

PPT VISION



IMPACT A-Series™

A-Series™ Camera

QuickStart Guide

PPT Publication # 843-0111 (Rev N)



About this guide

Thank you for using PPT's IMPACT A-Series™ cameras. This guide provides a brief overview to help you get started with your new system. For more detailed instructions, please refer to the IMPACT Software Reference Guide and IMPACT A-Series Hardware Guide.

- Step 1: Unpack and check all the equipment.
- Step 2: Mount the camera (see page 4) and connect the Ethernet cable between the camera and the client computer (see page 3).
- Step 3: Connect the cable between the camera and the terminal block if you are using the terminal block (see page 3).
- Step 4: Wire AC power connections to the power supply input (see page 4).
- Step 5: Wire the power supply output to the connector on the terminal block or the unterminated cable connections (see page 3). Turn on AC power.
- Step 6: Configure the client IP address and install the IMPACT Software (see page 2).
- Step 7: Change the A-Series and client IP addresses and/or masks, if necessary (see page 2).
- Step 8: Connect the terminal block inputs and outputs, or the unterminated cable connectors, to the desired devices (see page 3).

Unpacking the A-Series camera

Extreme temperature precautions: If your system arrives in very cold or hot weather, allow all the equipment to reach room temperature before plugging it in. Exposing cold equipment to a warm room can cause condensation. If condensation forms, wait for the equipment to dry completely before plugging it in.

Check the shipping cartons for damage or signs of rough handling or abuse. Notify the shipping company of any damage. Carefully remove the IMPACT camera, cabling, and accessories from the shipping package and inspect each item. Save all packing materials so you can repack the system in case you need to move or ship it.

Camera Operating Specifications

| | |
|-------------|---|
| Dimensions | 2.678 w x 5.5 h x .945 d (inches) 68 w x 139.7 h x 24 d (mm) |
| Weight | .96 lb. (.44 kg.) |
| Input Power | +24 VDC(+/- 10%) .50 A (min.) |
| Temperature | 0 to +50 C (+32 to +122 F) |
| Humidity | 20% to 80% (non-condensing) |

An optional power supply is available from PPT for the A-Series camera. If you provide your own, it must be a Listed power supply for the United States and Canada, or a power supply that meets the requirements for use where either IEC 60950 or EN60950 is applicable. It must provide the required input power within the operating specifications listed above.

System Precautions

Follow all warnings and instructions in this guide and in other user manuals shipped with your hardware components.

To avoid damage to your system and its components, never plug or unplug a cable when the power is on. Always disconnect the power supply before making any cable changes.

Never use the system if a power cable has been damaged. Do not allow anything to rest on a power cable. Keep cables away from traffic.

The camera should be firmly mounted to a solid surface to insure the best inspection results. Use the case mounting holes as illustrated on page 4.

Do not expose any part of your system to moisture, rain, or snow, and do not use it near water.

To avoid injury, never open the camera case. Opening the case or removing the tamper-proof sticker will void the product warranty.



Warning: There are no user-serviceable parts inside the IMPACT camera. To avoid electrical shock, never open the case.



Avertissement: Il n'y a aucune pièce d'utilisateur-servicable à l'intérieur de l'appareil-photo d'IMPACT. Pour éviter le choc électrique, n'ouvrez jamais la valise.

Installing IMPACT Inspection Builder

A client computer is required to install IMPACT software and configure the vision device. Refer to the IMPACT Hardware Guide for client system requirements.

1. Some anti-virus software can interfere with installation. Please turn off automatic anti-virus checking during the install.
2. You must have administrator privileges to install IMPACT software on Windows 2000, XP, and Vista.
3. To be able to communicate, the client and camera's IP addresses for the local area connection must be configured. The vision device is shipped with a default IP address of 192.168.0.128 and a default mask of 255.255.255.0. If you need to change the camera's IP address or mask, do so before installation.
4. Insert the IMPACT software installation CD in the client computer's drive and follow the on-screen instructions.

Changing the device IP Address

1. Connect an Ethernet cable from the client computer to the vision device's Ethernet connector.
2. Start IMPACT VPM, select the desired device in the device list and click Edit IP Address.
3. Enter the desired IP address and IP mask. Leave the Gateway unchanged. Click OK.
4. When the Reboot Warning is displayed, click OK.
5. You may need to change the client computer's IP mask and address so the device and client can communicate. See the instructions below.

