OptiMate Panels Overview

OP-400 Series

OP-600 Series

OP-1000 Series

Overview

Our OptiMate line offers another option for operator interface users. The units offer many features at a low cost.

You can connect the panels to your application by using the configuration software and ladder logic in your program.

Compatibility

OP-400 series, OP-600 series and OP-1000 series panels all work with DL05, DL06, DL105, DL205, DL305, DL405, Allen-Bradley SLC 5/03, 5/04, 5/05 and MicroLogix 1000/1200/1500 PLCs.

OP-1000 series panels and the OP-9001 also work with GE Fanuc Series 90 Micro, GE 90/30 Series (SNP) and Modbus RTU PLCs.

All panels require setup using our OP-WINEDIT configuration software. Simply choose the proper cable and particular type of CPU in our configuration software.

A single OP-400 series panel can be used with one CPU port, while single or multiple (up to 31 panels using an OP-9001 communications panel) OP-600 and OP-1000 series panels can be used with one CPU port.

Choosing the right panel

The following pages show a quick summary of our OptiMate operator interface panels and the key features associated with them. Here are a few helpful hints to consider as you're reviewing the features:

Do you need just a simple message display? If so, look at the OP-420, OP-440, OP-620 or OP-640.

Do you need pushbuttons or panel lamps without message capability? Then look at the OP-406, OP-609, OP-613, OP-1124(-1), OP-1224 or OP-1212.

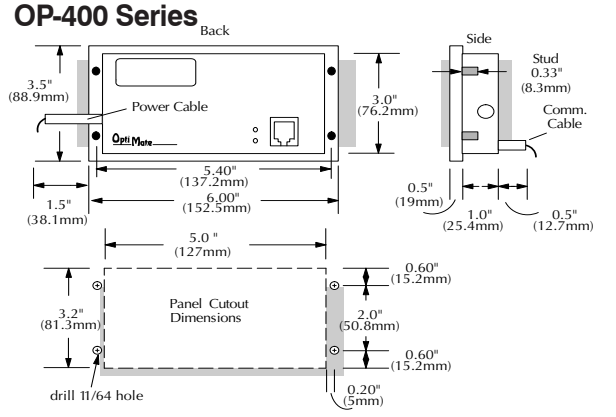
Do you need a simple setpoint panel? If so, check out the OP-413, OP-414, OP-613, or OP-1312.

Do you need programmable function keys and a display? Then look at the OP-420, OP-620, OP-640, OP-1500 or OP-1510.

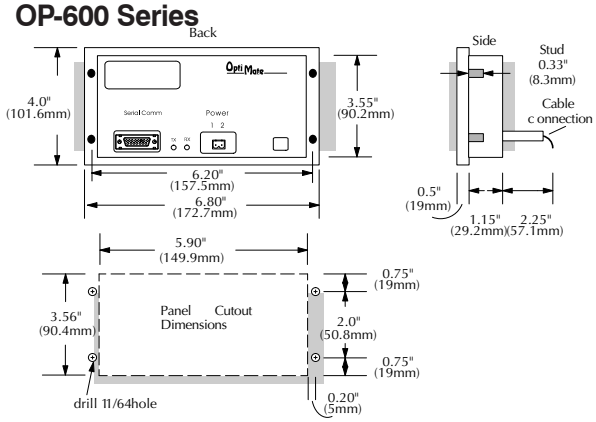
OptiMate Panels Specifications

OptiMate Panel Specifications				
Specifications	***OP-400 Series***	***OP-600 Series***	***OP-1000 Series***	***OP-9001***
Units per CPU	One per port	1 or multiple (up to 31 with OP-9001)	1 or multiple (up to 31 with OP-9001)	One per port
Service Power (Input)	5VDC	8-30VDC		8-30VDC
Power Consumption	OP-406 0.25W @ 5VDC OP-413 0.80W @ 5VDC OP-414 0.85W @ 5VDC OP-420 0.58W @ 5VDC OP-440 0.75W @ 5VDC	OP-609 2.4W @ 8-30VDC OP-613 3 W @ 8-30VDC	OP-1124 10W @ 8-30VDC OP-1212 7W @ 8-30VDC OP-1224 4W @ 8-30VDC	3.85W @ 8-30VDC
In-Rush Current	.35-.44A for 1ms	1.5-2.0A for 2ms max.		n/a
Serial Communication	PLC port RS-232 RJ12	PLC Port RS-232/422 15 pin D-sub (female)		One-RS-232/422 to PLC Two-RS-422 to OP panels (3 DB15 female)
Max. Cable Length	RS-232: 50ft	RS-232: 50ft. RS-422/OP-9001: 4000ft		4000ft. shielded cable 30ft. ribbon cable
Configuration Software	OP-WINEDIT			
Environmental Specifications				
Enclosure	NEMA 4			
Agency Approval	UL (file #G182843), CUL, CE			
Operating Temperature	32 to 122°F (0 to 50°C)			
Storage Temperature	-4 to 158°F (-20 to 70°C)			
Humidity	10-95% R.H. (non-condensing)			

