



**LED TRAFFIC
SIGNS AND BOARDS**

KEY POINTS OF SUCCESS

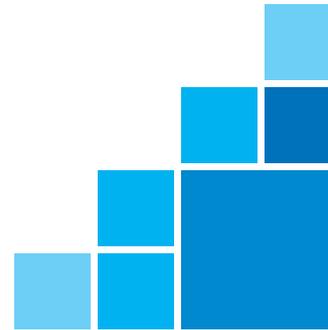
- ✓ World leadership in the development and application of LED technologies
- ✓ Automated manufacturing plant, located in Europe, certified with ISO 9001-2008
- ✓ Strong team of Ukrainian, highly-experienced, professional engineers
- ✓ Huge experience with ITS projects in cooperation with infrastructure development companies and government agencies
- ✓ Successful delivery and installation of more than 1000 m² of VMS on the roads and in the cities of Ukraine, Turkmenistan and Russia
- ✓ Cooperation with the world's leading manufacturers and usage of the highest-end LED equipment

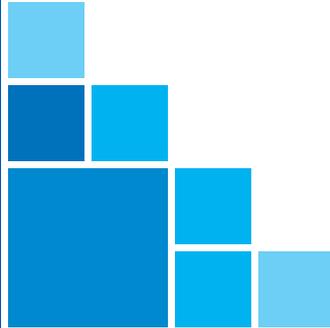


COMPANY PROFILE

EKTA, Ukrainian technology company, is one of the leaders of the European market in design, development, and manufacturing of LED visualization products and solutions for numerous professional applications: show business and television, sports and entertainment, advertising and new mass media, corporate and finance sectors, development and architecture, traffic and transportation, exhibition and automotive industries.

EKTA is headquartered in Ukraine and has its representative offices with their own facilities for Sales, Marketing and Customer Support in Germany, Russia and the United Arab Emirates. EKTA R&D and Manufacturing facilities are located in Ukraine. For 25 years of business activity EKTA has successfully performed thousands of LED equipment projects in 20 countries worldwide.





EKTA LED-VMS FOR INTELLIGENT TRAFFIC SYSTEMS

EKTA LED-VMS are designed to display messages within intelligent traffic systems. EKTA LED-VMS includes LED traffic signs and boards (variable message signs and variable message boards) of different types and configurations. Variable message traffic signs and boards are used to organize road traffic and to inform road users about traffic conditions (indication of time, date, air temperature and humidity, information about roadway and traffic conditions, etc.).

Variable Message Traffic Signs and Boards are made

- to play a key role in traffic control when extreme situations arise (traffic accidents, roadwork, bad weather);
- to help redirect traffic flow, indicate most efficient routes, reduce unnecessary mileage, therefore improving travel efficiency by overall reduction in the amount of time wasted on the road;
- to reduce traffic accidents and the associated losses (in time, money, etc).



ADVANTAGES OF EKTA LED-VMS

SUPERIOR BRIGHTNESS. The EKTA LED-VMS modules are designed for use under maximum illumination providing required brightness and contrast levels in compliance with the EN 12966:2014 European Standard requirements.

INGRESS PROTECTION. EKTA variable message signs and variable message boards are water and pollution protected. The EKTA LED-VMS module architecture provides strong protection against water, dust, dirt, and ultraviolet radiation. EKTA LED-VMS are guaranteed to remain functional at a temperature from -30 °C to +50 °C and humidity up to 100 %.

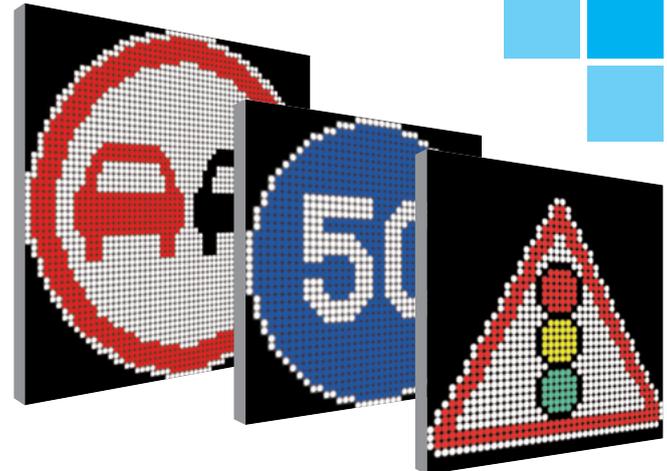
AUTOMATIC SELF-DIAGNOSTIC AND PREVENTIVE PROTECTION SYSTEM. Embedded monitoring and preventive protection system enables monitoring status over every important operating characteristic such as power supply unit internal temperatures, LED cluster internal temperatures, LED power voltage and, when necessary, notifying the operator about the faults.

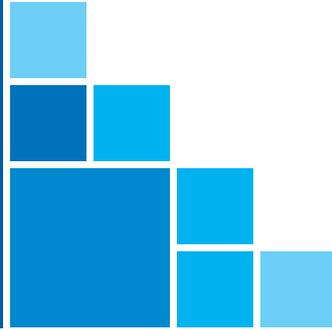
RELIABILITY AND QUALITY. Due to the EKTA advanced technologies and to the usage of high-quality NICHIA LEDs, EKTA LED-VMS ensure long lifetime and total reliability.

COMPACT MODULE. The special structure of EKTA LED-VMS module makes it one of the slimmest and most lightweight in the world.

