Keyence IV-G Vision Quick Start Guide

Keyence Monitor Setup

This quick start guide provides basic setup and configuration procedure for the *Keyence IV-G 2D Vision System* when used with the Keyence Monitor. The system is designed to inspect parts that have been placed in carrier tape on the TM-50/TM-50XL for mark and orientation prior to the tape being sealed. To prepare for inspection, follow the steps below.

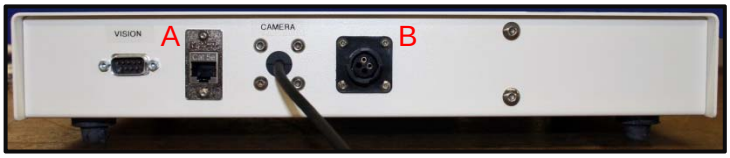
Note: If using the Keyence Laptop to view the vision system HMI instead of the monitor, proceed to the ***Keyence IV-G Laptop Quick Start*** for setup instructions.

Connect the Monitor

1. Connect Vision Monitor

Connect the *Monitor's* Ethernet cable to the Ethernet port on the back of the *Keyence Controller* **(A)**.

Connect the *Monitor's* power cable to the power connection on the back of the *Keyence Controller* **(B)**.



2. Connect the Camera

Turn the base machine **ON**. The *Keyence Monitor* will automatically start and open the Keyence software program.

Select **Direct Connection**, then press **Connect** to establish a connection between the *Keyence Monitor* and the *Keyence Camera*.

Detailed User's Guides, maintenance instructions and troubleshooting are available on the V-TEK, Inc. website: **www.vtekusa.com.**

Vendor Provided Material

Significant portions of this documentation were provided by:

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Keyence Monitor Setup

Monitor Display

1. Title: Displays the device name, the program number and the program name.

2. Tool name: Displays the tool number and the tool name of the tool selected. The selected tool can be switched.

3. Brightness correction range: When Brightness correction is set, the range will be displayed with a blue frame.

4. Tool window: Displays the tool window which has been set.

5. Search Window: If the search window of the tool is set, the range will be displayed with a light blue frame.

6 & 7. MENU/OFF button: Changes the screen from Menu ON to Menu OFF.

8. Status gauge: Displays the result (OK/NG) of the tool selected.

9. OK/NG display: Displays the total status result.

10. Processing time: Displays the time from receiving a trigger until the result is output.

11. Image Type display: Displays the situation of the screen. Run mode or Test mode.

12. Trig button: Displayed when the external trigger is set. When this button is touched, a trigger signal is sent to the sensor.

13. Zoom button: Changes the display to full screen mode and allows image enlargement.

14. View button: Displays the menu to select how to show the tools and the analyze screen.

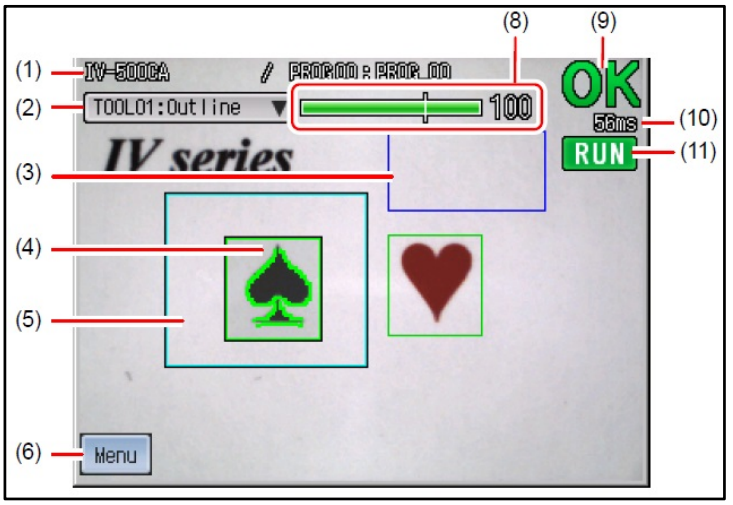
15. Monitor settings button: Displays the monitor screen.

