

### Product data

#### Features

- Module Driver Board for AP9200 and AP9201 encoders
- Small size, easy to connect
- Compatible with ASSIST Evaluation & Programming Tool
- Suitable for development and for series production

#### Key Specifications

Supply voltage ..... 5 V DC from ASSIST Board  
 Supply current..... 10 mA  
 Transmission frequency..... 0 – 2 MHz  
 Temperature ..... -20 to 100°C

#### Description

The Module Driver Board is required for communication between the ASSIST Interface Board and the AP9200 and AP9201 encoders. The Module Driver Board contains a switch that enables or disables the RS422-drivers and -receivers

For AP9200 encoder: set switch to RS422

For AP9201 encoder: set switch to UART

#### Encoder In/outputs

Encoder	Signal type	Switch
AP9200	Differential RS422	RS422
AP9201	Single-ended 5V CMOS/TTL	UART

The encoder I/Os can be measured on the test pins, see Figures 4 and 5.

#### ASSIST Board In/outputs

The ASSIST Board I/Os are single-ended 5V CMOS/TTL signals, see Figure 5.

#### Connectors

The Encoder connector and the ASSIST Board connector are both 8-pin DIN41651 connectors.

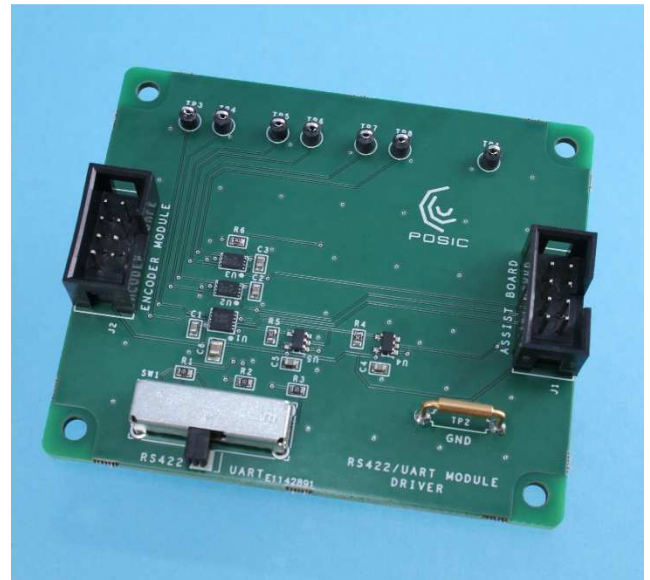


Fig 1 Module Driver Board.

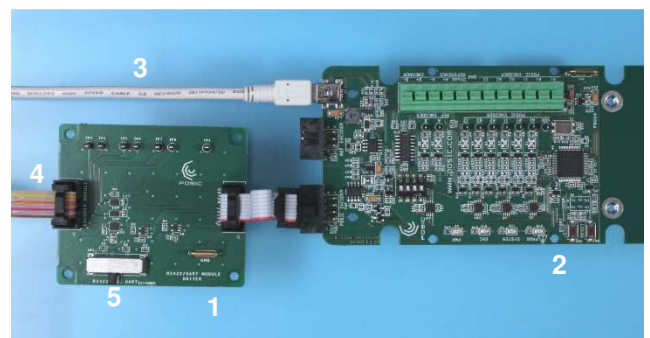


Fig 2 Module Driver Board (1) connected to ASSIST Interface Board (2), which is connected via USB cable (3) to a PC with ASSIST software. The encoder is connected on the left side (4) and the encoder signal type is selected by means of the switch (5).

#### Ordering information

Open Collector Interface Board including flat cable for connection to ASSIST Interface Board.

