

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

Locating faults in CAMAC systems
Displaying activity in a CAMAC crate
Aiding in debugging software
Facilitating automatic system
integrity checks
Displaying binary data
Selective display when used with
3296 Dataway Display Control
module

3291System Monitor and Dataway Display



The Model 3291 is a single-width module that indicates the state of all Dataway signal lines during a Dataway cycle.

FEATURES

- Command and Data registers that can be read
- S1 mode for normal Dataway monitoring
- DC modes for troubleshooting clamped lines
- Other modes for additional versatility
- Panel markings for hex and octal
- Yellow and red LEDs and lamp test feature "Clear display" button



GENERAL DESCRIPTION

The Model 3291 is a single-width module that indicates the state of all Dataway signal lines during a Dataway cycle. It contains two 24-bit registers, designated as Data and Command register, the outputs of which are continuously displayed by front-panel LEDs.

The Data register is loaded from the Dataway Write lines for a Write operation and from the Dataway Read lines for a Read operation. The Data register can be read by N $F(0) \cdot A(0)$. The Command register is loaded during Dataway operations and contains five F bits, bits representing N, X, Q, C, Z, I, L, P2, and P1. The bit position in the Command register is as indicated by the associated LEDs on the front panel. The Command register can be read by N $F(0) \cdot A(1)$.

Several modes of operation which are provided determine the manner in which the registers are loaded. They are S1, N S1, Q S1, DC WRITE, and DC READ. Hold mode (H) inhibits register loading for all but the DC modes. The modes are selectable by a front-panel toggle switch or by a five-bit Control register. The module will automatically advance through its five modes by holding the MODE/HOLD switch in the MODE position. This combination of mode selection and the ability to read the Command and Data registers makes the 3291 a valuable tool in checking the integrity of a CAMAC system.

The Data, Command, and Control registers of the Model 3291 can be cleared by Dataway command, the Clear signal from the Model 3296, or by the front-panel push-button. The front-panel LEDs are tested whenever the front-panel Clear push-button is held depressed.

MODES OF OPERATION Display Operation

MODE	Display Operation			
	R/W, N, A, F, X, Q, B	C,Z	I, L, P1, P2	S1, S2
S1	Clocked by S1	Clocked by S2	Follows	Note 1
N•S1	Clocked by N•S1	Clocked by S2	Follows	Note 1
Q•S1	Clocked by Q•S1	Clocked by S2	Follows	Note 1
DC Write	Follows	Follows	Follows	Follows
DC Read	Follows	Follows	Follows	Follows
Hold (H)	Held	Clocked by S2	Follows	Note 1

Notes:

- 1. S1 and S2 latches are cleared by the leading edge of Busy and are set by S1 and S2, respectively.
- 2. The "D" LED flashes for any activity on the Dataway. A one-shot extends this signal



ACCESSORY

Model 3296-Z1A Dataway Display Control Module

ORDERING INFORMATION

3291 Products and Part Numbers

MODEL	DESCRIPTION
3291-Z1A	System Monitor and Dataway Display

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