16. Sensor Image Memory button: Displays the Sensor Image Memory screen.

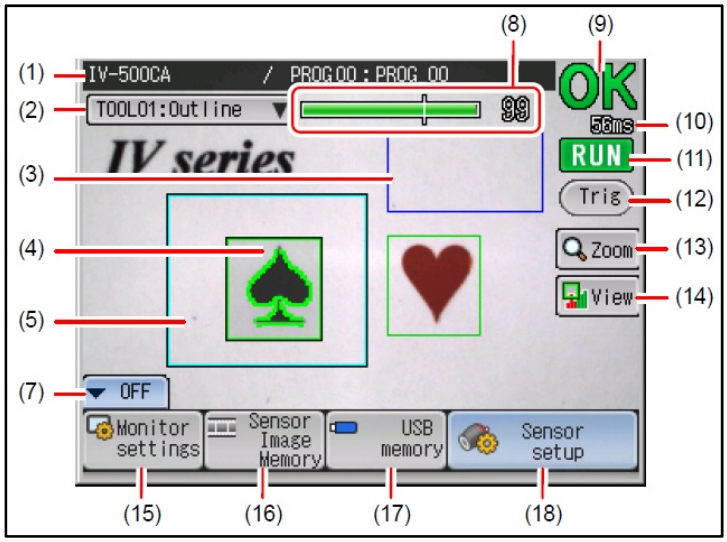
17. USB memory button: Displays the USB memory screen.

18. Sensor setup button: Stops running mode and displays the Sensor setup menu screen.

Menu OFF



Menu ON



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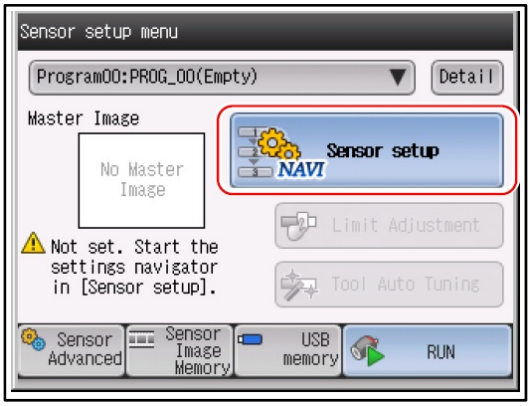
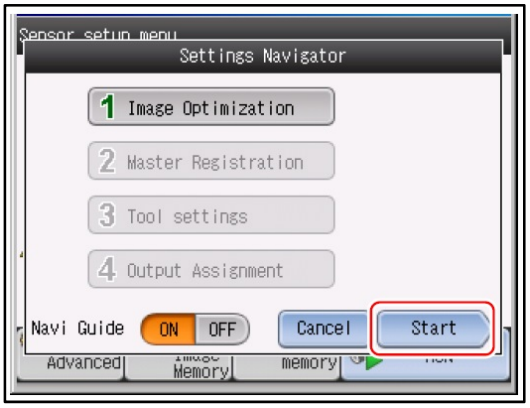
Program Job

1. Touch the **Sensor setup** button.

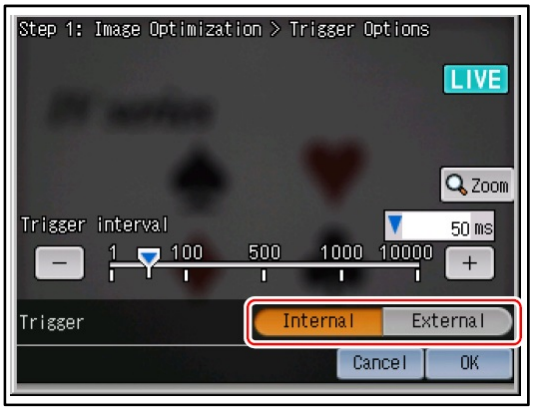


2. Touch the **Start** button.



3. Touch **Trigger Options**.

4. Select the **External** Trigger type. Touch **OK.**



5. Touch **Auto Brightness Adjustment**. Touch **OK**.

6. Touch **Focus Adjustment**.

If Auto focusing is selected, the focus position is adjusted automatically. If Manual focusing is selected, the focus indicator will be displayed. Adjust focus as desired. Touch **OK**.

