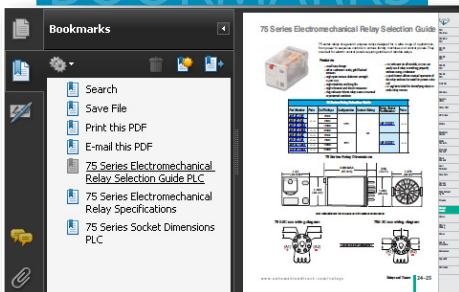


## Other HMI



### BOOKMARKS



In this interactive PDF you can:

- Use bookmarks to navigate by product category
- Use bookmarks to save, search, print or e-mail the catalog section
- Click on part #s to link directly to our online store for current pricing, specs, stocking information and more



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[www.automationdirect.com/pricelist](http://www.automationdirect.com/pricelist)

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# 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

Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 2000

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

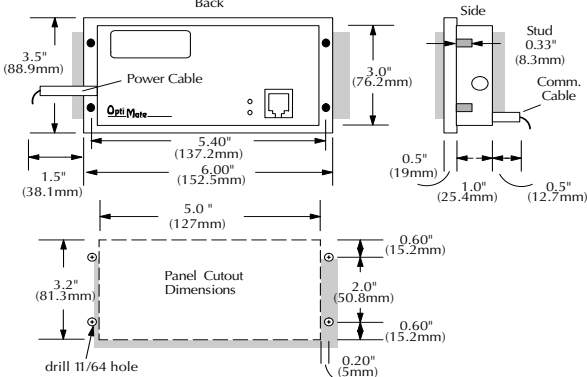
Communications

Appendix Book 1

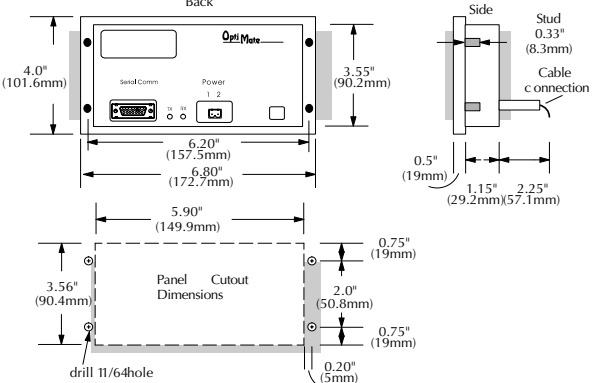
Terms and Conditions

OptiMate Panel Specifications				
Specifications	OP-400 Series	OP-600 Series	OP-1000 Series	OP-9001
<b>Units per CPU</b>	One per port	1 or multiple (up to 31 with OP-9001)	1 or multiple (up to 31 with OP-9001)	One per port
<b>Service Power (Input)</b>	5VDC	8-30VDC		8-30VDC
<b>Power Consumption</b>	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
<b>In-Rush Current</b>	.35-.44A for 1ms	1.5-2.0A for 2ms max.		n/a
<b>Serial Communication</b>	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)
<b>Max. Cable Length</b>	RS-232: 50ft	RS-232: 50ft. RS-422/OP-9001: 4000ft		4000ft. shielded cable 30ft. ribbon cable
<b>Configuration Software</b>	OP-WINEDIT			
Environmental Specifications				
<b>Enclosure</b>	NEMA 4			
<b>Agency Approval</b>	UL (file #E182843), CUL, CE			
<b>Operating Temperature</b>	32 to 122°F (0 to 50°C)			
<b>Storage Temperature</b>	-4 to 158°F (-20 to 70°C)			
<b>Humidity</b>	10-95% R.H. (non-condensing)			

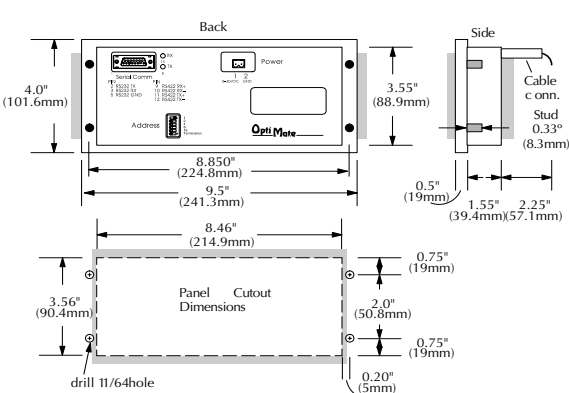
## OP-400 Series



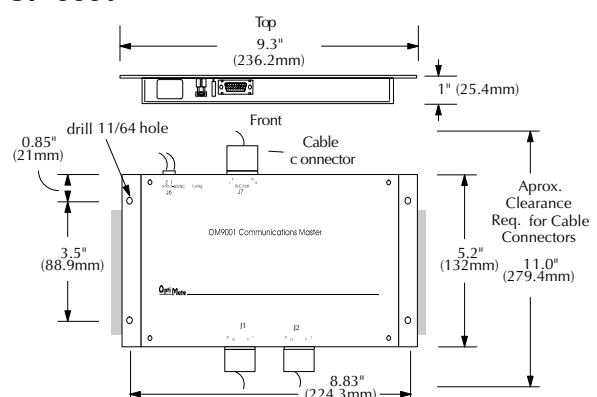
## OP-600 Series



## OP-1000 Series



## OP-9001



# OptiMate 400/600 Series

**OP-406 \$116.00**

## Indicator/pushbutton panel

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



**OP-413 \$136.00**

## 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 \$146.00**

## 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 \$150.00**

## 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 \$156.00**

## 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 \$16.00**

## Power Supply

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

**OP-609 \$176.00**

## Combination panel

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



**OP-613 \$201.00**

## 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 \$191.00**

## 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 \$211.00**

## 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



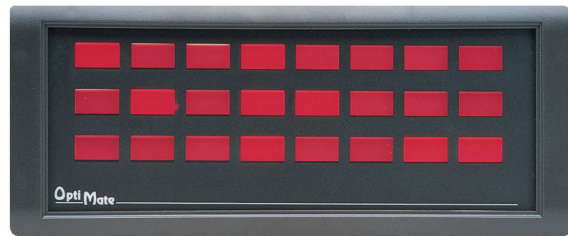
*Note: OP-PS400 is required for panel configuration and operation of all OP-400 series panels. Do not power from PLC communications port.*

# OptiMate 1000 Series

**OP-1124** **\$291.00**

## Annunciator panel

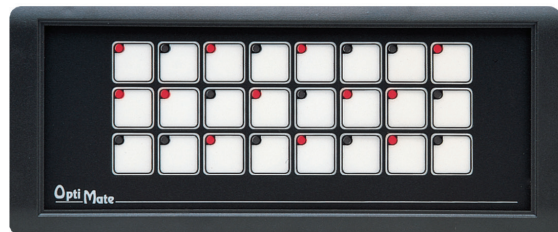
- 24 high-intensity LED annunciator lamps
- Interchangeable colors (red, green, yellow)
- Create custom labels
- OP-1124-1 ( \$291.00 ) comes with one row each of red, yellow and green light bars already installed



**OP-1224** **\$291.00**

## Pushbutton panel

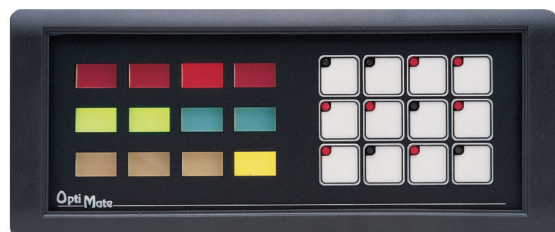
- 24 individual pushbuttons with LED indicators
- Create custom labels



**OP-1212** **\$291.00**

## Combination panel

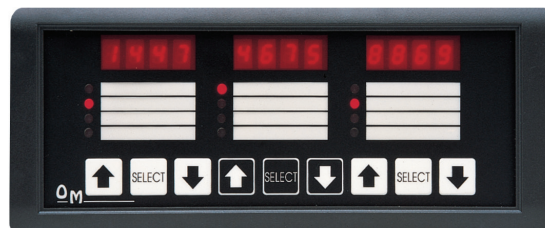
- 12 high-intensity LED annunciator lamps
- Interchangeable colors (red, green, yellow)
- 12 pushbuttons with LED indicators
- Create custom labels



**OP-1312** **\$251.00**

## 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** **\$251.00**

## 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)



Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 2000

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

# OptiMate Accessories

OP-9001

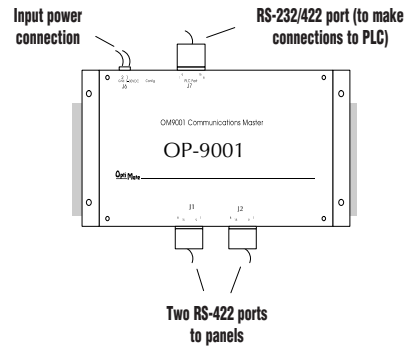
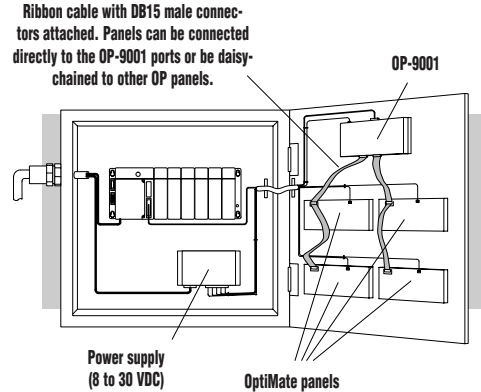
\$169.00

## 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

\$30.00

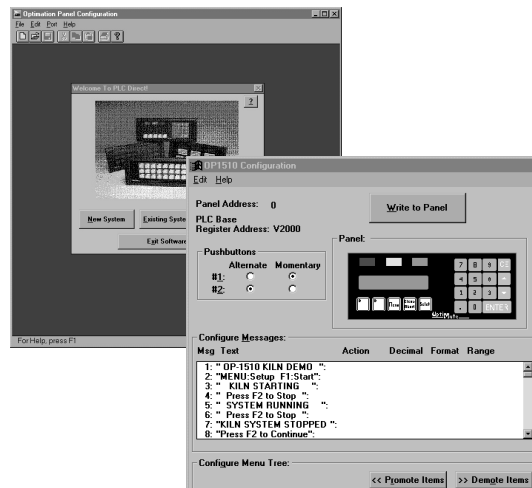
## Configuration software

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 2000 SP4, Windows XP SP3 32 and 64 bit, and Windows 7 (32 and 64 bit).

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

Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 2000

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

Cables for OptiMate Panel-to-PLC Connection					
PLC Family	CPU (or other device)	CPU Port	Cables for 600/1000 Series	Cables for 400 Series	
<b>DirectLOGIC™ DL05</b>	DL05: D0-05	Port 1	OP-2CBL	OP-2CBL-2	
		Port 2	OP-2CBL	OP-2CBL-2	
<b>DirectLOGIC™ DL06</b>	DL06: D0-06	Port 1	OP-2CBL	OP-2CBL-2	
		Port 2	OP-2CBL-1	not available***	
<b>DirectLOGIC™ DL105</b>	DL105: F1-130	Only one	OP-2CBL	OP-2CBL-2	
<b>DirectLOGIC™ DL205</b>	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***		
<b>DirectLOGIC™ DL305</b>	D3-330	Requires DCU*	OP-4CBL-2****	not available***	
		D3-330P	Requires DCU*	OP-4CBL-2****	not available***
			Top port	OP-3CBL	OP-3CBL-1
		D3-340	Bottom port	OP-3CBL	OP-3CBL-1
			Top port	OP-2CBL	OP-2CBL-2
		D3-350	Bottom port	OP-4CBL-2****	not available***
<b>DirectLOGIC™ DL405</b>	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	
	D4-DCM (module)	Bottom port (25-pin)	OP-4CBL-2****	not available***	
		Only one	OP-4CBL-2****	not available***	
Slice I/O panels	Only one	OP-4CBL-1	OP-4CBL-3		
<b>GE® Series 1</b>	IC610CPU105, 106	Requires DCU*	OP-4CBL-2****	not available***	
<b>GE® Series 90/30</b>	All models (311-351)	RS422 serial port	not available***	not applicable	
<b>GE® Fanuc™ Series 90 Micro</b>	All models	RS422 Serial port	not available***	not applicable	
<b>MODICON</b>	ModBus	RJ45 port	OP-MCBL-1**	not applicable	
<b>TI305™/SIMATIC® TI305™</b>	325-07, PPX:325-07	Requires DCU*	OP-4CBL-2****	not available***	
		Requires DCU*	OP-4CBL-2****	not available***	
		Requires DCU*	OP-4CBL-2****	not available***	
		Requires DCU*	OP-4CBL-2****	not available***	
		Only one	OP-3CBL	OP-3CBL-1	
		If DCU is used*	OP-4CBL-2****	not available***	
<b>TI405™/SIMATIC® TI405™</b>	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		
<b>Allen-Bradley™ SLC 500</b>	5/03 5/04	Bottom port	OP-ACBL-1	OP-ACBL-3	
		Only one	OP-ACBL-2	OP-ACBL-4	

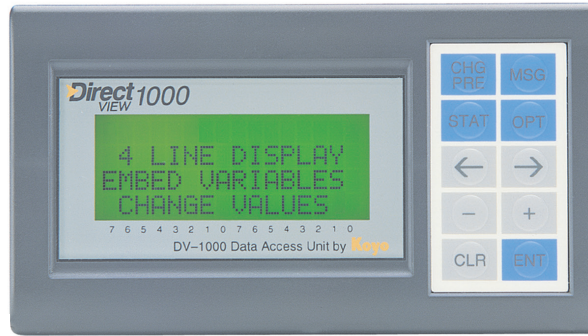
\* Requires RS-232 Data Communications Unit (D3-232-DCU)

\*\* 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.

