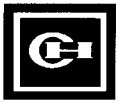
D725

Hardware Manual

Modbus Gateway



Cutler-Hammer

EATON

D725

Hardware Manual

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Preface

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Table of Contents

Chapter 1
Introduction **1-1**

How to use this Manual 1-2
Product Overview 1-2

Chapter 2
Motherboard and Supporting Electronics **2-1**

Unpacking 2-2
Installation Overview 2-3
Connecting AC Power 2-3
Jumper Blocks and Switch Settings 2-6
Connectors 2-6
Video Drivers 2-6
Ports 2-6

Chapter 3
Regular Maintenance **3-1**

Regular Maintenance 3-2

Appendix A
Detailed Specifications **A-1**

Environment A-2
Power Requirements A-3
Serial Ports A-3
Parallel Port A-3
Video Card A-3
Other A-3

Chapter 1
Introduction

In this chapter, you will learn:

- How to use this manual
- Product overview

How to use this Manual

Welcome to the Culter-Hammer D725 Hardware Manual. The manual contains everything you need to know about the D725 unit's assembly, installation, operation, and maintenance.

This manual is written for system engineers, plant engineers, plant maintenance personnel, Culter-Hammer personnel, and any persons who may be involved in installing and maintaining a workstation. This manual is not written for plant personnel who will be using the workstation to control factory operations. The task of informing plant operators how to use the workstation in specific situations is left to those who configured the system.

Product Overview

The D725 unit is an electronics module designed for mission critical control applications. The D725 unit has a versatile, rugged, steel enclosure which has moveable mounting brackets to accommodate mounting in several positions. A removable cover provides complete, open access to all expansion slots. The built-in floppy drive and hard drive are shock-mounted and are incorporated in a drawer so that either drive can be serviced without removing the cover.

Chapter 2
Motherboard and Supporting Electronics

In this chapter, you will learn:

- What was shipped with your D725 unit
- Video card and port information

Unpacking

Report any damage to the carrier who delivered the equipment and immediately call the Cutler-Hammer Customer Service Department at (614) 882-3282 (the Interstate Commerce Commission has a time limit on reporting concealed damage). Check packing cartons for all items shown on the packing list.

Carefully remove all equipment from the packing cartons and inspect all parts for damage in shipment. Keep the cartons and packing materials for future shipment.

Please check to be certain that all items are present:

D725

_____ 1 D725 unit
_____ 1 D725 Hardware Manual
_____ 1 CPU user manual
_____ 1 Keyboard Port adaptor cable
_____ Video Driver diskettes

Installation Overview

The D725 unit is designed to be used on the factory floor, mounted in an industrial enclosure.

Review the D725 Outline and Side View drawings shown on the following pages. Use this information to determine the mounting location for your application. Although designed to withstand harsh environmental conditions, you must not expose the unit to conditions which are beyond the detailed specifications found in Appendix A.

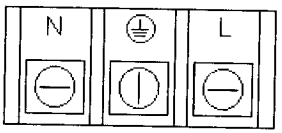
In order to provide for convection cooling, we recommend a minimum 4-inch clearance above and below the unit and a 2-inch clearance on either side of the unit when installed in an industrial enclosure.

Connecting AC Power

The AC power terminals and power switch are located at the side of the D725 unit. Make sure the rocker switch is in the OFF position. Remove the protective cover. Connect your AC power with user-supplied wiring. The D725 unit is auto-sensing and will automatically adjust to operate at either 110V AC or 220V AC. Replace the protective cover over the AC wiring.

The minimum recommended wire size is 0.82mm^2 (18 AWG).

Note Power conditioning may be required when the D725 unit is installed in areas where the power quality is poor.



N - Neutral - White Wire (typical)
⏚ - Ground - Green Wire (typical)
L - Line (Hot) - Black Wire (typical)

