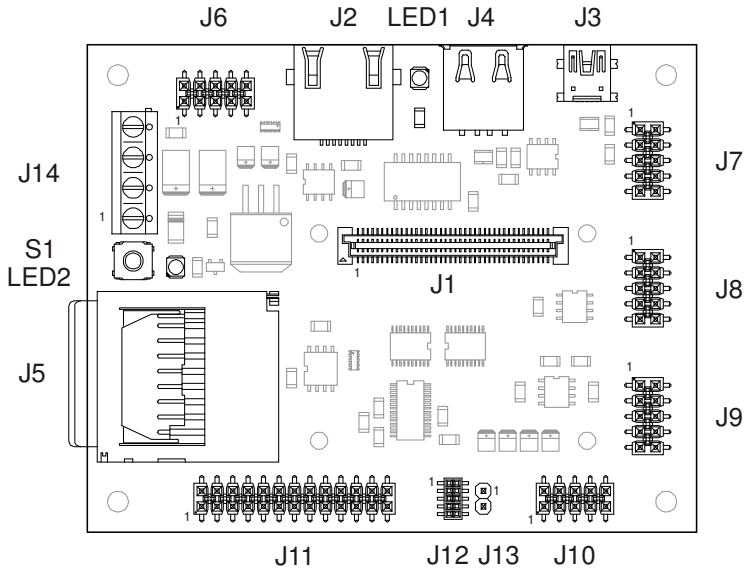


Figure 1: Start interface without PicoCOM1

2.1 Counting of Connectors

The strips of PicoMOD1 have a grid dimension of 2,54mm. Pin 1 in each case is marked with a quadratic pad or with a triangle beside the pad, where required. The row within Pin 1 contains all odd Pins (1, 3, 5, 7, etc.), analog the row without Pin 1 all even Pins (2, 4, 6, 8 etc.).

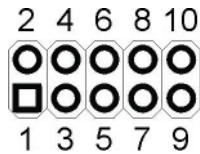


Figure 2: Way of counting for strips

2.2 J1 PicoCOM1 Slot

To connect the PicoCOM1 with the Start interface a connector with 80 pins is used (Figure 1: J1). For reasons of secure mounting, the PicoCOM1 is fastened to the standoff bolts with M2,5 screws. Table 2 shows the pin assignment of the connector and the mapping from pins to the signals of the Start interface.

Table 2: Pin assignment PicoCOM1

J1			
Pin	Signal	Default Interface	Starter Interface
1	TX-	Ethernet TX-	Ethernet TX-
2	RX-	Ethernet RX-	Ethernet RX-
3	TX+	Ethernet TX+	Ethernet TX+
4	RX+	Ethernet RX+	Ethernet RX+
5	V33	+3.3V +-5% DC	+3.3V +-5% DC
6	V33	+3.3V +-5% DC	+3.3V +-5% DC
7	GND	Ground	Ground
8	GND	Ground	Ground
9	VBAT	+3..+3.6V DC (RTC backup battery)	+3..+3.6V DC (RTC backup battery)
10	nRES	Reset In (open drain)	Reset In (open drain)
11	SHDN	Shutdown (active low)	Shutdown (active low)
12	WKUP	Wake Up	Wake Up
13	IO0	IO0	COM2 TXD
14	IO1	IO1	COM2 RXD

J1			
Pin	Signal	Default Interface	Starter Interface
15	IO2	IO2	COM2 RTS
16	IO3	IO3	COM2 CTS
17	IO4	IO4	COM1 TXD
18	IO5	IO5	COM1 RXD
19	HDP A	USB Host 1 +	USB Host 1 +
20	HDMA	USB Host 1 -	USB Host 1 -
21	DDP	USB Device +	USB Device +
22	DDM	USB Device -	USB Device -
23	IO6	IO6	USB CNX
24	IO7	IO7	USB PWR
25	GND	Ground	Ground
26	nTRST	JTAG Reset	JTAG Reset
27	TMS	JTAG TMS	JTAG TMS
28	TDI	JTAG TDI	JTAG TDI
29	TDO	JTAG TDO	JTAG TDO
30	TCK	JTAG TCK	JTAG TCK
31	JTAGSEL	JTAG Select	JTAG Select
32	IO8	IO8	I2C SDA
33	IO9	IO9	I2C SCL
34	IO10	IO10	SD DAT0
35	IO11	IO11	SD DAT1
36	IO12	IO12	SD DAT2
37	IO13	IO13	SD DAT3

J1			
Pin	Signal	Default Interface	Starter Interface
38	IO14	IO14	SD CLK
39	IO15	IO15	SD CMD
40	IO16	IO16	IRQ0
41	IO17	IO17	IO17
42	GND	Ground	Ground
43	IO18	IO18	COM3 TXD
44	IO19	IO19	COM3 RXD
45	IO20	IO20	COM2 DSR
46	IO21	IO21	COM2 DCD
47	IO22	IO22	COM2 DTR
48	IO23	IO23	COM2 RI
49	IO24	IO24	COM1 RTS
50	IO25	IO25	COM1 CTS
51	CAN+	CAN+	CAN+
52	CAN-	CAN-	CAN-
53	HDPB	USB Host 2 +	USB Host 2 +
54	HDMB	USB Host 2 -	USB Host 2 -
55	IO26	IO26	SPI MISO
56	IO27	IO27	SPI MOSI
57	IO28	IO28	SPI SPCK
58	IO29	IO29	SPI PCS0
59	IO30	IO30	SPI PCS1
60	IO31	IO31	SPI PCS2

