



Professional **ADAS** Camera
C40W
Specification(V1.0)



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Preface

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Product Name Explanation

Symbol Explanation

The following symbols are used to categorize and explain potential hazards that may arise from improper operation.

Symbol	Explanation
	Warning: Conditions that could jeopardize the safety of the user or cause injury
	Important: Conditions that may lead to data corruption or damage to the device's firmware or hardware
	Note: Additional information, explanations of terms, and other relevant details

Abbreviation Explanation

Abbreviation	Full Name
ADAS	Advanced Driver Assistance System
LDW	Lane Departure Warning
HMW	Headway Monitoring Warning
FCW	Forward Collision Warning
PCW	Pedestrian Collision Warning

Product Overview

Product Introduction

The C40W is an intelligent IPC mounted on the vehicle's front windshield to monitor road conditions ahead. It supports low bridge clearance detection and height-limit sign recognition, general road-sign detection, and standard ADAS functions. With a built-in microphone and speaker, the device can operate as a standalone unit or integrate with an MDVR system to provide in-cabin audio recording and real-time road-condition alerts. When used independently, the C40W connects to the vehicle's power supply and accesses vehicle status signals, GPS data, and R-watch alert through an external power box, enabling continuous monitoring and timely warnings. For vehicles with variable height profiles—such as agricultural machinery or cargo trucks—the device supports external keyboard input, allowing users to query and modify the vehicle's real-time height value. The C40W offers reliable performance, easy installation, and a cost-effective solution for intelligent driving assistance and road safety monitoring.

Product Features



- Supports standard ADAS functions and low bridge clearance detection
- low bridge height detection scenarios: supports external keyboard or RFID module for vehicle height adjustment ; supports integrated analysis using both map data and image data
- Equipped with intelligent black light technology, offering significantly better night image quality than similar products
- Available with multiple lens specifications; default lens is 8.5mm with a HFOV of approximately 52°
- Resolution: 2688 * 1520 @ 30FPS
- Supports N9M 2.0 protocol

- Built-in microphone and speaker for in-vehicle audio capture and voice alert notifications
- Available in standalone version(vehicle-powered) and peripheral version (DVR-powered)
- Supports vehicle windshield installation angles from 42° to 90° (may vary depending on specific lens)
- Supports both top and bottom cable exit options for flexible vehicle installation
- Typical applications: low bridge clearance warning , ADAS scenarios