\*\*\*\* OP-4CBL-2 cables are no longer available. Please consider EA-4CBL-2 for a comparable replacement.

# DirectView 1000



DV-1000 \$210.00

4-line by 16-character backlit LCD display

## Overview

The *DirectView* DV-1000 is a small, low-cost operator interface. The DV-1000 can be directly connected to DL05, DL06, DL105, DL205, D3-350 or DL405 CPUs. The DV-1000 is a “ladder logic dependent” terminal which relies entirely on PLC ladder logic to perform its functions. The DV-1000 does not require any configuration software. Instead, setup is performed through special reserved memory locations inside of the CPU. These special memory areas tell the DV-1000 which modes to use, and more importantly, where to get its display data. The following functions can be performed by the DV-1000:

**View memory status:** Display up to four variable address values at a time on a single screen.

**View bit status:** Display 32 bits (4 lines of 8 bits) or 64 bits (4 lines of 16 bits) at a time on a single screen. Bit data types can include I/O points, control relays, timer/counter and stage bits.

**Change values of memory locations:** Up to 16 different variable memory values can be changed (32 for DL405). Just move the cursor over the appropriate digit and press the increment (+)/decrement (-) keys.

**Units per CPU:** Only one DV-1000 per CPU.

Specifications	
<b>Cable Required</b>	DV-1000CBL or D4-1000CBL. See the following page
<b>Max. Distance</b>	15 feet from the CPU
<b>Connector</b>	Phone jack RJ12
<b>Power Consumption</b>	150mA @ 5VDC max (supplied by PLC communication port)
<b>NEMA Rating</b>	None
<b>Agency Approval</b>	UL, CUL, CE
<b>Storage Temp</b>	-4 to 158°F (-20 to 70°C)
<b>Operating Temp</b>	32 to 122°F (0 to 50°C)
<b>Humidity</b>	5-95% (non-condensing)
<b>Vibration Resistance</b>	MIL STD 810C Method 514.2
<b>Shock Resistance</b>	MIL STD 810C Method 516.2
<b>Noise Immunity</b>	NEMA (ICS3-304)
<b>Atmosphere</b>	No corrosive gases
<b>Manufacturer</b>	Koyo Electronics

Part Number	Price	Description
<b>DV-1000</b>	\$210.00	<i>DirectView</i> 1000 Timer/Counter access unit for <i>Direct</i> LOGIC PLCs
<b>DV-1000CBL</b>	\$19.00	Shielded cable to connect to <i>Direct</i> LOGIC PLCs, (RS-232C)
<b>D4-1000CBL</b>	\$17.00	Shielded cable to connect to 15-pin port on DL405 PLCs (RS232C)

Display user-defined messages, even with embedded V-memory values: Each line may contain a maximum of four embedded values. Messages are stored in CPU variable memory. Therefore, the number of messages is limited only by available CPU variable memory.

Display system-defined error messages and user-defined fault messages even in list format: Scroll through errors and messages. Error logs can even show time and date stamps on DL06 family, D2-240, D2-250-1, D2-260, D3-350, D4-440, D4-450 CPUs.

### Is the DV-1000 right for you?

The DV-1000 is best suited for displaying information and occasionally changing setpoint parameters. To use the DV-1000 you should be very comfortable with ladder logic programming. If you’re looking for an operator control panel, you should consider the C-more family of panels. They are better suited for applications that require operator interaction as a normal part of operation.

### Which CPU is best to use with the DV-1000?

The DL05, DL105, DL06, D2-240, D2-250-1, D2-260, D3-350, D4-440, and D4-450 have ACON instructions that make the DV-1000 easier to work with. The DL105 and D2-230 have only one communication port, which can be a limitation in some cases. The DV-1000 does not work with D3-330 or D3-340 CPUs, CLICK controllers or Productivity3000 CPUs.

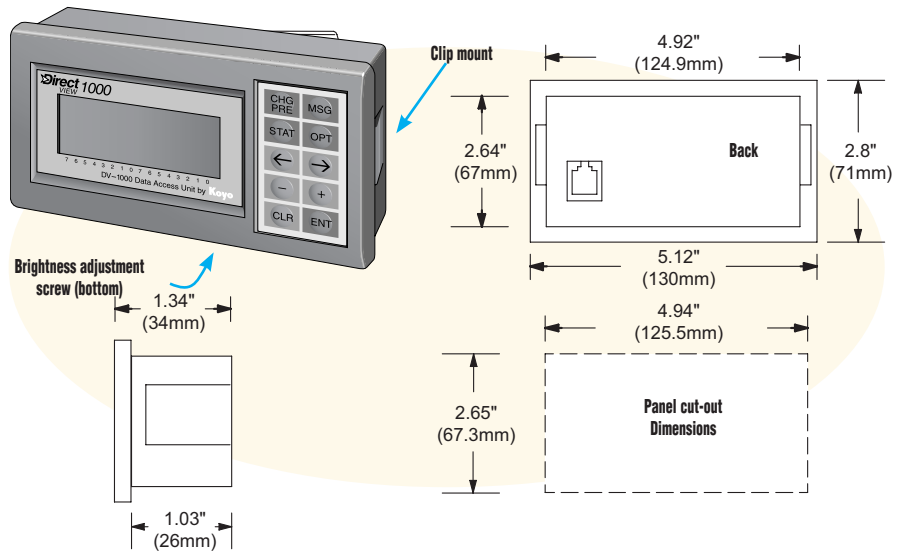


# DV-1000 Dimensions and Installation

## Installation

The DV-1000 is designed to snap into a rectangular cutout in a control panel or other surface panel. On each side of the housing there is a retention clip to keep the unit in place after installation. There are no provisions for mounting screws, so if your particular application is subject to high amounts of vibration, this may be a factor in your selection process. The drawing gives the physical dimensions of the DV-1000 housing.

The panel cut-out dimensions provide necessary clearance for the body of the unit and allow the outer housing bezel to cover the edges of the cut-out for a nice finished appearance. The optimum panel thickness for using the retention clips is 1/16" to 1/8".



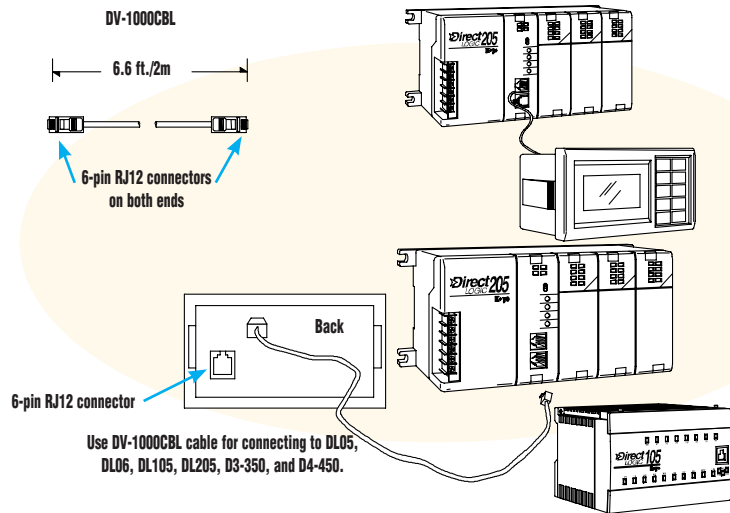
## Cabling requirements

Since the DV-1000 only works with the DL05, DL06, DL105, DL205, D3-350 and DL405 CPUs, your cabling choices are fairly simple.

- **DV-1000CBL** — connects to DL05, DL06, DL105, DL205, D3-350 and D4-450 phone jack.
- **D4-1000CBL** — connects to all DL405 CPU 15-pin ports.

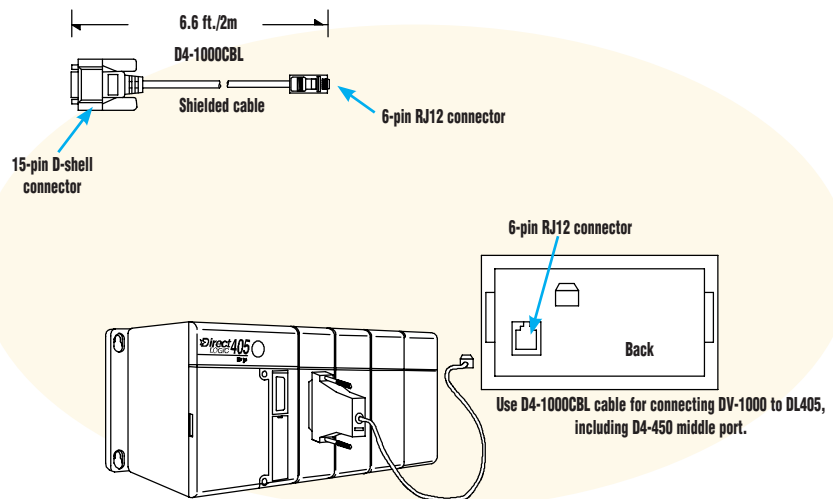
Maximum cable length of 15 feet between the DV-1000 and the PLC is recommended.

The DV-1000 can be connected to a DL205 or DL405 DCM, but you have to build your own cable.



## C-more Micro-Graphic

The C-more Micro-Graphic Panels are a more enhanced small, low-cost graphic operator interface that you may want to consider when selecting a panel. The C-more Micro-Graphic panels are available in both a touch screen and non-touch version. The C-more panels will work with all DirectLOGIC PLCs and will also work with many different 3rd party PLCs.



# AutomationDirect's HMI/SCADA Software for PC-based visualization



# POINT OF VIEW

## Save Time

View your process from your desk or web-enabled mobile phone using a standard browser (Internet/intranet including XML support)

## Save Money

Develop once and deploy on Windows XP, Vista, 7, 8, and Windows Server 2003, 2008, 2012

## Clear Information

Multi-language (UNICODE) so operators understand immediately

## Fix Problems Fast

Understand alarms quickly, visually on-screen, or via E-mail, PDA, mobile phones or web browsers

