



Choose  
the future

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Choose  
**BRAUMS**  
"ITS" Moving Traffic

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VARIABLE MESSAGE SIGNS  
(VMS)



Fully customisable  
Brilliant legibility  
**Energy efficient**  
Excellent luminance ratio

# BRAUMS

*"ITS" Moving Traffic*

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## VARIABLE MESSAGE SIGNS (VMS) (VSLS) (TMS) (RCS) (ISLUS) (LUS)

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The BRAUMS message Variable Message Sign models include the following:

VMS Variable Message Sign

LUS Lane Use Sign

VSLS Variable Speed Limit Sign

TMS Tunnel Message Sign

ISLUS Integrated Speed and Lane Use Sign

BRAUMS is the official distributor for the full range of SWARCO FUTURIT's VMS.

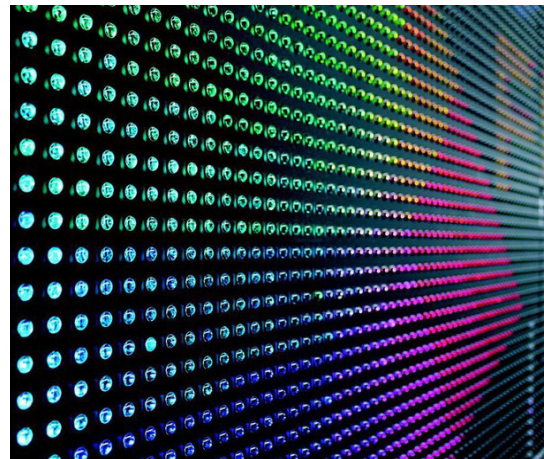
SWARCO FUTURIT's VMS are the cutting-edge of optical quality in signalisation and are used worldwide for dynamic traffic management and traffic guidance. Freely programmable and customisable the VMS can be used as a text sign using 5x7 pixel technology, as well as for monochromatic, bicolour and full colour graphical displays. Typical applications of freely programmable VMS at lowest energy consumption are route/rerouting information, warnings (accidents, congestions), toll rates and special information.

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## Key Features

Key features of the patented LED optical system:

- The patented lens technology enables the fitting of the optical lens directly in the matrix plate – there is no need for a distorting front screen.
- The patented LED optical system:
  - Provides highest optical performance.
  - Directs the LED light to where it is needed.
  - Allows a 90% reduction of LED forward current, maintaining all optical requirements during the whole life cycle of the variable message sign, therefore increased availability and reduced energy consumption.
- The unique optical design avoids the problems associated with reflections. Even at low sun position (5°) the luminance ratio meets the highest requirement classes, guaranteeing best legibility.
- Conformity to EN 12966:2014 more than 100 class-combinations of different color, luminosity, contrast, beam width, pixel pitch, LEDs, forward current, etc. have been tested and certified by SGS/INTRON.
- A wide range of pixel pitch options from 12 mm to 30 mm, fitting to any application.
- A pulse width modulated constant current at a very low level increases LED life time and avoids ageing effects and luminosity losses.



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## VARIABLE MESSAGE SIGNS (VMS) (VLSL) (TMS) (RCS) (ISLUS) (LUS)

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### Technical Data

- Temperature classes:
  - T1 (-15°C to +60°C)
  - T2 (-25°C to +55°C)
  - T3 (-40°C to +40°C)
  - T4 (-15 to +55°C – includes 1000W/m<sup>2</sup> solar addition)
- Humidity range: 20 – 95% rel. humidity
- Power supply: 80-265 VAC; 12 - 48 VDC; optional photovoltaics, wind turbine, fuel cell
- Certification
  - EN12966:2005 + A1:2009
  - CE-certification by SGS/INTRON
  - BAST-certified

### Controller

- Embedded controller designed for industrial temperature range: -40°C to +85°C
- Integrated fast access solid state data memory
- High speed picture interface using latest type of Dual port RAM and FPGA technology
- Available in a wide range of colours: monochrome, traffic colours or RGB
- Typical picture rate 20 frames/second