AI Features

		
LDW	HMW	FCW
		
PCW	Low Bridge Clearance Detection	

Specification

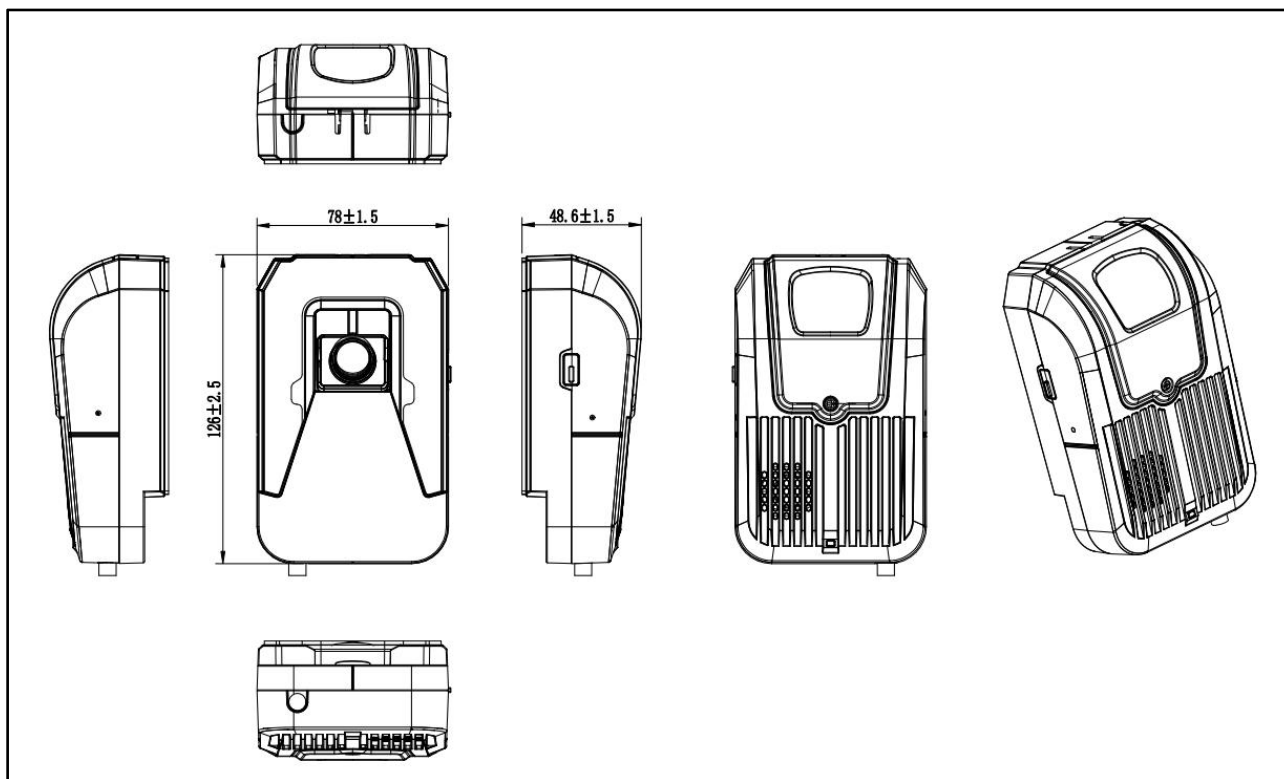
Product model	C40W
System	Embedded Linux
Language	Options: Chinese and English Default: English
Video	
video channel	1 Channel
Video Resolution / Frame Rate	Main stream: 2688*1520 @ 30fps Default: 2688*1520 @ 25fps
	Sub stream: VGA/D1/CIF@30fps Default: VGA @ 25fps
	Network transmission stream: VGA/D1/CIF@30fps Default: VGA @ 25fps
Encoding Mode	VBR/CBR optional, default VBR
Image Settings	Brightness, chroma, contrast, saturation, sharpness are all adjustable
Camera Parameters	
Sensor Type	1/1.8" 4MP CMOS Sensor
Shutter Speed	1/20s-1/1000000s
Lens/FOV	8.5mm/ HFOV: 52° VFOV: 29.5° ±5° error 3.7mm/HFOV : 125° VFOV: 68° ±5° error
Minimum illumination	Color: 0.01Lux/F1.6
Lens Interface Type	M12
Wide Dynamic Range(WDR)	Supported
Backlight	Supported

Compensation	
Signal-to-Noise Ratio (S/N)	≥45dB
Sensor	
Six-axis Sensor	Supports harsh acceleration, harsh deceleration, harsh turning detection
Port (Peripheral Version)	
IPC Port	1-channel(RS765-6 aviation female connector)
Keypad Port	1-channel(Little 5559-4P)
R-Watch Port	1-channel(Little 5559-6P)
Port (Standalone Version)	
Keypad Port	1-channel(Little 5559-6P)
R-Watch Port	1-channel(Little 5559-6P)
GPS Port	1-channel(Little 5559-4P)
MDVR	1-channel(RS765-6 aviation female connector)
Vehicle Power Input	1-channel(3pin loose wire (DC IN+, DC IN-, ACC))
Other Expandable Port	1-channel(Din male connector with 10 pin: (CAN-H, CAN-L; SPEED A, SPEED B; GND; SENSOR IN1, SENSOR IN2))
CAN	1-channel (Supports standard J1939 protocol)
Protocol	
Network Protocol	HTTP, TCP, ARP, UDP, FTP, DHCP, DNS, IPV4, NTP
Power	
Power Supply	Standalone version: 9-36V Slave version: 9-16V
Power Consumption	Standalone version: approx. 4.6W @24V Slave version: approx. 3.6W @12V
Environment	