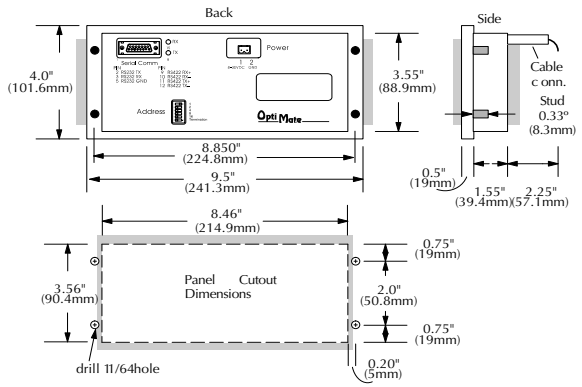
OP-400 Series



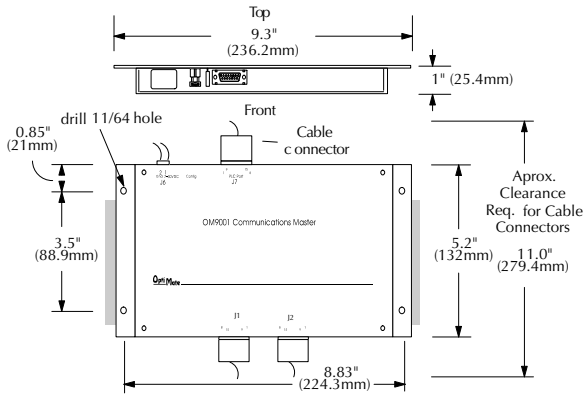
OP-600 Series



OP-1000 Series



OP-9001



OptiMate 400/600 Series

OP-406 <---->

Indicator/pushbutton panel

- Four User-defined function keys with LED indicators
- Six LED annunciator lamps

OP-413 <---->

Setpoint/display panel

- Read/write six PLC data registers with a bank of data locations
- Four-digit numeric display
- Make setpoint adjustments by using select button and arrows to change values

OP-414 <---->

Setpoint/display panel

- Read/write six PLC data registers with a bank of data locations
- Eight-digit numeric display, allows BCD double operations
- Make setpoint adjustments by using select button and arrows to change values

OP-420 <---->

Operator panel

- 2x20 character LCD display
- Four function keys with LEDs
- Display up to 160 pre-defined messages which reside in the panel's memory

OP-440 <---->

4-line display panel

- 4x20 character LCD display with the ability to display text, BCD double, binary and floating-point numbers
- Display up to 160 predefined messages which reside in the panel's memory

OP-PS400 <---->

Power Supply

- External 5 VDC power supply for OP-400 series panels
- Plugs into standard 120 VAC receptacle

Note: OP-PS400 is required for panel configuration and operation of all OP-400 series panels. Do not power from PLC communications port.

OP-609 <---->

Combination panel

- Nine user-defined function keys with LED indicators
- Six LED annunciator lamps

OP-613 <---->

Setpoint/display panel

- Read/write 4 PLC data registers with a bank of data locations
- Four-digit numeric display
- Make setpoint adjustments by using select button and arrows to change values
- Four user-defined function keys with LED indicators
- Two LED annunciator lamps

OP-620 <---->

Operator panel

- 2x20 character LCD display
- Five function keys with LED indicators
- Five control keys with menu tree capability
- Display up to 160 pre-defined messages which reside in panel's memory

OP-640 <---->

4-Line display panel

- 4x20 character LCD display with the ability to display text, BCD double, binary and floating point numbers
- Five function keys
- Three LED annunciator lamps
- Display up to 160 predefined messages, which reside in panel memory

OptiMate 1000 Series

OP-1124 <--->

Annunciator panel

- 24 high-intensity LED annunciator lamps
- Interchangeable colors (red, green, yellow)
- Create custom labels
- OP-1124-1 for <---> comes with one row each of red, yellow and green light bars already installed

