# ADwin-Gold
## Digital Signal Processor

**FRACTURE TECHNOLOGY**

Bulletin 200-01

**The ADwin-Gold digital signal processor (DSP) offers real-time test control and data acquisition.**

## Powerful Real-Time Digital Signal Processor

The ADwin-Gold is a powerful real-time digital signal processor (DSP) for data acquisition and control. It includes a fast, local real-time CPU and memory, 16-bit analog inputs and outputs, digital inputs and outputs as well as a fast ethernet interface. The local CPU enables response times of 1 µs or less.

The analog inputs are split into 2 groups of 8, each connected via an 8-channel multiplexer to a high accuracy 16 bit analog to digital converter (ADC). A programmable gain amplifier (PGA) provides up to 8x analog gain. Data acquisition is controlled by the ADwin's CPU. The dual A/D converter design makes it possible to acquire two channels without any phase-shift, which is important for correlated signals like load and displacement.

The ADwin-Gold has up to 10 analog inputs that can be used with the FTA multi-monitoring software for simultaneous crack length monitoring. The ADwin-Gold is also equipped with programmable analog output channels. The output range is ±10V with a settling time of 10 µs for a full-scale range (FSR) step.

The ADwin-Gold provides programmable digital input and output channels for detecting the Run-Stop state of the test controller and for controlling the current reversal of the FTA DCPD System. The system is housed in a rugged aluminum enclosure that shields the system from EMF.

The ADwin-Gold uses the ADbasic programming language to perform all tasks in the on-board DSP on a priority basis independent of the PC workload. If the PC crashes, the ADwin system will continue to run, maintaining control and collecting data. All process control, data acquisition, and data processing required for crack length, crack closure measurement, and K-control are performed in this environment.

All ADwin-Gold systems sold by FTA are configured with expanded memory from 16 MB ext. memory to 64 MB and memory expansion from 256 KB internal memory to 512 KB to provide ample local storage for large data sets. The ADwin-Gold may be configured with an optional DIN-rail for mounting into standard rack assemblies. Analog inputs and outputs are provided via standard BNC connectors.



ADwin systems are distributed and supported in North America by CAS Dataloggers and are sold exclusively for FTA systems by LTI. The ADwin-Gold is manufactured by Jäger in Großostheim, Germany and have been the trusted real-time system for FTA systems since 2001.

## Features and Specifications

▲ Real-time: Real-time system within 1 µs response time

▲ Input Channels: 10 with FTA multi-monitoring

▲ Input Range: ±10V

▲ Analog Gain: Up to 8x analog gain

▲ Multiplexer & Settling Time: 2 x 8 Channels @ 5 µs

▲ Input Overvoltage Protection: ±35V

▲ Input Resolution: 2x ADC @ 16-bit

▲ ADC Conversion Time: 5 µs @ 16 bit

▲ Output Range: ±10V

▲ Output Resolution: 16-bit

▲ Digital Inputs: FTA DCPD control and run-stop

▲ Inputs: BNC connectors for analog input/output

▲ Memory: Expanded memory from 16 MB ext. memory to 64 MB and 256 KB internal memory to 512 KB

## Find Out More
Contact FTA at FTASales@labtesting.com to find out more.