Figure 2-1 Terminal Block

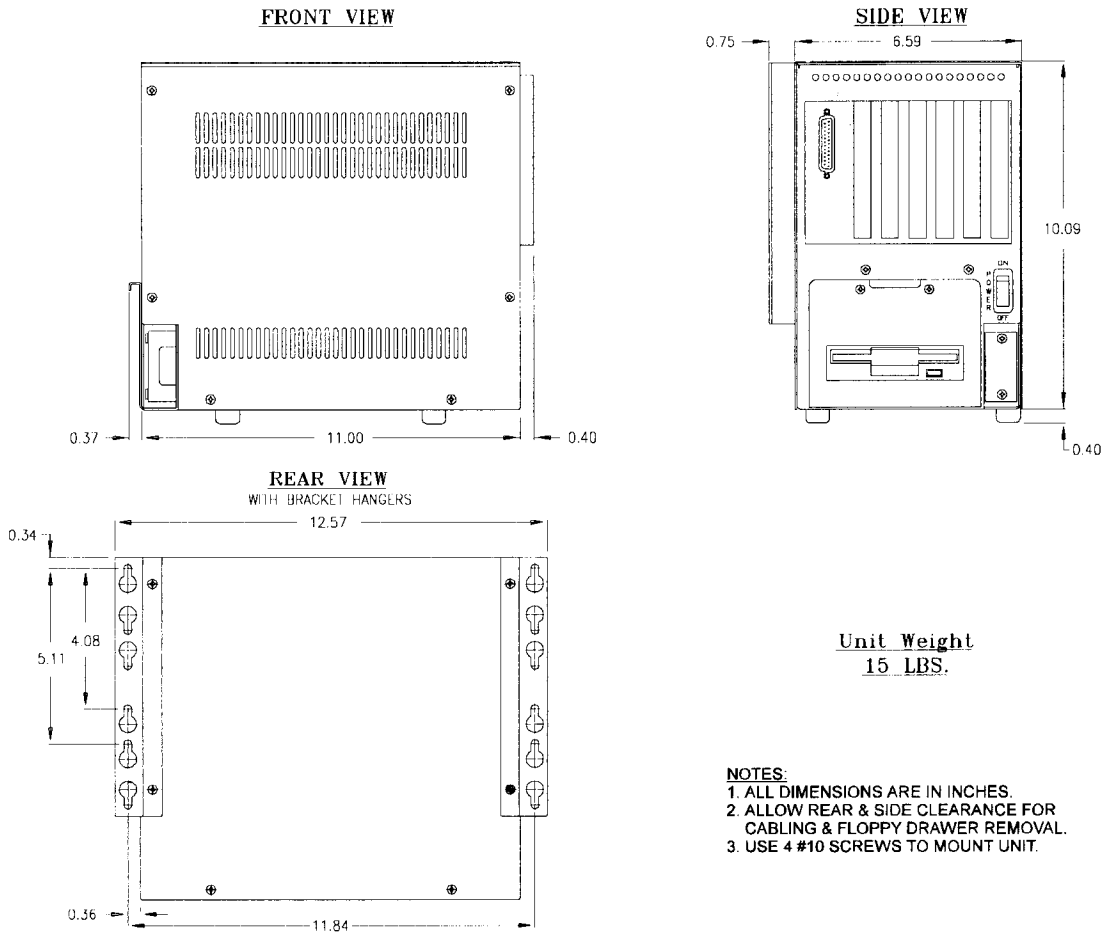


Figure 2-2 D725 Unit Outline

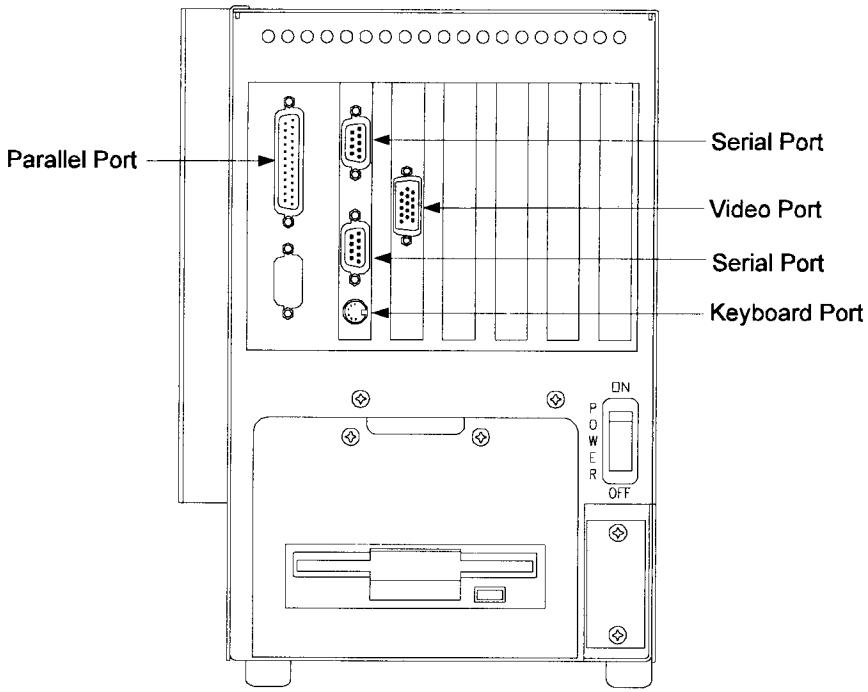


Figure 2-3 D725 Unit Side View

Note The location of the Video Port and the Serial Ports will vary depending on the CPU card shipped with your D725 unit.