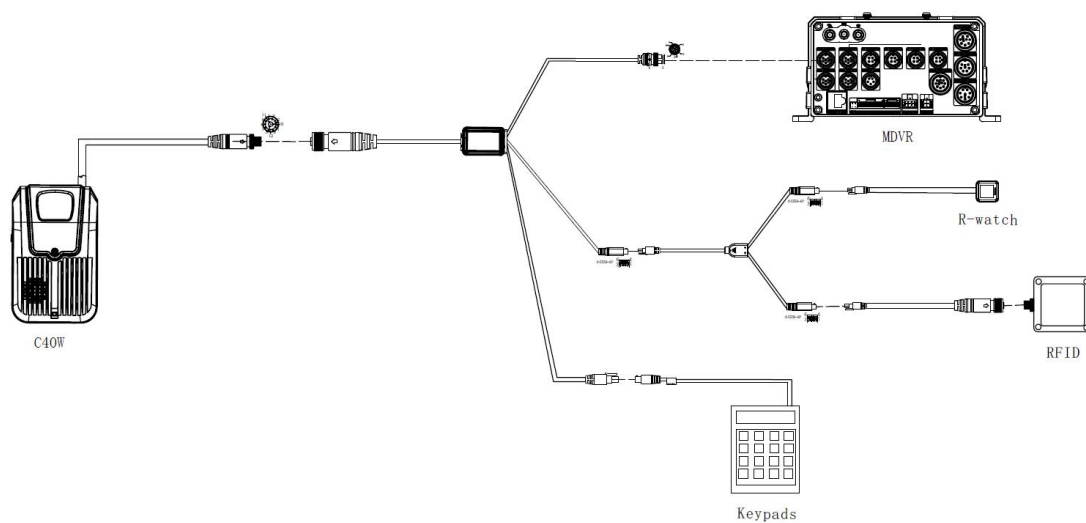
Operating Temperature	-40°C ~ +70°C (-40°F ~ +158°F)
Operating Humidity	15~90%
IP Rating	IP5X
Dimension and Weight	
Product Dimension	L126 mm × W78 mm × H48.6 mm (L4.96" × W3.07" × H1.91")
Package Dimension	L245 mm × W190 mm × H98 mm (L9.65" × W7.48" × H3.86")
Net Weight	385 g(0.85 lb)
Gross Weight	Standalone version: 760 g(1.68 lb) Slave version: 600 g(1.32 lb)
*The actual dimension and weight may vary depending on different configuration	
Packaging List (Peripheral Version)	
C40W*1, Tail Adapter*1, Alcohol Cotton*1, Plastic Plug for Outlet Hole	
Packaging List (Standalone Version)	
C40W*1, Power Box*1, 10P BMW male Loose cable*1, Alcohol cotton*1, Plastic Plug for Outlet Hole	
*Contents may vary depending on the region and specific requirements	

Dimension Diagram

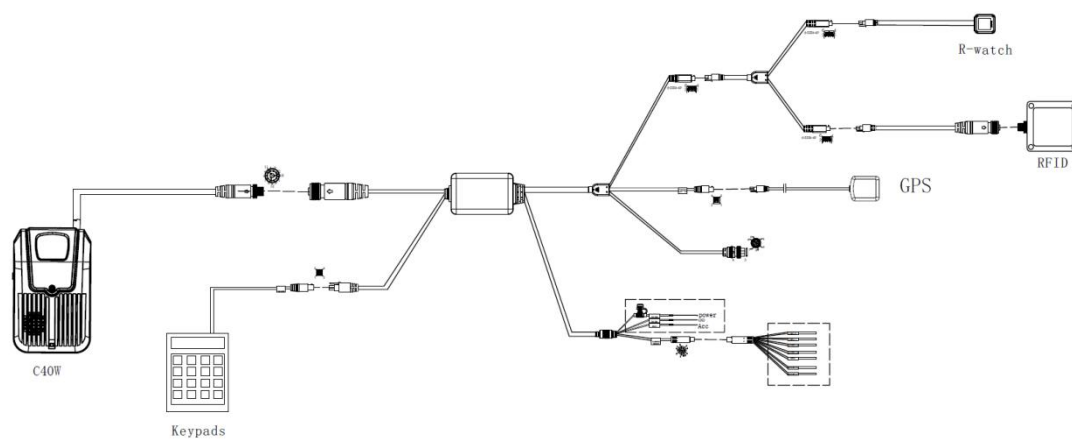
(Unit: mm)



