

## CAMAC Equipment

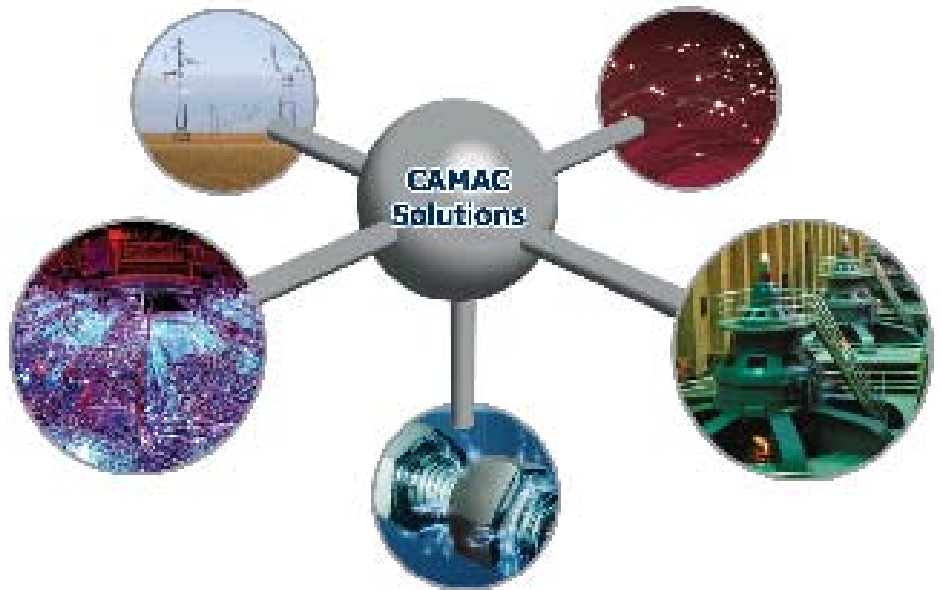
CAMAC, Computer Automated Measurement And Control, is an IEEE-standard (583), modular, high-performance, realtime data acquisition and control system concept.

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  
Thermocouple monitoring  
Analog voltage monitoring

## 3563 16/32-channel Thermocouple Signal Conditioner



The Model 3563 is a single-width CAMAC module providing 16 or 32 channels of general-purpose analog signal monitoring with open circuit detection capability as well as 16 or 32 channels of input multiplexing.

### FEATURES

- 16-and 32-channel options (2-pole, lowpass filters on 16-channel option)
- Channel-by-channel selection of test voltage
- Test voltage transparent when disabled
- Multiplexer for use with 3518 ADC



## **GENERAL DESCRIPTION**

The Model 3563 is a single-width CAMAC module providing 16 or 32 channels of general-purpose analog signal monitoring with open circuit detection capability as well as 16 or 32 channels of input multiplexing. It is used with the Model 3518 16-bit Scanning A/D Converter Host module. The 32-channel version does not include input filters. The 16-channel version includes a 2-pole, lowpass filter per channel. When enabled from the Dataway, the 3563 switches a positive 10 volts resistance path onto the SOURCE leg of the incoming temperature signal and a negative 10 volts resistance path onto the RETURN leg. Reading the channel's new signal value with the 3518 verifies that the field wiring is intact and determines its resistance value. Plus and minus 10-volt sources are applied to the field wiring through precision, 100 kilohm resistors (one resistor per leg).

A mask register on the 3563 enables and disables the open circuit detection capabilities on a channel-by-channel basis. This is useful for thermocouples tied to a safety system, where increased signal levels generated by the open circuit detection could cause the system to go into an automatic shutdown condition. The mask register is written and read from the Dataway. Dataway commands are also provided to turn on and off the detection capability and to test the detection feature's state.

When the detection capability is disabled (turned off), the 10-volt sources are held at a ground potential to greatly reduce any effects from leakage through the FET switches used in the switching circuitry.

Analog signals are brought into the 3563 via one or two AMP, 36-contact, high-density, rectangular connectors mounted to the front panel (for the 16- or 32-channel version of the module). These connectors mate directly with the Model 5944-Z1A mating connectors and with the Model 5855-Series of cable assemblies. The multiplexer output and control signals are bussed between the front panel of the 3563, other signal conditioning modules, and the 3518 AD module via the Model 5840-Series of 10-wire flat ribbon cable assemblies. The front panel also contains a LED which flashes whenever the module is addressed and another LED indicating the state of the open circuit detection feature.

## **OPTIONAL FILTERS**

The 16-channel version of the 3563 contains a passive, lowpass filter per channel. These filters provide nominal 3dB attenuation at 10 hertz with rollover of 12 dB per octave above 10 hertz.

## **CHANNEL SELECTION**

The 3563-V1A contains 32 channels and its Channel Address switch is normally set to "0" (with its first channel corresponding to the first channel of a 3518 scan). The 3563-V1D contains 16 channels and its Channel Address switch is normally set to 0 or 4 (with its 16 channels scanned as 0 to 15 or 16 to 31 by the host 3518). The number of scanned channels in the 3563 is also switch-selectable from four to 16 or 32 (depending upon option) in increments of four. The First Channel address and the number of scanned channels can be read via the Dataway for verification.

## **POWER REQUIREMENTS**

+6 volts — 575 mA  
+24 volts — 15 mA  
-24 volts — 15 mA

## **WEIGHT**

.62 kg. (1 lb. 6 oz.)



**ACCESSORIES**

- Model 3518-Z1A 16-bit Scanning A/D Converter Host
- Model 5944-Z1A Mating Connector (two connectors required for 3563-V1A)
- Model 1854-A2A Termination Panel with 5855-B30J Cables (two cables required for 3563-V1A)
- Model 5855-A30J Cable Assembly (two cables required for 3563-V1A)
- Model 5840-M000-V000 Ribbon Cable — 10 Conductor (one cable required for 3563-V1A or V1D)

**ORDERING INFORMATION**

MODEL	DESCRIPTION
3563-V1A	32-channel Thermocouple Signal Conditioner w/o Filters
3563-v1s	16-channel Thermocouple Signal Conditioner w/Filters

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