Hardware Documentation

NetDCUA9

Version 3

2021-03-10

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About This Document

This document describes the hardware of the NetDCUA9.
The latest version of this document can be found at http://www.fs-net.de.

History

Date	V	Platform	A,M,R	Chapter	Description	Au
2017-06-21	1				Initial Release	DB
2018-03-21					UpDate	
2021-02-01	2		M	7.2;	Warranty terms corrected to one year	HF
2021-03-10	3					DB

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

Table of Content

1 Arrangement of Connectors

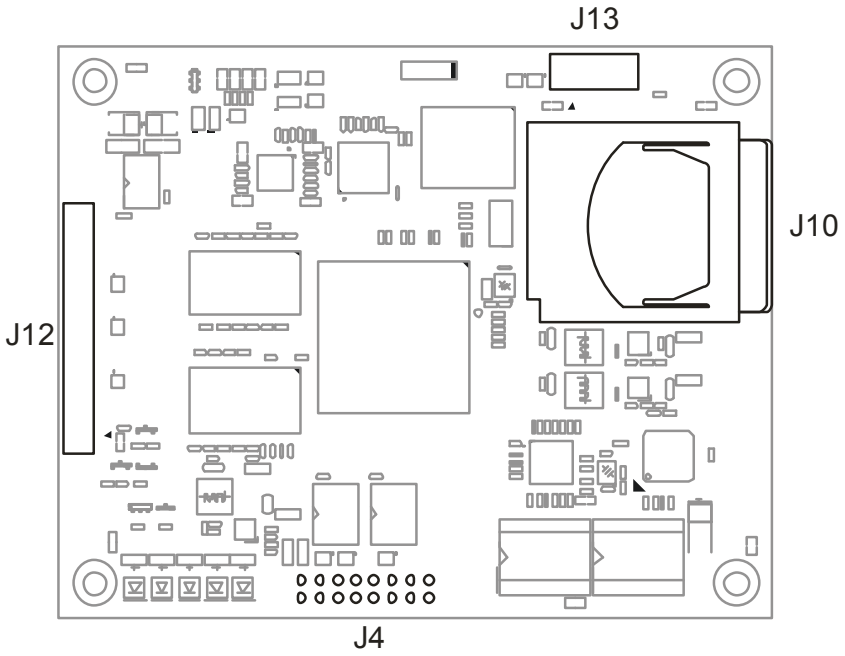

Figure 1.1: Top View

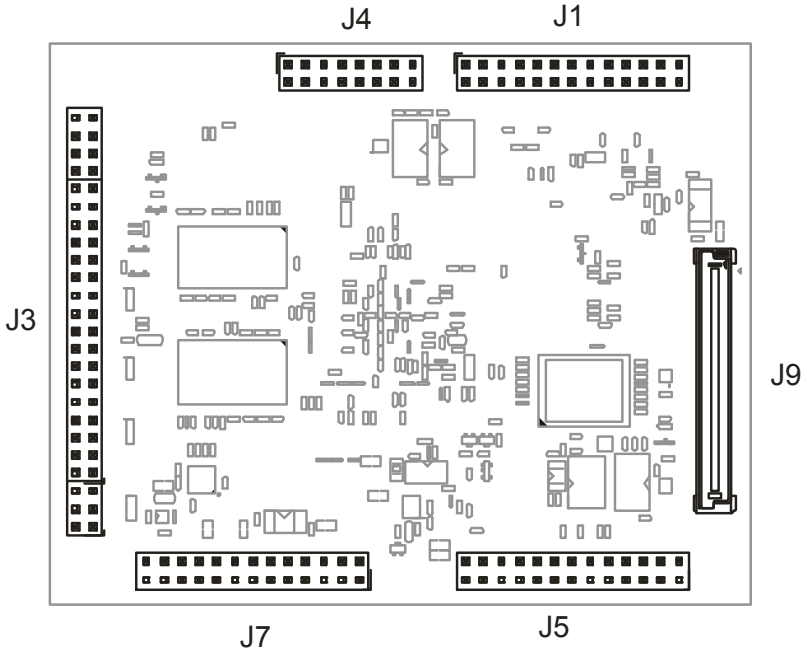

Figure 1.2: Bottom View

2 Connectors

2.1 Counting of the connector pins

All connections prepared for two-row connectors on the NetDCUA9 are treated as follows. The row with pin 1 contains all odd-numbered pins (1, 3, 5, 7, etc.), and, corresponding to this, the row without pin 1 contains all even-numbered pins (2, 4, 6, 8, etc.).
Pin 1 is marked with a small triangle on the PCB

2.2 Connector type

Connectors J1, J3, J4, J5, and J7 are 2.54mm pitch dual row SMD connectors.
All of them are on the same 2.54mm grid.

2.3 Signal levels

The signal level of the I/O pins normally is 3.3V. Exceptions are RS232, Ethernet, CAN, Audio, and USB.

2.4 J1

J1 on NetDCUA9 combines J1 and J2 on older NetDCUs

J1					
Pin	**NetDCU 5.2/6/8**	**NetDCU 9/10/11**	**Signal**	**Function**	**I/O**
1	J2/2	J2/2	RX1+	ETH1-RX (Pin 3 of RJ45 connector)	
2	J2/1	J2/1	RX1-	ETH1-RX (Pin 6 of RJ45 connector)	
3	J2/4	J2/4	RTS2	Request To Send COM2	O
4	J2/3	J2/3	RXD2	Receive Data COM2	I
5	J2/6	J2/6	CTS2	Clear To Send COM2	
6	J2/5	J2/5	TXD2	Transmit Data COM2	O
