

# INSTALLATION OF MONITOR

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# CHAPTER 2

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## Installation of Monitor

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This monitor is intended to be mounted in and used where NEMA 1, 4, 4X and NEMA 12 type enclosures are employed. Enclosures made of heavier gauge metal work better because they won't deform or bend as easily when the monitor's sealing gasket is compressed. The monitor meets NEMA 4/12 sealing specifications when properly installed in an approved NEMA enclosure constructed from 14-gauge or heavier steel. The monitor uses "U"-shaped clips and a special gasket to achieve the proper seal.

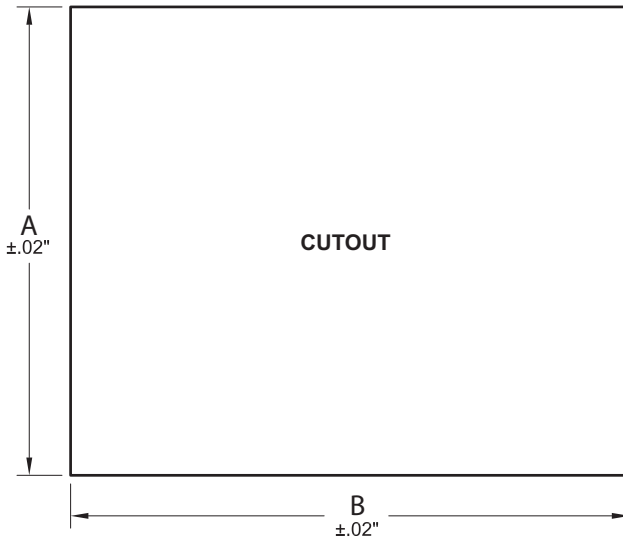
When selecting an enclosure remember to allow adequate space around the rear of the monitor for good air flow. Do not block air flow from below or above the monitor. If possible mount the monitor in a vertical orientation. The monitor is designed to work in environments up to 50 degrees Centigrade surrounding air temperature inside the enclosure. Remember to account for heat dissipated from other equipment that may be inside the same enclosure.

To install the monitor, make a cutout (according to the diagram below) in one of the walls of your NEMA enclosure. Enclosures made of heavier gauge metal work better in that they won't deform or bend as easily when the monitor's sealing gasket is compressed. Next hold the monitor in place while you install the mounting clips. Tighten the clips to the point where the back of the monitor's front 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 IN THE MONITOR CAUSING LOSS OF SEALING INTEGRITY.**



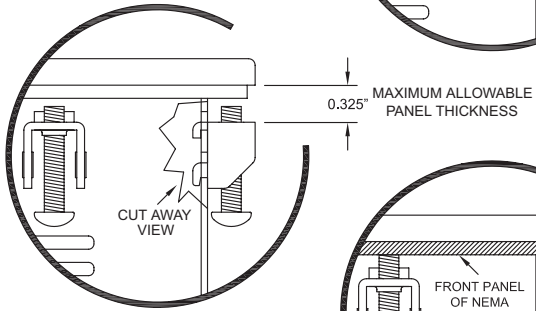
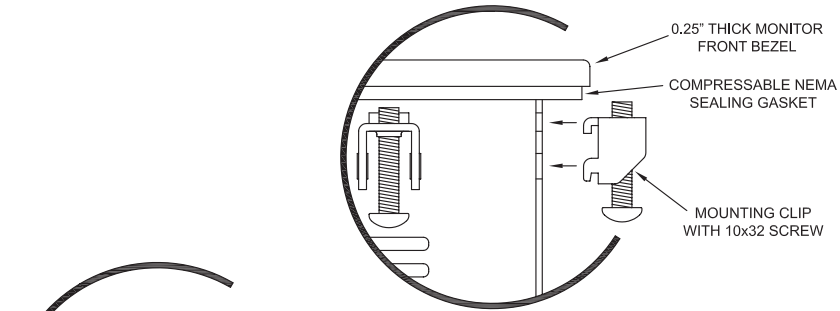
**WARNING** – Damage can occur by applying excessive torque to the mounting clips.

