iVu Series

Vision Sensor

- Configure in minutes with or without a PC
- Perform more inspections with fewer devices
- All-in-one solution with sensor, lens, and light

BANNER®

The simplicity of a photoelectric sensor and the intelligence of a smart camera

All-inclusive vision sensor with lens, light, I/O and touch screen programming

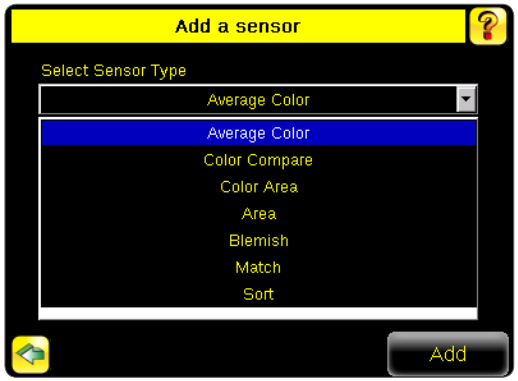
Integrated touch screen for configuration and monitoring on the factory floor

PC software for remote configuration and monitoring of multiple vision sensors

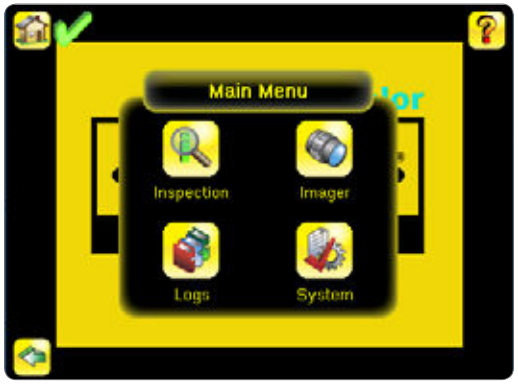
Remote touch screen model available for configuration and monitoring in hard to reach spaces

Simple setup from anywhere

Ability to change parameters on the fly saves valuable time without needing to stop and restart the inspection

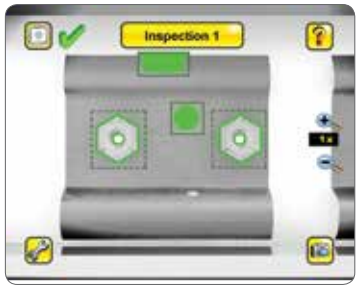


Application flexibility with the ability to add up to nine sensors per inspection and 30 inspections per iVu



Quickly set up your inspection with intuitive menus

Real time feedback to determine the mode of failure for an application



iVu Color Sensor

Used to monitor parts for color or color variations in addition to type, size, orientation or position

Average Color

Reports the average color of a part

- Monitor ink color changes over time
- Provide color information for part sorting
- Verify trim pieces in automotive assembly

Color Area

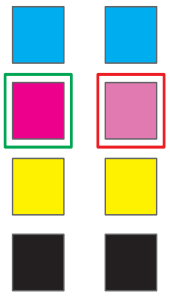
Verifies a feature, or multiple features, are the correct color and present on a part

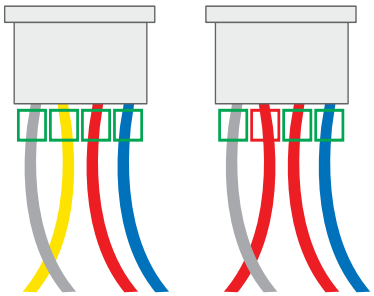
- Verify a wire placement and color
- Label verification based on color
- Verify the color and correct number of bottles in a case

Color Compare

Verify that a part matches its reference color

- Confirm label color on a package
- Verify color of a bottle cap
- Check stain color on wood





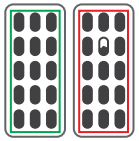
iVu Vision Sensor

Used to monitor parts for type, size, orientation or position

Match

Verifies a pattern, shape or orientation is correct

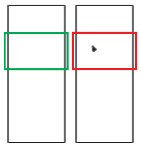
- Verifies orientation and that the correct label is applied
- Weld nut orientation inspection
- Validate shape of parts



Area

Verifies a feature, or multiple features, are present on a part

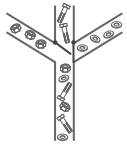
- Blister pack inspection
- Count holes on a stamped part
- Verify complete assembly of a filter



Blemish

Finds areas of high contrast in the image

- Detect foreign material on a web
- Confirm presence of text on a container
- Verify safety seal on a cap



