CLAROSTAT
SENSORS AND CONTROLS GROUP

SKAN-A-MATIC®

TECHNICAL INFORMATION

Diffuse Reflective

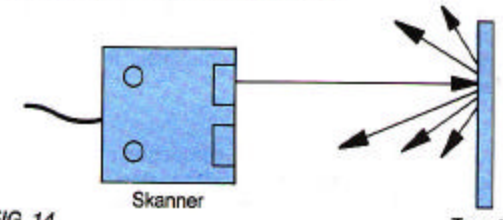

FIG. 14

Most reflective skanners use the scattering of light by the target surface — diffuse reflection. Light emitted by the source reflects from the target surface and returns to a photodetector in the same housing. This principle is generally used for short range applications since the amount of light returning to the photodetector is small.

Features

- One wiring run — installation is fast and easy
- Alignment is non-critical
- Colored marks may be recognized

Limitations

- Light/dark contrast decreases rapidly — short ranges only

Specular Reflective

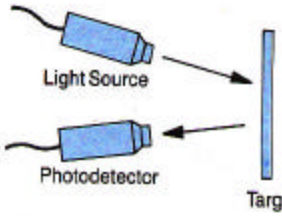

FIG. 15

A specular reflective system makes use of a shiny or mirror-like target surface to return a strong reflected signal. The photodetector may be in the same housing as the light source, or may be some distance away.

Features

- Greater light/dark contrast — longer range
- Targets may be located precisely

Limitations

- Skanner and target alignments are critical.

Technical Specifications

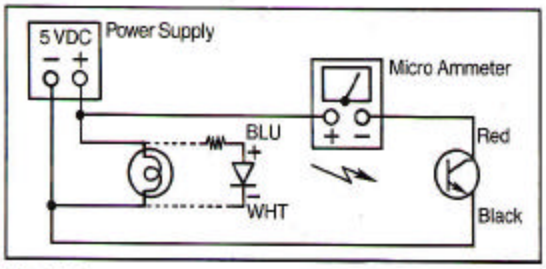

FIG. 16 A

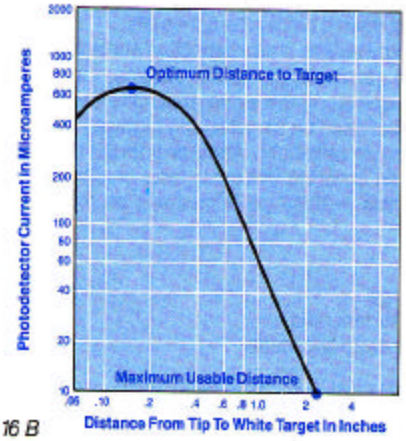

FIG. 16 B

These definitions have been developed by Skan-A-Matic for our convenience and that of our customers; they may not necessarily correspond with definitions of specifications published by other manufacturers. All testing is done by Skan-A-Matic personnel under laboratory conditions which may not exist in many applications. Distance measurements are valid for light sources in continuous operation; modulating controls may increase useful distances by several hundred percent. Light current is measured in the circuit of figure 16 A.

OPTIMUM DISTANCE TO TARGET is defined as that distance between a reflective skanner and a white target which produces the greatest photodetector current. The target used is large enough to completely fill the skanner's view. The distance is measured from the front of the lens or cover glass. The white target is Kodak's Neutral Test Card — 90% reflectance — commonly found in photographic supply stores. (Kodak #R-27 CAT1527795 or see *Accessories*.)

At very close ranges photodetector current is low, since little light can reach the photodetector. With increasing distance, photodetector current rises to a peak, defining the Optimum Distance to Target, then falls off gradually. Refer to Fig. 16 B.

Optimum Distance to Target has no relevance for thru-beams since the photodetector current should fall off continuously with increasing distance.