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more sensors, more solutions



2014

The Complete Solution

Banner solves problems for most of the manufacturing companies in the Fortune 500, who rely on innovative automation solutions.

Banner products help manufacture the cars you drive, the TVs you watch, the food you eat, the medicine you take and virtually every product you consume. Whatever the industry, Banner has a solution to help you automate your plants, improve efficiency and manufacture quality products.



Sensors

- Presence
- Absence
- Inspection
- Gating
- Counting
- Measurement
- Position



Vision

- Pattern Recognition
- Complex Part Inspection
- Multi-Component Gauging
- Part ID/Orientation
- Assembly Verification
- Print Verification
- Traceability (Bar Code and Text)



Lighting & Indication

- Bin & Part Picking
- Error Proofing
- Pick-to-Light & Call for Parts
- Visual & Audible Indication
- Operator Guidance
- Andon Indication
- Pilot & Stack Light Replacement
- Visual Management



Wireless

- Process Control & Monitoring
- Factory Automation
- Commercial & Consumer Monitoring
- Agriculture & Water Management
- Traffic Monitoring & Control



Machine Safety

- Safety Light Screens
- Safety Modules & Controllers
- Emergency Stop Devices
- Safety Interlocks
- Ergonomic Two-Hand Control & Run Bars

Who is Banner



Banner Sensor
Installed Every



3.5
Seconds

Somewhere
in the World

Manufacturing Specialists



30,000+
Products

Global Presence



Network of

3,000

Professionals

**Customers First
Integrity Always
Quality in Everything
New Solutions — Every Day**



Application

Solutions

Experts

Banner Specials



Rapid
Customization

Contact Us

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OMNI-BEAM™

Rectangular Modular Sensors

Modular self-contained photoelectric sensors can be customized for specific applications and offer reliable clear object detection.

- Includes a sensor head and power block with optional timing logic module
- Offers interchangeable AC or DC power blocks
- Features exclusive multiple-LED system that display received signal strength, sensing contrast and seven different warnings
- Cordsets and brackets see page 462

OMNI-BEAM™ Sensor Heads

➔ Visible Red LED

Sensing Mode	Range	Supply Voltage	Response & Repeatability	Models
	4 m†	Provided by Power Block	Response: 4 ms Repeatability: 0.2 ms	OSBLVAGC

For more specifications see page 463.

† Retroreflective range is specified using one model BRT-3 retroreflector. Actual sensing range may differ, depending on efficiency and reflective area of the retroreflector in use. See Accessories for more information.

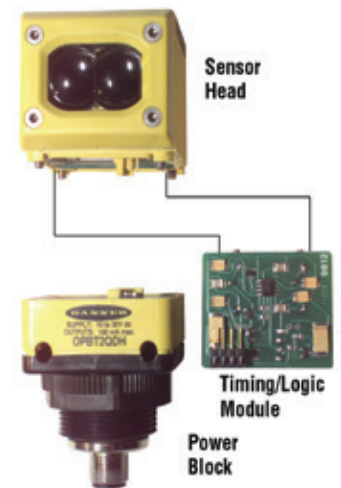
NOTE: Sensor heads require a power block.

OMNI-BEAM™ Power Blocks, DC

Connection	Supply Voltage	Output Type	Models
2 m 4-Pin Mini QD 4-Pin Euro QD	10-30 V dc	Bi-Modal™ NPN or PNP Two outputs: Load and Alarm	OPBT2 OPBT2QD OPBT2QDH
2 m 4-Pin Mini QD 4-Pin Euro QD	10-30 V dc	No output: for powering emitter-only sensor heads	OPBTE OPBTEQD OPBTEQDH

OMNI-BEAM™ Power Blocks, AC

Connection	Supply Voltage	Output Type	Models
2 m 5-Pin Mini QD	105-130 V ac	SPST solid-state ac relay Two outputs: Load and Alarm	OPBA2 OPBA2QD
2 m 5-Pin Mini QD	210-250 V ac		OPBB2 OPBB2QD
2 m 5-Pin Mini QD	105-130 V ac	No output: for powering emitter only sensor heads	OPBAE OPBAEQD
2 m 5-Pin Mini QD	210-250 V ac		OPBBE OPBBEQD



STEP 1: Choose a power block for the required sensor power (ac or dc) and interface.

STEP 3: Choose an timing logic module (Optional)

STEP 4: Plug and bolt components together without interwiring.

OMNI-BEAM modular components are sold separately. The three modular components, and the lenses, can be replaced in the field.

