

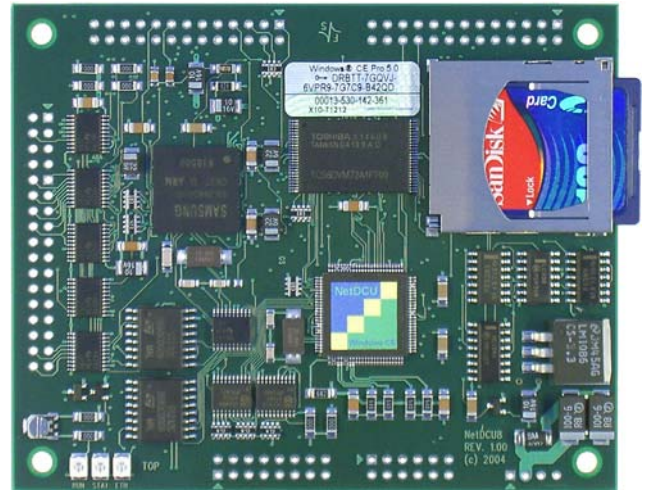
NetDCU8

Single Board Computer with Samsung ARM9-CPU



Characteristics

- Samsung S3C2440-300 (-400)
- 16MB Flash, 32MB SDRAM
- LCD-interface to STN-, CSTN- and TFT-LCD's up to VGA-resolution
- Low Power Design (<2,5W)
- 3x RS232
- Ethernet 10/100MBit
- 1x USB1.1 Host, 1x USB1.1 Host / Device
- Touch-Controller, Matrixkeyboard
- CAN2.0 interface
- max. 21 I/O ports
- SD-Card-Slot
- +5V single supply



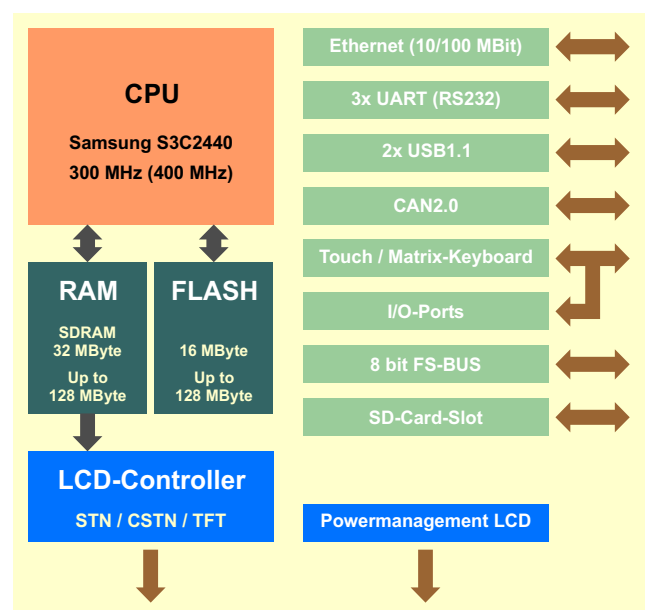
Description

Low price level, high CPU-power and many usefull interfaces are the benefits of our NetDCU8. Never before it was so easy and less expensive to start a design with WindowsCE - using our NetDCU8. CPU from Samsung, S3C2440 with 300MHz and ARM9 kernel is used.

Low power applications (battery powered) are feasible with NetDCU8. Additional feature is the on board CAN2.0-interface. The integration of the CAN2.0-interface on board reduce the system-cost considerable. Flexible and easy to configurate LCD-Display-Interface are the special benefit of F&S Single Board Computers. Additional interfaces like Touch-panel controller, Matrixkeyboard-, RS232- and Ethernet-interface offers NetDCU8 as a complete solution.

NetDCU8 are desigend to use particulary in industrial- and medical-applications with long life time.

Block diagram



On Board Operationsystem



Windows CE 5.0 is supporting design of application software in C++, C# and VB.NET. There is an easy way from PC to an embedded system like NetDCU8 . Solving future assignments with TCI/IP, DCOM and XML is possible.



Embedded Linux offers on the NetDCU8 a complete Linux-Kernel with graphical user interface. The provided development tool with graphic operation offers a lot of tools, Linux kernel, bootloader, libraries and system-programs.

Starter-kit

To make your start up even easier, there is offered a starter-kit. It contains CD-ROM with documentation, tools and SDK (Windows CE / Linux), a carrier board with standard connectors so the NetDCU8 can be easily connected to the development computer or the LAN network. In the starter-kit also included is a 64MB SD-Card, 128MB USB-stick, multi-card-reader for PC and all necessary cables you needed. Still more simply it goes with our workshop (4 hours in Stuttgart). You will get all information's about hard- and software of NetDCU8, Ethernet, Telnet, Ping, Arp & Co and debugging to start immediately with the development.

