

53A-123 DIFFERENTIAL COMMUNICATIONS CARD

OPERATING MANUAL

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53A-123 DIFFERENTIAL COMMUNICATIONS CARD

DESCRIPTION

The 53A-123 Differential Communications Card is a printed circuit board assembly for use in a CDS 53/63 Series System. The 53A-123 Card provides a differential communications link between the card cage in which the card is installed and the system controller or the previous card cage in a chained 53/63 Series System.

The 53A-123 Card allows data transfer rates of up to 500,000 ASCII characters (8-bit parallel with differential drivers and receivers) per second up to a distance of 300 meters (984 feet).

CONTROLS AND INDICATORS

The following controls and indicators are provided to select and display the functions of the 53A-123 Card's operating environment.

Power LED

The Power LED provides a valuable diagnostic tool by giving the system programmer a visual indication of the action which the system is currently taking. Whenever the 53A-123 Card is addressed by the system controller, the Power LED goes out. The LED remains out until another function card is addressed. Since only one function card can be addressed at a time, an unlit Power LED indicates the function card with which the system controller is currently communicating. The Power LED being lit not only indicates that the 53A-123 Card is unaddressed, but that all required dc power (5V dc, $\pm 15V$ dc) is being supplied.

Fuse

The 5V DC power bus has a fuse that protects the system from overloads. If the fuse has blown, the Power LED will not light.

Function LEDs

I/O LED

This LED is lit when the 53/63 Series System is in input, and is out when the system is in output. As a matter of convention, input means data being sent to the system controller from the 53/63 Series System; output means data being sent from the system controller to the 53/63 Series System.

Data LEDs (B0 - B7)

A column of eight LEDs, labeled B0 through B7 from top to bottom, is situated below the I/O LED. These LEDs display the current data word being received or transmitted by the 53A-123 Card. The least significant bit is B0.

SPECIFICATIONS

| | |
|---|---|
| <u>Differential Drivers/ Receivers:</u> | TI 75119. |
| <u>Differential Impedance:</u> | 130 ohms. |
| <u>Protocol:</u> | ASCII 8-bit parallel. |
| <u>Communications Distance:</u> | 300 m. (984 ft). |
| <u>Data Rate:</u> | 500,000 ASCII characters per second. |
| <u>Power Requirements:</u> | 5V dc power is provided by the internal Power Supply in the 53/63 Series Card Cage. |
| <u>Voltage:</u> | 4.75V DC to 5.25V DC. |
| <u>Current:</u> | 1.05 A, maximum quiescent. 1.15 A, peak. |
| <u>Cooling:</u> | Provided by the fan in the 53/63 Card Cage. |
| <u>Temperature:</u> | -10 °C to +65 °C, operating (assumes ambient temperature of 55 ° and airflow to assure less than 10 °C temperature rise). -40 °C to +85 °C, storage. |
| <u>Humidity:</u> | Less than 95% R.H. noncondensing, -10 °C to +30 °C. Less than 75% R.H. non-condensing, +31 °C to +40 °C. Less than 45% R.H. non-condensing, +41 °C to +55 °C. |
| <u>Dimensions:</u> | 197 mm high, 221 mm deep, 13 mm wide. (7.75" x 8.69" x 0.5"). |
| <u>Dimensions, Shipping:</u> | When ordered with a 53A-002 or 63A-012 Card Cage, the card is installed in the card cage's communications card slot. When ordered alone, the shipping dimensions are: 254 mm x 254 mm x 127 mm. (10" x 10" x 5"). |
| <u>Weight:</u> | 0.23 kg. (0.5 lb). |
| <u>Weight, Shipping:</u> | When ordered with a 53A-002 or 63A-012 Card Cage, the card is installed in the card cage's communications card slot. |

When ordered alone, the shipping weight is:

0.64 kg. (1.4 lb).

Mounting Position:

Any orientation.

Mounting Location:

Installs in the communications card slot of the 53/63 Card Cage.

Output Connections:

53A-741 Cable provides communications.
53A-743 Cable provides chaining.

**Equipment Required
(Not Supplied):**

Control card.
Mainframe.

Equipment Supplied:

1 - 53A-123 Differential Communications Card.
1 - Spare fuse (Part # 42202-52001).
1 - Operating Manual (Part # 00000-11230).
1 - Service Manual (Part # 00000-21230).

INSTALLATION

The 53A-123 Differential Communications Card must be plugged into the green communications card slot.

CAUTION:

To avoid plugging the card in backwards, observe the following:

- a. Match the keyed slot on the card to the key in the backplane connector. The component side should be to the right for a 53 Series Chassis and to the top for a 63 Series Chassis.
- b. There are two ejectors on the card. Make sure the ejector marked "53A-123" is at the top for a 53 Series Chassis and to the left for a 63 Series Chassis.

CAUTION:

The 53A-123 Card is a piece of electronic equipment and therefore has some susceptibility to electrostatic damage (ESD). ESD precautions must be taken whenever the module is handled.