7	J2/8	J2/8	TX1+	ETH-TX (Pin 1 of RJ45 connector)	
8	J2/7	J2/7	TX1-	ETH-TX (Pin 2 of RJ45 connector)	
9	J2/10	J2/10	V50-OUT	+5V DC Out	Power O
10	J2/9	J2/9	GND	Signal Ground	Power
11	J2/12	J2/12	CAN1-TxD	CAN1 Transmit signal (5V level)	O
12	J2/11	J2/11	CAN1-RxD	CAN1 Receive signal (5V level)	I
13		J2/14	CAN2-TxD	CAN2 Transmit signal (5V level)	O
14		J2/13	CAN2-RxD	CAN2 Receive signal (5V level)	I
15			RX2+	ETH2-RX (Pin 3 of RJ45 connector)	
16			RX2-	ETH2-RX (Pin 6 of RJ45 connector)	
17			TX2+	ETH2-TX (Pin 1 of RJ45 connector)	
18			TX2-	ETH2-TX (Pin 2 of RJ45 connector)	
19	J1/1	J1/1	VCFL-IN	+5V … +20V Input / max. 2A DC (CFL- Converter)	Power I
20		J1/2	RS485+	COM3 RS485	
21	J1/2	J1/3	V50-IN	+5V ±5% DC Input	Power I
22		J1/4	V50-IN	+5V ±5% DC Input	Power I
23	J1/3	J1/5	VBAT	+3V...+3,6V DC Input (RTC battery backup) (*)	Power I
24		J1/6	RS485-	COM3 RS485	
25	J1/4	J1/7	GND	GND (Ground Power Supply)	Power
26		J1/8	GND	GND (Ground Power Supply)	Power

Table 1: Connector J1

2.4.1 J1 Power Supply

J1			
Pin	Signal	Function	I/O
19	VCFL-IN	+5V … +20V Input / max. 2A DC (for Display Backlight)	Power I
21	V50-IN	+5V ±5% DC Input	Power I
22	V50-IN	+5V ±5% DC Input	Power I
23	VBAT	+3V...+3,6V DC Input (RTC battery backup) (*)	Power I
25	GND	GND (Ground Power Supply)	Power
26	GND	GND (Ground Power Supply)	Power

Table 2: Connector J1 – Power Supply

VBAT is not required for operation and can be left out if RTC battery backup is not needed. See chapter 5.1 for VBAT power consumption.
If an external 3.3V power supply is used for external logic, we recommend to use a V33-OUT pin as enable signal for this power supply to avoid back driving leakage current through IO pins.