APPLICATIONS OF EKTA LED-VMS

- City streets, road intersections and interchanges, crosswalks
- Reversible traffic areas
- Highways and roads
- Approaches to infrastructure facilities such as railway stations, airports, bridges, etc.
- Gas service stations
- Parking and recreation areas





LED-VMS TRAFFIC SIGNS

EKTA LED-VMS traffic signs are designed to display standard (warning, restrictive, mandatory and informative) and nonstandard traffic signs. They provide an opportunity to vary messages in a real-time mode depending on traffic volume in order to redirect it in a more efficient way, notify of road accidents, weather, or roadwork, and control traffic speed.

One or several EKTA LED-VMS modules are used to assemble traffic sign. The sign dimensions, resolution, and color are determined depending on its installation place and traffic management tasks to be solved for any specific road.

Advantages of LED-VMS Traffic Signs

BRIGHTNESS ADJUSTMENT SYSTEM. LED-VMS variable message signs are equipped with an automatic system of brightness adjustment which changes sign's brightness level depending on the natural illumination.

EMC, ELECTRICAL AND FIRE SAFETY. LED-VMS variable message signs comply with all requirements of electrical and fire safety as well as electromagnetic compatibility, in accordance with international standards.

HIGHEST RELIABILITY. LED-VMS traffic signs are designed for trouble-free 24/7 operation which is ensured by the use of the newest EKTA technology and components from the world's top manufacturers.





LED-MMS MOBILE TRAFFIC SIGNS

Mobile variable message signs are designed for temporary traffic redirect during road repair, in the case of sharp weather changes (fog, rain, snowfall, ice), when clearing wrecks after an accident, for facilitating traffic and road detours after large sporting events, in event of disaster (fire, explosion, natural disasters), etc.

With its improved brightness and contrast, a mobile variable message sign attracts drivers' attention more effectively than conventional traffic signs; hence, it is more efficient in situations when fixed sign messages need to be disregarded by road users.

Mobile variable message signs are particularly in demand for road maintenance services and police to control traffic in emergency situations, ensuring more effective level of service.



LED-DMS VARIABLE MESSAGE BOARDS

LED-DMS all-purpose indication board is an optimal solution for complex road interchanges where messages need to be changed depending on the time of day, weather, and road situation. Information boards can display almost any text and/or graphic information, and are used to deliver real-time warnings and notifications such as bypass information, etc.



Advantages of LED-DMS Boards

EASY HANDLING AND STRUCTURAL STRENGTH. Specially designed lightweight module frame ensures strength and rigidity for the entire board structure and simplifies equipment service.

UV PROTECTION. Plastic components of the LED-DMS module have UV protection which considerably improves their strength over time. Besides, UV protection prevents video surface from burning out in sunlight, thus protecting against message contrast degradation.

HIGHEST RELIABILITY. With the newest EKTA technology and components from world's top manufacturers LED-DMS boards are designed for 24/7 fault-free operation.





ADVANTAGES OF EKTA ITS DISPLAY SOLUTIONS

FUNCTIONALITY AND MESSAGE COMPREHENSION. EKTA LED traffic signs represent the most up-to-date solution for complicated multilevel junctions where displaying of various information is vital at any certain time of the day or in light of changing road conditions. EKTA information boards are designed to display real-time warning and information messages with the capability to demonstrate by-pass circuits and different graphic information.

IMAGE QUALITY. A series of LED-VMS products is specifically designed for the use under various light conditions. EKTA LED signs and boards can operate under direct sunlight ensuring the necessary brightness and contrast levels. High resolution and the highest brightness, a built-in brightness adjustment system, phantom reflection protection, stain-repellant front-face area – these and the other important qualities contribute to the highest image quality making it readable to all traffic participants.

WIDE RANGE OF SIZES, FORMATS AND CONFIGURATIONS. Size of EKTA LED traffic signs and boards, their form and color palette may vary depending on specific customer needs and the necessity to solve certain traffic regulation tasks.

ELEGANT DESIGN. Thanks to a specially designed module structure EKTA road display products are significantly slimmer and lighter than those of the other manufacturers. This ensures easy product installation and maintenance. Sign or board structure, along with a minimum number of connecting cables, allows mounting or hanging it on any type of supporting structure.



MAXIMUM PROTECTION. EKTA LED traffic signs and boards have maximum protection against environmental exposure. The use of special-purpose industrial components guarantees fail-free operation of all EKTA traffic signs at a temperature from -30 °C to +50 °C. The plastic module elements are made of fire-resistant materials (V-0 Class under UL-94 Standard) and are UV-protected.

HIGH RELIABILITY. EKTA display products for intelligent traffic systems meet EN 12966:2014 standard. Each module in LED boards undergoes a series of special tests. Automatic monitoring and prevention system technologies guarantee the high reliability of all EKTA devices and allow solving any information display task.

EFFICIENCY. A reliable in-house power source and the unique features of the control system make LED-VMS products truly efficient when it comes to energy consumption.

LONG LIFETIME. EKTA power control technology ensures high LED glow efficiency while achieving significant savings of the LEDs' lifetime. The automated brightness adjustment system extends sign or board lifetime by additional 30%. EKTA advanced technology along with high-quality LEDs and other components from world's leading manufacturers guarantee the longest possible lifetime of EKTA ITS display solutions.

FAVORABLE WARRANTY AND AFTER-SALES SERVICE TERMS. EKTA R&D and Manufacturing facilities along with professional service staff and the shortest possible time to respond to and to solve any service task guarantee that the most hard-to-please clients will enjoy the friendly EKTA product support under any circumstances.

MINIMUM TOTAL COST OF OWNERSHIP. The reliability and long lifetime of EKTA LED signs and boards ensure not only efficient and safe traffic but also the minimum Total Cost of Ownership due to the low operation and maintenance costs.



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