Changing the client IP Address

Windows Vista

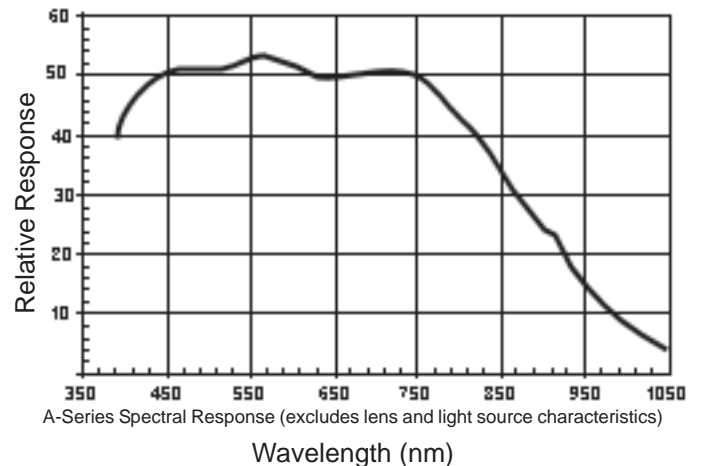
1. In the Start Menu, select Network, then click Network and Sharing Center.
2. For the Local Area Connection, click View Status.
3. Click Internet Protocol Version 4 in the list, then click Properties.
4. On the Alternate Configuration tab, select User Configured.
5. Enter the IP address 192.168.0.1 and the Subnet Mask 255.255.255.0.
6. Click OK to close all the open dialog windows.

Windows XP

1. In the Start menu, right click on My Network Places and select Properties.
2. Right click Local Area Connections and select Properties.
3. On the General tab, select Internet Protocol (TCP/IP) and click Properties.
4. On the Alternate Configuration tab, select User Configured.
5. Enter the IP Address 192.168.0.1 and the Subnet Mask 255.255.255.0.
6. Click OK to close all the open dialog windows.

Camera Characteristics

| | |
|----------------|---|
| Pick-up Device | CMOS active pixel sensor with 752 (H) x 480 (V) pixel image |
| Imager | Type 1/3 (5.35mm diag) - 4.51mm(H) x 2.88mm(V) |
| Capture Rate | 60 full-resolution fps; higher with partial scan |
| Pixel Size | 6.0 x 6.0 micrometers |
| Gain | 100% to 395% |
| Shutter Open | 30 to 193,629 microseconds |
| Lens Mount | C Mount |
| Software | A10 - IMPACT Software Version 7.1.1.26 or greater A20 - IMPACT Software Version 7.5.0.0 or greater |
| Processor | A10 - 625 Million Instructions Per Second (MIPS) A20 - 1334 MIPS |

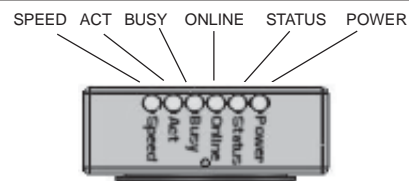


NOTE: The A-Series is an economical Intelligent Camera. It will not provide the same image processing performance or network communication speeds that are available from PPT's higher performance T and C-Series Intelligent Cameras.

Resetting the vision device

If it is necessary to reset the vision device, insert the end of an unfolded paper clip (or similar object with a flat tip), inside the hole on the rear panel (see page 3). Gently press the reset button. Vision programs are retained after reset, but the device will be off-line.