## Reduce Downtime

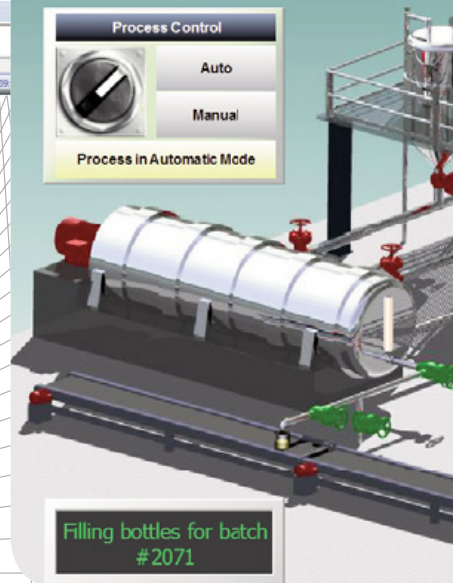
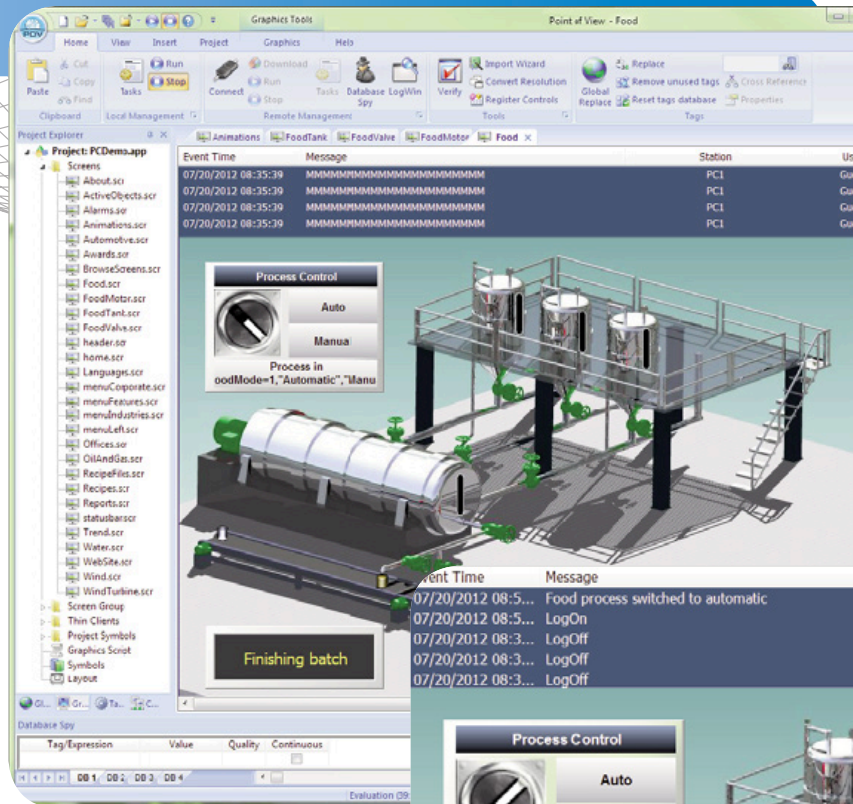
Use open technologies (ActiveX, .NET) to visualize documentation, repair videos or audio messages

## Enterprise Integration

Easily tie into ERP and "back-office" systems using built-in relational database connectivity

## Flexibility

Contains 18 built-in drivers for connection to the most popular industrial controllers: Productivity3000/P2000, DirectLogic, Allen Bradley, Omron, Siemens, GE and Mitsubishi. Also includes a driver for Modbus Communication.



## Design Tools

### Graphic and Design tools to save you development time

- Creates sophisticated interfaces with point and click, drag and drop ease
- Imports graphics from more than 15 different formats for enhanced and realistic screens
- Contains full-featured screen objects and dynamics with customizable object properties, such as bar graphs, color, resizing, blinking, animation, scale, fill, positioning, rotation, commands, hyperlinks, combo-boxes, and text input/output
- Easy application development, and screen and object re-usability
- Uses an extensive symbol library to simplify development

## Thin Clients

### 3 different thin clients, remotely view information anywhere

AutomationDirect's Point of View software supports 3 types of remote application viewers: a dedicated viewer for plant-floor operations, where navigation must be restricted to specific HMI/SCADA applications; a Microsoft Internet Explorer®-based browser that enables full access to any authorized IP address or application and a Studio Mobile Access viewer that works with any browser. Up to 48 simultaneous viewing clients of each type are supported.

## Alarms

- Send alarms to various utilities such as screen, e-mail, and Web browser, and archive to the printer; allows users to store notes after acknowledgement of alarm(s).
- Provides free format alarm messages, uses secondary search keys, and accesses through groups or tags

## Redundancy

### Support for redundant servers or databases

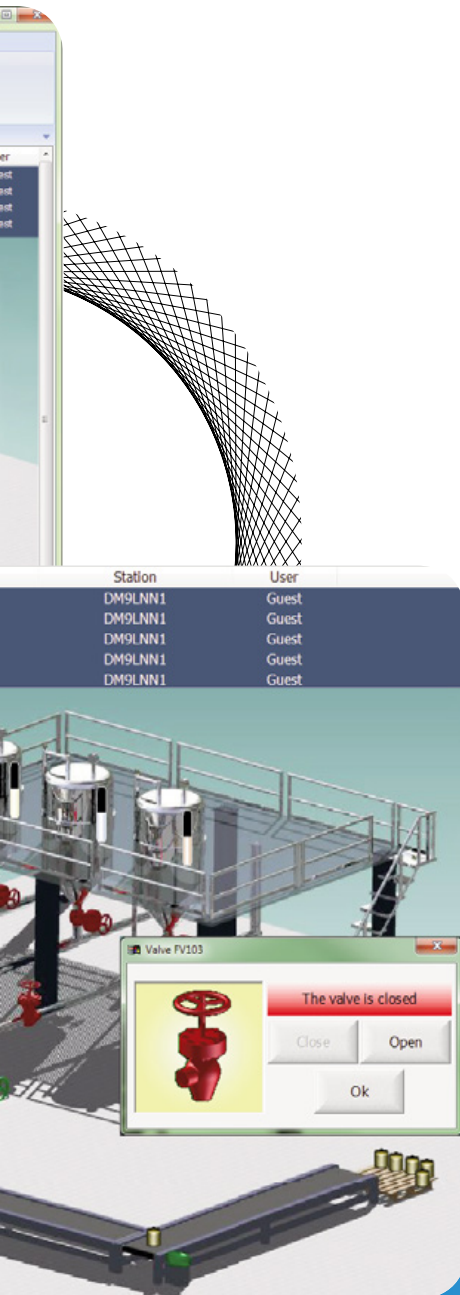
Redundancy is supported several ways. AutomationDirect's Point of View software publishes screens as web pages either to Internet Explorer or Secure Viewer. The screen graphics are published as HTML pages via a "web server". The data is published via a "data server". Point of View supports redundant Web or data servers.

Point of View also allows connections to databases. Databases can be used to log data from Alarms, Events or Trends. The "Grid" object can interact with databases directly.

## Trends

Keeps track of process behavior online or through historical trending and sends information across a network for monitoring on screens or Web browsers.

... and much more



# Point of View Overview



## Overview

Point of View is powerful software for developing HMI, SCADA, and OEE/ Dashboard projects that can be deployed anywhere.

Each project consists of:

- A project tag database to manage all runtime data, including both internal variables and scanned I/O
- Configurable drivers to communicate in real-time with programmable logic controllers (PLCs), remote I/O devices, and other data acquisition equipment
- Animated HMI screens and OEE dashboards
- Optional modules such as alarms, events, trends, recipes, reports, scriptable logic, schedulers, a security system, and a complete database interface

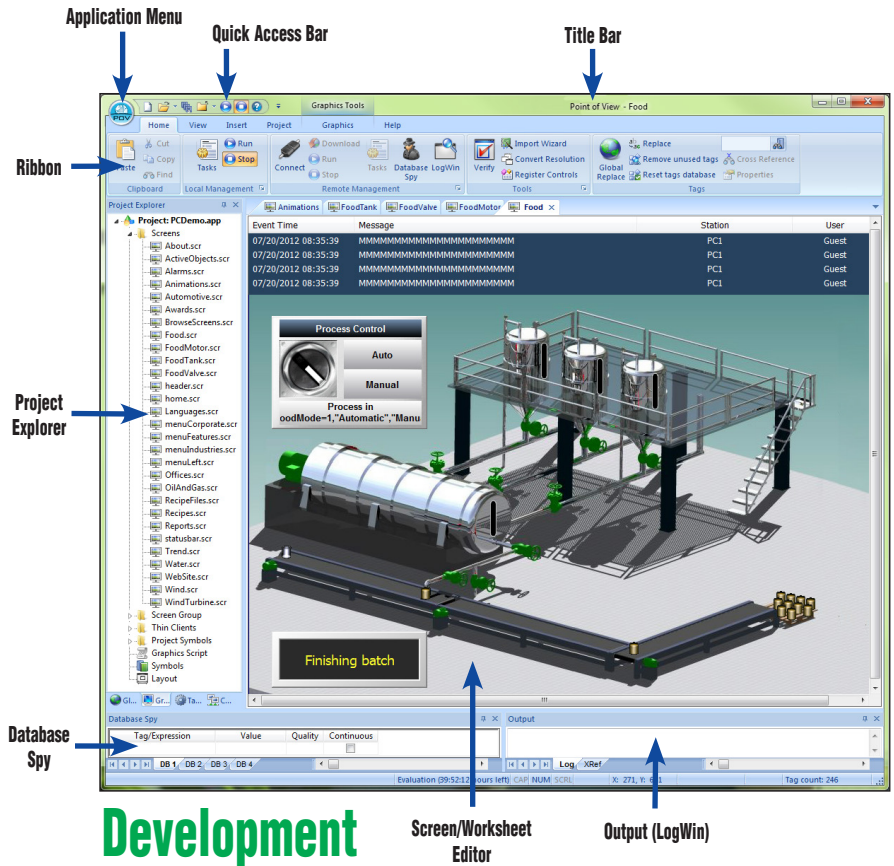
After you develop your project, you can either run it locally on your development workstation or download it to a remote workstation and run it there using Point of View runtime software. The workstation processes I/O data from connected devices according to your project parameters and then reacts to, displays, and/or saves the data.

## Internal Structure

The Point of View project runtime runs on a Windows-based computer and consists of the following modules or threads (program elements that can execute independently of other program elements):

- Background Task (a supervisory task)
- Database Spy (debugging tool)
- DDE Client
- DDE Server
- LogWin (debugging tool)
- Driver Runtime
- OPC Client
- OPC Server
- ODBC Runtime
- TCP/IP Client
- TCP/IP Server
- Viewer

These modules do not communicate directly with each other. Instead, the tag database is used to manage the flow of data between modules. It also stores all tag values and any properties associated with each tag (such as alarm conditioning, timestamp, etc). The tag database is the "heart" of Point of View.



**Development**

Screen/Worksheet Editor

Output (LogWin)

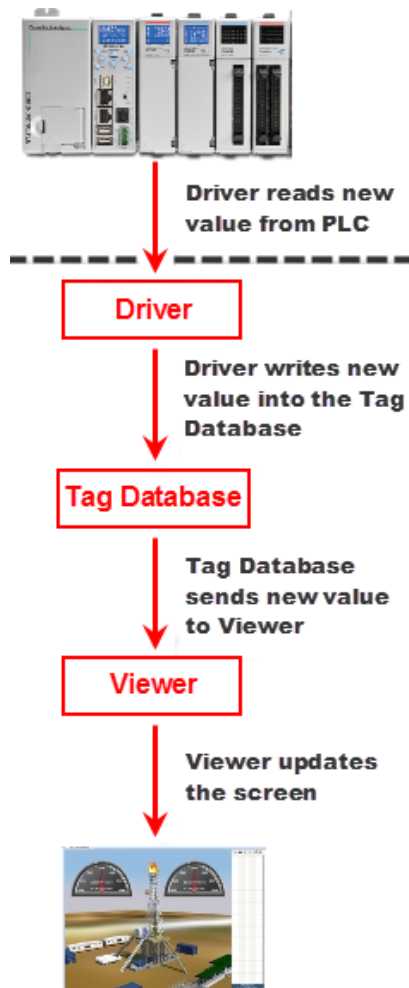


**Runtime**

# Point of View Overview

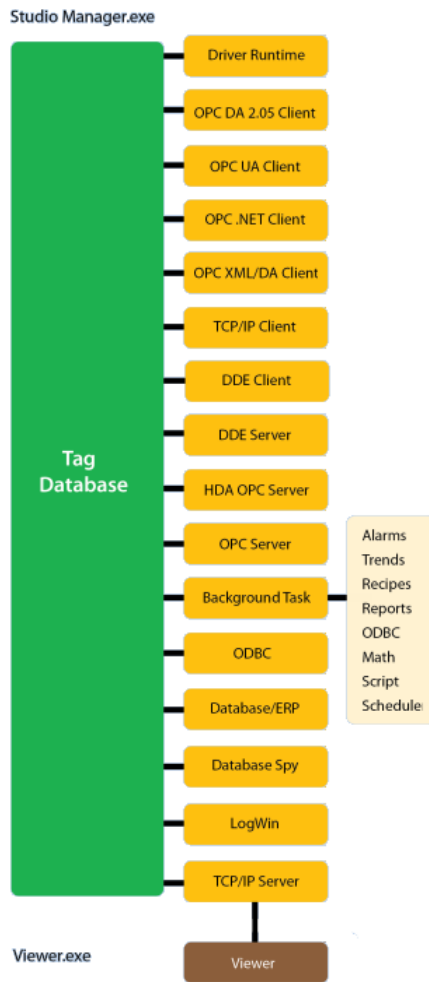
## Data Flow

When the driver reads a new value from the PLC, the driver updates the tag associated with this value in the tag database. Then, if this new information must display on the project screen, the tag database sends the new tag value to the Viewer task, and the Viewer updates the screen.