2.4.2 J1 Ethernet Interface 1

J1			
Pin	Signal	Function	I/O
1	RX1+	ETH1-RX (Pin 3 of RJ45 connector)	
2	RX1-	ETH1-RX (Pin 6 of RJ45 connector)	
7	TX1+	ETH1-TX (Pin 1 of RJ45 connector)	
8	TX1-	ETH1-TX (Pin 2 of RJ45 connector)	

Table 3: Connector J1 – Ethernet Interface 1

Connect directly to RJ45 connector
The intra pair mismatch of each differential pair should be <50 mil (1.27mm).
Please also refer our "Ethernet Routing Guidelines" on our web download area and refer the comments at our forum.

2.4.3 J1 Ethernet Interface 2 (Optional)

J1			
Pin	Signal	Function	I/O
15	RX2+	ETH2-RX (Pin 3 of RJ45 connector)	
16	RX2-	ETH2-RX (Pin 6 of RJ45 connector)	
17	TX2+	ETH2-TX (Pin 1 of RJ45 connector)	
18	TX2-	ETH2-TX (Pin 2 of RJ45 connector)	

Table 4: Connector J1 – Ethernet Interface 2

Connect directly to RJ45 connector
The intra pair mismatch of each differential pair should be <50 mil (1.27mm).
Please also refer our "Ethernet Routing Guidelines" on our web download area and refer the comments at our forum.

2.4.4 J1 Serial RS232 Port COM2

J1			
Pin	Signal	Function	I/O
3	RTS2	Request To Send COM2	O
4	RXD2	Receive Data COM2	I
5	CTS2	Clear To Send COM2	I
6	TXD2	Transmit Data COM2	O
10	GND	Signal Ground	Power

Table 5: Connector J1 – Serial Interface COM2

- RS232 level

2.4.5 J1 CAN Interface 1

J1			
Pin	Signal	Function	I/O
9	V50-OUT	+5V DC Out	Power O
10	GND	Signal Ground	Power
11	CAN1-TxD	CAN1 Transmit signal (5V level)	O
12	CAN1-RxD	CAN1 Receive signal (5V level)	I

Table 6: Connector J1 – CAN Interface 1

Note:
The CAN signals can NOT be connected directly to the CAN bus. You need a CAN transceiver to connect to the CAN bus. See starter kit schematics for an example

2.4.6 J1 CAN Interface 2

J1			
Pin	Signal	Function	I/O
9	V50-OUT	+5V DC Out	Power O
10	GND	Signal Ground	Power
13	CAN2-TxD	CAN2 Transmit signal (5V level)	O
14	CAN2-RxD	CAN2 Receive signal (5V level)	I

Table 7: Connector J1 – CAN Interface 2

Note:
The two CAN signals can NOT be connected directly to the CAN bus. You need a CAN transceiver to connect to the CAN bus. See starter kit schematics for an example

2.4.7 J1 RS485

J1			
Pin	Signal	Function	I/O
10	GND	Signal Ground	Power
20	RS485+	COM3 RS485+	O
24	RS485-	COM3 RS485-	I