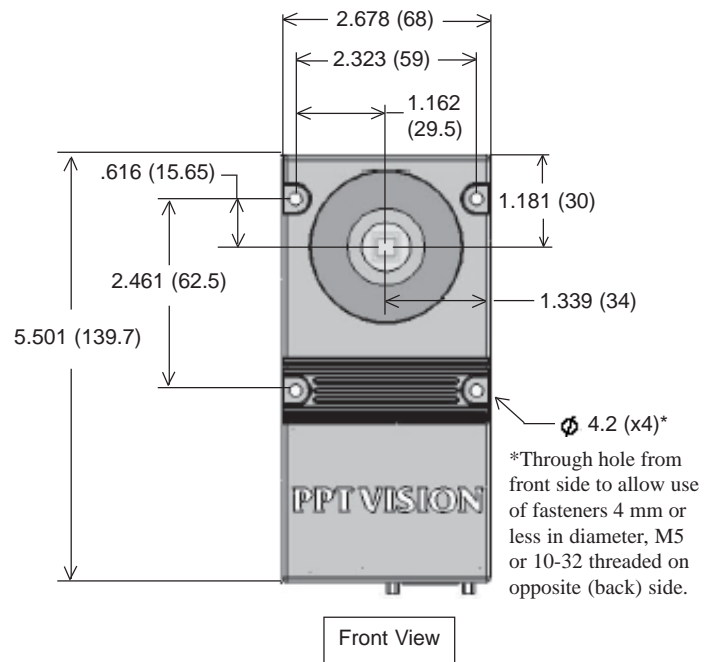
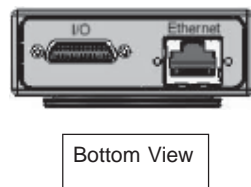
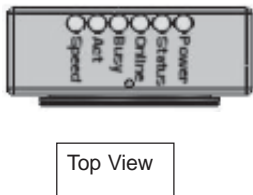
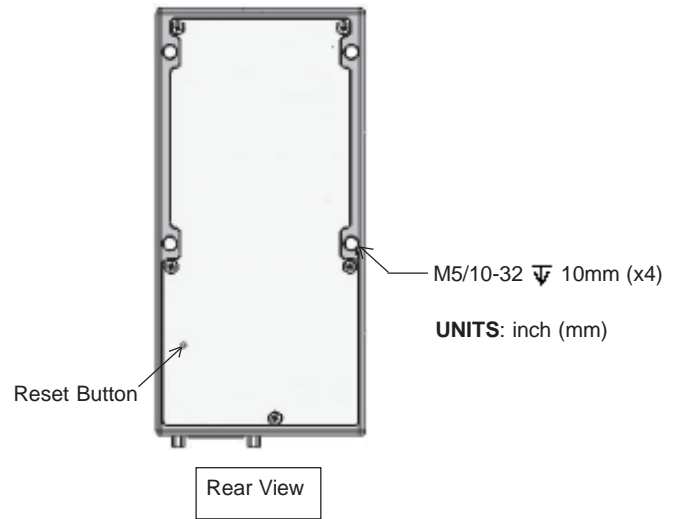
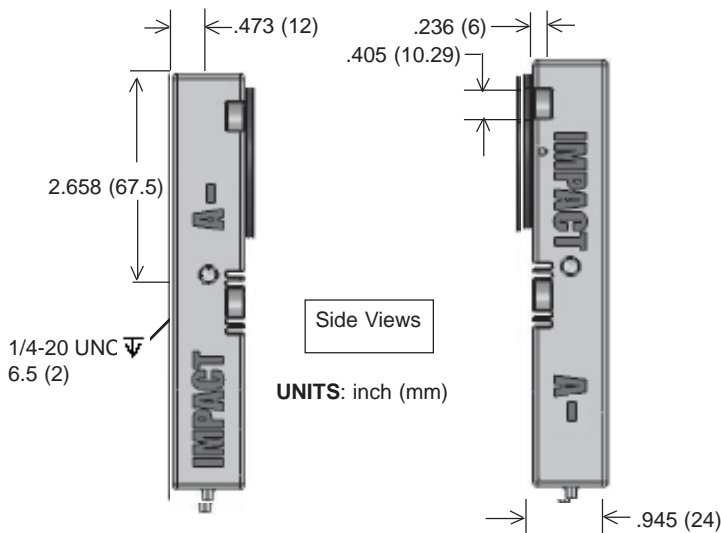
Camera Status Lights



| Name | On Indicates |
|--------|---|
| SPEED | Ethernet link speed: off =10Mbps (A10 only), yellow=100Mbps |
| ACT | Ethernet link is active |
| BUSY | Camera is accessing flash disk memory |
| ONLINE | Device is Online |
| STATUS | Device is currently processing data |
| POWER | 24 VDC power is On |

Mounting the IMPACT A-Series Camera

The A-Series camera should be fastened to a stable, solid surface. Inspection results can be affected if the camera moves. These views show mounting dimensions, as well as the status light and cable connection locations.



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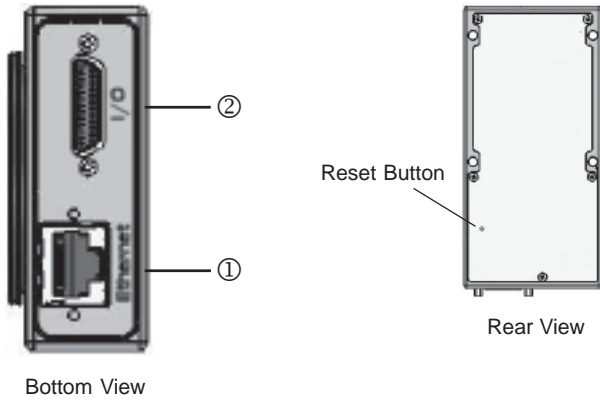
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Connection Points



- ① **Client computer or network** - Use only Cat5e or better Ethernet Cable (PPT Part # 606-0457-x). A crossover cable is not required.
- ② **Power Supply** - See Input/Output Layout
- ② **I/O** - See Input/Output Layout; Use optional cable (PPT Part # 606-0607-02) with terminal block (PPT Part # 248-0138) or optional unterminated cable (PPT Part # 606-0644-xx)
- ② **Serial port** - See Input/Output Layout

Input and Output Characteristics

The single 25-pin Micro D Sub connector provides serial communications and the following inputs and outputs:

- 1 Camera Trigger Event Input
- 1 Digital/Shift Input
- 1 Digital/Event Input
- 4 Outputs
- 1 Strobe Output

Strobe output signals on terminals 7 and 8 on the A-Series Terminal Block provide optically isolated, current-mode signals of 300 mA maximum continuous DC current at 20° C (68° F) – derated at higher temperatures.