Note that the driver does not send new tag values directly to the Viewer. In addition, there is no pooling between tasks — the tag database receives the updated information and immediately forwards it to all runtime tasks requiring that information.

The architecture of Point of View significantly improves the internal data flow performance and makes it easy for you to add new internal tasks. Even though each task works independently, it can access information from any other task through the tag database.



## Thread Executing

Point of View is composed of modules that must be executed simultaneously. Based on the multi-tasking concept, each runtime module (Viewer, Driver, and so forth) is a thread and the operating system switches from one thread to another automatically.

When you execute a runtime project, the Studio Manager.exe process starts the Tags database and all of the runtime modules configured for the project. The operating system continuously scans all currently active threads, and executes the threads according to their priority value — executing the higher-priority threads first.

## System Architecture

The architecture of your finished Point of View project depends on which components you install, where you install them, and how you connect them to each other.

In most cases, you should first install the full Point of View software on your primary workstation. Not only does it set up the project development environment on your computer, it also unpacks the rest of the components so that they can be installed on other computers.

The table, shown below, displays the various software components, functions and platforms required.

Component	Functions	Platforms
<b>Point of View</b>	<ul style="list-style-type: none"> <li>RetiredProject development</li> <li>Tag integration</li> <li>Remote management</li> <li>Project runtime server</li> <li>Project runtime client</li> </ul>	<ul style="list-style-type: none"> <li>Windows</li> <li>Windows Server</li> </ul>
<b>Mobile Access Runtime</b>	Enables your project runtime server to deliver HTML5-enhanced project screens to tablets and smartphones	Microsoft IIS for Windows
<b>Thin Client (a.k.a. Secure Viewer)</b>	Web thin client (standalone application)	<ul style="list-style-type: none"> <li>Windows</li> <li>Windows Server</li> </ul>
<b>ISSymbol</b>	Web thin client (browser plug-in)	Internet Explorer for Windows

# Point of View Features

Point of View Features			
<b>Alarms</b>	In addition to all the alarm functions you'd expect, Point of View also sends alarms using multi-media formats such as PDF. Use remote notification to have alarms sent to your inbox, a printer, or a smartphone. Alarms are real-time and historical; log data in binary format or to any database.	<b>Recipes</b>	Save time and maintain consistency by automating part parameters or production quantities with any triggering event.
<b>Animation</b>	Point of View gives you great command over graphics. Paste images, and even rotate them dynamically. Fill bar graphs with color, or adjust the scale of objects with easy-to-use configuration. Other animations include "command" (for touch, keyboard and mouse interaction), hyperlink, text data link, color, resize (independent height and width), position, and rotation (with custom rotation point).	<b>Redundancy</b>	For critical applications where data is vital, Point of View supports web server, database and overall system redundancy.
<b>Database</b>	Connect to any SQL database (MS SQL, MySQL, Sybase, Oracle), or MS Access or Excel, and ERP/MES systems (including SAP). Flexible enough to have a built in interface without the need to know SQL (for trends, alarms/events, grid and other objects), or use any SQL statement you need anywhere you need it.	<b>Scalable</b>	Develop once and deploy everywhere. Take an application created for Windows XP and deploy it on any supported Microsoft operating system, including Windows 7, Windows 8, and Server editions.
<b>Drivers</b>	Contains 18 built-in drivers for the following PLCs: Productivity3000, DirectLogic, Allen Bradley, Omron, Siemens, GE and Mitsubishi. Also includes a driver for Modbus communication. See the Point of View Driver List on the following page.	<b>Scheduler</b>	Schedule custom tag changes on date/time, frequency, or any trigger. Use this for simulation, to trigger reports or other functionality at a particular time of day, or even to trigger driver worksheets to read/write at a scan rate you choose.
<b>Email</b>	Send email using SMTP to desktop, email enabled phone, or any email enabled device. Get real-time information on alarms, process values, and other events. Supports SSL encryption allowing the use of third-party providers such as Gmail.	<b>Scripting</b>	Two powerful scripting languages are supported. Use built-in POV functions or use standard VBScript to take advantage of widely available resources. Both can be used simultaneously to give you the functionality you need.
<b>Events</b>	POV offers traceability for operator initiated actions or internal system activity. Log events such as security system changes (user logon or off), screen open/close, recipe/report operations, custom messages and system warnings. Also any tag value changes including custom messages.	<b>Security</b>	Includes support for group and user accounts, e-signatures, and traceability, as well as support for the ADAM Server, in addition to standard LDAP Servers. Integrate your project to the Active Directory (Users and Groups).
<b>FDA Traceability</b>	Built-in functionality creates 21 CFR part 11 compliant projects with traceability and e-signatures. These features are often used for pharmaceutical and food applications, but also for any application where traceability is a must.	<b>SSL Support for Emails</b>	Native support for Secure Socket Layer (SSL), makes it easy and secure to send emails from Point of View using third-party tools such as Gmail.
<b>FTP</b>	Automatically upload or download files during runtime to/from remote storage locations using FTP protocol and flexible scripting functions. Configure FTP via scripting or the included configuration interface.	<b>Standards</b>	Take advantage of common industry standards to develop applications that are compatible with any format. TCP/IP, .Net, ActiveX, OPC (client and server), ADO/ODBC, COM/DCOM, OLE, DDE, XML, SOAP, and HTML are supported.
<b>Graphics and Design Tools</b>	Create powerful screens to meet any application need using the tools in the graphic interface. Combine built-in objects to create any functionality required. Store graphics in the library for future use, or easily make project across a product line share a consistent "look and feel".	<b>SNMP</b>	Easily configure managed networked devices on IP networks (such as switches and routers) using incorporated SNMP configuration commands and an easy-to-use configuration interface.
<b>Historical Performance</b>	Optimized trend history module. Designed to load millions of values from SQL relational databases with high performance, with built-in data decimation in the Trend Control. Easy-to-use tools provide quick access to Statistical Process Control (SPC) values without any need for programming.	<b>Symbols</b>	Included library features push buttons, pilot lights, tanks, sliders, meters, motors, pipes, valves and other common objects. Use the included symbols in your project, modify existing symbols to suit your needs, or create your own from scratch. Plus support for third-party symbol libraries and graphic tools.

# Point of View Features

Point of View Features			
<b>Intellectual Property Protection</b>	Screens, documents, scripts and even math worksheets can be individually password protected. This prevents unauthorized viewing or editing of your corporate custom functionality. Protect the entire project with just a few mouse clicks.	<b>Tag Database</b>	Object oriented database with boolean, integer, real, strings, arrays, classes (structures), indirect tags and included system tags.
<b>Multi-Language</b>	Develop your application in one of many development languages, including English, Portuguese, German, and French.	<b>Thin Clients</b>	Remotely view screens as web pages using Internet Explorer web browser, or POV Secure Viewer. Use SMA (Studio Mobile Access) to monitor or access process values and alarms with remote devices such as tablets and mobile phones. Enhanced SMA offers data in easy-to-read widgets that can be viewed on any WebKit (HTML5) based web browser found on iPads, and Android phones and tablets.
<b>.NET and ActiveX</b>	Use third-party controls to enhance your project. POV is a container for ActiveX and .NET controls. Add functionality such as browsers, media players, charting, and other tools that support the ActiveX or .NET interface standards.	<b>Trends</b>	Real-time and Historical trends are supported. Log data in binary format or to any database locally and remotely. Color or fill trends with graphic elements to enhance clarity of data. Date/Time based or numeric (X/Y plot) trends give you the flexibility to display information that best suits your application.
<b>OPC</b>	Drivers for most major brands of PLCs are built in, but any OPC server may optionally be used. Supports OPC DA (Server/Client), OPC HDA(Server), UA (Client) and OPC .NET 3.0 (Client).	<b>Troubleshooting</b>	Quickly debug and verify a project using local and remote tools for troubleshooting, including status fields, DatabaseSpy and LogWin. Capture screen open and close times, see communications in real-time, and messages related to OPC, recipes/reports, security, database errors and even custom messages.
<b>PDF Export</b>	Send alarms, reports, or any file (including .doc or .txt) to a production supervisor, quality manager, or maintenance staff using the included PDF writer.		

Point of View Driver List	
DLL	Description
ABCIP	Allen Bradley Ethernet CIP Protocol (CE) [v11.0]
ABENI	Allen Bradley, AB-1761-NET-ENI Gateway interface (CE) [v1.11]
ABKE	Allen Bradley, DF1 Protocol (PLC2, PLC5 and SLC500) Families (CE) [v10.4]
ABTCP	Allen Bradley Ethernet, DF1 Protocol (PLC2, PLC5 and SLC500) Families (CE) [v10.6]
FANUC	GE FANUC, SNP Serial Protocol - Series 90 / 90/30 CPU 341 (CE) [v10.4]
KOYO	DirectLogic Koyo, CCM/ECOM protocol (DL240/DL250+H2-ENET)(CE) [v1.14]
MELSE	MELSE, Mitsubishi - MELSEC Protocol (CE) [v10.3]
MITSU	mitsubishi Protocol, FX Series (CE) [v10.5]
MODBU	MODBUS Protocol RTU/ASCII (CE) [v10.6]
MODSL	Protocol Modbus Slave (ASCII and RTU)(Serial and TCP/IP) (CE) [2.7]
MOTCP	MODBUS Protocol RTU via TCP/IP (CE) [v10.7]
OMETH	OMRON, OMPLC Protocol - FINS communication / CS1 and CV (CE) [v10.5]
OMPLC	OMRON, Host Link Protocol - C Series/Sysmac Way/Host Link Units (CE) [v3.01]
PACK3K	AutomationDirect CPU Devices P3000/P2000 (CE) [v1.1]
SIEME	SIEMENS, S7 PLC communicating via Serial interface (CE) [v10.8]
SIETH	SIEMENS, S7 PLC communicating via an Industrial Ethernet interface (CE) [v10.8]
SIPPI	SIEMENS, S7-200 PLC communicating via PPI interface (CE) [v10.8]
SRTP	GE Fanuc, SRTP TCP/IP Protocol (CE) [v10.2]
SSTDH	SST DHP Protocol, Interface Cards for Allen Bradley [v1.8]

Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 2000

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

# Point of View System Requirements

## System Requirements

### Minimum:

To install and run the full Point of View software, you must have:

- A Windows-compatible computer with a standard keyboard, pointer input (e.g., mouse, trackpad, or touchscreen), and SVGA-minimum display
- A Windows or Windows Server operating system that is currently supported by Microsoft, which at this time includes:
  - Microsoft Windows XP Service Pack 3
  - Microsoft Windows Vista Service Pack 2
  - Microsoft Windows 7 Service Pack 1
  - Microsoft Windows 8
  - Microsoft Windows Server 2003 Service Pack 2
  - Microsoft Windows Server 2008 Service Pack 2
  - Microsoft Windows Server 2008 R2 Service Pack 1
  - Microsoft Windows Server 2012
- Microsoft .NET Framework 3.5.1
- Microsoft Internet Explorer 6.0 or later
- 2 GB free hard drive space or non-volatile memory
- An Ethernet or Wi-Fi network adapter, for TCP/IP networking or Serial COM ports and adapters to be used for direct communication with PLCs and other devices
- A USB port, to be used with hardkey licensing

### Recommended:

We recommend the Home Premium, Professional, Enterprise, and Ultimate editions of Windows, because they include Microsoft Internet Information Services (IIS) as a pre-installed feature that can be turned on. IIS is used to make your projects accessible to web thin clients and mobile devices. We do not recommend the Starter and Home Basic editions because they do not include IIS, but you can still use them if you do not plan to use those features.

The following items are optional but recommended:

- A DVD-ROM drive, to install the software from disc
- Microsoft IIS installed and turned on, to make your projects accessible to mobile devices and thin clients

## Ordering the Software

**Complete package** — includes one Development Environment license, one Run-time Engine license and all drivers. Hardware Key (PV-HWKEY) sold separately.

**Development package** — includes one Development Environment license and all drivers. Hardware Key (PV-HWKEY) sold separately.

