
elettronica
visual & lighting technology

# Catalog

# 2015

## *Index*

# 30 Years experience

*at the helm of our choices*

*Innovative solutions tailored to the specific requirements of our customers*

# 3 Busines Areas

## Road Safety - Lighting - Visual

## Experience and innovation

*This is the key to the development of products of the highest quality and reliability. The company has over 30 years experience in electronic and mechanical design, a solid foundation on which to develop modern technologies. The design department is up to date following the news in technology in order to create products always more advanced, reliable and easy to use.*

## Customization

*Our technical skills allow us to offer custom solutions that fit perfectly to any specific requirement.*

## Customer approach

*Developing a product is useless if one is not aware of the real needs of the market. Understanding the requirements and problems of the customer is what has always guided our choices. Our purpose is to sell a solution, rather than a product.*

# STORY

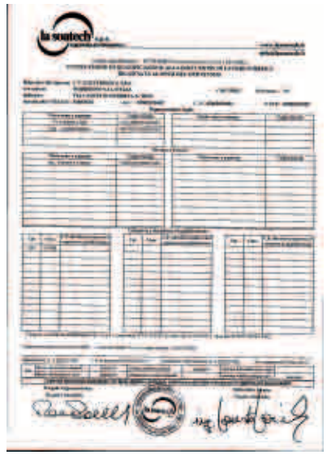
*C.T. Electronics was founded in 1983 as a manufacturer of electronic devices and systems for the sector caravans and motor homes. Within a few years the production has expanded progressively reaching other areas such as road safety, mounting systems for vehicles of special needs, LED signalling panels for advertising use, and LED lighting systems . Over the years, CT-Electronics widens its range of VMS and its fields of use, produces video surveillance systems for road application, sequential lamps for dangerous curves, displays for monitoring the speed of vehicles. In 2000 the company patented and began manufacturing trailers with variable message signs, power supply and camera for traffic monitoring. The intrest of C.T. Electronica to invest in research and innovation, has lead it gain a a place among the leading Italian companies in the production of traffic detection systems and variable message signs.*



# CERTIFICATIONS

*Company with quality management system certified by DNV - UNI EN ISO 9001:2008*

*SOA qualification certificate for the performance of public works no. 2850/18/00*


# References

Di seguito si portano solo alcune delle principali referenze dell' azienda maturate nel corso degli a anni:

AUTOSTRADE PER L'ITALIA S.p.A

AUTOSTRADA DEI FIORI S.p.A

AUTOSTRADA TORINO-SAVONA S.p.A

AUTOSTRADA TORINO IVREA VALLE D'AOSTA S.p.A

G.E.I.E. TRAFORO MONTE BIANCO S.p.A

MILANO SERRAVALLE - MILANO TANGENZIALI S.p.A

RACCORDO AUTOSTRADALE VALLE D'AOSTA S.p.A

SOCIETA' AUTOSTRADALE VALLE D'AOSTA S.p.A

AUTOCAMIONALE DELLA CISA S.p.A

SOCIETA' AUTOSTADE TORINO ALESSANDRIA PIACENZA S.p.A

SOCIETA` AUTOSTRADE DEL TRAFORO DEL FREJUS S.p.A

SOCIETA` AUTOSTRADA LIGURE TOSCANA S.p.A

STRADA DEI PARCHI S.p.A

AEROPORTO G. MARCONI di BOLOGNA S.p.A

ELEF Srl

ELETTRICITA' RENAI Srl

GEMMO S.p.A

IRMIE IMPIANTI Srl

FIRENZE PARCHEGGI S.p.A




Milano - 2012


Firenze - 2010

Milano - 2009

# Variable Message Signs


*Catania - 2008*

*Alphanumeric and Full-Color VMS*

## MONOCHTOMATIC GRAPHIC VMS

This kind of panel is suitable for representing images and symbols in addition to standard alphanumeric characters.
If used for text messages, variable height characters and kerning can be used as well as other alphabets than Latin to allow longer texts than in alphanumeric panels of the same size.



*Brazil - 2014*
*Graphic VMS*
*Monochromatic and Full-Color*



## FULL-COLOR VMS

Full-colour VMS are graphic panels suitable for showing images and symbols with colours. This kind of device can correctly show every sign of the Highway Code.
The brightness of the panel can be adjusted by light intensity sensors or by manual controls.
The graphic display can be used to show text areas or symbols, and the messages can be prepared using a standard image editor (e.g. Microsoft Windows Paint).
The saved BMP images can be sent and saved internally to VMS (using GIM control system, the images will be saved internally to the server and shared between several displays).


