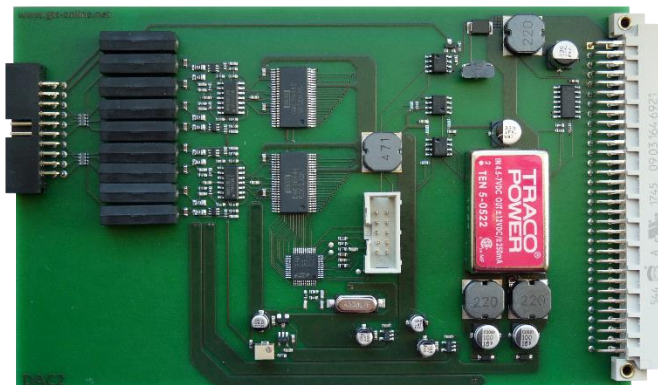


Features

- 8-channel digital-to-analog converter
- 16-bit resolution
- Output voltage $\pm 10V$ DC
- Accuracy $\leq 0.1\%$
- Potential-free outputs,
switchable for each relay
- Common analog GND

The DAC2 board is a precise digital-to-analog converter with 8 channels. The output voltages can be programmed within the range of $\pm 10V$. The outputs are secured against short-circuits and surges up to $\pm 24V$ and can be switched off together using the relay. The analog part is electrically isolated from the digital part. The firmware is capable of emulating the predecessor board DAC1 with 12-bit resolution, allowing the board to be used as a replacement for malfunctioning DAC1 boards.



Application

Typical applications of the DAC2 board include the supply of voltages to test analog inputs, or the simulation of hall sensors when testing industrial joysticks for construction and agricultural machinery.

Specification

Operating voltage	5V \pm 0.1V
Current consumption	max. 500 mA
Number of channels	8
Voltage range	± 10 V
Accuracy	$\leq 0.1\%$
Max. output power	20mA
A/D converter	DAC 7644
Resolution	16-bit ≈ 0.36 mV
Outputs	Potential-free outputs, switchable for each relay
Calibration	Zero and gain
X1 connector	64-pin multipole connector DIN 41612
X2 connector	20-pin header RM 2.54, 90°
X3 connector	10-pin header RM 2.54 Controller programming

Addressing

The DAC2 standard board address in the Guardian system is 10 and is written onto the board's flash memory by the software. The board address is 9 for emulation of the DAC1 board.

Pinout

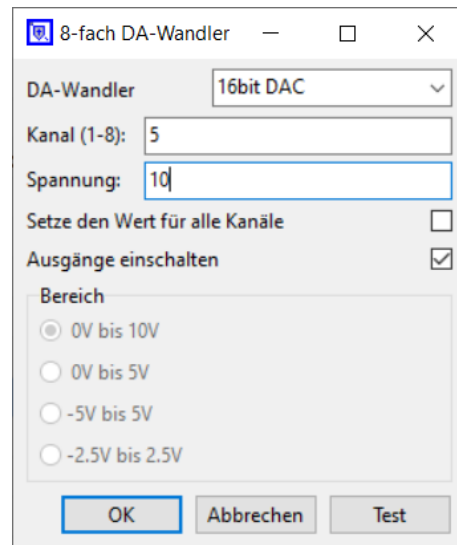
X1

PIN	NAME
AC 1	+5 V
A2	GND
C2	RXD +
A3	RXD -
C3	GND
A4	TXD +
C4	TXD -
AC 5	GND
AC32	GND

X2

PIN	NAME
1+2	Channel 1
3+4	Channel 2
5+6	Channel 3
7+8	Channel 4
9+10	Channel 5
11+12	Channel 6
13+14	Channel 7
15+16	Channel 8
17+18	Analog GND
19+20	Analog GND

WinGuard



This dialog box can be used to enter a voltage for channels 1 to 8. The 9 cut-off relays are controlled with the 'Switch Off Outputs' check box. For the 16-bit variant, the 4 voltage ranges are omitted due to the higher resolution.

