LA SEMAFORICA

CARTESIO

Highest Processing Power Interactive Traffic Controllers

La Semaforica's Cartesio Traffic Controller meets the latest transportation industry standard, which incorporates the Linux open architecture operating system.

It has been developed and built in compliance to standards of EN 50556:2011-02 and it is supplied with CE Certification.

KEY FEATURES

- Based on a multiprocessor structure, and it is made up by a central control 32bit 1 GHz ARM Cortex-A8 processor that provides highest processing power on the market and by a series of remote microprocessors for the manage¬ment of inputs and outputs.
- Modular Eurocard boards (100 mm x 160 mm) lodged in a rack 19" 3/6U with polarized connectors according to DIN 41612,
- Provided with a Revolutionary large 7-Inches color Touch TFT LCD display, in order to make the interface with end users easy and intuitive.
- Signal Output cards with triac outputs for 230 or 42 VAC with full monitoring of voltage and currents on all outputs.
- Each card controls two signal groups.
- Cartesio has compact size and modern styling, allowing it to easily fit in tight cabinet space requirements.

In order to offer the best possible service, La Semaforica reserves the right to modify at any moment and without any warning the features of the products described in this document. This document has the only purpose of illustrating the products. If you need detailed technical data, please do not hesitate to contact us.

KEY BENEFITS

- Pro1 GHz ARM Cortex-A8 processor that provides highest processing power on the market
- Revolutionary large 7-Inches color TFT LCD display
- Touch-screen display for intuitive graphical programming
- Easy to Read, Even in Direct Sunlight, Cartesio comes standard with the Industry's largest, environmentally hardened, highest-resolution, brightest, color touch screen.
- Wi-fi connection available
- Bluetooth connection available for remote control trough Tablet or Smartphone
- Linux, open architecture real-time multi-tasking operating system
- Alternative Web browser-based user Interface allows remote programming and status observationnte programmazione e controllo remoto

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 according to traffic data collected
- Priority system for public or emergency vehicles
- Automatic change between summer time/daylight time
- Monitoring of all connected lamps
- Collection and storage of traffic data with volumetric and classification standards, collected through inductive loops, microwave, magnetic, video technology
- Using TCP/IP or 3G modem it can be directly connected to many different control and monitoring systems.
- Remote bluetooth control by Tablet or smartphone
- European industry standard

CONTROLS AND SAFETY

With reference to standards of EN 50556:2011-02, the traffic control¬ler foresees a series of redundant control circuits on different hardware so as to give a complete security on all outputs.

- our and green/green conflicts
- Tresholds times for all signal states
- Signal sequences
- Lamp load for red, amber and green
- "INTERGREEN MATRIX": control of inter-time among green lights as function of minimum times of ignition, and a progammable compatibility matrix.
- "PROGRAM ERROR": check of installation running program and correct times programmed "CURRENT CHECK": control of a single lamp output.
- "Check of wrongly switched-off lights": control of electrocuted loads.
- "Check of wrongly switched-on lights": control of short-circuit cables.
- Internal detailed log with indication of temperature and voltage

TECHNICAL DETAILS

- Equipped for 64 signal groups
- Up to 128 digital inputs
- Up to 64 digital outputs
- 64 independent programs selectable
- Detection and classification of traffic data
- Connections via 2G / 3G / 4G, Bluetooth, Wifi, Ethernet
- Fully Adaptive traffic with dynamic plan generation
- Standard Power 230 Vac
- 42Vac ELV Available, Safety Power
- Dimming Function Available, Energy Saving
- App available for Android or Apple devices
- Software Open multi-languages
- Centralization with TMacs System
- Centralization with SIGMA System (Elsag)
- Centralization with SPOT/UTOPIA System (Swarco Mizar)
- For control and supervision Cartesio has interfaces to many different control and monitoring systems.
- Internal web-interface

Core

- Sitara™ ARM® Cortex®-A8 32-Bit @ 1-GHz
- NEON™ SIMD Coprocessor
- 32KB of L1 Instruction and 32KB of Data Cache With Single-Error Detection (Parity)
- 256KB of L2 Cache With Error Correcting Code (ECC)
- 176KB of On-Chip Boot ROM
- 64KB of Dedicated RAM
- 64 KB On-Chip Memory (Shared L3 RAM)
- OS: Linux kernel ver. 3.8

Memories

- SDRAM Memory 512 MB 800 MHz DDR3L
- Flash eMMC 4 GB 8 bit
- MicroSD Slot

Interfaces

- Serial ports 1XRS485, 3X RS232
- USB HS USB 2.0 Client Port, LS/FS/HS USB 2.0 Host Port
- I2C Bus for sensor
- Real time clock Battery backed real time clock ± 5 ppm precision
- LAN Ethernet 10/100

- GPRS, 3G, 4G Optional
- Bluetooth, WiFi Optional
- Hardened touchscreen display to withstand harsh environmental conditions

SOFTWARE KEY FUNCTIONS

- Highest Interactivity and Access to Functionality
- Cartesio Touch software provides a full-color graphic interface with touch-screen capabilities for immediate menu selection and programming data entry. Allowing touch gestures to select yes/no, select enable/disable, and pull-down list selections provides intuitive interaction with controller functions. The screen can also be swiped to quickly advance to another application or window, making traffic management programming and access to signal controller functions the easiest in the industry.
- Combine with any European Standard Compliant Hardware or Software
- Cartesio is designed to meet the latest transportation industry standard, which incorporates the Linux open architecture operating system.
- Easy Access to Controller Data
- Cartesio software can be updated, signal-timing databases copied, or traffic controller logs transferred from a USB memory stick or a SD card. No laptop required.
- Easy Programming
- Built on the LA SEMAFORICA RSC traffic controller framework, Cartesio's traffic control algorithms are field-proven for over ten years.
- 64 traffic plans
- parameters for programming of local and central co-ordination.
- SW architecture for Android, IOS, Windows, Linux Systems with the same approach
- Cable-free linking trough GPS clock.
- One controller can control up to four independent intersections
- The logic is signal group controlled with a full conflict matrix between all groups.
- Traffic counting and classification.
- Built-in bus priority functions.
- Built-in train priority functions.

AVAILABLE VERSIONS

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- Signal groups: up to 64
- Loop detectors: up to 64
- Digital Inputs: up to 64
- Communication Interface: RS232; Ethernet (optional)
- Bluetooth (optional); 2G/3G/4G (optional); Wi-Fi (optional)
- Supply voltage: 42/230 VAC
- Ambient temperature: -40, +80°C

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- Signal groups: up to 64
- Loop detectors: up to 128
- Digital Inputs: up to 256
- Communication Interface: Ethernet; USB/serial
- Bluetooth (optional); 2G/3G/4G (optional); Wi-Fi (optional)
- Supply voltage: 42/230 VAC
- Ambient temperature: -40, +80°C

Accessories

- LCD-80: HMI with LCD Display alphanumerical 80 characters (available for C version)
- Touch: HMI with Touch-screen display 7" (available for S version)

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