Using GIM, you can use also an embedded simple image editor, with fixed font, but with an image editor, you can use all fonts handled by operative system, defining style, size and position of text inside the area.

This VMS can be connected using ethernet cable directly to a LAN or via GPRS router.
All the commands to control this VMS must follow the CTPROTOCOL specifications. Customers can write their own software asking C.T. Elettronica for protocol documentation, or using GIM control system (provided by C.T. Elettronica).


ANAS S.P.A.
GUIDARE CON
PRUDENZA

Catania Lentini - 2008

Perugia 2006

Cascano 2007

A3 - 2009

The VMS are developed by C.T. Elettronica according to UNI EN-12966 standards, marked with CE according to European Directives and homologated by the Italian Ministry of Infrastructure and Transport.



# ALPHANUMERIC VMS

Alphanumeric panels are the easiest and most versatile way to represent real time instructions and information to users.

Catanzaro 2012

## DIAGNOSTIC

Power supplies: LED (open, short, with localization); LED drivers: Internal cables: Temperatures: Fan speed: CPU load: CPU RAM: Internal bus (i2c, rs485, spi): Date/Time lapse: Uptime: Detailed LOG

They can show every character in coding system ISO-8859-1.

Traffic situation and alternative routes.
Works in progress and closed roads.
Emergency situations.
Time, date and temperature.
Public utility messages.

Salerno 2013


# SPEED LIMIT SIGNS

Variable speed limits are used on some major traffic roads. These can be changed in response to weather, traffic levels, time of day or for other reasons with the currently applicable speed limit is displayed using an speed limit sign.

TRENTO 2005


TRIESTE 2008

| | |
|---|---|
| External size: | 803 x 803x 200 mm |
| Tecnology: | RGBY (LED green, red, blue, amber) |
| Horizontal angle: | +15° / -15° (Class B6) |
| Vertical angle: | +0°/-10° (Class B6) |
| Average life: | > 300.000 hours |
| Pitch: | 18.75 mm |
| Maximum Luminance: | Amber > 7.440 cd/m2 (class L3)<br>Red > 3100 cd/m2 (class L3)<br>Green > 3720 cd/m2 (class L3)<br>White > 12.400 cd/m2 (class L3) |

| | |
|---|---|
| Contrast | Amber R3<br>Red R3<br>Green R3<br>Blue R3<br>White R3 |
| Color | C1 green<br>C2 red, amber, white, blue |
| Power supply | 220 Vac |
| Protection class | IP55 |
| Temperature classes | T2 (-25 - +55°C) |
| Humidity range | 20 - 95% rel. humidit |

*A5 - AOSTA 2008*

## LANE CONTROL SIGNS

These panels can represent predefined symbols to indicate the correct use of lanes when approaching tunnels and motorway toll gates, or wherever there is the necessity to modify the traffic route.


TERNI 2012

*MONT BLANC - 2011*



## LANE CONTROL SIGNS

These signs can show the following:

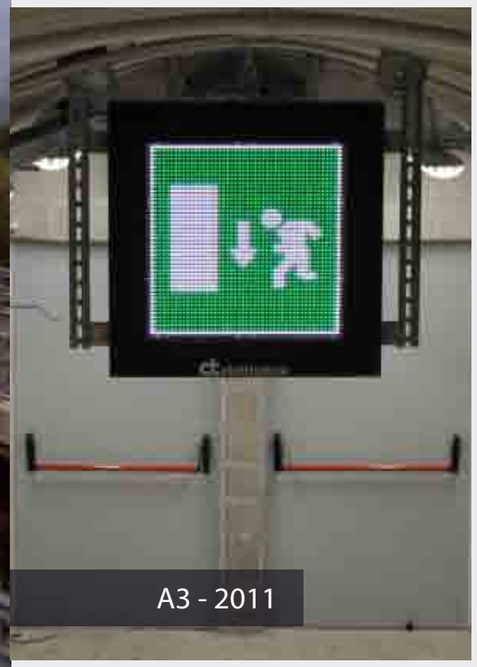
1. vertical green arrow pointing downwards;
2. yellow 45° diagonal arrows pointing downwards to the right;
3. yellow 45° diagonal arrows pointing downwards to the left;
4. red X cross.