OP-1224 <--->

Pushbutton panel

- 24 individual pushbuttons with LED indicators
- Create custom labels

OP-1212 <--->

Combination panel

- 12 high-intensity LED annunciator lamps
- Interchangeable colors (red, green, yellow)
- 12 pushbuttons with LED indicators
- Create custom labels

OP-1312 <--->

Setpoint/display panel

- Read/Write 12 PLC data registers with 3 banks of four data locations, each with a 4-digit display
- Create custom labels
- Three control keys for each bank of data locations
- Make setpoint changes using the arrow control keys

OP-1500/OP-1510 <--->

Operator panel

- 2x20 character LCD display
- Full numeric keypad
- Five function keys with LED status (OP-1510 uses 3 for menu functions)
- Three LED annunciator lamps
- Build and store up to 160 messages in the unit
- Menu capability (OP-1510)

OptiMate Accessories

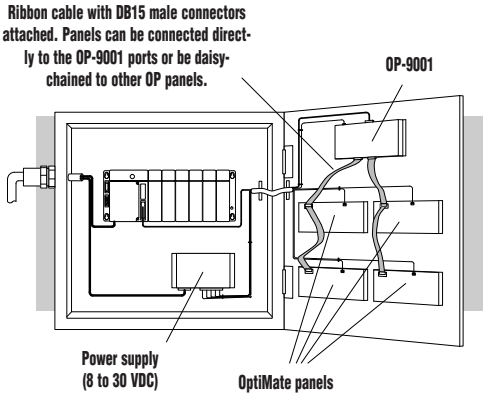
OP-9001 <---->

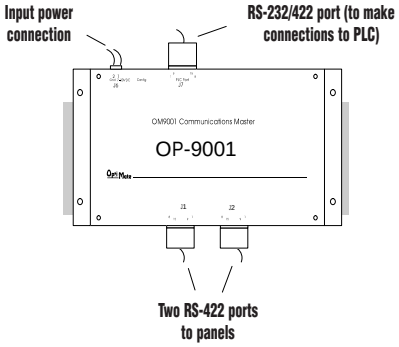
Communications master

The OP-9001 is a communication master unit for connecting two or more (up to 31) OP-600 and OP-1000 series OptiMate panels to a single CPU communications port. It connects to any ***Direct***LOGIC, Allen-Bradley 5/03, 5/04, GE Series 90/30, GE Series 90 Micro, and Modicon (Modbus RTU) CPU.

Note: The OP-9001 cannot be used with OP400 series panels.

The adjacent figure is a typical multi-drop arrangement using an OP-9001 connected to four OptiMate Panels. The OP-9001 is surface-mounted to the cabinet. Notice the adequate space available to route cables and allow for proper clearance. All the panels are configured using OP-WINEDIT software.





OP-WINEDIT <---->

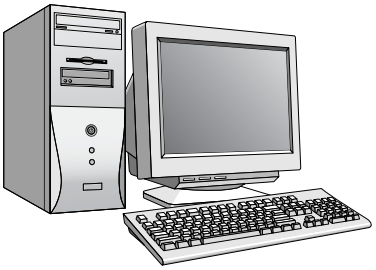
Configuration software

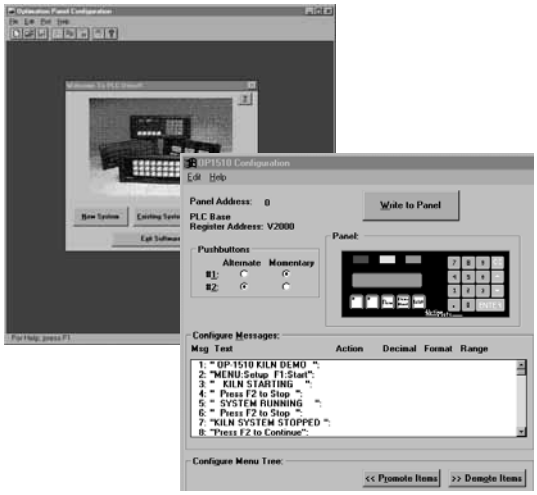
All of the OptiMate panels (including the OP-9001 communication master) are configured using the OptiMate OP-WINEDIT configuration software.

OP-WINEDIT software is compatible with computers running Windows 95/98/2000/NT/XP.

Simply load the software onto your personal computer. The simple setup instructions are described in the supplied manual and in the built-in HELP screens. The software allows setup of your complete panel applications, including the type of PLC being used, communications protocol, type of panel (or panels) being used, and in some cases, the format of the message text for the LCD display. Some panels even include the ability to design a menu tree. The setup steps are similar for all OptiMate panels. Use cable OP-CCBL to connect a PC to OP-400 series panels, or OP-ACBL-1 to connect to OP-600 or OP-1000.