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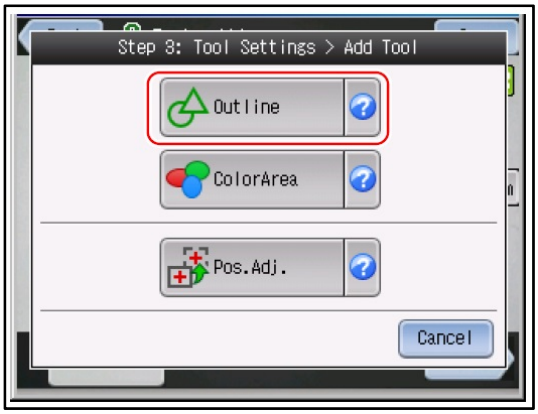
7. Touch **Next** to proceed to “STEP2”. Press **Register Live Image as Master**.

8. Image the target and touch the **Trig** button. Check the image displayed on the monitor and touch the **Register** button. Touch **OK**.

9. Touch **Next** to proceed to “STEP3”. Touch the **Add Tool** button.

Three Tool Options will be displayed: **Outline Detection, Color Area Detection** and **Position Adjust.**

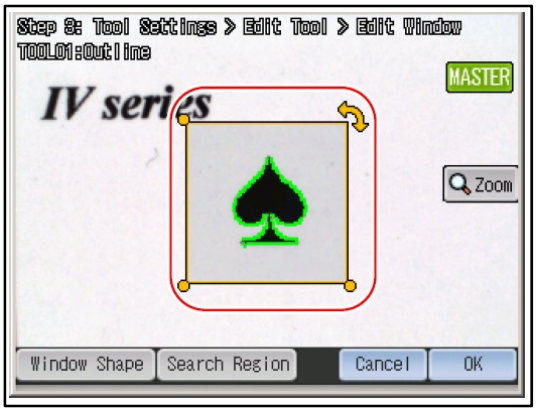


Select desired tool and configure inspection as described in **Steps 10, 11 or 12,** then proceed to **Step 13**.

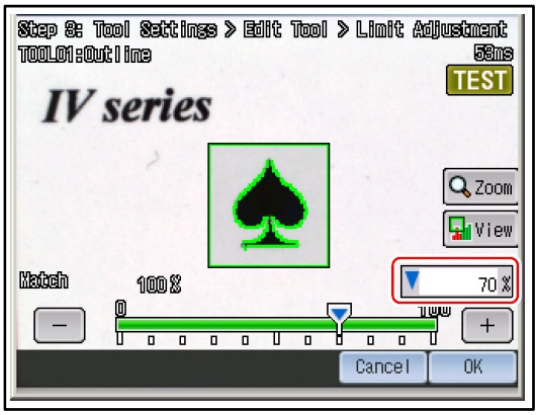
Note: Only one tool should be used per program. Adding multiple tools is not recommended.

10. **Add Outline Tool:**

Select **Outline**, then touch **Edit Window**. Set the position, size, and the angle of the tool window. The detected outline will be displayed in **green**. After the setting is completed, touch **OK**.



Touch the **Limit Adjustment** button. Set the threshold to judge OK and NG. After the setting is completed, touch **OK**.



The display will return to the main screen for the Outline tool. Touch **OK**, then touch **Next** to proceed to “STEP4”.