The Lane Control Signs are developed by C.T. Elettronica according to UNI EN-12966 Standards and marked with CE according to European Directives.


A14 -2013

# VMS FOR BYPASS TUNNEL

The Variable Message Signs Bypass are a graphic type panels suitable to reproduce images and symbols in color. This type of panels allows to correctly represent the pictograms for emergency signaling.



A3 - 2011

Particularly suited for emergency alerts in environments with reduced view distance.

# TUNNEL - Lighting guides drives

Safety in tunnels is a major study factor to minimise the hazards due to scarce lighting in the case of an emergency.
The wall lamp has been designed by C.T. ELETTRONICA to ensure correct carriageway signage and delineation, in normal conditions of use, due to the presence of two clearly visible arrows.

The wall lamp has IK10 shock resistance and IP66 class protection. The body is formed of an aluminium casting and the cover is made of polycarbonate, which ensures class V0 fire resistance.

At the same time, in the event of an emergency this device lights up the exit corridor, also indicating the direction of the nearest escape route, in full compliance with the ANAS 2009 regulation.

This device is made through modern LED technologies that warrant low current input and a much longer life span than traditional standards.

# TUNNEL - LED LAMPS

This lamp has been designed to meet the new lighting requirements combining technological innovation, low consumption rates and compliance with current regulations.
The lighting device as a whole warrants a life of 90,000 hours with less than 30% flux reduction.
This means that the useful life of the device exceeds 10 years, with savings on the annual maintenance costs that the traditional technology needs (average useful life = 10,000 hours).
Maintenance operations in tunnels involve costs for reaching the point required with appropriate equipment and those for lane closing, also taking account of accident hazards due to the necessary narrowing of the carriageway.
In the event of a momentary power failure or the triggering of electric cutout devices, the tunnel lit with a sodium system cannot be turned on again until it has cooled completely, unlike a LED system, which restarts immediately thereby avoiding the hazards associated with a lighting failure of several minutes.
Saving, dependability and safety make the LED LAMP the ideal device for TUNNEL LIGHTING.

RIETI - 2008



*Evoled - Milano and Salerno Station - 2008*

# EVOLED - Led lighting Systems

Lighting system for pedestrian areas that aims to meet the increasingly higher number of needs to reconcile technology and design.
The Evoled system can easily be installed and adapted to various types of pedestrian areas. An example for all is given by railway stations where the Evoled system has been installed with outstanding results.
Its structure allows concealing the laying of cables in easily inspected ducts that remain unseen from outside.
The result is always an efficient lighting system with an excellent design and abreast of the times, capable of minimising consumption rates, selectively dimming the light emitted in hours and areas where it is not necessary.

## LED STREET LIGHTING

The advantages of LED technology have been prooved undeniable in comparison to the traditional technology. LED lamps developed by CT Elettronica allow you to have a highly reliable product, combining technological innovation, energy efficiency and regulation conformity. By choosing withing a range of several kinds of lenses, it will be possible to adapt the light spot according to the area that has to be lit, determining the highest energy savings possible. The useful life of the device exceeds 10 years, obtaining a high reduction of maintenance costs, otherwise necessary in the traditional sodium vapor technology.


## LED VIDEO WALL

LED Video Wall are visual communication devices that can reproduce moving images with high luminosity, making them suitable for both indoor and outdoor purposes.



The development of full colour giant screens with this technology suits the highest advertising requirements and the most varied fields of application such as sport, cultural, religious and political events. The evenness and quality of the colours is ensured by LED selection according to chromatic coordinates and luminous intensity and by an advanced electronic pixel control.

Sizes and resolution can vary depending on the customer's requirements, making the product highly personalisable.


SIENA - Traffic guidance systems - 2010

## Traffic guidance systems

The traffic guidance systems developed by C.T. Elettronica are used extensively where optimising the flow of vehicles or pedestrians is of strategic importance to ensure a high service level for users.
The information shown on this type of signs can vary depending on the specific application environment.



