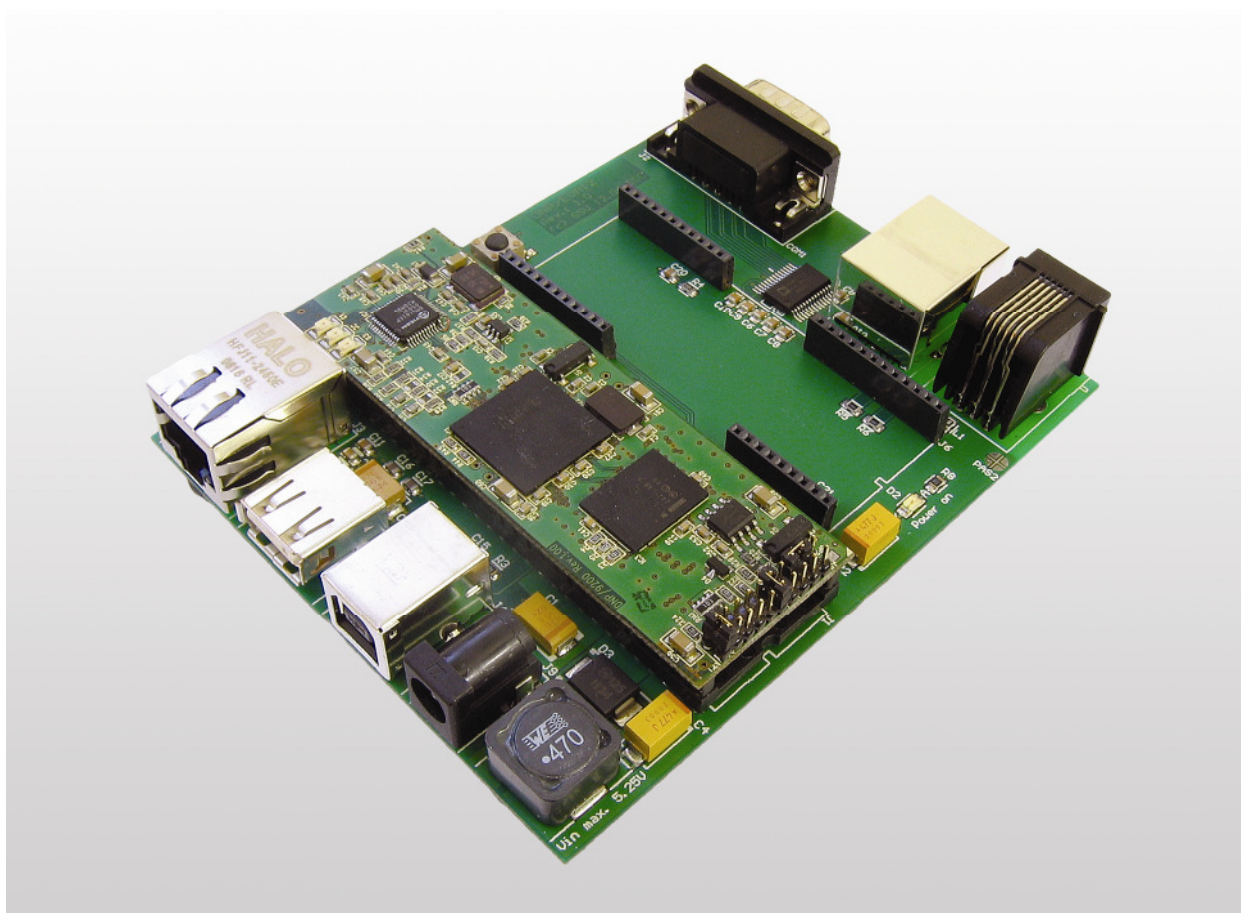


DNP/EVA12

Board Revision 1.0

Hardware Reference



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1 INTRODUCTION

This document describes the hardware components of the DNP/EVA12. For further information about the individual components of this product you may follow the links from our website at <http://www.dilnetpc.com>. Our website contains a lot of technical information, which will be updated in regular periods.

1.1 Safety Guidelines

Please read the following safety guidelines carefully! In case of property or personal damage by not paying attention to this document and/or by incorrect handling, we do not assume liability. In such cases any warranty claim expires.



ATTENTION: Observe precautions for handling – electrostatic sensitive device!

- Discharge yourself before you work with the device, e.g. by touching a heater of metal, to avoid damages.
- Stay grounded while working with the device to avoid damage through electrostatic discharge.

