

**NEW  
COLOR  
TOOLS!**

**PresencePLUS®**

# Color Vision Sensors

## Unlimited color spectrum analysis for your most challenging applications.



### Accurate color sensing in two convenient platforms.



**Color vision that fits your machinery.** Choose between the one-piece *PresencePLUS® P4 COLOR* or the more compact *PresencePLUS® Pro COLOR* sensor with a separate DIN-mountable controller. *Pro* cameras are available in IP68-rated stainless steel or nickel-plated aluminum for rugged industrial and washdown environments.

#### Incredible features for easy operation.

- Includes three powerful tools for analyzing color
  - **Color Match:** Inspects for matching hue and intensity
  - **Average Color:** Evaluates or communicates color content values sensed in a selected area
  - **Color Blob:** Determines the presence, connectivity, size and location of selected features with one or more colors

- Available with optional Bar Code Reader (BCR) and Optical Character Reading and Verification (OCR/OCV) tool
- Includes all the *PresencePLUS* gray scale vision tools: Locate, Pattern Find and Count, Geometric Find and Count, Edge, Blob, Average Gray Scale, Math and Measure
- Operates with intuitive *PresencePLUS* software with Remote TEACH
- Features a 752 x 480 pixel resolution color CMOS imager

#### Solve most applications in your plant.

- PresencePLUS* color vision sensors solve thousands of applications:
- Automotive fuse verification
  - Pharmaceutical tablet color matching
  - Correct LED placement
  - Color consistency monitoring

### Simple user interface.

- ▶ Proven user interface common to all Banner *PresencePLUS* sensors
- ▶ Intuitive, three-step, point-and-click operation
- ▶ Built-in Inspection Wizard
- ▶ Quick TEACH using a single image for reference
- ▶ Multiple stored inspections



### Easiest sensor to set up and operate.

- ▶ Compact two-piece or economical one-piece design
- ▶ 10/100 Ethernet and serial communications
- ▶ Direct connectivity to EtherNet/IP and Modbus TCP industrial networks
- ▶ ActiveX utilities for exporting inspections, images and results
- ▶ Discrete I/O configurable as NPN or PNP, and for timing and function
- ▶ 10 to 30V dc operation

### Wide selection of lighting.

- ▶ Provides maintenance free, rugged LED lighting in red, green, blue, white and infrared
- ▶ Delivers high-intensity lighting with built-in universal strobe control and power regulation; no external control or power supply required
- ▶ Offers selection of ring lights, area lights, backlights, linear array lights, on-axis lights, low-angle indirect ring lights and specialty lights



### Local applications support—worldwide.

- ▶ More than 3,000 local specialists plus factory applications engineers help you solve your applications quickly and effectively.
- ▶ iKnow® Vision interactive online training is always available.



[www.bannerengineering.com/color](http://www.bannerengineering.com/color)

**1.888.373.6767**




more sensors, more solutions

[bannerengineering.com](http://bannerengineering.com)






# PresencePLUS® Color Vision Sensors



## PROII COLOR Controllers

Models	—	Add premium tools to model (example, PPROCTL-BC)
 PPROCTL	—	<b>BC</b> = Bar Code Reader <b>OC</b> = OCR/OCV <b>BCOC</b> = Bar Code Reader and OCR/OCV


## Pro COLOR Cameras 752 x 480 resolution

Models	Ring Light	Window	Housing
 PPROCAMC	—	—	Black Anodized Aluminum
 PPROCAMCSC-G PPROCAMCSC-P PPROCAMCSSC-G	Lens Cover (no light)	Glass	Nickel-plated Aluminum
		Plastic	Nickel-plated Aluminum
		Glass	Stainless Steel
PPROCAMCSSC-P	Plastic	Stainless Steel	
 PPROCAMCSW-G PPROCAMCSW-P PPROCAMCSSW-G PPROCAMCSSW-P	White	Glass	Nickel-plated Aluminum
		Plastic	Nickel-plated Aluminum
		Glass	Stainless Steel
		Plastic	Stainless Steel


## P4 COLOR OMNI 752 x 480 resolution

Models	Housing	—	Add premium tools to model (example, P4COR-BC)
 P4COR	Right-Angle	—	<b>BC</b> = Bar Code Reader
 P4COI	In-Line	—	<b>OC</b> = OCR/OCV
			<b>BCOC</b> = Bar Code Reader and OCR/OCV


## Pro Cordsets

Models	Description	Style	Length
 PPC06 PPC06RA PPC06HF PPC06RAHF PPC23 PPC23HF PPC23RA PPC23RAHF	Camera to Controller	Straight	2 m
		Right-Angle	
		Straight (High-Flex)	
		Right-Angle (High-Flex)	7 m
		Straight	
		Right-Angle	
		Straight (High-Flex)	
Right-Angle (High-Flex)			












## Sealed Pro Cordsets

Models	Description	Style	Length
 PPC13S	Camera to Controller	Straight	4 m
PPC23S	Camera to Controller		7 m
PKG3M-4	Sealed Ring Light		4 m
	(Nickel-plated)		7 m
PKG3M-4	Sealed Ring Light		4 m
	(Stainless Steel)		7 m

## P4 Cordsets

Models	Length
 P4C06	2 m
P4C23	7 m
P4C32	10 m
P4C50	16 m
P4C75	23 m

## Vision Tools

P4 OMNI	PROII		
•	•		<b>Color Match.</b> Inspects for matching hue and intensity
•	•		<b>Average Color.</b> Tests or communicates color content values sensed in a selected area
•	•		<b>Color Blob.</b> Determines the presence, connectivity, size and location of selected features with one or more colors
•	•		<b>Bar Code.</b> Finds, decodes and grades 2D and 1D linear bar codes
•	•		<b>OCR/OCV.</b> Reads and verifies optical characters
•	•		<b>Gray Scale.</b> Determines the average gray scale value of an area
•	•		<b>Blob.</b> Determines the presence, connectivity and location of selected features
•	•		<b>Edge.</b> Determines the presence, number, classification and location of edges
•	•		<b>Object.</b> Determines the presence, number, classification, size and location of objects
•	•		<b>Pattern Count.</b> Determines the presence, number and location of a pattern(s)
•	•		<b>GEO Count.</b> Locates 360° inspection detail regardless of product orientation

## iKnow™ Online Training & Tutorials



A complete resource for tutorials, product questions and answers—and the mechanics and theory behind sensor technology available online at [www.bannerengineering.com/training](http://www.bannerengineering.com/training)

**Q. Should I upgrade my Black and White PresencePLUS to a color camera?**

**Q. When would I use an Average Color Tool over a Blob tool?**

**Q. What types of lighting are recommended for color sensing?**

Go online for answers to these questions or to pose your own!



Q&A: Color Vision

Banner Engineering Corp.

9714 Tenth Avenue North • Minneapolis, Minnesota 55441 • (763) 544-3164 • Fax: (763) 544-3213  
Toll-free: 888-373-6767 • [www.bannerengineering.com](http://www.bannerengineering.com) • Email: [sensors@bannerengineering.com](mailto:sensors@bannerengineering.com)

P/N 77041 rev. A



[www.bannerengineering.com/color](http://www.bannerengineering.com/color)



more sensors, more solutions

Printed in USA