

# SWARCO FUTURIT – VARIABLE MESSAGE SIGNS

## TECHNICAL DETAILS

<b>Light source</b>	High Power LEDs
<b>Housing</b>	Aluminium profile, modular design principle in seawater-proof aluminium AlMg3 or stainless steel (V4A, 1.4571)
<b>Protection class</b>	P1, P2, P3, drainage and ventilation holes IP54
<b>Temperature classes</b>	T1 (-15 - +60°C) / T2 (-25 - +55°C) / T3 (-40 - +40°C)
<b>Humidity range</b>	20 – 95% rel. humidity
<b>Controller</b>	<ul style="list-style-type: none"><li>■ Embedded controller designed for industrial temperature range: -40 to +85 °C</li><li>■ Integrated fast access solid state data memory</li><li>■ High speed picture interface using latest type of Dual port RAM and FPGA technology</li><li>■ Number of colours: Mono, Bicolour, 3, 5, 256 colours</li><li>■ Max. picture rate 20 frames/second</li></ul>
<b>Interfaces</b>	<ul style="list-style-type: none"><li>■ RS485/RS422 interfaces, interface for Profibus®, Profinet, Canbus, Ethernet IP, WLAN and future interfaces</li><li>■ TCP/IP connection via RJ45</li><li>■ digital inputs</li><li>■ digital and analogue sensors</li></ul>
<b>Mounting options</b>	C-rails Pipe clamps Other constructions on request
<b>Protocols</b>	FUTURITCOM 2 FUTURITCOM 2 via Profibus TLS 2002 / 2009 XDR/DAP NTCIP others on request
<b>Optic</b>	The optical equipment fits tightly into the matrix. Contrast ratio up to 25, even at low sun position <10°
<b>Pixel pitch (freely programmable VMS)</b>	16 / 20 / 25 / 30 mm
<b>Light distribution</b>	For all VMS, distribution classes from B1 to B6 can be fulfilled with the highest luminance class L3* and luminance ratio R3 for various element spacings
<b>Matrix</b>	anodised aluminium – avoiding the front screen is our standard
<b>Power supply</b>	80-230 VAC 12 - 48 VDC others on request
<b>Maintenance access</b>	Easy maintenance access Doors on the rear side of the VMS or also front side of sizes up to 2x1.5m (depending on sign type) are possible
<b>Certification</b>	Compliance with EN12966 CE certification by Notified Body INTRON

Your local contact:



## SWARCO | FIRST IN TRAFFIC SOLUTIONS.

SWARCO FUTURIT is the leading global player in LED-based signalling and sign technology. The company specializes in traffic lights, variable message signs, in-road markers and railway signals that all use the energy-saving long-life technology of light-emitting diodes (LEDs). Customers in over 60 countries around the world rely on the outstanding quality of SWARCO FUTURIT products made in Austria and helping to improve traffic flow and road safety.



### SWARCO FUTURIT Verkehrssignalsysteme GesmbH

Mühlgasse 86, A-2380 Perchtoldsdorf, Austria, T. +43-1-8957924, F. +43-1-8942148,  
E. office.futurit@swarco.com, www.swarcofuturit.com

SWARCO | First in Traffic Solutions.



## VARIABLE MESSAGE SIGNS

SHAPING THE FUTURE OF LED SIGNALLING TECHNOLOGY

SWARCO FUTURIT is the leading European supplier of high quality Variable Message Signs (VMS) for traffic guidance and information purposes. SWARCO FUTURIT's VMS constitute the cutting-edge of optical quality in signalisation and are used worldwide for dynamic traffic management on highways, traffic guidance in urban areas, lane control ahead of tunnels and lane assignment inside tunnels. Parking lot guidance, traffic calming, improved safety and warning of upcoming hazards and black spots, and toll stations are additional applications of SWARCO FUTURIT's VMS.



Up to 90% power consumption savings with our LED VMS are a clear signal to minimise emissions and costs for municipalities at the same time.