1.2 Conventions

Convention	Usage
bold	Important terms
<i>italic</i>	Filenames, user inputs and command lines
monospace	Pathnames, internet addresses and program code

Table 1: Conventions used in this Document

1.3 Block Diagram

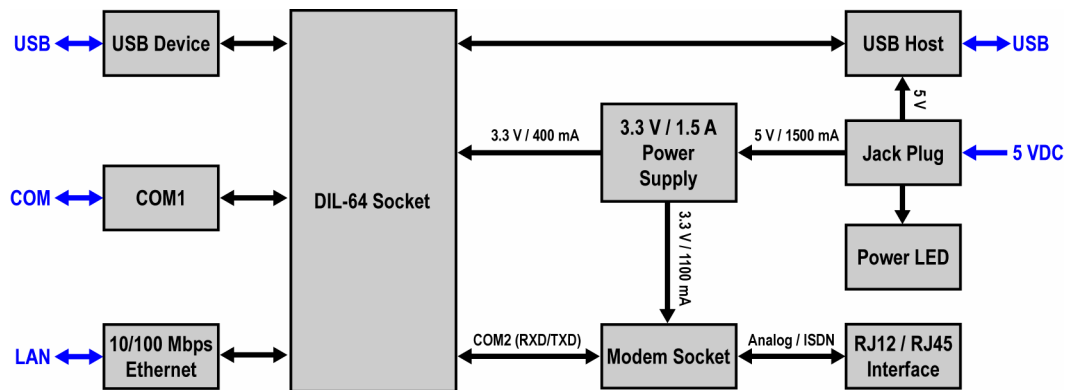


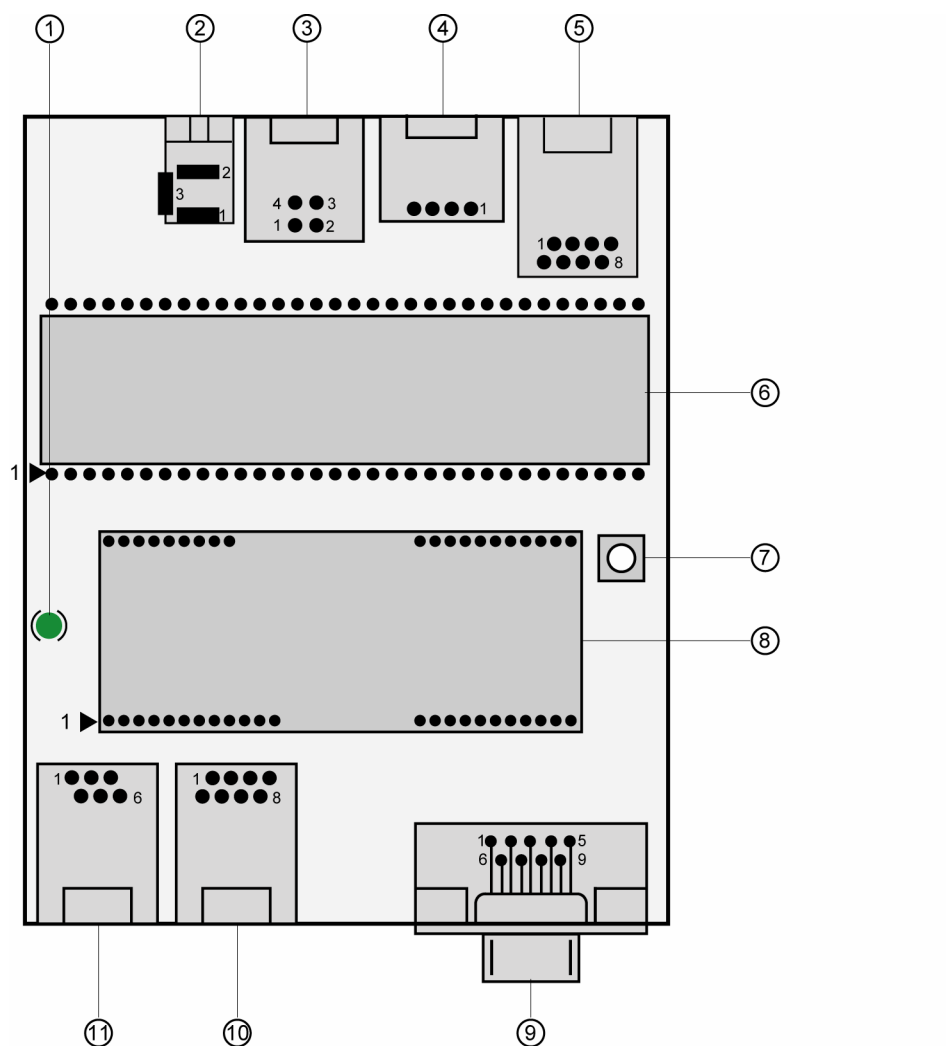
Figure 1: Block diagram of DNP/EVA12

1.4 Features and Technical Data

	Evaluation Board DNP/EVA12
Socket	DIL-64
DIL/NetPC	DNP/9200
Serial Port	1 x RS232
Ethernet	10/100 Mbps (10BASE-T)
Modem Socket	✓ (for analog, ISDN, GSM/GPRS modems)
RJ45 ISDN Interface	✓
RJ12 Analog Interface	✓
USB Host Port	✓ (with 5 VDC power supply output)
USB Device Port	✓
LEDs	1 x power
Power	5 Volt DC input connector
Size	108 mm x 86 mm
RoHS	✓

Table 2: Features of DNP/EVA12

2 BOARD LAYOUT



- | | |
|---------------------------------------|------------------------------|
| ① D2 - Power LED | ⑦ S1 - Reset button |
| ② J9 - Power connector | ⑧ J6 - Modem socket |
| ③ J4 - USB device port | ⑨ J2 - COM1 port |
| ④ J5 - USB host port | ⑩ J7 - RJ45 ISDN interface |
| ⑤ J3 - 10/100 Mbps Ethernet connector | ⑪ J8 - RJ12 analog interface |
| ⑥ J1 - DIL-64 socket | |

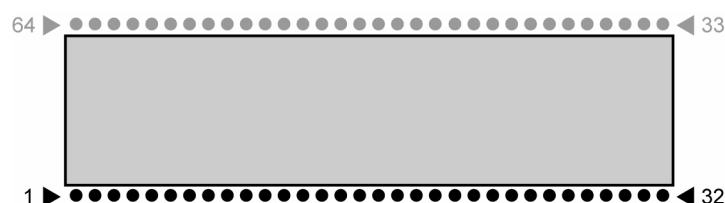
Figure 2: Board layout of DNP/EVA12

3 PINOUTS

3.1 DIL-64 Socket – J1 (1. Part)

Pin	Name	Group	Function
1	PA0	PIO	Parallel I/O, Port A, Bit 0 (see also: Alternate Function)
2	PA1	PIO	Parallel I/O, Port A, Bit 1 (see also: Alternate Function)
3	PA2	PIO	Parallel I/O, Port A, Bit 2 (see also: Alternate Function)
