



DATALOGIC

A20 QuickStart Guide

Publication # 843-0111 (Rev U)

About this guide

Thank you for using Datalogic's A20 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 A20 Hardware Guide.

- Step 1: Unpack and check all the equipment.
- Step 2: Mount the camera (see page 3) and connect the Ethernet cable between the camera and the client computer (see page 4).
- Step 3: Connect the cable between the camera and the terminal block if you are using the terminal block (see page 4).
- 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 4). Turn on AC power.
- Step 6: Configure the client IP address and install the Impact Software (see page 2).
- Step 7: Change the A20 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 4).

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 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 Datalogic for the A20 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 3.

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 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. Pour éviter le choc électrique, n'ouvrez jamais la valise.

Installing Impact Software

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

1. You may need to turn off automatic virus checking during install if it causes installation problems.
2. You must have administrator privileges to install Impact software.
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 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 7

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

Windows Vista

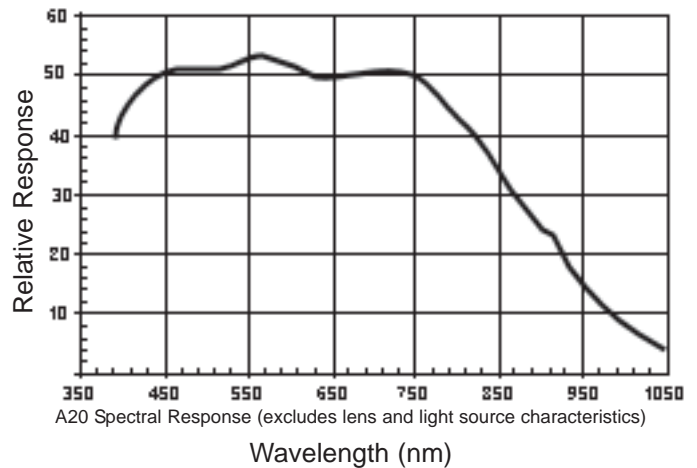
1. In the Start Menu, select Network, then click Network and Sharing Center.
2. For the Local Area Connection, click View Status.
3. Click Internet Protocol Version 4 in the list, then click Properties.
4. On the Alternate Configuration tab, select User Configured.
5. Enter the desired IP address and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

Camera Characteristics

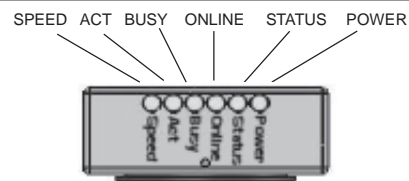
Pick-up Device	CMOS active pixel sensor with 752 (H) x 480 (V) pixel image
Imager	Type 1/3 (5.35mm diag) - 4.51mm(H) x 2.88mm(V)
Capture Rate	60 full-resolution fps; higher with partial scan
Pixel Size	6.0 x 6.0 micrometers
Gain	100% to 395%
Shutter Open	30 to 193,629 microseconds
Lens Mount	C Mount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



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.

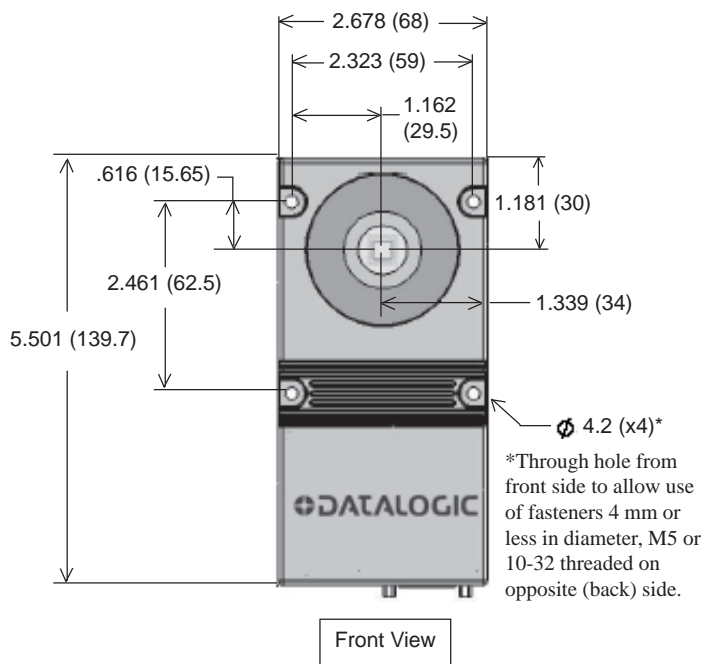
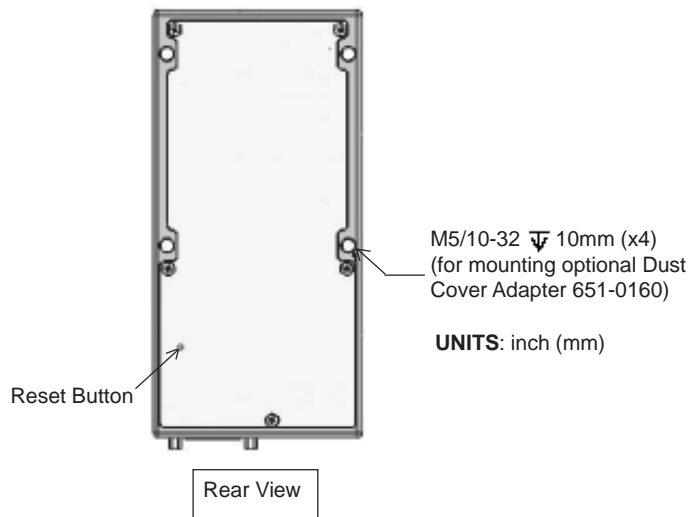
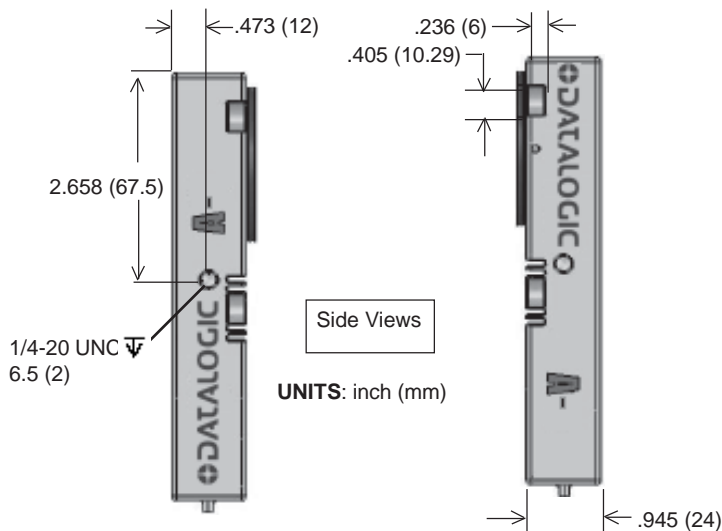
Camera Status Lights



