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# **BOA2 Vision System**

High Resolution Smart Camera For Industrial Automation



## **Product Features:**

- High resolution global shutter CMOS sensor
- 3 resolution models –
   2M, 3M and 5M
- Dual core 1.5 GHz processor
- Embedded application software
- Ease-to-use setup for new vision adopters
- Built-in vision capabilities for most applications
- Standard factory protocols (EthernetIP, Modbus, Profinet)
- · Operator interface flexibility
- Gigabit Ethernet and RS232 communications
- Isolated I/O and direct lamp connections
- Integrated ring light (optional on 2M version only)
- IP67 enclosure with lens cap
- · Convenient mounting options
- Standard M12 cables

#### Overview

# Easy-to-use, Industrial Vision System for Automated Inspection Applications

BOA2 is a highly integrated machine vision system designed primarily for automated inspection and control applications. Packaged as an industrial smart camera, BOA2 combines a high resolution image sensor with powerful processing, flexible communications and easy-to-use embedded software that has been designed to satisfy a variety of factory floor vision applications.

#### TYPICAL APPLICATIONS

- Precision part measuring BOA2 can image up to 2560 horizontal 5 μm pixels for repeatable and reliable measuring
- Defect detection BOA2 can detect minute defects that are lost or difficult to distinguish with lower resolution sensors
- Assembly verification BOA2 systems can image and inspect large parts or large surface areas, thus reducing the number of sensors and overall cost of deployment

The BOA2 image sensor supports C mount lenses which, together with an optional LED light, can be enclosed within a protective cover to safeguard against accidental damage or tampering. The product is rated for use in harsh industrial environments and provides several mounting options on the front, back and sides.

# **LIGHTING OPTIONS**

BOA2 provides a direct connection to external 24V light sources with built-in strobe control. The BOA2 XA2 model can optionally be fitted with a high intensity ring light. This light has built-in collimators that provide uniform illumination across the target.

#### **USER INTERFACE**

BOA2 vision systems can be quickly configured and deployed using the embedded iNspect Express software. Users typically connect and setup an application through a web browser connection running on a networked PC. After a solution is developed, the PC can be removed or remain on the network for online monitoring.

# **ACCESSORIES**

BOA2 is offered with a DIN mountable panel link module that provides convenient wiring and I/O isolation at the control panel. The system connects to this device through a standard M12 cable. Other optional accessories include lenses, lens protection caps, filters, lights, interface cables, power supplies, display controllers and HMI touch panels.



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## **EMBEDDED SOFTWARE**

BOA2 vision systems include a full license to setup and run the embedded iNspect Express software. This easy-to-use application provides extensive vision tools and capabilities that satisfy a range of inspection needs, from part positioning, identification and measuring, to verification and flaw detection.



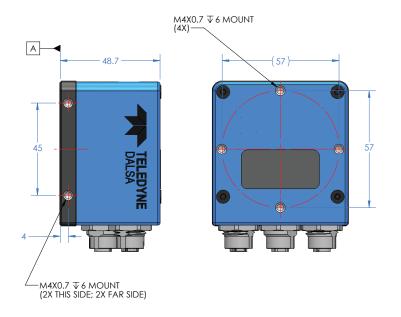
iNspect Express capabilities include the following:

- Preprocessors
- Calibration
- Pattern matching
- 1D/2D code reading
- Character recognition (OCR)
- Feature counting tools
- Measurement tools
- Verification tools
- Tracing tools
- Specialty tools for beads, threads and springs
- Scripting
- History viewing
- Runtime editing
- Communication protocols for interacting with 3rd party PLCs, robots and the factory enterprise
- User password control and access data collection

For deployment, iNspect Express provides several options for runtime visualization, including support for custom HMIs.

Included with BOA2 vision systems is a fully functional PC emulator for offline solution development.

Specifications	Model		
	BOA2 XA2	BOA2 XA3	BOA2 XA5
Memory	Storage 2 GB, Program 1 GB		
Speed	1.5 GHz Dual Core		
Sensor	1664 x 1216	1920 x 1440	2560 x 2048
Pixel Size	5 um	5 um	5 um
Max Frame rate	up to 80 fps	up to 60 fps	up to 40 fps
Lens	C-mount 2/3"	C-mount 1"	C-mount 1"
Lamp Internal	Optional ring	N/A	N/A
Lamp External	Direct connect		
Trigger	1 opto-isolated input or via software		
Inputs	3 opto-isolated inputs (including trigger)		
Outputs	3 opto-isolated outputs		
Strobe	1 strobe output for external lamp		
Status	1 LAN + 2 application LEDs		
Interfaces	Ethernet: 1000 BaseT, Serial: RS-232		
Power	24V @ 300mA		
Environment	Operating: 0-50°C, IP67 protection		
Dimensions	83 mm x 66 mm x 48 mm (without lens cover)		



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