**Run-time package** — includes one Run-time Engine license and all drivers. Hardware Key (PV-HWKEY) sold separately.

### Notes:

- *Point of View limits the maximum number of different drivers configured simultaneously in the same application. Each driver implements a protocol and uses one physical port of the station where the application runs. For example, in order to exchange data with 10 PLCs that support the same protocol (e.g.: Modbus over TCP/IP), you just need one driver (one protocol and one Ethernet port). However, in order to exchange data with two PLCs via two different serial ports of the computer, you need two communication drivers, even if both PLCs support the same protocol. If more drivers are required, please contact AutomationDirect.com.*

*500 tag count = 1 communication driver supported*

*1000 tag count = 3 communication drivers supported*

*5000 tag count = 10 communication drivers supported*

- *You need to purchase one Development Package for each PC used for application development.*
- *If the PC used in your run-time application is not your development PC, you also need to purchase a Runtime Package for the HMI PC.*
- *Point of View is available for ordering online only, using the POV configuration tool to ensure selection of all the needed components.*

Part Number	Description	Price
<b>Complete Package</b>		
<b>PV-500</b>	Point of View Development/Runtime 500 Tags. Requires PV-HWKEY.	\$495.00
<b>PV-1000</b>	Point of View Development/Runtime 1000 Tags. Requires PV-HWKEY.	\$795.00
<b>PV-5000</b>	Point of View Development/Runtime 5000 Tags. Requires PV-HWKEY.	\$2,995.00
<b>PV-1000-UPG</b>	Point of View Upgrade 500 to 1000 Tags Development/Runtime.	\$300.00
<b>PV-5000-UPG</b>	Point of View Upgrade 1000 to 5000 Tags Development/Runtime.	\$2,200.00
<b>PV-500-REV</b>	Point of View Major Revision Update.	\$195.00
<b>PV-1000-REV</b>	Point of View Major Revision Update.	\$315.00
<b>PV-5000-REV</b>	Point of View Major Revision Update.	\$1,195.00
<b>Development Only</b>		
<b>PV-500-DEV</b>	Point of View Development 500 Tags. Requires PV-HWKEY.	\$225.00
<b>PV-1000-DEV</b>	Point of View Development 1000 Tags. Requires PV-HWKEY.	\$345.00
<b>PV-5000-DEV</b>	Point of View Development 5000 Tags. Requires PV-HWKEY.	\$1,295.00
<b>PV-1000DEV-UPG</b>	Point of View Upgrade 500 to 1000 Tags Development Only.	\$120.00
<b>PV-5000DEV-UPG</b>	Point of View Upgrade 1000 to 5000 Tags Development Only.	\$950.00
<b>PV-500DEV-REV</b>	Point of View Major Revision Update.	\$90.00
<b>PV-1000DEV-REV</b>	Point of View Major Revision Update.	\$139.00
<b>PV-5000DEV-REV</b>	Point of View Major Revision Update.	\$518.00
<b>Runtime Only</b>		
<b>PV-500-RT</b>	Point of View Runtime 500 Tags. Requires PV-HWKEY.	\$345.00
<b>PV-1000-RT</b>	Point of View Runtime 1000 Tags. Requires PV-HWKEY.	\$495.00
<b>PV-5000-RT</b>	Point of View Runtime 5000 Tags. Requires PV-HWKEY.	\$1,995.00
<b>PV-1000RT-UPG</b>	Point of View Upgrade 500 to 1000 Tags Runtime Only.	\$150.00
<b>PV-5000RT-UPG</b>	Point of View Upgrade 1000 to 5000 Tags Runtime Only.	\$1,500.00
<b>PV-500RT-REV</b>	Point of View Major Revision Update.	\$139.00
<b>PV-1000RT-REV</b>	Point of View Major Revision Update.	\$195.00
<b>PV-5000RT-REV</b>	Point of View Major Revision Update.	\$798.00



# Point of View System Requirements

Part Number	Description	Price
<b>Web Sessions</b>		
<b>PV-WEB-2</b>	Web Thin Client Supports 2 Point of View Connections.	\$220.00
<b>PV-WEB-4</b>	Web Thin Client Supports 4 Point of View Connections.	\$320.00
<b>PV-WEB-8</b>	Web Thin Client Supports 8 Point of View Connections.	\$460.00
<b>PV-WEB-16</b>	Web Thin Client Supports 16 Point of View Connections.	\$600.00
<b>PV-WEB4-UPG</b>	Web Thin Client Upgrade 2 to 4 Point of View Connections.	\$100.00
<b>PV-WEB8-UPG</b>	Web Thin Client Upgrade 4 to 8 Point of View Connections.	\$140.00
<b>PV-WEB16-UPG</b>	Web Thin Client Upgrade 8 to 16 Point of View Connections.	\$140.00
<b>Secure Viewer Sessions</b>		
<b>PV-SV-2</b>	Secure Viewer Thin Client Supports 2 Point of View Connections.	\$240.00
<b>PV-SV-4</b>	Secure Viewer Thin Client Supports 4 Point of View Connections.	\$360.00
<b>PV-SV-8</b>	Secure Viewer Thin Client Supports 8 Point of View Connections.	\$525.00
<b>PV-SV-16</b>	Secure Viewer Thin Client Supports 16 Point of View Connections.	\$750.00
<b>PV-SV4-UPG</b>	Secure Viewer Thin Client Upgrade 2 to 4 Point of View Connections.	\$120.00
<b>PV-SV8-UPG</b>	Secure Viewer Thin Client Upgrade 4 to 8 Point of View Connections.	\$165.00
<b>PV-SV16-UPG</b>	Secure Viewer Thin Client Upgrade 8 to 16 Point of View Connections.	\$225.00
<b>Mobile Sessions</b>		
<b>PV-MOBILE-2</b>	Mobile Thin Client Supports 2 Point of View Connections.	\$175.00
<b>PV-MOBILE-4</b>	Mobile Thin Client Supports 4 Point of View Connections.	\$255.00
<b>PV-MOBILE-8</b>	Mobile Thin Client Supports 8 Point of View Connections.	\$365.00
<b>PV-MOBILE-16</b>	Mobile Thin Client Supports 16 Point of View Connections.	\$485.00
<b>PV-MOBILE4-UPG</b>	Mobile Thin Client Upgrade 2 to 4 Point of View Connections.	\$80.00
<b>PV-MOBILE8-UPG</b>	Mobile Thin Client Upgrade 4 to 8 Point of View Connections.	\$110.00
<b>PV-MOBILE16-UPG</b>	Mobile Thin Client Upgrade 8 to 16 Point of View Connections.	\$120.00
<b>Miscellaneous</b>		
<b>PV-HWKEY</b>	Point of View USB Hardware Key.	\$65.00
<b>PV-HWKEY-R</b>	Point of View Replacement USB Hardware Key.	\$65.00
<b>PV-ADCDRV-M</b>	Point of View Quick Start Guide for AutomationDirect Drivers.	Free download
<b>PV-SWREF-M</b>	Point of View Software Reference Guide.	Free download

Company  
InformationControl Systems  
Overview

CLICK PLC

Do-More  
PLCs OverviewDo-More H2  
PLCDo-More T1H  
PLCDirectLOGIC  
PLCsDirectLOGIC  
DL05/06DirectLOGIC  
DL105DirectLOGIC  
DL205DirectLOGIC  
DL305DirectLOGIC  
DL405Productivity  
Controller  
OverviewProductivity  
2000Productivity  
3000Universal  
Field I/O

Software

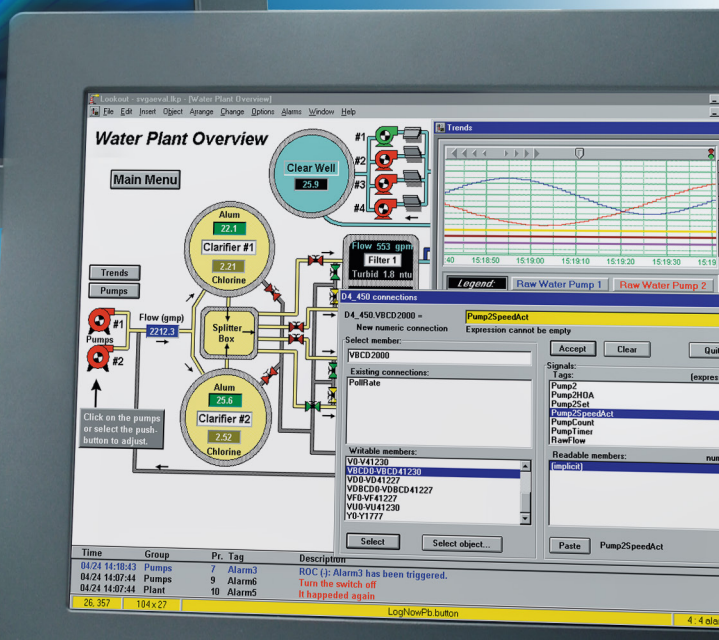
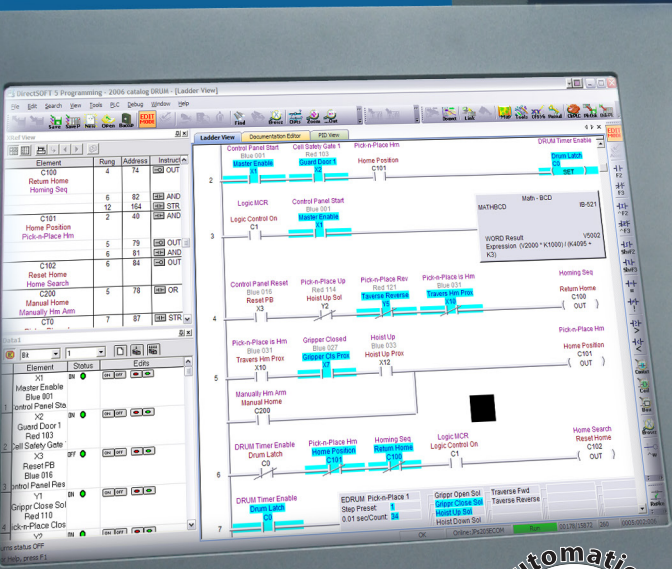
C-More  
HMIC-More Micro  
HMIViewMarq  
Industrial  
Marquees

Other HMI

Communications

Appendix  
Book 1Terms and  
Conditions

# ATLAS™ Industrial Grade LCD Monitors starting at \$995.00!

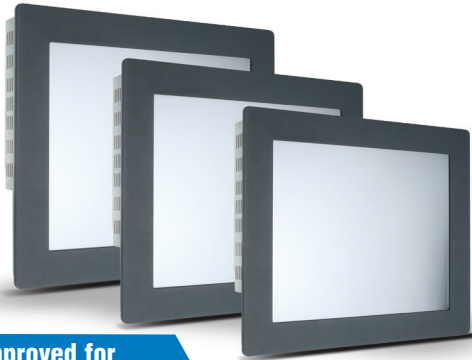




# Atlas™ Industrial Grade LCD Monitors

These heavy duty PC monitors offer superb quality at a competitive price. Their compact size and very thin panel mounted depth (less than 2.75") allows them to be used in size restricted projects. And the hazardous locations listing makes them ideal for installation in harsh environments found in many factory automation applications. All sizes are available in non-touch or with a 5-wire analog resistive touchscreens. There are currently three sizes, 15", 17", and 19", in this series.

The ATLAS series includes 15" XGA, 17" SXGA, and 19" SXGA LCD monitors. All models come standard with 100-240 VAC input power supplies and have NEMA 4/4X/12 panel-mountable front bezels. All units provide Analog Video (VGA) connections, and 5-wire analog resistive touchscreen "T" models supply connection via either USB or RS-232. The ATM1700 and ATM1900 include Digital Video Inputs (DVI) as well. The entire series is UL/cUL listed, complies with European CE and RoHS requirements, and is UL approved for Class I Division 2, Class II Division 2 and Class III hazardous locations.



