

## 4 CHANNEL LED COLOR SENSOR

### Setup and programming the CS-14-DC24

#### Locking and Unlocking the keypad

1. At power up, if the five LED's on the left side are on the keypad is locked.

To unlock press buttons **1/+** and **3/Clr** at the same time.

To lock the keypad press buttons **1/+** and **3/Clr** at the same time.

The five LED's on the left side will turn on.  
This can be done at any time.

#### Selecting the fiber cable type

1. Select the type of fiber cable being used, press the **FPCF** button for the fixed focus model or **FPCP** for the variable distance model.

The LED indicator will blink next to the selected model.

#### Sensitivity adjustment

1. Select the type of cable being used, press **FPCF** or **FPCP** the LED indicator will blink.

2. Select the output to be configured. **1/** **2/** **3/** **4**

3. Select the sensitivity to be used, **1/** (fine), **2/** (medium) or **3/** (coarse) the LED indicator from step one will remain on.

4. To teach the color, position the target color under the fiber head and press the **Enter** button. The Enter LED will flash briefly. Select the output to be assigned the color by pressing the appropriate button **1/** **2/** **3/** or **4**. The color is now set (the corresponding output LED will turn on). This can also be performed for output 1 via the remote input.

#### Color Filter function

The color filter is used to avoid false trips during edge transitions. At the edge of a colored spot, the color may appear blurred to the sensor. For instance, if the color that has been selected is light blue and the spot color is dark blue, at the edge, the dark blue color with a white background may appear as light blue temporarily. The filter will assure that the color is analyzed for a long enough period of time to avoid this situation. The output will be delayed, but will not activate on the transition. To adjust the filter, increase the filter value while the application is running until it works properly.

1. Press the **Integr.** button, the LED indicator will blink.

2. To clear the filter value press **/Clr**

3. To increase the filter value press the **/+** button. Each time the button is pressed the value will increase.

4. To decrease the filter value press the **/-** button. Each time the button is pressed the value will decrease.

5. To exit press **Integr.** again.

The Integr. LED will be On if the filter is On.

#### Timer Function

There is an adjustable timer built into the sensor. The time period can be adjusted from 50 milliseconds to 5 seconds.

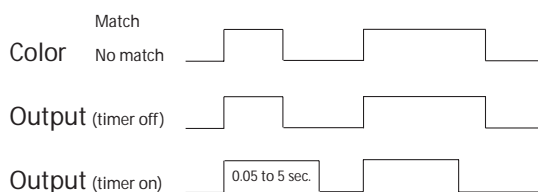
1. Press the **Timer** button, the LED indicator will blink.

2. To clear the timer press **/Clr**.

3. To increase the time value press the **/+** button. The first step after clearing the time value will be 50 ms, each time the button is pressed after this will be 250ms.

4. To decrease the time value press the **/-** button.

5. To exit press the **Timer** button again.



#### Light On / Dark On function

The output of the CS-11-DC24 can be set to operate in the Light On or Dark On mode. Light On means that the output will be active when the target color is sensed.

1. Press and hold the **LO/DO** button. The button must be held for more than 4 seconds to activate.

If the LO/DO LED is On, the Light On mode is active.  
If the LO/DO LED is Off, the Dark On mode is active.

#### Signal indicator

The signal strength indicator LED **Signal** will blink if the optical signal is too weak or too strong for optimum analysis. In this situation, change the angle of the optical axis and adjust the sensing distance.