The Video Port is a 15-pin high density D-shell connector on the edge of a card.

The Keyboard Port is a 6-pin mini-DIN connector on the edge of a card.

The Serial Ports are 9-pin D-shell connectors on the edge of a card.

The Parallel Port is a 25-pin D-shell connector near the card slots.

See the CPU user manual for the location of the ports on the D725 unit.

Jumper Blocks and Switch Settings

For information about the jumper blocks and switch settings, refer to the CPU user manual sent with the D725 unit.

Connectors

For information about the connectors, refer to the CPU user manual sent with the D725 unit.

Video Drivers

The video drivers for the video card installed in the D725 unit will be on diskettes sent with the unit.

Ports

For information on the serial and parallel ports, refer to the CPU user manual sent with D725 unit.

Chapter 3
Regular Maintenance

In this chapter, you will learn:

- What regular maintenance the D725 unit requires

Regular Maintenance

Very little regular maintenance is required to keep your D725 unit in perfect running condition.

The face of the unit should be cleaned, whenever needed, with any common, non-abrasive cleaning product.

It is best to mount the D725 unit in a closed industrial enclosure. However, if the D725 unit is operating in a dusty environment and is unprotected (e.g., mounted in a control panel whose door is often left open), periodically use forced air to blow off any dust that may have accumulated on the circuit boards. The filter should also be cleaned periodically. Be sure to disconnect power before conducting these procedures.

There are no user replaceable fuses or batteries in the D725 unit.

Appendix A
Detailed Specifications

In this chapter, you will learn:

- Specific information about the D725 unit

Environment

Temperature	Operating Ambient Temperature without floppy	0°-50°C
	Operating Ambient Temperature with floppy	5°-40°C
	Storage Temperature without floppy	-20°-70°C
	Storage Temperature with floppy	-10°-60°C
Humidity	20-95% noncondensing	
Pollution	Pollution Degree 1	Rated for exposure to dry or non-conductive pollutants only.
NEMA Class	NEMA 4 or NEMA 12 when properly mounted in a correspondingly rated enclosure	
Vibration	Operating:	10-57 Hz at 0.006 inch peak to peak displacement 57-2000 Hz at 1g acceleration
	Non-operating:	10-57 Hz at 0.015 inch peak to peak displacement 57-2000 Hz at 2.5g acceleration
Shock	Operating:	5g
	Non-operating:	10g
Altitude	Operating:	10,000 feet above sea level
	Non-operating:	50,000 feet above sea level
ESD Immunity	IEC 1000-4-2, Level 4 (8kV air, 15kV contact)	
Radiated Immunity	IEC 1000-4-3, (10V/m) 27MHz - 1GHz 80% AM modulation	
Electrical Fast Transient	IEC 1000-4-4, Level 3 (2kV) on power (1kV) on I/O lines	
Surge Immunity Test	IEC 1000-4-5, Level 3 (2kV)	
Radiated/ Conducted Emissions	CISPR 22, Class A	
Dielectric Withstand	UL-508, CSA C22.2	
Power Frequency Magnetic Field Influence	IEC 1000-4-8, Level 4 (30A/m)	

Power Requirements

Voltage	Auto-sensing	120/230V AC, -15%/+10%
Current	rms Repetitive Peak Peak Inrush:	0.8/0.4A 2.2/1.1A peak 16A max
Frequency	50/60 Hz, +/-5%	
Power	55W max	
Surplus available for Add-on Boards	20W	

Serial Ports

16550 compatible (RS232)

Parallel Port

ECP/EEP compatible

Video Card

Video	VGA ISA 512K memory

Other

Weight	15 pounds
Height	10.49 inches
Width	11.77 inches
Depth	7.34 inches
Equipment Heat Output	188 BTU/hr. (55 watts)
Type of Slots	Half-sized ISA
Air Flow	Positive filtered airflow