

## CAMAC Equipment

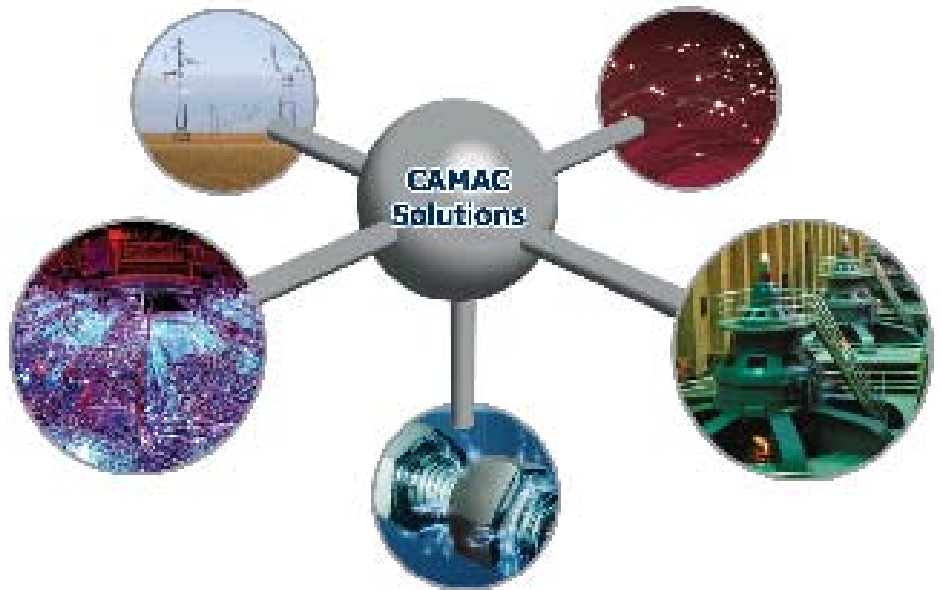
CAMAC, Computer Automated Measurement And Control, is an IEEE-standard (583), modular, high-performance, realtime data acquisition and control system concept.

Since 1969, CAMAC has been used in many thousands of scientific, industrial, aerospace, and defense test systems around the world.

### APPLICATIONS

Jet and rocket engine testing  
Temperature measurement  
Pressure measurement  
General analog monitoring

## 3518 16-bit, Scanning A/D Converter Host



The Model 3518 is a single-width CAMAC module containing a high-resolution analog-to-digital converter capable of resolving one part in 65,536 (16-bits).

### FEATURES

- Signal conditioning input modules (such as 3564, 3565) accommodated
- 32-channel capability
- 16-bit resolution (one part in 65,536)
- Programmable gain from 1 to 1024
- Programmable number of active channels
- Self-scanning
- External trigger
- Internal buffer memory
- Differential inputs



## **GENERAL DESCRIPTION**

The Model 3518 is a single-width CAMAC module containing a high-resolution analog-to-digital converter capable of resolving one part in 65,536 (16-bits). This module is used in conjunction with companion input conditioning modules (such as the Models 3564-4-channel Strain Gage w/Filter and 3565 8-channel RTD w/Filter) to form a signal-conditioned, scanning A/D subsystem. Up to 32 input channels are accommodated by the 3518. The number of active (scanned) channels is software programmable. The inputs are scanned, and the results are stored in a 32-word memory which can be read via the Dataway. There are two software-selectable scan modes, continuous and single-scan. With continuous mode, CAMAC Read cycles are asynchronous with the conversion process, eliminating any overhead due to testing for a converter busy. If it is desirable to synchronize scanning and reading, the single-scan mode is used. In this mode, a LAM status is set after the last channel has been converted. In addition, external triggering may be used to synchronously trigger a single scan on multiple 3518s.

The 3518 contains a 4-bit, 32-word memory which can be loaded on a channel-by-channel basis from the Dataway with an appropriate gain factor applied to each differential input signal. Eleven gain factors, from one to 1024, are available in a binary progression. This allows one 3518 to measure a wide variety of input signal types (such as thermocouples, RTDs, high-level inputs).

Once channel scanning is initiated, each channel's input is selected, the preloaded gain factor is applied to it, the amplified signal is converted, and the resultant binary information is stored in the on-board memory. Conversions take place at the rate of one every 250 microseconds (all 32 channels in eight milliseconds). The memory is configured in a dual-ported fashion to facilitate retrieval of data with CAMAC block transfer operations. The 3518 is precalibrated for  $\pm 10$  volt inputs.

## **FRONT PANEL**

The analog input signal from the companion signal conditioning modules and the multiplexer control signals to these modules are contained in a 10-wire flat ribbon cable that is connected via the 3518 front panel. The KineticSystems Model 5840-Series of 10-conductor, flat-ribbon cable assemblies mates directly to the front-panel connector. The external trigger is brought in through a single-pin LEMO connector. Alternately, the 3518 may be strapped to accept an external trigger from the Dataway P1, P2, or P3 lines. An L LED flashes whenever the 3518 is addressed, and an ACTIVE LED is lighted when the module is powered and scanning is activated. A LAM LED is lighted when a LAM request is pending, and an ERROR LED flashes when a multiplexer address conflict exists in the companion modules. All input multiplexers are disabled until the error condition is resolved by correct switch settings in the companion modules.

## **POWER REQUIREMENTS**

+24 volts — 80 mA  
-24 volts — 70 mA  
+6 volts — 1.5 A

## **WEIGHT:**

.89 kg. (1 lb. 14 oz.)



#### ACCESSORIES

Model 3563	16/32-channel Thermocouple Signal Conditioner
Model 3564	4-channel Strain Gage Signal Conditioner
Model 3565	8/16-channel RTD Signal Conditioner
Model 3569	16/32-channel Analog Multiplexer
Model 5840-Series	Cable Assemblies

#### ORDERING INFORMATION

MODEL	DESCRIPTION
3518-Z1A	16-bit Scanning A/D Converter Host

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