4	PA3	PIO	Parallel I/O, Port A, Bit 3 (see also: Alternate Function)
5	PA4	PIO	Parallel I/O, Port A, Bit 4 (see also: Alternate Function)
6	PA5	PIO	Parallel I/O, Port A, Bit 5 (see also: Alternate Function)
7	PA6	PIO	Parallel I/O, Port A, Bit 6
8	PA7	PIO	Parallel I/O, Port A, Bit 7
9	PB0	PIO	Parallel I/O, Port B, Bit 0 (see also: Alternate Function)
10	PB1	PIO	Parallel I/O, Port B, Bit 1 (see also: Alternate Function)
11	PB2	PIO	Parallel I/O, Port B, Bit 2 (see also: Alternate Function)
12	PB3	PIO	Parallel I/O, Port B, Bit 3 (see also: Alternate Function)
13	PB4	PIO	Parallel I/O, Port B, Bit 4 (see also: Alternate Function)
14	PB5	PIO	Parallel I/O, Port B, Bit 5 (see also: Alternate Function)
15	PB6	PIO	Parallel I/O, Port B, Bit 6 (see also: Alternate Function)
16	PB7	PIO	Parallel I/O, Port B, Bit 7 (see also: Alternate Function)
17	PC0	PIO	Parallel I/O, Port C, Bit 0 (see also: Alternate Function)
18	PC1	PIO	Parallel I/O, Port C, Bit 1 (see also: Alternate Function)
19	PC2	PIO	Parallel I/O, Port C, Bit 2 (see also: Alternate Function)
20	PC3	PIO	Parallel I/O, Port C, Bit 3 (see also: Alternate Function)
21	RXD1	SIO	COM1 Serial Port, RXD Pin
22	TXD1	SIO	COM1 Serial Port, TXD Pin
23	CTS1	SIO	COM1 Serial Port, CTS Pin
24	RTS1	SIO	COM1 Serial Port, RTS Pin
25	DCD1	SIO	COM1 Serial Port, DCD Pin
26	DSR1	SIO	COM1 Serial Port, DSR Pin
27	DTR1	SIO	COM1 Serial Port, DTR Pin
28	RI1	SIO	COM1 Serial Port, RI Pin
29	RESIN	RESET	RESET Input
30	TX+	LAN	10/100 Mbps Ethernet Interface, TX+ Pin
31	TX-	LAN	10/100 Mbps Ethernet Interface, TX- Pin
32	GND	---	Ground