Connector assignment

J1 Power		J2 RS232		J3 LCD		J4 Parallel		J5 Keyboard I/O		J7 Touch / Codec / USB					
1	VCFL (In)	1	+Rx/D Ethern.	1	GND	18	LEND	1	GPIO8 (nIRQ)	18	IP6 (C1)	1	NC	18	TOUCH-Y-
2	VCC (+5V)	2	-Rx/D Ethern.	2	R1	19	CLP	2	GPIO7 (R7)	19	IP5 (C2)	2	NC	19	VDD (+3,3V)
3	VBAT (+3V)	3	RxD1 RS232	3	R0	20	FRP	3	GPIO6 (R6)	20	IP4 (C3)	3	NC	20	GND
4	GND	4	RTS1 RS232	4	G5	21	M	4	GPIO5 (R5)	21	IP3 (C4)	4	NC	21	HDM0 (USB0)
		5	TxD1 RS232	5	G4	22	LIP	5	GPIO4 (R4)	22	IP2 (C5)	5	NC	22	HDP0 (USB0)
		6	CTS1 RS232	6	G3	23	DEN	6	GPIO3 (R3)	23	IP1 (C6)	6	NC	23	HDM1 (USB1)
		7	+Tx/D Ethernet	7	G2	24	GND	7	GPIO2 (R2)	24	IP0 (C7)	7	NC	24	HDP1 (USB1)
		8	-Tx/D Ethernet	8	GND	25	VLCD	8	GPIO1 (R1)	25	VCC (+5V)	8	NC	25	HPW0 (USB0)
		9	GND	9	B3	26	-VEE	9	VDD	9	VDD (+3,3V)	9	RxD3 RS232	26	HPW1 (USB1)
		10	VCC (+5V)	10	B2	27	VADJ	10	RD	10	GPIO9 (C8)			10	TxD3 RS232
		11	CAN-RxD	11	B1	28	GND	11	nCS	11	GPIO10 (C9)			11	AD0
		12	CAN-TxD	12	B0	29	+VEE	12	ADE	12	RxD2 RS232			12	AD1
				13	G1	30	VCFL (Out)	13	nIRQ	13	GPIO11 (C10)			13	VCC (+5V)
				14	G0	31	R2	14	nRES (In)	14	TxD2 RS232			14	GND
				15	B5	32	R3	15	VEXT	15	GPIO12 (C11)			15	TOUCH-X+
				16	B4	33	R4	16	GND	16	GND			16	TOUCH-Y+
				17	GND	34	R5			17	IP7 (C0)			17	TOUCH-X-

LCD-connection

Net-DCU6	Mono STN		Color STN	TFT	
	4 bit	8 bit	Single	12 bit	18 bit
R0					R0
R1					R1
R2					R2
R3					R3
R4					R4
R5					R5
G0		D5 (LD1)	D5		G0
G1		D4 (LD0)	D4		G1
G2				G0	G2
G3				G1	G3
G4				G2	G4
G5				G3	G5
B0	D3	D3 (UD3)	D3		B0
B1	D2	D2 (UD2)	D2		B1
B2	D1	D1 (UD1)	D1	B0	B2
B3	D0	D0 (UD0)	D0	B1	B3
B4		D7 (LD3)	D7	B2	B4
B5		D6 (LD2)	D6	B3	B5
CLP	CL2	CL2	CP	DCLK	DCLK
LIP	CL1	CL1	LOAD	HSYNC	HSYNC
FRP	FLM	FLM	FRM	VSYNC	VSYNC
M	M	M	M	DE	DE
DEN	nDISPOFF	nDISPOFF	nDISP	---	---

Technical data

<p>Power supply: Power consumption: Contrast voltage:</p>	<p>+5V_{DC} / ±5% < 500mA (without Display, VEE off) ±5V ... ±28V (Optional)</p>
<p>Touch-screen: Keyboard: Digital I/O:</p>	<p>4 wire, analogue resistive Matrix-keyboard 8 x 12 max. 21 I/O port lines, alternative Matrix-keyboard 8 bit FS-BUS 1x SD-card-slot</p>
<p>Interfaces:</p>	<p>3x RS232 (1x with RTS/CTS) 2x USB1.1 (1x Host/Device) 1x Ethernet 10/100 MBit (Optional) 1x CAN2.0 (Optional)</p>
<p>LCD-Interface:</p>	<p>STN: up to 640 x 480 Pixel, Single/Dual 16 shades of grey CSTN: up to 640 x 480 Pixel, Single/Dual 16/256 colours of 65536 TFT: up to 640 x 480 Pixel 256/65536 colours</p>
<p>RAM: Program memory: Processor: Temperature range: Dimension: Weight:</p>	<p>32 MByte SDRAM Opt. 64/128 MByte 16 MByte Flash Opt. 32/64/128 MByte Samsung S3C2440-300 Opt. -400 0°C ... 70°C Opt. -25°C ... 85°C 100mm x 80mm x 10mm (l x b x h) ca. 60 gr</p>

Order notation

NetDCU8-WCE50

32MB SDRAM, 16MB Flash, Windows CE 5.0

NetDCU8-LIN2.4

32MB SDRAM, 16MB Flash, Embedded Linux 2.4

NetDCU8-32FNCK-WCE50

32MB SDRAM, 32MB Flash, Ethernet, CAN2.0, VEE, Windows CE 5.0

NetDCU8-32FNCK-LIN2.4

32MB SDRAM, 32MB Flash, Ethernet, CAN2.0, VEE, Embedded Linux 2.4

NetDCU8-SKIT-WCE50

Starter-kit with NetDCU8-32FNCK-WCE50, carrier-board, cables, 64MB SD-card, 128MB USB-stick, multi-card-reader, SDK, dokumentation

NetDCU8-SKIT-LIN2.4

Starter-kit with NetDCU8-32FNCK-LIN2.4, carrier-board, cables, 64MB SD-card, 128MB USB-stick, multi-card-reader, SDK, dokumentation

NetDCU-WS

Quickstart-Workshop for NetDCUx and Windows CE

Order key

NetDCU8-64D64FNCK-WCE50

Typ	SDRAM	Flash	Ethernet	CAN	VEE	System
NetDCU8	16D 16 MByte	blank 16 MByte	blank no Ethernet	blank no CAN	blank no VEE	WCE50 Windows CE 5.0
	blank 32 MByte	32F 32 MByte	N Ethernet	C CAN2.0	K VEE	LIN2.4 Embedded Linux
	64D 64 MByte	64F 64 MByte				
	128D 128 MByte	128F 128 MByte				

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