### Diagnostics

- The onboard operating system of the variable message sign provides permanent diagnosis and reports any error status to the central system. Includes continuously monitoring of all LEDs, even when they are off, and LED status reporting.
- Full traceability of all used assemblies in the manufacturing data base
- Integrated sensors for temperature and light
- Available for use with all power supply types, with reliable power supply for LED displays and controller

### Optics and Light

- Optics
  - Optical equipment fits tightly into the matrix.
  - Luminance ratio (contrast) up to 100, even at low sun position <10°
- Pixel pitch (freely programmable VMS): 12 / 16 / 20 / 25 / 30 mm
- Light source: High Power LEDs from renowned manufacturer
- Light distribution: For all VMS, distribution classes from B1 to B7 can be fulfilled with the highest luminance class L3\* and luminance ratio R3 for various element spacings
- Matrix: Anodised aluminium – avoiding the front screen is our standard

### Housing and Maintenance

- Optimised stability by proven construction
- Low weight modular design in seawater-proof, power-coated profiles made of aluminium AlMg3 or stainless steel (V4A, 1.4571)
- Attractive and modern design
- Mounting options - C-rails, pipe clamps; other constructions on request
- Housing protection class - P1, P2, P3, IP44 to IP54, IP65 on request
- Easy maintenance access – either rear door or front matrix access depending on the type of VMS, and quick and easy replacement of parts without the need to use tools.

### Power Backup

- As VMS are low power, backup power from a UPS is available, depending on backup time required.

## VARIABLE MESSAGE SIGNS (VMS) (VLS) (TMS) (RCS) (ISLUS) (LUS)

### Worldwide Integration

Integration in traffic management systems using different interfaces and protocols for control and data exchange.

The Swarco VMS have been integrated into many different priority software solutions and our clients choice is often determined by the current software used in their traffic management centre. BRAUMS and Swarco are happy to work with their clients to integrate our VMS to work with your system.

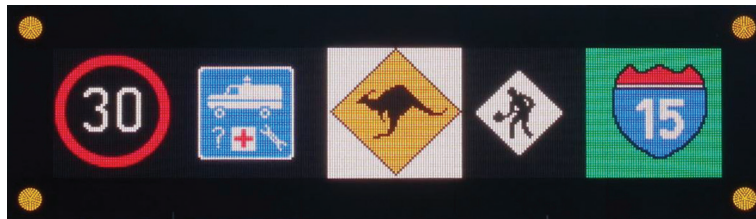
BRAUMS also offer the Hermes VMS Centre Control Software from Swarco.

#### Communications Interfaces:

- RS485/RS422, Profibus, Profinet, Ethernet IP, WLAN others on request
- TCP/IP connection via RJ45
- Digital inputs
- Digital and analogue sensors

#### Protocols:

- FUTURITCO 2
- FUTURITCOM 2 via Profibus
- TLS 2002 / 2010
- XDR/DAP
- NTCIP V1203 V3 (mandatory messages)
- UTMC
- RMS (TSI-SP-003)
- Others on request



### SWARCO FUTURIT

SWARCO FUTURIT is a company of the traffic technology group SWARCO. The SWARCO Group, based in Wattens/ Austria, is one of the leading international one-stop shops for road safety and traffic management solutions. As the world's largest traffic signal manufacturer, SWARCO FUTURIT has extensive know-how in the development and production of optical systems for traffic signalling purposes. Variable message signs, dynamic road markings, railway signals, displays for public transport and - most recently - LED street lighting complement the company's product portfolio. All systems use long-life light-emitting diode (LED) technology that consumes only a tenth of the power required by conventional light sources. Numerous cities and highway operators appreciate SWARCO FUTURIT's LED technology for traffic signalling in terms of increased energy efficiency, minimised spending for energy and reduced CO2 emissions.



Quality  
ISO 9001



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