

Document No.		Revision Date	1/21/2021	 13115 Barton Rd, STE H Whittier, CA, 90605 United States
Document Name	YKS6 Smart Camera User Manual	Contact	info@ecotron.ai	



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1 Description

The YKS6 display can be used together with ADAS devices to display warning information, including lanes, vehicles, pedestrians, time to collision, etc.



Figure 1. YKS6 Display

2 Specs

Dimension	36.9mm * 52.4mm * 53.1mm
Weight	104g
Interfaces	RS232 * 1, VCC * 1
Voltage	Forward voltage: 9~36V Reverse voltage: <= 36V
Power Consumption	0.1W(typical) 0.15W(peak)
Operation Temp.	-40 ~ 85°C
Storage Temp.	-40 ~ 95°C
Operation Humidity	<= 95%

Table 1. Specifications

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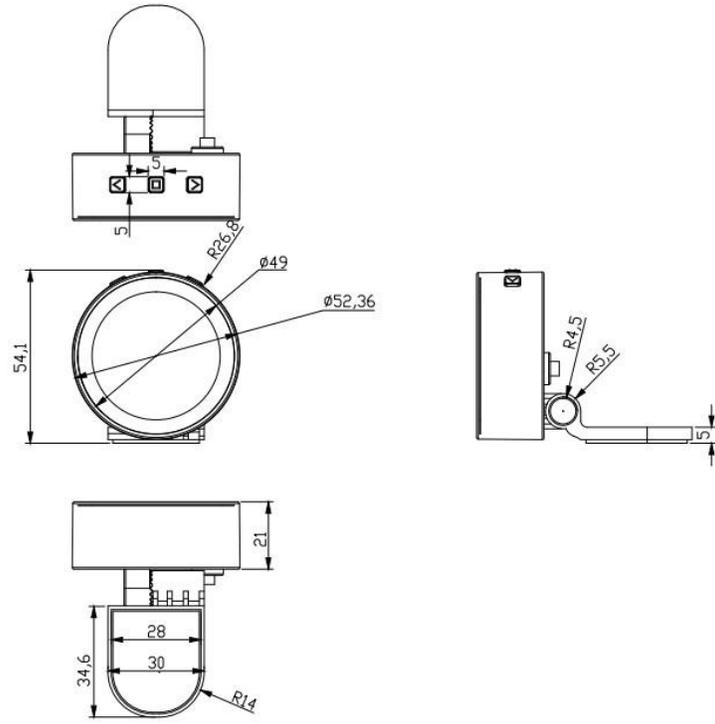


Figure 2. Physical Dimensions

3 Hardware Settings

- 1) There are two selection buttons and one function button on the display.

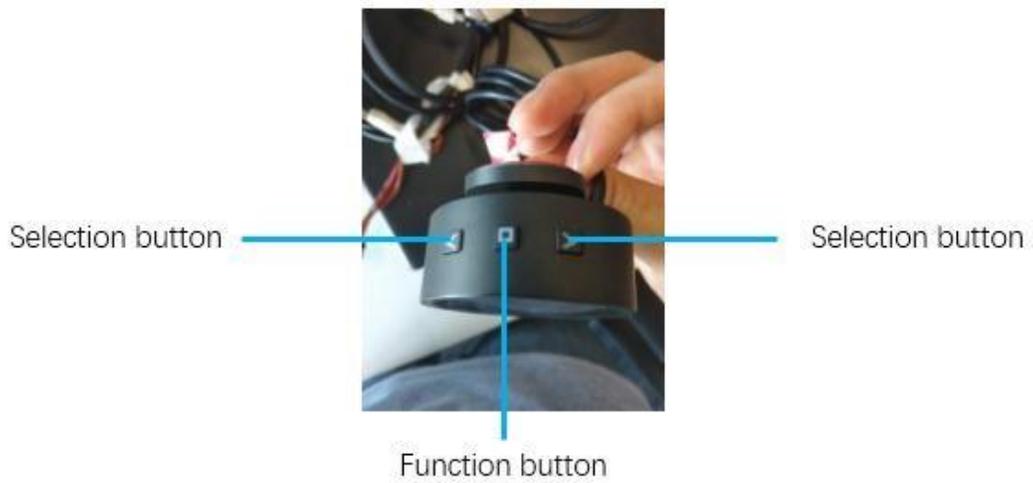


Figure 3. Locations of buttons

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- 2) If you press the select buttons directly, you will go to the volume adjust interface, as shown below. The figure stands for volume level, ranging from 0 (mute) to 5 (highest). You can adjust the volume by pressing left and right Selection buttons.



Figure 4. Press the selection button to adjust the volume.

- 3) When you press the function key, you will go into interfaces that support to customize the display luminance, headway monitoring and warning time, lane departure warning sensitivity, forward collision warning enable/disable, and volume adjustment. You can change the interfaces by pressing the Function button, and when there are no operations within 5 seconds, the display will exit the customization interfaces.

- **Display luminance.** All icons will appear on the display, and the figures stand for the luminance levels, ranging from 1 (lowest) to 5 (highest). The Selection buttons can be used to adjust the luminance.



Figure 5. Luminance Adjustment

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- HMW Time.** There will be a red car icon and warning time (in seconds) on the display. The Selection button can be used to adjust the warning time, that is when the collision time is less than the warning time, audible and visual warnings will be issued by the system during driving. This time can also be set in the calibration application.



Figure 6. HMW Time

- LDW Sensitivity.** There will be lanes and figures standing for sensitivity on the display, ranging from 1 (lowest) to 3 (highest), and 0 means LDW feature is disabled.



Figure 7 LDW Sensitivity

- FCW Switch.** There will be a flickering red car and figure icons on the display. 0 means the forward collision warning feature is disabled while 1 means enabled. Selection button can be used to change the figure.

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Figure 8. FCW Switch

4 Icons Description

YKS6 will display vehicle, lane, time icons based on the warning details.



Figure 9. Icon Illustration

- The green car icon means there are vehicles ahead. If the distance to the preceding vehicle is too far, the car icon will not be appearing.
- The green figure stands for the collision time with the preceding vehicle, which will disappear when the collision time is larger than 3.0 seconds.
- Different icon colors stand for different risk levels: green means relatively safe while red means risky.
- The white lane icons stand for left/right road lanes.

1) No Dangers

When there is no tailgating or lane departure dangers, there will be a green dot on the display.



Figure 10. No Dangers

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2) Lane Departure Warning

When the host vehicle drifts out of current lane without turning signals on, and the vehicle speed is over 50Km/h (speed configurable), the system will issue audible and visual lane departure warnings, as shown below.



Figure 11. The lane icon will flicker.

3) Headway Monitoring and Warning

When the host vehicle is too close to preceding vehicles, and the host vehicle speed is over 40Km/h (speed configurable), the collision time icon will appear on the display. When the collision time is lower than 0.8 seconds, the icons will turn from green to red, and the system will issue audible warnings.



Figure 12. HMW icon

4) Forward Collision Warning

When the system detects imminent collision dangers, like cut-in, or the large speed discrepancy between the host vehicle and preceding vehicle, the system will issue forward collision warnings when the time to collision (TTC) is lower than 2.7 seconds: red car icon flashing on the display, and rapid audible warnings.



Figure 13. FCW icon

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Note:

- HMW is calculated based on the speed of the host vehicle, while FCW is calculated based on the relative speed of the host vehicle and the preceding vehicle.

5) Pedestrian Collision Warning

When the system detects pedestrian collision dangers, it will issue audible and visual warnings. There will be red pedestrian icons flickering on the display.



Figure 14. PCW icon