**UL Approved for Class I Division 2 and Class 3 Hazardous Locations**

Integrated Power Supply



## Features

- **Optional non-touch or 5-wire analog resistive touch screen available**
- **UL 508 and ANSI/ISA 12.12.01 listed for Hazardous Locations: Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G and Class III.**
- **NEMA 4/4X/12 front bezel**
- **RoHS compliant**
- **Integral 100-240 VAC power supply**
- **RS-232 and USB support for touch screen models**
- **Simplified installation with no studs**
- **VESA compliant - all modes up to SXGA, 16 million colors**
- **2-year warranty**

**ATM1500**  
**\$995.00**

**ATM1500T (touch)**  
**\$1,195.00**



### ATM1500 - 15"

- 15" color TFT LCD display
- XGA, 1024 x 768 native resolution
- 16 million colors
- 40,000 hrs backlight Life
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.4" behind bezel
- Accepts analog 15-pin video input

**ATM1700**  
**\$1,255.00**

**ATM1700T (touch)**  
**\$1,455.00**



### ATM1700 - 17"

- 17" color TFT LCD display
- SXGA, 1280 x 1024 native resolution
- 16 million colors
- 50,000 hrs backlight life
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.6" behind bezel
- (DVI) Digital Video Inputs
- Accepts analog 15-pin video input

**ATM1900**  
**\$1,555.00**

**ATM1900T (touch)**  
**\$1,755.00**



### ATM1900 - 19"

- 19" color TFT LCD display
- SXGA, 1280 x 1024 native resolution
- 16 million colors
- 40,000 hrs backlight life
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.7" behind bezel
- (DVI) Digital Video Inputs
- Accepts analog 15-pin video input

Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

DirectLOGIC PLCs Overview

DirectLOGIC DL05/06

DirectLOGIC DL105

DirectLOGIC DL205

DirectLOGIC DL305

DirectLOGIC DL405

Productivity Controller Overview

Productivity 3000

Universal Field I/O

Software

C-More HMI

C-More Micro HMI

ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

# Quality Industrial Monitors at a Great Price!



15" ATLAS	17" ATLAS	19" ATLAS
\$995.00 ATM1500	\$1,255.00 ATM1700	\$1,555.00 ATM1900
\$1,195.00 ATM1500T	\$1,455.00 ATM1700T	\$1,755.00 ATM1900T

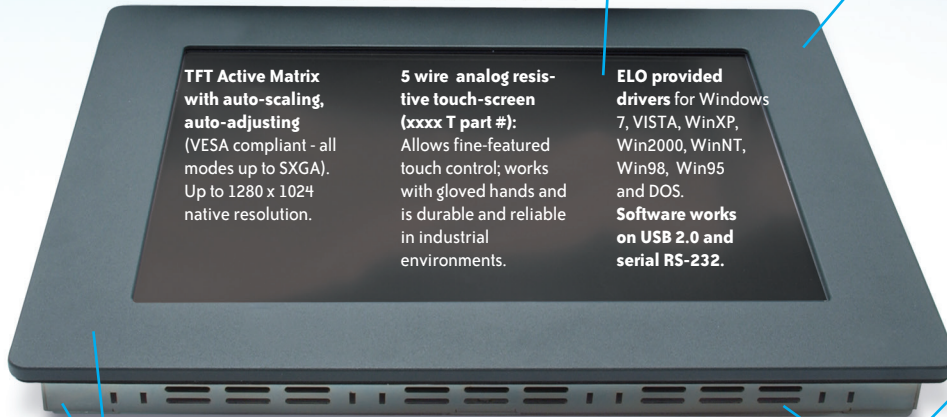
**"T" models have resistive touchscreens**

**UL, cUL, CE approved  
NEMA 4/4X/12, IP65  
FCC 47 CFR, Part  
15, Class A Bezel  
Construction**

**Bezel Construction:**  
0.25" Machined Aluminum with a recessed gasket pocket to keep moisture out and powder coated treated with an attractive dark gray textured powder coating

**Impact Window:**  
.125" Lexan (Polycarbonate) with a clear hard coat

## FRONT



**TFT Active Matrix with auto-scaling, auto-adjusting** (VESA compliant - all modes up to SXGA). Up to 1280 x 1024 native resolution.

**5 wire analog resistive touch-screen (xxxx T part #):** Allows fine-featured touch control; works with gloved hands and is durable and reliable in industrial environments.

**ELO provided drivers** for Windows 7, VISTA, WinXP, Win2000, WinNT, Win98, Win95 and DOS. **Software works on USB 2.0 and serial RS-232.**

**Simplified installation with no studs,** housed in a heavy duty steel chassis with a powder coated machined aluminum bezel (mounting clips included)

**Screen setup via rear keypad** prevents tampering

**"Auto-adjust" button** on back panel keypad for easy display optimization

**Ventilation** located on all sides to reduce heat build-up 0 to 50 °C (32 to 122 °F)

**VESA Ready**  
VESA arm mount ready (100mm)

The **16-gauge RoHS compliant CRS steel chassis** provides corrosion resistance and extra strength.

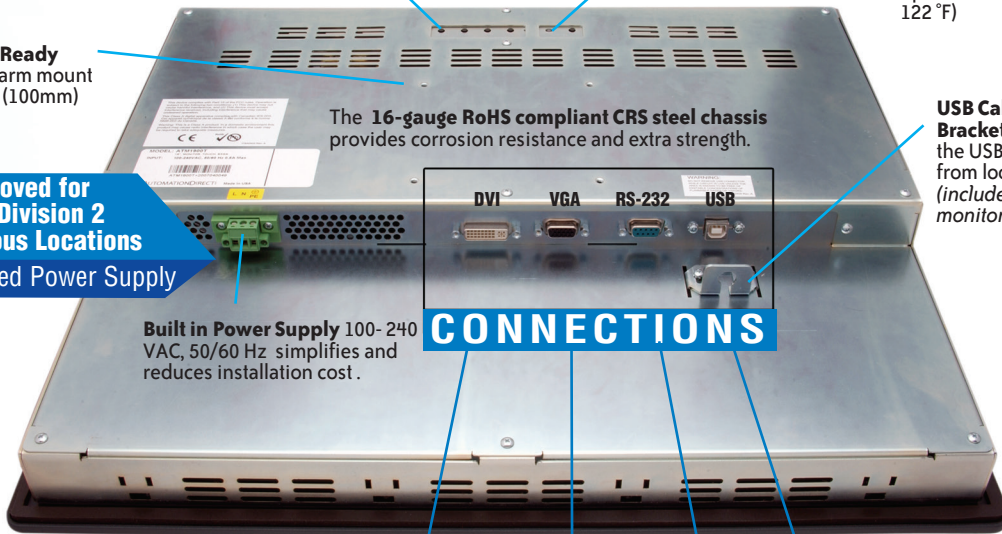
**USB Cable Bracket** keeps the USB cable from loosening (included with monitor)

**UL Approved for Class I Division 2 Hazardous Locations**

**Integrated Power Supply**

**Built in Power Supply** 100-240 VAC, 50/60 Hz simplifies and reduces installation cost.

## CONNECTIONS



## BACK



**DVI**  
On 17" and 19" monitors only

**VGA**

**RS-232**  
Touch models only

**USB**  
Touch models only

## SIDE

**Compact size** and very thin panel mount depth of less than 2.75" saves enclosure space

**Recessed cable connections** conserve panel space

# Atlas Industrial Flat Panel PC Monitors

## LCD Monitor Specifications



LCD Monitor Specifications						
Part Numbers	ATM1500	ATM1500T	ATM1700	ATM1700T	ATM1900	ATM1900T
<b>Nominal Size</b>	15"		17"		19"	
<b>Price</b>	\$995.00	\$1,195.00	\$1,255.00	\$1,455.00	\$1,555.00	\$1,755.00
<b>DISPLAY</b>						
<b>Display Type</b>	TFT Active Matrix					
<b>Display Diagonal Size</b>	14.96" (380 mm)		17.04" (432.8 mm)		18.97" (481.8 mm)	
<b>Display Size (Active Area H x W)</b>	8.98" x 11.97" (228.1 mm x 304.0 mm)		10.64" x 13.30" (270.3 mm x 337.8 mm)		11.85" x 14.82" (301.0 mm x 376.4 mm)	
<b>Native Resolution</b>	XGA, 1024 x 768		SXGA, 1280 x 1024			
<b>VESA Modes Supported</b>	Up to 1280 x 1024 @75Hz					
<b>Displayable Colors</b>	16M					
<b>Brightness, Typical</b>	250 Nit		300 Nit		270 Nit	
<b>Contrast Ratio, Typical</b>	800:1		1000:1		2000:1	
<b>Horizontal/Vertical View Angle, CR&gt;5, Typical</b>	150°/145°		170°/170°		178°/178°	
<b>Backlight Life</b>	50,000 hrs, Minimum					
<b>Display Input Signal</b>	Analog 15-Pin D-Sub, DVI-D					
<b>Impact Window</b>	0.125" (3.2 mm) Lexan (polycarbonate), clear hard coat					
<b>PHYSICAL</b>						
<b>Overall Monitor Dimensions (H x W x D)</b>	12.80" x 15.80" x 2.65" (325.1 mm x 401.3 mm x 67.3 mm)		14.48" x 17.14" x 2.85" (367.8 mm x 435.4 mm x 72.4 mm)		15.70" x 18.66" x 2.95" (398.8 mm x 474.0 mm x 74.9 mm)	
<b>Cutout Dimensions (H x W)</b>	12.00" x 15.00" (304.8 mm x 381.0 mm)		13.70" x 16.35" (348.0 mm x 415.3 mm)		14.90" x 17.75" (378.5 mm x 450.9 mm)	
<b>Chassis Depth</b>	2.4" (61.0 mm)		2.6" (66.0 mm)		2.7" (68.6 mm)	
<b>Bezel Construction</b>	0.25" (6.4 mm) Machined Aluminum with recessed gasket pocket					
<b>Bezel Finish</b>	Dark Gray Textured Powder Coated					
<b>Chassis Construction</b>	16 Gauge RoHS Compliant CRS Steel					
<b>Weight</b>	14.0 lbs (6.4 kg)		18.5 lbs (8.4 kg)		21 lbs (9.5 kg)	
<b>Shipping Weight</b>	19 lbs (8.6 kg)		23.5 lbs (10.7 kg)		26 lbs (11.8 kg)	
<b>ELECTRICAL</b>						
<b>AC Input Voltage</b>	100 - 240 VAC, 50/60 Hz					
<b>AC Input Current</b>	0.5A Maximum		1A Maximum			
<b>Input Power</b>	≤ 25W		≤ 30W		≤ 35 W	
<b>ENVIRONMENTAL</b>						
<b>Operating Temperature</b>	0 to 50 °C (32 to 122 °F)					
<b>Storage Temperature</b>	-20 to 60 °C (-4 to 140 °F)					
<b>Operating and Storage Humidity</b>	20% to 80% RH, noncondensing					
<b>Operating Shock</b>	15g peak acceleration, 11msec					
<b>Operating Vibration 5-2000 Hz</b>	0.006" peak to peak, 1g max					
<b>Operating Altitude</b>	Sea level - 10,000 feet					
<b>Storage Altitude</b>	Sea level - 40,000 feet					
<b>AGENCY</b>						
<b>Front Panel NEMA Rating</b>	NEMA 4/4X/12, IP65					
<b>FCC</b>	47 CFR, Part 15, Class A					
<b>EU CE Marking Compliance</b>	CE, EN 55022: Class A, EN 61000-3-2: Class A, EN 61000-3-3, EN 61000-6-2, IEC 60950-1, RoHS compliant					
<b>Safety Agency Approvals</b>	UL 508 Listed (file #E157382), ANSI/ISA 12.12.01-2012 Listed* (file #E200031), cUL Listed CSA C22.2, #142, CSA C22.2, #143*					

\* Suitable for use in Class I, Division 2, Groups A, B, C and D, Class II, Division 2, Groups F and G, Class III Hazardous Locations or Non-Hazardous locations only.