System Connection Diagram

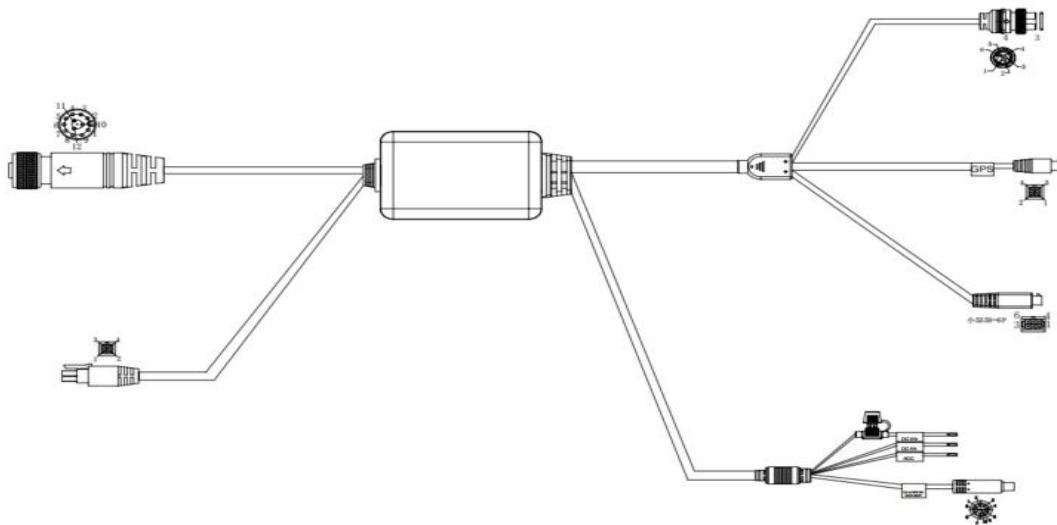


C40W system connection diagram (slave version)

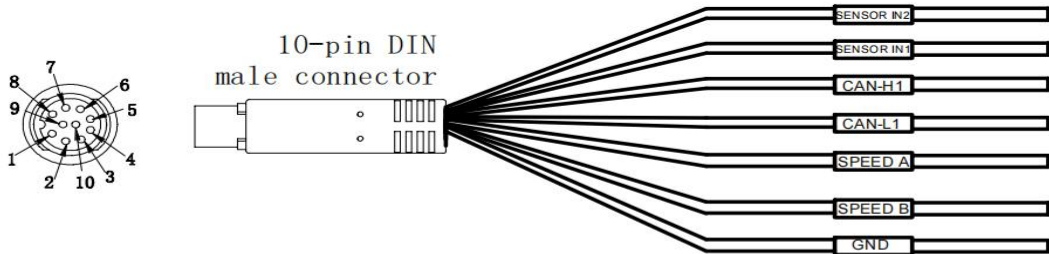


C40W system connection diagram (Standalone version)

Cable Details



C40W Standalone version Power Box



Pinout

10-pin DIN male
connector

1	SPEED B	Gray
2	CAN-L1	Green
3	CAN-H1	Yellow
5	SPEED A	Blue
7	SENSOR IN1	Green/black
8	SENSOR IN2	Green/yellow
10	GND	Black

Loose lines function instruction

Special Notes

The device operates based on image detection and recognition of real-world scenes. It uses pre-configured vehicle parameters and alarm conditions to determine whether or not to trigger an alarm. However, in the following scenarios—due to the absence of key information or the system operating beyond its normal boundaries—the product may not be able to provide accurate or effective alarm notifications.

1. Exceptional Scenarios

- **Ultra-high Bridges**

Bridges with a clearance height of 5 meters or more are not supported.

- **Inadequate Infrastructure**

Examples include, but are not limited to:

Limit sign filler lights that fail to illuminate

Limit signs that are obscured or damaged

- **Adverse Weather Conditions**

Weather that prevents the camera from clearly capturing the bridge and limit sign scenes.

2. Speed Limit Requirements

- **Daytime Operation**

Vehicle speed must be ≤ 40 km/h when approaching and passing under a bridge.

- **Nighttime Operation**

Vehicle speed must be ≤ 25 km/h when approaching and passing under a bridge.

3. Functional Architecture

- The system is based on standard ADAS functions combined with bridge height limit detection.
- Two different algorithm sets are used to process image targets under different scenarios.
- As a result, two separate software packages are employed, each dedicated to one of the respective functions.