MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

AMIKON cover followed by applicable original manufacturer pages

OPTIMATE

OP-1510

OPERATOR PANEL

Manufacturer source: OP-1500/OP-1510 Operator Panel User Manual

OFFICIAL SOURCE

OP-1500/OP-1510 Operator Panel User Manual, manual number OP-1510-M

Applicable source pages included: 1, 9, 11, 12, 13, 14

The included pages cover model identity, controls, display, communications and power connections.

OP-1500/OP-1510

Operator Panel

Manual Number OP-1510-M

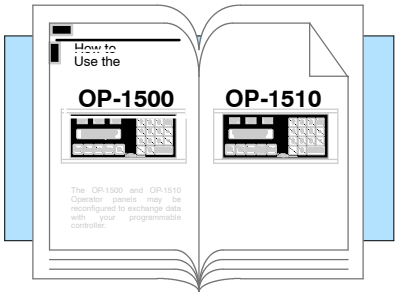
Introduction

The Purpose of this Manual

This User Manual provides user information on panel installation, panel configuration, and programming the OP-1500 and OP-1510. The purpose of this manual is to teach concept and programming techniques which may be applied while implementing the OptiMate® panels. The example programming figures within Chapter 3 “Understanding the Features” use ***Direct***LOGIC™ program references for training purposes. Example programs for other PLC models and products are located in the Appendix B–D of this manual. Complete example programs are provided for ***Direct***LOGIC and Allen-Bradley PLCs.

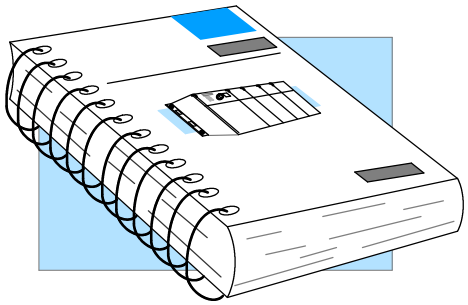
Contents of the Manual

Inside this manual you will learn about planning, implementing, and utilizing the OptiMate OP-1500 and OP-1510 products. This manual’s contents discuss aspects of both OP-panels regardless of which PLC product you are connecting. Also included are application examples to improve the learning process and working knowledge with the OptiMate units.



Supplemental Manuals

Reference the appropriate PLC/CPU User Manuals for the commands and address references required for your system. If you are using a ***Direct***LOGIC PLC product, you will want to keep the ***Direct***SOFT User Manual handy while programming your system. For *other* PLC brands you must reference their User manuals to properly program the ladder logic required to operate the OP-panels.
For Multi-Panel applications utilizing the OP-9001 Communications Master please refer to the OP-9001 User Manual (Part Number OP–9001–M).



Technical Assistance

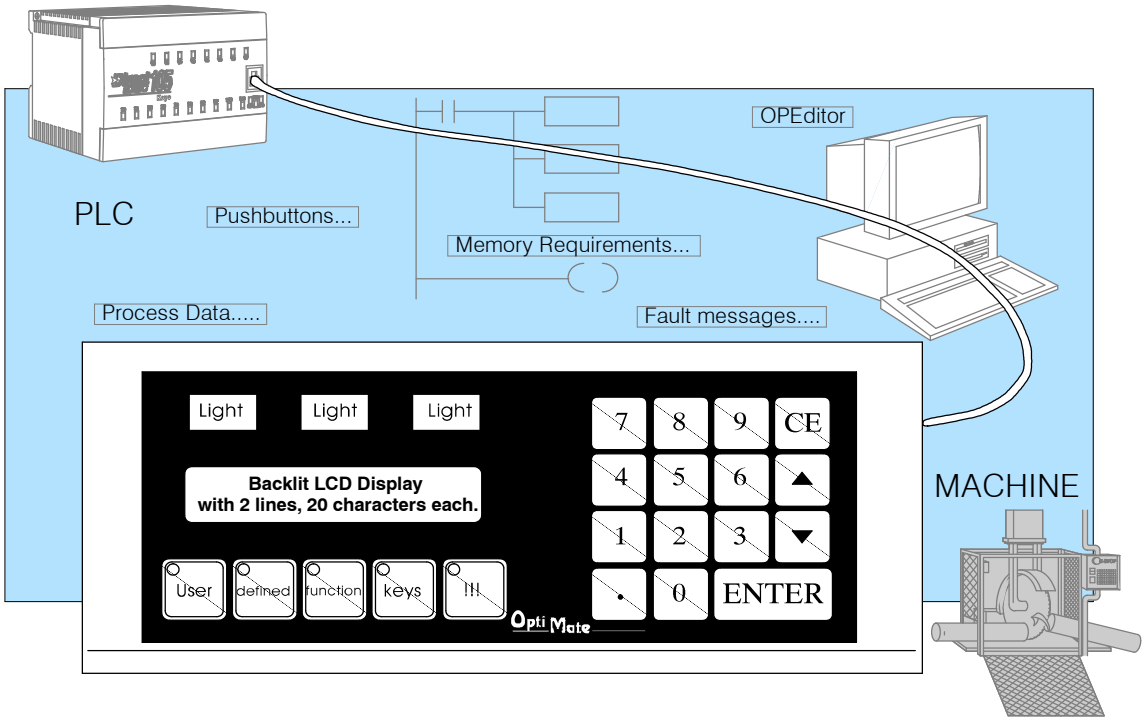
After completely reading this manual, if you are not successful with implementing the OP-1500 or OP-1510, you may call PLC***Direct*** at (800) 633-0405, Monday through Friday from 9:00 A.M. to 6:00 P.M. Eastern Standard Time. Our technical support group will work with you in answering your application questions. If you have a comment or question about our products, services, or manuals which we provide, please fill out and return the suggestions card included with this manual.

