

## REFLECTIVE SKANNERS

### Coaxial Fiber Optic S30 Series SKAN-COAX®

#### Features:

- Smallest Detectable Object: .04 in.
- Optimum Distance to Target: .10 in.
- Field of View: .10 in.
- Maximum Usable Distance: .6 to 1.0 in.
- Most versatile unit
- Coaxial optical system
- Lamp, IR LED, or Visible Red LED Versions
- Fiber optic illumination



S30 Series

#### Description:

The SKAN-COAX® is a versatile coaxial fiber optic scanner that has been a best seller for years. No other scanner in our product line offers so many options or body styles.

The light source, lamp, IR LED, or Visible Red LED, is located in the backbody where its heat can be dissipated by the rugged aluminum housing. Light is transmitted to the barrel tip by a bundle of glass fibers. The photodetector is located at the center of the barrel

tip with the illuminating fibers surrounding it. This construction ensures efficient light collection by the photodetector for a high light/dark contrast.

The coaxial fiber optic illumination gives evenly distributed light for highly predictable results at any orientation. This construction allows the tip to remain at ambient temperature so that the optical surfaces remain relatively free of air-borne dust.

#### Typical Applications:

- For inspection and sorting
- Accurate edge and position control
- Registration mark detection
- Encoders
- Web break detection
- Counting
- End of tape detection
- Small part detection
- Detecting semiconductors
- General purpose sensing

#### Specifications: (at 25°C)

##### LIGHT SOURCE—LAMP

Input 5.0 VDC, 115 mA

##### LIGHT SOURCE—IR LED

Input 100 mA max. with resultant voltage drop of 1.1 to 1.7 VDC; derate at 1 mA per degree above 25°C ambient

Modulated Input 1 A max., 10% duty cycle at 1 kHz min.

Reverse Voltage 2 V max.

Spectral Emission 940 nm peak

##### LIGHT SOURCE—VISIBLE RED LED

Input 50 mA max. with resultant voltage drop of 1.8 VDC typical; derate at 1 mA per degree above 25°C ambient

Modulated Input 80 mA max., 50% duty cycle at 1 kHz min.

Reverse Voltage 4 V max.

Spectral Emission 660 nm peak

##### PHOTODETECTOR

Operating Voltage 30 VDC max.

Response Time See Response Time Chart under *Technical Information*

Spectral Response 910 nm peak

FILTER (optional) Transmits less than 5% at 750 nm and less than 0.1% at 700 nm

BODY Lamp Unit: Blue anodized aluminum  
IR LED Unit: Red anodized aluminum  
Visible Red LED:  
Black anodized aluminum