Table 3: Pinout DIL-64 socket – pin 1 to 32

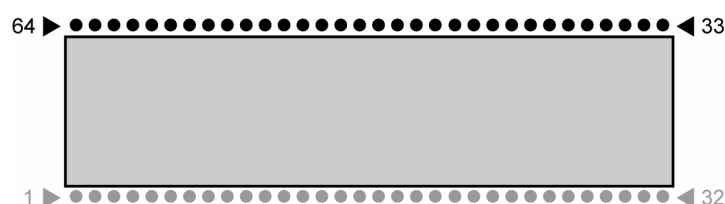


3.2 DIL-64 Socket – J1 (2. Part)

Pin	Name	Group	Function
33	RX+	LAN	10/100 Mbps Ethernet Interface, RX+ Pin
34	RX-	LAN	10/100 Mbps Ethernet Interface, RX- Pin
35	RESOUT	RESET	RESET Output
36	VBAT	PSP*	Real Time Clock Battery Input
37	CLKOUT	PSP*	Clock Output
38	TXD2	PSP*	COM2 Serial Port, TXD Pin
39	RXD2	PSP*	COM2 Serial Port, RXD Pin
40	HDMA	PSP*	USB Host Port- (Interrupt Input on other DIL/NetPCs)
41	HDP+	PSP*	USB Host Port+ (Interrupt Input on other DIL/NetPCs)
42	DDM	PSP*	USB Device Port- (Interrupt Input on other DIL/NetPCs)
43	DDP	PSP*	USB Device Port+ (Interrupt Input on other DIL/NetPCs)
44	INT1	PSP*	Interrupt Input 1
45	CS4	PSP*	Chip Select Output 4. Physical Address Range 0x7000.0000-0x7FFF.FFFF
46	CS3	PSP*	Chip Select Output 3. Physical Address Range 0x6000.0000-0x6FFF.FFFF
47	CS2	PSP*	Chip Select Output 2. Physical Address Range 0x5000.0000-0x5FFF.FFFF
48	CS1	PSP*	Chip Select Output 1. Physical Address Range 0x4000.0000-0x4FFF.FFFF
49	RDY	PSP*	External Ready Input
50	RD	PSP*	Read Signal, Expansion Bus
51	WR	PSP*	Write Signal, Expansion Bus
52	SA3	PSP*	Expansion Bus, Address Bit 3
53	SA2	PSP*	Expansion Bus, Address Bit 2
54	SA1	PSP*	Expansion Bus, Address Bit 1
55	SA0	PSP*	Expansion Bus, Address Bit 0
56	SD7	PSP*	Expansion Bus, Data Bit 7
57	SD6	PSP*	Expansion Bus, Data Bit 6
58	SD5	PSP*	Expansion Bus, Data Bit 5
59	SD4	PSP*	Expansion Bus, Data Bit 4
60	SD3	PSP*	Expansion Bus, Data Bit 3
61	SD2	PSP*	Expansion Bus, Data Bit 2
62	SD1	PSP*	Expansion Bus, Data Bit 1
63	SD0	PSP*	Expansion Bus, Data Bit 0
64	VCC	---	3.3 Volt DC Power Input

Table 4: Pinout DIL-64 socket – pin 33 to 64

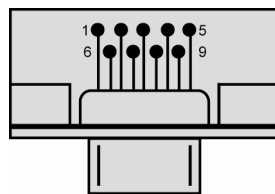
* **Please note:** Some pins are called "Product Specific Pins (PSP)". Other members of the DIL/NetPC family will differ with these pins from the DNP/9200. All other pins will have the same primary functions. The DNP/9200 alternate functions (pin 1 to 20) are AT91RM9200-specific.



