Sicore
Automatic Number Plate Recognition Camera
Sicore is a fully integrated automatic number plate recognition camera designed for traffic management and control applications. With camera, illuminator, processor and modem integrated in a single rugged enclosure, Sicore automatically captures any number plate from vehicles travelling in both directions.

The integrated image processing software scans the stream of incoming images for any vehicle and number plate before transmitting the data to the central system using industry standard, secure communications. An intelligent, infrared illumination unit enables continuous 24/7 operation of the camera on any suitable roadside installation such as traffic signals, bridge railings, gantries and lamp columns.

Sicore benefits
Sicore has a whole range of outstanding features providing a new benchmark in accuracy, efficiency, reliability, usability and cost-effectiveness.

Fewer cameras require less infrastructure
Sicore monitors up to two lanes in both directions simultaneously, reading both front and rear number plates. The ability to use a single camera for traffic in both directions on a single carriageway road reduces the number of cameras required for accurate number plate capture. Alternatively a single camera is now able to capture vehicles across multiple lanes of one carriageway, removing the need for one camera in each lane to provide complete coverage for journey time monitoring.

High speed number plate recognition
Using technology originally developed for character recognition in postal sorting machines, the integrated ANPR engine from Siemens attains maximum read rates at vehicle speeds of up to 250km/h. Special algorithms enable the system to accurately recognise number plates from many different countries without manual review, reducing the need for postprocessing in enforcement applications to provide an efficient solution. This high performance level is available throughout the day and overnight with the intelligent infrared illuminator providing optimum illumination of the detection zone.

Extended service life
The robust Sicore system components are designed for 24/7 operation in a roadside environment. Siemens extensive experience in designing and manufacturing solutions for the roadside has been applied to the design of Sicore, resulting in virtually no maintenance requirements except for periodic cleaning and inspections. The fanless design provides reliable operation of the cameras at temperatures between -30°C and +65°C. The infra-red illumination unit, often critical in maintenance of ANPR camera systems utilises an intelligent control mechanism to provide an extended service life.

Easy to install, operate and integrate
Sicore is designed for ease of operation and to minimise the installation and configuration requirements on street. The advanced character recognition technology within Sicore removes the need for detailed camera alignment that is sometimes required for ANPR systems. Capable of reading number plates from the side of the road without mechanical adjustment for skew angles, with power and communications available Sicore is quickly installed and reading number plates. With the wide detection zone of Sicore, fewer cameras are required, removing or reducing the need for mechanical alignment of multi-
coverage ability and bi-directional capture functionality enable a cost effective and visually unobtrusive solution. Sicore can be used for a number of similar applications to Congestion Charging, including Low Emission Zones, with Siemens’ GreenZone solution, supporting the reduction of traffic pollution and congestion within cities.

Highway Tolling
Sicore is an ideal device for use in a highway tolling application alongside other devices such as Tag based technologies or vehicle classification devices. Its proven capability to operate at high vehicle speeds (250km/h) means alongside the evidential security and multi-lane operation make it a cost efficient device to maximize revenues and enforcement compliance. Sicore’s capability features in many areas of the Siemens portfolio of solutions within this area ranging from Dynamic Road Pricing based on congestion levels / time of day through to enforcement solutions of national tolling schemes.

Journey time monitoring and traffic management
The calculation and display of real-time journey information is invaluable to the operator in a modern traffic control centre to ensure that the network operates in the most efficient manner. Sicore ANPR cameras linked to a UTMC traffic management system allow live journey time information to be displayed to the operator and also to the public via the Internet. This information provides details of the current traffic situation and can also be used in the selection of strategic control measures to ensure the network operates efficiently.

Additional capabilities
Sicore cameras can also be used effectively in other applications including, for example, access control, parking management, security/border control and HGV dangerous good label reading.
General
Lane width • 3.5m (single lane version)
• 7m (dual lane version)
Detection range • 5m – 30m (single lane, version)
• 10m – 35m (dual lane version)
Vehicle detection speed • Up to 125mph / 200kph
Vehicle triggering • Internal video-based vehicle triggering
Illuminator • Integral infrared illuminator – 850nm wavelength
• 150 focussed LEDs with intelligent controller for maximum service life
Images • Monochrome – up to three per vehicle including plate patch
• Colour overview (optional) – up to three frames per vehicle
Search lists • 2 search lists of up to 1,000,000 plates supporting multiple actions for registered vehicles including transmission of evidential records to back office systems

Communications and Interfacing
Ethernet • 10,100,1000 Base-T, Cat5 connection
Wireless • Support of all marketable mobile radio standards (GPRS, EDGE, UMTS, HSUPA, HSDPA)
• Considerably higher bandwidth up to 5.67 MBit/sec (upload)

Security
• Secure SSL-encryption for data transmission
• Optional hash coding of number plates for JTMS applications
Relay output • 24V/20mA output for location based information
Trigger input • Opto-isolated input > 10mA

System
Sicore HD for IR and overview-images • With a resolution of 1.280 x 960 pixels
• Operational area/application area:
  - Plates with smaller characters
  - Higher read performance
  - Additional regions like Middle East
• Reading of inversely coloured number plates (dark background with bright characters) possible
• Connection to external visible flash possible for non-reflecting plates

Environmental
Protection • IP65
Temperature range • -30 deg C to + 65 deg C
Fanless design
Voltage • 20 – 26VDC, 2.5A
Power consumption • Typically 25W
Weight • Approximately 5.7kg
Dimensions • 188mm x 210mm x 386mm (W x D x H) including anti-glare sun shield

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