CHAINZONE TECHNOLOGY (FOSHAN) CO., LTD.

Beyond What You Can See

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CHAINZONE

Fixed VMS

EN12966, ETL, CETL Certified

SINCE 2000

CHAINZONE TECHNOLOGY (FOSHAN) CO., LTD

EN12966 L Series VMS

Application

The variable message sign is a useful medium to alert motorway users when there are abrupt changes in traffic patterns, road conditions, emergencies, or special events. The application of VMS on road can improve traffic flow while ensuring the safety of drivers and passengers. Variable message signs are ultra-bright and highly legible, with a variety of functions for many applications: lane closure, highway construction, work zone, parking lot guidance, etc. A combination of different colors and sizes makes these signs extremely efficient in conveying safety messages to road users.

Feature

- The embedded system can perform constant diagnosis and report any abnormal status to the central system
- The VMS can be monitored by our proprietary central management system
- ***Chain*Spot®** which is developed independently by Chainzone's R&D team
- The excellent LED optical system meets EN12966 standards and provides the highest optical performance
- The LED light can be precisely projected to the road surface
- A wide range of pixel pitch options from 12mm to 31.25mm, adaptable to any application
- SMD LED technology, better color mixture and uniformity
- Modular design for easy maintenance
- Integrated light sensor for automatic control
- The integrated sensor can monitor cabinet temperature
- Easily programmed and more advanced functions for users' options

Teamwork | Report | Convenient Maintenance | Temperature Detection

VMS L-Series			
Model	VMS20L-RGB	VMS25L-RGB	VMS31.25L-RGB
Pixel Pitch (mm)	20	25	31.25
Module Resolution (pixels)	8×16	8×16	8×8
Size of Module (mm) (H×W)	160×320	200×400	250×250
Optical Characteristics			
Conformity	NEMA TS4 & EN12966 Standards		
Luminance	L3/L3(*) (Red > 3100 cd/m² , Green > 3720 cd/m², Yellow> 7440 cd/m², White > 12400 cd/m²)		
Luminance Ratio	R3		
Color	C2		
Beam Width	B1, B2, B3, B4, B5, **B6** (15° horizontal & 10° vertical down), **B7** (30° horizontal & vertical down)		
Brightness Control	100 Levels		
Physical Characteristics			
Enclosure Material	Aluminum		
Enclosure Surface	Powder Coated, Matte Black (Other Colors Available)		
Working Temperature	**T1** (-15°C ~ +60°C), **T2** (-25°C~ +55°C), **T3** (-40°C~ +40°C)		
Humidity Range	RH<95%		
Pollution	D3		
Mechanical Protection	P2 (IP54), P3 (IP56), IP65, IP66		
Maintenance	Back Maintenance		
Electrical Specifications			
Power Supply	90~260VAC (50 / 60Hz)		
Solar Power System	12 / 24 VDC		
Communication	RS232 / RS485 / Ethernet Via RJ45 / GPRS / 3G / 4G / Optic Fiber		
Protocol	NTCIP 1203 / MODBUS / UTMC / XML / JetfileII / Profibus / RSMP / HTTP / API		
EMC / FCC Certification	Compliant with EN50293; FCC Part 15B:2017; ICES-003:2016		
Certification	EN12966, ETL, CETL		

EN12966 M Series VMS

Feature

- SMD LED technology, better color mixture and uniformity
- Modular design for easy maintenance
- Integrated sensors for temperature and brightness detection
- Chainzone's patented ball-shaped lens composition
- The reflection of light is greatly reduced, ensuring high contrast ratio and delivering more clear images. Comprehensive color management technology, excellent display quality.
- The embedded system can perform constant diagnosis and report errors to the central system.
- The VMS can be monitored by the central management system ***ChainSpot***® which is developed independently by Chainzone's R&D team

Image control

- **High luminance ratio of LED modules**
  Chainzone's modular design with ball-shaped optical lens achieves higher Luminance Ratio by reducing sunlight reflection and increasing luminance output. Thus, VMS can reach L3 & R3 class at very low power consumption.
- **Unique rear design-fast and better heat dissipation in VMS**
  The heat generated by electronic components on the circuit boards is dissipated to open air directly. Extraordinary thermo-stability and environment-adaptability. High IP Level.

