

## Choosing a System

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	T21	T31	T36	T40 R40	T41	T42 R42	T43 R43	T46 R46	R47	R60
OPERATION Modulating Continuous	X X	X	X	X	X	X	X	X	X	X
HIGH SPEED					X					
OUTPUT Transistor Relay	X	X	X	X	X	X	X	X	X	X
POWER AC DC				X	X	X	X	X	X	X
TIME DELAY/ ONE SHOT			X			X		X	X	X
DUAL CHANNEL/ LOGIC										X

FIG. 22

All Skan-A-Matic sensors except the self-contained C Series, require a separate control. Generally, most Skan-A-Matic scanners or thrubeads may be used with any Skan-A-Matic control, although there are several exceptions to this rule:

- Modulating controls require LED light sources.
- Some sensors cannot be used with R43/T43 control.
- Some sensors are designed for exclusive use with R43/T43 control.

The first step in choosing a control is to determine if continuous operation is satisfactory, or should the light source be modulated?

A conventional control which does not modulate the light source is suitable whenever the sensor will be enclosed within machinery or otherwise protected from ambient light and will be used at typical ranges. Continuous operation is essential whenever incandescent light sources are used. These applications include color sensing and high speed sensing.

When the sensor will not be enclosed, visible light from fluorescent lights can usually be defeated by including filters in the photodetector. If the photodetector cannot be ordered with a filter or if infrared energy from incandescent lamps, sunlight, or hot objects will be encountered, an LED light source and modulating control should be used. Modulating controls can also greatly increase the useful range of any LED scanner or thrubead at the expense of increased response time.

The second step is to determine if the high-speed T41300 control is required. For reliable operation, the target must remain within the scanner's Field of View at least as long as the expected response time. The Response Time Chart (Fig. 4) shows the expected response time of various scanners with both a standard open collector control and with the T41300. Use the T41300 only if the scanner is definitely too slow even at the high current end of its curve; noise immunity has been sacrificed for speed of response and the T41300 may not be appropriate in some environments.

Beyond the modulating and high speed functions, the technical performance of the various controls will be similar. Types of input power, output device and timing functions are compared in Fig. 22.