LIVORNO - 2014


*NIZZA - 2008*



## VMS - Traffic guidance systems

One of the most common applications is routing towards parking areas. Displaying the free or busy condition or directly the free spaces of the car parks nearest to the sign, vehicle traffic can be routed, relieving congestion in particularly critical areas of town centres.
Other applications:
• showing arrivals/departures of boats/buses/trains, with information about times and guidance towards the quay/gate/platform;
• public or private car parks with reading the number of spaces available from a pre-existing central system or by coils, transponder or other suitable sensor system;
• generic traffic information managed directly by traffic police departments (programmed traffic blocks, alternative routes, etc.)
The base configuration involves the installation of a central server and connection to the signs via Ethernet, optic fibre or wireless networks, including GPRS/EDGE/UMTS.

Interaction takes place via a web server, through which it is possible to send information and read the operating conditions of the signs. In the case of automated control (free spaces, times, etc.), the server interfaces directly with the sensors supplied by C.T. Elettronica or with information systems already operating c/o the customer.
In the latter configuration, the system is completely autonomous and interaction with the operator is limited to diagnostic control only.

# URBAN VMS

Information and communication are the key words that characterise a modern institution. Thanks to current technologies, local administrations can establish a continuous information relationship with the population.

BELLUNO- 2014

EMPOLI - 2013

Information panels have been created exactly for this purpose, a simple and effective means of giving information in real time and thereby improving communication between the citizen and the administration.

C.T. ELETTRONICA offers two types of infoled panels, the alphanumeric version and the graphic version.
The ALFA series is ideal for displaying static texts or with animations, such as for example text scrolling effects.

LIVORNO - 2013

GROSSETO - 2012

In addition to showing static texts or with animation, the GRAPHIC series also offers the possibility to display personalised pictograms, images or logos.

EMPOLI - 2013

# ELECTRONIC GATES SIGNS

Urban traffic management is of fundamental importance, especially in medium and large-sized town centres.



Regulating and limiting the traffic in certain areas is a daily activity normally carried out by special personnel.


RIMINI - 2012

With the use of Electronic Gate displays it is possible to indicate the opening or closing of particular limited traffic areas or zones, also known as gates, completely remotely, through a central software that allows quick and efficient management and monitoring.

The possibility to combine a panel with pictograms with a few alphanumeric lines can offer citizens fast and accurate information.



## VEHICLE-MOUNTED SYSTEMS

They can include:

External beacon

Auxiliary battery

Battery charger

Full-Colour VMS

VMS movement system

Control panel in the cab

Flashing lamps

Ice sensor

## VEHICLE-MOUNTED SYSTEMS

Over the years, service and traffic control vehicles have become increasingly sophisticated tools of intervention whose work does not stop at merely providing signs or carrying workers, but integrates complex signage functions, traffic monitoring and logistic backing.

C.T. Elettronica can supply service and traffic control vehicles of many brands and models on a turnkey basis.

Fittings are also developed to specific customer requirements.


suitable in emergencies and in all situations that require the control and surveillance of road sections at risk, ensuring the utmost safety for operators. Long operating autonomy is guaranteed by a service battery and a diesel recharging generator set that allows the device to work for several days without operator intervention.

2,500 W diesel generator set with 42 litre tank.
12V 275 Ah gel service battery.
12V 50 Ah auxiliary battery.
Control system with micro-controller or industrial PC depending on the uses.
Electric lifting, complete with flashing yellow led lamps, 200 mm in diameter.
Data link system via GSM or GPRS/UMTS.

# Falcon trailers

Trailers with VMS are mobile devices designed for traffic signage and control on roads and motorways. Signage takes place through a monochromatic or colour Variable Message Sign applied to a mechanical movement system to simplify transport. Traffic monitoring is carried out through a dome video camera that can rotate through 360° vertically and 90° horizontally, complete with zoom and autofocus. The suitably compressed images are sent to the control centre via GSM/GPRS network. Due to the ease in their movement, activation and remote control (also by sms texts) these devices are particularly


The Falcon model features the use of a silenced diesel generator set with 220V alternator, 220 Vac /12 Vdc switching battery charger and DC/DC converters. Therefore it has 220 Vac and 12 Vdc auxiliary outputs.

The system comprises:

Towable trailer with a total weight fully laden of 750 Kg or 1,000 Kg depending on the type of VMS, complete with stabiliser feet and double coupling system (for cars and trucks).

The trailers can be fitted with:

Single VMS or Double VMS
The Falcon model features the use of a silenced diesel generator set with 220V alternator, 220 Vac /12 Vdc switching battery charger and DC/DC converters. Therefore it has 220 Vac and 12 Vdc auxiliary outputs.

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