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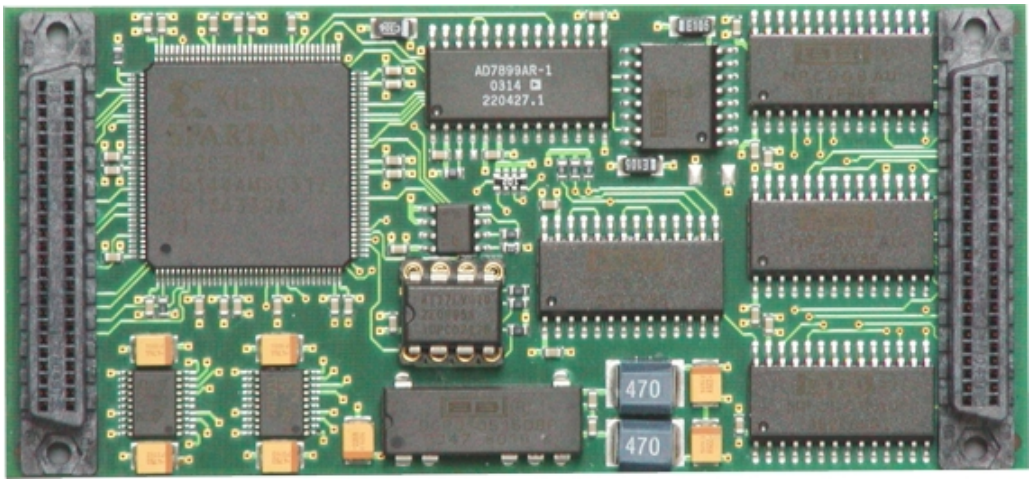
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The Embedded I/O Company

TIP845 48 Channel of 14 bit A/D Conversion



Application Information

The TIP845 is an IndustryPack® compatible module providing 48 single-ended or 24 differential ADC input channels. The data acquisition and conversion time is up to 2.5µs without channel / gain change and up to 10.5µs with channel / gain change. The resolution is 14 bit.

The input multiplexer of the A/D circuit offers analog overvoltage protection of up to 70Vpp. A programmable gain amplifier allows gains of 1, 2, 4 or 8 resulting in input voltage ranges of +/-10V, +/-5V, +/-2.5V or +/-1.25V.

Additionally the TIP845 provides a sequencer to control the analog inputs without wasting CPU time. Each of the A/D channels can be independently enabled and configured by a sequencer instruction RAM. After the last instruction of a programmed sequence has completed, the ADC data of all enabled channels are stored in the data RAM. The repeat frequency of the sequencer can be programmed by using the sequence timer. The sequence timer is programmable from 100µs to 6.5535s in steps of 100µs. The sequencer starts a new sequence whenever the timer reaches the programmed value.

A special function is the sequencer continuous mode. It is activated by setting the sequence timer register to 0. In this mode the sequencer will start again with the first instruction of the sequence as soon as the last instruction of the previous sequence has been completed.

An interrupt can be generated at end-of-settling, end-of-conversion or end-of-sequencer cycle supporting an 8 bit vector.

Each TIP845 is factory calibrated. The calibration information is stored in the Identification-PROM unique to each IP.

Software support (TIP830-SW-xx) is available for different operating systems.

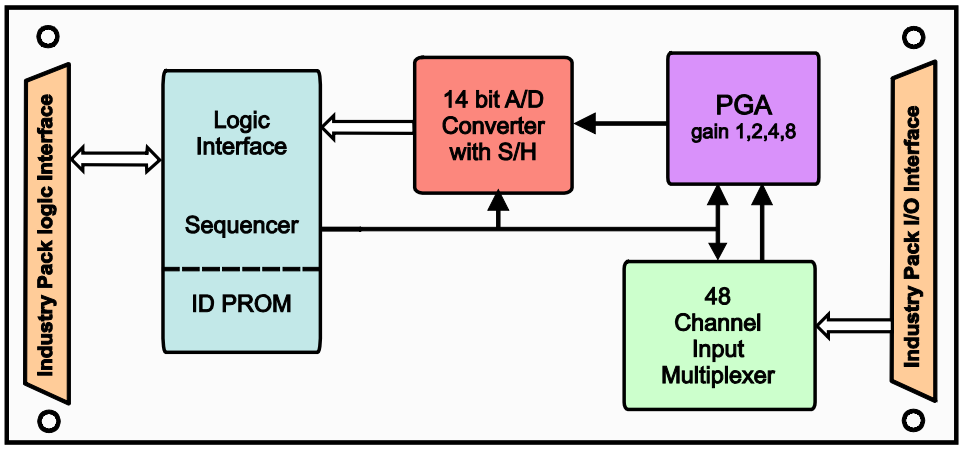
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Issue 1.0.1
2017-09-07

TEWS TECHNOLOGIES GmbH
Am Bahnhof 7 25469 Halstenbek, Germany
Phone: +49 (0) 4101 4058 0 Fax: +49 (0) 4101 4058 19
e-mail: info@tews.com www.tews.com

Technical Information

- Interface according to IndustryPack specification
- Identification-PROM supports auto-configuration
- Single Size IndustryPack
- Up to 48 single-ended or 24 differential ADC input channels
- 70Vpp overvoltage protection
- Programmable Gain Amplifier with gain 1, 2, 4 or 8 Input voltage range
  - gain = 1: +/-10V
  - gain = 2: +/-5V
  - gain = 4: +/-2.5V
  - gain = 8: +/-1.25V
- 14 bit A/D converter with internal S/H and reference
- On board sequencer
- Vectored interrupts
- Factory calibrated, calibration information stored in ID PROM unique to each IP
- Operating temperature -40°C to +85°C



Order Information

RoHS Compliant

TIP845-10R 48 Channel 14 bit A/D, gain 1,2,4,8, +/- 10V

For the availability of non-RoHS compliant (leaded solder) products please contact TEWS.

Documentation

TIP845-DOC User Manual

Software

TIP845-SW-42 VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TIP845-SW-65 Windows Software Support
TIP845-SW-82 Linux Software Support
TIP845-SW-95 QNX Software Support

For other operating systems please contact TEWS.

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e-mail: info@tews.com www.tews.com

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