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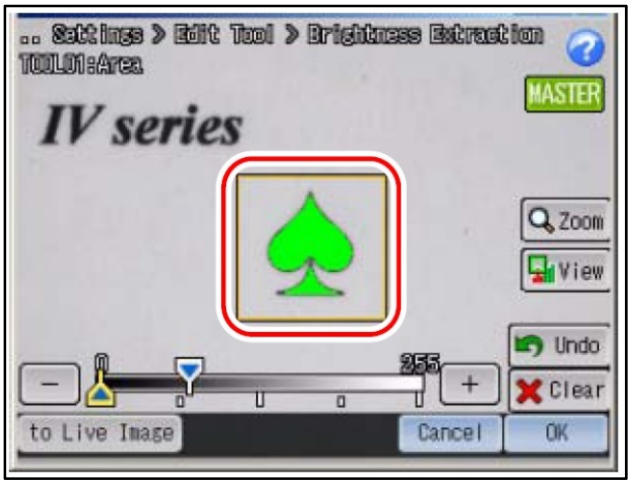
11. Add Color Area Tool:

Select **Color Area**, then touch **Edit Window**.

Set the position, size, and the angle of the tool window. After the setting is completed, touch **OK**.

Touch the **Brightness Extraction** button. Touch the brightness area to be the reference of judgment for the Area tool, then touch **OK**. Touch the **Limit Adjustment** button.

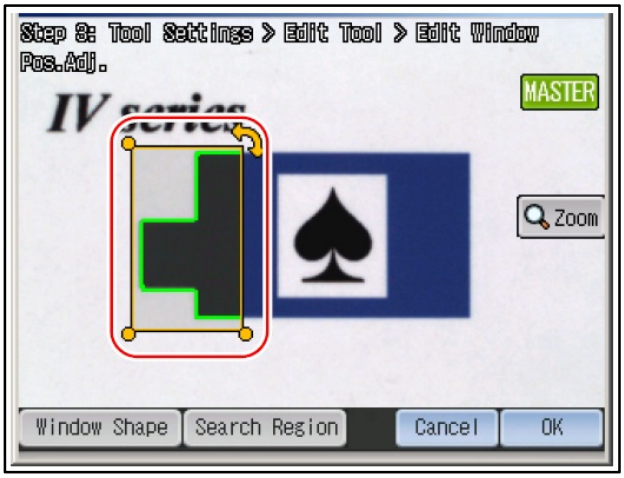


Set the threshold to judge OK and NG, then touch **OK**. The display will return to the main screen for the Color Area/Area tool. Touch **OK**, then touch **Next** to proceed to “STEP4”.

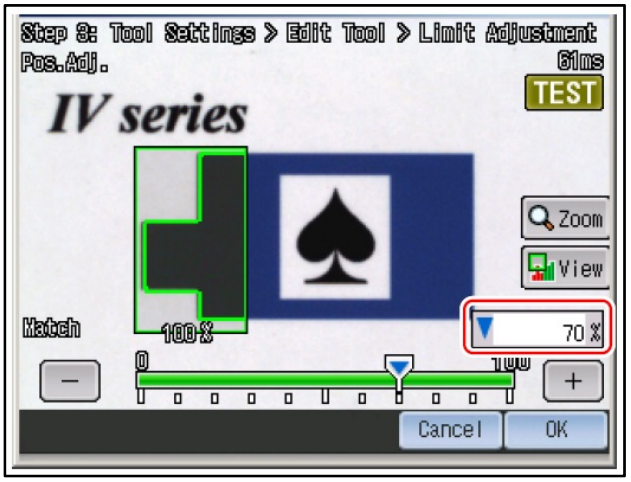
12. Add Position Adjust DetectionTool:

Select **Pos. Adj.**, then touch **Edit Window**.

Set the position, size, and the angle of the tool window. After the setting is completed, touch **OK**.



Touch the **Limit Adjust** button. Set the threshold to judge OK and NG, then touch **OK**. Touch the **Limit Adjustment** button.