### CLEAR & EFFICIENT DYNAMIC DISPLAYS

SWARCO FUTURIT's VMS are certified by Notified Bodies BAST and INTRON according to the requirements of EN12966 and provide brilliant legibility, efficient use of energy and an excellent luminance ratio. Our patented lens technology enables the fitting of the optical lens directly in the matrix plate – there is no need for a distorting front screen. Our unique optical design avoids the problems associated with reflections. Even at low sun position (5°) the luminance ratio meeting the highest requirement classes guarantees best legibility. Derived from our customers' needs and applications, the different VMS types can be classified as follows:

- Limited programmable VMS with predefined number of aspects – optionally combined with flashers and alphanumerical text sections
- Freely programmable VMS with full LED graphics
- Dynamic Route Information Panels (DRIPs) using monochrome, multi-colour or RGB and freely programmable LED matrix
- Lane control signals (cross and arrows)
- Combined signals

# KEY BENEFITS OF SWARCO FUTURIT VMS TECHNOLOGY

- Pioneer: following BAST approval in 1999, SWARCO FUTURIT was the first company authorized to deliver LED VMS in Germany
- compliance with EN12966; 36 applications regarding different class combinations (colour, luminance, luminance ratio, distribution characteristics, etc), element spacing, LEDs and power consumption tested and approved by Notified Bodies BAST and INTRON since September 2006
- programmable & flexible traffic guidance
- use of LED optic
  - ensures highest optical efficiency
  - enables focussing of distributed LED light to the area where it is actually needed
  - allows reduction of the operating current by more than 70% while respecting all optical requirements during the entire technical lifetime of the VMS; -> increased operational availability and lowest possible energy consumption
- all LEDs are permanently supervised, even if switched off; the status can be reported to the central station or a local control
- constant current drivers prolong the LED lifetime and avoid aging effects and loss of luminance
- use of latest LED technology: only high quality diodes of reliable LED producers are used
- higher resolution due to reduced pixel pitch (16mm on RGB is possible) while meeting the highest requirements of EN12966 (even met with white LEDs)
- design without front screen
  - avoids direct reflections
  - avoids soiling problems
  - avoids condensation water problems (steaming up)
  - avoids heating equipment
  - avoids transmission losses
  - avoids front screen aging
- universal power supply, all diodes and logical parts using the same supply
- longevity – long LED life cycle results in extended maintenance intervals
- optimised stability with proven mechanical design
- traceability – most important data available via module's barcode
- optically appealing and modern appearance
- adaptable to ambient light conditions
- USB connection with PC possible
- integrated temperature sensor

## PROGRAMMABLE & FLEXIBLE TRAFFIC GUIDANCE

### LIMITED VMS



### FREELY PROGRAMMABLE VMS



### COMBINED VMS



Longevity: Long LED life cycle results in extended maintenance intervals. Latest LED technology with high quality diodes.

# TYPES AND TYPICAL APPLICATIONS



## HIGHWAY/EXPRESSWAY – TRAFFIC MANAGEMENT

- Limited VMS (speed indication, general warning)

- Freely programmable combined VMS (route/rerouting information, warning)

## TOLL

- Limited VMS (vehicle category, general warning)
- Lane Control Sign (lane indication)

- Freely programmable textlines (toll rate, special information)

## ACCESS CONTROL

- Limited VMS (vehicle category, weight and height limitations)
- Lane Control Sign (lane indication)

- Freely programmable textlines (toll rate, special information)

## TUNNEL

- Limited VMS (speed indication, general warning, height limitations)
- Lane Control Sign (lane indication)

- Freely programmable graphic info signs at tunnel entry + emergency bay (warning, information)

## BRIDGE

- Limited VMS (vehicle category, weight and height limitations, speed, weather & wind warning, general warning)
- Lane Control Sign (lane indication)

- Freely programmable textlines (special information)