



\*U.S. Patent 4965548

## OMNI-BEAM Features

- Sensor heads feature Banner's D.A.T.A.™ (Display And Trouble Alert) indicator system\* which warns of an impending sensing problem before a failure occurs
- 10-element LED array displays sensing contrast and received signal strength and warns of a sensing problem due to any of the following causes:
  - Severe condensation or moisture
  - High temperature
  - Low supply voltage
  - Output overload (dc operation)
  - Too much sensing gain
  - Not enough sensing gain
  - Low optical contrast
- Separate indicators for target sensed and output energized
- Sensor heads are field-programmable for the following response parameters:
  - Sensing hysteresis
  - Signal strength indicator scale factor
  - Light or dark operate of the load output
  - Normally open or closed alarm output
- Choose power blocks for high-voltage ac or low-voltage (10 to 30V) dc operation
- Sensor head and power block plug (and bolt) together quickly and easily
- Optional plug-in output timing modules may be added at any time

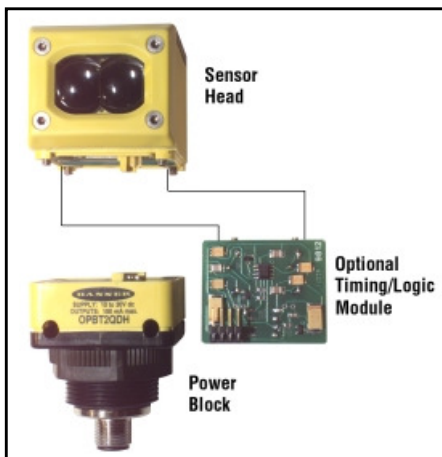


Figure 1. OMNI-BEAM sensor head and power block bolt and plug together quickly and easily; an optional timing logic module may be added at any time.

## OMNI-BEAM Overview

### Modular Design

OMNI-BEAM is a modular self-contained sensor. It is made up of a sensor head and a power block; an optional plug-in timing logic module may be added easily. The three modular components, sold separately, simply plug and bolt together — without interwiring — to create a complete self-contained photoelectric sensor tailored to a particular application's exact sensing requirements.

The sensor lenses and modular components are all field-replaceable. OMNI-BEAM's modular design makes change-out of any component quick and easy.



### **WARNING . . . Not To Be Used for Personnel Protection**

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death.

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

# OMNI-BEAM Sensor Heads

## Sensor Heads

A sensor head module is available for every sensing situation. Sensor heads bolt directly onto the power block, and are fully gasketed for protection against environmental elements. The D.A.T.A. self-diagnostic feature is standard on all OMNI-BEAM sensor heads (except emitters and model OSBFAC). Select from most sensing modes, with infrared or visible red, green or blue sensing beams available.

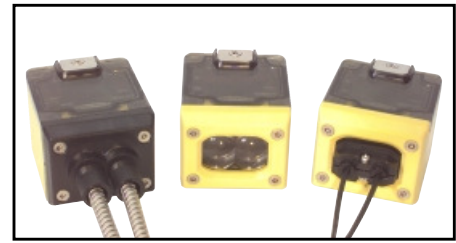


Figure 2. OMNI-BEAM sensor heads are available for most sensing modes, including fiber optic models.

## OMNI-BEAM Sensor Head Models

Model	Sensing Mode	Light Source	Range	Response	Repeatability
OSBE OSBR	Opposed emitter Opposed receiver	Infrared, 880 nm	45 m (150')	2 ms	0.01 ms
OSBLV OSBLVAG	Non-polarized retroreflective Polarized retroreflective	Visible red 650 nm	0.15 to 9 m (6' to 30') 0.3 to 4.5 m (12" to 15')	4 ms	0.2 ms
OSBLVAGC	Polarized retroreflective, clear object detection	Visible red 650 nm	4 m (12')	4 ms	0.2 ms
OSBD OSBDX	Short-range diffuse Long-range diffuse	Infrared, 880 nm	300 mm (12") 2 m (6.5')	2 ms 15 ms	0.1 ms 1 ms
OSBCV OSBCVG OSBCVB	Convergent	Visible red, 650 nm Visible green, 525 nm Visible blue, 475 nm	38 mm (1.5") Focus	4 ms	0.2 ms
OSBF OSBFVG OSBFVB	Glass fiber optic –high speed	Infrared, 880 nm Visible green, 525 nm Visible blue, 475 nm	Range varies with fiber optics used	2 ms	0.1 ms
OSBFV	Glass fiber optic –high speed	Visible red, 650 nm	Range varies with fiber optics used	2 ms	0.1 ms
OSBFX	Glass fiber optic –high power	Infrared, 880 nm	Range varies with fiber optics used	15 ms	1 ms
OSBEF OSBRF	Glass fiber optic emitter Glass fiber optic receiver	Infrared, 880 nm	Range varies with fiber optics used	2 ms	0.01 ms
OSBFAC	Glass fiber optic –ac-coupled	Infrared, 880 nm	Range varies with fiber optics used	1 ms	0.01 ms
OSBFP OSBFPG OSBFPB	Plastic fiber optic	Visible red, 650 nm Visible green, 525 nm Visible blue, 475 nm	Range varies with fiber optics used	2 ms	0.1 ms

NOTE: See pages 9 and 10 for Excess Gain and Beam Pattern curves.