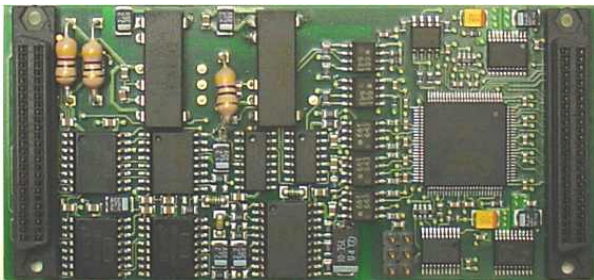# TEWS TECHNOLOGIES

The Embedded I/O Company

TIP500 16 Channels of Isolated 12 bit A/D Conversion

Application Information

The TIP500 is an IndustryPack® compatible module with 16 single-ended or 8 differential channels of isolated 12 bit A/D conversion. The data acquisition and conversion time is up to 10µs without channel / gain change and up to 12.5µs with channel / gain change.

The input multiplexer offers analog overvoltage protection of up to 70 Vpp. A programmable gain amplifier allows gains of 1, 2, 5, 10 or 1, 2, 4, 8. The full-scale input range is +/-10V for the TIP500-1x and 0-10V for the TIP500-2x.
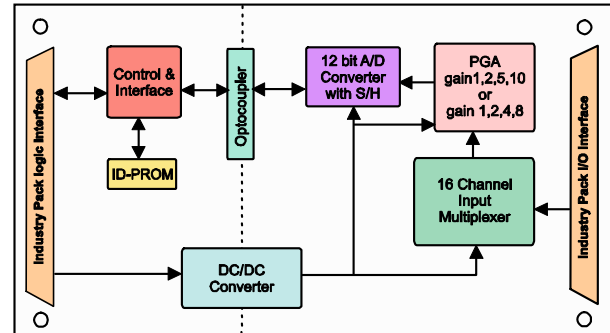
The isolated ADC, programmable gain amplifier and multiplexer are powered by an on board DC/DC converter. An interrupt can be generated at end-of-conversion supporting an 8 bit vector. Each TIP500 is factory calibrated. The calibration information is stored in the Identification-PROM unique to each IP.

For First-Time-Buyers the Engineering Documentation TIP500-ED is recommended. The Engineering Documentation includes TIP500-DOC, schematics and data sheets. Software support (TIP500-SW-xx) for different operating systems is available.

Technical Information

- ❍ Interface according to IndustryPack specification
- ❍ Identification-PROM supports auto-configuration
- ❍ Single Size IndustryPack
- ❍ 16 single-ended or 8 differential channels of isolated 12 bit A/D conversion
- ❍ ESD protected input multiplexer
- ❍ Programmable gain amplifier, gain 1, 2, 5, 10 or gain 1, 2, 4, 8
- ❍ 12 bit A/D converter with internal S/H and reference
- ❍ Full-scale input range +/- 10 V or 0-10V (gain = 1)
- ❍ Interrupt capability at end-of-conversion
- ❍ Factory calibrated, calibration information in Identification-PROM unique to each IP
- ❍ Operating temperature –40°C to +85°C

Order Information

RoHS Compliant

TIP500-10R	16 Single-Ended or 8 Differential Channels of Isolated 12 bit Conversion, gain 1, 2, 5, 10, input range +/- 10V
TIP500-11R	16 Single-Ended or 8 Differential Channels of Isolated 12 bit Conversion, gain 1, 2, 4, 8, input range +/- 10V
TIP500-20R	As TIP500-10R but input range 0-10V
TIP500-21R	As TIP500-11R but input range 0-10V

None RoHS Compliant

TIP500-10	None RoHS compliant version of TIP500-10R
TIP500-11	None RoHS compliant version of TIP500-11R
TIP500-20	None RoHS compliant version of TIP500-20R
TIP500-21	None RoHS compliant version of TIP500-21R

Documentation

TIP500-DOC	User Manual
TIP500-ED	Engineering Documentation, includes TIP500-DOC

Software

TIP500-SW-25	Integrity Software Support
TIP500-SW-42	VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TIP500-SW-65	Windows XP/XPE/2000 Software Support
TIP500-SW-72	LynxOS Software Support
TIP500-SW-82	LiNUX Software Support
TIP500-SW-95	QNX 6 Software Support

For other operating systems please contact TEWS.