For use on a flat surface of a type 1, 4, 4X or 12 enclosure with provisions for Class I Division 2 wiring methods

Temperature Code: T5

Company  
Information

Control Systems  
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CLICK PLC

Do-More  
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Do-More H2  
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Do-More T1H  
PLC

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Industrial  
Marquees

Other HMI

Communications

Appendix  
Book 1

Terms and  
Conditions

# Atlas Industrial Flat Panel PC Monitors

## LCD Monitor Specifications (cont'd)

Touch Screen Specifications			
Part Numbers	ATM1500T	ATM1700T	ATM1900T
<b>TOUCH SCREEN (Optional)</b>			
<b>Touch Screen Technology</b>	5- Wire Analog Resistive		
<b>Interface</b>	USB 1.1 and Serial RS-232		
<b>Resolution</b>	4096 x 4096		
<b>Positional Accuracy (Maximum Error)</b>	0.18" (4.6 mm)		0.19" (4.8 mm)
<b>Positional Accuracy (Standard Deviation of Error)</b>	<0.08" (<2.0 mm)		
<b>Screen Finish</b>	Anti-Reflective, Surface Durability - 3H per ASTM D3363		
<b>Chemical Resistance</b>	Acetone, Methylene Chloride, MEK, Isopropyl Alcohol, Hexane, Turpentine, Mineral Spirits, Unleaded gasoline, Diesel fuel, Motor oil, Transmission fluid, Antifreeze, vinegar, ammonia-based glass cleaner.		
<b>Electrostatic Protection</b>	Per EN 61000-4-2, 1995, Withstands 20 discharges up to 15 kV		
<b>Expected Life</b>	>35,000,000 Activations		



## Supported PC Video Modes

Video Modes						
Mode	Dot Clock (MHz)	Horizontal Freq (KHZ)	Vertical Freq (Hz)	H Sync Polarity	V Sync Polarity	Display Modes for Best Image Quality
640 x 350 @ 70Hz	25.144	31.430	70.000	P	N	
640 x 400 @ 70Hz	28.287	31.430	70.000	N	P	
720 x 400 @ 70Hz	28.287	31.430	70.000	N	P	
640 x 480 @ 60Hz	25.175	31.469	59.940	N	N	
640 x 480 @ 72Hz	31.500	37.861	59.940	N	N	
640 x 480 @ 75Hz	31.500	37.500	75.000	N	N	
800 x 600 @ 56Hz	36.000	35.156	56.250	P	P	
800 x 600 @ 60Hz	40.000	37.879	60.317	P	P	
800 x 600 @ 72Hz	50.000	48.077	72.188	P	P	
800 x 600 @ 75Hz	49.500	46.875	75.000	P	P	
1024 x 768 @ 60Hz	65.000	48.363	60.005	N	N	ATM1500/ATM1500T
1024 x 768 @ 70Hz	75.000	56.476	70.070	N	P	ATM1500/ATM1500T
1024 x 768 @ 75Hz	78.750	60.023	75.030	P	P	ATM1500/ATM1500T
1280 x 1024 @ 60Hz	108.000	63.981	60.020	P	P	ATM1700/ATM1700T & ATM1900/ATM1900T
1280 x 1024 @ 75Hz	135.000	79.976	75.035	P	P	ATM1700/ATM1700T & ATM1900/ATM1900T

# Atlas Industrial Flat Panel PC Monitors

## ATM1500/ATM1500T

The *Atlas* ATM1500/ATM1500T is a high performance 15" color TFT flat panel monitor specifically designed for harsh industrial environments including Class I Division 2, Class II Division 2 and Class III Hazardous Locations. The ATM1500/ATM1500T accepts standard analog VGA or digital DVI input and can display all VESA video modes up to 1280 x 1024 at 75Hz, 800:1 contrast with 16 million colors. An optional 5-wire analog touch screen (ATM1500T) is available that offers both RS-232 and USB interface capability. The monitor is housed in a heavy duty steel chassis with a powder coated machined aluminum bezel. The monitor is certified to NEMA 4/4X/12 standards, is UL/CUL listed, meets CE requirements and is RoHS compliant. Panel mounting is simplified using convenient mounting clips instead of conventional studs. All monitors are shipped with a power input wiring receptacle, 6' VGA cable, 6' RS-232 cable (ATM1500T only), 2m USB Cable (ATM1500T only), mounting hardware, Quick Installation Guide, and CD-ROM containing Hardware User's Guide (ATM-15-USER) and touch screen driver software for Windows 98/NT/2000/XP/Vista/7.



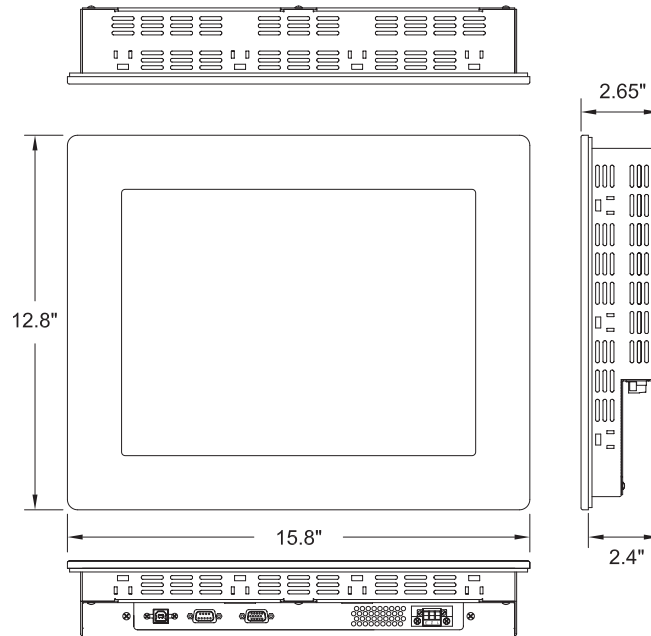
**\$995.00 / \$1,195.00**



### Specifications

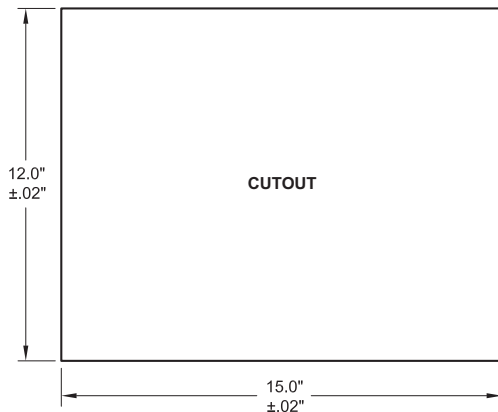
- 15" color TFT LCD display
- UL 508 and ANSI/ISA 12.12.01-2012 listed for Hazardous Locations: Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G and Class III hazardous locations when mounted in a NEMA Type 1, 4, 4X or 12 enclosure
- NEMA 4/4X/12 front bezel
- 2-year warranty
- RoHS compliant
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.4" behind bezel
- Accepts analog 15-pin Video input, digital input DVI-D
- VESA compliant - all modes up to SXGA, 16 million colors
- Optional 5-wire resistive touch screen with both RS-232 and USB interface

### Dimensions

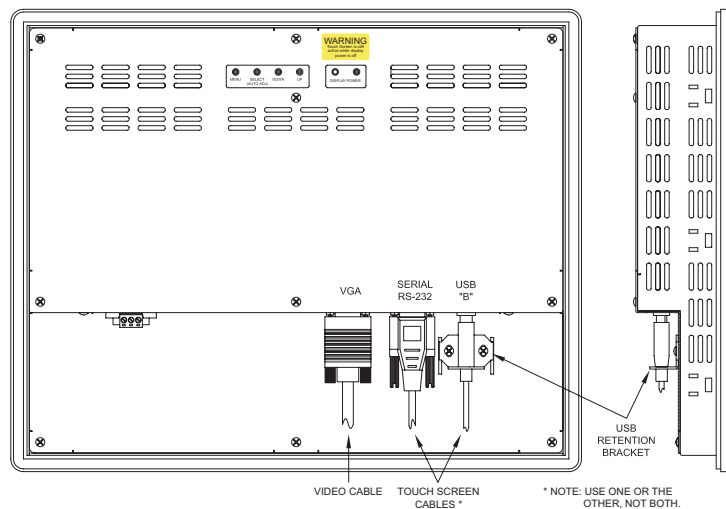


**NOTE: Don't forget the optional cables shown on the Accessories page.**

### Mounting Cutout



### Cable Connections



# Atlas Industrial Flat Panel PC Monitors

## ATM1700/ATM1700T

The *Atlas* ATM1700/ATM1700T is a high performance 17" color TFT flat panel monitor specifically designed for harsh industrial environments including Class I Division 2, Class II Division 2 and Class III Hazardous Locations. The ATM1700/ATM1700T accepts standard analog VGA input, or digital DVI input, and can display all VESA video modes up to 1280 x 1024 at 75Hz, 1000:1 contrast with 16 million colors. An optional 5-wire analog touch screen (ATM1700T) is available that offers both RS-232 and USB interface capability. The monitor is housed in a heavy duty steel chassis with a powder coated machined aluminum bezel. The monitor is certified to NEMA 4/4X/12 standards, is UL/CUL listed, meets CE requirements and is RoHS compliant. Panel mounting is simplified using convenient mounting clips instead of conventional studs. All monitors are shipped with a power input wiring receptacle, 6' VGA cable, 6' RS-232 cable (ATM1700T only), 2m USB Cable (ATM1700T only), mounting hardware, Quick Installation Guide, and CD-ROM containing Hardware User's Guide (ATM-17-USER) and touch screen driver software for Windows 98/NT/2000/XP/Vista/7.



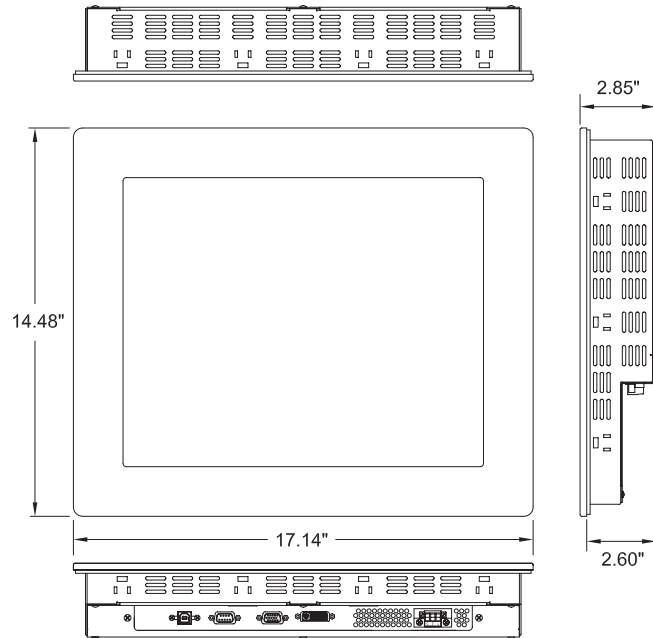
**\$1,255.00 /\$1,455.00**



### Specifications

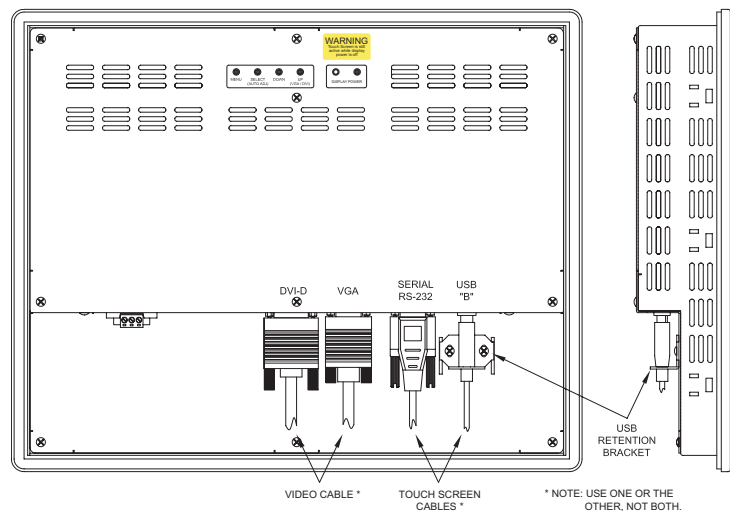
- 17" color TFT LCD display
- UL 508 and ANSI/ISA 12.12.01-2012 listed for Hazardous Locations: Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G and Class III hazardous locations when mounted in a NEMA Type 1, 4, 4X or 12 enclosure
- NEMA 4/4X/12 front bezel
- 2-year warranty
- RoHS compliant
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.4" behind bezel
- Accepts analog 15-pin Video input, digital input DVI-D
- VESA compliant - all modes up to SXGA, 16 million colors
- Optional 5-wire resistive touch screen with both RS-232 and USB interface

### Dimensions

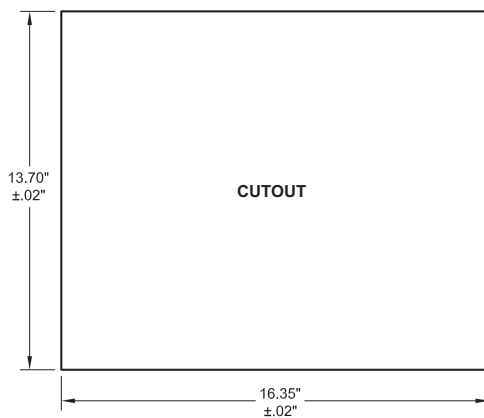


**NOTE: Don't forget the optional cables shown on the Accessories page.**

### Cable Connections



### Mounting Cutout





# Atlas Industrial Flat Panel PC Monitors

## ATM1900/ATM1900T

The *Atlas* ATM1900/ATM1900T is a high performance 19" color TFT flat panel monitor specifically designed for harsh industrial environments including Class I Division 2, Class II Division 2 and Class III Hazardous Locations. The ATM1900/ATM1900T accepts standard analog VGA input, or digital DVI input, and can display all VESA video modes up to 1280 x 1024 at 75Hz, 2000:1 contrast with 16 million colors. An optional 5-wire analog touch screen (ATM1900T) is available that offers both RS-232 and USB interface capability. The monitor is housed in a heavy duty steel chassis with a powder coated machined aluminum bezel. The monitor is certified to NEMA 4/4X/12 standards, is UL/CUL listed, meets CE requirements and is RoHS compliant. Panel mounting is simplified using convenient mounting clips instead of conventional studs. All monitors are shipped with a power input wiring receptacle, 6' VGA cable, 6' RS-232 cable (ATM1900T only), 2m USB Cable (ATM1900T only), mounting hardware, Quick Installation Guide, and CD-ROM containing Hardware User's Guide (ATM-19-USER) and touch screen driver software for Windows 98/NT/2000/XP/Vista/7.



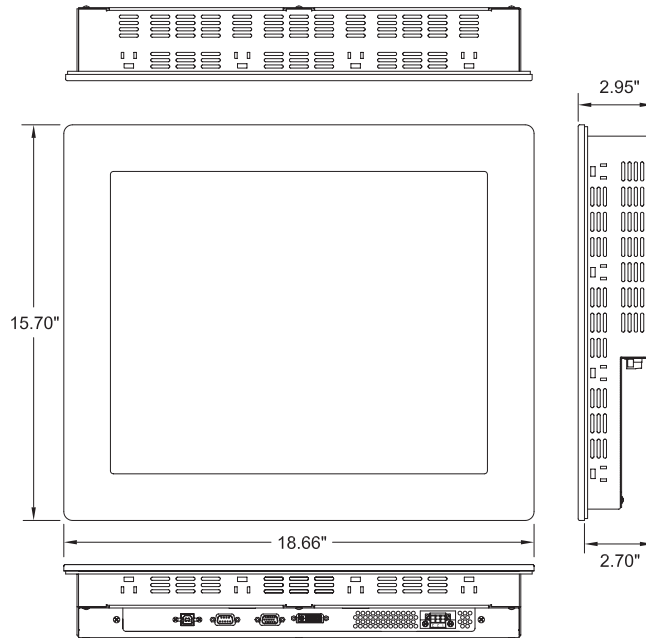
**\$1,555.00 / \$1,755.00**



### Specifications

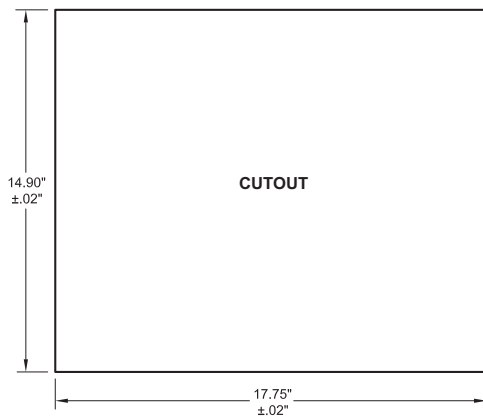
- 17" color TFT LCD display
- UL 508 and ANSI/ISA 12.12.01-2012 listed for Hazardous Locations: Class I, Division 2, Groups A, B, C, D; Class II, Division 2, Groups F and G and Class III hazardous locations when mounted in a NEMA Type 1, 4, 4X or 12 enclosure
- NEMA 4/4X/12 front bezel
- 2-year warranty
- RoHS compliant
- Integral 100-240 VAC power supply
- Simplified installation with no studs
- Thin design - only 2.4" behind bezel
- Accepts analog 15-pin Video input, digital input DVI-D
- VESA compliant - all modes up to SXGA, 16 million colors
- Optional 5-wire resistive touch screen with both RS-232 and USB interface

### Dimensions

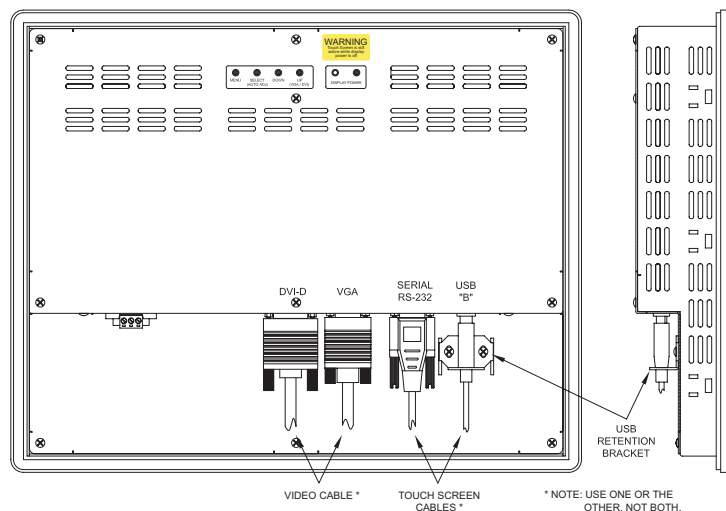


**NOTE: Don't forget the optional cables shown on the Accessories page.**

### Mounting Cutout



### Cable Connections

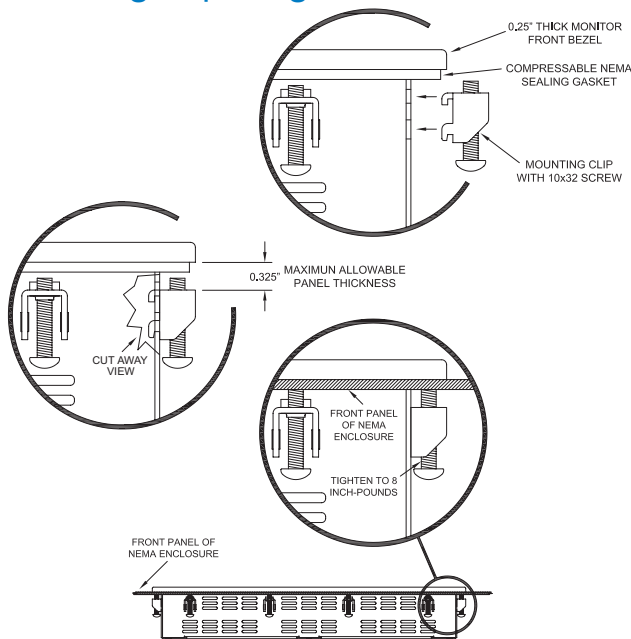


# Atlas Industrial Flat Panel PC Monitors

## Mounting clip installation

To install the monitor, make a cutout (according to the cutout diagram for the respective monitor) through one of the walls of your NEMA enclosure. Next, hold the monitor in place and install the mounting clips. The monitor uses “U”-shaped clips and a special gasket to achieve a proper seal. Tighten the clips to the point where the back of the monitor’s bezel just begins to contact the front of the NEMA enclosure. The use of an adjustable torque driver is recommended. The screws should be tightened to 8 inch-pounds. Tighten the clips in a cross pattern to develop an even pressure on the sealing gasket. **DO NOT OVERTIGHTEN AS DAMAGE CAN RESULT, CAUSING LOSS OF SEALING INTEGRITY.**

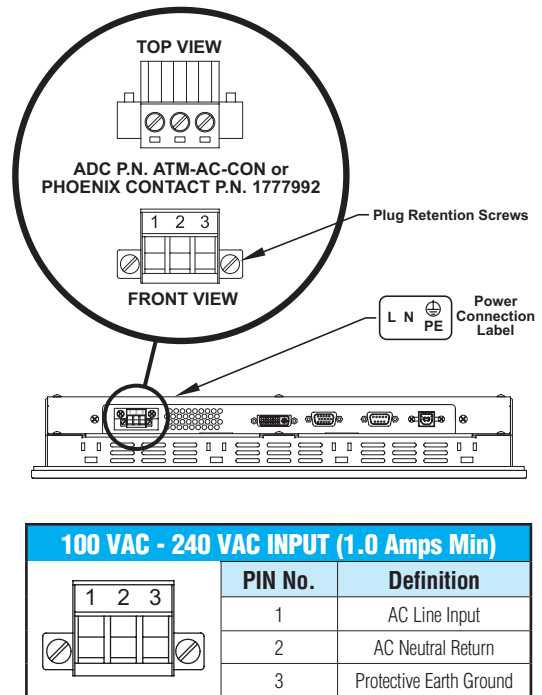
## Mounting Clip Diagram



## Connecting power

The monitor is powered from 100-240 VAC, 50/60 Hz. Power is connected to the monitor through a removable Phoenix Contact plug (ADC P.N. ATM-AC-CON or Phoenix Contact P.N. 1777992) that allows for screw termination of field wiring. The use of 18 AWG or greater (12 AWG maximum wire) is recommended. Connect the field wiring according to the appropriate table below. After the connections are made, make sure the power connection screws (the two screws shown in the “Front View” below) are securely tightened. This will prevent the plug from pulling out.

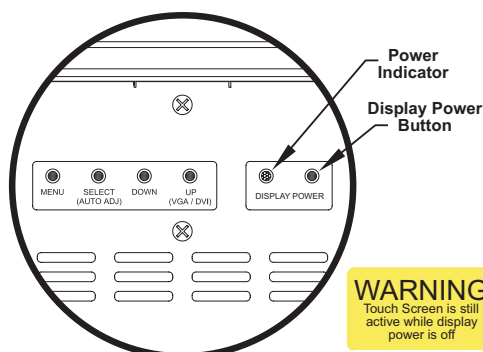
## Power Wiring Diagram



## Setting the On-Screen Display (OSD) controls

The On Screen Display (OSD) controls are used for making adjustments to the monitor’s settings and are located on the back of the monitor. They consist of a single LED and five pushbuttons (functions are described in Chapter 3 of the respective monitor’s Hardware User’s Guide) located on the Documentation and Driver CD, or downloadable from the Online Documentation area of the *AutomationDirect* Web site.

## OSD Controls



## OSD Main Menu Display



# Atlas PC Monitor Accessories

## Accessories & Replacement Parts

Part Number	Description	Price
<b>ATM-CBL-VGA10</b>	10 ft. 15-pin coaxial VGA cable. Connects any Atlas monitor to a standard VGA card.	\$45.50
<b>ATM-CBL-VGA25</b>	25 ft. 15-pin coaxial VGA cable. Connects any Atlas monitor to a standard VGA card.	\$96.00
<b>ATM-CBL-VGA50</b>	50 ft. 15-pin coaxial VGA cable. Connects any Atlas monitor to a standard VGA card.	\$136.00
<b>ATM-CBL-DV3M</b>	10 ft. (3 meter) DVI (type D) video cable. Connects M1700 and M1900 to a standard DVI-D port. DVI cables provide a higher bandwidth video interface than the VGA cables.	\$82.75
<b>ATM-CBL-10</b>	10 ft. serial communication cable. Connects Atlas monitor to std. 9-pin RS-232 port.	\$25.00
<b>ATM-CBL-25</b>	25 ft. serial communication cable. Connects Atlas monitor to std. 9-pin RS-232 port.	\$45.50
<b>ATM-CBL-50</b>	50 ft. serial communication cable. Connects Atlas monitor to std. 9-pin RS-232 port.	\$66.00
<b>USB-CBL-AB3</b>	3-ft (0.9 meter) Standard USB 2.0 cable with Standard-A plug to Standard-B plug. Suitable for all USB devices.	\$7.50
<b>USB-CBL-AB6</b>	6-ft (1.8 meter) Standard USB 2.0 cable with Standard-A plug to Standard-B plug. Suitable for all USB devices.	\$9.50
<b>USB-CBL-AB10</b>	10-ft (3 meter) Standard USB 2.0 cable with Standard-A plug to Standard-B plug. Suitable for all USB devices.	\$18.00
<b>USB-CBL-AB15</b>	15-ft (4.6 meter) Standard USB 2.0 cable with Standard-A plug to Standard-B plug. Suitable for all USB devices.	\$22.50
<b>ATM-AC-CON</b>	Replacement Power Wiring Connector for AC Powered Units.	\$15.00
<b>ATM-CLIP</b>	Replacement flat panel mounting clip kit. Package of 16 clips and screws.	\$35.50

**USB-CBL-AB3**



**USB-CBL-AB6**



**USB-CBL-AB10**



**USB-CBL-AB15**



**ATM-CBL-VGA10**



**ATM-CBL-10**



**ATM-CBL-VGA25**



**ATM-CBL-25**



**ATM-AC-CON**



**ATM-CBL-VGA50**



**ATM-CBL-50**



**ATM-CLIP**



**ATM-CBL-DV3M**



Company Information

Control Systems Overview

CLICK PLC

Do-More PLCs Overview

Do-More H2 PLC

Do-More T1H PLC

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ViewMarq Industrial Marquees

Other HMI

Communications

Appendix Book 1

Terms and Conditions

# If it's in your cabinet, it's online at: [www.AutomationDirect.com](http://www.AutomationDirect.com)



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