Table 8: Connector J1 – RS485

Shared with J7 COM3, use only RS485 on J1 or RS232 on J7

2.5 J3 RGB interface

J3				
Pin (48Pin connector)	Pin (34Pin connector)	Signal	Function	
1		R0	Digital R0	O
2		R1	Digital R1	O
3		G0	Digital G0	O
4		G1	Digital G1	O
5		B0	Digital B0	O
6		B1	Digital B1	O
7	1	GND	Ground	Power
8	2	R3	Digital R3	O
9	3	R2	Digital R2	O
10	4	G7	Digital G7 (MSB)	O
11	5	G6	Digital G6	O
12	6	G5	Digital G5	O
13	7	G4	Digital G4	O
14	8	GND	Ground	Power
15	9	B5	Digital B5	O
16	10	B4	Digital B4	O
17	11	B3	Digital B3	O
18	12	B2	Digital B2	O
19	13	G3	Digital G3	O
20	14	G2	Digital G2	O
21	15	B7	Digital B7 (MSB)	O
22	16	B6	Digital B6	O
23	17	GND	Ground	Power
24	18	VEEK	BL dimming voltage (0..3.3V)	O
25	19	CLK	Digital CLK	O
26	20	VSYNC	Digital VSync	O
27	21	DE	Digital Data Enable	O
28	22	HSYNC	Digital HSync	O
29	23	DEN	Display On Signal	O
30	24	GND	Ground	Power
31	25	VLCD	Display voltage (3.3V)	Power O
32	26	NC		
33	27	NC		
34	28	GND	Ground	Power
35	29	NC		
36	30	VCFL	Switched voltage from J1	Power O
37	31	R4	Digital R4	O
38	32	R5	Digital R5	O
39	33	R6	Digital R6	O
40	34	R7	Digital R7 (MSB)	O
41		GND	Ground	Power
42		GND	Ground	Power
43		NC		
44		NC		
45		NC		
46		NC		
47		NC		
48		NC		

Table 9: Connector J3 – Display Interface

2.6 J4 FS-Bus (8 bit Extension interface)

J4 parallel extension interface			
Pin	Signal	Function	
1	D0	Data Bit D0, I/O	I/O *
2	D1	Data Bit D1, I/O	I/O *
3	D2	Data Bit D2, I/O	I/O *
4	D3	Data Bit D3, I/O	I/O *
5	D4	Data Bit D4, I/O	I/O *
6	D5	Data Bit D5, I/O	I/O *
7	D6	Data Bit D6, I/O	I/O *
8	D7	Data Bit D7, I/O	I/O *
9	VIO	IO Voltage Out, +3,3V / +5V	Power O
10	R/Wn	Read/Writen, output, read active High	O *
11	CSn	Chip Select, output, active Low	O *
12	ADE	Address Enable, output, active High	O *
13	IRQn	Interrupt, input, active Low	I *
14	RESn	Reset, input, active Low	I **
15	PWM	PWM Output	O ***
16	GND	Signal Ground	Power

Table 10: Connector J4 – FS-Bus

*: Input/output with Pull Up resistor 4.7kΩ to VIO
**: Pull-Up resistor 10k to 3.3V
***: PWM is always 3.3V.
FS-Bus voltage can be 3.3V or 5V depending on configuration. See chapter 4.1 for jumper settings.

2.7 J5

J5			
Pin	Signal	Function	I/O
1	KBINT	I/O	I/O**
2	ROW7	I/O	I/O
3	ROW6	I/O	I/O
4	ROW5	I/O	I/O
5	ROW4	I/O	I/O
6	ROW3	I/O	I/O
7	ROW2	I/O	I/O
8	ROW1	I/O	I/O
9	ROW0	I/O	I/O
10	I2C_SDA / SPI_MISO / COL8	I2C Data / SPI MISO / I/O	I/O *
11	I2C_CLK/SPI_MOSI / COL9	I2C Clock / SPI MOSI / I/O	I/O *
12	RXD1	Receive Data COM1	I
13	SPI_CS / COL10	SPI Chip Select / I/O	I/O *
14	TXD1	Transmit Data COM1	O
15	SPI_CLK / COL11	SPI Clock / I/O	I/O *
16	GND	Signal Ground	Power
17	COL7	I/O	I/O *
18	COL6	I/O	I/O *
19	COL5	I/O	I/O *
20	COL4	I/O	I/O *
21	COL3	I/O	I/O *
22	COL2	I/O	I/O *
23	COL1	I/O	I/O *
24	COL0	I/O	I/O *
25	V50-OUT	+5V DC Out	Power O ***
26	V33-OUT	+3.3V DC Out	Power O***