Code: MDB001

## Specifications

### Absolute Maximum Ratings

Parameter	Symbol	Remark	Min	Typ	Max	Unit
Supply voltage	V <sub>s</sub>	Overtoltage, and reverse polarity	-0.5		5.5	V DC
Storage Temperature	T <sub>s</sub>	No supply voltage applied	-40		125	°C

### Recommended Operating Conditions

Parameter	Symbol	Remark	Min	Typ	Max	Unit
Supply voltage	V <sub>s</sub>		4.75		5.25	V
Operating Temperature	T <sub>A</sub>		-20	25	100	°C

### Electrical Characteristics

Electrical characteristics over recommended operating conditions, typical values at VDD = 5.0 V, T<sub>A</sub> = 25°C.

Parameter	Symbol	Remark	Min	Typ	Max	Unit
Supply current	I <sub>s</sub>			10		mA
Frequency	F	SSI clock signal	0		2	MHz

### Technical drawings

Encoder Connector Pin	Test Pin	Encoder AP9200	Encoder AP9201
1	TP1	VDD, 5V Supply	VDD, 5V Supply
2	TP2 (GND)	GND, Ground	GND, Ground
3	TP3	Clock+	Clock
4	TP4	Clock-	Data
5	TP5	Data+	-
6	TP6	Data-	-
7	TP7	-	-
8	TP8	-	-

Fig 3 Pinout of the encoder connector and the test pins.

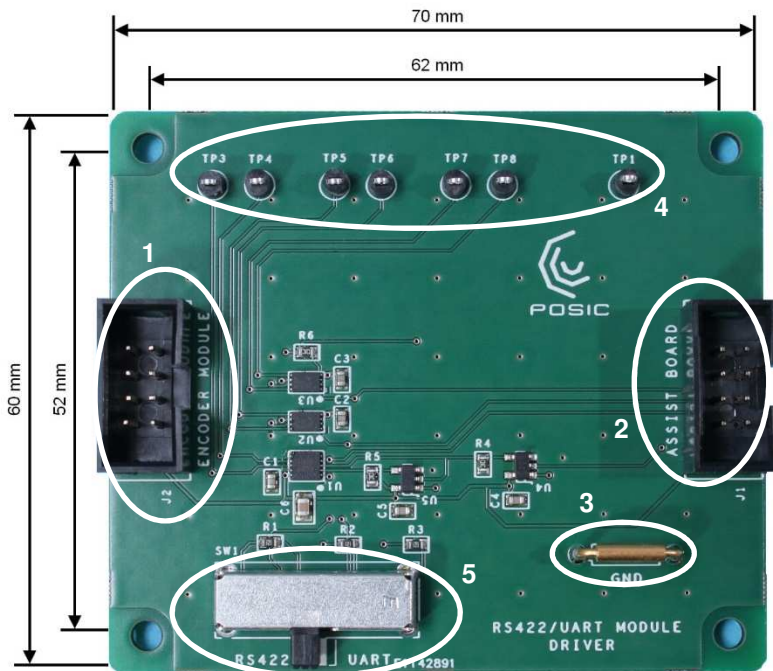


Fig. 4 Dimensions and explanations for the Module Driver Board MDB001

- 1) Encoder connector
- 2) ASSIST Interface Board connector
- 3) Ground pin GND
- 4) Test pins TP1 – 8
- 5) Encoder selection switch:
  - Set to RS422 for encoder AP9200
  - Set to UART for encoder AP9201