Sort

Recognizes and sorts different patterns of parts

- Identify and sort parts on a production line
- Confirm the correct parts are in a medical kit

iVu Barcode Reader (BCR)

Barcode reading capabilities for traceability applications

2D Bar Codes

- Data Matrix (ECC200)
- QR & Micro QR

1D Bar Codes

- Code 128
- Code 39
- Code 93
- Codabar
- DataBar
- Interleaved 2 of 5
- EAN-13 (UPC-A)
- EAN-8
- UPC-E
- IMB
- PDF417
- Postnet
- Pharmacode

Build Your iVu

Series	Touch Screen	Sensor Type	Ring Light Color	Lens (mm)
IVU2P	T	G	R	04
	T = Integrated **R** = Remote*	**C** = Color† **G** = Grayscale **B** = Barcode	**R** = Red **B** = Blue **G** = Green **W** = White **I** = Infrared **6** = UV365 **9** = UV395 **XC** = C-mount** **X** = No Ring Light	**04** = 4.3 **06** = 6 **08** = 8 **12** = 12 **16** = 16 **25** = 25 **Blank** = No lens (only C-Mount)

* Remote display or PC is required for set up and viewing of Remote Touch Screen sensors

** Requires C-mount lens

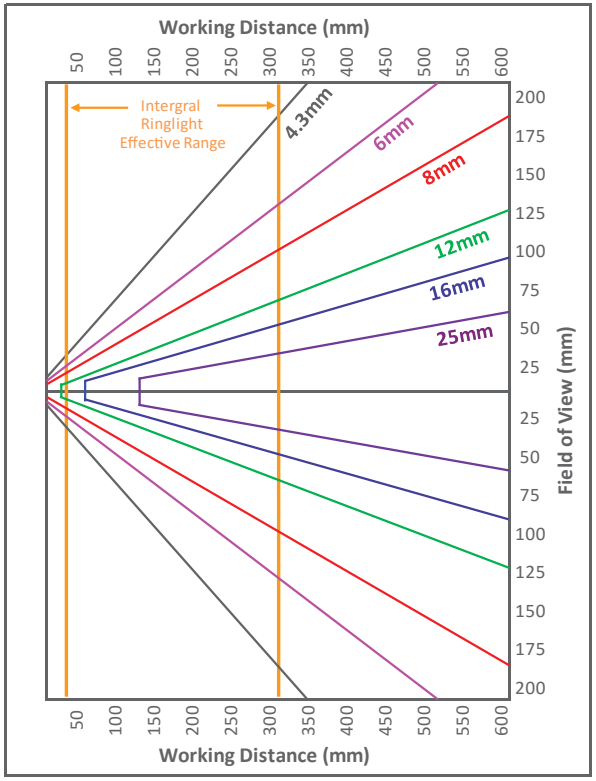
† Color sensor only available in white, C-mount or no ring light

Machine-Mountable Remote Display

Description	Model
3.5" diagonal remote touch screen — for programming and monitoring	RDM35

Banner Vision Manager makes it quick and easy to setup any iVu Series vision sensor. It features an intuitive operating environment that users of all experience levels can easily navigate. Go to www.bannerengineering.com/vision-manager

iVu Lens Chart



* When set to max FOV

Lenses

Additional interchangeable lenses available for application flexibility

Description	Model
4.3 mm	LMF04
6 mm	LMF06
8 mm	LMF08
12 mm	LMF12
16 mm	LMF16
25 mm	LMF25

Filter Kits†

Optional accessory used to create additional contrast

Description	Model
Red	FLTMR2
Blue	FLTMB
Green	FLTMG
Infrared	FLTMI*

* Infrared pass filters are preinstalled on infrared ring light models.
† Filter kits include 1 color and two sizes of filter holders.

