

SIEMENS

Ingenuity for life



Sicore II

The next generation of ANPR

siemens.co.uk/sicorell

Sicore II is an embedded automatic number plate recognition (ANPR) camera, including an IR camera, an IR or colour overview/context camera as well as the integrated processor that runs the Siemens vision engine and an OCR (Optical Character Recognition) engine. Designed for high speed free flow environments in all weather conditions. It is built to last.

The new ANPR camera builds on the success of the previous Sicore, which utilises Siemens own vision engine based on over 30 years optical recognition technology. Highly flexible and supporting many countries of the world, this new camera delivers high quality, evidentially secure images. Whether used for average speed control, low emission zones or access control, the camera delivers reliable results in all conditions.

Modular Hardware Design

Sicore II uses one of the latest quad core industrial processors for maximum computing power enabling complex analytics to run in our proprietary vision engine. The processing power allows handling three lanes of traffic with over 2000 vehicles per hour in each lane.

The camera sensors in Sicore II use standard interfaces to enable fast transfer of image data to the vision engine, whilst also enabling easy extensions to the product range through the introduction of new technology.

Precision, accuracy and timing

Like the first version of Sicore, the camera delivers an outstanding trigger rate without any additional detectors or sensors. One of the important components in the system to achieve this is a dedicated Sync CPU. The Sync CPU is a processor which handles all of the real time aspects of the camera including camera exposure timing and duration, flash power as well as all external I/O.

The flash unit and Sync CPU allow complete control over the flash duration and power for each camera, allowing perfect exposure for both ANPR and overview settings. This precision ensures high quality images from the camera in all conditions. The flash itself uses super bright OSRAM LEDs designed to cover three lanes of traffic providing a clear image of the licence plate.

The Sync CPU can also drive an external flash completely synchronised to the camera exposure, allowing additional illumination to be integrated where it is required, for example to see the driver’s face, or number of axles on the vehicle.

The Sync CPU also provides timing accuracy and a thermally protected clock module gives microsecond precision. This provides a secondary time source, which can be validated and monitored against a primary time source from either the on-board GPS, or an NTP(Network Time Protocol) server.



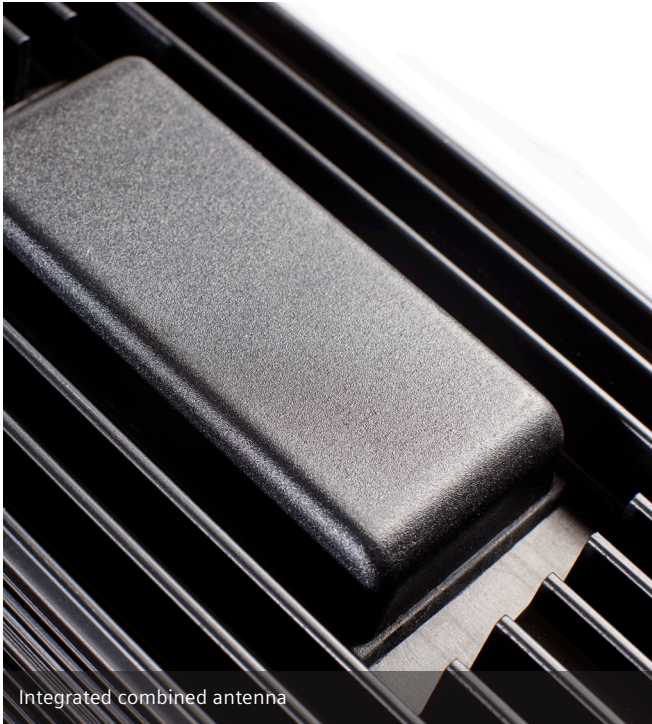
Connectivity as standard

Sicore II has four optically isolated digital inputs and outputs as well as various serial communication protocols and Ethernet. The camera can easily be connected therefore to a range of roadside equipment such as weigh in-motion sensors to fulfil a wide range of applications in the Road, Security and Safety marketplace. Military grade connectors are used making it easy to quickly and securely connect and disconnect the cables without special tools.

An industrial-grade SSD provides a range of storage options. The entire disk is encrypted to provide secure storage of all settings and evidential data.

Software, flexibility and security

With Sicore II, a new flexible, proprietary vision engine is included. The vision engine is responsible for vehicle detection, tracking, and plate selection as well as speed estimation. It passes the results to a modular OCR engine to allow best-in-class results for each application/territory. The OCR engine supports many countries and syntaxes to a very high accuracy.



New in Sicore II is the ability to provide live streaming (H.264) from both ANPR and overview cameras bridging the ANPR and CCTV features. This in turn makes it very suited to the security and police markets.

An embedded VPN (Virtual Private Network) provides a secure connection whether that is 3G/4G, Wi-Fi or wired Ethernet. Sicore II uses the latest security technology commonly used in banking and insurance to ensure highest defence against vulnerabilities and attack - a critical feature in today's enforcement market. Using this secure technology, multiple clients can connect to the camera and access its data. A command interface allows remote support and maintenance such as rebooting cameras or adjusting settings.

Mechanical Design

Sicore II uses a specially-designed extrusion to maximise the surface area for cooling allowing the product to be used in environments up to 60°C. A special rain channel prevents water from running over the front of the camera, meaning that only minimum yearly maintenance is required to keep the images clear.

An integrated combined antenna for 3G/4G and GPS avoids the need for additional antennas on the back of the unit. The result is a modern, sleek design with everything included within the camera.

Inside the camera housing there is a design to allow precise alignment of the camera sensors, meaning that both the ANPR and Overview Cameras can be accurately aligned to show the same image (regardless of lens options installed on the camera).

Technical Specs

Communications

- 10/100/1000 Ethernet
- Isolated RS422/RS485
- Isolated RS232
- Optional 3G/4G modem
- Optional Wi-Fi module

Inputs and outputs

- 4 Digital inputs: Isolated, 12-24V DC constant current trigger inputs
- 4 Digital outputs: Isolated open drain, 24V / 0.5A maximum per output
- Isolated solid state changeover relay contact – maximum rating 50V / 50mA
- Isolated power switch – maximum input 24V DC / 0.5A current limit
- Isolated tamper input per Auxiliary cable
- All Isolated I/O rated to 50V Peak AC / DC.

Other facilities

- High resolution 1920px x 1200px 2.3M Pixel cameras
- Lens options: 12.5mm, 16mm, 25mm, 35mm
- Optional solid state memory modules 16GB,32GB,64GB
- Inbuilt high intensity programmable power and duration IR flash
- Rear Panel LED status indicator
- Rugged MIL-C-26482 connectors
- Externally accessible SIM card (3G/4G modem option)
- Timing sources: Internal Crystal, NTP network time server, GPS
- Licensed options use encrypted Smart Card
- Web based configuration

Parameter	Range
Power Supply	24V DC +10% -30% Negative earth [16.8 – 26.4V at the camera] Inrush Current: <10A
Transients	To BS EN50293:2001
Power Consumption	25W Nominal
Isolated Interfaces	50V Peak AC / DC
Power break support times	100ms minimum at nominal 24V DC supply
Size	455 x 285 x 175mm (L x W x H) Excluding connectors
Weight	6 Kg excluding bracket
Operating Temperature Range	-30°C to +60°C
Environmental Protection	IP66
Material / Finish	Plated aluminium, Polycarbonate sun shield and front screen
Approvals	Designed to meet the relevant sections of: • EN50293 Electromagnetic compatibility. • CE Approved • RoHS Compliant • IR Flash IEC 62471 Risk Group 1

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Traffic Systems**

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