Table 11: Connector J5

*: pull-up resistor 4.7kΩ to +3.3V.
**: pull-up resistor 10kΩ to +3.3V.
***: max. 100mA

2.7.1 J5 Matrix Keyboard

J5			
Pin	Signal	Function	I/O
2	ROW7	Matrix Keyboard Row 7	O
3	ROW6	Matrix Keyboard Row 6	O
4	ROW5	Matrix Keyboard Row 5	O
5	ROW4	Matrix Keyboard Row 4	O
6	ROW3	Matrix Keyboard Row 3	O
7	ROW2	Matrix Keyboard Row 2	O
8	ROW1	Matrix Keyboard Row 1	O
9	ROW0	Matrix Keyboard Row 0	O
10	COL8	Matrix Keyboard Column 8	I *
11	COL9	Matrix Keyboard Column 9	I *
13	COL10	Matrix Keyboard Column 10	I *
15	COL11	Matrix Keyboard Column 11	I *
16	GND	Signal Ground	Power
17	COL7	Matrix Keyboard Column 7	I *
18	COL6	Matrix Keyboard Column 6	I *
19	COL5	Matrix Keyboard Column 5	I *
20	COL4	Matrix Keyboard Column 4	I *
21	COL3	Matrix Keyboard Column 3	I *
22	COL2	Matrix Keyboard Column 2	I *
23	COL1	Matrix Keyboard Column 1	I *
24	COL0	Matrix Keyboard Column 0	I *
25	V50-OUT	+5V DC Out	Power O **
26	V33-OUT	+3.3V DC Out	Power O **

Table 12: Connector J5 – Matrix Keyboard

*: pull-up resistor 4.7kΩ to +3.3V.
**: max. 100mA
Not all pins are required for matrix keyboard functionality. Unused pins can be configured for different functions.

2.7.2 J5 serial RS232 COM1

J5			
Pin	Signal	Function	I/O
12	RXD1	Receive Data COM1	I
14	TXD1	Transmit Data COM1	O
16	GND	Signal Ground	Power

Table 13: Connector J5 – Serial Interface COM1

RS232 level

2.7.3 J5 I2C

J5			
Pin	Signal	Function	I/O
10	I2C_DAT	I2C Data	I/O *
11	I2C_CLK	I2C Clock	I/O *
16	GND	Signal Ground	Power
26	V33-OUT	+3.3V DC Out	Power O **

Table 14: Connector J5 – I2C Interface

*: pull-up resistor 4.7kΩ to +3.3V.
**: max. 100mA
Pins 10/11 shared with SPI, software configurable.

2.7.4 J5 SPI

J5			
Pin	Signal	Function	I/O
10	SPI-MISO	SPI MISO	I/O *
11	SPI-MOSI	SPI MOSI	I/O *
13	SPI-CS	SPI Chip Select	I/O *
15	SPI-CLK	SPI Clock	I/O *
16	GND	Signal Ground	Power
26	V33-OUT	+3.3V DC Out	Power O **

Table 15: Connector J5 – SPI Interface

*: pull-up resistor 4.7kΩ to +3.3V.
**: max. 100mA
Pins 10/11 shared with I2C, software configurable.

