

# VALU-BEAM 912 Series Sensors

## Sensing Mode

## Models

## Excess Gain

## Beam Pattern

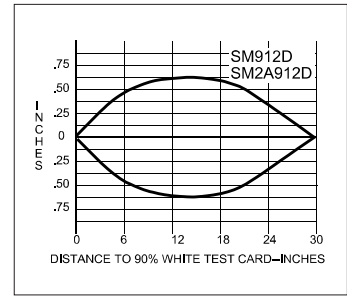
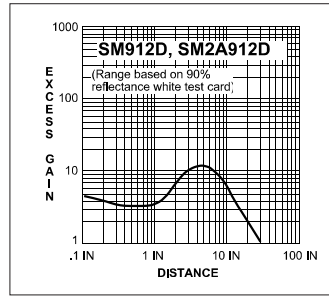


### SM912D

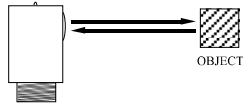
**Voltage:** 10 to 30V dc  
**Range:** 30 inches (76 cm)  
**Response:** 4ms on/off  
**Beam:** infrared, 880nm

### SM2A912D

**Voltage:** 24 to 250V ac  
**Range:** 30 inches (76 cm)  
**Response:** 8ms on/off  
**Beam:** infrared, 880nm



## DIFFUSE Mode



### Repeatability:

1.3ms (dc models);  
 2.6ms (ac models)

These sensors operate by detecting the reflection of their own light from the object being sensed, and therefore require no special reflectors. "DSR" models have better response than "D" models to objects within 3 inches of the sensor. "DSR" models should be used when it is necessary to minimize sensor response to background objects.

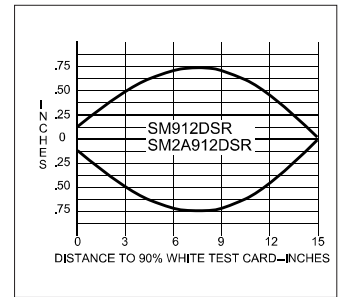
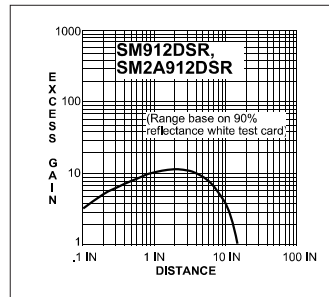


### SM912DSR

**Voltage:** 10 to 30V dc  
**Range:** 15 inches (38cm)  
**Response:** 4ms on/off  
**Beam:** infrared, 880nm

### SM2A912DSR

**Voltage:** 24 to 250V ac  
**Range:** 15 inches (38cm)  
**Response:** 8ms on/off  
**Beam:** infrared, 880nm

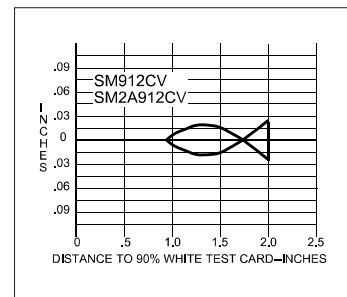
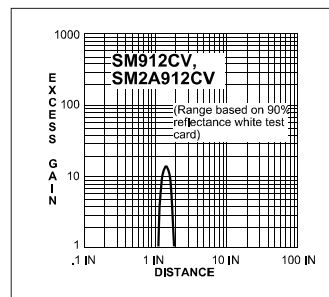


### SM912CV

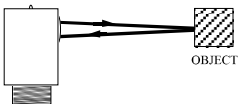
**Voltage:** 10 to 30V dc  
**Focus at 1.5" (38 mm)**  
**Response:** 4ms on/off  
**Beam:** visible red, 650nm

### SM2A912CV

**Voltage:** 24 to 250V ac  
**Focus at 1.5" (38 mm)**  
**Response:** 8ms on/off  
**Beam:** visible red, 650nm



## CONVERGENT Mode



### Repeatability:

1.3ms (dc models);  
 2.6ms (ac models)

VALU-BEAM SM912CV and SM2A912CV visible red convergent sensors (above) produce a precise .06" diameter sensing spot at a focus point 1.5" in front of the sensor lens. Due to their very narrow depth of field, they excel at detecting small objects only a fraction of an inch away from backgrounds. They are also ideal for some high-contrast color-registration applications. Their visible red sensing beam simplifies alignment.

Models SM912C and SM2A912C (below) are *infrared* convergent beam sensors. Operating voltages, response times, repeatability, and focus distance are the same as for the SM912CV and SM2A912CV. The SM912C and SM2A912C, however, have much higher excess gain and an infrared sensing beam for highly reliable sensing of objects of low reflectivity.



### SM912C

**Voltage:** 10 to 30V dc  
**Focus at 1.5" (38 mm)**  
**Response:** 4ms on/off  
**Beam:** infrared, 880nm

### SM2A912C

**Voltage:** 24 to 250V ac  
**Focus at 1.5" (38 mm)**  
**Response:** 8ms on/off  
**Beam:** infrared, 880nm

