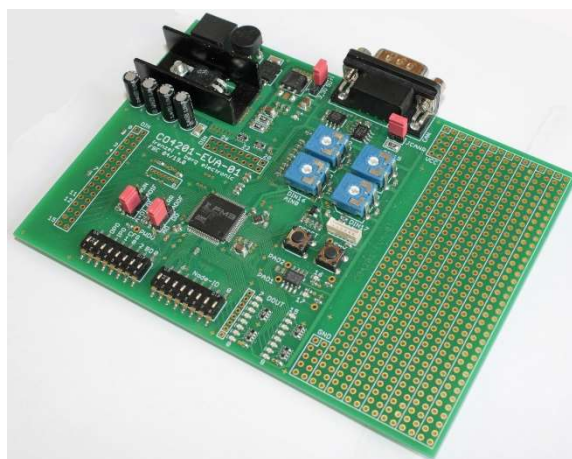


General

CO4201-EVA is a compact board to experience the abilities of CO4201.

CANopen is available according to DS301 and DS401. All usual baud rates up to 1 Mbit/s supported.



Features

- I/O pins are available at solder pads
- LEDs for output status indication
- Jumpers to set chip configuration
- DIP switches for Node-ID, baud rate, and configuration
- Operating temperature 0...+50 °C

CANopen Features

- CAN baud rates up to 1 Mbit/s
- CAN bus ISO11898 with Transceiver TJA1050
- 4 Transmit- and 4 Receive-PDO
- Dynamic PDO Mapping
- Variable PDO Identifier
- CANopen PDO transfer modes: synchronous, asynchronous, event triggered, cyclic, acyclic and RTR
- Event Timer and Inhibit Timer for all Transmit-PDO
- Node-Guarding, Lifeguarding und Heartbeat
- Emergency messages
- Minimum Boot-Up

Ordering information

Part	Order number
CO4201-EVA	EZ00000.2042.01

Technical data

Power supply System	Min.	Norm.	Max.
Supply voltage System/Bus		+9 V DC	
Current consumption System/Bus			
Supply voltage I/O			
CAN bus Norm	ISO11898		
CiA Draft Standards	DS301 Version 4.0 and DS401 Version 2.0		
Conformance declaration	CE		
MTBF			

Digital inputs	
Number of inputs	27
Signal level	TTL
Delay (CAN reaction time)	typ. 1 ms

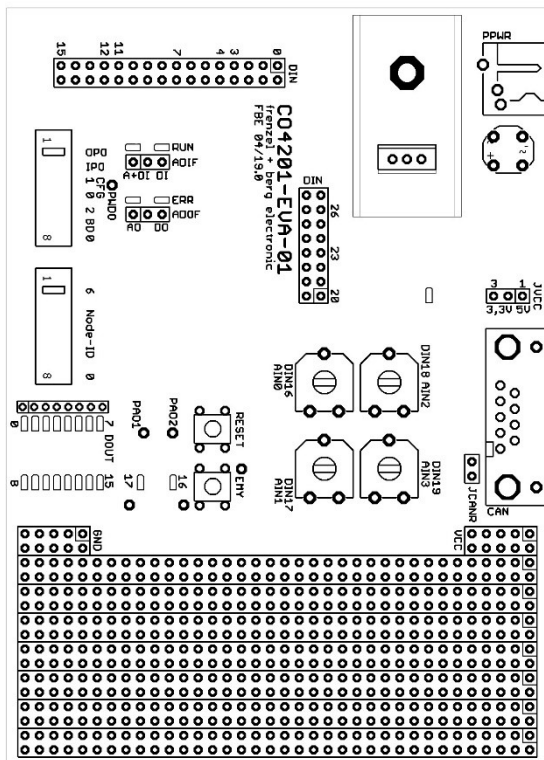
Digital Outputs	
Number of outputs	16
Switching character	High-side switching, Low-side switching
Delay (CAN reaction time)	typ. 1 ms

Analog inputs	
Number of inputs	8
Resolution	12 Bit

Analog outputs	
Number of outputs	2
Resolution	XX Bit
Control	DAC

Connectors and dimensions	
Connectors	Solder pads for pin headers
Dimensions housing	approx. 13.5 x 10.5 x 18 mm
Operating temperature	0...+50 °C

Connectors assignment



PPWR (supply)

Both polarities allowed because of protection against wrong polarity.

Sub-D9M (CAN)

Pin-No.	Name	Description
2	CANL	CAN Low
3, 6	CAN_GND	CAN Ground
7	CANH	CAN High
1, 4, 5, 8, 9	-	n.c.