3.3 COM1 Connector – J2

Pin	Name	Function
1	DCD	COM1 Serial Port, DCD pin
2	RXD	COM1 Serial Port, RXD pin
3	TXD	COM1 Serial Port, TXD pin
4	DTR	COM1 Serial Port, DTR pin
5	GND	Ground
6	DSR	COM1 Serial Port, DSR pin
7	RTS	COM1 Serial Port, RTS pin
8	CTS	COM1 Serial Port, CTS pin
9	RI	COM1 Serial Port, RI pin

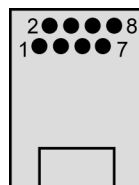
Table 5: Pinout COM1 connector



3.4 10/100 Mbps Ethernet Connector – J3

Pin	Name	Function
1	LAN1.TX+	10/100 Mbps LAN 1, TX+ Pin
2	LAN1.TX-	10/100 Mbps LAN 1, TX- Pin
3	LAN1.RX+	10/100 Mbps LAN 1, RX+ Pin
4	---	Not Connected
5	---	Not Connected
6	LAN1.RX-	10/100 Mbps LAN 1, RX- Pin
7	---	Not Connected
8	---	Not Connected

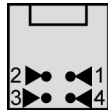
Table 6: Pinout 10/100 Mbps Ethernet connector



3.5 USB Device Port – J4

Pin	Name	Function
1	VCC	Power Input
2	DATA-	USB Device Port -
3	DATA+	USB Device Port +
4	GND	Ground

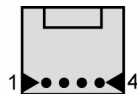
Table 7: Pinout USB device port



3.6 USB Host Port – J5

Pin	Name	Function
1	5 VDC	5 VDC Output
2	DATA-	USB Host Port -
3	DATA+	USB Host Port +
4	GND	Ground

Table 8: Pinout USB host port

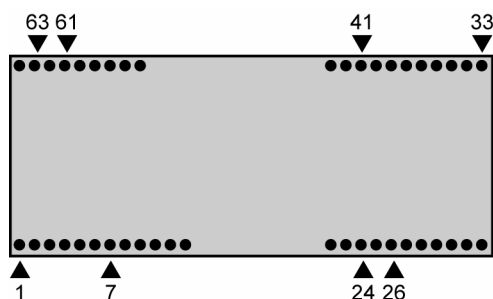


3.7 Modem Socket – J6

Pin	Name	Function	Group
1	La	RJ12 Analog Interface, La Pin *	Analog
2	Lb	RJ12 Analog Interface, Lb Pin *	Analog
3	---	Not connected	---
4	TX+	RJ45 ISDN Interface, TX+ Pin *	ISDN
5	TX-	RJ45 ISDN Interface, TX- Pin *	ISDN
6	RX+	RJ45 ISDN Interface, RX+ Pin *	ISDN
7	RX-	RJ45 ISDN Interface, RX- Pin *	ISDN
24	RESET	Reset	---
25	---	Not connected	---
26	GND	Ground	---
33	RTS	RTS Pin connected with CTS Pin (38)	---
34	RXD	COM2 Serial Port, RXD Pin	COM2
35	TXD	COM2 Serial Port, TXD Pin	COM2
36	RI	Not connected	---
37	DSR	Not connected	---
38	CTS	CTS Pin connected with RTS Pin (33)	---
39	DCD	DCD Pin	GPIO
40	DTR	DTR Pin	GPIO
41	GND	Ground	---
61	VCC3	3.3 VDC Power Input	---
62	---	Not connected	---
63	GND	Ground	---

* = No function with GSM/GPRS modem

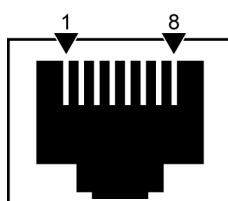
Table 9: Pinout modem socket



3.8 RJ45 ISDN Interface – J7

Pin	Name	Function
1	---	Not connected
2	---	Not connected
3	TX+	RJ45 ISDN Interface, TX+ Pin *
4	RX+	RJ45 ISDN Interface, RX+ Pin *
5	RX-	RJ45 ISDN Interface, RX- Pin *
6	TX-	RJ45 ISDN Interface, TX- Pin *
7	---	Not connected
8	---	Not connected

