

ICAR CAM5



The latest addition to the well renowned iCAR camera range

Integrating the latest **cutting-edge technologies** (deep learning-based algorithms), the CAM5 ANPR camera delivers **unprecedented** number plate **recognition** capabilities. Additionally, its outstanding image resolution and a **unique set of functionalities** designated to provide further **vehicle characterization** makes this product the "best in class" within its category.

The CAM5 camera can operate on **1, 2, 3 or 4 lanes** and is able to differentiate **all kind of vehicles** (e.g. cars, trucks, busses, motorcycles, bicycles, trams, etc.), objects and **persons**.

Moreover, it also integrates in option a **"Make & Model"** recognition feature, as well as a **"vehicle color"** characterization. Both features are invaluable in finding vehicles and closing the current gap in similar product offerings, as these features, when available, typically require additional hardware and software.

The CAM5 camera is also able to calculate an **instantaneous speed** estimate for each vehicle travelling within its field of view.

The whole CAM5 camera technology is embedded in a **small footprint** - but well-designed - housing that discretely blends into urban environments. All details have been carefully thought and engineered to facilitate its installation and deployment: a miniaturized **motorization** within the support arm allows **remote alignment**, removing the burden of relying on an aerial lift truck for final mechanical setup.

MAIN TECHNICAL CHARACTERISTICS

- ▶ Up to 12 MP dual high-sensitivity CMOS sensors (B/W & Color, polarized in option)
- ▶ Processor: NVIDIA Jetson TX2
- ▶ Vehicle speed detection from 0 to 300 km/h
- ▶ Connectivity: Ethernet, Wi-Fi, 4G, 4G LTE, 5G
- ▶ GPS included
- ▶ Motorized support arm (tilt & pan)
- ▶ PSU: 24V DC (25W only)
- ▶ Weight: 3.8kg
- ▶ Minimum IP67 protection & IK10 housing
- ▶ CE conformity

✓ Ready to use with



**MACQ MOBILITY
MANAGER**

CAM5	
Overall Performances	
Number of monitored lanes	1 – 2 – 3 – 4
Maximum speed of detected objects	Up to 300 km/h
Working distance	Up to 50 m (day), up to 30 m (night)
Vehicle detection accuracy	99%
Plate recognition accuracy	>95%
OCR	NVIDIA 256-core-based deep learning
Classification	All kind of vehicles (incl. cars, trucks, busses, motorcycles, bicycles, trams, etc.), objects and persons
Make & model recognition	Yes (optional)
Vehicle color recognition	Yes (optional)
ADR recognition	Yes (optional)
Instant speed detection	Yes (optional)
Hardware & Connectivity	
2 Sony CMOS sensors, Pregius Series (ANPR & context camera)	3.2 MP / 5 MP / 5 MP Polarized / 12 MP Pre-orderable: 8.9 MP / 12 MP Polarized
Focal lengths	8 mm / 12 mm / 16 mm / 25 mm / 35 mm
Frame rate	35.7 fps
Illuminator	88 wide-angle IR LEDs, 850nm
Storage SSD	256 GB / 512 GB / 1 TB
GPS	Yes
3G / 4G / 4G LTE / 5G	Yes (optional)
Wi-Fi, IEEE 802.11a/b/g/n/ac, 2.4 / 5 GHz	Yes
Ethernet RJ45	Yes
Bluetooth, v4.1, max. 3MB/s	Yes
Pan & tilt remote control	Yes, via motorized arm
Software & Image Processing	
OS	Ubuntu (Linux For Tegra)
Encryption	AES256
Automatic white balance & backlight attenuation	Yes
Offset from the furthest lane	Up to 15m
Streaming	Color video H264 via RTSP
Compression	Lossless PNG or JPEG
Time	NTP & GPS synchronization
Communication protocol	Web server & TCP/IP
Data transmission	JSON, SNMP, UTM, ONVIF
System integration	Integration into M ³ platform
Mechanical & Conformity	
Dimensions	190 x 110 x 196 mm ³ (camera only)
Weight	3.8 kg
Power supply	24V DC, 3A (electrical starting peak), 25 W
Autonomous power supply thanks to solar panel & battery	Pre-orderable
CE conformity	Yes
IP/IK rating	IP67 minimum, IK10 housing
Operating temperature	-25°C to +65°C
Operating humidity	10% to 95%