DIN (digital inputs)

Large pin header

Pin-No.	Name	Description
1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29	0...15	Digital inputs
2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30	-	Ground

DIN (digital inputs)

Short pin header

(20...23 analog inputs at the same time)

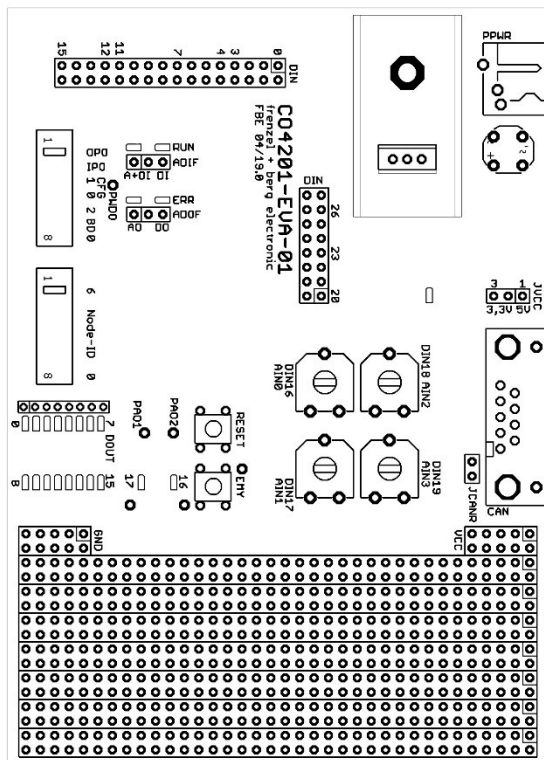
Pin-No.	Name	Description
1, 3, 5, 7, 9, 11, 13	20...26	Digital inputs
2, 4, 6, 8, 10, 12, 14	-	Ground
15, 16	-	n.c.

Poti (analog inputs)

(digital inputs at the same time)

Pin-No.	Name	Description
DIN16	AIN0	analog input 0
DIN17	AIN1	Analog input 1
DIN18	AIN2	Analog input 2
DIN19	AIN3	Analog input 3

Jumper, check points, buttons



ADOF

Operation mode for output pins A00/DO16 and A11/DO17 (analog/digital)

1-2		Analog
2-3		Digital

ADIF

Operation mode for input pins Aix/DIy (analog/digital)

1-2		Analog, at the same time digital
2-3		Digital only

Reset

Reset of CO4201

EMY

Simulation of an emergency.
Check point of EMY signal.

PA01, PA02, 16, 17

Analog output (with current): PA01, PA02
Analog output (signal only, no current): 16, 17
(via ADOF as digital output usable)

PWDO

Watchdog output

VCC, GND

At these points (10 pieces each) are GND and +3,3 V DC or +5 V DC available for set-ups on the bread board.

JVCC (operating voltage)

The CANopen chip can be configured to use a supply 3.3V or 5 V DC

1-2		Operating voltage +5 V DC
2-3		Operating voltage +3,3 V DC

JCANR (Termination 120 Ohm)

Configuration of the CAN termination resistor

Open		Termination not active
closed		Termination active

Configuration Dip-Switch

Switch number								Description
1	2	3	4	5	6	7	8	
-								n.c.
-	ON							OPO output polarity active high
-	OFF							Output polarity active low
-		ON						IPO input polarity active high
-		OFF						Input polarity active low
-			OFF	OFF				CFG (reserved)
-			ON	OFF				CFG (reserved)
-			OFF	ON				CFG (reserved)
-			ON	ON				CFG (reserved)
-					OFF	OFF	OFF	Baud rate 1Mbit/s
-					OFF	OFF	ON	800 kBit/s
-					OFF	ON	OFF	500 kBit/s
-					OFF	ON	ON	250 kBit/s
-					ON	OFF	OFF	125 kBit/s
-					ON	OFF	ON	50 kBit/s
-					ON	ON	OFF	20 kBit/s
-					ON	ON	ON	Reserved

Switch number								Description
1	2	3	4	5	6	7	8	
-								n.c.
-	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Node-ID 0 (reserved)
-	OFF	OFF	OFF	OFF	OFF	OFF	ON	1
-	OFF	OFF	OFF	OFF	OFF	ON	OFF	2
...
-	ON	ON	ON	ON	ON	OFF	OFF	124
-	ON	ON	ON	ON	ON	OFF	ON	125
-	ON	ON	ON	ON	ON	ON	OFF	126
-	ON	ON	ON	ON	ON	ON	ON	127

CAN Signal-LED

Signal-LED are beside jumpers ADIF and ADOF. States are coded according to DRP303-3.

LED	Color	Description
RUN-LED	green	off no supply or faulty flickering CAN not started flashing Stopped blinking Preoperational on Operational
ERR-LED	red	off no error 1x flashing CAN module in Error Warning State 2x flashing Node-Guarding error on Bus-Off

History

Version	Release date	Changes/Remarks
V2.501_R000	19.07.2019	First release

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