OP-1500/OP-1510 Overview

Plan your System

Let's look at the OP-1500 and OP-1510 operator panels and their individually supported features. As you continue through this manual, try to relate the examples to your Operator Panel application. Use the *Application Worksheet* located in Appendix A, which will be helpful during the design and configuration stages of your system.

To help implement the OP-1500 and OP-1510 you should plan your system with all operator interface requirements in mind. All aspects of implementing the OP-panels are covered in the beginning chapters. It is important to read and understand all topics discussed before installing, configuring and programming your application.



General Panel Information

The OP–1500 and OP–1510 Operator panels provide a man-machine interface to your PLC automation system. These panels are *not* designed for applications which demand large amounts of operator data entry. The OP–1500 and OP–1510 have very similar characteristics, but provide slightly different functionality. The OP-panel features such as lamps, pushbuttons, and messages are all discussed throughout this manual.

The Operator panels communicate with your PLC using either RS-232 or RS-422 serial communication. Details on configuration software and programming your operator panel are covered in later chapters. Your application requires either a Single or Multi-panel configuration. You may network up to 31 panels to a single PLC. For multi-panel systems, the OP-9001 Communication Master must be used.

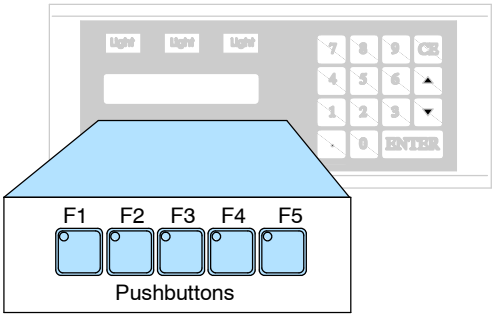
For applications demanding large amounts of operator interface data or require information to be graphically displayed, we recommend using PC software such as Wonderware, LABview, Intellution etc. Please refer to our PLC***Direct*** product catalog or contact one of our sales representatives for your Operator Interface solutions.

About the Pushbuttons

Many applications require Operator panel pushbuttons for controlling the machine or process. These pushbuttons are used for input signals to the PLC which start and stop a machine or process. The OP-1500 has five user configured pushbuttons and the OP-1510 has two user configured pushbuttons. You may create custom text labels describing the pushbuttons within your application. The following figures show the pushbutton layouts for the OP–1500 and OP–1510.

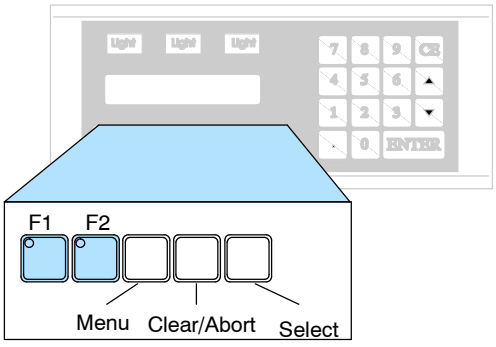
The OP–1500 contains five sealed membrane pushbuttons located on the lower left portion of the panel. All five pushbuttons may be freely defined for discrete input signals to the PLC. Configure these pushbuttons as momentary or alternating to best fit your operator interface application.

