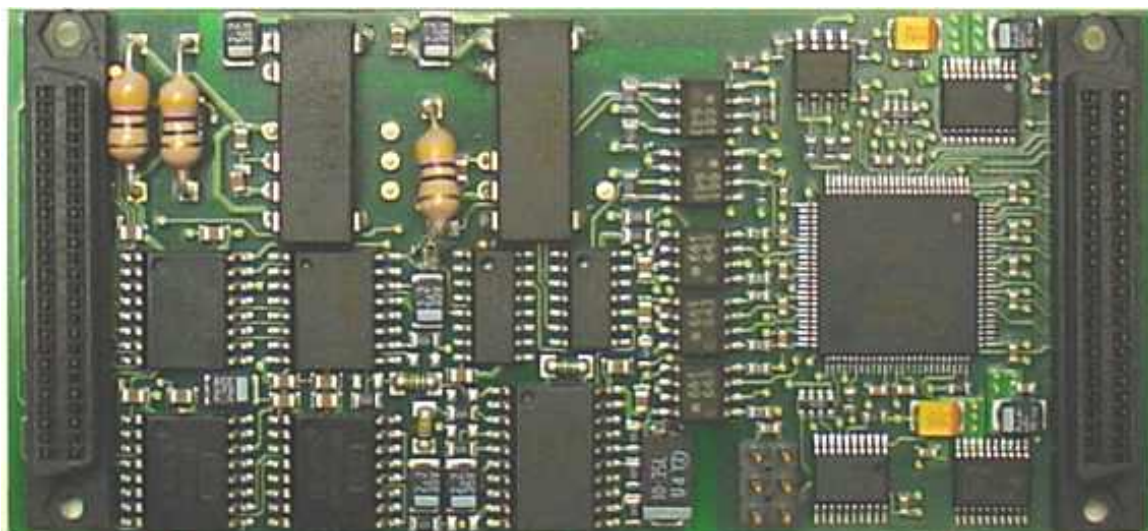# TIP501 16 Channels of Isolated 16 bit A/D Conversion

Application Information

The TIP501 is an IndustryPack® compatible module providing 16 single-ended or 8 differential channels of isolated 16 bit A/D conversion. The data acquisition and conversion time is up to 12µs without channel / gain change and up to 14.5µs with channel / gain change.
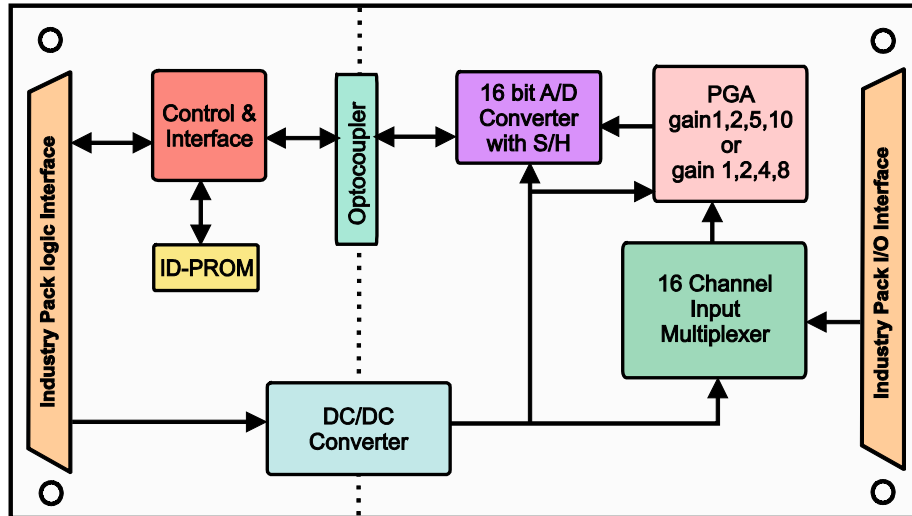
The input multiplexer offers analog overvoltage protection of up to 70Vpp. A programmable gain amplifier allows gains of 1, 2, 5, 10 or 1, 2, 4, 8. The full-scale input range is +/-10V for the TIP501-1xR and 0-10V for the TIP501-2xR. The isolated ADC, programmable gain amplifier and

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 TIP501 is factory calibrated. The calibration information is stored in the Identification-PROM unique to each IP.

Software Support (TIP501-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 16 bit A/D conversion
❍ ESD protected input multiplexer
❍ Programmable gain amplifier, gain 1, 2, 5, 10 or gain 1, 2, 4, 8

❍ 16 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
TIP501-10R   16 Channel Isolated Multiplexed 16 bit A/D, gain 1,2,5,10, +/-10V
TIP501-11R   16 Channel Isolated Multiplexed 16 bit A/D, gain 1,2,4,8, +/-10V
TIP501-20R   16 Channel Isolated Multiplexed 16 bit A/D, gain 1,2,5,10, 0-10V
TIP501-21R   16 Channel Isolated Multiplexed 16 bit A/D, gain 1,2,4,8, 0-10V

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

Documentation
TIP501-DOC   User Manual

Software
TIP501-SW-42   VxWorks Software Support (Legacy and VxBus-Enabled Software Support)
TIP501-SW-65   Windows Software Support
TIP501-SW-82   Linux Software Support
TIP501-SW-95   QNX Software Support

For operating systems please contact TEWS.