Device Output Characteristics

| Supply Voltage (max) | Turn-on Time | On Current (max) | Off Current (max) | Turn On Delay |
|----------------------|--------------|------------------|-------------------|--|
| 26 VDC | 250 uS | 300 mA | 100 uA | 50 uS (24 Vdc into 1K-ohm resistive load) |

Device Input Characteristics

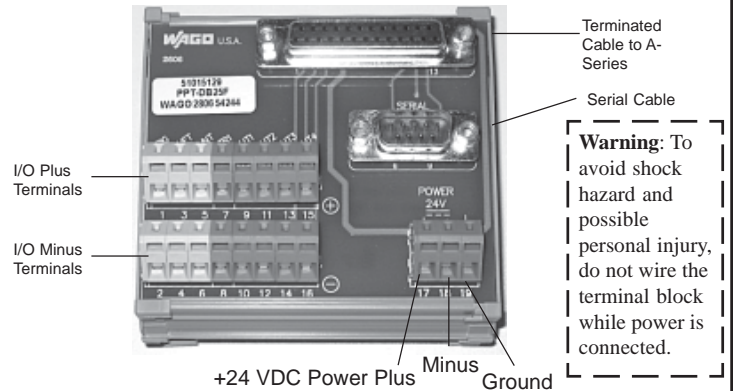
| Input Current (nominal) | Input Voltage | On Voltage | On Delay | Min On Current | Turn Off Voltage | Turn Off Delay | Max Off Current |
|----------------------------------|---------------|------------|----------|----------------|------------------|----------------|-----------------|
| 3.75 mA @ 12Vdc 5 Ma @ 24 Vdc | 0-26 Vdc | >2.8 Vdc | 10 uS | 2.5 mA | <1.5 Vdc | 50 uS | 500 uA |

Input/Output Layout

To connect I/O, use optional cable (PPT Part # 606-0607-02) with terminal block shown here OR optional unterminated cable (PPT Part # 606-0644-xx) shown below.

On the A-10 model, terminal numbers for Input 1 and Input 2 are reversed. Shift and Event are the same.

| Terminal Number | Signal Name | Terminal Number | Signal Name |
|-----------------|---------------------|-----------------|----------------|
| 1 | Trigger In + | 13 | Output 3 + |
| 2 | Trigger In - | 14 | Output 3 - |
| 3 | Input 1 and Shift + | 15 | Output 4 + |
| 4 | Input 1 and Shift - | 16 | Output 4 - |
| 5 | Input 2 and Event + | 17 | 24 VDC Power + |
| 6 | Input 2 and Event - | 18 | 24 VDC Power - |
| 7 | Strobe Output + | 19 | Power Ground |
| 8 | Strobe Output - | | |
| 9 | Output 1 + | | |
| 10 | Output 1 - | | |
| 11 | Output 2 + | | |
| 12 | Output 2 - | | |



A-Series Terminal Block (PPT Part # 248-0138)

IMPORTANT NOTE: The Terminal Block power connection terminal numbers and the Unterminated cable power connection pin numbers are different. On the A-10 model, pin numbers for Input 1 and Input 2 are reversed.

Unterminated Cable wire colors (PPT Part # 606-0644-xx)

| Pin Number | Wire Color | Signal Name | Pin Number | Wire Color | Signal Name |
|------------|------------|-----------------|------------|------------|-----------------|
| 1 | Wht/Brn | Trigger In + | 13 | Wht/Gry | Output 3 + |
| 2 | Brn/Wht | Trigger In - | 14 | Gry/Wht | Output 3 - |
| 3 | Wht/Org | Input 1/Shift + | 15 | Wht/Pink | Output 4 + |
| 4 | Org/Wht | Input 1/Shift - | 16 | Pink/Wht | Output 4 - |
| 5 | Wht/Yel | Input 2/Event + | 17 | Wht/Tan | Power + |
| 6 | Yel/Wht | Input 2/Event - | 18 | Tan/Wht | Power + |
| 7 | Wht/Grn | Strobe Output + | 19 | Tan/Brn | Power - |
| 8 | Grn/Wht | Strobe Output - | 20 | Brn/Tan | Power - |
| 9 | Wht/Blu | Output 1 + | 21 | Tan/Org | Power Ground |
| 10 | Blu/Wht | Output 1 - | 22 | Org/Tan | Power Ground |
| 11 | Wht/Vio | Output 2 + | 23 | Tan/Yel | Serial Transmit |
| 12 | Vio/Wht | Output 2 - | 24 | Yel/Tan | Serial Receive |
| | | | 25 | Tan/Pink | Serial Ground |