C-Mount Standard Lenses

Required accessory for C-Mount sensor

Description	Model
4 mm	LCF04
8 mm	LCF08
12 mm	LCF12
16 mm	LCF16
25 mm	LCF25R
50 mm	LCF50L2R
75 mm	LCF75LR

C-Mount Lens Covers

Provides IP67 rating for C-Mount sensor

Description	Model
50 mm	IVUSLC50-P
75 mm	IVUSLC75-P

Cordsets

Power
Required

M12/Euro-Style with Shield
Straight connector models listed; for right-angle, add **RA** to the end of the model number (example, **MQDC2S-1206RA**)

12-Pin
MQDC2S-1206
2 m (6.5')
MQDC2S-1215
5 m (15')
MQDC2S-1230
9 m (30')
MQDC2S-1250
15 m (50')

Ethernet
Required for Ethernet communications

RJ45 to 4-Pin Pico QD

4-Pin
IVUC-E-406
2 m (6.5')
IVUC-E-415
5 m (15'
IVUC-E-430
9 m (30')
IVUC-E-450
12 m (50')
IVUC-E-475
23 m (75')

USB
Used to update firmware and access sensor files

Straight connector models listed

4-Pin Pico
PSG-4M-4005-USB
0.15 m (0.5')
PSG-4M-401-USB
0.3 m (1')
PSG-4M-403-USB
0.9 m (3')
PSG-4M-410-USB
3 m (10')

Machine Mountable Remote Display
Required for use of RDM35 remote display

Double-ended M12 Euro Style
Straight connector models listed; for right-angle, add **RA** to the end of the model number (example, **IVURDM-QD-803RA**)

8-Pin
IVURDM-QD-803
1 m (3')
IVURDM-QD-806
2 m (6')
IVURDM-QD-815
5 m (15')
IVURDM-QD-830
9 m (30')
IVURDM-QD-850
16 m (50')

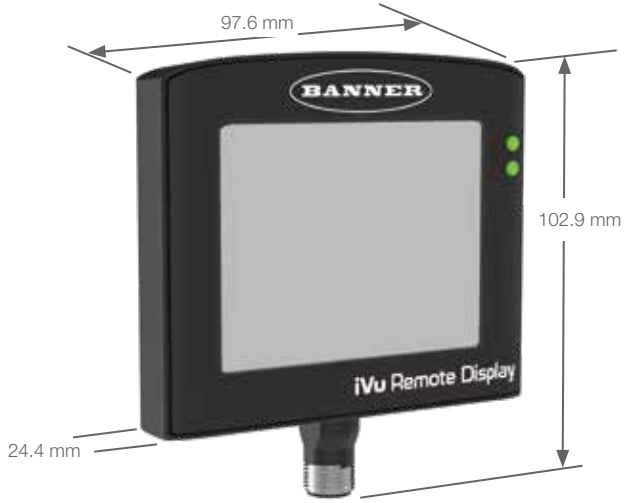
Brackets

SMBIVURAL
Stainless steel left mount right-angle bracket

SMBIVURAR
Stainless steel right mount right-angle bracket

SMBIVUU
Stainless steel U-shaped swivel bracket

SMBRDM35
Docking station for machine mountable remote display



Specifications

Power Requirements	Voltage: 10 to 30 V dc Current: 1 A maximum (exclusive of I/O load)
Connections	USB 2.0 Host: 4-pin Pico (M8) female connector Ethernet: 4-pin Pico (M8) male connector Power: 12-pin (M12) Euro male connector
Communications	Ethernet (10/100 Mbps), Serial RS-232
Ethernet Protocols	EtherNet/IP™, Modbus/TCP, PROFINET®
Output Configuration	3 software selectable NPN or PNP, Strobe Out
Output Rating	150 mA
External Stobe Output	+5 V dc
Acquisition	60 fps (frames per second)
Exposure Time	0.1 ms to 1.049 s
Imager	1/3 inch CMOS 752 × 480 pixels; adjustable Field of View (FOV)
Lens Mount	Micro Video Lens models: M12 × 1 mm thread C-Mount models: Standard C-mount
Construction	Housing: Black PBT Back Cover: Die-cast zinc Window: Acrylic
Environmental Rating	IEC IP67; C-mount models require lens cover
Operating Conditions	Integrated models: 0 to +45 °C (+32 to +113 °F) Remote models: 0 to +40 °C (+32 to +104 °F)
PC Requirements	Microsoft Windows version 7,8 or 10
Vision Sensor Capabilities	**iVu** Match Area Blemish Sort **iVu BCR** 1D codes 2D codes **iVu Color** Average Color Color Compare Color Area Match (grayscale only) Area (grayscale only) Blemish (grayscale only) Sort (grayscale only)
Certifications	CE, c UL us LISTED, EtherNet/IP ODVA, PI PROFIBUS & PROFINET

PN 205332 rev. B

1-888-373-6767
www.bannerengineering.com

BANNER®
more sensors, more solutions