J1			
Pin	Signal	Default Interface	Starter Interface
61	GND	Ground	Ground
62	GND	Ground	Ground
63	IO32	IO32	IO32
64	IO33	IO33	IO33
65	IO34	IO34	IO34
66	IO35	IO35	IO35
67	IO36	IO36	IO36
68	IO37	IO37	IO37
69	IO38	IO38	IO38
70	IO39	IO39	IO39
71	ELED0	Ethernet LED	Ethernet LED
72	GND	Ground	Ground
73	GND	Ground	Ground
74	IO40	IO40	Analog In 1
75	IO41	IO41	Analog In 2
76	IO42	IO42	Analog In 3
77	LOUT	Line Out Left	Line Out Left
78	ROUT	Line Out Right	Line Out Right
79	LIN	Line In Left	Line In Left
80	RIN	Line In Right	Line In Right

2.3 J2 Ethernet

The connection is established by the RJ45 plug (Figure 1: J2). Use the supplied cable to connect the PicoCOM1 to the Network. The link indicator (Figure 1: LED1) shows the status of the connection.

2.4 J3 USB-Device

The USB device connector (Figure 1: J3) can be used for an ActiveSync connection to the PC with the Windows CE operating System.

This connection is used for file download and application development.

The bootloader uses the USB device connection for downloading the operating system.

The required cable is included in the starter kit.

2.5 J4 USB-Host

The USB Host connector (Figure 1: J4) can be used with USB devices.

2.6 J5 SD-Card Slot

The SD-Card slot (Figure 1: J5) can be used with SD storage cards and SD-WLAN cards.

2.7 J6 RS232 Serial Interface COM2

Serial interface COM2 (Figure 1: J6) is on a ten pin connector. Use the supplied adapter cable for connecting 9 pin SUB-D connectors. Table 3 shows the pin assignment for the connector.

Table 3: Pin assignment COM2:

PIN	Signal	Function
1	NC	-
2	DSR	Data Set Ready
3	RXD	Receive Data
4	RTS	Request to Send
5	TXD	Transmit Data
6	CTS	Clear to Send
7	DTR	Data Terminal Ready
8	RI	Ring Indicator
9	GND	Signal Ground
10	V _{CC}	+5V DC (100mA max.)

2.8 J7 RS232 Serial Interface COM3

Serial interface COM3 (Figure 1: J7) is on a ten pin connector. Use the supplied adapter cable for connecting 9 pin SUB-D connectors. Table 4 shows the pin assignment for the connector. The boot loader sends its messages to this connector.

Table 4: Pin assignment COM3

PIN	Signal	Function
1	NC	-
2	NC	-
3	RXD	Receive Data
4	NC	-
5	TXD	Transmit Data
6	NC	-
7	NC	-
8	NC	-
9	GND	Signal Ground
10	V _{CC}	+5V DC (100mA max.)

2.9 J8 S485 Serial Interface COM1

Serial interface COM1(Figure 1: J8) is on a ten pin connector. Table 5 shows the pin assignment for the connector.

Table 5: Pin assignment COM1

PIN	Signal	Function
1	NC	-
2	NC	-
3	A	RS485 A
4	NC	-
5	B	RS485 B
6	NC	-
7	NC	-
8	NC	-
9	GND	Signal Ground
10	NC	-

2.10 J9 CAN Bus

The CAN Bus (Figure 1: J9) is on a ten pin connector. Table 6 shows the pin assignment for the connector. The CAN bus is terminated with a 120Ω Resistor.

Table 6: Pin assignment CAN Bus

PIN	Signal	Function
1	NC	-
2	GND	-
3	CANH	CAN High
4	CANL	CAN Low
5	GND	-
6	NC	-
7	NC	-
8	NC	-
9	NC	-
10	NC	-

2.11 J10 Audio

Table 7: Pin assignment Audio connector

PIN	Signal	Function
1	GND	Signal Ground
2	GND	Signal Ground
3	LO-L	Line Out Left
4	LO-R	Line Out Right
5	LI-L	Line In Left
6	LI-R	Line In Right
7	GND	Signal Ground
8	GND	Signal Ground
9	V33	Supply Voltage 3.3V 100mA max
10	V50	Supply Voltage 5V 100mA max

2.12 J11 I/O

See Table 2 for alternate functions of the I/O pins

Table 8: Pin assignment I/O connector

PIN	Signal	Function
1	IO40	IO40
2	IO41	IO41
3	IO42	IO42
4	IO21	IO21
5	IO25	IO25
6	IO16	IO16
7	IO32	IO32
8	IO33	IO33
9	IO34	IO34
10	IO35	IO35
11	IO36	IO36
12	IO37	IO37
13	IO38	IO38
14	IO39	IO39
15	IO26	IO26
16	IO27	IO27
17	IO28	IO28

18	IO29	IO29
19	IO30	IO30
20	IO31	IO31
21	IO8	IO8
22	IO9	IO9
23	SHDN	Shutdown (active low)
24	WKUP	Wake Up
25	HDPB	USB Host 2 +
26	HDMB	USB Host 2 -

2.13 J14 Power Supply

Table 9: J14 Power Supply

PIN	Signal	Function
1	VCC	+5V DC +-5%
2	---	NC
3	VBAT	+3V Backup Battery
4	GND	Ground

3 Status Indicators and Reset Button

3.1 Status Indicators

The PicoCOM1 base board has two LED status indicators (Figure 1: LED1 and LED2). Table 10 shows the mapping of status LED and function

Table 10: Status indicators PicoCOM1 base board

LED	Status	Function
1	RUN	Reset status indicator
2	ETH	Ethernet status indicator

Figure 3: Status indicators PicoCOM1 base board

3.2 Reset Button

Pressing the reset button (Figure 1: S1) issues a reset to the PicoMOD1.

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