



SECURITE & SIGNALISATION



OptimaTM

*The 1st DMS
free of energy*

Dynamic



A collaborative innovation

SES has always been devoting a large amount of time to innovation to improve Dynamic Message Signs (DMS) performances and above all services to its customers.



SES signed a research agreement with scientific institutions such as I.N.E.S. (Institut National pour l'Énergie Solaire – National Institute for Solar Energy) and C.E.A. (Commissariat à l'Énergie Atomique – Atomic Energy Commission), in order to design the very first solution of **totally free DMS dedicated to highways**.



SES was also supported by the European Regional Development Fund (ERDF) to help us in this innovative step.

Decisive benefits

This new generation of DMS brings the following benefits:

- **To control installation site:** **Optima™** does not need mains supply, then it can be installed wherever it is needed, regardless of mains supply or communication networks being available.
- **To improve safety:** being free to install DMS where needed, informing road users at the most appropriate place to make traffic safer and to facilitate traffic flow is possible.
- **To have better signalisation:** **Optima™** is compliant to EN12966 European standard and can be run immediately after being installed.
- **To reduce installation costs:** connection to mains supply is not needed; costs of civil works and excavation works largely decrease.
- **To cut down running costs:** no subscription to mains supply network or electrical power consumption.
- **To bring down your ecological footprint:** by using solar energy, **Optima™** strengthen the environment protection approach led by highways companies in a visible and efficient way.

Unequaled performances

SES and INES (National Institute for Solar Energy) have carried out researches to have a system that combines optical performances and low power consumption.

The result is a brand new design:

- « Intelligent » electronic components of a new generation, less power consuming and able to be in « sleep mode ».
- Low power consumption LEDs allowing character matrix, line matrix and full matrix display.
- Solar panels selected for their high energetic efficiency.
- Electronic system of regulation optimizing energy input according to sunshine.



Optima™ requires 6 times less energy than a classical solution. This very low power consumption allows a **unique source of power supply: solar energy with a continuous autonomy**.

Optima™ offers unequalled performances in dynamic message signs:

- In operation with solar energy **24 hours a day, 365 days a year**
- **DMS range is CE certified** according to EN12966 European standard
- **No display compromise**
- LEDs' angularity perfectly adapted to **DMS installed on highways**



Optima™ : free of energy, full time and everywhere

• Access

According to maintenance needs, SES proposes several choices to provide access to the sign such as walk in, canopy doors, rear and front access.



*maintenance tunnel
(aluminium or canvas)*

canopy door

rear access

walk-in

• Graphics

3 sizes of matrix graphic area in amber and red colour are available.
A line matrix can be added below the graphic area to enhance graphics visual impact.

• Mask

The outstanding optical performances of Optima™ are reached thanks to SES patented mask system.



• Messages

Optima DMS are in red and amber colour. Character matrix, line matrix and full matrix models are available.

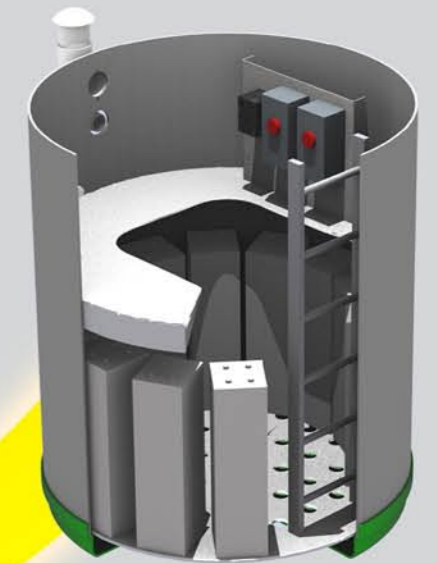
• Photovoltaic panels





The number of multicrystalline panels is calculated according to the installation region. They are:
- either installed on the DMS structure
- or on an independent pole.

• Energy unit

The energy unit includes the batteries that store the energy created by the solar panels. It is buried in order to reduce the thermal impact on batteries and to ensure the best efficiency.

The solar regulation device is also located in the energy unit as well as the system that monitors in real time the energy management.



Models (character height)	Display	Graphics
Optima 16 (160mm)	 Character matrix	 32 x 32 pixels 48 x 48 pixels 64 x 64 pixels
Optima 20 (200mm)		
Optima 25 (250mm)	 Line matrix	Line matrix under graphics 1L 55 pixels 160 mm character size 1L 55 pixels 200 mm character size
Optima 32 (320mm)		
Optima 40 (400mm)		Flashers 200 mm diameter 300 mm diameter
Optima 46 (457mm)	 Full matrix	
Optima 47 (464mm)		

Models	Character matrix		Line matrix		Full matrix	
	Number of lines	Number of characters	Number of lines	Length (in pixels)	Height (in pixels)	Length (in pixels)
16	1 / 2 / 3 / 4	12 / 15	-	-	-	-
20		12 / 15	1 / 2 / 3	75 / 90	21 / 28	75 / 90
25		15 / 18	-	-	-	-
32		12 / 15 / 18	1 / 2 / 3	75 / 90 / 110	21 / 28	75 / 90 / 110
40		15 / 18 / 21	-	-	-	-
46		12 / 15 / 18 / 21	1 / 2 / 3	75 / 90 / 110 / 125	21 / 28	75 / 90 / 110 / 125
47*	-	-	2	160 / 200 / 240	-	-

* Model dedicated to languages such as Arabic, Chinese...

SES mask™ patented system helps achieving **Optima™** outstanding optical performances.

The black mask diverts the ambient light away from the drivers' field of vision. It highly increases contrast ratio and LEDs luminosity: messages can be perfectly read in any conditions.

The mask also protects the housing from reaching high temperature. It ensures long life of every component and maintains their performances. The LEDs we selected have very low power consumption and are appropriate for any installation on highways.



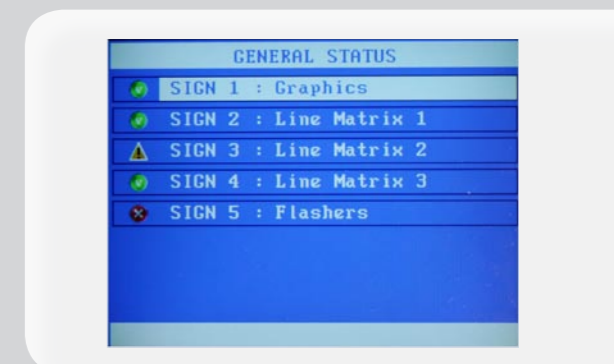
SCU6 – SES new generation of controller – is designed to offer a high flexibility in dynamic message signs control.

Performance: memory and processor rates are increased.

Versatility: NTCIP and LCR languages are available.

Open system: the user is free to choose between several ports of communication (RS232, RS485, Ethernet and 8 digital I/O).

User friendly: a colour screen for an immediate and simple diagnosis of the DMS functionalities.





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