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Find the *Aitech Defense Systems S930* at our website: ***Click HERE***

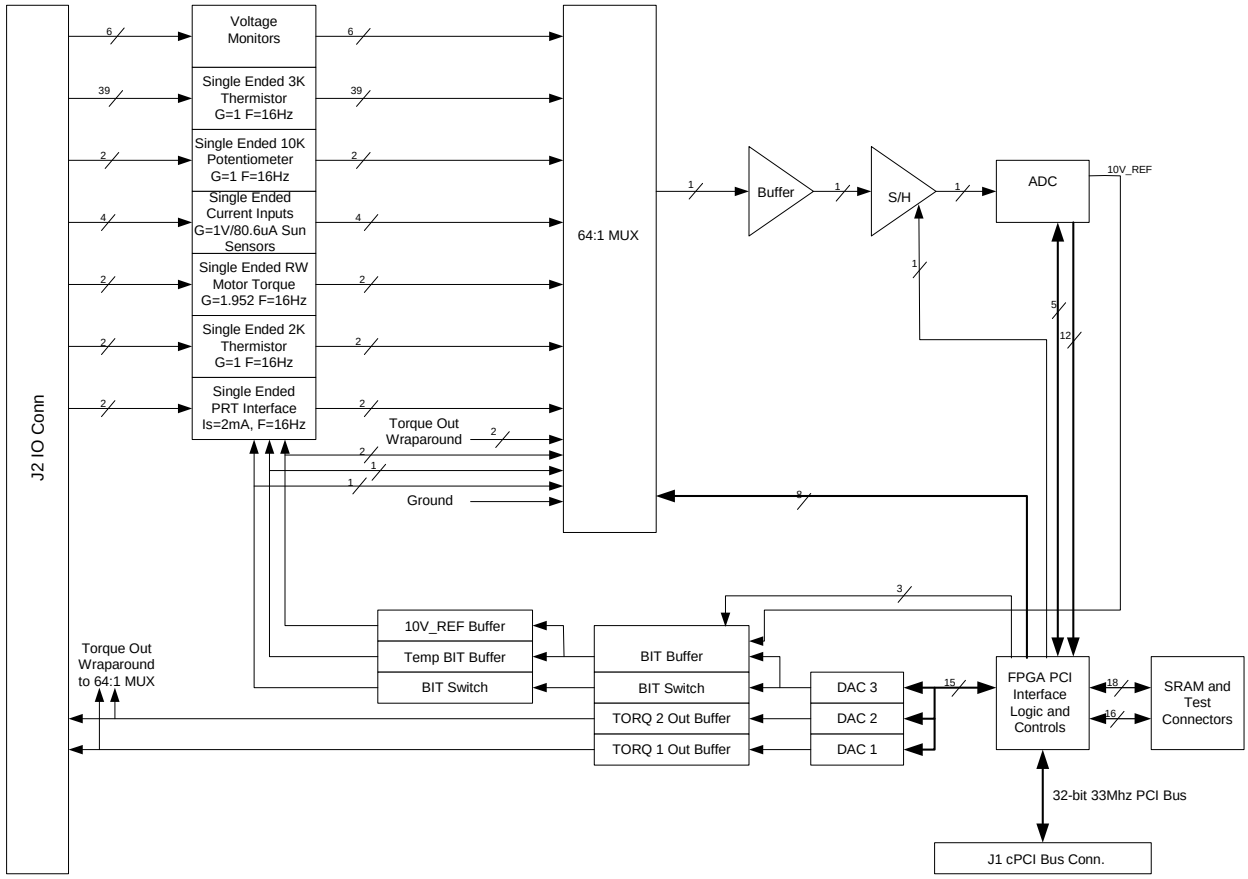
S930

3U cPCI Radiation Tolerant Analog I/O Card



- **Designed for LEO, Mars Terrestrial with an Option for GEO Environments**
- **Single-Slot Conduction-Cooled 3U CompactPCI (cPCI) card**
- **12-bit A/D converter with –10V to +10V input range**
- **64 analog channels (51 inputs, 2 outputs and 11 bus voltage monitors)**
- **Low pass filter with cutoff frequency below 50 Hz on all inputs**
- **Series resistors as analog input protection**
- **Buffer Memory with triple-voted algorithm is provided for each converted analog input**
- **Three 12-bit DAC outputs from –10V to +10V, 1 output is used as BIT only**
- **BIT circuit to provide over 90% test coverage**
- **Interrupt capability to indicate conversion completed**
- **10V, 200mA reference for sensor excitation**
- **32-bit PCI 2.1 compliant cPCI interface at 33.333 MHz**
- **S930 nominal power consumption is less than 8 Watts**
- **Level-2 Components per NASA GSFC 311-INST-001A specification are available**