Continuous Diagnosis | Report | Teamwork | High Contrast Ratio | Convenient Maintenance | Temperature Detection

VMS M-Series					
Model	VMS10M-RGB		VMS12M-RGB	VMS16M-RGB	VMS20M-RGB
Pixel Pitch (mm)	10		12	16	20
Module Resolution (pixels)	12×24	16×L2	8×16	8×16	8×16
Size of Module (mm) (H×W)	120×240	160×L20	96×192	128×256	160×L20
Optical Characteristics					
Conformity	NEMA TS4 & EN12966 Standards				
Luminance	L3/L3(*) (Red > 3100 cd/m², Green > 3720 cd/m², Yellow> 7440 cd/m², White > 12400 cd/m²)				
Luminance Ratio	R3				
Color	C2				
Beam Width	B1, B2, B3, B4, B5, **B6** (15° horizontal & 10° vertical down), **B7** (30° horizontal & vertical down)				
Brightness Control	100 Levels				
Physical Characteristics					
Enclosure Material	Aluminum				
Enclosure Surface	Powder Coated, Matte Black (Other Colors Available)				
Working Temperature	**T1** (-15°C ~ +60°C), **T2** (-25°C ~ +55°C), **T3** (-40°C ~ +40°C)				
Humidity Range	RH<95%				
Pollution	D3				
Mechanical Protection	P2 (IP54), P3 (IP56), IP65, IP66				
Maintenance	Back Maintenance				
Electrical Specifications					
Power Supply	90~260VAC (50 / 60Hz)				
Solar Power System	12 / 24VDC				
Communication	RS232 / RS485 / Ethernet Via RJ45 / GPRS / 3G / 4G / Optic Fiber				
Protocol	NTCIP 1203 / MODBUS / UTMC / XML / JetfileII /Profibus / RSMP / HTTP / API				
EMC / FCC Certification	Compliant with EN50293; FCC Part 15B:2017; ICES-003:2016				
Certification	EN12966, ETL, CETL				

EXL VMS

Application

In some smart city projects, VMS is required to demonstrate not only pictograms but also high-resolution pictures and videos. EXL series is an ideal solution for such applications.

Feature

- Ultra light and thin
- Anti-UV & fire resistant
- High installation accuracy with aluminum profile cabinet
- High contrast ratio
- Easy front or rear service
- Wider viewing angle specially for smart city solution

Light & Thin

UV Resistance

Front & Rear Service

High Contrast Ratio

Smart Module

Large Viewing Angle

EXL					
Model	EXL-6.6-SMD	EXL-8-SMD	EXL-10-SMD	EXL-16-DIP	EXL-20-DIP
Pixel Pitch (mm)	6.67	8	10	16	20
Module Resolution (pixels)	48×72	40×60	32×48	20×40	16×32
Size of Module (mm) (H×W)	320×480	320×480	320×480	320×640	320×640
Cabinet Resolution (pixels) (Front Access)	192×216	160×180	128×144	80×120	64×96
Size of Cabinet (mm) (H×W) (Front Access)	1280×1440×100	1280×1440×100	1280×1440×100	1280×1920×110	1280×1920×110
Cabinet Resolution (pixels) (Back Access)	192×144	160×120	128×96	80×80	64×64
Size of Cabinet (mm) (H×W) (Back Access)	1280×960×105	1280×960×105	1280×960×105	1280×1280×115	1280×1280×115
Luminance	>6000 cd/m²				
Luminance Ratio	>6500:1				
Viewing Angle	120° / 120°			110° / 45°	
Brightness Control	Manual / Auto / Scheduled				
Enclosure Material	Aluminum				
Enclosure Surface	Powder Coated, Matte Black (Other Colors Available)				
Working Temperature	-40°C ~ +70°C				
Humidity Range	RH<95%				
Grey Level	16 Bit				
Frame Frequency (Hz)	>60				
Refresh Frequency (Hz)	>1920				
Mechanical Protection	Front: IP65 / Back: IP54				
Maintenance	Front / Back Maintenance				
Power Supply	85 ~ 140VAC / 180 ~ 260VAC (50/60Hz)				
Communication	RS232 / RS485 / Ethernet Via RJ45 / GPRS / 3G / 4G / 5G / Optic Fiber				
Protocol	NTCIP 1203 / MODBUS / UTMC / XML / JetfileII /Profibus / RSMP / HTTP / API				
EMC / FCC Certification	EMC, FCC				
Certification	CE, ETL				

Mini LOB VMS

Application

For VMS scenarios that attach equal emphasis on the requirements of high-definition image management and low power consumption, the Mini LOB series provides distinctive lens embedded LED technology to achieve a perfect balance between outstanding image quality and high energy efficiency EXL series is an ideal solution for such applications.

