

# 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, Object, 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.

*Presence*PLUS 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 highintensity 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<sup>®</sup> Vision interactive online training is always available.

www.bannerengineering.com/color

1.888.373.6767

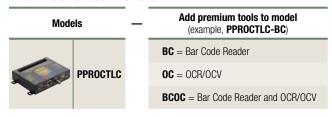


more sensors, more solutions

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# **PresencePLUS® Color Vision Sensors**

#### **PROII COLOR Controllers**



#### **Pro COLOR Cameras 752 x 480 resolution**

Models		Ring Light	Window	Housing	
	PPROCAMC	_	_	Black Anodized Aluminum	
	PPROCAMCSC-G		Glass	Nickel-plated	
	PPROCAMCSC-P	Lens Cover	Plastic	Aluminum	
	PPROCAMCSSC-G	(no light)	Glass	Stainless Steel	
	PPROCAMCSSC-P		Plastic		
•	PPROCAMCSW-G		Glass	Nickel-plated Aluminum	
	PPROCAMCSW-P	White	Plastic		
	PPROCAMCSSW-G		Glass	Chaimlana Chaol	
	PPROCAMCSSW-P		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	
				OC = OCR/OCV	
	P4C0I In-Line		<b>BCOC</b> = Bar Code Reader and OCR/OCV		

#### **Vision Tools**

ion io	OIS		
<i>P4</i> OMNI	PROII		
•	•	7	Color Match. Inspects for matching hue and intensity
•	•	3	<b>Average Color.</b> Tests or communicates color content values sensed in a selected area
•	•	<b></b>	<b>Color Blob.</b> Determines the presence, connectivity, size and location of selected features with one or more colors
•	•	쬯	<b>Bar Code.</b> Finds, decodes and grades 2D and 1D linear bar codes
•	•	ABC 123	OCR/OCV. Reads and verifies optical characters
•	•		<b>Gray Scale.</b> Determines the average gray scale value of an area
•	•	$\Phi$	<b>Blob.</b> Determines the presence, connectivity and location of selected features
•	•	<b>→#</b> ←	<b>Edge.</b> Determines the presence, number, classification and location of edges
•	•	w	<b>Object.</b> Determines the presence, number, classification, size and location of objects
	•	<b>XX</b>	<b>Pattern Count.</b> Determines the presence, number and location of a pattern(s)
•	•	O	<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 <a href="https://www.bannerengineering.com/training">www.bannerengineering.com/training</a>

- 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!



#### **Pro Cordsets**

Models		Description	Style	Length	
	PPC06	Camera to Controller	Straight		
0	PPC06RA		Right-Angle	0 m	
	PPC06HF		Straight (High-Flex)	2 m	
	PPC06RAHF		Right-Angle (High-Flex)		
	PPC23		Straight	7	
	PPC23HF		Right-Angle		
	PPC23RA		Straight (High-Flex)	7 m	
	PPC23RAHF		Right-Angle (High-Flex)		

#### **Sealed Pro Cordsets**

Models		Description	Style	Length
<b>O</b>	PPC13S	Camera to	Straight	4 m
	PPC23S	Controller		7 m
	PKG3M-4	Sealed Ring Light		4 m
	PKG3M-7	(Nickel-plated) Sealed		7 m
	PKGV3M-4			4 m
	PKGV3M-7	Ring Light (Stainless Steel)		7 m

#### **P4** Cordsets

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

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