



深圳市龙桥科技发展有限公司

SHENZHEN DRAGON BRIDGE TECHNOLOGY LTD COMPANY

Application :Rental cars, insurance cars, trucks, buses

Wireless Fleet management Solution Innovator

GSM/GPRS/GPS Tracker

Model: K5-P

(High configuration version)



Version: V1.2

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Intelligent video monitoring terminal Specification 错误! 未定义书签。

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1. Overview

K5-P is a new generation of highly integrated, vehicle-mounted intelligent video terminal developed with the latest technology. It is an active safety intelligent video terminal integrating 4G wireless transmission, vehicle travelling data recorder, anti-fatigue warning function-Driver Status Monitoring(DSM), forward Advanced Driving Assistance system (ADAS), WIFI communication, 8-channel(maximum) DVR high-definition monitoring and video storage, and Beidou /GPS dual-mode high-precision positioning. Data such as vehicle status, trajectory information, video images, driver status and driving warning information can be collected during the driving process to facilitate the enterprises and regulatory authorities to conduct the vehicle management effectively and remotely, curb unsafe driving behaviors, and reduce the risk of driving accidents.

The product can be widely used in passenger vehicles, dangerous goods transport vehicles, commercial concrete vehicles, transit bus, muck vehicles, cold chain vehicles and other vehicles. It comply with Chinese national standard GB/T 19056-2012, ministry standard JT/T 794-2011, JT/T808-2011, JT/T 1076-2016, JT/T 1078-2016, JT/T 794-2019, JT/T 808-2019 and other standards, as well as Chinese city standard - Suzhou, Chongqing and Sichuan standard, etc., it have completed the registration of directory in many provinces of China for vehicle terminal used in two kinds of vehicle transporting passengers and vehicle transporting dangerous goods.

Product features:

- Integrated Design, highly integrated tachograph, video recording, active safety algorithm, etc.;
- Support driver fatigue warning function (yawning, closed eyes, distraction, etc.);
- Forward vision Advanced driving assistance function (supporting warning of collision with the vehicle ahead, lane departure warning, etc.);
- Multi-center access, and can support reporting data to multiple monitoring centers;
- Maximum 8-channel analog HD video input, flexible combination design, comprehensive audio and video monitoring and video-recording;
- Support hard disk data storage and SD card storage; dual storage to ensure data security;
- 4-level shock protection mechanism to improve the service life of hard disk;
- UPR (Uninterruptible power supply video recording) function, built-in super capacitor, to ensure

that the video will not be lost at the moment of power failure;

- Low voltage protection function to ensure the safety of vehicle battery;
- Support for built-in printer;
- Support external disaster recovery storage;
- Unique heat dissipation design technology, silent, no fan interference, higher product reliability;
- Reliable storage medium protection device, to prevent random disassembly of hard disk and SD card;
- Independently developed file storage system to ensure data security from tampering;

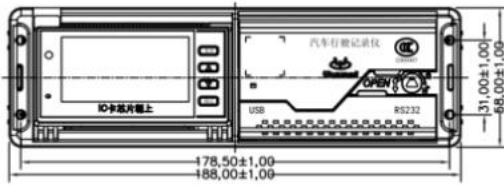
2. Product appearance



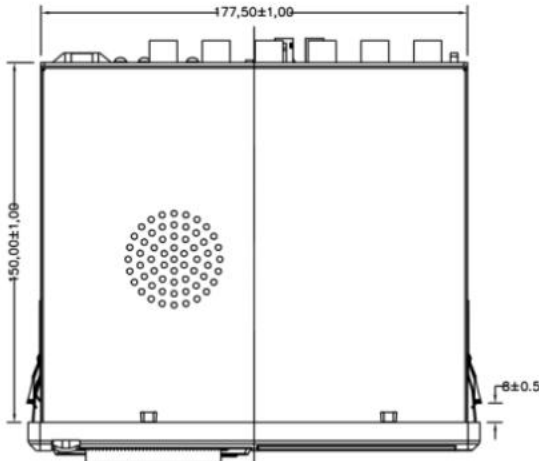
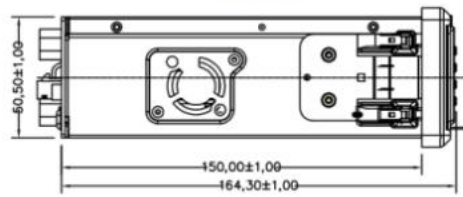
K5-P real image

3. Intelligent video terminal interface

Front view

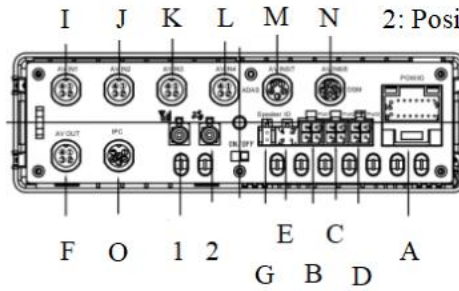


Left view



Top view

A-G,I-O:Connectors
 1:Communication antenna
 2: Positioning antenna



Rear view

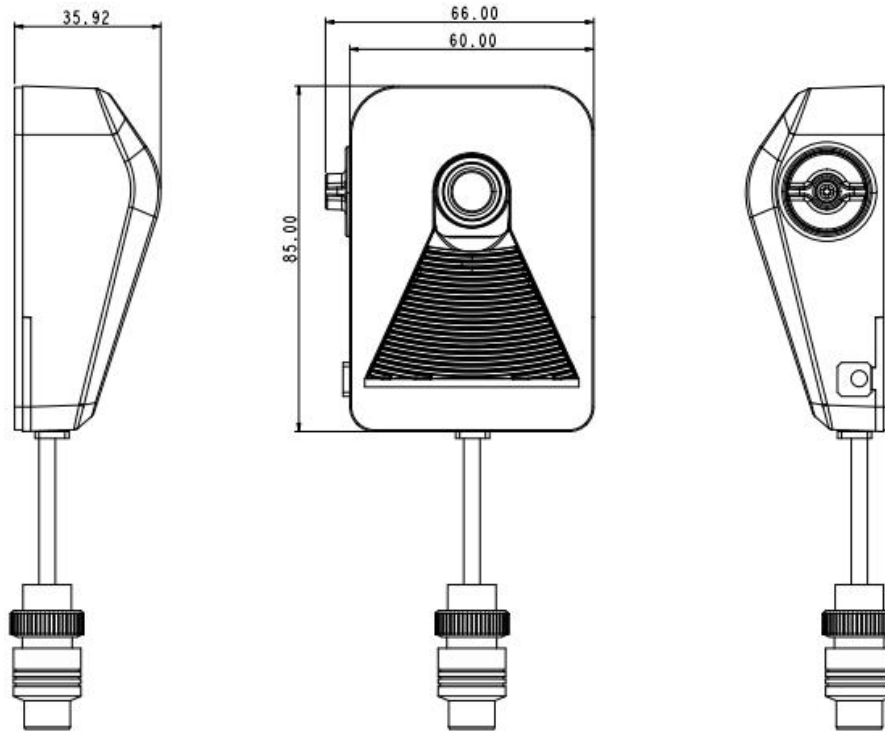
4. Block diagram of product solution

Right view



5. Active safety camera parameters

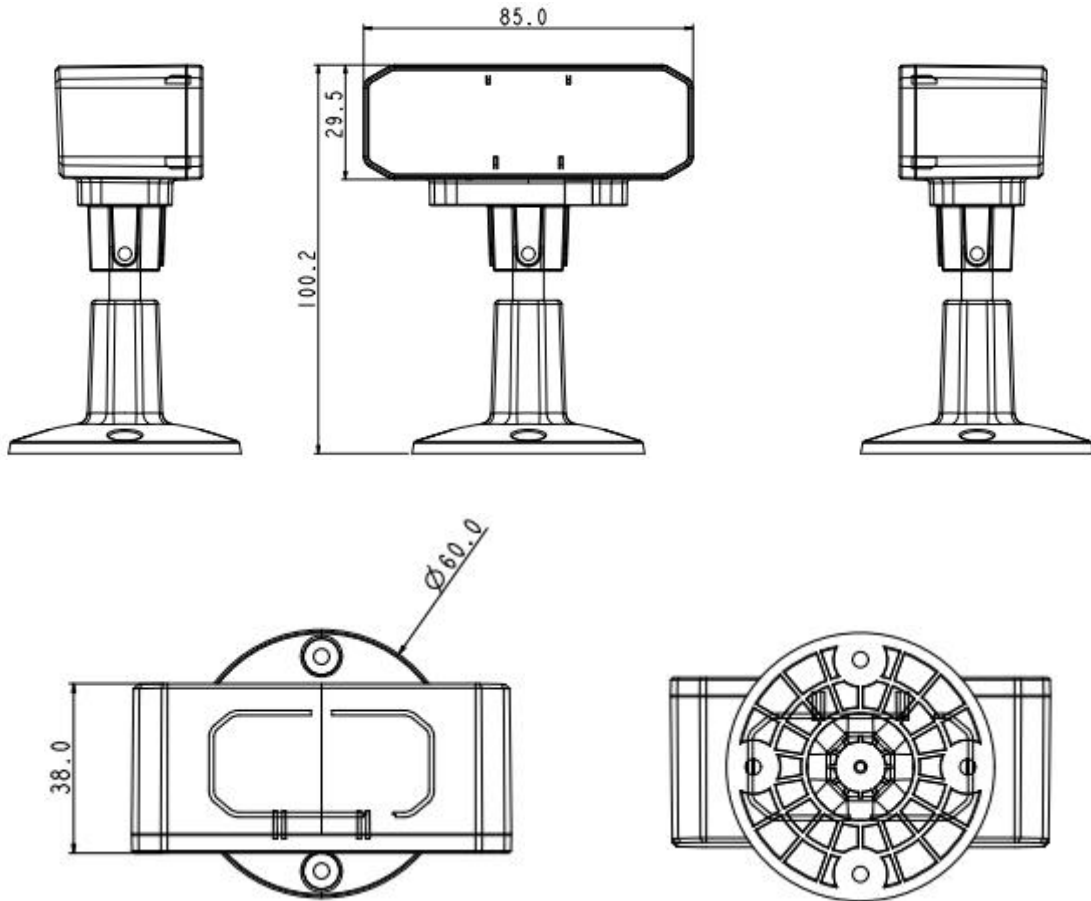
5.1 ADAS camera (Y6)



Specification parameters

Resolution ratio	1080*720
Field angle (D/H/V)	60°/52°/29°
Audio	Supported
Frame rate	25fps
Video standards	AHD
Power Supply	DC12V, 50mA~70mA
Size (mm)	85*66*36
Degree of protection	IP65
Operation Temperature	-30°C~70°C
Storage temperature	-40°C~85°C

5.2 DSM camera (Y8)



Specification parameters

Resolution ratio	1280*720
Focal Length	6.0MM
Field angle (D/H/V)	60°/52°/29°
Audio	Supported
Frame rate	25fps
Video standards	AHD
Power Supply	DC12V: 100mA~140mA
Size (mm)	85×38×100.2
Operation Temperature	-30°C~70°C
Storage temperature	-40°C~85°C

6. Detailed product specification

Operation Temperature	-30 °C ~ +70 °C
Storage temperature	-40 °C ~ +85 °C
Operation voltage	9-36V
Operation current	320mA
Size	188mm*58mm*164mm
Weight	1Kg
Video	6/8 channels video (AHD/CVBS) input, 1CVBS output
	IPC interface, 12V power supply
Audio	Built-in microphone for Monitor and talking, The first 4 channels of cameras support audio input
	Built-in 2W hands-free speaker
	1 AOUT output channel for audio and video of monitor playback
Storage	1 SATA hard disk interface, supporting 2.5-inch mechanical / solid-state hard disk, supporting shock absorption design
	1 SD card interface, single card supporting 256G
Communication peripherals	1 prepositional USB2.0 interface , 5V power supply, supports 1A load (maximum)
	Disaster recovery Backup USB: 5V power supply, supports up to 500mA load, 5PIN Aviation Plug Connector
	DB9 prepositional serial port
	3 RS232 peripheral interfaces
	2 CAN interfaces
	1 IPC interface, 12V power output (1.5A)
IC card	Touch IC card
Printer	Built-in printer

Infrared receiver	1 channel infrared reception
Display screen	Black and white LCD,dot matrix: 132 * 64, with adjustable Backlight brightness
Positioning	Support Beidou & GPS positioning
	External FAKRA C / Blue antenna interface
	Support location antenna open circuit and short circuit detection
Communication module	4G , FAKRA D / connector
	Prepositional micro SIM card
WIFI	Support external WIFI
Infrared receiving	Support
IO function	5 positive/ 1 negative/ 2 three states /2 AD/1 output
Sensor	Built-in acceleration sensor
Spare battery	Built-in 7.4V / 540 mA/h lithium battery, support switch, support power detection
External interface	Power interface: 20pin
	Video interface: 4 pin Aviation Plug Connector
	Expansion interface: IPC / serial port
	IPC interface: 6 pin Aviation Plug Connector
Ultra low power consumption design	Static power consumption: less than 2mA / 24V
	Zero power consumption in sleep mode, ignition wake-up, do not support timed wake-up
Specification of Positioning antenna	Length: 3M (standard), 5m (optional)
	Electrical parameters: Frequency range: GPS L1 (1575.42 ± 1.023mhz); Beidou generation II B1 (1561.098 ± 2.046mhz)
	Polarization mode: dextral circular polarization
	Input / output standing wave: ≤ 2.0
	Antenna bandwidth: ≥ 20MHz
Output impedance: 50 ohm	
Working voltage: 3v-5vdc	
Working current: 9ma -- 14mA (3.3vdc)	
Product gain: 28 ± 3.5 dBi	
Working temperature: - 40 °C ~ 85 °C	

	Storage temperature: - 40 °C ~ 85 °C Waterproof and dust proof grade: IP67
Specification of communication antenna	Length: 1 m
Power cord specification	Length: 2 m
	Technical condition of wire harness: QC / t29106 The representation of wire harness and connector: QC / t417 PVC thin wall wire shall be used according to QC / t730, grade B The surface of metal terminal in connector shall be tin-plated according to Q / catr-4.12

7. Product function

7.1 Video

The terminal adopts H.264 video compression technology and special streaming media format to realize functions of 6 / 8 channels real-time image monitoring, timing recording, event recording and alarm recording . It can be extended to support 8-channel 720p analog HD video acquisition, and the image resolution is optional in 720p / 960h / D1 / half D1 / CIF.

7.2 Massive storage

Adopt Hard disk and SD card to store images and videos. The capacity is determined according to the customer's choice, and patent file format is used for recording, so as to ensure the safety of video and data files in vehicle environment.

7.3 Image transmission

Real-time monitoring video via 3G/4G wireless network, dual code stream transmission, adjustable rate. It can capture remotely and upload pictures / videos according to the alarm events.

7.4 Multimedia analysis

The multimedia driving record analysis software can realize the functions of audio and video synchronous playback, conditional playback, clip storage, license plate overlay, geographic information overlay, event analysis and record extraction.

7.5 ADAS

Alarm type	Explanation	Default enabling condition	Remark
Front Collision Warning (FCW)	Real time monitoring of the distance with the car ahead, can alert the driver 2.7 seconds before the expected collision to prevent rear-end collision.	speed per hour ≥ 30 km/h	Standard configuration
Lane Departure Warning (LDW)	Monitor the current lane markings and vehicle tracks, and raise the alarm to remind drivers to keep safe lanes when they are about to deviate unintentionally.	speed per hour ≥ 55 km/h	Standard configuration
Headway Monitoring and Warning (HMW)	Displays the distance (in seconds) of the vehicle ahead and alarms when approaching the preset danger distance.	speed per hour ≥ 30 km/h	Standard configuration

- 1) Enabling speed can be configured according to the actual condition;
- 2) Can be used in most scenarios (except extreme weather), such as day, night, tunnel and rainy day;
- 3) Support failure alarm when ADAS is obscured ;
- 4) For more functional requirements, please contact the Official Technical Support department.

7.6 DSM

Alarm type	Explanation	Remark
Fatigue driving alarm	Identify the persistent eye closure status and yawn status (distinguish the degree of mild and severe)	Standard configuration
Distraction alarm	Identify driver's persistent state when turn left or right, raise or lower the head	Standard configuration
Alarm when receiving and making calls	Recognize gestures when make a Phone Call	Standard configuration
Smoking alarm	Recognize smoking posture	Standard configuration
Departure alarm	Identify when the driver leaves his seat	Standard configuration
Driver change alarm	The current detection of faces is different from last time	Standard configuration
Driver identification	Identify the driver ID	Standard configuration
Failure alarm	Alarm when the camera is covered and invalid	Standard configuration
	Alarm when Infrared glasses block monitoring	Standard configuration

- 1)The driver can recognize the driver normally in the daytime and night, wearing short-sighted glasses and ordinary sunglasses;
- 2)The enabling speed can be configured according to the actual use;

- 3)It has strong resistance to external light source, and can work normally in different lighting scenarios such as day, cloudy day or night;
- 4)For more functional requirements, please contact the Official technical support department.

7.7 Vehicle monitoring

Vehicle timing monitoring and positioning function, electronic fence function, vehicle mileage statistics, blind area supplementary report function, track storage function, base station auxiliary positioning function, real-time video monitoring function.

7.8 Signal detection and control

There are 9 signal inputs, 1 speed sensor signal input and 1 relay control output. Intelligent and compulsive power cut-off control, camera power supply control.

7.9 Alarm and pre-warning

Support emergency alarm, parking overtime alarm, overspeed alarm, overspeed pre-warning, fatigue driving alarm, lane deviation alarm, electronic fence alarm, power-off alarm, low power alarm, positioning antenna open circuit and short circuit alarm, camera fault alarm, etc. support face recognition fatigue driving warning, front vehicle collision warning and lane departure warning.

7.10 Road detection

Realize yaw prompt and alarm , section speed limit prompt and alarm, enter and exit the station report, station associated control.

7.11 Voice broadcast and telephone

Vehicle hands-free phone, remote monitoring function, voice prompt function, TTS text voice broadcast function.

7.12 Tachographs

The terminal can record the vehicle traveling, continuously records and stores the vehicle driving status data at a time interval of 1 second. The driving data include real time of the vehicle during the driving process, the average speed corresponding to each second interval and the status signal of corresponding time. The effective data recording shall not be less than the latest 48 unit hours. The unit of speed recording is kilometer per hour (km / h), and the

measurement range is 0km/h ~ 220km/h.

7.13 Vehicle CAN bus

Support the J1939 protocol, collect data through the original vehicle CAN bus to realize driving behavior analysis and vehicle working condition detection.

7.14 Network cloud guardian

Support remote fault diagnosis and debugging, remote automatic program maintenance, remote parameter configuration, terminal operation statistics and other remote "cloud" Guardian functions. Improve equipment installation and maintenance efficiency, save maintenance time and cost.

7.15 Voice installation Assistant

It can automatically detect the external signal line, external equipment and parameters setting, and interactive installation detection prompt by voice can be adopted to help the installation personnel to carry out self-inspection of installation, and ensure the correct installation of equipment.

8. Product configuration list

Serial number	Product item	Quantity/set	Remark
1	Principal machine	1	
2	ADAS camera	1	
3	DSM camera	1	
4	Positioning antenna	1	
5	Communications antenna	1	
6	Installation cable	1	
7	Install frame/mount bracket	1	Only choose one
8	Driver card	2	
9	Hard disk lock key	1	
10	Specification/certificate/warranty	1	

	card		
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Attach some customer cases:



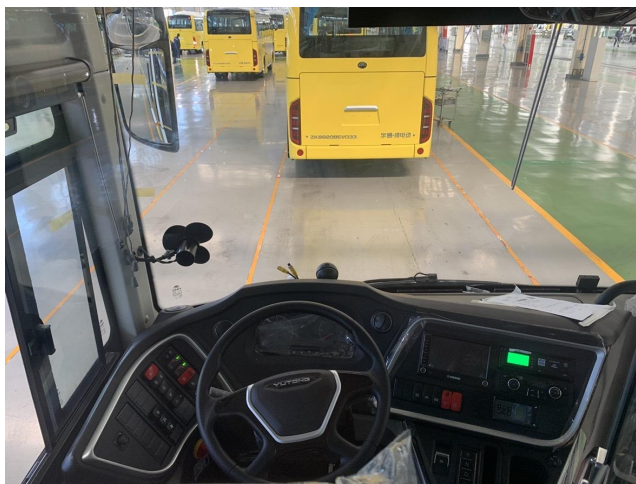
Dongfeng Commercial Vehicle Company Limited





Dongfeng Liuzhou Motor Co., Ltd (CL Truck)





Yutong Group Co., Ltd