OMNI-BEAM™ Timing Logic Modules

Type	Logic Function	Timing Ranges	Models
Delay Timer Logic Module	ON-DELAY or OFF-DELAY or ON/OFF DELAY	ON-Delay: 0.01-1 sec., 0.15-15 sec., or none OFF-Delay: 0.01-1 sec., 0.15-15 sec., or none	OLM5
Pulse Timer Logic Module	ONE-SHOT pulse timer or DELAYED ONE-SHOT logic timer	Delay: 0.01-1 sec., 0.15-15 sec., or none Pulse: 0.01-1 sec., 0.15-15 sec.	OLM8
Pulse Timer Logic Module	ONE-SHOT pulse timer or DELAYED ONE-SHOT logic timer	Delay: 0.002-0.1 sec., 0.03-1.5 sec., or none Pulse: 0.002-0.1 sec., 0.03-1.5 sec.	OLM8M1

For information on Timing Diagrams, see data sheet

For more specifications see page 463.







Connection options: A model with a QD requires a mating cordset (see page 462).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **OPBT2 W/30**).

Cordsets







Euro QD (for Q models)


See page 908

Length	Threaded 4-Pin	
	Straight	Right-Angle
1.83 m	 MQDC-406	 MQDC-406RA
4.57 m	 MQDC-415	 MQDC-415RA
9.14 m	 MQDC-430	 MQDC-430RA

Pico QD

See page 928

Length	Threaded 4-Pin	Threaded 5-Pin
	Straight	
1.83 m	 MBCC-406	 MBCC-506
3.66 m	 MBCC-412	 MBCC-512
9.14 m	 MBCC-430	 MBCC-530

 Additional cordset information available. See page 904.

Brackets


OMNI-BEAM

See page 869

See page 869

See page 870

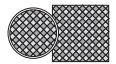
SMB30A	SMB30FA..	SMB30SC
		

 Additional brackets and information available. See page 846.

Other Accessories

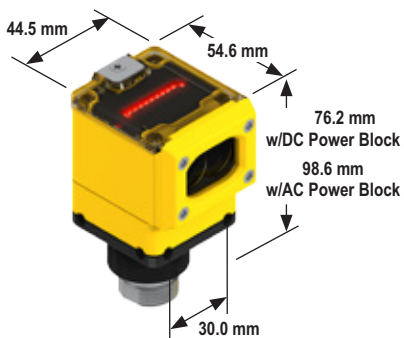
Reflectors

See page 940




Apertures


See page 966



OMNI-BEAM™ Sensor Head Specifications

Supply Voltage and Current	Supplied by OMNI-BEAM power block. See data sheet.
Output Response Time	See individual sensing heads for response times. See page 463.
Delay at Power-up	200 milliseconds; outputs are non-conducting during this time
Adjustments	<p>Four programming DIP switches</p> <p>SWITCH #1 selects the amount of sensing hysteresis</p> <p>SWITCH #2 selects the alarm output configuration</p> <p>SWITCH #3 selects Light Operate (switch #3 OFF) or Dark Operate (switch #3 ON)</p> <p>SWITCH #4 selects the STANDARD (switch #4 OFF) or Fine (switch #4 ON) scale factor for the D.A.T.A. light signal strength indicator array</p> <p>Sensitivity: 15-turn slotted brass screw Gain (sensitivity) adjustment potentiometer</p>
Indicators	<p>Sense and Load indicator LEDs are located on the top of the sensor head on either side of the D.A.T.A. array</p> <p>Sense LED indicates when a target has been sensed</p> <p>Load LED lights whenever the load (sensor output) is energized</p> <p>Also, Banner's exclusive, D.A.T.A. sensor self-diagnostic system located on the top of the sensor head warns of marginal sensing conditions usually before a sensing failure occurs (except on model OSBFAC)</p>
Construction	Sensor heads are molded of rugged thermoplastic polyester; top view window is polycarbonate; acrylic lenses; stainless steel hardware
Environmental Rating	Meets NEMA standards 1, 2, 3, 3S, 4, 12, and 13; IEC IP66 when assembled to power block
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% at 50° C (non-condensing)
Certifications	

OMNI-BEAM™ Timing Logic Module Specifications

Response Time	A disabled timing function adds no measurable sensing response time
Timing Adjustments	All logic modules feature 15-turn clutched potentiometers for accurate timing adjustments. The logic module slides into the sensor head housing and interconnects without wires. Timing adjustments are easily accessible at the top of the sensor head and are protected by the sensor's transparent cover.
Timing Repeatability	± 2% of timing range (max.); assumes conditions of constant temperature and power supply
Time Range	Useful range is from maximum time down to 10% of maximum (all models); when timing potentiometer is set fully counterclockwise, time will be approximately 1% of maximum for models OLM5 and OLM8, and 2% of maximum for model OLM8M1
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% at 50° C (non-condensing)
Certifications	

Excess Gain Curves

 = Visible Red Clear Object Detection Polarized

