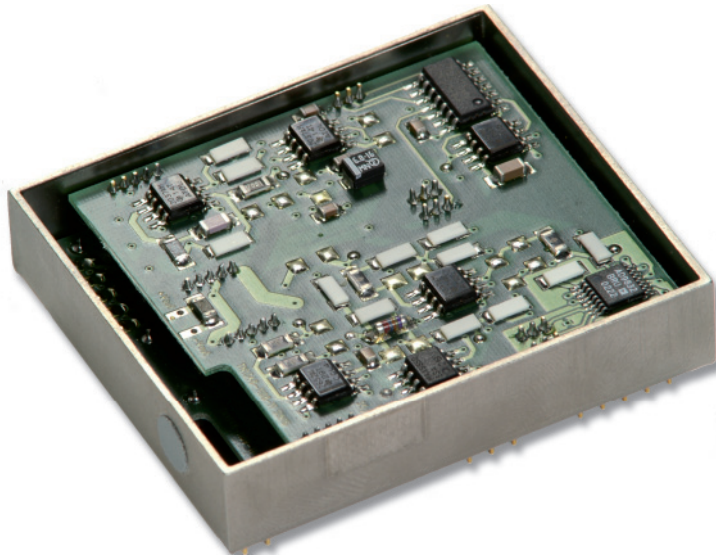


SIN16

16-Bit Programmable Sine Wave Generator with an Isolated Serial Interface



- 16-bit true RMS Sine Wave Generator
- 32-bit frequency resolution via external clock
- Internal sine look-up table
- Gain and offset configurable independently
- Boost startup through internal heating resistors





SIN16

16-Bit Programmable Sine Wave Generator with an Isolated Serial Interface

Application Scope

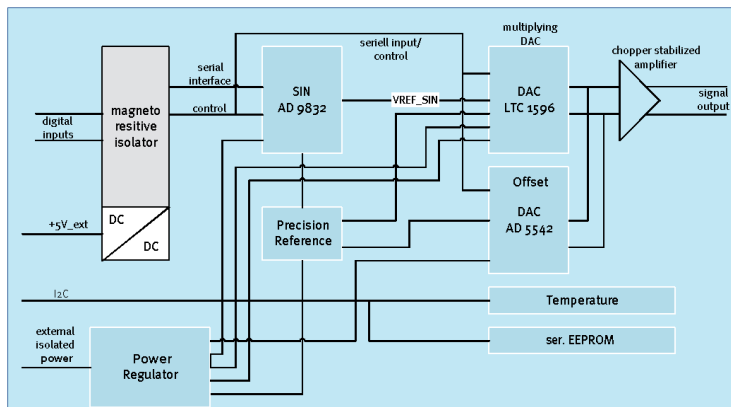
The SIN16 module serves as a 16-bit programmable Sine Wave Generator with a galvanically isolated serial interface. The galvanic isolation is provided via multi-channel high-speed couplers. The module is programmable as to frequency, amplitude, and offset.

Feature Highlights

The 16-bit SIN16 module is provided with the following components and features:

- > 32-bit DDS AD 9832 to adjust the frequency (external clock)
- > Internal Sine look-up table
- > 16-bit precision DAC LTC 1596 to set the gain (amplitude)
- > 16-bit precision DAC AD 5542 to set the offset
- > Gain and offset can be set independently
- > I2C bus for sampling the current module temperature via the built-in LM 92 temperature sensor
- > I2C EEPROM of type 24 LCS 52 for writing module-specific data to memory (max. 2 KB)
- > Two 1 Watt thermal resistors for quickly obtaining operating temperature; heating can be controlled either externally via pin #36 or internally via the programmable LM92 temperature sensor
- > Rugged metal case with a pin output layout according to the DIL 40 standard (two DIL 40 cases in parallel)

SIN16 Block Diagram



Technical Data

Output Specification ±10 V RMS

Frequency

- Range: 0 to 20 kHz
- RMS Output Voltage
- Range: 0 to 10 VRMS
- Load Impedance: min 1 kOhm, max 10 nF

Offset Voltage

- Range: ±14 V
- -10,30 V - +10,30 V approx. 50 k
- -32,60 V - +32,60 V approx. 50 k

Volt. Accuracy over Temp.

Temperature	Voltage Accuracy in %
30° C - 50° C	0.01% *
20° C - 60° C	0.02% *
0° C - 70° C	0.05% *

* without external compensation

Gain Accuracy over Frequ.

Frequ. Range	Voltage Accuracy in dB
200 Hz to 17 kHz	0.01 dB
50 Hz to 20 kHz	0.02 dB

Mechanical Data

- Length: 55,34 mm
- Width: 47,72 mm
- Height without cover: 12,00 mm
- Height including cover: approx. 12,2 mm
- Weight: approx. 65 g (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

Type	Order Number
0 to 10 V RMS ±14 V Offset	300107-1