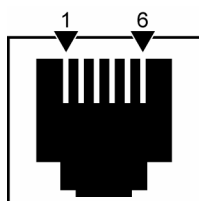
Table 10: Pinout RJ45 ISDN interface



3.9 RJ12 Analog Interface – J8

Pin	Name	Function
1	---	Not connected
2	---	Not connected
3	La	RJ12 Analog Interface, La Pin *
4	Lb	RJ12 Analog Interface, Lb Pin *
5	---	Not connected
6	---	Not connected

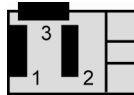
Table 11: Pinout RJ12 analog interface



3.10 Power Connector – J9

Pin	Name	Function
1	5 VDC	Power In (max. 5.5 VDC)
2	GND	Ground
3	GND	Ground

Table 12: Pinout power connector



CAUTION: Providing the DNP/EVA12 with a higher voltage than the regular 5 VDC $\pm 10\%$ could cause damaged board components!

4 MECHANICAL DIMENSIONS

All length dimensions have a tolerance of 0.5 mm.

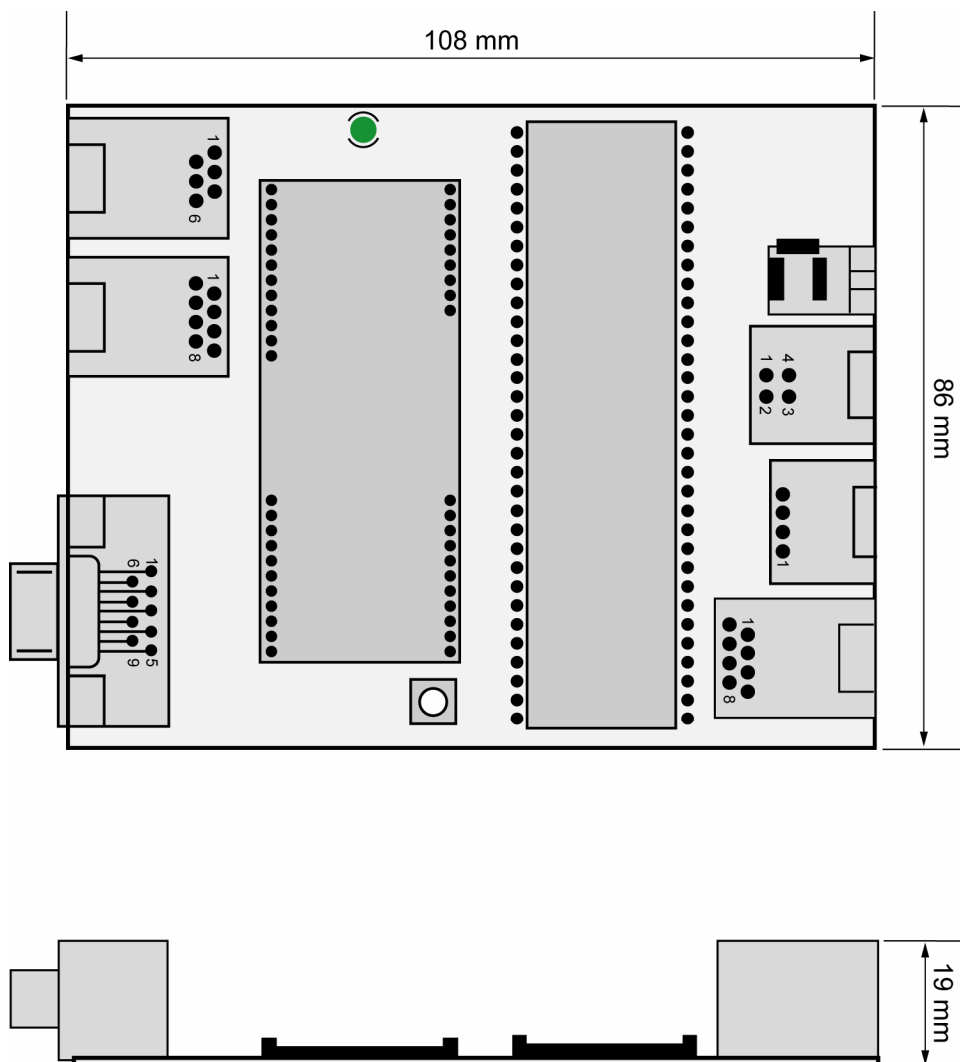


Figure 3: Mechanical dimensions of DNP/EVA12

5 HELPFUL LITERATURE

- Hardware Reference DIL/NetPC DNP/9200

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Revision	Date	Remarks	Name
1.0	2007-02-20	first version	WBU

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