CO4031A-EVA

Evaluation Board for Single Chip CANopen Controller CO4031

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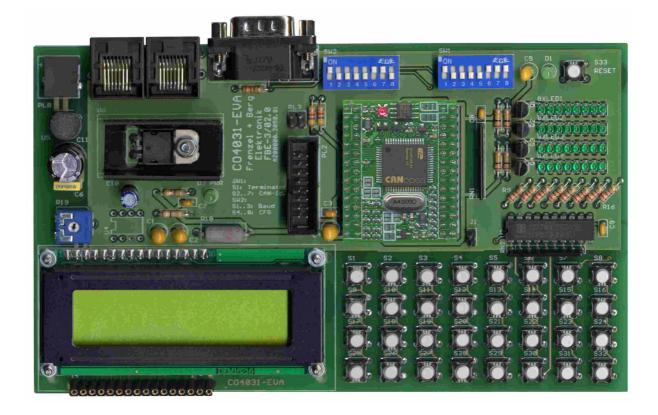electronic

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General Description

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The CO4031EVA is an evaluation board for the low cost, high performance Single Chip Controller for CANopen modules CO4031A. It was designed to enable an easy startup with this chip.

The EVA board supports a LCD-module and key- and a LED-matrix. So this board is a complete example for designing a HMI based on the CO4031 chips or boards.

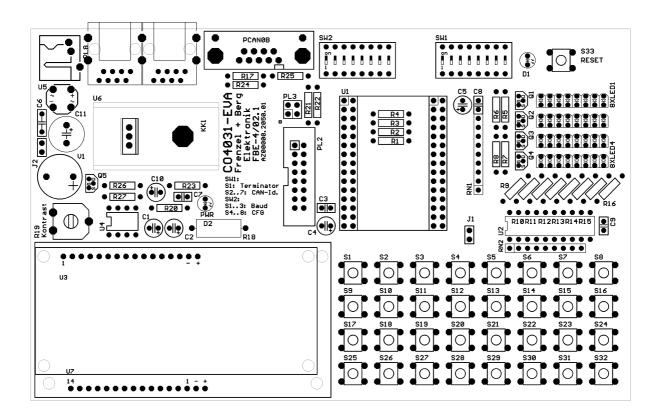All configuration pins are wired to dipswitches.

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Features

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- **Evaluation Board for Single Chip CANopen Controller CO4031**
- **CAN Transceiver 80C251**
- **According to CiA Draft Standards DS301 Version 4.0 and DS401 Version 2.0**
- **Baud rate up to 1MBit**
- **Key matrix with 32 keys, LED matrix with 32 LEDs, LCD module with 2 x 16 characters.**
- **Connectors for CANopen: 1 x SUB-D9 mail and 2 x RJ45**
- **DIP switches for: operation mode, baud rate, CAN bus termination**
- **128 x 87 mm size**
- **AC/DC Adaptor for wall socket**

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Page 1 of 1   Revision 1.01
14.11.2006

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Place plan

The CANopen Chip is implemented as CO4031A-BD module.

Revision 1.01
14.11.2006

Configuration

The configuration of the CO4031 will be set with dip switches SW1 and SW2

DIP switch SW1								
Switch Nr and CO4031 Pin								Function
1 TM#	2 ID6	3 ID5	4 ID4	5 ID3	6 ID2	7 ID1	8 ID0	
	X	X	X	X	X	X	X	Node ID
	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Node ID will be set from CANopen dictionary object 2100
	OFF	OFF	OFF	OFF	OFF	OFF	ON	Node ID = 1
	OFF	OFF	OFF	OFF	OFF	ON	OFF	Node ID = 2
	..	..	..	..	..	..	..	
	ON	ON	ON	ON	ON	ON	OFF	Node ID = 126
	ON	ON	ON	ON	ON	ON	ON	Node ID = 127
X								Termination of CAN bus line
OFF								Termination is inactive
ON								Termination is active 120 Ohms

DIP switch SW2								
Switch Nr and CO4031 Pin								Function
1	2	3	4	5	6	7	8	
BD2	BD1	BD0	CFG4 .. CFG0					
X	X	X						Baud rate selection
OFF	OFF	OFF						1 Mbit / sec
OFF	OFF	ON						800 kbit / sec
OFF	ON	OFF						500 kbit / sec
OFF	ON	ON						250 kbit / sec
ON	OFF	OFF						125 kbit / sec
ON	OFF	ON						50 kbit / sec
ON	ON	OFF						20 kbit / sec
ON	ON	ON						10 kbit / sec
						X	X	Number of LCD Lines
						OFF	OFF	No LCD present
						OFF	ON	1 Line Display
						ON	OFF	2 Line Display
						ON	ON	4 Line Display
					X	X		Characters per Line
					OFF	OFF		8
					OFF	ON		16
					ON	OFF		20
					ON	ON		40
			X					Reserved

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Page 3 of 3

Revision 1.01
14.11.2006

Schematic

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Page 4 of 4

Revision 1.01
14.11.2006