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 Datalogic A20 Camera

The A20 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.



Datalogic Automation, Inc. (DLA) reserves the right to revise this publication from time to time and to make changes in the content hereof without obligation to notify any person of such revision or changes.

Under the copyright laws, neither this publication nor the software may be copied, photocopied, reproduced, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of DLA.

Telephone: 952-996-9500

Facsimile: 952-996-9501

Web site: <http://www.datalogic.com>

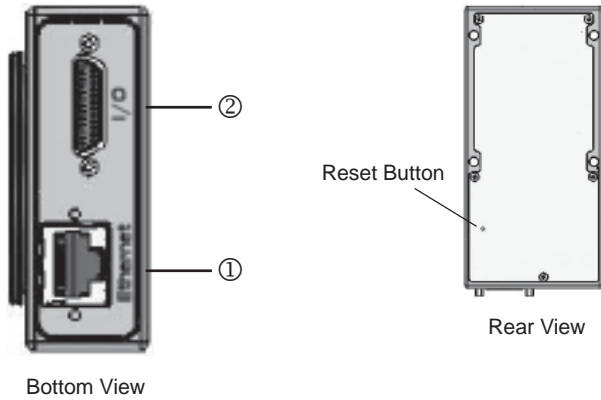
E-Mail: mvsupport@datalogic.com

Impact, Vision Program Manager, VPM, Control Panel Manager, CPM, and A20 are trademarks of DLA. Microsoft Windows is a trademark of Microsoft Corporation.

Java is a trademark of Sun Microsystems, Inc.

Copyright © 2006-2013 Datalogic Automation, Inc. All Rights Reserved

Connection Points



- ① **Client computer or network** - Use only Cat5e or better Ethernet Cable (Part # 606-0457-xx). A crossover cable is not required.
- ② **Power Supply** - See Input/Output Layout
- ② **I/O** - See Input/Output Layout; Use optional cable (Part # 606-0607-xx) with terminal block (Part # 248-0138) or optional unterminated cable (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 A20 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 μ S	300 mA	100 μ A	50 μ S (24 Vdc into 1K-ohm resistive load)

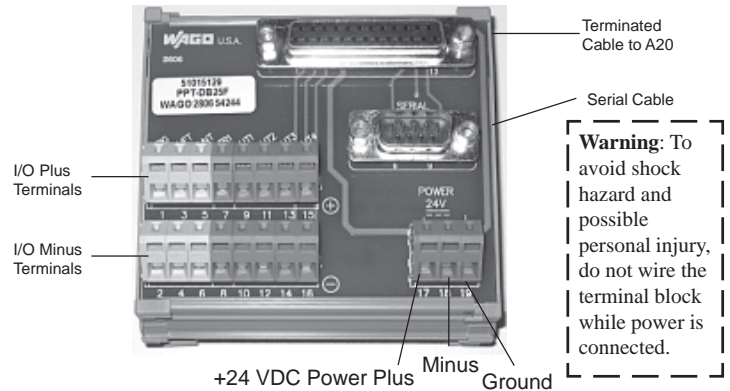
Device Input Characteristics

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 μ S	2.5 mA	<1.5 Vdc	50 μ S	500 μ A

Input/Output Layout

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

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 -		



A20 Terminal Block (Part # 248-0138)

Warning: To avoid shock hazard and possible personal injury, do not wire the terminal block while power is connected.

IMPORTANT NOTE: The Terminal Block power connection terminal numbers and the Unterminated cable power connection pin numbers are different.

Unterminated Cable wire colors (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