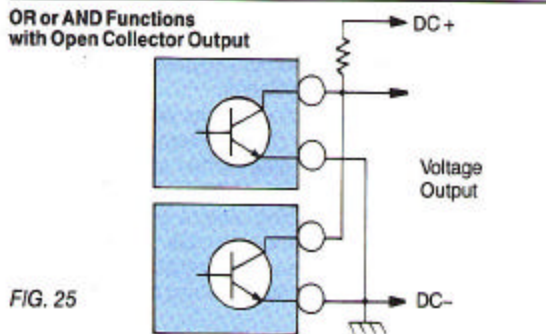


TECHNICAL INFORMATION



The Environment

(B) for AND operation, connect each skanner so that when it detects the target, its amplifier is de-energized. Connect the amplifier outputs as in Fig. 25. If all scanners cause their amplifiers to de-energize, the output voltage goes high to DC +.

The only exception to the one skanner/one control rule is the R60 Series, a dual channel control. This heavy duty control is specifically designed to drive the light sources of two scanners. Plug-in cards program the R60 for many basic counting and logic functions. If the desired function is not already available, Skan-A-Matic can quickly design and produce a special card.

Environmental factors such as room lighting, dust, dirt and heat can seriously degrade the performance and reliability of any photoelectric system. The best way to deal with these problems is to take the time to analyze the situation before ordering. Ambient light, for example, can be defeated by purchasing a filtered LED skanner and modulating control. This combination can also give the extra power needed to penetrate the build-up of dust and dirt on skanner lenses.

Careful design of the planned system can prevent many problems before they occur. It would be unwise, for example, to install an unfiltered continuous operation skanner facing overhead lights or a sunlit window. Other examples of avoidable problems would include the installation of scanners over drying ovens, or in crevices or corners where dust build-up is likely.

Temperature Effects

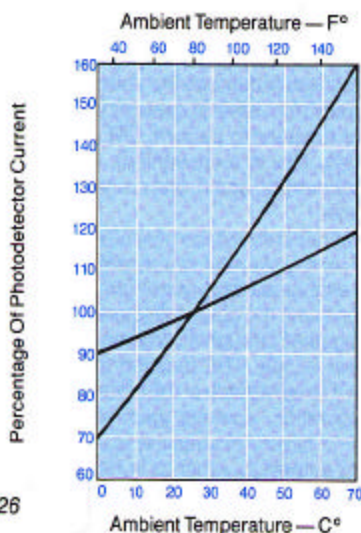


FIG. 26

The operation of a photoelectric system is affected by the temperature changes of its environment. Most applications are not bothered by temperature variations because the change is small compared to the change in photodetector current caused by the target.

Temperature changes MUST be taken into account when the target causes only a small change in photodetector current or when the system is operated throughout a wide temperature range. The photodetector causes most of the change because its gain increases with rising temperature. An LED's light output decreases with rising temperature, which partially compensates for the photodetector. Incandescent lamps do not change with temperature.

Fig. 26 shows the change in photodetector current versus temperature for both LED and lamp systems.

LED devices must be derated at temperatures above 25°C. Their forward current must be reduced as the ambient temperature rises. Derating information is given on individual product pages.