### Cutout Pattern for Atlas Monitors

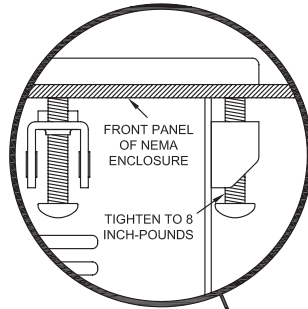


Dimensions		
Model	A	B
ATM1500/ATM1500T	12.00" (304.8 mm)	15.00" (381.0 mm)
ATM1700/ATM1700T	13.70" (348.0 mm)	16.35" (415.3 mm)
ATM1900/ATM1900T	14.90" (378.5 mm)	17.75" (450.9 mm)

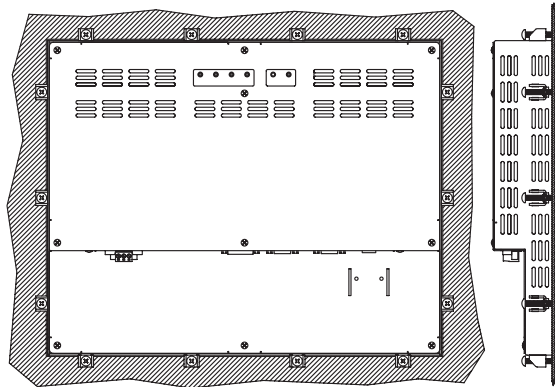
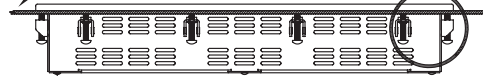
# Mounting Clip Installation



**NOTE** – When installing the mounting clips, tighten the screws to 8-10 in-lbs (.9 - 1.1 N-m) max. Overtightening the screws will result in a compressed NEMA seal and may cause touch screen breakage.



FRONT PANEL OF NEMA ENCLOSURE



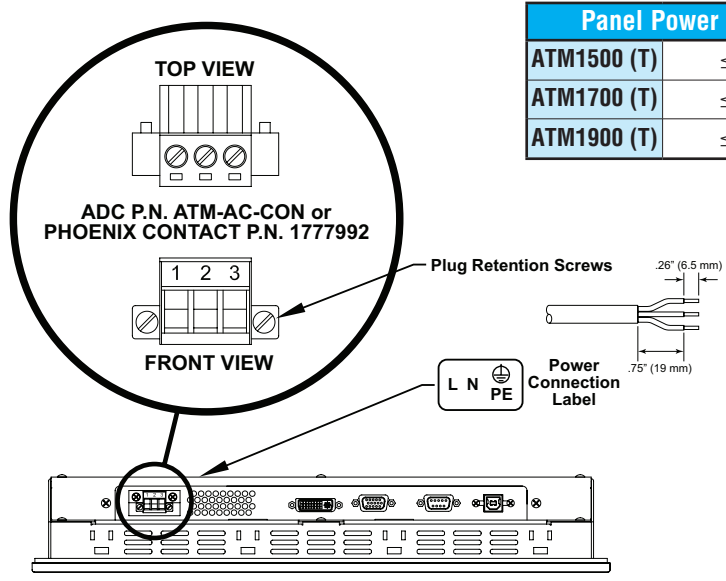
REAR VIEW OF PANEL MOUNTED MONITOR

### Connecting Power

The Atlas monitor is powered from 100-240 VAC, 50/60 Hz.

2 Because the Atlas monitor is listed for Hazardous Location use, (ANSI/ISA 12.12.01-2012 Class I Division 2, groups A, B, C, & D; Class II Division 2, groups F & G and Class III, Temperature Code T5), it has no power switch for switching off supplied power. Please read the functional description of the DISPLAY POWER button on page 3-3. Consideration should be given to the installation of an appropriately rated external power switch if the application requires powering off the Atlas monitor.

Power is connected to the Atlas 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. **When field wiring to these terminals, the use of 18 AWG or greater (12 AWG maximum) copper wire with 60 °C or 60/75 °C wire insulation and the terminal tightening torque of 7.0 lb-in (0.79 Nm) is required.** The terminal screws are shown in the Top View in the following diagram. Connect the field wiring according to the appropriate table below. Strip the wire insulation back on each conductor 6.5 mm (0.26 in) and make sure that the remaining wire is twisted together, not frayed, and clean. If an outer jacket over each conductor is utilized then strip the outer jacket back an additional 19.0 mm (0.75 in) as shown in the next figure. When installing the conductors take care that there are not any stray strands of wire that can contact an adjoining connection. Tinning of each lead can be utilized to prevent frays if desired. Optionally the included protective cover can be utilized to prevent electrical shocks when handling the power connector and provide strain relief for each conductor connection (see the following section for installation instructions). After the connections are made, make sure the plug retention screws (the two screws shown in the “Front View”) are securely tightened. This will prevent the plug from pulling out. The use of these screws is mandatory when the unit is utilized in applications requiring hazardous locations approvals.



Panel Power Draw	
ATM1500 (T)	≤ 25 W
ATM1700 (T)	≤ 30 W
ATM1900 (T)	≤ 35 W

100 VAC - 240 VAC INPUT (1.0 Amps Min)		
	PIN No.	Definition
	1	AC Line Input
	2	AC Neutral Return
	3	Protective Earth Ground

Required Wire Specification	
Wire Size	18 - 12 AWG (0.8 - 3.3 mm <sup>2</sup> )
Wire Material and Temperature	60 °C or 60 / 75 °C Copper
Tightening Torque	7.0 lb-in (0.79 Nm)



**WARNING – EXPLOSION HAZARD** – Do not disconnect equipment while the circuit is live unless the area is known to be free of ignitable concentrations.



**WARNING – EXPLOSION HAZARD** – Do not disconnect equipment unless the power has been switched off or the area is known to be non-hazardous. USB connections must be secured with included retention bracket.

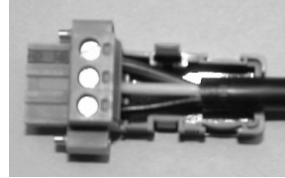
## Optional Protective Cover Installation

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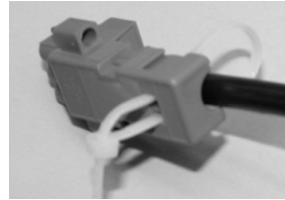
**Step 1:** Gather the parts of the protective cover; top shell, bottom shell, label insert, and wire tie. The picture shows wire tie (top), label insert (right), bottom shell (left), and top shell (lower right).



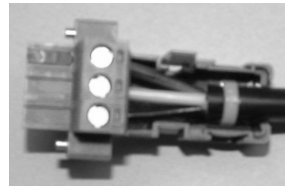
**Step 2:** Insert your pre-wired connector (with the screws facing up) into the bottom shell. (See manual for cable wiring instructions).



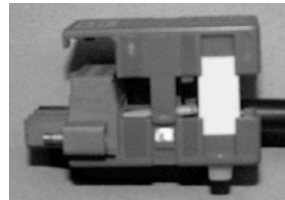
**Step 3:** Insert the wire tie from the bottom shell, loop around the cable and come back out of the opposite hole in the bottom shell.



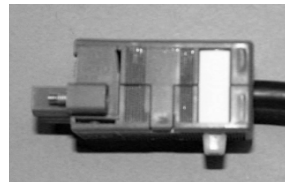
**Step 4:** Tighten the wire tie around the cable and the bottom shell.



**Step 5:** Seat the top shell onto the bottom as shown. Insert label strip (if desired) in slot on top shell and bottom shell.

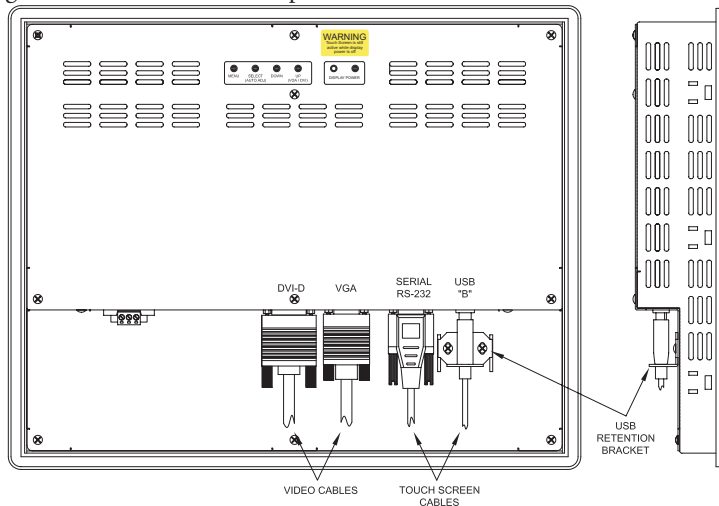


**Step 6:** Snap the top and bottom shells together.



## Connection of Video and Touch Screen Cables

Connect either a 15-pin VGA or DVI cable and either an RS-232 or USB cable if the monitor is equipped with a touch screen. All communication cables should include a chassis ground shield. Hazardous location, Division 2, requires that all cables have adequate strain relief. For this reason, tighten all connector thumb screws securely. If a USB cable is being used, install the provided USB retention bracket. Insert the USB connector through the square cutout in the base of the bracket and pull the cable and body of the connector back through the round hole in the bracket flange. Now insert the bracket into the two slots on the rear of the monitor and slide it forward so the connector is fully inserted in the mating bulkhead connector. Install and tighten two 4-40 x .25" Philips screws.



**NOTE** – When using the USB touchscreen connection, the use of the USB retention bracket is required for hazardous locations and highly recommended for nonhazardous locations.



**NOTE** – To prevent inadvertent disconnection of video and / or serial touchscreen cables assure that the thumbscrews are sufficiently tight.



**WARNING - EXPLOSION HAZARD** - Do not connect or disconnect the USB ports unless the power has been switched off or the area is known to be non-hazardous.

**AVERTISSEMENT - RISQUE D'EXPLOSION** - Ne pas brancher ou débrancher le ports USB à moins que l'alimentation à été coupée ou si la zone n'est pas dangereuse.

**ADVERTENCIA - PELIGRO DE EXPLOSIÓN** - No conecte o desconecte los puertos USB a menos que la computadora se encuentre apagada o el área se considere no peligrosa.

**WARNUNG - EXPLOSIONSGEFAHR** - USB-Ports nur anschließen oder trennen, wenn keine spannung anliegt oder der Bereich nicht explosionsgefährdet ist.

# Turning on the Computer and Monitor

With power applied to the monitor and all cables connected you may power up the computer and press the DISPLAY POWER button on the rear of the monitor. The POWER LED will switch from off to green. The monitor will perform an automatic self configuration and begin displaying an image. If no image appears, it may be because the monitor has the wrong video input selected. Press the UP button on the rear of the monitor to change between VGA and DVI-D inputs. If the computer is subsequently powered off, the monitor will remain on and display the NO SIGNAL error message (page 3-13) indefinitely. The POWER LED remains green. The touch screen remains active during this time. When the computer is powered on again, the NO SIGNAL message disappears and normal image display resumes.

## Selection of PC Video Settings

Although the Atlas monitor can display several different video modes, the optimum display image performance occurs when the PC's video settings match the native resolution of the Atlas monitor's LCD. Recommended video modes are...

- ATM1500/ATM1500T - 1024 x 768, refresh rate 60, 70 or 75 Hz
- ATM1700/ATM1700T - 1280 x 1024, refresh rate 60 or 75 Hz
- ATM1900/ATM1900T - 1280 x 1024, refresh rate 60 or 75 Hz

This can be done using Window's control panel or by right clicking on the desktop and choosing "Properties". This will bring up the "Display Properties" menu. From this menu, select the "Setting" tab and choose the recommended video mode for the Screen resolution. From the Settings menu, choose "Advanced" and then click on the "Monitor" tab to set the Screen refresh rate to 60 Hz.

## Installing the Touch Screen Driver Software

The calibration of the touch screen occurs by a calibration utility that installs as part of the touch screen driver installation process.

Drivers for Windows® operating systems are located on the enclosed CD:

**Notes:** 1. The driver for Windows Vista only supports USB touchscreen connections. RS-232 Serial touchscreen and multiple monitor connections are not supported.

2. For Windows 2000 you must have administrator access rights to install the driver.

For the latest drivers go to: <http://support.automationdirect.com/products/atlas.html>