

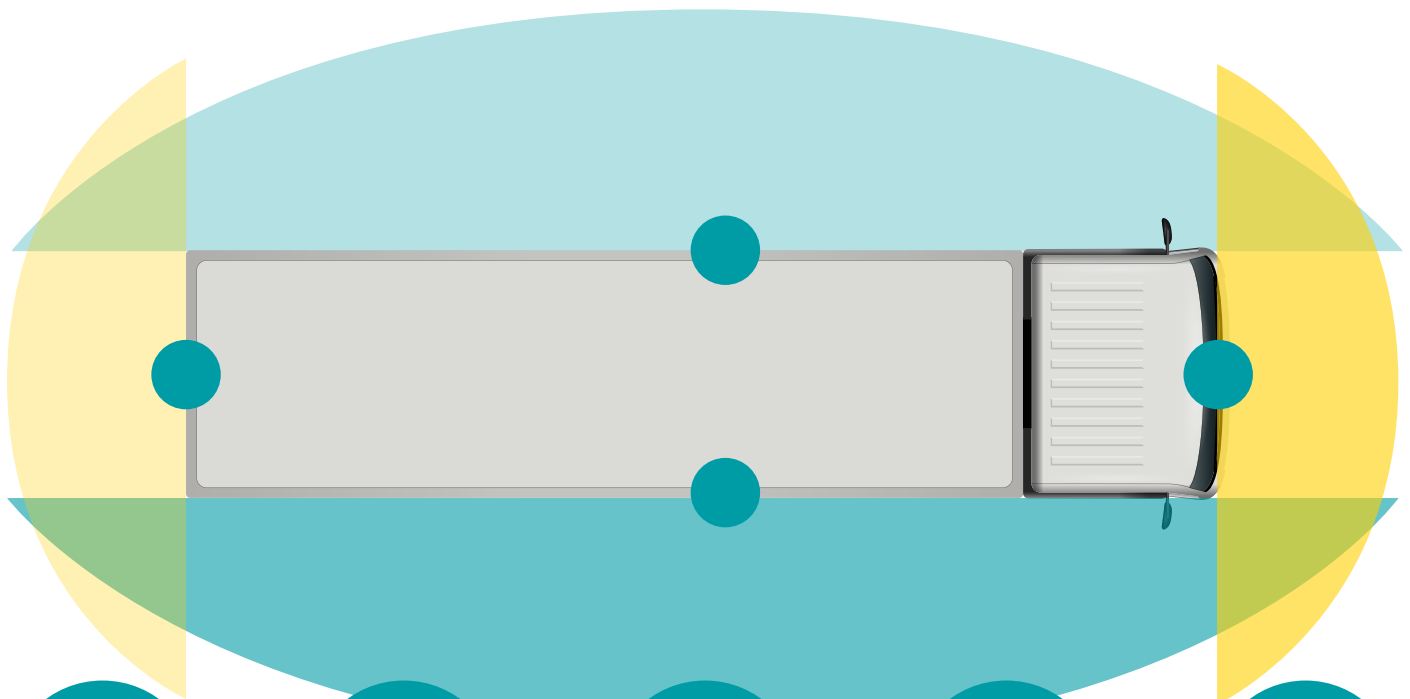


4 CAMERAS - 1 IMAGE - 0 BLIND SPOTS

360° All-Round Vehicle Camera System.

The innovative **CAM-360** 360° All-round Vehicle Camera System from EchoMaster is an intelligent solution designed to assist drivers of larger commercial vehicles by providing real-time views of the vehicle surroundings in a single image.

Mounted high on the front, rear, and sides, the intelligently calibrated cameras capture the vehicle surroundings including the Blind Spots in Full 1080p and are simultaneously processed, combined, blended, and stitched together with any distortion removed.