Feature

- Mini LOB technology
- Modular design for easy maintenance
- Integrated sensors for temperature and brightness detection
- Wider viewing angle special for smart city solution

Convenient Maintenance

UV Resistance

Large Viewing Angle

High Contrast Ratio

Report

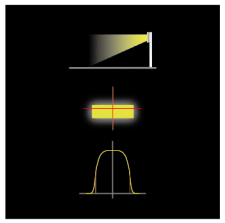
Mini LOB	
Model	Mini LOB-10
Pixel Pitch (mm)	10
Pixel Configuration	MIni LOB 4535
Module Size (mm) (H x W)	160x320
Module Resolution (pixels) (H x W)	16x32
Luminance	>10000 cd/m²
Luminance Ratio	>8000:1
Viewing Angle	100° / 40°
Brightness Control	100 Levels
Working Temperature	-30°C ~ +60°C
Humidity Range	RH<95%
Grey Level	14 Bit
Frame Frequency (Hz)	60
Refresh Frequency (Hz)	1000
Mechanical Protection	IP65
Maintenance	Rear or Front
Power Supply	90 ~ 260VAC (50/60Hz)
Communication	RS232 / RS485 / Ethernet Via RJ45 / GPRS / 3G / 4G / 5G / Optic Fiber
Protocol	NTCIP 1203 / MODBUS / UTMC / XML / JetfileII /Profibus / RSMP / HTTP / API
EMC / FCC Certification	Compliant with EN50293; FCC Part 15B:2017; 1CES-003:2016

VMS with Optical Lens Structure

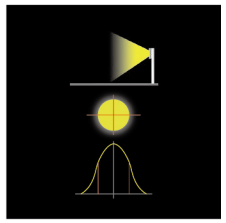
Chainzone's optical lens designed variable message sign adopts innovative lens technology. Through secondary light distribution, the light is projected to the required lane coverage, which improves the efficiency of light use and avoids light pollution, making the product more energy-efficient and extending its service life. The clear and highly legible display performance plays a role in informing and warning the driver to take corresponding safe and reasonable driving on the road.

Lens concentrating technology, anti-glare and no light pollution

The secondary optical design effectively concentrates the LED light and projects it to the desired lane coverage. Under the secondary light distribution, there is very little afterglow outside the viewing angle, no light pollution, and it does not affect other lanes while saving power. It can prevent glare and reduce the safety risk of drivers driving.



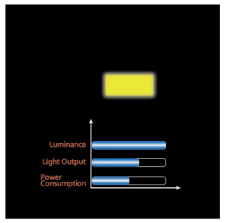
Chainzone VMS



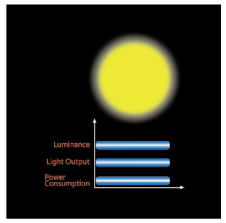
Traditional VMS

Lens concentrating technology, low power consumption and energy saving

Chainzone's VMS light output is projected on the effective area, which is different from the traditional VMS without light output control. This can reduce the light output waste, save more than 30% energy.



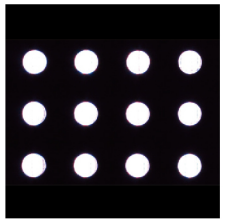
Chainzone VMS



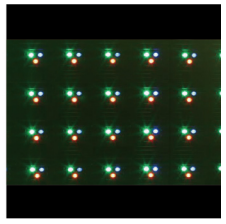
Traditional VMS

Full color single-pixel output,the display effect is more outstanding

Compared with traditional RGB discrete light output and visual color mixing, Chainzone uses 3-in-1 SMD LEDs, a single pixel can support full-color display, which can have better display effect and consistency.



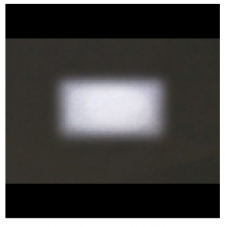
Chainzone VMS



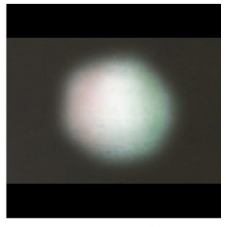
Traditional VMS

More uniform color and brightness

The display of the optical lens is within the effective area, and the color and brightness are evenly distributed. Excellent visibility within road coverage is guaranteed.



Chainzone VMS



Traditional VMS

Successful Cases

Colombia

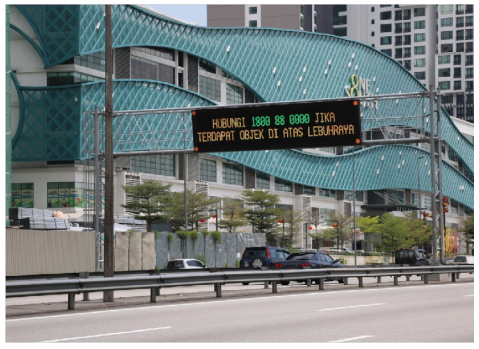
Qatar

Australia

India

Colombia

Poland



Malaysia

Thailand