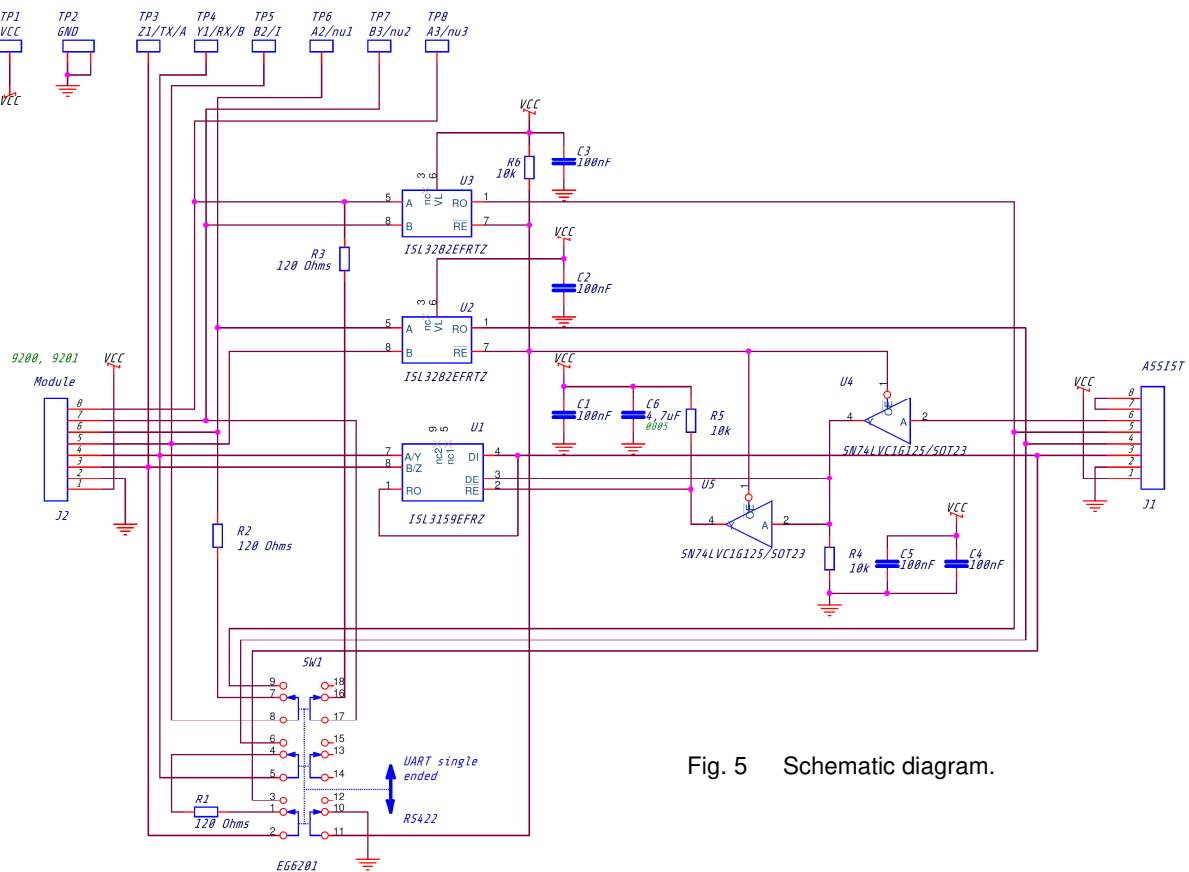


Fig. 5 Schematic diagram.

© Copyright 2019 POSIC. All rights reserved. No part of this document may be reproduced without the prior written consent of POSIC. Products and companies mentioned in this document may be trademarks or registered trademarks of their respective owners. Information in this document is believed to be accurate and reliable and may be changed without notice. No responsibility is assumed by POSIC for its use, nor for infringements of patents or other rights of third parties which may result from its use. Some commercial or geographical restrictions may apply to the sale of this product. No license is granted by implication or otherwise under any patent or patent rights of POSIC. In no event shall POSIC, its employees, its contractors, or the authors of this document be liable for special, direct, indirect, or consequential damage, losses, costs, charges, claims, demands, claim for lost profits, fees, or expenses of any nature or kind. POSIC products are not designed, intended, authorized or warranted to be suitable for use in life-support applications, devices or systems or other critical care applications. Inclusion of POSIC products in such applications is understood to be undertaken solely at the customer's own risk. Should a customer purchase or use POSIC products for any such unauthorized application, the customer shall indemnify and hold POSIC and its officers, employees, subsidiaries, affiliates, representatives and distributors harmless against all claims, costs, damages and attorney fees which could arise.