Aitech Defense Systems Inc.
A member of the Ai-Rugged Group
9301 Oakdale Ave, Chatsworth, Ca 91311
Tel: (888) AITECH-8 (888-248-3248) Fax: (818) 350-6888 e-mail: sales@rugged.com web: www.rugged.com



S930 3U cPCI Radiation Tolerant Analog I/O Card

Aitech's S930 Analog IO card design is based on a 12-bit resolution analog to digital converter and a 12-bit resolution digital to analog converter. The S930 is designed with a PCI bridge implemented by an anti-fuse FPGA allowing a processor module like S950 to access the analog I/Os from the cPCI bus.

The S930 provides 64 analog inputs and 2 analog outputs. Of the 64 inputs, 51 inputs are assigned to external inputs, 2 inputs are used to monitor the output channels, 6 inputs are used to monitor the power sources, 4 inputs are used to monitor the references and BIT signals, and 1 channel is not used (grounded). The S930 operates in a single conversion mode, i.e., all analog inputs and outputs perform their conversions once upon receiving a start command. The conversion data is stored in the buffer memory. Once the conversions are completed, an SDONE bit is set. The SDONE bit may be polled by the host processor or can be set by software to generate a software-configurable cPCI bus interrupt.

Mechanical Features

The S930 is available in a conduction cooled 3U format per VITA 30.1-2002. A custom metal frame provides excellent rigidity, shock resistance and thermal characteristics.

Dimensions

All versions are offered in a conduction-cooled 3U CompactPCI form factor per VITA 30.1-2002 standard.

Thermal Management

A careful mechanical design including custom heatsink modules, wedge locks and extractors combined by a metal frame allow for optimal heat dissipation and strength of the board.

Radiation Performance

- Radiation Tolerant with a minimum unshielded Total Ionization Dose (TID) of greater than 10 krad (Si). Higher TID tolerance can be available upon request.
- Latch-up Immune with a high LET of 37 MeV•cm^2/mg
- Low SEU Rate – less than 1 upset per 25 years of operation at ISS orbit

Power Requirements

The S930 draws its power +5.0V and +3.3V from the standard cPCI backplane. It generates its own specific power onboard (+2.5V).

S930 typical power consumption is less than 10 Watts. The S930 power consumption is estimated as follows:

+3.3V	(±5%)	0.19A (typical)
+5V	(±5%)	0.63A (typical)
+15V	(±10%)	0.14A (typical)
-15V	(±10%)	0.14A (typical)

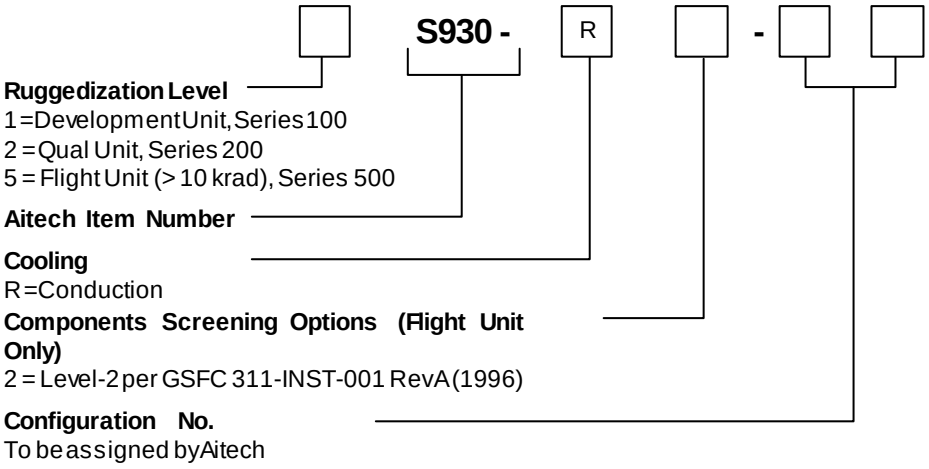
Environmental Features

Please refer to Aitech Ruggedization Datasheet:

http://www.rugged.com/home/rugged.html

Ordering Information

Ordering Information for the S930



Available Configurations are: 1S930-R, 2-S930-R, 5S930-R2

For more information about the S930 or any Aitech product, please contact Aitech Defense Systems sales department at (888) AITECH-8 (888-248-3248).

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