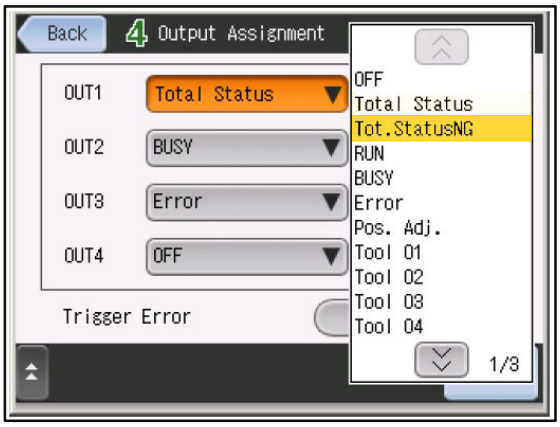


Set the threshold to judge OK and NG, then touch **OK**. The display will return to the main screen for the Position Adjustment tool. Touch **OK**, then touch **Next** to proceed to “STEP4”.

Keyence Monitor Setup

13. Set Output:

Touch the output line to assign the output function.



Set the output functions as follows:

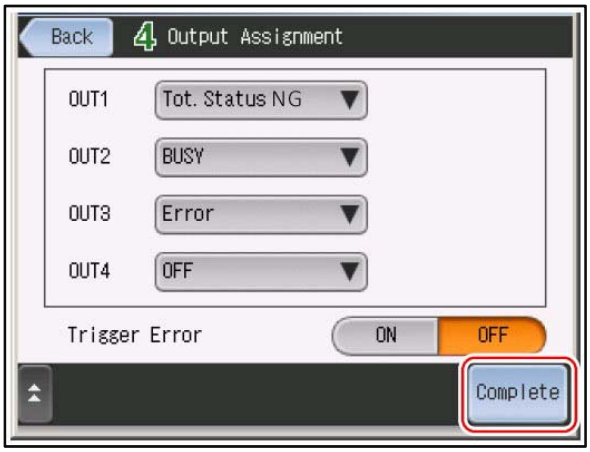
OUT1 = Tot. Status NG

OUT2 = Busy

OUT3 - OUT8 = OFF

14. Complete Setup:

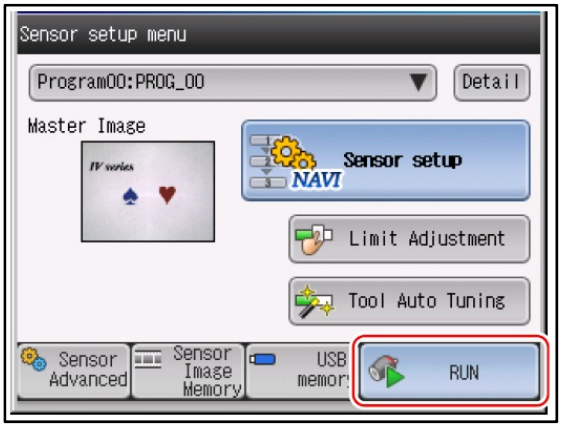
After the setting is completed, touch **Complete**, then touch **Yes**.



15. Enable Vision and Select Job

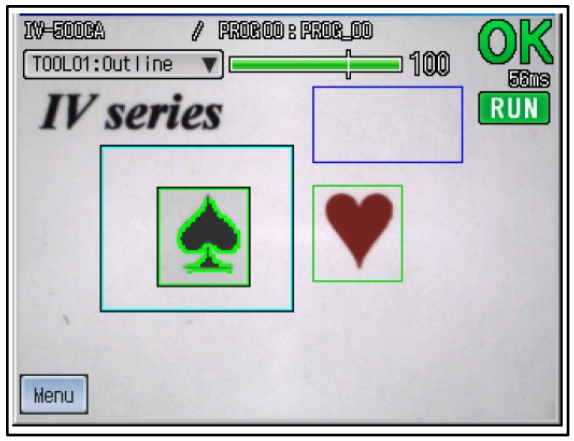
Ensure the TM-50 Controller is **ON** and the Vision Mode is set to **Mode 1**.

On the Keyence Monitor, select the program which will be run, then touch **Run.**



16. Run Job

Confirm that the run screen opens on the monitor.



On the TM-50 Controller press the **ESC** key to return to the *Welcome Menu* then select **Run** to begin processing.