features:

- Static mode teach allows one automatic teach step for the target and one automatic teach mode for the background.
- Remote teach input allows setup to be programmed remotely.
- Dual lens position
- Automatic selection of best color light source (Green, Red, Blue).
- Light Operate (Normally Off) / Dark Operate (Normally On) Operate Modes.
- Quick Disconnect (2 Meter Cable included with Sensor).
- LED indication of Output status.
- Output - Push-Pull (NPN/PNP)

Print Registration/Color Mark/Contrast Sensors

The MCS-638 sensor evaluates the brightness difference between a target color and a background color. Sometimes the color difference can be very slight, in these cases the MCS-638 with its variable color LED light source is beneficial. The color of the light source is important, and the appropriate choice of color for the light source, or using the MCS-638 with it’s automatic light source color selection allows the detection of very slight contrasts. For example, a green color LED light source is more likely to detect a contrast between red and blue than a contrast between green and blue.

A common application for contrast sensors is a converting operation. A web of printed media may need to be cut into individual sheets, and registration marks are printed in certain locations to signal the machine controller to cut the media. For example, a continuous sheet of margarine wrappers is cut into individual wrappers with the printing centered on each individual sheet. Another common application is on bag making machinery where the sensor detects the registration mark and signals the machine to stop and cut or heat seal a bag.

Typical Application
Programming

1. Connect the supply voltage to the wires noted in the wiring diagram.

2. Aim the light spot at the target mark. For glossy or reflective surfaces, the sensor should be angled at 10° to 15° off the perpendicular axis from the target.

3. Press the Teach push button on the sensor or apply V+ to the Teach Input for a minimum of 50 milliseconds. The LED should flash slowly (at a rate of approximately 1 Hz).

4. Aim the light spot at the background.

5. Press the Teach push button on the sensor or apply V+ to the Teach Input for a minimum of 50 milliseconds. The LED will now turn on when the target mark is present and off when it is absent after a successful teach. If the teach was not successful or the contrast was not sufficient, the LED flashes quickly (at a rate of approximately 4 Hz). Programming the MCS-638 as indicated above sets the switching threshold exactly in the middle of the target and background values. The above procedure is for Light Operate mode. For Dark Operate mode, reverse steps 2 and 4.