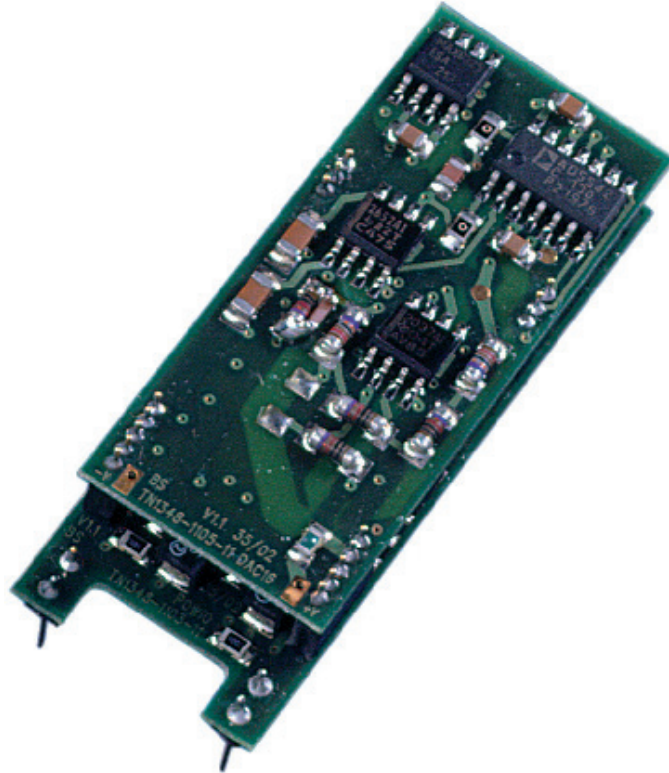




DAC16

Single Channel 16-Bit Digital-to-Analog Converter with an Isolated Serial Interface



- 16-bit Digital-to-Analog Converter
- Fully galvanically isolated interfaces and power supply
- Hermetically sealed, ruggedized metal case
- Rapid startup time through internal heating resistors
- EMC-proofed design



DAC16

Single Channel 16-Bit Digital-to-Analog Converter with an Isolated Serial Interface

Application Scope

The single channel DAC16 module is a 16-bit Digital-to-Analog Converter module with a galvanically isolated serial interface. The module has been designed for maintenance, testing, integration and troubleshooting applications that require channel isolation and high accuracy.

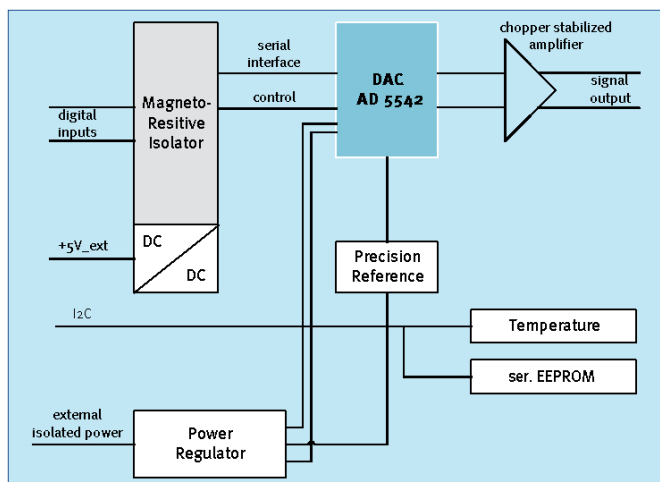
The module comes in two versions, one labeled DAC-16-20mA with a -20 mA current output, the other labeled DAC-16-12V with a 0 V - 12,75 V voltage output range.

Feature Highlights

The DAC16 features the following components and properties:

- > 16-bit precision DAC IC
- > I2C bus for sampling the current module temperature via the built-in LM 92 temperature sensor
- > I2C EEPROM for writing module-specific data to memory (max. 2 kB) to be read and analyzed by an application
- > Variable master clock supporting internal filtering
- > 1 Watt thermal resistor for quickly obtaining operating temperature after power-on
- > Heating is controlled either externally via pin #36 or internally via the programmable LM92 temperature sensor
- > Serial interface (2 wire)
- > Rugged metal case with a pin output layout according to the DIL 40 standard (reduced pin count)

DAC16 Block Diagram



Technical Data

HW Resources

- 16-bit precision DAC IC
- I2C EEPROM with a maximum of 2Kb of data
- LM 92 temperature sensor
- 1 Watt thermal resistor
- Serial interface (2 wire)

DAC Output Range

- Current – DAC - 20mA.A
- IOU_T = -20 mA to +20 mA
 - Load impedance: 0 to 500 Ohm
 - Load capacity: max 10nF
- Voltage – DAC - 10V.A
- UO_UT = 0 V to 12,75 V
 - Load impedance: min 10 kOhm
 - Load capacity: max 10nF

Accuracy in %

30° C - 50° C	0.01% *
20° C - 60° C	0.03% *
0° C - 70° C	0.06% *

* without external compensation

Temperature Measurement

±0,5° C max / 10° C to 50° C
±1,0° C max / -10° C to 85° C

Data Rates

Rate	Accuracy
2 kHz full	
20 kHz (max)	reduced

Mechanical Data

- Length: 55,34 mm
- Width: 22,32 mm
- Height without cover: 12 mm
- Height including cover: approx. 12,5 mm
- Weight: approx. 35g (including metal case)

Environmental Data

- Operating Temperature: 0° C - 70° C (internal module temperature)
- Storage Temperature: -40° C - +85° C
- Humidity: 0 - 90% non-condensing

Ordering Information

Typ	Order Number
DAC-16-20mA	700104-1
DAC-16-12V	700104-2