**REAL-TIME 360
DEGREE VIEWS
OF VEHICLE**



**4 X FULL HD
1080P FISH-EYE
CAMERAS**



**ULTRA-WIDE
180 DEGREE
VIEWING ANGLES**



**EASY
INSTALLATION
& CALIBRATION**



**MAXIMUM
WATER/DEBRIS
PROOF RATING**



Why choose an All-Round Camera System?

Vehicles of all sizes have blind spot areas that obscure the drivers view of the road around them when driving or manoeuvring. Subsequently, such areas pose an increased risk for other drivers, pedestrians, cyclists and other road users whilst the vehicle is in motion, and as such mean the drivers ability to operate the vehicle safely is greatly reduced.

Both replacement mirrors and single-view camera solutions help to reduce this risk, assisting the driver in identifying obstructions when turning or changing lanes, but dont completely remove the danger. Drivers are likely to not see everything in the vehicle's path as they are more often than not looking at the road ahead or looking in one monitor or mirror at any one time.

Recent research has identified that the average time a driver takes to look at all their mirrors, assess the danger, and then react to possible obstructions, even at moving at speeds as low as 5kph a vehicle could travel as far as 10m.

The benefits of our system



Our intelligent calibrated birdseye cameras capture all the surrounding areas INCLUDING the blind spots of the vehicle.



Our intelligent system allows connection to an external DVR in order to record Full HD 1080p images from each individual camera.



Camera views of the vehicles surroundings are displayed on the vehicle monitor in real-time with no time daly lag.



Our system provides multiple different camera views that can be displayed on the monitor that can be customised for vehicle location or application.



Auto-Switching Triggers

The **CAM-360** All-Round Camera System also comes with Auto-Switching functionality to provide a clearer view of a specific area of the vehicle when manoeuvring. For example when the driver engages reverse gear the system will display a larger image of the rear-camera alongside the 360° image. This can also be configured to provide the same image when indicating left or right.



**LEFT / RIGHT FRONT
BLIND SPOT AREA**



**ALL-ROUND VIEW OF THE VEHICLE
SURROUNDINGS**



**FULL LENGTH VIEW OF BOTH
LEFT RIGHT SIDE**

Intelligent Driver Assistance

By utilising the optional CAN-bus module available, the system can use the vehicles speed, steering wheel angle and other CAN information to provide real-time Intelligent driver warnings for Moving Off & Blind Spot Detection along with Lane Departure Warnings to ensure the safety of both vehicle, driver and other road users.



BLIND SPOT DETECTION



LANE DEPARTURE



MOVING-OFF DETECTION



Product Specification

CAMERA

Resolution	1920 x 1080 / Full HD 1080p
Imaging Device	1 / 2.8" 2.0MP CMOS
Lens	1.7mm M12@ f1.8, Field of View: HFOV:190°, VFOV:98°, DFOV:200°
System	P System/ N System
Electronic Shutter	1/25s to 1/25,000s (auto shutter)
Power Supply	DC12V±10%
Power Consumption	1.2W (100mA/DC 12V ±5%)
Video Output	1.0 V p-p composite video output, 75ohms, 4pin aviation cable
Working Temperature	-40°C to +70°C
Working Humidity	<95% (No Condensation)
Waterproofing Grade	IP69K

CONTROL MODULE (AVM)

Display Resolution	1280 x 720 (CVBS) - 1920 x 720 (720P) - 1920 x 1080 (1080P)
Rated Voltage	DC 12V/24V
Working Voltage	9 - 36 V
Rated Current	600mA & 12V/300mA & 24V
Host Current	260mA & 12V/130mA & 24V
Working Temperature	-30°C to 80°C
Storage Temperature	-40°C to 85°C
Recording Format	1080P / AVI
Working Humidity	-<95% (No Condensation)
Waterproofing Grade	IP69K

CONTROL MODULE

Working Voltage	≤30 V
Working Current	≤20mA
Static Standby Current	≤500uA
Working Temperature	-40°C to 85°C
CAN Protocol type	SAE +J1939