2.8 J7

J7			
Pin	Signal	Function	I/O
1	LINEOUT-L	Audio Line Out Left	O
2	LINEOUT-R	Audio Line Out Right	O
3	GND	Ground	Power
4	LINEIN-L	Audio Line In Left	I
5	LINEIN-R	Audio Line In Right	I
6	GND	Ground	Power
7	MIC	Microphone In	I
8	MICBIAS	Microphone Bias Voltage	Power
9	RXD3 (AD2)	Receive Data COM3 (opt. Analog IN 2)	I (I)
10	TXD3 (AD3)	Transmit Data COM3 (opt. Analog IN 3)	O (I)
11	AD0	Analog IN 0	I
12	AD1	Analog IN 1	I
13	V50	+5V DC Out	Power O *
14	GND	Ground	Power
15	TOUCH X+	Touchpanel X+	
16	TOUCH Y+	Touchpanel Y+	
17	TOUCH X-	Touchpanel X-	
18	TOUCH Y-	Touchpanel Y-	
19	V33	+3.3V DC Out	Power O *
20	GND	Ground	Power
21	USBD-	USB Host2- / USB Device -	I/O
22	USBD+	USB Host2+ / USB Device +	I/O
23	USBH-	USB Host1-	I/O
24	USBH+	USB Host1+	I/O
25	USBD Detect	USB Host2 Power (5V Out) / USB Device Detect (5V In)	Power O ** / I
26	USBH Power	USB Host1 Power (5V Out)	Power O **

Table 16: Connector J7

*: max. 100mA
*: max 500mA

2.8.1 J7 serial RS232 COM3

J7 COM3			
Pin	Signal	Function	I/O
9	RXD1	Receive Data COM3	I
10	TXD1	Transmit Data COM3	O
14	GND	Ground	Power

Table 17: Connector J7 – Serial Interface COM3

RS232 level

2.8.2 J7 Touchpanel

J7 Touchpanel			
Pin	Signal	Function	I/O
15	TOUCH X+	Touchpanel X+	
16	TOUCH Y+	Touchpanel Y+	
17	TOUCH X-	Touchpanel X-	
18	TOUCH Y-	Touchpanel Y-	

Table 18: Connector J7 – Touchpanel Interface

2.8.3 J7 USB Host

J7 USB Host			
Pin	Signal	Function	I/O
20	GND	Ground	Power
21	USBD-	USB Host2-	I/O
22	USBD+	USB Host2+	I/O
23	USBH-	USB Host1-	I/O
24	USBH+	USB Host1+	I/O
25	USBD Detect	USB Host2 Power (5V Out)	Power O **
26	USBH Power	USB Host1 Power (5V Out)	Power O **

Table 19: Connector J7 - USB Host

ESD protection is required nearby the USB connector.
Please check USB2.0 high speed compatibility of routing and protection on baseboard by using USB2.0 devices on this port.
The usb.org webpage provides "High Speed USB Platform Design Guidelines" with highly recommended information for a proper working USB design.

Note: NetDCU8/NetDCU10 uses USB 1.1.

2.8.4 J7 USB Device

J7 USB Device			
Pin	Signal	Function	I/O
20	GND	Ground	Power
21	USBD-	USB Device -	I/O
22	USBD+	USB Device +	I/O
25	USBD Detect	USB Device Detect (5V In)	I *

Table 20: Connector J5 – USB Device

*: USB detect voltage level 4.4V..5.25V

ESD protection is required nearby the USB connector.
Please check USB2.0 high speed compatibility of routing and protection on baseboard by using USB2.0 hosts on this port.
The usb.org webpage provides "High Speed USB Platform Design Guidelines" with highly recommended information for a proper working USB design.

Note: NetDCU8/NetDCU10 uses USB 1.1.

2.8.5 J7 Audio Interface

J7 Audio			
Pin	Signal	Function	I/O
1	LINEOUT-L	Audio Line Out Left	O
2	LINEOUT-R	Audio Line Out Right	O
3	GND	Ground	Power
4	LINEIN-L	Audio Line In Left	I
5	LINEIN-R	Audio Line In Right	I
6	GND	Ground	Power
7	MIC	Microphone In	I
8	MICBIAS	Microphone Bias Voltage	Power

Table 21: Connector J7 – Audio Interface

2.8.6 J7 Analog Input

J7 Analog IN			
Pin	Signal	Function	I/O
9	(AD2)	(Analog IN 2)	I *
10	(AD3)	(Analog IN 3)	I *
11	AD0	Analog IN 0	I
12	AD1	Analog IN 1	I
14	GND	Ground	Power

Table 22: Connector J7 – Analog Input

Input Voltage: 0V to 3,3V
49kΩ Pull Down resistor to GND

*: AD2/3 shared with COM3, default configuration is COM3, hardware configurable, on request only, please contact sales@fs-net.de for details.