Note: When using the OptiMate 600 series panels (except for the OP-640), OP-WINEDIT software version 2.0 or later is required. When using the OptiMate 400 series panels or the OP-640, version 2.3 or later is required.





OptiMate Cables

Cables for OptiMate Panel-to-PLC Connection				
PLC Family	**CPU (or other device)**	**CPU Port**	**Cables for 600/1000 Series**	**Cables for 400 Series**
DirectLOGIC™ DL05	DL05: D0-05	Port 1	OP-2CBL	OP-2CBL-2
		Port 2	OP-2CBL	OP-2CBL-2
DirectLOGIC™ DL06	DL06: D0-06	Port 1	OP-2CBL	OP-2CBL-2
		Port 2	OP-2CBL-1	not available***
DirectLOGIC™ DL105	DL105: F1-130	Only one	OP-2CBL	OP-2CBL-2
DirectLOGIC™ DL205	D2-230	Only one	OP-2CBL	OP-2CBL-2
	D2-240	Top port	OP-2CBL	OP-2CBL-2
		Bottom port	OP-2CBL	OP-2CBL-2
	D2-250-1 D2-260	Top port	OP-2CBL	OP-2CBL-2
		Bottom port	OP-2CBL-1	not available***
	D2-DCM (module)	Only one	OP-4CBL-2	not available***
DirectLOGIC™ DL305	D3-330	Requires DCU*	OP-4CBL-2	not available***
	D3-330P	Requires DCU*	OP-4CBL-2	not available***
	D3-340	Top port	OP-3CBL	OP-3CBL-1
		Bottom port	OP-3CBL	OP-3CBL-1
	D3-350	Top port	OP-2CBL	OP-2CBL-2
		Bottom port	OP-4CBL-2	not available***
DirectLOGIC™ DL405	D4-430	Top port (15-pin)	OP-4CBL-1	OP-4CBL-3
		Bottom port (25-pin)	OP-4CBL-2	not available***
	D4-440	Top port	OP-4CBL-1	OP-4CBL-3
		Bottom port	OP-4CBL-2	not available***
	D4-450	Phone jack	OP-2CBL	OP-2CBL-2
		Top port (15-pin)	OP-4CBL-1	OP-4CBL-3
		Bottom port (25-pin)	OP-4CBL-2	not available***
	D4-DCM (module)	Only one	OP-4CBL-2	not available***
	Slice I/O panels	Only one	OP-4CBL-1	OP-4CBL-3
GE® Series 1	IC610CPU105, 106	Requires DCU*	OP-4CBL-2	not available***
GE® Series 90/30	All models (311-351)	RS422 serial port	not available***	not applicable
GE® Fanuc™ Series 90 Micro	All models	RS422 Serial port	not available***	not applicable
MODICON	ModBus	RJ45 port	OP-MCBL-1**	not applicable
TI305™/ SIMATIC® TI305™	325-07, PPX:325-07	Requires DCU*	OP-4CBL-2	not available***
	330-37, PPX:330-37	Requires DCU*	OP-4CBL-2	not available***
	325S-07 (or 325 w/Stage Kit)	Requires DCU*	OP-4CBL-2	not available***
	330S-37, PPX:330S-37	Requires DCU*	OP-4CBL-2	not available***
	335-37, PPX:335-37	Only one	OP-3CBL	OP-3CBL-1
		If DCU is used*	OP-4CBL-2	not available***
TI405™/ SIMATIC® TI405™	425-CPU, PPX:425-CPU	Only one	OP-4CBL-1	OP-4CBL-3
	430-CPU, PPX:430-CPU	Top port (15-pin)	OP-4CBL-1	OP-4CBL-3
		Bottom port (25-pin)	OP-4CBL-2	not available***
	435-CPU, PPX:435-CPU	Top port (15-pin)	OP-4CBL-1	OP-4CBL-3
		Bottom port (25-pin)	OP-4CBL-2	not available***
	Smart Slice™ I/O panels	Only one	OP-4CBL-1	OP-4CBL-3
Allen-Bradley™ SLC 500	5/03 5/04	Bottom port	OP-ACBL-1	OP-ACBL-3
Allen-Bradley™	MicroLogix 1000/1200/1500	Only one	OP-ACBL-2	OP-ACBL-4

*** Requires RS-232 Data Communications Unit (D3-232-DCU)**

**** 1000 series panels only**

***** Cables for connecting to these ports must be built by the user. Pinout diagrams are in the OptiMate panel user manual or online.**