OP-1500



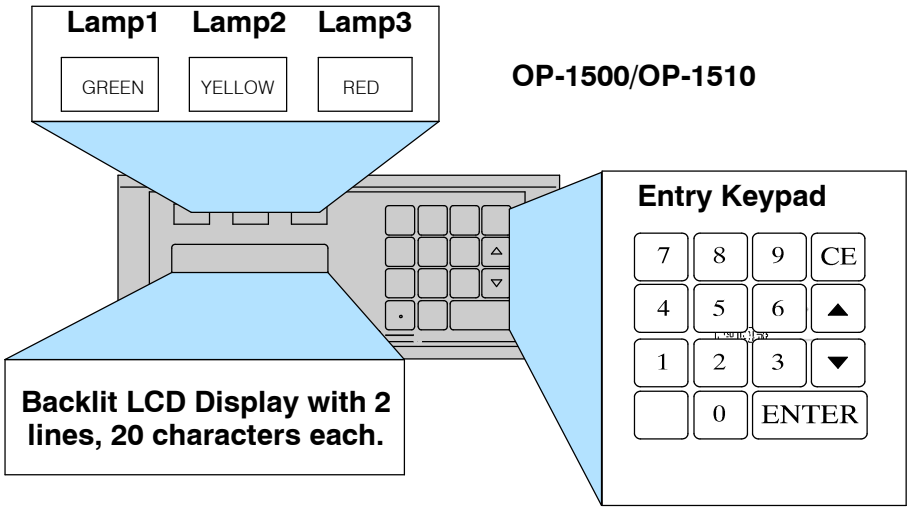
The OP–1510 contains two user-defined pushbuttons. These two pushbuttons may be configured as momentary or alternating type signals. The other three pushbuttons support the multi-layered Menu functions. The Menu pushbuttons allow you to perform the Menu operations and are clearly labeled Menu, Clear/Abort, and Select.

OP-1510



LCD Display Window

The OP-1500 and OP-1510 both feature a LCD display window. The LCD window supports two message lines which can display up to 20 characters each. The messages must be entered using configuration software which is referred to as OPEditor. Up to 160 messages may be configured and stored in the Operator panel. The message control type may be static text, dynamic, or interactive. The PLC logic program controls which messages are displayed. Details on how to implement and use the different types of messages are covered in later chapters.



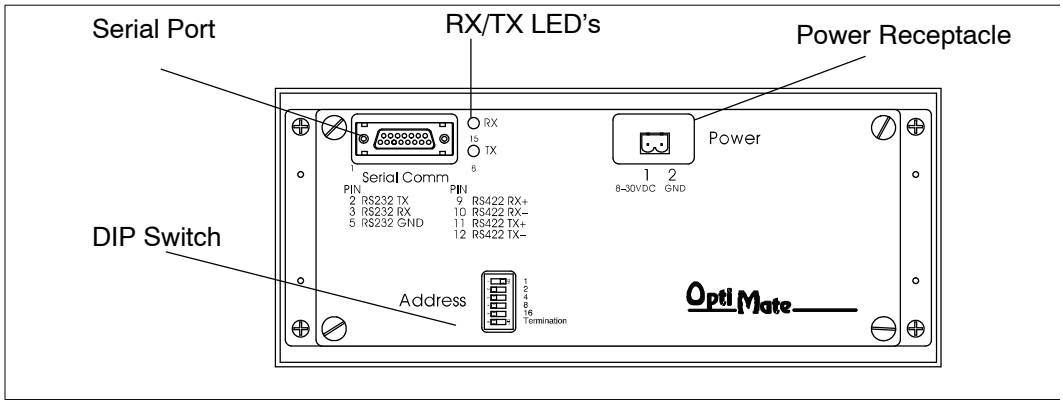
Keypad Entry

You may enter numeric values using the sealed membrane numeric keypad. Interactive messages are used to enter new setpoints using the keypad. During data entry, the keys labeled Enter, CE, ▲ (arrow-up), and ▼ (arrow-down), are also used to assist operator data entry functions. Use of Interactive messages are discussed in later sections of this manual.

Annunciator Lamps

The OP-1500 and OP-1510 each contain three annunciator lamps located above the LCD message window. From left to right these lamps are colored green, yellow, and red and may be labeled to fit your application. The lamps are turned on, off, and flashed through your ladder logic program.

Back-Panel Layout The back side of the OP-1500 and OP-1510 are typical in physical and functional characteristics. The panels both contain a serial port with transmit and receive LEDs, a power receptacle, and an address block with a termination switch.



Serial Communications Port The serial communications port is a 15-pin, female D-shell connector, which supports using RS-232 or RS-422 interface wiring. This port is used for communications between the OP-panel and PLC, as well as for programming your panel configurations. In the case of a Multi-panel application, this port may be connected to the OptiMate OP-9001 Communications Master.

Power Receptacle The block style connector, also located on the back of the panel, is used to connect an external 24VDC power supply. This block style connector with screw terminals is provided with each panel and allows plug-in connection to the power receptacle.

Address Block The address switch is for setting the panel address number (0-30) or selecting the panel configuration mode (address No. 31). The address block contains six switches which are discussed in Chapter 2, Installation and Specifications.

Access the Back Panel The back of the OP-panel must be accessible for maintenance and programming purposes. For door mount installations allow minimum 5-inch depth behind the door for OP-panel clearance. This will include the 2-3 inches required for communications connector and cable. The next chapter discusses mounting specifications and cutout dimensions. Please refer to the Maintenance and Troubleshooting chapter in this manual for tips and techniques on troubleshooting.