2.9 J9 Camera Input (optional)

On request only, please contact sales@fs-net.de for details.

2.10 J10 SD Card

A standard SD Card can be used in this slot.
For specification and licensing please refer the website of the SD Association http://www.sdcard.org.

2.11 J12 LVDS

J12 LVDS			
Pin	Signal	Function	I/O
1	VLCD	Display Power +3.3V/5V	Power
2	VLCD	Display Power +3.3V/5V	Power
3	GND	Ground	Power
4	GND	Ground	Power
5	DATA0-	LVDS Data0-	O
6	DATA0+	LVDS Data0+	O
7	GND	Ground	Power
8	DATA1-	LVDS Data1-	O
9	DATA1+	LVDS Data1+	O
10	GND	Ground	Power
11	DATA2-	LVDS Data2-	O
12	DATA2+	LVDS Data2+	O
13	GND	Ground	Power
14	CLK-	LVDS Clock-	O
15	CLK+	LVDS Clock+	O
16	GND	Ground	Power
17	DATA3-	LVDS Data3-	O
18	DATA3+	LVDS Data3+	O
19	GND	Ground	Power
20	GND	Ground	Power
21	GND	Ground	Power
22	GND	Ground	Power
23	VLCD	Display Power +3.3V/5V	Power
24	BL_ON	Backlight ON Signal	O
25	BL_PWM	Backlight PWM	O

Table 23: Connector J12 – LVDS

2.12 J13 I2C

J13 I2C			
Pin	Signal	Function	I/O
1	V33	+3.3V DC Out	Power O *
2	SDA	I2C Data	I/O
3	SCL	I2C Clock	O
4	RSTn	Reset	O **
5	IRQn	Interrupt	I **
6	GND	Ground	Power

Table 24: Connector J13 – I2C

*: 100mA max.
**: 100k pull-up to 3.3V

3 Status Indicators

The NetDCUA9 has five LED status indicators.

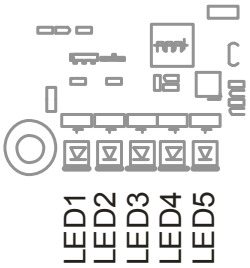

Figure 3.1: Status LED

The following status information is displayed:

Status LED		
LED	Signal	Description
1	RUN	CPU in Run-Mode
2	STA1	Status indicator 1 (see SW documentation)
3	STA2	Status indicator 2 (see SW documentation)
4	ETH1	Ethernet1 link and activity
5	ETH2	Ethernet2 link and activity

Table 25: Status LED

4 Configuration

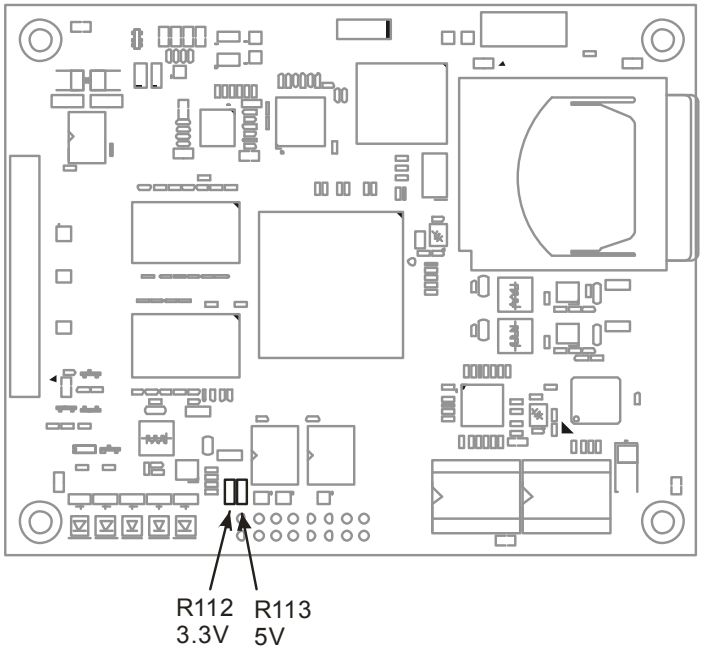

Figure 4.1:Top View

4.1 FS-Bus

The voltage level of the FS-Bus (J4) can set by jumpers.

Configuration	
5V I/O Parallel Interface (*)	R113
3.3V I/O Parallel Interface	R112

Table 26: FS-Bus voltage configuration

Warning: Do not set both resistors at the same time, this will short the power supply and will damage the board.
(*) default setting
Jumper: 0Ω Resistor, size 0805

5 Electrical Data

Power Supply:	+5V DC / ±5%
Max. current on 3.3V DC Out:	100mA combined on all outputs
Max. current on 5V DC Out:	100mA combined on all outputs
Max. current on VLCD Out:	1A
Max. current on VCFL Out	2A
Min. voltage on VCFL In	3.3V
Max. voltage on VCFL In	30V

5.1 Power consumption

Maximum power consumption[1)]: 1 A

Typical Current Consumption @25°C

- Desktop Idle: 360 mA
- CPU full load: 410 mA

Power supply RTC battery:	2.0 … 3.6 V
Power consumption RTC battery @25°C:	typ. 1µA

1) Theoretical value, Summary of max. datasheet value all chips on module w/o SD card, LCD, USB, backplane logic & transceiver.

Power consumption of connected devices like display, USB devices, SD card has to be added for power calculation.
F&S doesn't guarantee the above values. They are only presented for informational use. Customer has to check power requirement in customer's application.

5.2 DC electrical characteristics for 3.3V IO pins

VDD= 3.3V +/- 5%

Parameter	Description	Condition	Min	Max	Unit
Vih	High Level Input Voltage		0.7*VDD	VDD+0.3	V
Vil	Low Level Input Voltage		-0.3	0.3*VDD	V
Voh	High Level Output Voltage	Ioh=-100µA	VDD-0.2		V
Vol	Low Level Output Voltage	Ioh=100µA		0.2	V
Io	Output current	VDD=3.3V		2.6	mA

Table 27: electrical characteristic 3.3V IO pin

6 Technical Data

Board Size:	100mm x 80mm
Board thickness:	1.6mm
Height of parts on top side:	6.0mm (4.0mm without Ethernet transformers)
Height on parts on bottom side:	1.5mm (without connectors)
Pin grid of connectors J1-J7	2.54mm
Mounting hole diameter	3.2mm

Interfaces:	3x RS232 (1x with RTS/CTS) 2x USB2.0 HighSpeed Host (1x shared with USB Device) 1x USB2.0 HighSpeed Device (shared with USB Host) 2x Ethernet 10/100 Mbit 2x CAN2.0 4x analog input SD-Card slot FS-BUS 8bit expansion bus Line.IN stereo Line OUT stereo Microphone IN 4-wire resistive touch panel Digital RGB display interface (24bit) LVDS interface (1-channel) I2C interface SPI interface 21x I/O port (shared with other interfaces)
RAM:	up to 4GB
Flash:	up to 1GB
eMMC:	up to 32GB
CPU:	Freescale i.MX6 (up to 4-core, 1GHz)
Temperature:	0-70°C / -25-85°C
Dimensions:	100 x 80 x 11 mm (l x w x t) (with connectors)
Weight:	45 gr.

See NetDCUA9 Starterkit documentation for connection examples.

7 Appendix

7.1 Important Notice

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7.3 Figures

7.4 List of Tables