

REFLECTIVE SKANNERS

Retroreflective LED S22 Series RETRO-SKAN®

Features:

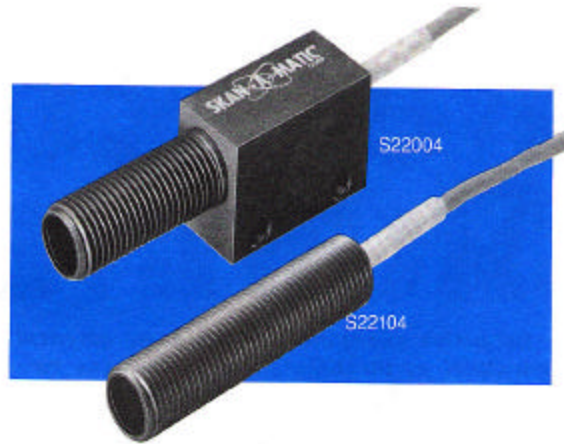
- Smallest Detectable Object: .15 in.
- Operates with retroreflective disc to 30 inches
- Dust, dirt and contamination protected
- Responds only to the reflection from the retroreflector
- Glass filter blocks visible ambient light
- Two body styles available
- Can be modulated

Description:

RETRO-SKAN is designed to be used with a retroreflector to provide a thru-beam detection system. Like other LED scanners it emits an invisible infrared beam which is reflected back into its photodetector. This unit differs, however, in its ability to respond only to a retroreflector, while ignoring other surfaces which pass before it.

A rugged aluminum housing and quality components give RETRO-SKAN excellent shock and vibration resistance, consistent performance and long life. A sealed lens and infrared filter exclude dust and contamination and block out visible ambient light. The scanner may also be modulated with the R42/T42 Series to obtain full ambient immunity. Two body styles with 6 ft. leads are offered.

The scanner's range will vary with the size and quality of the retroreflector surface. Target position within the beam is not critical



but more reflective objects should be placed closer to the retroreflector to obtain the most positive beam-break.

The chart below offers a few examples to show RETRO-SKAN's operational parameters.

| Retroreflector | | Max. Distance Scanner to Retroreflector | Field of View ⁽¹⁾ | Smallest Detectable Object |
|----------------|------------|---|------------------------------|----------------------------|
| Size | Type | | | |
| 1/2" x 1" | Retro-Tape | 4.0" | .44° | .15" |
| 7/8" dia. | Retro-Disc | 12.0" | .62° | .21" |
| 3" dia. | Retro-Disc | 30.0" | 1.56° | .52" |

⁽¹⁾See *Field of View* under *Technical Specifications* in *Technical Information*.

Typical Applications:

- Web break
- Cloth or paper detection
- Laminated sheet counting
- Box sortation

Specifications: (at 25°C)

LIGHT SOURCE—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 | 1A max., 10% duty cycle at 1 kHz min. |
| Reverse Voltage | 2 V max. |
| Spectral Emission | 940 nm peak |

PHOTODETECTOR

| | |
|--------------------------|---|
| Operating Voltage | 20 VDC max. |
| Response Time | See Response Time Chart under <i>Technical Information</i> |
| Spectral Response | 910 nm peak; filtered to respond to less than 5% at 700 nm and less than 0.1% at 600 nm |

BODY

Red anodized aluminum

TEMPERATURE

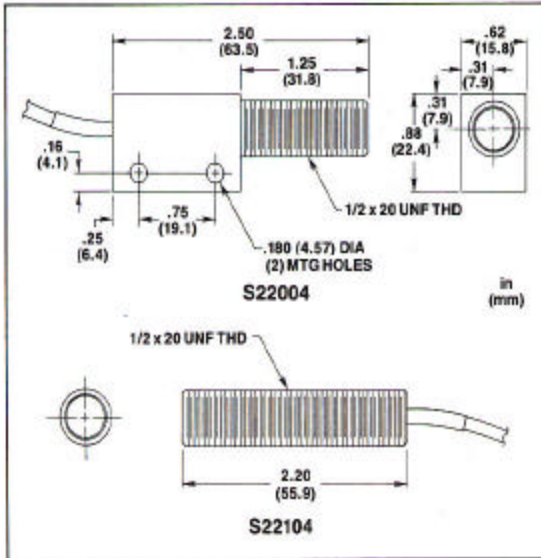
Operating: 0° to 50°C
Storage: -40° to 50°C

LEADS

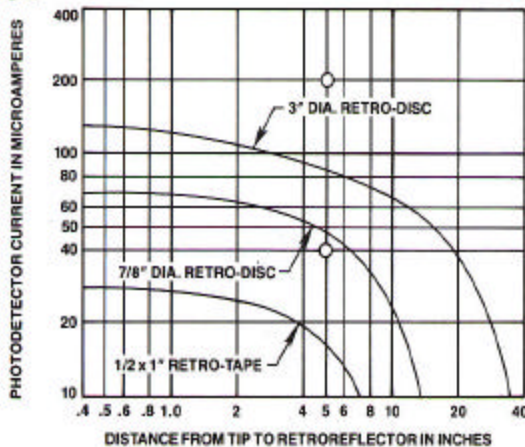
4 cond. 26 ga., PVC covered cable with shield, 6 ft. long, Type G

S22 Series

Dimensions:



Typical Performance Chart:



Circles indicate guaranteed test limits for 7/8" Retro-disc. See Quality Control under Technical Information, pg. 18.

Compatibility With Controls:

The S22 Series is compatible with most Skan-A-Matic controls. For high speed operation use the T41300 High Speed Amplifier.

These skanners 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, no current limiting resistor is used. The S22 Series is not compatible with the R43/T43 modulating controls.

Model Selection Guide:

RETRO-SKAN is available in two models which give the same performance but provide a choice of mounting styles.

| Part # | Description |
|--------|--------------------------------------|
| S22004 | Rectangular body and threaded barrel |
| S22104 | Completely threaded body |

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.

SHIELDED QUAD

Four conductor, 26 gauge, Teflon covered cable, with shielded photodetector leads and overall shield. Order by adding the suffix -J. Example: S22004-J

PROTECTIVE SHEATH

Can be factory installed over Shielded Quad. It is not necessary to order the Shielded Quad separately; it is included with the protective sheath at no extra charge. Order by adding the suffix as follows:

- M For square locked galvanized steel with black PVC jacket, 9/32" O.D. Example: S22004-M
- S For square locked stainless steel armor, 3/16" O.D. Example: S22004-S

CONNECTOR

The S22 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: S22004-P
- F For connector pair with flanged, panel-mount receptacle. Example: S22004-F.

See Options for a more detailed description.

RETROREFLECTIVE TAPE and RETROREFLECTIVE DISCS

Available — see Accessories.

Wiring Diagram:

