

# Specifications

## Interface Specifications:

The 2240A requires an electric and mechanical interface compatible with IEEE Standard 488-1978. In addition, the programming interface must be capable of handling 5 messages sent or received on the HP-IB. These five are: *Data* message, *Require Service* message, *Status Byte* message, a *Clear* message, and an *ABort* message. Details on these messages can be found in HP 2240A Measurement and Control Processor User's Manual (02240-93001).

## Physical Dimensions (width x height x depth):

2240A: 48.26 cm (19 inches) x 22.23 cm (8-3/4 inches)

x 35.56 cm (14 inches); Net Weight: 13.8 kg (30.4 lb.)

2241A: 48.26 cm (19 inches) x 22.23 cm (8-3/4 inches)

x 35.56 cm (14 inches); Net Weight: 13.1 kg (28.8 lb.)

(Net weight of 2240A/2241A does not include function cards.)

## Environmental:

### Temperature:

Operating: 0 to 55° C (2240A air intake ambient)

Non-operating: -40° C to 75° C

Humidity: 10 to 95% relative humidity non-condensing @ 40° C

## Power Requirements:

Voltage (AC single-phase): 120V +6%, -28%; 240V +6%, -28%

Current: 1.4A maximum @ 127 VAC, 0.7A maximum @ 253 VAC, including worst-case cards.

Power: 130 watts maximum (including function cards)

Frequency: 48 - 66 Hz

**Product Safety:** The HP 2240A/2241A has been submitted to Underwriters Laboratories for listing (bench top version only) and recognition (rack mounted version) under the Process Control Standard 1092, with complimentary listing and recognition under Data Processing Equipment (UL478) and Office Appliances (UL114).

In addition, the signal conditioning cards (22912A, 22913A, 22914A), the signal conditioning tray (22920A) and the general purpose screw termination tray (22922A), are in the process of being submitted to Underwriters Laboratories for recognition under the same categories.

## Prerequisites

2240A: HP-IB Interface and cable and one 22909A Test Fixture (pg. 24) per facility for installation

2241A: 2240A (one 2241A per 2240A)

## Hardware Supplied

HP 2240A Measurement and Control Processor including AC power cable, and microprocessor-based control card with HP-IB interface. It includes ROM's (firmware) which implements the following request/result protocol, all commands to all function cards, immediate status, self test, and function card verification.

HP 2241A Measurement and Control Processor Extender including AC power cable, slot control line cable (02241-60002), and control bus cable (02241-60003).

Input/output cables from the function cards in the 2240A or 2241A to signal conditioning cards in the 22920A and to termination strips (22922A) are not provided with the 2240A or 2241A. See the Cable Assemblies data sheet (Models 22906A, 22907A, and 22908A) for ordering information.

## Software Supplied

2240A: None required. User program communicates directly with 2240A firmware via READ and WRITE statements or equivalent.

2241A: None required.

## Documentation Furnished

2240A: HP 2240A Installation and Service Manual (02240-93003), HP 2240A Measurement and Control Processor User's Manual (02240-93001), and HP 2240A Quick Reference Guide (02240-93005).

2241A: All information on the 2241A function cards, signal conditioning and accessories are also included in the manuals supplied with the 2240A.

## Accessories

22909B: The 22909B consists of a test fixture, a function card extender board, and control and function card cables that allow calibration and maintenance adjustments. Complete maintenance of the 2240A require spare boards and parts in addition to test equipment specified in the 2240A Installation and Service Manual.

22910B: The 22910B consists of a power supply extender that allows withdrawal of the internal 2240A/2241A power supply for dynamic testing.

22911A: Bench top cover for the 2240A/2241A.

Required for bench top applications (not used in rack mounted applications). Physical dimensions (width x height x depth): 48.26 cm (19 inches) x 22.23 cm (8.75 inches) x 33.66 cm (13.25 inches); Net Weight: 144 kg (3.25 lb.)

## Ordering Information

For the entire 2240A family, the products are ordered as the product number with the appropriate option number if required. Field upgrades use the same product numbers.

## Installation

The 2240A/2241A mainframe, function cards, signal conditioning, and accessories are customer installed products. A test fixture (22909A) is required per customer facility for operational checks of the function cards. Complete instructions for installation are contained in the HP 2240A Installation and Service Manual. Hewlett-Packard will provide installation services on a time and material basis. Customers desiring this installation service should contact their local Hewlett-Packard sales office.

## Warranty

All Hewlett-Packard software products, computers, components, and systems are covered by warranty for a minimum of 30 days or a maximum of 90 days, depending upon the type of product and the conditions of purchase. For specific information, contact your Hewlett-Packard Sales Representative.