

CARTESIO

Highest Processing Power Interactive Traffic Controllers



INTRODUCTION

Cartesio is the innovative traffic controller made by La Semaforica. Designed with winsome Italian style, it combines the highest processing power with the highest interactivity and scalability levels. Based on the long-time experience of La Semaforica in traffic control sector, Cartesio's traffic control algorithms are field-proven for over ten years. In order to be used in every traffic environment, it is fully adaptable to every interface for road traffic control: from the standard and most used to the customers specific ones.

In few and simple steps it can be configured for managing just a single junction or a more complex junction groups. Furthermore its highest integrability degree allows Cartesio to easily become part of a pre-existing traffic control system, being controlled by a third-part control centre.

EASY AND SAFE PROGRAMMING

With Cartesio programming and monitoring operations become easier like never before.

An interactive and comfortable 7" Touch-screen or an easy-to-use LCD display makes the on-site user experience comfortable and safe. The Bluetooth connectivity allows the maintenance user to interact with the controller in a safe way by means of his tablet or smartphone, avoiding the danger linked to the high voltages inside the street cabinet or avoiding to open the controller cabinate in case of harsh weather conditions (rain, snow, storm, etc...). Moreover the several wired and radio communication interfaces available (WiFi, Ethernet, 2G/3G/4G Modems) make all the on-site operations possible directly from the control centre, in addition to the usual remote control functionalities.

CAREFUL TO CUSTOMER NEEDS

Cartesio comes out in two different versions, C and S, in order to satisfy all the possible customers requests: from the cheapest and basic to the most expensive and complex ones in terms of price and complexity of the traffic junctions system.

In relation to his own needs, customer can choose the proper controller size, version and the desired communication interface/s between the available ones.

FUNCTIONAL AND ELECTRICAL SAFETY

Cartesio is supplied with CE marking, in accordance with Low Voltage Directive (LVD - Reg. EN50556:2011) and Electromagnetic Compatibility Directive (EMC - Reg. EN50293:2012). This traffic controller has been designed in order to satisfy the requirements of the EN12675:2000 regulation, in particular the following controls are implemented:

- voltage and current monitoring are performed on the controller outputs;
- conflict greens and intergreen matrix;
- check of wrongly switched-on/off lights (control of short-circuit cables/electrocuted loads);
- external input signals failure detection is available;
- errors and customizable-events logging function available;
- national signal sequences fault detection available.

TECHNICAL DETAILS

Enclosure	Dimensions	fitting the controller size/version		
	IP Rating	IP 55		
	Impact	IK 10		
Functional Characteristics	Signal Groups	64(max)		
	Digital inputs	256(max)		
	Digital Outputs	128(max)		
	Communication interfaces	2G/3G/4G - WiFi - Bluetooth -Ethernet - RS232 - USB/Serial		
	Centralization	<ul style="list-style-type: none">• TMacs• Sigma System (Elsag)• SPOT/UTOPIA System (Swarco Mizar)		
Key Functions	Flashing			
	All Red			
	Manual with remote control			
	Automatic with fixed times			
	Synchronized - Linked or internal timer			
	GPS Timing function			
	Actuated by the traffic flow with extension and/or cancellation of traffic phases			
	Light off features			
	Fully adaptive with dynamic plan generation			
	Priority System for public and emergency vehicles			
	Automatic change between summer time / daylight time			
	Monitoring of all connected lamps			
	Collection, storage and classification of traffic data			
	64 independent programs selectable			
	Available Versions	C		S
Signal Groups		Up to 64	Signal Groups	Up to 64
Loop Detectors		Up to 64	Loop Detectors	Up to 128
Digital Inputs		Up to 64	Digital Inputs	Up to 256
Communication Interface		RS232 Optional: Ethernet, Bluetooth, 2G/3G/4G, Wifi	Communication Interface	USB/Serial, Ethernet Optional:Bluetooth 2G/3G/4G, Wifi
Voltage Supply		230VAC, 42VAC	Voltage Supply	230VAC, 42VAC
Voltage Frequency		50/60 Hz ± 4%	Voltage Frequency	50/60 Hz ± 4%
Ambient Temperature		-40+80°C	Ambient Temperature	-40+80°C
Certifications		EN50556:2011		Road traffic signal systems
	EN50293:2012		Road traffic signal systems - Electromagnetic compatibility	
	EN12675:2000		Traffic signal controllers functional safety requirements	