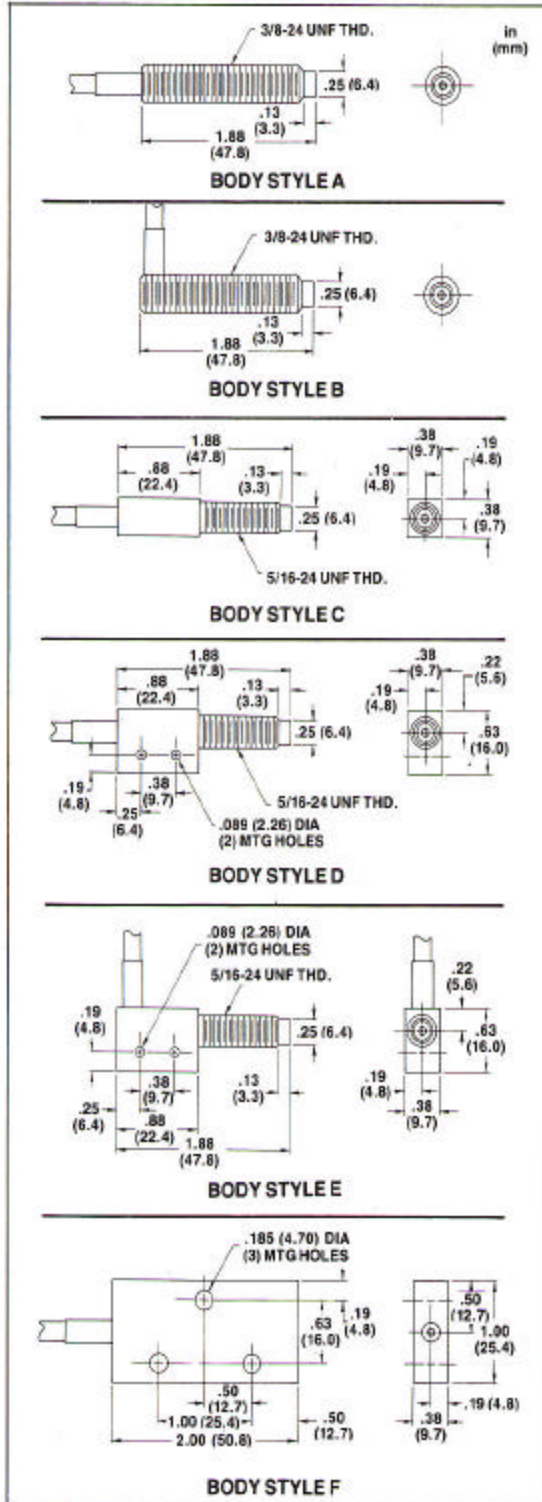
LED Unit: Red anodized aluminum

TEMPERATURE Operating: 0° to 50°C  
Storage: -40° to 50°C

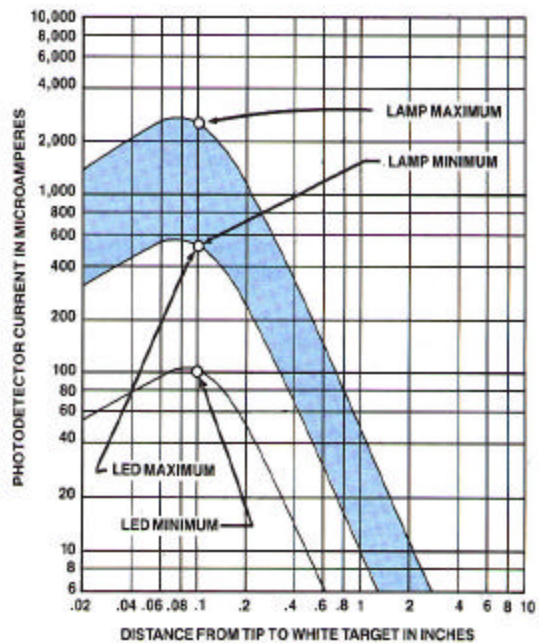
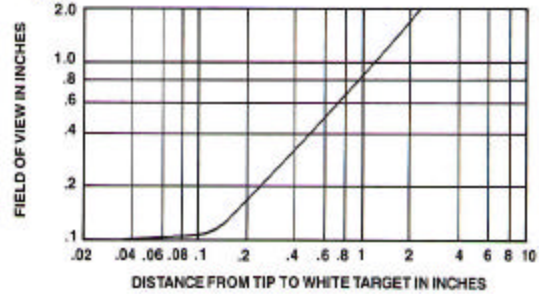
LEADS 4 cond. 26 AWG., teflon covered cable with shielded photodetector leads and overall shield, 6 ft. long, Type J (Shielded Quad)

## S30 Series

### Dimensions:



### Typical Performance Chart:



Circles indicate guaranteed test limits. See Quality Control under Technical Information, pg. 16.

### Compatibility With Controls:

The S30 Series is compatible with all Skan-A-Matic controls except modulating controls which are used with LED scanners only. For high speed operation use the T41300 High Speed Amplifier.

The IR LED versions of these series utilize a 100 mA Light Emitting Diode. A 39 ohm, 1 W current limiting resistor is supplied and must be used with Skan-A-Matic controls furnishing 5 VDC for light source power. With modulating controls such as our R42/T42 and R43/T43, no current limiting resistor is used.

The visible red LED versions of these series utilize a 50 mA Light Emitting Diode. A 68 ohm, ½ W current limiting resistor is supplied and must be used with Skan-A-Matic controls furnishing 5 VDC for light source power. With modulating controls such as our R42/T42 and R43/T43, a 6.8 ohm, ¼ W current limiting resistor must be used.

## S30 Series

### Model Selection Guide:

To specify the S30 Series skanner construct a six digit part number denoting body style, light source, and filtered or unfiltered unit. Construct part number as follows.

Part # S 3

Body* Style	Use #	Light Source	Filter	Use #
A	010	Lamp	No	1
B	011	IR LED	No	4
C	110	Lamp	Yes	5
D	220	IR LED	Yes	6
E	225	Visible red LED		
F	310	Visible red LED	No	8

\*Refer to Dimensions for Body Style.

### Variations:

#### LEADS

Extra lead lengths available. See pg. 129.

#### Options:

##### COIL CORD

Four conductor, 28 gauge, coil cord with shield available in 10 ft. (fully extended) or 20 ft. (fully extended) lengths — see pg. 129.

##### PROTECTIVE SHEATH

Can be factory installed over standard Type J lead (Shielded Quad) only. Order by adding suffix as follows:

- M For square locked galvanized steel with black PVC jacket, 9/32" O.D. Example: S30101-M
- S For square locked stainless steel armor, 3/16" O.D. Example: S30101-S

##### CONNECTOR

The S30 Series skanner is available with connector installed. The mating half is furnished for field connection. Order by adding a suffix as follows.

- P For connector pair with in-line receptacle. Example: S30101-P
- F For connector pair with flanged, panel-mount receptacle. Example: S30101-F

See *Options* for a more detailed description.

##### ADJUSTABLE FOCUS OPTICAL MAGNIFIER B05001

A lens system accessory designed for use with Type C, D and E body styles with lamp light sources. See *Accessories* for more detailed information.

### Wiring Diagram:

