Video Processing Control Unit

Utilizing the cameras installed in passenger compartments and driver cabins, and relying on advanced technologies such as computer vision and artificial intelligence, the surveillance footage inside the carriages is intelligently analyzed and processed through algorithms. It can detect and issue alarms for functions such as abnormal behaviors of drivers, abnormal behaviors of passengers, carriage congestion levels, and detection of leftover items.

- Real-time detection of video images enables timely problem discovery.
- Advanced AI algorithms and a comprehensive database make the testing more accurate.
- Support the interface integration with other systems such as the PA system and the ground control center,

Technical Parameters

Items	Specification
Controller parameters	
CPU	6 core NVIDIA Carmel ARM v8.2 64-bit
GPU	Volta GPU with 384 NVIDIA CUDA cores and 48 Tensor cores
RAM	8GB
Video Decode	H.265/H.264
Video Encode	H.265/H.264

Computing Power	21 TOPS or 100 TOPS is optional
Video Input	Support up to 36 cameras with a resolution of 1080P at most
General	
Communication Interface	1x10M/100M auto-negotiation Ethernet interface
Power Supply	DC110V (77V~137.5V)
Power	50W
Product Weight	≤ 5kg
Operating Conditions	-25 °C to 70 °C, humidity less than 95% (non-condensing)

Camera Selection

Saloon Video Analysis：

Standard dome cameras or wide-angle cameras can be used. For the camera parameters, please refer to the camera specification sheet.

Driver Behavior Analysis：

For exposed installation, standard dome cameras or wide-angle cameras can be used. For the camera parameters, please refer to the camera specification sheet.

For embedded installation, dedicated cameras for driver behavior analysis can be used. The parameters are as follows:

Technical Parameters

Items	Specification
Sensor	1/2.8" CMOS
Min. Illumination	0.0001Lux@F1.2
Shutter Speed	1/50 s to 1/100,000 s
Focal Length	2.8mm

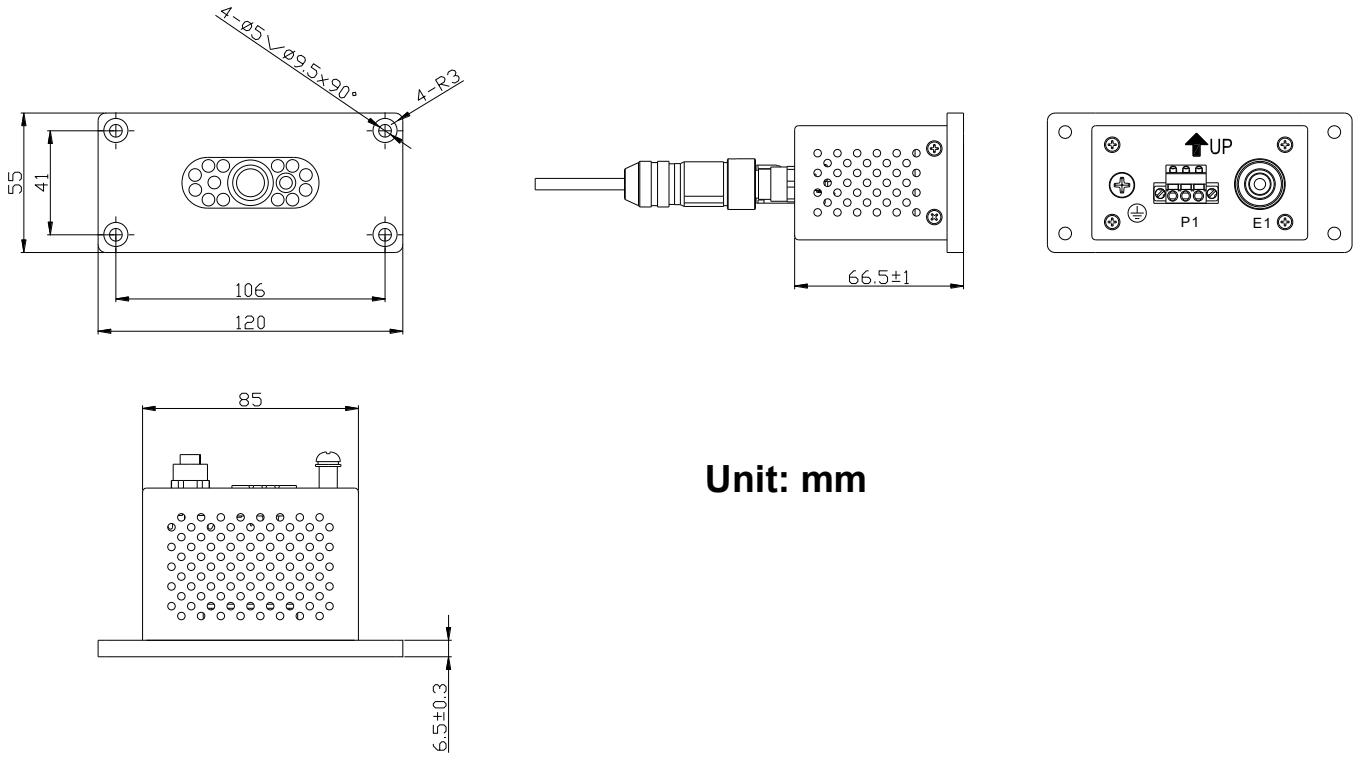
FOV	Horizontal 108°, Vertical 80°
Day & Night	IR Cut Filter
Max. Resolution	1920×1080
Video Compression	H.265/H.264
Stream Type	Main stream: 1920*1080@25fps, 1280*720@25fps; Sub-stream: 704*576@25fps
Video Bit Rate	128 Kbps to 8Mbps
Audio Compression	G.711A
Communication Interface	1x10M/100M auto-negotiation Ethernet interface
Network protocols	RTSP / FTP / DHCP / NTP / UPnP
Power Supply	DC12V (8.4V~15V)
Power	≤ 5W
Operating Conditions	-25 °C to 70 °C, humidity less than 95% (non-condensing)

Interface

Ethernet interface		
1	TX+	D-code M12 (Female)
2	RX+	
3	TX-	
4	RX-	

Power interface		
1	DC12V+	3 Pin Phoenix
2	DC12V-	
3	NC	

Dimension



Unit: mm