

S.Module 16-100

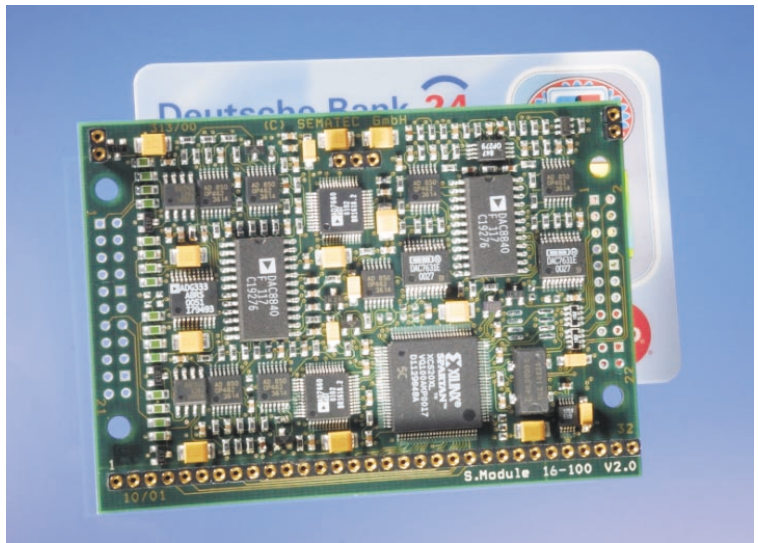
16-bit Data Acquisition System

4 Complete Analog Inputs

- 16-Bit A/D Sampling
- 100 kHz Sample Rate
- Programmable 4th Order Filter

4 Analog Output Channels

- 16-Bit D/A
- 100 kHz Update Rate
- Two-Pole Reconstruction Filter



The S.Module 16-100 is a small size data acquisition board, providing up to four fully independent and complete analog input channels and four analog output channels.

Analog Inputs

The input voltage range can be set by software to ± 10.0 V, ± 5.0 V or ± 2.5 V.

The filter of each channel is of 4th order and has Butterworth characteristics. The cut-off frequency of the input filter can be set by the software. These filters are time-continuous filters.

Analog inputs digitized to 16 bits at sample rates up to 100 kHz per channel. The A/D conversion can be triggered by either an internal sample rate generator or by external clock. After end of conversion an interrupt can be generated.

Because every channel is a complete data acquisition system several synchronous and asynchronous operation modes are available:

- up to four channels can be used for synchronous, exact parallel sampling
- channels can be worked fully independently
- different forms of mixed synchronous and asynchronous operation modes

Analog Outputs

The module also includes four analog output channels with maximum update rates of 100 kHz.

A two-pole low-pass filter with Butterworth characteristics is provided as a reconstruction filter for each of the 16-bit D/A converter lines. The cut-off frequency can be set by the software within the range from 1 kHz to 50 kHz.

Interface

The simple interface contains only a 16 bit data and a 6 bit address bus, an I/O enable, a read, a write and two interrupt lines. This enables simple connection of signal processing boards in the miniKit-, D.Module- and S.Module-Series without additional hardware, as well as simple integration with other processors/controllers. All I/O-lines are 5V-tolerant.

Please contact us for data sheets and detailed information.

Analog Specifications

Inputs	4 differential ended analog inputs
Input Voltage Range	± 10 V (± 2.5 V, ± 5.0 V via software)
Cut-off Frequency	1 kHz - 50 kHz
Outputs	4 single ended outputs
Output Voltage Range	± 2.5 V
Power Supply	± 5.0 V

Digital Specifications

A/D Converters	4 (one ADC for each channel)
Converter Resolution	16-bit
Sampling Rate	up to 100 kHz per channel
External Signals	for each channel: external sample clock external synchronizing signal
D/A Channels	4 x 16-bit
Power Supply	+3.3V - 5.0 V

Mechanical Dimensions

85 mm x 58 mm

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